



September 1, 2022

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

RE: **Notice of Exempt Modification for ATT
Crown #826217; ATT Site ID CTL01019
240 Kensington Road, Berlin, CT 06037
Latitude: 41° 37' 34.298" / Longitude: -72° 46' 32.329"**

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 149-foot level of the existing 190-foot monopole tower at 240 Kensington, Berlin, CT. The tower is owned by Crown Castle USA Inc. and the property is owned by the Town of Berlin. AT&T now intends to replace nine (9) antennas, install twelve (12) new antennas and ancillary equipment at the 149-foot level. This modification may include B2, B5, B17, B14, B29, B30, B66 & n77 hardware that is 4G(LTE) and/or 5GNR 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) CCI-TPA65R-BU8DA-K Antennas
- (6) Ericsson-AIR6449 B77D + AIR6419 B77G Stacked Antennas
- (3) CCI-DMP65R-BU8DA Antennas
- (3) Ericsson-4478 B14 RRHs
- (3) Ericsson-8843 B2/B66A RRHs
- (3) Ericsson-4449 B5/B12 RRHs
- (1) RAYCAP DC0-48-60-24-EC-EV Squid
- (3) 7/8" 6AWG DC
- (1) 3/8" 24-Pair Fiber
- (3) Y CABLES for New Dual Band Radios
- (6) Dual Radio Mounts
- (3) 2-1/2" SCH 40 x 6'-0" Long Mount Pipe w/Crossover Hardware

Remove:

- (3) POWERWAVE-7770.00 Antennas
- (3) ANDREW-SBNH-1D6565C Antennas
- (3) CCI-TPA-65R-LCUUUU-H8 Antennas
- (3) ERICSSON-RRUS-11 B12 RRHs
- (3) ERICSSON-RRUS-32 B2 RRHs
- (6) DTMABP7819VG12A TMAs
- (6) DBC0061F1V51-2 Diplexers
- (6) 1-1/4" COAX CABLES

The Foundation for a Wireless World.

CrownCastle.com

Ground:

Install New:

- (1) 23" FIF Rack
- (1) DC12-48-60-RM in new 23" FIF Rack
- (5) Rectifiers in existing power plant
- (1) Fiber Management Box on Exterior Ice Bridge Post
- (1) Fiber Drawer in Existing LTE Rack
- 6630(+iDLE)-6648(+Xcede) in new FIF Rack
- Upgrade to SFP7 Card

Remove:

- (1) Retired GSM Cabinet
- (6) LGP21901 Diplexers

The facility was approved by the Town of Berlin Planning & Zoning Commission on December 10, 1998. Please see attached.

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 Town Manager Aroscha Jayawickrema, as both the municipality and property owner, Town Planner Maureen Giusti, and Crown Castle is the tower owner.

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

For the foregoing reasons, 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: Domenica Tatasciore.

Sincerely,



Domenica Tatasciore
Site Acquisition Specialist
1800 W. Park Drive
Westborough, MA 01581
(508) 621-9161/ Domenica.Tatasciore@crowncastle.com

Melanie A. Bachman

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Attachments

cc:

Town Manager Arosha Jayawickrema
Berlin Town Hall
240 Kensington Road
Berling, CT 06037
860-828-7003

Maureen Giusti, Town Planner/ZEO
Berlin Town Hall
240 Kensington Road
Berling, CT 06037
860-828-7060

Crown Castle, Tower Owner

From: TrackingUpdates@fedex.com
To: [Tatasciore, Domenica](#)
Subject: FedEx Shipment 777751947117: Your package has been delivered
Date: Tuesday, August 30, 2022 1:51:58 PM

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



Hi. Your package was
delivered Tue, 08/30/2022 at
1:45pm.



Delivered to 240 KENSINGTON RD, KENSINGTON, CT 06037
Received by K.KARA

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [777751947117](#)

FROM Domenica Tatasciore
1800 West Park Drive

Suite 200
WESTBOROUGH, MA, US, 01581

TO Berlin Town Hall
Town Manager Arosha Jayawickrema
240 Kensington Road
KENSINGTON, CT, US, 06037

REFERENCE 799001.7680

SHIPPER REFERENCE 799001.7680

SHIP DATE Mon 8/29/2022 05:39 PM

DELIVERED TO Receptionist/Front Desk

PACKAGING TYPE FedEx Envelope

ORIGIN WESTBOROUGH, MA, US, 01581

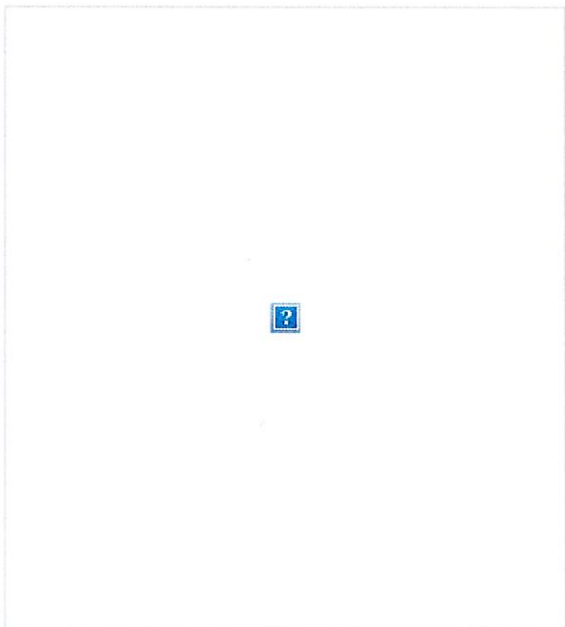
DESTINATION KENSINGTON, CT, US, 06037

SPECIAL HANDLING Deliver Weekday

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 0.50 LB

SERVICE TYPE FedEx Priority Overnight



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To: [Tatasciore, Domenica](#)
Subject: FedEx Shipment 777751963580: Your package has been delivered
Date: Tuesday, August 30, 2022 1:51:29 PM

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Hi. Your package was
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1:45pm.



Delivered to 240 KENSINGTON RD, KENSINGTON, CT 06037
Received by K.KARA

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [777751963580](#)

FROM Domenica Tatasciore
1800 West Park Drive

Suite 200
WESTBOROUGH, MA, US, 01581

TO Berlin Town Hall
Maureen Giusti, Town Planner
240 Kensington Road
KENSINGTON, CT, US, 06037

REFERENCE 799001.7680

SHIPPER REFERENCE 799001.7680

SHIP DATE Mon 8/29/2022 05:39 PM

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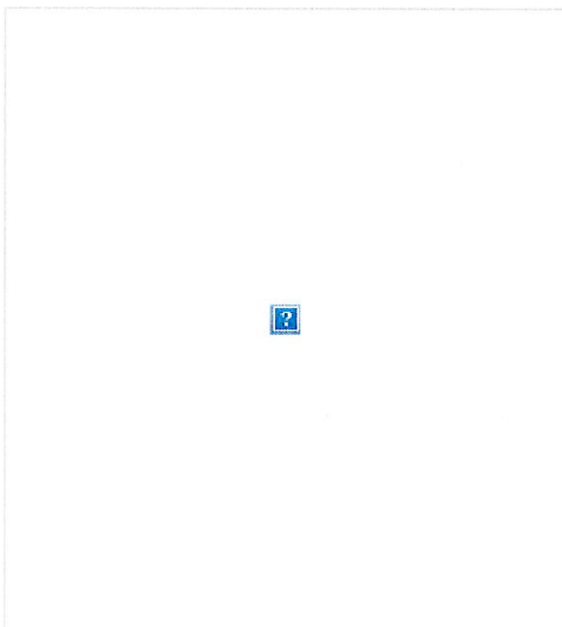
DESTINATION KENSINGTON, CT, US, 06037

SPECIAL HANDLING Deliver Weekday

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 1.00 LB

SERVICE TYPE FedEx Priority Overnight



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Town of Berlin

Department of Development Services

December 31, 1998

NOTICE OF DECISION

BERLIN PLANNING AND ZONING COMMISSION

Application: Special Permit
 Applicant: Omnipoint Communications, Inc.
 Location: Lot 29, Block 54, 240 Kensington Road

000047

At its Regular Meeting of December 10, 1998, the Berlin Planning and Zoning Commission voted four to two, with one abstention to approve the Special Permit of Omnipoint Communications for a 190' telecommunications tower at Lot 29, Block 54, 240 Kensington Road.

Town of Berlin
 Owner of Record

RECEIVED
 AT 9 HR 15 MIN 11 AM
 JANUARY 7, 1999
 AND RECORDED IN
 BERLIN LAND RECORDS

Brian J. Miller
 Brian J. Miller, AICP
 Director of Development Services

VOL 415 PAGE 924
James N. Vail
 TOWN CLERK

Visit Our Web Site: <http://www.edc.ci.berlin.ct.us>

Town of Berlin, Connecticut • Planning and Zoning Commission
 240 Kensington Road • Berlin, CT 06037 • (860) 828-7060 • Fax (860) 828-7180



Property Information

Property Location	240 KENSINGTON RD
Owner	BERLIN TOWN OF
Co-Owner	TOWN HALL COMPLEX
Mailing Address	240 KENSINGTON ROAD KENSINGTON CT 06037
Land Use	903I Municipal MDL-96
Land Class	E
Zoning Code	R-15
Census Tract	4003

District	1
Acreage	25.1
Utilities	All Public
Book / Page	0165/0370

Primary Construction Details

Year Built	1975
Building Desc.	Municipal MDL-94
Building Style	Other Municip
Stories	1
Occupancy	1.00
Exterior Walls	Brick Veneer
Exterior Walls 2	
Roof Style	Gable/Hip
Roof Cover	Asph/F GlS/Cmp
Interior Walls	Drywall/Plaste
Interior Walls 2	
Interior Floors 1	Carpet
Interior Floors 2	

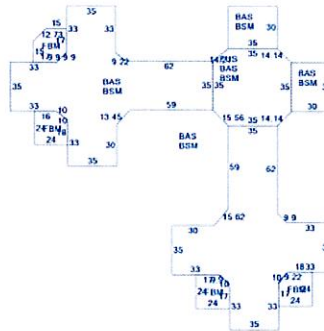
Heating Fuel	Oil/Gas
Heating Type	Hot Water
AC Type	Central
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	
Kitchen Style	
Fin BSMT Area	
Fin BSMT Quality	
Fin BSMT Area 2	
Fin BSMT Qual 2	

BSMT Garages	0
Fireplaces	0
Whirlpool Tub	0
Building Use	Comm/Ind
Building Condition	G
Industrial / Commercial Details (*Residential Not Applicable)	
Heat / AC	HEAT/AC PKGS
Frame Type	MASONRY
Baths / Plumbing	AVERAGE
Ceiling / Wall	SUS-CEIL & WL
Rooms / Prtns	AVERAGE
Wall Height	10
First Floor Use	903I

Photo



Sketch





Town of Berlin, CT

Property Listing Report

Map Block Lot

9-3-54-29-8026

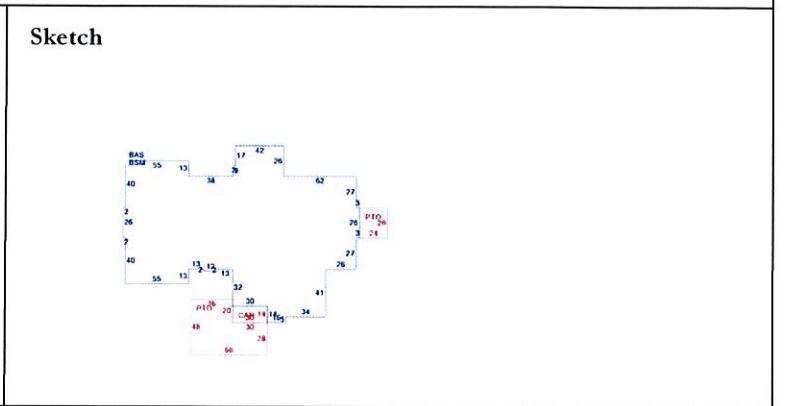
Building # 2

PID

8026

Account

1101150



Primary Construction Details

Year Built	1988
Building Desc.	Comm/Ind
Building Style	Other Municip
Stories	1
Occupancy	1.00
Exterior Walls	Brick Veneer
Roof Style	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Walls	Drywall/Plaste
Interior Floors 1	Carpet

Heating Fuel	Oil/Gas
Heating Type	Hot Water
AC Type	Central
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Fin BSMT Area	
Fin BSMT Qual	
Fin BSMT Area 2	
Fin BSMT Qual 2	

BSMT Garages	0
Fireplaces	0
Whirlpool Tubs	0
Building Use	Municipal MDL-94
Building Condition	G
Industrial / Commercial Details (*Residential Not Applicable)	
Heat / AC	HEAT/AC PKGS
Frame Type	MASONRY
Baths / Plumbing	AVERAGE
Ceiling / Wall	SUS-CEIL & WL
Rooms / Prtns	AVERAGE
Wall Height	10
First Floor Use	9031

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Basement	21704	0
First Floor	21704	21704
Patio	3192	0
Canopy Attached	420	0

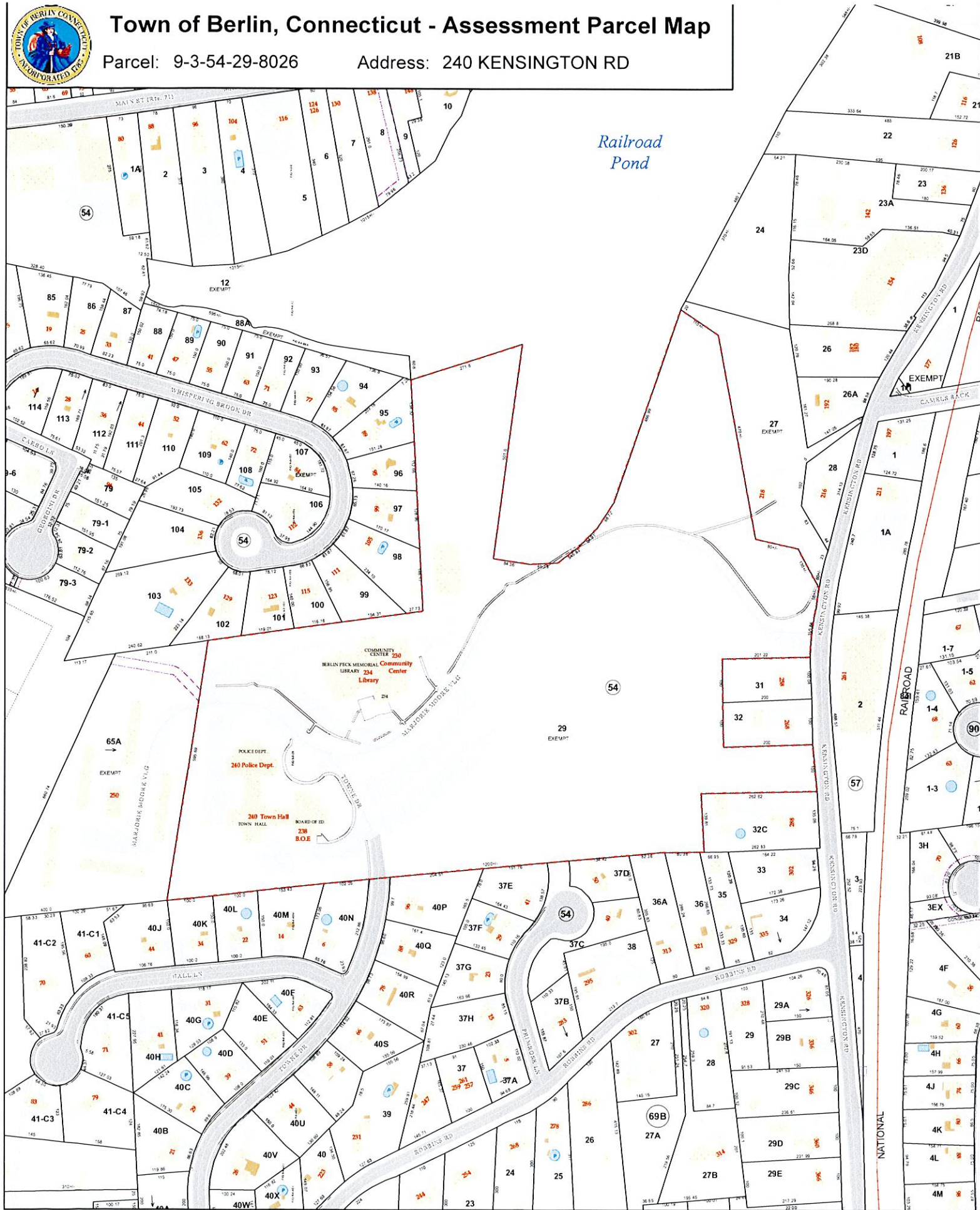
Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	47020	21704



Town of Berlin, Connecticut - Assessment Parcel Map

Parcel: 9-3-54-29-8026

Address: 240 KENSINGTON RD



Approximate Scale: 1 inch = 274 feet



Map Produced: February 2022

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

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

AT&T Existing Facility

Site ID: CTL01019

826217

**240 Kensington Road
Berlin, Connecticut 06037**

February 21, 2022

EBI Project Number: 6222000328

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	40.47%

February 21, 2022

AT&T

Emissions Analysis for Site: CTL01019 - 826217

EBI Consulting was directed to analyze the proposed AT&T facility located at **240 Kensington Road in Berlin, 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 240 Kensington Road in Berlin, 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) 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.
- 3) 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.
- 4) 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.
- 5) 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.
- 6) 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.

- 7) 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.
- 8) 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.
- 9) 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.
- 10) The antennas used in this modeling are the CCI TPA65R-BU8DA-K for the 700 MHz / 2100 MHz / 2300 MHz channel(s), the Ericsson AIR 6449 for the 3700 MHz channel(s), the Ericsson AIR 6419 for the 3700 MHz channel(s), the CCI DMP65R-BU8DA for the 700 MHz / 850 MHz / 1900 MHz channel(s) in Sector A, the CCI TPA65R-BU8DA-K for the 700 MHz / 2100 MHz / 2300 MHz channel(s), the Ericsson AIR 6449 for the 3700 MHz channel(s), the Ericsson AIR 6419 for the 3700 MHz channel(s), the CCI DMP65R-BU8DA for the 700 MHz / 850 MHz / 1900 MHz channel(s) in Sector B, the CCI TPA65R-BU8DA-K for the 700 MHz / 2100 MHz / 2300 MHz channel(s), the Ericsson AIR 6449 for the 3700 MHz channel(s), the Ericsson AIR 6419 for the 3700 MHz channel(s), the CCI DMP65R-BU8DA for the 700 MHz / 850 MHz / 1900 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 11) The antenna mounting height centerlines of the proposed antennas are 148, 149, and 150 feet above ground level (AGL).
- 12) 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.

13) 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:	CCI TPA65R-BU8DA-K	Make / Model:	CCI TPA65R-BU8DA-K	Make / Model:	CCI TPA65R-BU8DA-K
Frequency Bands:	700 MHz / 2100 MHz / 2300 MHz	Frequency Bands:	700 MHz / 2100 MHz / 2300 MHz	Frequency Bands:	700 MHz / 2100 MHz / 2300 MHz
Gain:	13.45 dBd / 16.15 dBd / 15.85 dBd	Gain:	13.45 dBd / 16.15 dBd / 15.85 dBd	Gain:	13.45 dBd / 16.15 dBd / 15.85 dBd
Height (AGL):	149 feet	Height (AGL):	149 feet	Height (AGL):	149 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	500.00 Watts	Total TX Power (W):	500.00 Watts	Total TX Power (W):	500.00 Watts
ERP (W):	17,277.21	ERP (W):	17,277.21	ERP (W):	17,277.21
Antenna A1 MPE %:	3.75%	Antenna B1 MPE %:	3.75%	Antenna C1 MPE %:	3.75%
Antenna #:	2	Antenna #:	2	Antenna #:	2
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):	150 feet	Height (AGL):	150 feet	Height (AGL):	150 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 %:	5.55%	Antenna B2 MPE %:	5.55%	Antenna C2 MPE %:	5.55%
Antenna #:	3	Antenna #:	3	Antenna #:	3
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):	148 feet	Height (AGL):	148 feet	Height (AGL):	148 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 %:	5.70%	Antenna B3 MPE %:	5.70%	Antenna C3 MPE %:	5.70%
Antenna #:	4	Antenna #:	4	Antenna #:	4
Make / Model:	CCI DMP65R-BU8DA	Make / Model:	CCI DMP65R-BU8DA	Make / Model:	CCI DMP65R-BU8DA
Frequency Bands:	700 MHz / 850 MHz / 1900 MHz	Frequency Bands:	700 MHz / 850 MHz / 1900 MHz	Frequency Bands:	700 MHz / 850 MHz / 1900 MHz
Gain:	11.85 dBd / 12.45 dBd / 15.55 dBd	Gain:	11.85 dBd / 12.45 dBd / 15.55 dBd	Gain:	11.85 dBd / 12.45 dBd / 15.55 dBd
Height (AGL):	149 feet	Height (AGL):	149 feet	Height (AGL):	149 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	480.00 Watts	Total TX Power (W):	480.00 Watts	Total TX Power (W):	480.00 Watts
ERP (W):	11,005.17	ERP (W):	11,005.17	ERP (W):	11,005.17
Antenna A4 MPE %:	2.80%	Antenna B4 MPE %:	2.80%	Antenna C4 MPE %:	2.80%

- 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):	17.80%
Clearwire	0.14%
Metro PCS	0.23%
T-Mobile	3.88%
Sprint	5.47%
Town	5.61%
Verizon	7.34%
Site Total MPE % :	40.47%

AT&T MPE % Per Sector	
AT&T Sector A Total:	17.80%
AT&T Sector B Total:	17.80%
AT&T Sector C Total:	17.80%
Site Total MPE % :	40.47%

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	885.24	149.0	6.23	700 MHz LTE FN	467	1.33%
AT&T 2100 MHz LTE/5G	4	2472.59	149.0	17.39	2100 MHz LTE/5G	1000	1.74%
AT&T 2300 MHz LTE	4	961.48	149.0	6.76	2300 MHz LTE	1000	0.68%
AT&T 3700 MHz C-Band	1	31996.92	150.0	55.48	3700 MHz C-Band	1000	5.55%
AT&T 3700 MHz C-Band	1	31996.92	148.0	57.05	3700 MHz C-Band	1000	5.70%
AT&T 700 MHz LTE	4	612.43	149.0	4.31	700 MHz LTE	467	0.92%
AT&T 850 MHz 5G	4	703.17	149.0	4.94	850 MHz 5G	567	0.87%
AT&T 1900 MHz LTE/5G	4	1435.69	149.0	10.10	1900 MHz LTE/5G	1000	1.01%
						Total:	17.80%

• 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:	17.80%
Sector B:	17.80%
Sector C:	17.80%
AT&T Maximum MPE % (Sector A):	17.80%
Site Total:	40.47%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **40.47%** 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.

Date: July 5, 2022



Kimley-Horn and Associates, Inc.
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000
CrownMounts@kimley-horn.com

Subject: Mount Analysis Report

Carrier Designation: AT&T Mobility Equipment Change-Out
Carrier Site Number: CTL01019
Carrier Site Name: BERLIN POLICE DEPT
Carrier FA Number: 10035299

Crown Castle Designation: **BU Number:** 826217
Site Name: Newington_1
JDE Job Number: 716732
Order Number: 616608, Rev. 2

Engineering Firm Designation: **Kimley-Horn Project Number:** 019558062

Site Data: 240 Kensington Road, Berlin, Hartford County, CT 06037
Latitude 41° 37' 34.30" Longitude -72° 46' 32.33"

Structure Information: **Tower Height & Type:** 190 ft Monopole
Mount Elevation: 151 ft
Mount Type: 13.5 ft Platform w/ Support Rails

Kimley-Horn 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 stress level. Based on our analysis we have determined the mount stress level to be:

Platform w/ Support Rails

Sufficient

This analysis has been performed in accordance with the 2018 Connecticut State 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 analysis prepared by: Jeff Sparks under supervision by Steven C. Ball, P.E., S.E.

Respectfully Submitted by:

Steven C. Ball, P.E., S.E.

Lic. #PEN.0020813, Exp. 1/31/2023
Kimley-Horn and Associates, Inc. COA #PEC.0000738



7.6.22

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1) INTRODUCTION

The mounting configuration consists of an existing 13.5 ft Platform w/ Support Rails designed by Pirod.

2) ANALYSIS CRITERIA

Building Code:	2018 Connecticut State Building Code
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	118 mph
Exposure Category:	B
Topographic Factor at Base:	1.0
Topographic Factor at Mount:	1.0
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
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

Elevation (ft)		Antennas			Mount / Modification Details
Mount	Centerline	#	Manufacturer	Model	
151	150	3	Ericsson	AIR 6449 N77	Existing 13.5 ft Platform w/ Support Rails designed by Pirod
	149	1	Raycap	DC9-48-60-24-8C-EV	
		2	Raycap	DC6-48-60-18-8F	
		3	CCI	DMP65R-BU8D	
		3	CCI	TPA65R-BU8D	
		3	Ericsson	RRUS 4449 B5/B12	
		3	Ericsson	RRUS 8843 B2/B66A_CCIV2	
		3	Ericsson	RRUS 4478 B14_CCIV2	
		3	Ericsson	RRUS 32 B30	
	148	3	Ericsson	AIR 6419 B77G	

3) ANALYSIS PROCEDURE

Table 2 – Documents Provided

Document	Remarks	Reference	Source
Mount Analysis Report	Kimley-Horn	10362317	CCISites
Structural Analysis Report	Morrison Hershfield	10120259	CCISites
Supplemental Loading	AT&T Mobility RFDS	06/09/2022	TSA
Site Photos	-	-	CCISites

3.1) Analysis Method

RISA-3D (v. 17.02.00), 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 proprietary tool internally developed by Kimley-Horn was used to calculate wind loading on all appurtenances, dishes and mount members for various load cases. Selected output from the analysis is included in Appendix B.

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

3.2) Assumptions

- 1) The antenna mounting system (including any considered modifications) was properly fabricated, installed and maintained in good condition in accordance with its original design and manufacturer specifications.
- 2) The configuration of antennas, mounts, and other appurtenances are as specified in Table 1 and the provided reference information.
- 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) 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 that could not be verified at this time.
- 5) Any referenced prior structural modifications to the tower mounting system are assumed to be installed as shown per available data unless noted otherwise.
- 6) Steel grades have been assumed as follows, unless noted otherwise:

Channel, Solid Round, Angle, Plate	ASTM A36 (Gr. 36)
HSS (Rectangular)	ASTM A36 (Gr. 36)
Pipe	ASTM A53 (Gr. 35)
Connection Bolts	ASTM A325
U-Bolts	ASTM A36 (Gr. 36)
Threaded Rods	ASTM A36 (Gr. 36)

If any assumptions are not valid or have been made in error, Kimley-Horn 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

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1, 2	Corner Plates	M195B	151	100%	Pass
1, 2	Stand Off Horizontals	M36		62%	Pass
1, 2	Cross Arms	M54		55%	Pass
1, 2	Connections	-		45%	Pass

Structure Rating (max from all components) =	100%
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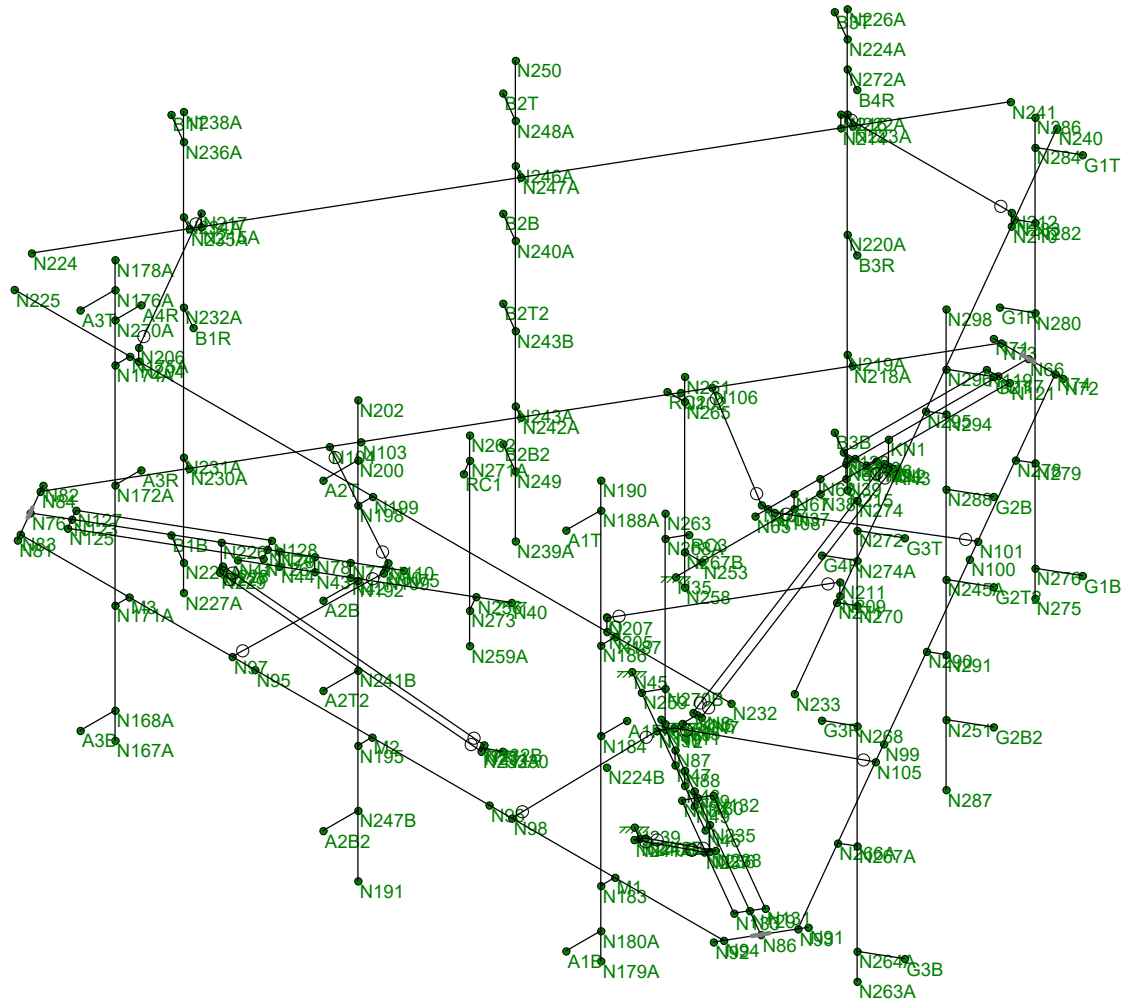
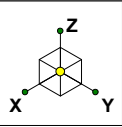
Notes:

- 1) See additional documentation in Appendix C and Appendix D for calculations supporting the % capacity consumed.
- 2) A structure rating of 105% or less is within engineering tolerances and considered acceptable.

4.1) Recommendations

The mounting configuration has sufficient design capacity to carry the referenced loading. No modifications are required at this time.

APPENDIX A
WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

Kimley-Horn and Associates, Inc.

JSS

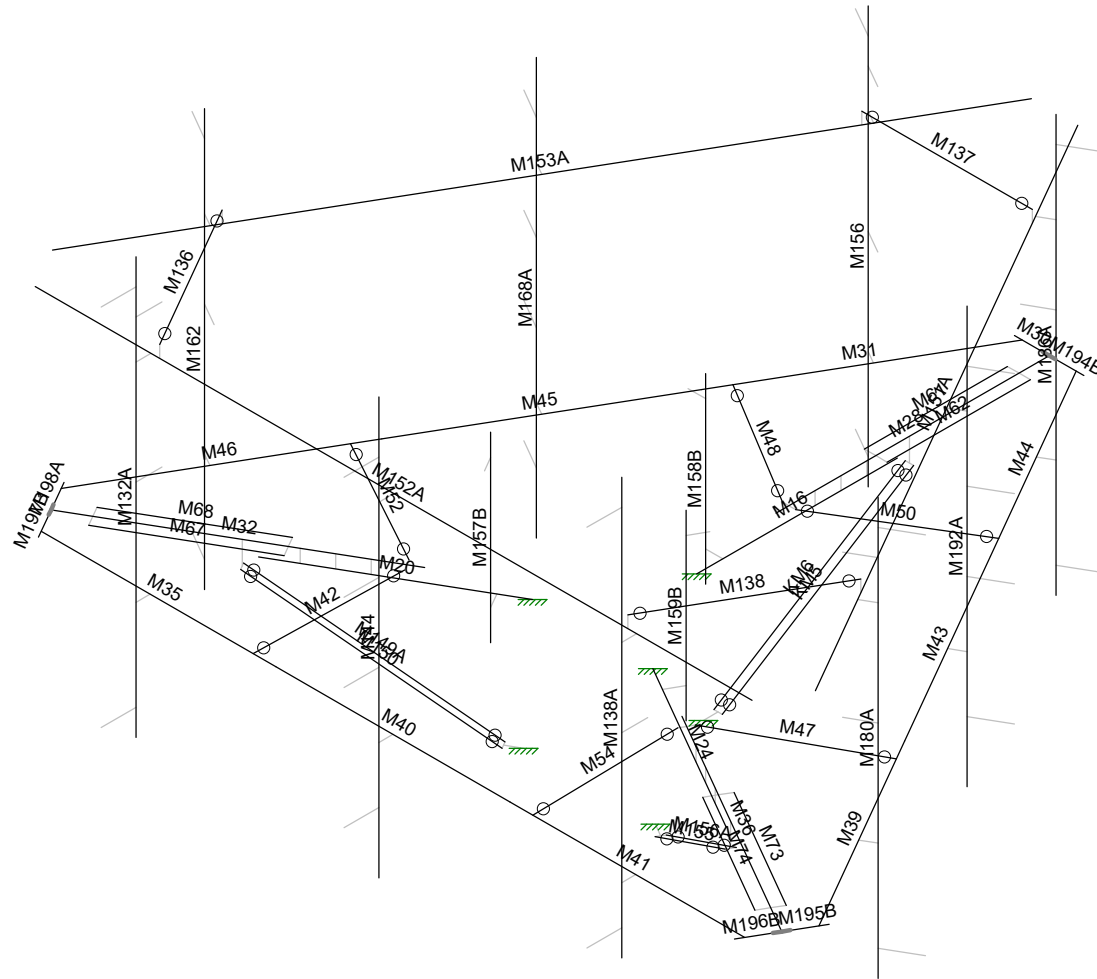
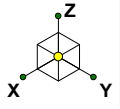
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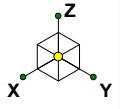
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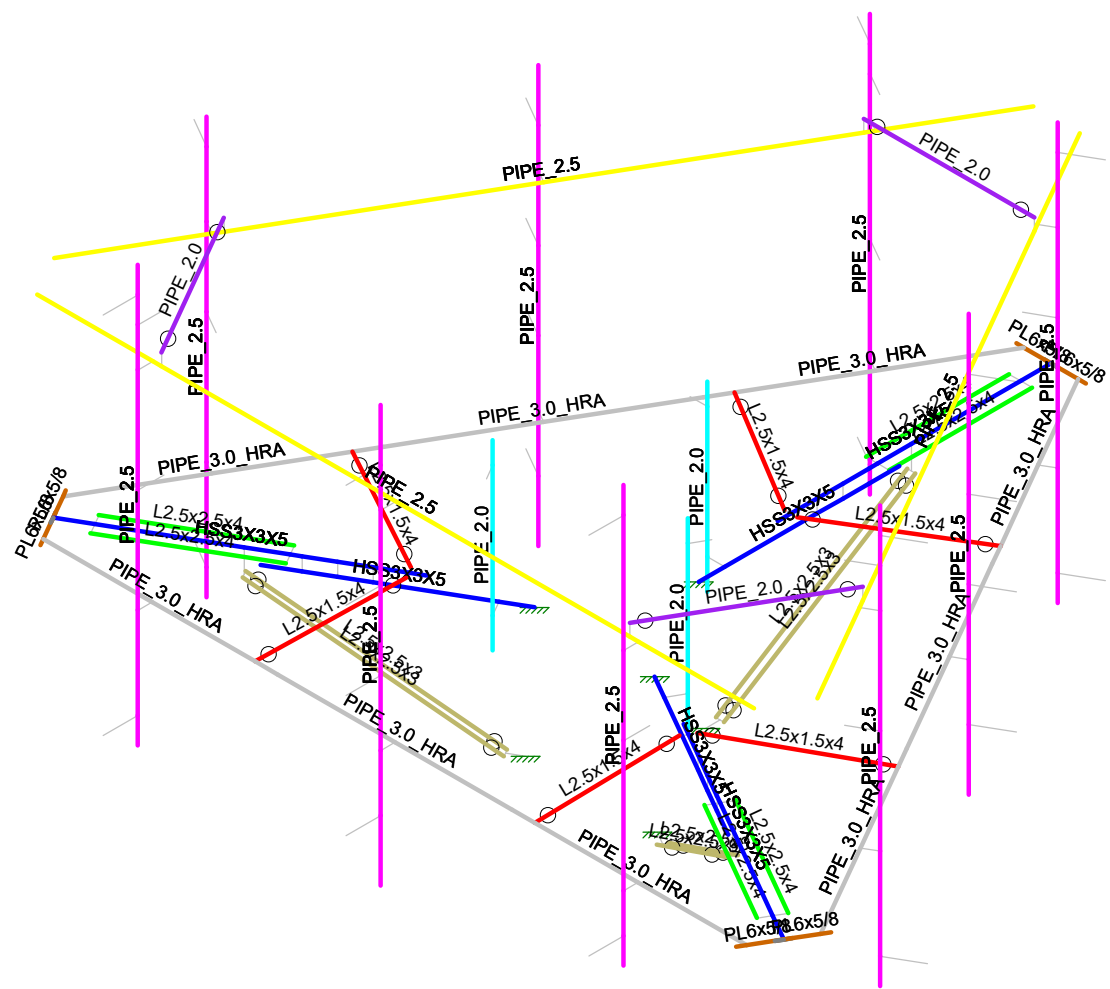
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Section Sets	
[Blue line]	Stand-Off Horiz
[Green line]	Grating Angle
[Red line]	Cross Angle
[Grey line]	Face Horiz
[Magenta line]	Mount Pipe 2.5
[Cyan line]	Mount Pipe 2.0
[Brown line]	Corner Plate
[Yellow line]	Support Rail
[Purple line]	Support Rail Corner Pipes
[Light Green line]	Kicker Angle
[Dark Green line]	RIGID



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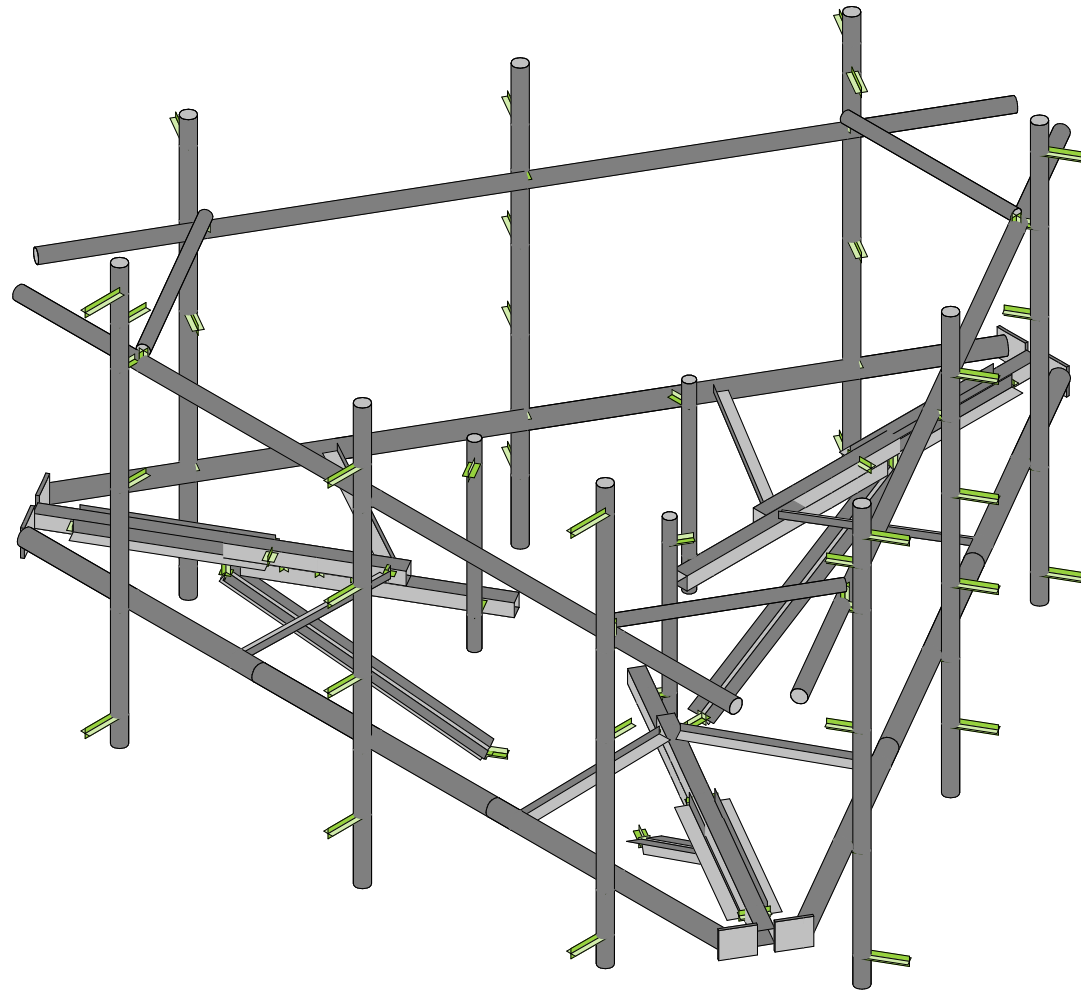
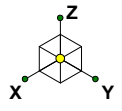
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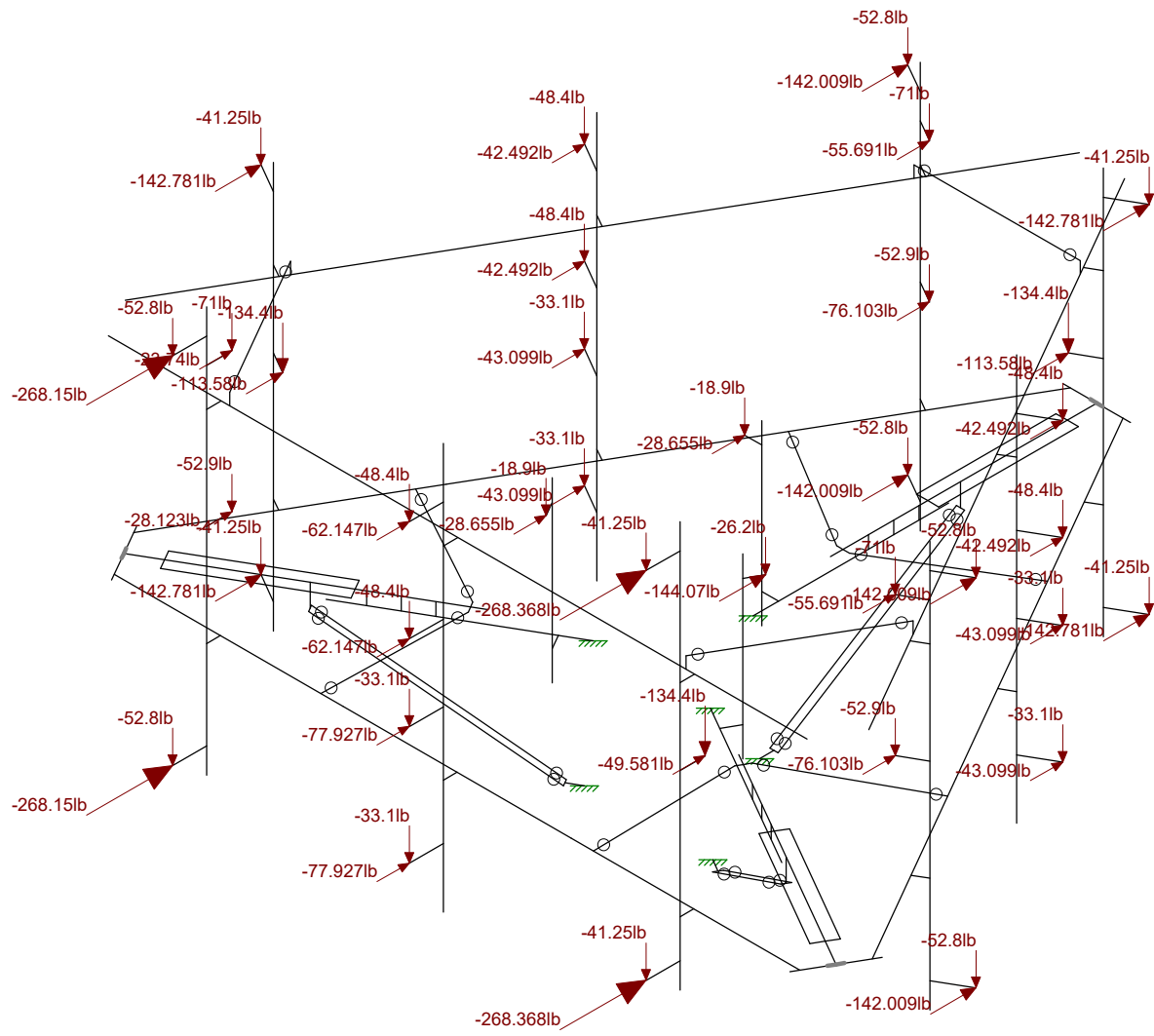
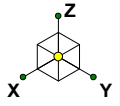
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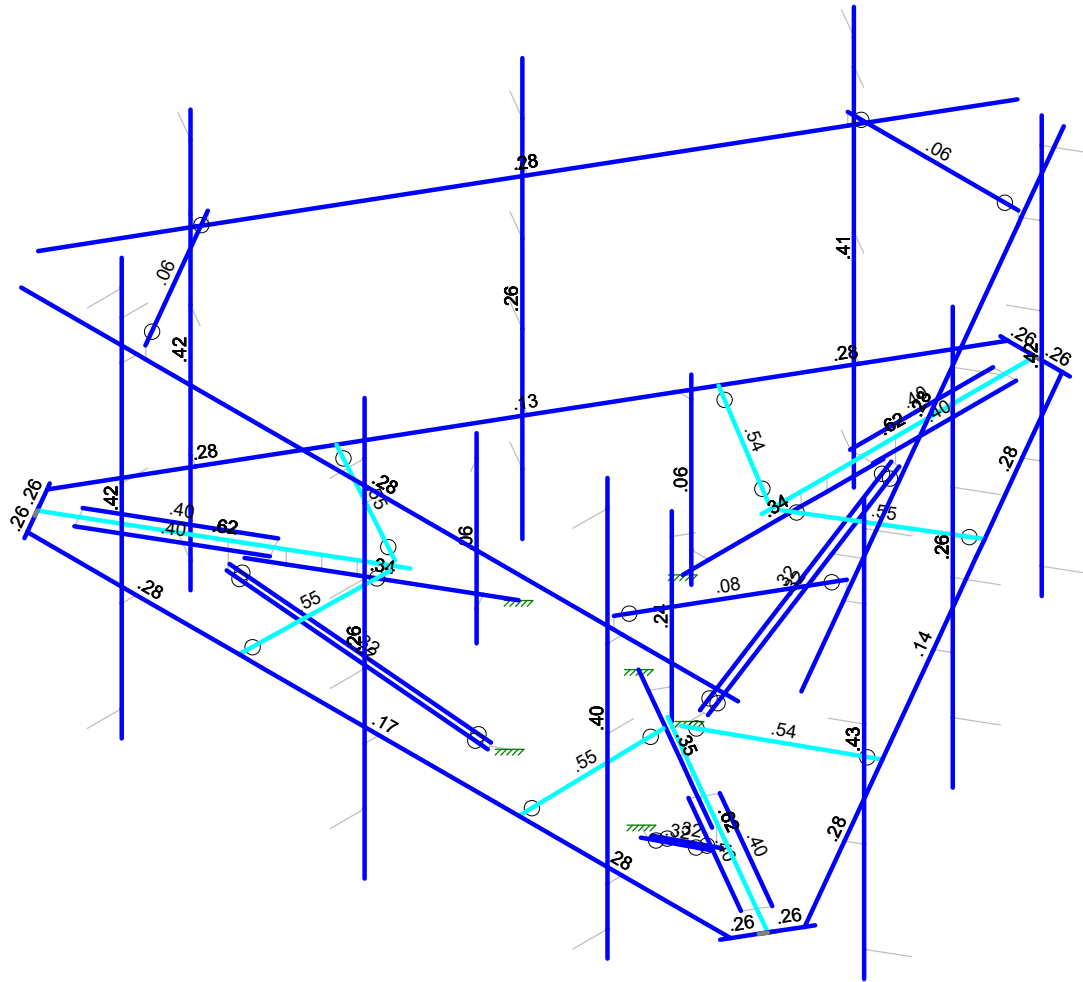
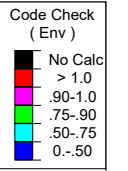
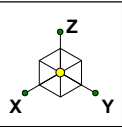


Loads: LC 1, Summary: 1.0D + 1.0W
Envelope Only Solution

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Member Code Checks Displayed (Enveloped)
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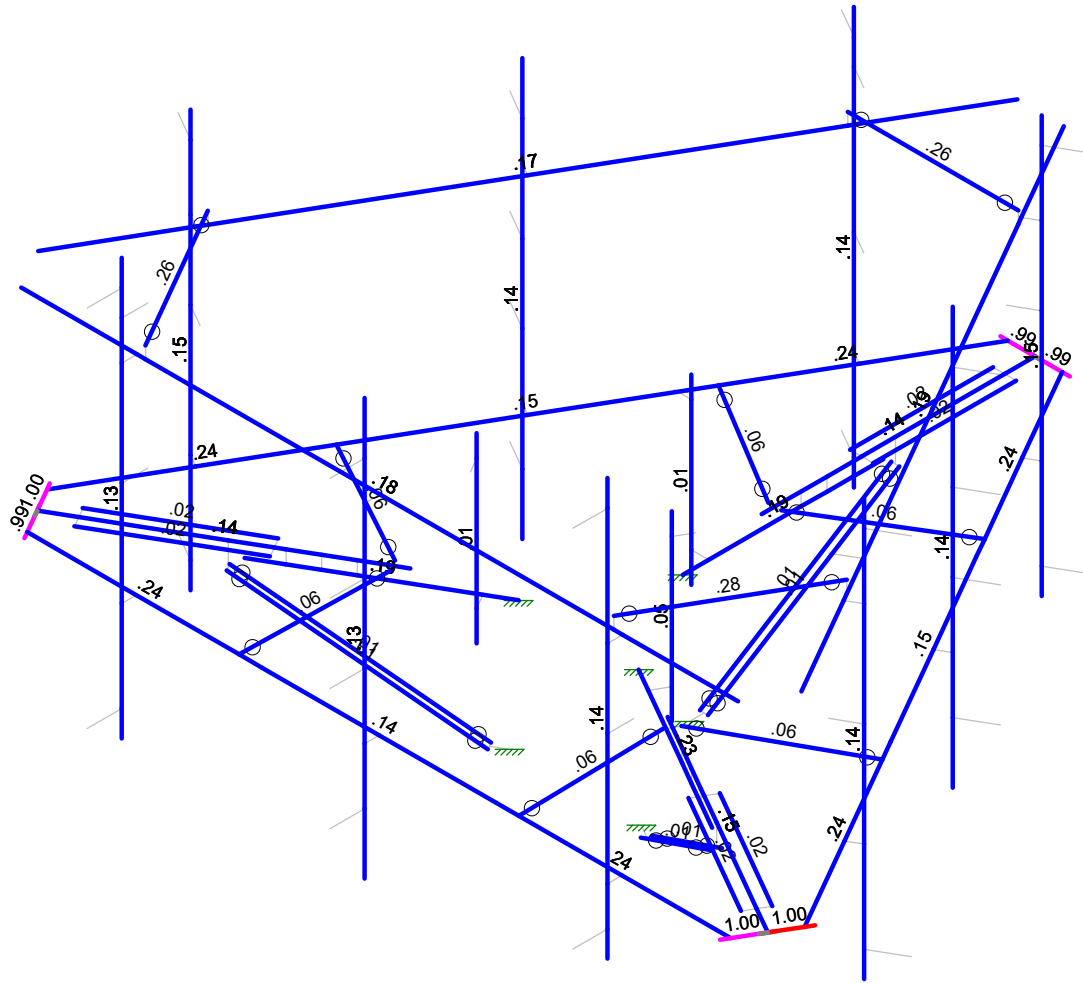
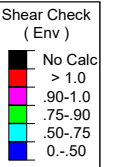
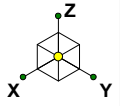
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Member Shear Checks Displayed (Enveloped)
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APPENDIX B
SOFTWARE INPUT CALCULATIONS

General Criteria	
TIA Standard	H
IBC Edition	2018
Structure Class	-
Risk Category	II

Wind Summary	
Basic Wind Speed w/o Ice, V (mph)	118.00
Velocity Pressure Coeff., K _z	1.11
Velocity Pressure, q _z (w/o Ice) (psf)	37.46

Site-Specific Criteria	
Exposure Category	B
Topographic Factor, K _{zt}	1.00
Structure Base Elev. (AMSL), z _s (ft)	133.49
Ground Effect Factor, K _e	1.00

Ice Load Summary	
Basic Wind Speed w/ Ice, V _i (mph)	50.00
Design Ice Thick. (ASCE 7-16), t _i (in)	1.5
Velocity Pressure, q _z (w/ Ice) (psf)	6.73
Escalated Ice Thick. @ Mount, t _{iz} (in)	1.75

Mount & Structure Criteria	
Mount Elevation (AGL) (ft)	151.00
Structure Height (ft)	190.00
Structure Type	Monopole

Seismic Load Summary	
Spectral Response (Short Periods), S _s	-
Spectral Response (1-Sec. Period), S ₁	-
Site Class	-
Seismic Design Category	-
Seismic Risk Category	-

Constants	
Wind Direction Probability Factor, K _d	0.95
Gust Effect Factor, G _h	1
Shielding Factor, K _s (antenna)	0.9
Shielding Factor, K _s (mount)	0.9

Snow Load Summary	
Ground Snow Load, p _g (psf)	-
Snow Load on Flat Roofs, p _f (psf)	-

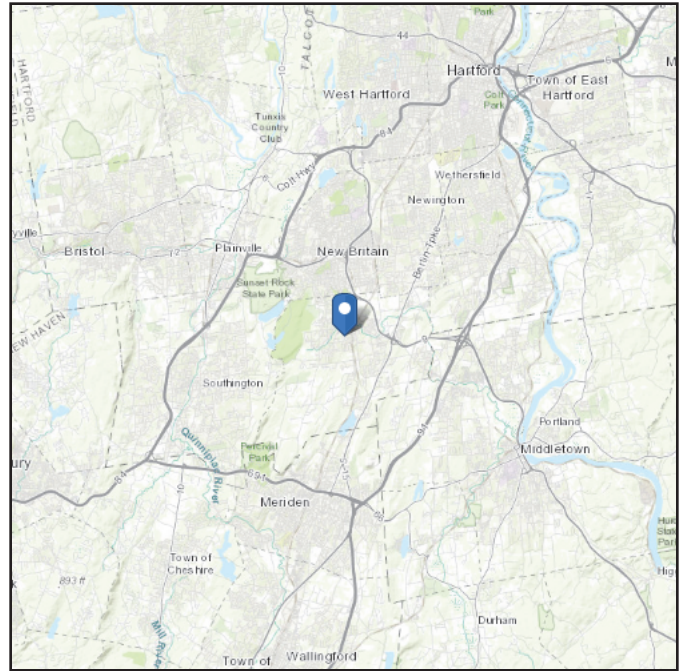
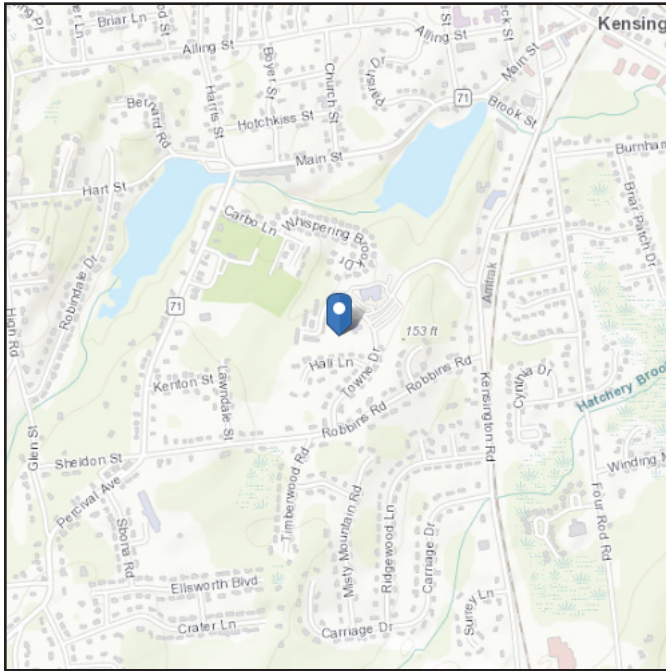
Antenna Name	Qty	Shape	Dimensions (in)			Weight (lb)	Joint Labels								EPA (ft ²)		Wind Force, F _w (lb)			
			H	W	D		Alpha		Beta		Gamma		Delta		Front	Side	No Ice		With Ice	
							A1	A2	B1	B2	G1	G2	D1	D2			Front	Side	Front	Side
DMP65R-BU8D	3	Flat	96	20.7	7.7	105.6	A3B	A3T	B3B	B3T	G3B	G3T			15.91	5.93	536.3	199.92	114.53	50
TPA65R-BU8D	3	Flat	96	21	7.8	82.5	A1B	A1T	B1B	B1T	G1B	G1T			15.92	5.99	536.74	201.84	114.45	50.36
AIR 6419 B77G	3	Flat	28	15.8	6.7	66.2	A2B2	A2T2	B2B2	B2T2	G2B2	G2T2			4.62	1.87	155.85	62.98	38.46	18.63
AIR 6449 N77	3	Flat	30.6	15.9	10.6	96.8	A2B	A2T	B2B	B2T	G2B	G2T			3.69	2.13	124.29	71.88	30.33	18.86
DC6-48-60-18-8F	2	Round	22.3	11	11	18.9	RC1		RC2						0.85	0.85	28.65	28.65	8.67	8.67
RRUS 32 B30	3	Flat	27.2	12.1	7	52.9	A3R		B3R		G3R				0.83	2.73	28.12	92.1	8.25	24.07
RRUS 4449 B5/B12	3	Flat	17.9	13.2	9.4	71	A4R		B4R		G4R				0.7	1.97	23.74	66.34	6.98	18.01
RRUS 4478 B14_CCIV2	3	Flat	18.1	13.4	8.3	59.4	A1R		B1R		G1R				0.62	2.02	21	68.15	6.4	18.4
RRUS 8843 B2/B66A_CCIV2	3	Flat	18	13.2	11.3	75	A1R		B1R		G1R				0.85	1.98	28.58	66.76	8.02	18.1
DC9-48-60-24-8C-EV	1	Flat	31.4	10.2	18.3	26.2					RC3				2.74	4.78	92.28	161.34	24.22	38.34

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: 133.49 ft (NAVD 88)
Latitude: 41.626194
Longitude: -72.775647



Wind

Results:

Wind Speed	118 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	98 Vmph

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

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

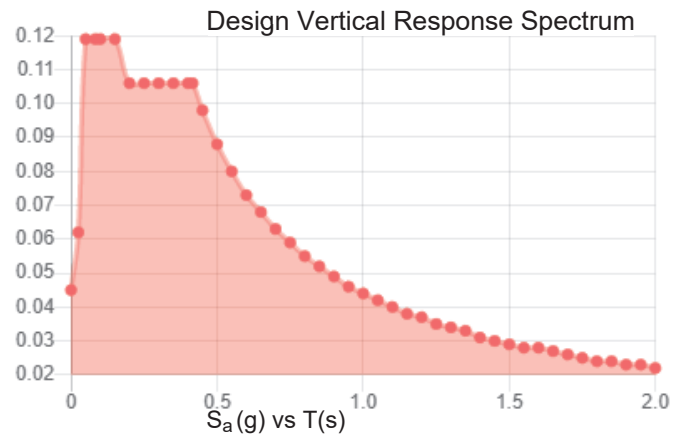
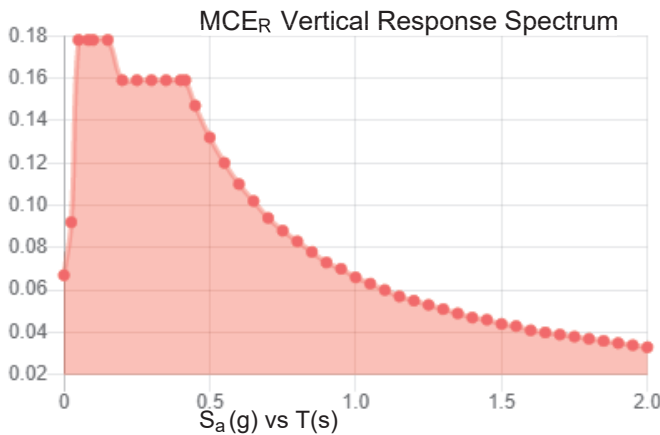
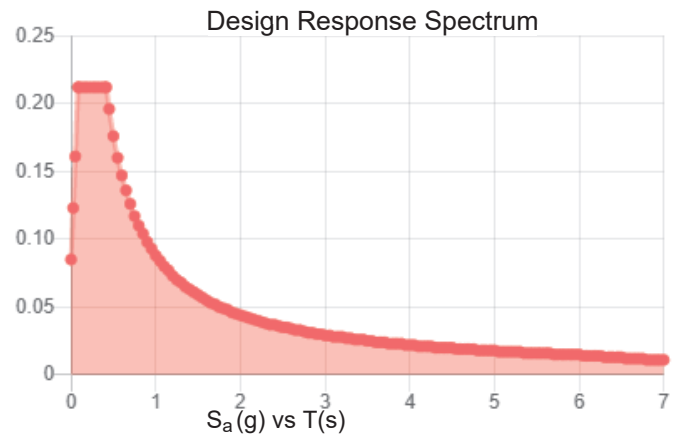
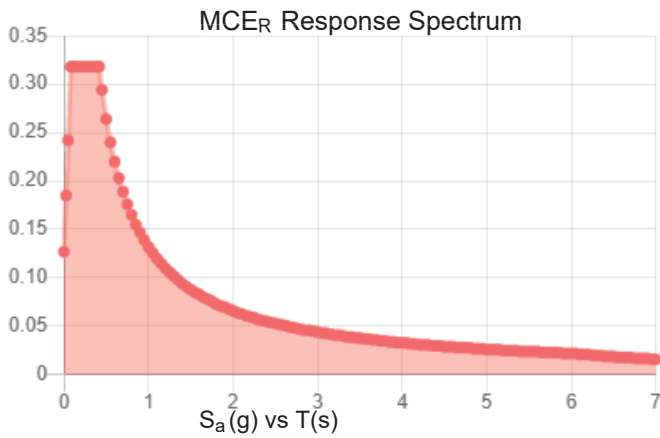
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

Results:

S_s :	0.199	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.109
F_v :	2.4	PGA _M :	0.173
S_{MS} :	0.318	F_{PGA} :	1.582
S_{M1} :	0.132	I_e :	1
S_{DS} :	0.212	C_v :	0.7

Seismic Design Category B



Data Accessed: Tue Jul 05 2022

Date Source:

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

Ice

Results:

Ice Thickness: 1.50 in.
Concurrent Temperature: 15 F
Gust Speed 50 mph

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

Date Accessed: Tue Jul 05 2022

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

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

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

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APPENDIX C
SOFTWARE ANALYSIS OUTPUT

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E5 F)	Density[lb/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	490	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	490	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	490	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	490	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	490	50	1.4	65	1.3
8	Q235	29000	11154	.3	.65	490	35	1.5	58	1.2

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Stand-Off Horiz	HSS3X3X5	Beam	None	A36 Gr.36	Typical	2.94	3.45	3.45	5.94
2	Grating Angle	L2.5x2.5x4	Beam	None	A36 Gr.36	Typical	1.19	.692	.692	.026
3	Cross Angle	L2.5x1.5x4	Beam	None	A36 Gr.36	Typical	.947	.16	.594	.021
4	Face Horiz	PIPE 3.0 HRA	Beam	None	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
5	Mount Pipe 2.5	PIPE 2.5	Column	None	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
6	Mount Pipe 2.0	PIPE 2.0	Column	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
7	Corner Plate	PL6x5/8	Beam	None	A36 Gr.36	Typical	3.75	.122	11.25	.456
8	Support Rail	PIPE 2.5	Beam	None	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
9	Support Rail Corner Pi...	PIPE 2.0	Beam	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
10	Kicker Angle	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical	.901	.535	.535	.011

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
1	M16	Stand-Off H...	46.25			Lbyy						Lateral
2	M20	Stand-Off H...	46.25			Lbyy						Lateral
3	M24	Stand-Off H...	46.25			Lbyy						Lateral
4	M28	Stand-Off H...	63			Lbyy						Lateral
5	M30	Corner Plate	8			Lbyy						Lateral
6	M31	Face Horiz	54.096			Lbyy						Lateral
7	M32	Stand-Off H...	63			Lbyy						Lateral
8	M35	Face Horiz	54.096			Lbyy						Lateral
9	M36	Stand-Off H...	63			Lbyy						Lateral
10	M39	Face Horiz	54.096			Lbyy						Lateral
11	M40	Face Horiz	54			Lbyy						Lateral
12	M41	Face Horiz	54.096			Lbyy						Lateral
13	M42	Cross Angle	34.122			Lbyy						Lateral
14	M43	Face Horiz	54			Lbyy						Lateral
15	M44	Face Horiz	54.096			Lbyy						Lateral
16	M45	Face Horiz	54			Lbyy						Lateral
17	M46	Face Horiz	54.096			Lbyy						Lateral
18	M47	Cross Angle	34.122			Lbyy						Lateral
19	M48	Cross Angle	34.122			Lbyy						Lateral
20	M50	Cross Angle	34.122			Lbyy						Lateral
21	M52	Cross Angle	34.122			Lbyy						Lateral
22	M54	Cross Angle	34.122			Lbyy						Lateral
23	M61	Grating Angle	33			Lbyy						Lateral
24	M62	Grating Angle	33			Lbyy						Lateral
25	M67	Grating Angle	33			Lbyy						Lateral
26	M68	Grating Angle	33			Lbyy						Lateral
27	M73	Grating Angle	33			Lbyy						Lateral
28	M74	Grating Angle	33			Lbyy						Lateral
29	M132A	Mount Pipe ...	96			Lbyy						Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
30	M138A	Mount Pipe ...	96			Lbyy						Lateral
31	M144	Mount Pipe ...	96			Lbyy						Lateral
32	M156	Mount Pipe ...	96			Lbyy						Lateral
33	M162	Mount Pipe ...	96			Lbyy						Lateral
34	M168A	Mount Pipe ...	96			Lbyy						Lateral
35	M180A	Mount Pipe ...	96			Lbyy						Lateral
36	M186A	Mount Pipe ...	96			Lbyy						Lateral
37	M192A	Mount Pipe ...	96			Lbyy						Lateral
38	M194B	Corner Plate	8			Lbyy						Lateral
39	M195B	Corner Plate	8			Lbyy						Lateral
40	M196B	Corner Plate	8			Lbyy						Lateral
41	M197B	Corner Plate	8			Lbyy						Lateral
42	M198A	Corner Plate	8			Lbyy						Lateral
43	M136	Support Rail...	39.326			Lbyy						Lateral
44	M137	Support Rail...	39.326			Lbyy						Lateral
45	M138	Support Rail...	39.326			Lbyy						Lateral
46	KM5	Kicker Angle	52.059									Lateral
47	KM6	Kicker Angle	52.059									Lateral
48	M149A	Kicker Angle	52.059									Lateral
49	M150	Kicker Angle	52.059									Lateral
50	M155	Kicker Angle	52.059									Lateral
51	M156A	Kicker Angle	52.059									Lateral
52	M151A	Support Rail	165.259			Lbyy						Lateral
53	M152A	Support Rail	165.259			Lbyy						Lateral
54	M153A	Support Rail	165.259			Lbyy						Lateral
55	M157B	Mount Pipe ...	42									Lateral
56	M158B	Mount Pipe ...	42									Lateral
57	M159B	Mount Pipe ...	42									Lateral

Basic Load Cases

	BLC Description	Category	X Gravi...	Y Gravi...	Z Gravity	Joint	Point	Distrib...	Area(Mem...	Surface(Plate/W...
1	Dead	DL			-1	39				
2	Dead of Ice	RL				39		57		
4	Structure Wind (0)	None						114		
5	Structure Wind (30)	None						114		
6	Structure Wind (45)	None						114		
7	Structure Wind (60)	None						114		
8	Structure Wind (90)	None						114		
9	Structure Wind (120)	None						114		
10	Structure Wind (135)	None						114		
11	Structure Wind (150)	None						114		
12	Structure Wind w/ Ice (0)	None						114		
13	Structure Wind w/ Ice (30)	None						114		
14	Structure Wind w/ Ice (45)	None						114		
15	Structure Wind w/ Ice (60)	None						114		
16	Structure Wind w/ Ice (90)	None						114		
17	Structure Wind w/ Ice (120)	None						114		
18	Structure Wind w/ Ice (135)	None						114		
19	Structure Wind w/ Ice (150)	None						114		
20	Antenna Wind (0)	None				78				
21	Antenna Wind (30)	None				78				
22	Antenna Wind (45)	None				78				
23	Antenna Wind (60)	None				78				
24	Antenna Wind (90)	None				78				
25	Antenna Wind (120)	None				78				

Basic Load Cases (Continued)

BLC Description	Category	X Gravi...	Y Gravi...	Z Gravity	Joint	Point	Distrib...	Area(Mem...	Surface(Plate/W...
26 Antenna Wind (135)	None				78				
27 Antenna Wind (150)	None				78				
28 Antenna Wind w/ Ice (0)	None				78				
29 Antenna Wind w/ Ice (30)	None				78				
30 Antenna Wind w/ Ice (45)	None				78				
31 Antenna Wind w/ Ice (60)	None				78				
32 Antenna Wind w/ Ice (90)	None				78				
33 Antenna Wind w/ Ice (120)	None				78				
34 Antenna Wind w/ Ice (135)	None				78				
35 Antenna Wind w/ Ice (150)	None				78				
36 Maintenance Live Lm (1)	OL1				1				
37 Maintenance Live Lm (2)	OL2				1				
38 Maintenance Live Lm (3)	OL3				1				
41 Maintenance Live Lv (1)	OL6					1			
42 Maintenance Live Lv (2)	OL7					1			
43 Maintenance Live Lv (3)	OL8					1			
44 Maintenance Live Lv (4)	OL9					1			
45 Maintenance Live Lv (5)	OL10					1			

Load Combinations

Description	S...	P...	SRSS	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1 Summary: 1.0D + 1.0W	Yes	Y		DL	1	20	1														
2 1.4D	Yes	Y		DL	1.4																
3 1.2D + 1.0W(0)	Yes	Y		DL	1.2	4	1	20	1												
4 1.2D + 1.0W(30)	Yes	Y		DL	1.2	5	1	21	1												
5 1.2D + 1.0W(45)	Yes	Y		DL	1.2	6	1	22	1												
6 1.2D + 1.0W(60)	Yes	Y		DL	1.2	7	1	23	1												
7 1.2D + 1.0W(90)	Yes	Y		DL	1.2	8	1	24	1												
8 1.2D + 1.0W(120)	Yes	Y		DL	1.2	9	1	25	1												
9 1.2D + 1.0W(135)	Yes	Y		DL	1.2	10	1	26	1												
10 1.2D + 1.0W(150)	Yes	Y		DL	1.2	11	1	27	1												
11 1.2D + 1.0W(180)	Yes	Y		DL	1.2	4	-1	20	-1												
12 1.2D + 1.0W(210)	Yes	Y		DL	1.2	5	-1	21	-1												
13 1.2D + 1.0W(225)	Yes	Y		DL	1.2	6	-1	22	-1												
14 1.2D + 1.0W(240)	Yes	Y		DL	1.2	7	-1	23	-1												
15 1.2D + 1.0W(270)	Yes	Y		DL	1.2	8	-1	24	-1												
16 1.2D + 1.0W(300)	Yes	Y		DL	1.2	9	-1	25	-1												
17 1.2D + 1.0W(315)	Yes	Y		DL	1.2	10	-1	26	-1												
18 1.2D + 1.0W(330)	Yes	Y		DL	1.2	11	-1	27	-1												
19 1.2D + 1.0Di + 1.0Wi(0)	Yes	Y		DL	1.2	RL	1	12	1	28	1										
20 1.2D + 1.0Di + 1.0Wi(30)	Yes	Y		DL	1.2	RL	1	13	1	29	1										
21 1.2D + 1.0Di + 1.0Wi(45)	Yes	Y		DL	1.2	RL	1	14	1	30	1										
22 1.2D + 1.0Di + 1.0Wi(60)	Yes	Y		DL	1.2	RL	1	15	1	31	1										
23 1.2D + 1.0Di + 1.0Wi(90)	Yes	Y		DL	1.2	RL	1	16	1	32	1										
24 1.2D + 1.0Di + 1.0Wi(1...	Yes	Y		DL	1.2	RL	1	17	1	33	1										
25 1.2D + 1.0Di + 1.0Wi(1...	Yes	Y		DL	1.2	RL	1	18	1	34	1										
26 1.2D + 1.0Di + 1.0Wi(1...	Yes	Y		DL	1.2	RL	1	19	1	35	1										
27 1.2D + 1.0Di + 1.0Wi(1...	Yes	Y		DL	1.2	RL	1	12	-1	28	-1										
28 1.2D + 1.0Di + 1.0Wi(2...	Yes	Y		DL	1.2	RL	1	13	-1	39	-1										
29 1.2D + 1.0Di + 1.0Wi(2...	Yes	Y		DL	1.2	RL	1	14	-1	30	-1										
30 1.2D + 1.0Di + 1.0Wi(2...	Yes	Y		DL	1.2	RL	1	15	-1	31	-1										
31 1.2D + 1.0Di + 1.0Wi(2...	Yes	Y		DL	1.2	RL	1	16	-1	32	-1										
32 1.2D + 1.0Di + 1.0Wi(3...	Yes	Y		DL	1.2	RL	1	17	-1	33	-1										
33 1.2D + 1.0Di + 1.0Wi(3...	Yes	Y		DL	1.2	RL	1	18	-1	34	-1										
34 1.2D + 1.0Di + 1.0Wi(3...	Yes	Y		DL	1.2	RL	1	19	-1	35	-1										

Load Combinations (Continued)

	Description	S...	P...	SRSS	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
35	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	4	.065	20	.065	O...	1.5										
36	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	5	.065	21	.065	O...	1.5										
37	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	6	.065	22	.065	O...	1.5										
38	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	7	.065	23	.065	O...	1.5										
39	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	8	.065	24	.065	O...	1.5										
40	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	9	.065	25	.065	O...	1.5										
41	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	10	.065	26	.065	O...	1.5										
42	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	11	.065	27	.065	O...	1.5										
43	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	4	-.065	20	-.065	O...	1.5										
44	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	5	-.065	21	-.065	O...	1.5										
45	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	6	-.065	22	-.065	O...	1.5										
46	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	7	-.065	23	-.065	O...	1.5										
47	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	8	-.065	24	-.065	O...	1.5										
48	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	9	-.065	25	-.065	O...	1.5										
49	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	10	-.065	26	-.065	O...	1.5										
50	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	11	-.065	27	-.065	O...	1.5										
51	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	4	.065	20	.065	O...	1.5										
52	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	5	.065	21	.065	O...	1.5										
53	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	6	.065	22	.065	O...	1.5										
54	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	7	.065	23	.065	O...	1.5										
55	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	8	.065	24	.065	O...	1.5										
56	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	9	.065	25	.065	O...	1.5										
57	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	10	.065	26	.065	O...	1.5										
58	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	11	.065	27	.065	O...	1.5										
59	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	4	-.065	20	-.065	O...	1.5										
60	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	5	-.065	21	-.065	O...	1.5										
61	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	6	-.065	22	-.065	O...	1.5										
62	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	7	-.065	23	-.065	O...	1.5										
63	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	8	-.065	24	-.065	O...	1.5										
64	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	9	-.065	25	-.065	O...	1.5										
65	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	10	-.065	26	-.065	O...	1.5										
66	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	11	-.065	27	-.065	O...	1.5										
67	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	4	.065	20	.065	O...	1.5										
68	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	5	.065	21	.065	O...	1.5										
69	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	6	.065	22	.065	O...	1.5										
70	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	7	.065	23	.065	O...	1.5										
71	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	8	.065	24	.065	O...	1.5										
72	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	9	.065	25	.065	O...	1.5										
73	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	10	.065	26	.065	O...	1.5										
74	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	11	.065	27	.065	O...	1.5										
75	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	4	-.065	20	-.065	O...	1.5										
76	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	5	-.065	21	-.065	O...	1.5										
77	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	6	-.065	22	-.065	O...	1.5										
78	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	7	-.065	23	-.065	O...	1.5										
79	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	8	-.065	24	-.065	O...	1.5										
80	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	9	-.065	25	-.065	O...	1.5										
81	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	10	-.065	26	-.065	O...	1.5										
82	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	11	-.065	27	-.065	O...	1.5										
83	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	4	.065	20	.065	O...	1.5										
84	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	5	.065	21	.065	O...	1.5										
85	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	6	.065	22	.065	O...	1.5										
86	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	7	.065	23	.065	O...	1.5										
87	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	8	.065	24	.065	O...	1.5										
88	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	9	.065	25	.065	O...	1.5										
89	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	10	.065	26	.065	O...	1.5										
90	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	11	.065	27	.065	O...	1.5										
91	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	4	-.065	20	-.065	O...	1.5										

Load Combinations (Continued)

Description	S...	P...	SRSS	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
92	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	5	-.065	21	-.065	O...	1.5											
93	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	6	-.065	22	-.065	O...	1.5											
94	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	7	-.065	23	-.065	O...	1.5											
95	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	8	-.065	24	-.065	O...	1.5											
96	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	9	-.065	25	-.065	O...	1.5											
97	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	10	-.065	26	-.065	O...	1.5											
98	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	11	-.065	27	-.065	O...	1.5											
99	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	4	.065	20	.065	O...	1.5											
100	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	5	.065	21	.065	O...	1.5											
101	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	6	.065	22	.065	O...	1.5											
102	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	7	.065	23	.065	O...	1.5											
103	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	8	.065	24	.065	O...	1.5											
104	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	9	.065	25	.065	O...	1.5											
105	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	10	.065	26	.065	O...	1.5											
106	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	11	.065	27	.065	O...	1.5											
107	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	4	-.065	20	-.065	O...	1.5											
108	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	5	-.065	21	-.065	O...	1.5											
109	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	6	-.065	22	-.065	O...	1.5											
110	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	7	-.065	23	-.065	O...	1.5											
111	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	8	-.065	24	-.065	O...	1.5											
112	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	9	-.065	25	-.065	O...	1.5											
113	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	10	-.065	26	-.065	O...	1.5											
114	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	11	-.065	27	-.065	O...	1.5											
115	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	4	.065	20	.065	O...	1.5											
116	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	5	.065	21	.065	O...	1.5											
117	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	6	.065	22	.065	O...	1.5											
118	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	7	.065	23	.065	O...	1.5											
119	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	8	.065	24	.065	O...	1.5											
120	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	9	.065	25	.065	O...	1.5											
121	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	10	.065	26	.065	O...	1.5											
122	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	11	.065	27	.065	O...	1.5											
123	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	4	-.065	20	-.065	O...	1.5											
124	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	5	-.065	21	-.065	O...	1.5											
125	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	6	-.065	22	-.065	O...	1.5											
126	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	7	-.065	23	-.065	O...	1.5											
127	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	8	-.065	24	-.065	O...	1.5											
128	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	9	-.065	25	-.065	O...	1.5											
129	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	10	-.065	26	-.065	O...	1.5											
130	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	11	-.065	27	-.065	O...	1.5											
131	1.2D + 1.5Lv(4) + 1.0W...	Yes	Y		DL	1.2	4	.065	20	.065	O...	1.5											
132	1.2D + 1.5Lv(4) + 1.0W...	Yes	Y		DL	1.2	5	.065	21	.065	O...	1.5											
133	1.2D + 1.5Lv(4) + 1.0W...	Yes	Y		DL	1.2	6	.065	22	.065	O...	1.5											
134	1.2D + 1.5Lv(4) + 1.0W...	Yes	Y		DL	1.2	7	.065	23	.065	O...	1.5											
135	1.2D + 1.5Lv(4) + 1.0W...	Yes	Y		DL	1.2	8	.065	24	.065	O...	1.5											
136	1.2D + 1.5Lv(4) + 1.0W...	Yes	Y		DL	1.2	9	.065	25	.065	O...	1.5											
137	1.2D + 1.5Lv(4) + 1.0W...	Yes	Y		DL	1.2	10	.065	26	.065	O...	1.5											
138	1.2D + 1.5Lv(4) + 1.0W...	Yes	Y		DL	1.2	11	.065	27	.065	O...	1.5											
139	1.2D + 1.5Lv(4) + 1.0W...	Yes	Y		DL	1.2	4	-.065	20	-.065	O...	1.5											
140	1.2D + 1.5Lv(4) + 1.0W...	Yes	Y		DL	1.2	5	-.065	21	-.065	O...	1.5											
141	1.2D + 1.5Lv(4) + 1.0W...	Yes	Y		DL	1.2	6	-.065	22	-.065	O...	1.5											
142	1.2D + 1.5Lv(4) + 1.0W...	Yes	Y		DL	1.2	7	-.065	23	-.065	O...	1.5											
143	1.2D + 1.5Lv(4) + 1.0W...	Yes	Y		DL	1.2	8	-.065	24	-.065	O...	1.5											
144	1.2D + 1.5Lv(4) + 1.0W...	Yes	Y		DL	1.2	9	-.065	25	-.065	O...	1.5											
145	1.2D + 1.5Lv(4) + 1.0W...	Yes	Y		DL	1.2	10	-.065	26	-.065	O...	1.5											
146	1.2D + 1.5Lv(4) + 1.0W...	Yes	Y		DL	1.2	11	-.065	27	-.065	O...	1.5											
147	1.2D + 1.5Lv(5) + 1.0W...	Yes	Y		DL	1.2	4	.065	20	.065	O...	1.5											
148	1.2D + 1.5Lv(5) + 1.0W...	Yes	Y		DL	1.2	5	.065	21	.065	O...	1.5											

Load Combinations (Continued)

Description	S...	P...	SRSS	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
149	1.2D + 1.5Lv(5) + 1.0W...	Yes	Y		DL	1.2	6	.065	22	.065	O...	1.5											
150	1.2D + 1.5Lv(5) + 1.0W...	Yes	Y		DL	1.2	7	.065	23	.065	O...	1.5											
151	1.2D + 1.5Lv(5) + 1.0W...	Yes	Y		DL	1.2	8	.065	24	.065	O...	1.5											
152	1.2D + 1.5Lv(5) + 1.0W...	Yes	Y		DL	1.2	9	.065	25	.065	O...	1.5											
153	1.2D + 1.5Lv(5) + 1.0W...	Yes	Y		DL	1.2	10	.065	26	.065	O...	1.5											
154	1.2D + 1.5Lv(5) + 1.0W...	Yes	Y		DL	1.2	11	.065	27	.065	O...	1.5											
155	1.2D + 1.5Lv(5) + 1.0W...	Yes	Y		DL	1.2	4	-.065	20	-.065	O...	1.5											
156	1.2D + 1.5Lv(5) + 1.0W...	Yes	Y		DL	1.2	5	-.065	21	-.065	O...	1.5											
157	1.2D + 1.5Lv(5) + 1.0W...	Yes	Y		DL	1.2	6	-.065	22	-.065	O...	1.5											
158	1.2D + 1.5Lv(5) + 1.0W...	Yes	Y		DL	1.2	7	-.065	23	-.065	O...	1.5											
159	1.2D + 1.5Lv(5) + 1.0W...	Yes	Y		DL	1.2	8	-.065	24	-.065	O...	1.5											
160	1.2D + 1.5Lv(5) + 1.0W...	Yes	Y		DL	1.2	9	-.065	25	-.065	O...	1.5											
161	1.2D + 1.5Lv(5) + 1.0W...	Yes	Y		DL	1.2	10	-.065	26	-.065	O...	1.5											
162	1.2D + 1.5Lv(5) + 1.0W...	Yes	Y		DL	1.2	11	-.065	27	-.065	O...	1.5											

Joint Loads and Enforced Displacements (BLC 1 : Dead)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2/...
1	A3B	L	Z	-52.8
2	A3T	L	Z	-52.8
3	B3B	L	Z	-52.8
4	B3T	L	Z	-52.8
5	G3B	L	Z	-52.8
6	G3T	L	Z	-52.8
7	A1B	L	Z	-41.25
8	A1T	L	Z	-41.25
9	B1B	L	Z	-41.25
10	B1T	L	Z	-41.25
11	G1B	L	Z	-41.25
12	G1T	L	Z	-41.25
13	A2B2	L	Z	-33.1
14	A2T2	L	Z	-33.1
15	B2B2	L	Z	-33.1
16	B2T2	L	Z	-33.1
17	G2B2	L	Z	-33.1
18	G2T2	L	Z	-33.1
19	A2B	L	Z	-48.4
20	A2T	L	Z	-48.4
21	B2B	L	Z	-48.4
22	B2T	L	Z	-48.4
23	G2B	L	Z	-48.4
24	G2T	L	Z	-48.4
25	RC1	L	Z	-18.9
26	RC2	L	Z	-18.9
27	A3R	L	Z	-52.9
28	B3R	L	Z	-52.9
29	G3R	L	Z	-52.9
30	A4R	L	Z	-71
31	B4R	L	Z	-71
32	G4R	L	Z	-71
33	A1R	L	Z	-59.4
34	B1R	L	Z	-59.4
35	G1R	L	Z	-59.4
36	A1R	L	Z	-75
37	B1R	L	Z	-75
38	G1R	L	Z	-75

Joint Loads and Enforced Displacements (BLC 1 : Dead) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
39	RC3	L	Z	-26.2

Joint Loads and Enforced Displacements (BLC 2 : Dead of Ice)

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
1	A3B	L	Z	-182.636
2	A3T	L	Z	-182.636
3	B3B	L	Z	-182.636
4	B3T	L	Z	-182.636
5	G3B	L	Z	-182.636
6	G3T	L	Z	-182.636
7	A1B	L	Z	-185.121
8	A1T	L	Z	-185.121
9	B1B	L	Z	-185.121
10	B1T	L	Z	-185.121
11	G1B	L	Z	-185.121
12	G1T	L	Z	-185.121
13	A2B2	L	Z	-49.257
14	A2T2	L	Z	-49.257
15	B2B2	L	Z	-49.257
16	B2T2	L	Z	-49.257
17	G2B2	L	Z	-49.257
18	G2T2	L	Z	-49.257
19	A2B	L	Z	-64.132
20	A2T	L	Z	-64.132
21	B2B	L	Z	-64.132
22	B2T	L	Z	-64.132
23	G2B	L	Z	-64.132
24	G2T	L	Z	-64.132
25	RC1	L	Z	-63.12
26	RC2	L	Z	-63.12
27	A3R	L	Z	-82.56
28	B3R	L	Z	-82.56
29	G3R	L	Z	-82.56
30	A4R	L	Z	-72.53
31	B4R	L	Z	-72.53
32	G4R	L	Z	-72.53
33	A1R	L	Z	-69.25
34	B1R	L	Z	-69.25
35	G1R	L	Z	-69.25
36	A1R	L	Z	-79.997
37	B1R	L	Z	-79.997
38	G1R	L	Z	-79.997
39	RC3	L	Z	-141.194

Joint Loads and Enforced Displacements (BLC 20 : Antenna Wind (0))

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
1	A3B	L	X	-268.15
2	A3B	L	Y	0
3	A3T	L	X	-268.15
4	A3T	L	Y	0
5	B3B	L	X	-142.009
6	B3B	L	Y	0
7	B3T	L	X	-142.009
8	B3T	L	Y	0
9	G3B	L	X	-142.009
10	G3B	L	Y	0

Joint Loads and Enforced Displacements (BLC 20 : Antenna Wind (0)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2...
11	G3T	L	X	-142.009
12	G3T	L	Y	0
13	A1B	L	X	-268.368
14	A1B	L	Y	0
15	A1T	L	X	-268.368
16	A1T	L	Y	0
17	B1B	L	X	-142.781
18	B1B	L	Y	0
19	B1T	L	X	-142.781
20	B1T	L	Y	0
21	G1B	L	X	-142.781
22	G1B	L	Y	0
23	G1T	L	X	-142.781
24	G1T	L	Y	0
25	A2B2	L	X	-77.927
26	A2B2	L	Y	0
27	A2T2	L	X	-77.927
28	A2T2	L	Y	0
29	B2B2	L	X	-43.099
30	B2B2	L	Y	0
31	B2T2	L	X	-43.099
32	B2T2	L	Y	0
33	G2B2	L	X	-43.099
34	G2B2	L	Y	0
35	G2T2	L	X	-43.099
36	G2T2	L	Y	0
37	A2B	L	X	-62.147
38	A2B	L	Y	0
39	A2T	L	X	-62.147
40	A2T	L	Y	0
41	B2B	L	X	-42.492
42	B2B	L	Y	0
43	B2T	L	X	-42.492
44	B2T	L	Y	0
45	G2B	L	X	-42.492
46	G2B	L	Y	0
47	G2T	L	X	-42.492
48	G2T	L	Y	0
49	RC1	L	X	-28.655
50	RC1	L	Y	0
51	RC2	L	X	-28.655
52	RC2	L	Y	0
53	A3R	L	X	-28.123
54	A3R	L	Y	0
55	B3R	L	X	-76.103
56	B3R	L	Y	0
57	G3R	L	X	-76.103
58	G3R	L	Y	0
59	A4R	L	X	-23.74
60	A4R	L	Y	0
61	B4R	L	X	-55.691
62	B4R	L	Y	0
63	G4R	L	X	-55.691
64	G4R	L	Y	0
65	A1R	L	X	-21.005
66	A1R	L	Y	0
67	B1R	L	X	-56.364

Joint Loads and Enforced Displacements (BLC 20 : Antenna Wind (0)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
68	B1R	L	Y	0
69	G1R	L	X	-56.364
70	G1R	L	Y	0
71	A1R	L	X	-28.576
72	A1R	L	Y	0
73	B1R	L	X	-57.216
74	B1R	L	Y	0
75	G1R	L	X	-57.216
76	G1R	L	Y	0
77	RC3	L	X	-144.07
78	RC3	L	Y	0

Joint Loads and Enforced Displacements (BLC 21 : Antenna Wind (30))

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
1	A3B	L	X	-195.811
2	A3B	L	Y	113.051
3	A3T	L	X	-195.811
4	A3T	L	Y	113.051
5	B3B	L	X	-86.569
6	B3B	L	Y	49.981
7	B3T	L	X	-86.569
8	B3T	L	Y	49.981
9	G3B	L	X	-195.811
10	G3B	L	Y	113.052
11	G3T	L	X	-195.811
12	G3T	L	Y	113.052
13	A1B	L	X	-196.16
14	A1B	L	Y	113.253
15	A1T	L	X	-196.16
16	A1T	L	Y	113.253
17	B1B	L	X	-87.398
18	B1B	L	Y	50.459
19	B1T	L	X	-87.398
20	B1T	L	Y	50.459
21	G1B	L	X	-196.16
22	G1B	L	Y	113.253
23	G1T	L	X	-196.16
24	G1T	L	Y	113.253
25	A2B2	L	X	-57.433
26	A2B2	L	Y	33.159
27	A2T2	L	X	-57.433
28	A2T2	L	Y	33.159
29	B2B2	L	X	-27.271
30	B2B2	L	Y	15.745
31	B2T2	L	X	-27.271
32	B2T2	L	Y	15.745
33	G2B2	L	X	-57.433
34	G2B2	L	Y	33.159
35	G2T2	L	X	-57.433
36	G2T2	L	Y	33.159
37	A2B	L	X	-48.147
38	A2B	L	Y	27.798
39	A2T	L	X	-48.147
40	A2T	L	Y	27.798
41	B2B	L	X	-31.126
42	B2B	L	Y	17.97

Joint Loads and Enforced Displacements (BLC 21 : Antenna Wind (30)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
43	B2T	L	X	-31.126
44	B2T	L	Y	17.97
45	G2B	L	X	-48.147
46	G2B	L	Y	27.798
47	G2T	L	X	-48.147
48	G2T	L	Y	27.798
49	RC1	L	X	-24.816
50	RC1	L	Y	14.327
51	RC2	L	X	-24.816
52	RC2	L	Y	14.327
53	A3R	L	X	-38.206
54	A3R	L	Y	22.058
55	B3R	L	X	-79.758
56	B3R	L	Y	46.048
57	G3R	L	X	-38.206
58	G3R	L	Y	22.058
59	A4R	L	X	-29.783
60	A4R	L	Y	17.195
61	B4R	L	X	-57.453
62	B4R	L	Y	33.171
63	G4R	L	X	-29.783
64	G4R	L	Y	17.195
65	A1R	L	X	-28.398
66	A1R	L	Y	16.396
67	B1R	L	X	-59.02
68	B1R	L	Y	34.075
69	G1R	L	X	-28.398
70	G1R	L	Y	16.395
71	A1R	L	X	-33.015
72	A1R	L	Y	19.061
73	B1R	L	X	-57.818
74	B1R	L	Y	33.381
75	G1R	L	X	-33.015
76	G1R	L	Y	19.061
77	RC3	L	X	-94.865
78	RC3	L	Y	54.77

Joint Loads and Enforced Displacements (BLC 22 : Antenna Wind (45))

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
1	A3B	L	X	-130.147
2	A3B	L	Y	130.147
3	A3T	L	X	-130.147
4	A3T	L	Y	130.147
5	B3B	L	X	-78.65
6	B3B	L	Y	78.65
7	B3T	L	X	-78.65
8	B3T	L	Y	78.65
9	G3B	L	X	-181.644
10	G3B	L	Y	181.644
11	G3T	L	X	-181.644
12	G3T	L	Y	181.644
13	A1B	L	X	-130.563
14	A1B	L	Y	130.563
15	A1T	L	X	-130.563
16	A1T	L	Y	130.563
17	B1B	L	X	-79.292

Joint Loads and Enforced Displacements (BLC 22 : Antenna Wind (45)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2/...
18	B1B	L	Y	79.292
19	B1T	L	X	-79.292
20	B1T	L	Y	79.292
21	G1B	L	X	-181.833
22	G1B	L	Y	181.833
23	G1T	L	X	-181.833
24	G1T	L	Y	181.833
25	A2B2	L	X	-38.685
26	A2B2	L	Y	38.685
27	A2T2	L	X	-38.685
28	A2T2	L	Y	38.685
29	B2B2	L	X	-24.466
30	B2B2	L	Y	24.466
31	B2T2	L	X	-24.466
32	B2T2	L	Y	24.466
33	G2B2	L	X	-52.903
34	G2B2	L	Y	52.903
35	G2T2	L	X	-52.903
36	G2T2	L	Y	52.903
37	A2B	L	X	-34.679
38	A2B	L	Y	34.679
39	A2T	L	X	-34.679
40	A2T	L	Y	34.679
41	B2B	L	X	-26.655
42	B2B	L	Y	26.655
43	B2T	L	X	-26.655
44	B2T	L	Y	26.655
45	G2B	L	X	-42.703
46	G2B	L	Y	42.703
47	G2T	L	X	-42.703
48	G2T	L	Y	42.703
49	RC1	L	X	-20.262
50	RC1	L	Y	20.262
51	RC2	L	X	-20.262
52	RC2	L	Y	20.262
53	A3R	L	X	-42.504
54	A3R	L	Y	42.504
55	B3R	L	X	-62.092
56	B3R	L	Y	62.092
57	G3R	L	X	-22.916
58	G3R	L	Y	22.916
59	A4R	L	X	-31.848
60	A4R	L	Y	31.848
61	B4R	L	X	-44.892
62	B4R	L	Y	44.892
63	G4R	L	X	-18.805
64	G4R	L	Y	18.805
65	A1R	L	X	-31.521
66	A1R	L	Y	31.521
67	B1R	L	X	-45.956
68	B1R	L	Y	45.956
69	G1R	L	X	-17.086
70	G1R	L	Y	17.086
71	A1R	L	X	-33.707
72	A1R	L	Y	33.707
73	B1R	L	X	-45.399
74	B1R	L	Y	45.399

Joint Loads and Enforced Displacements (BLC 22 : Antenna Wind (45)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in.rad), (lb*s^2/in, lb*s^2...
75	G1R	L	X	-22.015
76	G1R	L	Y	22.015
77	RC3	L	X	-68.52
78	RC3	L	Y	68.52

Joint Loads and Enforced Displacements (BLC 23 : Antenna Wind (60))

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in.rad), (lb*s^2/in, lb*s^2...
1	A3B	L	X	-71.004
2	A3B	L	Y	122.983
3	A3T	L	X	-71.004
4	A3T	L	Y	122.983
5	B3B	L	X	-71.004
6	B3B	L	Y	122.983
7	B3T	L	X	-71.004
8	B3T	L	Y	122.983
9	G3B	L	X	-134.075
10	G3B	L	Y	232.225
11	G3T	L	X	-134.075
12	G3T	L	Y	232.225
13	A1B	L	X	-71.391
14	A1B	L	Y	123.652
15	A1T	L	X	-71.391
16	A1T	L	Y	123.652
17	B1B	L	X	-71.391
18	B1B	L	Y	123.652
19	B1T	L	X	-71.391
20	B1T	L	Y	123.652
21	G1B	L	X	-134.184
22	G1B	L	Y	232.414
23	G1T	L	X	-134.184
24	G1T	L	Y	232.414
25	A2B2	L	X	-21.55
26	A2B2	L	Y	37.325
27	A2T2	L	X	-21.55
28	A2T2	L	Y	37.325
29	B2B2	L	X	-21.55
30	B2B2	L	Y	37.325
31	B2T2	L	X	-21.55
32	B2T2	L	Y	37.325
33	G2B2	L	X	-38.964
34	G2B2	L	Y	67.487
35	G2T2	L	X	-38.964
36	G2T2	L	Y	67.487
37	A2B	L	X	-21.246
38	A2B	L	Y	36.799
39	A2T	L	X	-21.246
40	A2T	L	Y	36.799
41	B2B	L	X	-21.246
42	B2B	L	Y	36.799
43	B2T	L	X	-21.246
44	B2T	L	Y	36.799
45	G2B	L	X	-31.074
46	G2B	L	Y	53.821
47	G2T	L	X	-31.074
48	G2T	L	Y	53.821
49	RC1	L	X	-14.327

Joint Loads and Enforced Displacements (BLC 23 : Antenna Wind (60)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2/..
50	RC1	L	Y	24.816
51	RC2	L	X	-14.327
52	RC2	L	Y	24.816
53	A3R	L	X	-38.051
54	A3R	L	Y	65.907
55	B3R	L	X	-38.051
56	B3R	L	Y	65.907
57	G3R	L	X	-14.061
58	G3R	L	Y	24.355
59	A4R	L	X	-27.845
60	A4R	L	Y	48.23
61	B4R	L	X	-27.845
62	B4R	L	Y	48.23
63	G4R	L	X	-11.87
64	G4R	L	Y	20.559
65	A1R	L	X	-28.182
66	A1R	L	Y	48.813
67	B1R	L	X	-28.182
68	B1R	L	Y	48.813
69	G1R	L	X	-10.502
70	G1R	L	Y	18.19
71	A1R	L	X	-28.608
72	A1R	L	Y	49.55
73	B1R	L	X	-28.608
74	B1R	L	Y	49.55
75	G1R	L	X	-14.288
76	G1R	L	Y	24.748
77	RC3	L	X	-46.138
78	RC3	L	Y	79.913

Joint Loads and Enforced Displacements (BLC 24 : Antenna Wind (90))

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2/..
1	A3B	L	X	-2.267e-5
2	A3B	L	Y	99.962
3	A3T	L	X	-2.267e-5
4	A3T	L	Y	99.962
5	B3B	L	X	-5.128e-5
6	B3B	L	Y	226.103
7	B3T	L	X	-5.128e-5
8	B3T	L	Y	226.103
9	G3B	L	X	-5.128e-5
10	G3B	L	Y	226.103
11	G3T	L	X	-5.128e-5
12	G3T	L	Y	226.103
13	A1B	L	X	-2.289e-5
14	A1B	L	Y	100.919
15	A1T	L	X	-2.289e-5
16	A1T	L	Y	100.919
17	B1B	L	X	-5.137e-5
18	B1B	L	Y	226.506
19	B1T	L	X	-5.137e-5
20	B1T	L	Y	226.506
21	G1B	L	X	-5.137e-5
22	G1B	L	Y	226.506
23	G1T	L	X	-5.137e-5
24	G1T	L	Y	226.506

Joint Loads and Enforced Displacements (BLC 24 : Antenna Wind (90)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2...
25	A2B2	L	X	-7.142e-6
26	A2B2	L	Y	31.49
27	A2T2	L	X	-7.142e-6
28	A2T2	L	Y	31.49
29	B2B2	L	X	-1.504e-5
30	B2B2	L	Y	66.318
31	B2T2	L	X	-1.504e-5
32	B2T2	L	Y	66.318
33	G2B2	L	X	-1.504e-5
34	G2B2	L	Y	66.318
35	G2T2	L	X	-1.504e-5
36	G2T2	L	Y	66.318
37	A2B	L	X	-8.151e-6
38	A2B	L	Y	35.941
39	A2T	L	X	-8.151e-6
40	A2T	L	Y	35.941
41	B2B	L	X	-1.261e-5
42	B2B	L	Y	55.595
43	B2T	L	X	-1.261e-5
44	B2T	L	Y	55.595
45	G2B	L	X	-1.261e-5
46	G2B	L	Y	55.595
47	G2T	L	X	-1.261e-5
48	G2T	L	Y	55.595
49	RC1	L	X	-6.499e-6
50	RC1	L	Y	28.655
51	RC2	L	X	-6.499e-6
52	RC2	L	Y	28.655
53	A3R	L	X	-2.089e-5
54	A3R	L	Y	92.096
55	B3R	L	X	-1.001e-5
56	B3R	L	Y	44.116
57	G3R	L	X	-1.001e-5
58	G3R	L	Y	44.116
59	A4R	L	X	-1.505e-5
60	A4R	L	Y	66.341
61	B4R	L	X	-7.8e-6
62	B4R	L	Y	34.39
63	G4R	L	X	-7.8e-6
64	G4R	L	Y	34.39
65	A1R	L	X	-1.546e-5
66	A1R	L	Y	68.15
67	B1R	L	X	-7.437e-6
68	B1R	L	Y	32.791
69	G1R	L	X	-7.437e-6
70	G1R	L	Y	32.791
71	A1R	L	X	-1.514e-5
72	A1R	L	Y	66.762
73	B1R	L	X	-8.646e-6
74	B1R	L	Y	38.123
75	G1R	L	X	-8.646e-6
76	G1R	L	Y	38.123
77	RC3	L	X	-2.484e-5
78	RC3	L	Y	109.54

Joint Loads and Enforced Displacements (BLC 25 : Antenna Wind (120))

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2...
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Joint Loads and Enforced Displacements (BLC 25 : Antenna Wind (120)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2...
1	A3B	L	X	71.004
2	A3B	L	Y	122.983
3	A3T	L	X	71.004
4	A3T	L	Y	122.983
5	B3B	L	X	134.075
6	B3B	L	Y	232.225
7	B3T	L	X	134.075
8	B3T	L	Y	232.225
9	G3B	L	X	71.004
10	G3B	L	Y	122.983
11	G3T	L	X	71.004
12	G3T	L	Y	122.983
13	A1B	L	X	71.391
14	A1B	L	Y	123.652
15	A1T	L	X	71.391
16	A1T	L	Y	123.652
17	B1B	L	X	134.184
18	B1B	L	Y	232.414
19	B1T	L	X	134.184
20	B1T	L	Y	232.414
21	G1B	L	X	71.391
22	G1B	L	Y	123.652
23	G1T	L	X	71.391
24	G1T	L	Y	123.652
25	A2B2	L	X	21.55
26	A2B2	L	Y	37.325
27	A2T2	L	X	21.55
28	A2T2	L	Y	37.325
29	B2B2	L	X	38.963
30	B2B2	L	Y	67.487
31	B2T2	L	X	38.963
32	B2T2	L	Y	67.487
33	G2B2	L	X	21.55
34	G2B2	L	Y	37.325
35	G2T2	L	X	21.55
36	G2T2	L	Y	37.325
37	A2B	L	X	21.246
38	A2B	L	Y	36.799
39	A2T	L	X	21.246
40	A2T	L	Y	36.799
41	B2B	L	X	31.073
42	B2B	L	Y	53.821
43	B2T	L	X	31.073
44	B2T	L	Y	53.821
45	G2B	L	X	21.246
46	G2B	L	Y	36.799
47	G2T	L	X	21.246
48	G2T	L	Y	36.799
49	RC1	L	X	14.327
50	RC1	L	Y	24.816
51	RC2	L	X	14.327
52	RC2	L	Y	24.816
53	A3R	L	X	38.051
54	A3R	L	Y	65.907
55	B3R	L	X	14.061
56	B3R	L	Y	24.355
57	G3R	L	X	38.051

Joint Loads and Enforced Displacements (BLC 25 : Antenna Wind (120)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
58	G3R	L	Y	65.907
59	A4R	L	X	27.845
60	A4R	L	Y	48.23
61	B4R	L	X	11.87
62	B4R	L	Y	20.559
63	G4R	L	X	27.845
64	G4R	L	Y	48.23
65	A1R	L	X	28.182
66	A1R	L	Y	48.813
67	B1R	L	X	10.502
68	B1R	L	Y	18.19
69	G1R	L	X	28.182
70	G1R	L	Y	48.813
71	A1R	L	X	28.608
72	A1R	L	Y	49.55
73	B1R	L	X	14.288
74	B1R	L	Y	24.748
75	G1R	L	X	28.608
76	G1R	L	Y	49.55
77	RC3	L	X	72.035
78	RC3	L	Y	124.768

Joint Loads and Enforced Displacements (BLC 26 : Antenna Wind (135))

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
1	A3B	L	X	130.147
2	A3B	L	Y	130.147
3	A3T	L	X	130.147
4	A3T	L	Y	130.147
5	B3B	L	X	181.644
6	B3B	L	Y	181.644
7	B3T	L	X	181.644
8	B3T	L	Y	181.644
9	G3B	L	X	78.65
10	G3B	L	Y	78.65
11	G3T	L	X	78.65
12	G3T	L	Y	78.65
13	A1B	L	X	130.563
14	A1B	L	Y	130.563
15	A1T	L	X	130.563
16	A1T	L	Y	130.563
17	B1B	L	X	181.833
18	B1B	L	Y	181.833
19	B1T	L	X	181.833
20	B1T	L	Y	181.833
21	G1B	L	X	79.292
22	G1B	L	Y	79.292
23	G1T	L	X	79.292
24	G1T	L	Y	79.292
25	A2B2	L	X	38.685
26	A2B2	L	Y	38.685
27	A2T2	L	X	38.685
28	A2T2	L	Y	38.685
29	B2B2	L	X	52.903
30	B2B2	L	Y	52.903
31	B2T2	L	X	52.903
32	B2T2	L	Y	52.903

Joint Loads and Enforced Displacements (BLC 26 : Antenna Wind (135)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2...
33	G2B2	L	X	24.466
34	G2B2	L	Y	24.466
35	G2T2	L	X	24.466
36	G2T2	L	Y	24.466
37	A2B	L	X	34.679
38	A2B	L	Y	34.679
39	A2T	L	X	34.679
40	A2T	L	Y	34.679
41	B2B	L	X	42.703
42	B2B	L	Y	42.703
43	B2T	L	X	42.703
44	B2T	L	Y	42.703
45	G2B	L	X	26.655
46	G2B	L	Y	26.655
47	G2T	L	X	26.655
48	G2T	L	Y	26.655
49	RC1	L	X	20.262
50	RC1	L	Y	20.262
51	RC2	L	X	20.262
52	RC2	L	Y	20.262
53	A3R	L	X	42.504
54	A3R	L	Y	42.504
55	B3R	L	X	22.916
56	B3R	L	Y	22.916
57	G3R	L	X	62.091
58	G3R	L	Y	62.092
59	A4R	L	X	31.848
60	A4R	L	Y	31.848
61	B4R	L	X	18.805
62	B4R	L	Y	18.805
63	G4R	L	X	44.892
64	G4R	L	Y	44.892
65	A1R	L	X	31.521
66	A1R	L	Y	31.521
67	B1R	L	X	17.086
68	B1R	L	Y	17.086
69	G1R	L	X	45.956
70	G1R	L	Y	45.956
71	A1R	L	X	33.707
72	A1R	L	Y	33.707
73	B1R	L	X	22.015
74	B1R	L	Y	22.015
75	G1R	L	X	45.399
76	G1R	L	Y	45.399
77	RC3	L	X	110.81
78	RC3	L	Y	110.81

Joint Loads and Enforced Displacements (BLC 27 : Antenna Wind (150))

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2...
1	A3B	L	X	195.811
2	A3B	L	Y	113.052
3	A3T	L	X	195.811
4	A3T	L	Y	113.052
5	B3B	L	X	195.811
6	B3B	L	Y	113.052
7	B3T	L	X	195.811

Joint Loads and Enforced Displacements (BLC 27 : Antenna Wind (150)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2/...
8	B3T	L	Y	113.052
9	G3B	L	X	86.569
10	G3B	L	Y	49.981
11	G3T	L	X	86.569
12	G3T	L	Y	49.981
13	A1B	L	X	196.16
14	A1B	L	Y	113.253
15	A1T	L	X	196.16
16	A1T	L	Y	113.253
17	B1B	L	X	196.16
18	B1B	L	Y	113.253
19	B1T	L	X	196.16
20	B1T	L	Y	113.253
21	G1B	L	X	87.398
22	G1B	L	Y	50.46
23	G1T	L	X	87.398
24	G1T	L	Y	50.46
25	A2B2	L	X	57.433
26	A2B2	L	Y	33.159
27	A2T2	L	X	57.433
28	A2T2	L	Y	33.159
29	B2B2	L	X	57.433
30	B2B2	L	Y	33.159
31	B2T2	L	X	57.433
32	B2T2	L	Y	33.159
33	G2B2	L	X	27.271
34	G2B2	L	Y	15.745
35	G2T2	L	X	27.271
36	G2T2	L	Y	15.745
37	A2B	L	X	48.147
38	A2B	L	Y	27.798
39	A2T	L	X	48.147
40	A2T	L	Y	27.798
41	B2B	L	X	48.147
42	B2B	L	Y	27.798
43	B2T	L	X	48.147
44	B2T	L	Y	27.798
45	G2B	L	X	31.126
46	G2B	L	Y	17.97
47	G2T	L	X	31.126
48	G2T	L	Y	17.97
49	RC1	L	X	24.816
50	RC1	L	Y	14.327
51	RC2	L	X	24.816
52	RC2	L	Y	14.327
53	A3R	L	X	38.206
54	A3R	L	Y	22.058
55	B3R	L	X	38.206
56	B3R	L	Y	22.058
57	G3R	L	X	79.757
58	G3R	L	Y	46.048
59	A4R	L	X	29.783
60	A4R	L	Y	17.195
61	B4R	L	X	29.783
62	B4R	L	Y	17.195
63	G4R	L	X	57.453
64	G4R	L	Y	33.171

Joint Loads and Enforced Displacements (BLC 27 : Antenna Wind (150)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in.rad), (lb*s^2/in, lb*s^2...
65	A1R	L	X	28.398
66	A1R	L	Y	16.396
67	B1R	L	X	28.398
68	B1R	L	Y	16.396
69	G1R	L	X	59.02
70	G1R	L	Y	34.075
71	A1R	L	X	33.015
72	A1R	L	Y	19.061
73	B1R	L	X	33.015
74	B1R	L	Y	19.061
75	G1R	L	X	57.818
76	G1R	L	Y	33.381
77	RC3	L	X	139.72
78	RC3	L	Y	80.668

Joint Loads and Enforced Displacements (BLC 28 : Antenna Wind w/ Ice (0))

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in.rad), (lb*s^2/in, lb*s^2...
1	A3B	L	X	-57.265
2	A3B	L	Y	0
3	A3T	L	X	-57.265
4	A3T	L	Y	0
5	B3B	L	X	-33.066
6	B3B	L	Y	0
7	B3T	L	X	-33.066
8	B3T	L	Y	0
9	G3B	L	X	-33.066
10	G3B	L	Y	0
11	G3T	L	X	-33.066
12	G3T	L	Y	0
13	A1B	L	X	-57.223
14	A1B	L	Y	0
15	A1T	L	X	-57.223
16	A1T	L	Y	0
17	B1B	L	X	-33.189
18	B1B	L	Y	0
19	B1T	L	X	-33.189
20	B1T	L	Y	0
21	G1B	L	X	-33.189
22	G1B	L	Y	0
23	G1T	L	X	-33.189
24	G1T	L	Y	0
25	A2B2	L	X	-19.23
26	A2B2	L	Y	0
27	A2T2	L	X	-19.23
28	A2T2	L	Y	0
29	B2B2	L	X	-11.795
30	B2B2	L	Y	0
31	B2T2	L	X	-11.795
32	B2T2	L	Y	0
33	G2B2	L	X	-11.795
34	G2B2	L	Y	0
35	G2T2	L	X	-11.795
36	G2T2	L	Y	0
37	A2B	L	X	-15.166
38	A2B	L	Y	0
39	A2T	L	X	-15.166

Joint Loads and Enforced Displacements (BLC 28 : Antenna Wind w/ Ice (0)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2/...
40	A2T	L	Y	0
41	B2B	L	X	-10.863
42	B2B	L	Y	0
43	B2T	L	X	-10.863
44	B2T	L	Y	0
45	G2B	L	X	-10.863
46	G2B	L	Y	0
47	G2T	L	X	-10.863
48	G2T	L	Y	0
49	RC1	L	X	-8.671
50	RC1	L	Y	0
51	RC2	L	X	-8.671
52	RC2	L	Y	0
53	A3R	L	X	-8.252
54	A3R	L	Y	0
55	B3R	L	X	-20.113
56	B3R	L	Y	0
57	G3R	L	X	-20.113
58	G3R	L	Y	0
59	A4R	L	X	-6.979
60	A4R	L	Y	0
61	B4R	L	X	-15.249
62	B4R	L	Y	0
63	G4R	L	X	-15.249
64	G4R	L	Y	0
65	A1R	L	X	-6.401
66	A1R	L	Y	0
67	B1R	L	X	-15.402
68	B1R	L	Y	0
69	G1R	L	X	-15.402
70	G1R	L	Y	0
71	A1R	L	X	-8.02
72	A1R	L	Y	0
73	B1R	L	X	-15.58
74	B1R	L	Y	0
75	G1R	L	X	-15.58
76	G1R	L	Y	0
77	RC3	L	X	-34.808
78	RC3	L	Y	0

Joint Loads and Enforced Displacements (BLC 29 : Antenna Wind w/ Ice (30))

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2/...
1	A3B	L	X	-42.607
2	A3B	L	Y	24.599
3	A3T	L	X	-42.607
4	A3T	L	Y	24.599
5	B3B	L	X	-21.65
6	B3B	L	Y	12.5
7	B3T	L	X	-21.65
8	B3T	L	Y	12.5
9	G3B	L	X	-42.607
10	G3B	L	Y	24.599
11	G3T	L	X	-42.607
12	G3T	L	Y	24.599
13	A1B	L	X	-42.619
14	A1B	L	Y	24.606

Joint Loads and Enforced Displacements (BLC 29 : Antenna Wind w/ Ice (30)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
15	A1T	L	X	-42.619
16	A1T	L	Y	24.606
17	B1B	L	X	-21.805
18	B1B	L	Y	12.589
19	B1T	L	X	-21.805
20	B1T	L	Y	12.589
21	G1B	L	X	-42.619
22	G1B	L	Y	24.606
23	G1T	L	X	-42.619
24	G1T	L	Y	24.606
25	A2B2	L	X	-14.508
26	A2B2	L	Y	8.376
27	A2T2	L	X	-14.508
28	A2T2	L	Y	8.376
29	B2B2	L	X	-8.069
30	B2B2	L	Y	4.658
31	B2T2	L	X	-8.069
32	B2T2	L	Y	4.658
33	G2B2	L	X	-14.508
34	G2B2	L	Y	8.376
35	G2T2	L	X	-14.508
36	G2T2	L	Y	8.376
37	A2B	L	X	-11.892
38	A2B	L	Y	6.866
39	A2T	L	X	-11.892
40	A2T	L	Y	6.866
41	B2B	L	X	-8.165
42	B2B	L	Y	4.714
43	B2T	L	X	-8.165
44	B2T	L	Y	4.714
45	G2B	L	X	-11.892
46	G2B	L	Y	6.866
47	G2T	L	X	-11.892
48	G2T	L	Y	6.866
49	RC1	L	X	-7.51
50	RC1	L	Y	4.336
51	RC2	L	X	-7.51
52	RC2	L	Y	4.336
53	A3R	L	X	-10.57
54	A3R	L	Y	6.103
55	B3R	L	X	-20.843
56	B3R	L	Y	12.034
57	G3R	L	X	-10.57
58	G3R	L	Y	6.103
59	A4R	L	X	-8.431
60	A4R	L	Y	4.868
61	B4R	L	X	-15.593
62	B4R	L	Y	9.003
63	G4R	L	X	-8.431
64	G4R	L	Y	4.868
65	A1R	L	X	-8.142
66	A1R	L	Y	4.701
67	B1R	L	X	-15.937
68	B1R	L	Y	9.201
69	G1R	L	X	-8.142
70	G1R	L	Y	4.701
71	A1R	L	X	-9.128

Joint Loads and Enforced Displacements (BLC 29 : Antenna Wind w/ Ice (30)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
72	A1R	L	Y	5.27
73	B1R	L	X	-15.675
74	B1R	L	Y	9.05
75	G1R	L	X	-9.128
76	G1R	L	Y	5.27
77	RC3	L	X	-24.031
78	RC3	L	Y	13.874

Joint Loads and Enforced Displacements (BLC 30 : Antenna Wind w/ Ice (45))

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
1	A3B	L	X	-29.085
2	A3B	L	Y	29.085
3	A3T	L	X	-29.085
4	A3T	L	Y	29.085
5	B3B	L	X	-19.206
6	B3B	L	Y	19.206
7	B3T	L	X	-19.206
8	B3T	L	Y	19.206
9	G3B	L	X	-38.964
10	G3B	L	Y	38.964
11	G3T	L	X	-38.964
12	G3T	L	Y	38.964
13	A1B	L	X	-29.133
14	A1B	L	Y	29.133
15	A1T	L	X	-29.133
16	A1T	L	Y	29.133
17	B1B	L	X	-19.321
18	B1B	L	Y	19.321
19	B1T	L	X	-19.321
20	B1T	L	Y	19.321
21	G1B	L	X	-38.945
22	G1B	L	Y	38.945
23	G1T	L	X	-38.945
24	G1T	L	Y	38.945
25	A2B2	L	X	-10.093
26	A2B2	L	Y	10.093
27	A2T2	L	X	-10.093
28	A2T2	L	Y	10.093
29	B2B2	L	X	-7.058
30	B2B2	L	Y	7.058
31	B2T2	L	X	-7.058
32	B2T2	L	Y	7.058
33	G2B2	L	X	-13.128
34	G2B2	L	Y	13.128
35	G2T2	L	X	-13.128
36	G2T2	L	Y	13.128
37	A2B	L	X	-8.695
38	A2B	L	Y	8.695
39	A2T	L	X	-8.695
40	A2T	L	Y	8.695
41	B2B	L	X	-6.938
42	B2B	L	Y	6.938
43	B2T	L	X	-6.938
44	B2T	L	Y	6.938
45	G2B	L	X	-10.452
46	G2B	L	Y	10.452

Joint Loads and Enforced Displacements (BLC 30 : Antenna Wind w/ Ice (45)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
47	G2T	L	X	-10.452
48	G2T	L	Y	10.452
49	RC1	L	X	-6.132
50	RC1	L	Y	6.132
51	RC2	L	X	-6.132
52	RC2	L	Y	6.132
53	A3R	L	X	-11.426
54	A3R	L	Y	11.426
55	B3R	L	X	-16.269
56	B3R	L	Y	16.269
57	G3R	L	X	-6.584
58	G3R	L	Y	6.584
59	A4R	L	X	-8.833
60	A4R	L	Y	8.833
61	B4R	L	X	-12.209
62	B4R	L	Y	12.209
63	G4R	L	X	-5.457
64	G4R	L	Y	5.457
65	A1R	L	X	-8.769
66	A1R	L	Y	8.769
67	B1R	L	X	-12.444
68	B1R	L	Y	12.444
69	G1R	L	X	-5.095
70	G1R	L	Y	5.095
71	A1R	L	X	-9.235
72	A1R	L	Y	9.235
73	B1R	L	X	-12.321
74	B1R	L	Y	12.321
75	G1R	L	X	-6.148
76	G1R	L	Y	6.148
77	RC3	L	X	-17.794
78	RC3	L	Y	17.794

Joint Loads and Enforced Displacements (BLC 31 : Antenna Wind w/ Ice (60))

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
1	A3B	L	X	-16.533
2	A3B	L	Y	28.636
3	A3T	L	X	-16.533
4	A3T	L	Y	28.636
5	B3B	L	X	-16.533
6	B3B	L	Y	28.636
7	B3T	L	X	-16.533
8	B3T	L	Y	28.636
9	G3B	L	X	-28.633
10	G3B	L	Y	49.593
11	G3T	L	X	-28.633
12	G3T	L	Y	49.593
13	A1B	L	X	-16.595
14	A1B	L	Y	28.743
15	A1T	L	X	-16.595
16	A1T	L	Y	28.743
17	B1B	L	X	-16.595
18	B1B	L	Y	28.743
19	B1T	L	X	-16.595
20	B1T	L	Y	28.743
21	G1B	L	X	-28.611

Joint Loads and Enforced Displacements (BLC 31 : Antenna Wind w/ Ice (60)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
22	G1B	L	Y	49.556
23	G1T	L	X	-28.611
24	G1T	L	Y	49.556
25	A2B2	L	X	-5.898
26	A2B2	L	Y	10.215
27	A2T2	L	X	-5.898
28	A2T2	L	Y	10.215
29	B2B2	L	X	-5.898
30	B2B2	L	Y	10.215
31	B2T2	L	X	-5.898
32	B2T2	L	Y	10.215
33	G2B2	L	X	-9.615
34	G2B2	L	Y	16.654
35	G2T2	L	X	-9.615
36	G2T2	L	Y	16.654
37	A2B	L	X	-5.431
38	A2B	L	Y	9.407
39	A2T	L	X	-5.431
40	A2T	L	Y	9.407
41	B2B	L	X	-5.431
42	B2B	L	Y	9.407
43	B2T	L	X	-5.431
44	B2T	L	Y	9.407
45	G2B	L	X	-7.583
46	G2B	L	Y	13.135
47	G2T	L	X	-7.583
48	G2T	L	Y	13.135
49	RC1	L	X	-4.336
50	RC1	L	Y	7.51
51	RC2	L	X	-4.336
52	RC2	L	Y	7.51
53	A3R	L	X	-10.057
54	A3R	L	Y	17.419
55	B3R	L	X	-10.057
56	B3R	L	Y	17.419
57	G3R	L	X	-4.126
58	G3R	L	Y	7.146
59	A4R	L	X	-7.624
60	A4R	L	Y	13.206
61	B4R	L	X	-7.624
62	B4R	L	Y	13.206
63	G4R	L	X	-3.489
64	G4R	L	Y	6.044
65	A1R	L	X	-7.701
66	A1R	L	Y	13.339
67	B1R	L	X	-7.701
68	B1R	L	Y	13.339
69	G1R	L	X	-3.201
70	G1R	L	Y	5.544
71	A1R	L	X	-7.79
72	A1R	L	Y	13.493
73	B1R	L	X	-7.79
74	B1R	L	Y	13.493
75	G1R	L	X	-4.01
76	G1R	L	Y	6.945
77	RC3	L	X	-12.109
78	RC3	L	Y	20.974

Joint Loads and Enforced Displacements (BLC 32 : Antenna Wind w/ Ice (90))

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2...
1	A3B	L	X	-5.67e-6
2	A3B	L	Y	25
3	A3T	L	X	-5.67e-6
4	A3T	L	Y	25
5	B3B	L	X	-1.116e-5
6	B3B	L	Y	49.199
7	B3T	L	X	-1.116e-5
8	B3T	L	Y	49.199
9	G3B	L	X	-1.116e-5
10	G3B	L	Y	49.199
11	G3T	L	X	-1.116e-5
12	G3T	L	Y	49.199
13	A1B	L	X	-5.71e-6
14	A1B	L	Y	25.178
15	A1T	L	X	-5.71e-6
16	A1T	L	Y	25.178
17	B1B	L	X	-1.116e-5
18	B1B	L	Y	49.212
19	B1T	L	X	-1.116e-5
20	B1T	L	Y	49.212
21	G1B	L	X	-1.116e-5
22	G1B	L	Y	49.212
23	G1T	L	X	-1.116e-5
24	G1T	L	Y	49.212
25	A2B2	L	X	-2.113e-6
26	A2B2	L	Y	9.317
27	A2T2	L	X	-2.113e-6
28	A2T2	L	Y	9.317
29	B2B2	L	X	-3.799e-6
30	B2B2	L	Y	16.752
31	B2T2	L	X	-3.799e-6
32	B2T2	L	Y	16.752
33	G2B2	L	X	-3.799e-6
34	G2B2	L	Y	16.752
35	G2T2	L	X	-3.799e-6
36	G2T2	L	Y	16.752
37	A2B	L	X	-2.138e-6
38	A2B	L	Y	9.428
39	A2T	L	X	-2.138e-6
40	A2T	L	Y	9.428
41	B2B	L	X	-3.114e-6
42	B2B	L	Y	13.732
43	B2T	L	X	-3.114e-6
44	B2T	L	Y	13.732
45	G2B	L	X	-3.114e-6
46	G2B	L	Y	13.732
47	G2T	L	X	-3.114e-6
48	G2T	L	Y	13.732
49	RC1	L	X	-1.967e-6
50	RC1	L	Y	8.671
51	RC2	L	X	-1.967e-6
52	RC2	L	Y	8.671
53	A3R	L	X	-5.458e-6
54	A3R	L	Y	24.067
55	B3R	L	X	-2.768e-6
56	B3R	L	Y	12.206
57	G3R	L	X	-2.768e-6

Joint Loads and Enforced Displacements (BLC 32 : Antenna Wind w/ Ice (90)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
58	G3R	L	Y	12.206
59	A4R	L	X	-4.083e-6
60	A4R	L	Y	18.005
61	B4R	L	X	-2.208e-6
62	B4R	L	Y	9.735
63	G4R	L	X	-2.208e-6
64	G4R	L	Y	9.735
65	A1R	L	X	-4.174e-6
66	A1R	L	Y	18.402
67	B1R	L	X	-2.132e-6
68	B1R	L	Y	9.402
69	G1R	L	X	-2.132e-6
70	G1R	L	Y	9.402
71	A1R	L	X	-4.105e-6
72	A1R	L	Y	18.1
73	B1R	L	X	-2.39e-6
74	B1R	L	Y	10.54
75	G1R	L	X	-2.39e-6
76	G1R	L	Y	10.54
77	RC3	L	X	-6.293e-6
78	RC3	L	Y	27.748

Joint Loads and Enforced Displacements (BLC 33 : Antenna Wind w/ Ice (120))

	Joint Label	L,D,M	Direction	Magnitude(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
1	A3B	L	X	16.533
2	A3B	L	Y	28.636
3	A3T	L	X	16.533
4	A3T	L	Y	28.636
5	B3B	L	X	28.633
6	B3B	L	Y	49.593
7	B3T	L	X	28.633
8	B3T	L	Y	49.593
9	G3B	L	X	16.533
10	G3B	L	Y	28.636
11	G3T	L	X	16.533
12	G3T	L	Y	28.636
13	A1B	L	X	16.595
14	A1B	L	Y	28.743
15	A1T	L	X	16.595
16	A1T	L	Y	28.743
17	B1B	L	X	28.611
18	B1B	L	Y	49.556
19	B1T	L	X	28.611
20	B1T	L	Y	49.556
21	G1B	L	X	16.595
22	G1B	L	Y	28.743
23	G1T	L	X	16.595
24	G1T	L	Y	28.743
25	A2B2	L	X	5.898
26	A2B2	L	Y	10.215
27	A2T2	L	X	5.898
28	A2T2	L	Y	10.215
29	B2B2	L	X	9.615
30	B2B2	L	Y	16.654
31	B2T2	L	X	9.615
32	B2T2	L	Y	16.654

Joint Loads and Enforced Displacements (BLC 33 : Antenna Wind w/ Ice (120)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2...
33	G2B2	L	X	5.898
34	G2B2	L	Y	10.215
35	G2T2	L	X	5.898
36	G2T2	L	Y	10.215
37	A2B	L	X	5.431
38	A2B	L	Y	9.407
39	A2T	L	X	5.431
40	A2T	L	Y	9.407
41	B2B	L	X	7.583
42	B2B	L	Y	13.135
43	B2T	L	X	7.583
44	B2T	L	Y	13.135
45	G2B	L	X	5.431
46	G2B	L	Y	9.407
47	G2T	L	X	5.431
48	G2T	L	Y	9.407
49	RC1	L	X	4.336
50	RC1	L	Y	7.51
51	RC2	L	X	4.336
52	RC2	L	Y	7.51
53	A3R	L	X	10.057
54	A3R	L	Y	17.419
55	B3R	L	X	4.126
56	B3R	L	Y	7.146
57	G3R	L	X	10.057
58	G3R	L	Y	17.419
59	A4R	L	X	7.624
60	A4R	L	Y	13.206
61	B4R	L	X	3.489
62	B4R	L	Y	6.044
63	G4R	L	X	7.624
64	G4R	L	Y	13.206
65	A1R	L	X	7.701
66	A1R	L	Y	13.339
67	B1R	L	X	3.201
68	B1R	L	Y	5.544
69	G1R	L	X	7.701
70	G1R	L	Y	13.339
71	A1R	L	X	7.79
72	A1R	L	Y	13.493
73	B1R	L	X	4.01
74	B1R	L	Y	6.945
75	G1R	L	X	7.79
76	G1R	L	Y	13.493
77	RC3	L	X	17.404
78	RC3	L	Y	30.145

Joint Loads and Enforced Displacements (BLC 34 : Antenna Wind w/ Ice (135))

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2...
1	A3B	L	X	29.085
2	A3B	L	Y	29.085
3	A3T	L	X	29.085
4	A3T	L	Y	29.085
5	B3B	L	X	38.964
6	B3B	L	Y	38.964
7	B3T	L	X	38.964

Joint Loads and Enforced Displacements (BLC 34 : Antenna Wind w/ Ice (135)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
8	B3T	L	Y	38.964
9	G3B	L	X	19.206
10	G3B	L	Y	19.206
11	G3T	L	X	19.206
12	G3T	L	Y	19.206
13	A1B	L	X	29.133
14	A1B	L	Y	29.133
15	A1T	L	X	29.133
16	A1T	L	Y	29.133
17	B1B	L	X	38.945
18	B1B	L	Y	38.945
19	B1T	L	X	38.945
20	B1T	L	Y	38.945
21	G1B	L	X	19.321
22	G1B	L	Y	19.321
23	G1T	L	X	19.321
24	G1T	L	Y	19.321
25	A2B2	L	X	10.093
26	A2B2	L	Y	10.093
27	A2T2	L	X	10.093
28	A2T2	L	Y	10.093
29	B2B2	L	X	13.128
30	B2B2	L	Y	13.128
31	B2T2	L	X	13.128
32	B2T2	L	Y	13.128
33	G2B2	L	X	7.058
34	G2B2	L	Y	7.058
35	G2T2	L	X	7.058
36	G2T2	L	Y	7.058
37	A2B	L	X	8.695
38	A2B	L	Y	8.695
39	A2T	L	X	8.695
40	A2T	L	Y	8.695
41	B2B	L	X	10.452
42	B2B	L	Y	10.452
43	B2T	L	X	10.452
44	B2T	L	Y	10.452
45	G2B	L	X	6.938
46	G2B	L	Y	6.938
47	G2T	L	X	6.938
48	G2T	L	Y	6.938
49	RC1	L	X	6.132
50	RC1	L	Y	6.132
51	RC2	L	X	6.132
52	RC2	L	Y	6.132
53	A3R	L	X	11.426
54	A3R	L	Y	11.426
55	B3R	L	X	6.584
56	B3R	L	Y	6.584
57	G3R	L	X	16.269
58	G3R	L	Y	16.269
59	A4R	L	X	8.833
60	A4R	L	Y	8.833
61	B4R	L	X	5.457
62	B4R	L	Y	5.457
63	G4R	L	X	12.209
64	G4R	L	Y	12.209

Joint Loads and Enforced Displacements (BLC 34 : Antenna Wind w/ Ice (135)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2...
65	A1R	L	X	8.769
66	A1R	L	Y	8.769
67	B1R	L	X	5.095
68	B1R	L	Y	5.095
69	G1R	L	X	12.444
70	G1R	L	Y	12.444
71	A1R	L	X	9.235
72	A1R	L	Y	9.235
73	B1R	L	X	6.148
74	B1R	L	Y	6.148
75	G1R	L	X	12.321
76	G1R	L	Y	12.321
77	RC3	L	X	26.441
78	RC3	L	Y	26.441

Joint Loads and Enforced Displacements (BLC 35 : Antenna Wind w/ Ice (150))

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2...
1	A3B	L	X	42.607
2	A3B	L	Y	24.599
3	A3T	L	X	42.607
4	A3T	L	Y	24.599
5	B3B	L	X	42.607
6	B3B	L	Y	24.599
7	B3T	L	X	42.607
8	B3T	L	Y	24.599
9	G3B	L	X	21.65
10	G3B	L	Y	12.5
11	G3T	L	X	21.65
12	G3T	L	Y	12.5
13	A1B	L	X	42.618
14	A1B	L	Y	24.606
15	A1T	L	X	42.618
16	A1T	L	Y	24.606
17	B1B	L	X	42.618
18	B1B	L	Y	24.606
19	B1T	L	X	42.618
20	B1T	L	Y	24.606
21	G1B	L	X	21.805
22	G1B	L	Y	12.589
23	G1T	L	X	21.805
24	G1T	L	Y	12.589
25	A2B2	L	X	14.508
26	A2B2	L	Y	8.376
27	A2T2	L	X	14.508
28	A2T2	L	Y	8.376
29	B2B2	L	X	14.508
30	B2B2	L	Y	8.376
31	B2T2	L	X	14.508
32	B2T2	L	Y	8.376
33	G2B2	L	X	8.069
34	G2B2	L	Y	4.658
35	G2T2	L	X	8.069
36	G2T2	L	Y	4.658
37	A2B	L	X	11.892
38	A2B	L	Y	6.866
39	A2T	L	X	11.892

Joint Loads and Enforced Displacements (BLC 35 : Antenna Wind w/ Ice (150)) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
40	A2T	L	Y	6.866
41	B2B	L	X	11.892
42	B2B	L	Y	6.866
43	B2T	L	X	11.892
44	B2T	L	Y	6.866
45	G2B	L	X	8.165
46	G2B	L	Y	4.714
47	G2T	L	X	8.165
48	G2T	L	Y	4.714
49	RC1	L	X	7.51
50	RC1	L	Y	4.336
51	RC2	L	X	7.51
52	RC2	L	Y	4.336
53	A3R	L	X	10.57
54	A3R	L	Y	6.103
55	B3R	L	X	10.57
56	B3R	L	Y	6.103
57	G3R	L	X	20.843
58	G3R	L	Y	12.034
59	A4R	L	X	8.431
60	A4R	L	Y	4.868
61	B4R	L	X	8.431
62	B4R	L	Y	4.868
63	G4R	L	X	15.593
64	G4R	L	Y	9.003
65	A1R	L	X	8.142
66	A1R	L	Y	4.701
67	B1R	L	X	8.142
68	B1R	L	Y	4.701
69	G1R	L	X	15.937
70	G1R	L	Y	9.201
71	A1R	L	X	9.128
72	A1R	L	Y	5.27
73	B1R	L	X	9.128
74	B1R	L	Y	5.27
75	G1R	L	X	15.675
76	G1R	L	Y	9.05
77	RC3	L	X	33.202
78	RC3	L	Y	19.169

Joint Loads and Enforced Displacements (BLC 36 : Maintenance Live Lm (1))

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
1	M1	L	Z	-500

Joint Loads and Enforced Displacements (BLC 37 : Maintenance Live Lm (2))

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
1	M2	L	Z	-500

Joint Loads and Enforced Displacements (BLC 38 : Maintenance Live Lm (3))

	Joint Label	L,D,M	Direction	Magnitude[(lb.lb-ft), (in.rad), (lb*s^2/in, lb*s^2..
1	M3	L	Z	-500

Joint Boundary Conditions

	Joint 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	N40	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N35	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N45	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	KN5	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N230	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
6	N239	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Envelope Joint Reactions

Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC	
1	N40	max	1013.779	6	6660.142	30	248.887	6	919.054	27	889.78	17	2282.328	18
2		min	-3848.809	29	-1731.811	6	-938.406	30	-282.511	3	-623.953	9	-2279.794	10
3	N35	max	7697.742	19	1536.475	15	259.233	11	811.491	7	137.895	11	2283.075	7
4		min	-2039.847	11	-1537.748	7	-940.634	19	-859.084	15	-954.147	19	-2282.539	15
5	N45	max	1080.59	17	1883.953	16	291.219	16	390.677	3	1130.899	4	2323.054	12
6		min	-3874.297	25	-6696.385	24	-863.52	8	-884.782	11	-774.164	12	-2322.618	4
7	KN5	max	-507.805	11	55.457	15	4744.482	19	116.615	7	1334.386	19	199.308	7
8		min	-7481.158	19	-55.446	7	323.158	11	-118.356	15	90.888	11	-202.025	15
9	N230	max	3736.633	30	-472.445	6	4739.574	30	-85.839	6	-46.387	6	201.123	18
10		min	272.762	6	-6472.102	30	346.78	6	-1153.261	30	-668.504	30	-203.518	10
11	N239	max	3744.692	24	6485.899	24	4749.54	24	1157.502	24	-41.492	16	215.943	12
12		min	245.598	16	425.388	16	312.767	16	77.619	16	-666.763	24	-219.003	4
13	Totals:	max	5644.076	3	5609.831	15	10851.704	29						
14		min	-5644.081	11	-5609.83	7	3385.45	1						

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

Member	Shape	Code Check	Loc[in]	LC	She...	Lo.....	LC	phi*P...	phi*P...	phi*M...	phi*M.....	Eqn
1	M195B	PL6x5/8	.258	0	31	1.002	0	y 27	1134...	1215...	1582.2	1518...
2	M196B	PL6x5/8	.258	0	34	.997	0	y 21	1134...	1215...	1582.2	1518...
3	M198A	PL6x5/8	.258	0	23	.995	0	y 27	1134...	1215...	1582.2	1518...
4	M197B	PL6x5/8	.257	0	20	.991	0	y 32	1134...	1215...	1582.2	1518...
5	M194B	PL6x5/8	.257	0	29	.990	0	y 32	1134...	1215...	1582.2	1518...
6	M30	PL6x5/8	.258	0	26	.990	0	y 22	1134...	1215...	1582.2	1518...
7	M138	PIPE 2.0	.080	21.112	3	.284	0	4	2824...	32130	1871...	1871.....
8	M136	PIPE 2.0	.065	18.421	10	.261	39...	10	2824...	32130	1871...	1871.....
9	M137	PIPE 2.0	.061	18.628	15	.255	0	15	2824...	32130	1871...	1871.....
10	M41	PIPE_3.0_HRA	.279	54.096	23	.243	54...	27	5848...	65205	5748...	5748.....
11	M35	PIPE_3.0_HRA	.279	0	31	.238	0	27	5848...	65205	5748...	5748.....
12	M44	PIPE_3.0_HRA	.280	54.096	34	.237	54...	21	5848...	65205	5748...	5748.....
13	M39	PIPE_3.0_HRA	.280	0	26	.236	0	22	5848...	65205	5748...	5748.....
14	M46	PIPE_3.0_HRA	.280	54.096	29	.236	54...	32	5848...	65205	5748...	5748.....
15	M31	PIPE_3.0_HRA	.280	0	20	.236	0	33	5848...	65205	5748...	5748.....
16	M24	HSS3X3X5	.349	0	12	.231	0	z 4	8653...	95256	7830	7830...
17	M151A	PIPE 2.5	.284	136.556	10	.191	13...	11	1199...	50715	3596...	3596.....
18	M20	HSS3X3X5	.344	0	18	.190	0	z 10	8653...	95256	7830	7830...
19	M16	HSS3X3X5	.344	0	15	.188	0	z 15	8653...	95256	7830	7830...
20	M152A	PIPE 2.5	.277	28.703	6	.181	26...	5	1199...	50715	3596...	3596.....
21	M153A	PIPE 2.5	.278	136.556	5	.175	26...	11	1199...	50715	3596...	3596.....
22	M43	PIPE_3.0_HRA	.140	27	3	.152	27	11	5850...	65205	5748...	5748.....
23	M36	HSS3X3X5	.619	30.837	25	.148	56...	y 11	7971...	95256	7830	7830...
24	M186A	PIPE 2.5	.416	27.284	16	.147	57...	18	3003...	50715	3596...	3596.....
25	M45	PIPE_3.0_HRA	.134	27	14	.146	27	11	5850...	65205	5748...	5748.....
26	M162	PIPE 2.5	.425	27.284	11	.145	57...	12	3003...	50715	3596...	3596.....
27	M40	PIPE_3.0_HRA	.165	27	55	.143	27	5	5850...	65205	5748...	5748.....

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

Member	Shape	Code Check	Loc[in]	LC	She...	Lo...	LC	phi*P...	phi*P...	phi*M...	phi*M...	Eqn	
28	M180A	PIPE 2.5	.431	27.284	11	.142	51...	10	3003...	50715	3596...	3596...	H1-1b
29	M192A	PIPE 2.5	.263	27.284	11	.141	27...	3	3003...	50715	3596...	3596...	H1-1b
30	M138A	PIPE 2.5	.399	15.158	6	.139	45...	7	3003...	50715	3596...	3596...	H1-1b
31	M32	HSS3X3X5	.617	30.837	29	.138	56...y	11	7971...	95256	7830	7830	H1-1b
32	M156	PIPE 2.5	.413	27.284	6	.138	51...	4	3003...	50715	3596...	3596...	H1-1b
33	M168A	PIPE 2.5	.259	27.284	11	.137	27...	12	3003...	50715	3596...	3596...	H1-1b
34	M28	HSS3X3X5	.618	30.837	19	.137	56...y	32	7971...	95256	7830	7830	H1-1b
35	M132A	PIPE 2.5	.417	27.284	16	.132	51...	15	3003...	50715	3596...	3596...	H1-1b
36	M144	PIPE 2.5	.258	27.284	6	.130	27...	7	3003...	50715	3596...	3596...	H1-1b
37	M54	L2.5x1.5x4	.549	0	20	.059	0 y	20	1692...	3068...	460.82	1597...	H2-1
38	M52	L2.5x1.5x4	.547	0	26	.058	0 y	26	1692...	3068...	460.82	1597...	H2-1
39	M50	L2.5x1.5x4	.547	0	31	.058	0 y	31	1692...	3068...	460.82	1597...	H2-1
40	M42	L2.5x1.5x4	.546	34.122	33	.058	34...y	33	1692...	3068...	460.82	1597...	H2-1
41	M48	L2.5x1.5x4	.545	34.122	23	.057	34...y	23	1692...	3068...	460.82	1597...	H2-1
42	M47	L2.5x1.5x4	.542	34.122	27	.057	34...y	27	1692...	3068...	460.82	1597...	H2-1
43	M159B	PIPE 2.0	.237	34.926	18	.049	34...	9	2774...	32130	1871...	1871...	H1-1b
44	M73	L2.5x2.5x4	.403	0	23	.022	0 z	4	3012...	38556	1113...	2537...	H2-1
45	M74	L2.5x2.5x4	.405	33	26	.021	33 z	11	3012...	38556	1113...	2537...	H2-1
46	M67	L2.5x2.5x4	.403	0	29	.020	0 z	10	3012...	38556	1113...	2537...	H2-1
47	M68	L2.5x2.5x4	.402	33	31	.020	33 z	18	3012...	38556	1113...	2537...	H2-1
48	M61	L2.5x2.5x4	.403	0	34	.020	0 z	15	3012...	38556	1113...	2537...	H2-1
49	M62	L2.5x2.5x4	.403	33	20	.019	33 z	7	3012...	38556	1113...	2537...	H2-1
50	M157B	PIPE 2.0	.061	34.926	10	.011	34...	6	2774...	32130	1871...	1871...	H1-1b
51	M158B	PIPE 2.0	.061	34.926	15	.011	34...	11	2774...	32130	1871...	1871...	H1-1b
52	M156A	L2.5x2.5x3	.324	25.756	21	.011	0 z	3	1579...	2919...	872.5...	1679...	H2-1
53	M155	L2.5x2.5x3	.321	26.303	27	.011	0 z	3	1579...	2919...	872.5...	1679...	H2-1
54	M150	L2.5x2.5x3	.321	25.756	27	.010	52...z	10	1579...	2919...	872.5...	1679...	H2-1
55	M149A	L2.5x2.5x3	.320	26.303	33	.010	0 z	10	1579...	2919...	872.5...	1679...	H2-1
56	KM6	L2.5x2.5x3	.320	25.756	32	.009	0 z	15	1579...	2919...	872.5...	1679...	H2-1
57	KM5	L2.5x2.5x3	.319	26.303	22	.009	0 z	15	1579...	2919...	872.5...	1679...	H2-1

APPENDIX D
ADDITIONAL CALCULATIONS

Square/Rectangular Flange Connection

TIA-222-H



Site Number	826217
Job number	019558062
Code	TIA-222-H

Normalize usages per TIA-222-H, Sec. 15.5

REACTIONS (ABOUT X - HORIZONTAL)	
Moment, Mu (kip-ft)	-0.876
Shear, Vu (kips)	-0.859
Axial, Pu (kips) - <i>Negative for tension</i>	-7.731

BOLT CONFIGURATION	
Bolt Quantity, n_b	4
Bolt Diameter, d_b (in)	0.625
Bolt Grade	A325
Width between bolts, s (in)	4.00

PLATE CONFIGURATION	
Plate Shape	Square
Plate Grade	A36
Thickness of plate, t (in)	0.750
Width of plate, w (in)	6.00

SUPPORT ARM CONFIGURATION	
Member Shape	Square
Member Grade	A36
Thickness of Member, t (in)	0.313
Width of member, w (in)	3.000

Stiffeners present?

Member/Node Under Consideration	M24
Controlling Load Combination (X-Direction)	LC24
Controlling Load Combination (Y-Direction)	LC12

X and Y Reactions Simultaneous? No

REACTIONS (ABOUT Y - VERTICAL)	
Moment, Mu (kip-ft)	2.323
Shear, Vu (kips)	-1.616
Axial, Pu (kips) - <i>Negative for tension</i>	-2.451

BOLT USAGE	
Maximum Tension in Bolt, Tub (kip)	4.097
Nominal Tensile Strength, ϕRnt (kip)	20.340
Tensile Usage (Section 4.9.6.1)	20%

PLATE USAGE	
Effective width of plate, b_{eff} (in)	1.664
Ultimate flexural load in plate, Mu (kip-in)	3.409
Factored flexural capacity, ϕMn (kip-in)	7.583
Flexural Usage	45%



MORRISON HERSHFIELD

Date: July 11, 2022

Morrison Hershfield
1455 Lincoln Parkway, Suite 500
Atlanta, GA 30346
(770) 379-8500

Subject: Structural Analysis Report

Carrier Designation: AT&T Mobility Co-Locate
Site Number: CTL01019
Site Name: Berlin Police Dept
FA Number: 10035299

Crown Castle Designation: **BU Number:** 826217
Site Name: Newington_1
JDE Job Number: 716732
Work Order Number: 2133073
Order Number: 616608 Rev. 2

Engineering Firm Designation: Morrison Hershfield Project Number: CN7-585R5 / 2200039

Site Data: 240 Kensington Road, Berlin, Hartford County, CT 06037
Latitude 41° 37' 34.3", Longitude -72° 46' 32.33"
191.667 Foot - Monopole Tower

Morrison Hershfield 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 – 79.6%**

This analysis utilizes an ultimate 3-second gust wind speed of 118 mph as required by the 2018 Connecticut State Building. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Respectfully submitted by:

G. Lance Cooke, P.E. (CT License No. PEN.0028133)
Senior Engineer



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Additional Calculations

1) INTRODUCTION

This tower is a 191.667 ft monopole tower designed by PiRod Manufactures Inc. The tower was modified multiple times in the past to accommodate additional loading. All the modifications have been considered in this analysis per their respective post modification inspection reports.

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)	
151.0	151.0	1	-	Platform Mount [LP 402-1_KCKR]	12	1-1/4 13/16 3/8 7/8	
	150.0	3	ericsson	AIR 6449 N77			
	149.0		3	cci antennas			DMP65R-BU8D w/ Mount Pipe
			3	cci antennas			TPA65R-BU8D w/ Mount Pipe
			3	ericsson			RRUS 32 B30
			3	ericsson			RRUS 4449 B5/B12
			3	ericsson			RRUS 4478 B14_CCIV2
			3	ericsson			RRUS 8843 B2/B66A_CCIV2
			1	raycap			DC6-48-60-18-8F
		1	raycap	DC9-48-60-24-8C-EV			
	148.0	3	ericsson	AIR 6419 B77G			
150.0	150.0	1	-	Side Arm Mount [SO 102-1]	-	-	
	149.0	1	raycap	DC6-48-60-18-8F			

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)
192.0	196.0	1	kathrein	OGB4-900D	1	7/8
	192.0	1	-	Side Arm Mount [SO 701-1]		
191.0	196.0	1	andrew	DB589-A	1	5/16
	191.0	1	-	Side Arm Mount [SO 701-1]		
	190.0	1	motorola	WB2623 w/ Mount Pipe		
184.0	184.0	3	ericsson	AIR -32 B2A/B66AA w/ Mount Pipe	3	1-5/8
		3	ericsson	AIR6449 B41_T-MOBILE w/ Mount Pipe		
		3	rfs celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
184.0	184.0	3	ericsson	RADIO 4415 B25_TMO	-	-
		3	ericsson	RADIO 4449 B71 B85A_T-MOBILE		
		1	-	Platform Mount [LP 405-1_HR-1]		
171.0	171.0	3	jma wireless	MX08FRO665-21 w/ Mount Pipe	1	1-3/4
		3	fujitsu	TA08025-B604		
		3	fujitsu	TA08025-B605		
		1	raycap	RDIDC-9181-PF-48		
		1	tower mounts	Commscope MC-PK8-DSH		
160.0	162.0	3	samsung telecommunications	RFV01U-D1A	13	1-5/8
		3	samsung telecommunications	RFV01U-D2A		
	160.0	1	andrew	HBXX-6517DS-A2M w/ Mount Pipe		
		2	andrew	LNx-6514DS-A1M w/ Mount Pipe		
		6	commscope	NNHH-65B-R4 w/ Mount Pipe		
		3	samsung telecommunications	MT6407-77A w/ Mount Pipe		
		1	raycap	RVZDC-6627-PF-48		
		1	-	Platform Mount [LP 303-1]		
158.0	158.0	1	decibel	DB205-A	2	7/8
		1	sinclair	SRL-224NM-4		
		2	-	Side Arm Mount [SO 702-1]		
132.0	132.0	1	sinclair	SRL-235-2	1	7/8
		1	-	Side Arm Mount [SO 104-3]		
		1	-	Side Arm Mount [SO 702-1]		
124.0	124.0	1	decibel	PCS 1900 TMA RX	-	-
		1	-	Side Arm Mount [SO 104-3]		
90.0	99.0	1	decibel	DB205-A	2 1 1	1/2 7/8 5/16
	90.0	1	andrew	KP2F-34		
		1	mti wireless edge	MT-485002		
		1	-	Side Arm Mount [SO 702-3]		
70.0	70.0	1	sinclair	SRL-235-2	2	7/8
		1	-	Side Arm Mount [SO 102-3]		
		1	-	Side Arm Mount [SO 701-1]		
33.0	33.0	1	decibel	DB909XVTE-M	2	1/2
		1	-	Side Arm Mount [SO 102-3]		
		1	-	Side Arm Mount [SO 701-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	3438510	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	3463552	CCISITES
4-TOWER MANUFACTURER DRAWINGS	3438498	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	3678661	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	4003976	CCISITES
4-POST-MODIFICATION INSPECTION	5493013	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5753424	CCISITES
4-POST-MODIFICATION INSPECTION	5947973	CCISITES

3.1) Analysis Method

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

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

3.2) Assumptions

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

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L1	191.67 - 186.67	Pole	TP18x18x0.375	Pole	1.0	Pass
L2	186.67 - 181.57	Pole	TP24x24x0.375	Pole	3.0	Pass
L3	181.57 - 176.57	Pole	TP24x24x0.375	Pole	6.5	Pass
L4	176.57 - 171.57	Pole	TP24x24x0.375	Pole	10.3	Pass
L5	171.57 - 166.57	Pole	TP24x24x0.375	Pole	16.6	Pass
L6	166.57 - 161.57	Pole	TP24x24x0.375	Pole	23.0	Pass
L7	161.57 - 156.57	Pole	TP24x24x0.375	Pole	31.9	Pass
L8	156.57 - 151.57	Pole	TP24x24x0.375	Pole	41.4	Pass
L9	151.57 - 146.57	Pole	TP24x24x0.375	Pole	54.5	Pass
L10	146.57 - 141.57	Pole	TP24x24x0.375	Pole	68.7	Pass
L11	141.57 - 141.42	Pole	TP24x24x0.375	Pole	69.2	Pass
L12	141.42 - 136.42	Pole	TP36x36x0.375	Pole	39.5	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L13	136.42 - 131.42	Pole	TP36x36x0.375	Pole	46.5	Pass
L14	131.42 - 126.42	Pole	TP36x36x0.375	Pole	53.7	Pass
L15	126.42 - 121.42	Pole	TP36x36x0.375	Pole	61.1	Pass
L16	121.42 - 121.17	Pole	TP36x36x0.375	Pole	61.5	Pass
L17	121.17 - 116.17	Pole	TP42x42x0.375	Pole	51.8	Pass
L18	116.17 - 111.17	Pole	TP42x42x0.375	Pole	57.6	Pass
L19	111.17 - 110.04	Pole	TP42x42x0.375	Pole	58.9	Pass
L20	110.04 - 109.79	Pole + Reinf.	TP42x42x0.4875	Reinf. 13 Tension Rupture	45.9	Pass
L21	109.79 - 105.08	Pole + Reinf.	TP42x42x0.4875	Reinf. 13 Tension Rupture	50.2	Pass
L22	105.08 - 104.83	Pole + Reinf.	TP42x42x0.5625	Reinf. 6 Tension Rupture	45.8	Pass
L23	104.83 - 100.92	Pole + Reinf.	TP42x42x0.5625	Reinf. 6 Tension Rupture	49.2	Pass
L24	100.92 - 100.67	Pole	TP48x48x0.375	Pole	54.7	Pass
L25	100.67 - 95.83	Pole	TP48x48x0.375	Pole	59.4	Pass
L26	95.83 - 95.58	Pole + Reinf.	TP48x48x0.475	Pole	47.4	Pass
L27	95.58 - 90.58	Pole + Reinf.	TP48x48x0.475	Pole	51.3	Pass
L28	90.58 - 89.92	Pole + Reinf.	TP48x48x0.475	Pole	51.9	Pass
L29	89.92 - 89.67	Pole + Reinf.	TP48x48x0.575	Pole	43.2	Pass
L30	89.67 - 84.67	Pole + Reinf.	TP48x48x0.575	Pole	46.7	Pass
L31	84.67 - 80.83	Pole + Reinf.	TP48x48x0.575	Pole	49.5	Pass
L32	80.83 - 80.33	Pole + Reinf.	TP54x54x0.55	Pole	41.5	Pass
L33	80.33 - 80.08	Pole + Reinf.	TP54x54x0.4875	Pole	46.9	Pass
L34	80.08 - 75.08	Pole + Reinf.	TP54x54x0.4875	Pole	50.4	Pass
L35	75.08 - 70.08	Pole + Reinf.	TP54x54x0.4875	Pole	54.0	Pass
L36	70.08 - 69.5	Pole + Reinf.	TP54x54x0.4875	Pole	54.4	Pass
L37	69.5 - 69.25	Pole + Reinf.	TP54x54x0.5875	Pole	45.1	Pass
L38	69.25 - 64.25	Pole + Reinf.	TP54x54x0.5875	Pole	48.4	Pass
L39	64.25 - 60.58	Pole + Reinf.	TP54x54x0.5875	Pole	50.8	Pass
L40	60.58 - 60.33	Pole + Reinf.	TP60x60x0.5125	Pole	47.7	Pass
L41	60.33 - 55.33	Pole + Reinf.	TP60x60x0.5125	Pole	50.9	Pass
L42	55.33 - 52.17	Pole + Reinf.	TP60x60x0.5125	Pole	52.9	Pass
L43	52.17 - 51.92	Pole + Reinf.	TP60x60x0.625	Pole	44.2	Pass
L44	51.92 - 46.92	Pole + Reinf.	TP60x60x0.625	Pole	46.9	Pass
L45	46.92 - 41.92	Pole + Reinf.	TP60x60x0.625	Pole	49.7	Pass
L46	41.92 - 40.23	Pole + Reinf.	TP60x60x0.6	Pole	51.1	Pass
L47	40.23 - 39.98	Pole + Reinf.	TP60x60x0.6	Pole	51.3	Pass
L48	39.98 - 34.98	Pole + Reinf.	TP60x60x0.6	Pole	54.2	Pass
L49	34.98 - 29.98	Pole + Reinf.	TP60x60x0.6	Pole	57.2	Pass
L50	29.98 - 28	Pole + Reinf.	TP60x60x0.6	Pole	58.3	Pass
L51	28 - 27.75	Pole + Reinf.	TP60x60x0.725	Pole	49.1	Pass
L52	27.75 - 22.75	Pole + Reinf.	TP60x60x0.725	Pole	51.7	Pass
L53	22.75 - 20.08	Pole + Reinf.	TP60x60x0.725	Pole	53.1	Pass
L54	20.08 - 19.83	Pole	TP60x60x0.625	Pole	59.3	Pass
L55	19.83 - 17	Pole	TP60x60x0.625	Pole	60.9	Pass
L56	17 - 16.75	Pole + Reinf.	TP60x60x0.725	Pole	52.7	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L57	16.75 - 11.65	Pole + Reinf.	TP60x60x0.75	Pole	54.1	Pass
L58	11.65 - 11.42	Pole + Reinf.	TP60x60x0.75	Pole	54.2	Pass
L59	11.42 - 9.4	Pole + Reinf.	TP60x60x0.75	Pole	55.3	Pass
L60	9.4 - 9.15	Pole + Reinf.	TP60x60x0.8	Reinf. 7 Tension Rupture	55.0	Pass
L61	9.15 - 4.83	Pole + Reinf.	TP60x60x0.8	Reinf. 7 Tension Rupture	57.2	Pass
L62	4.83 - 4.58	Pole + Reinf.	TP60x60x0.75	Pole	58.4	Pass
L63	4.58 - 0	Pole + Reinf.	TP60x60x0.75	Pole	60.8	Pass
					Summary	
				Pole	69.2	Pass
				Reinforcement	59.3	Pass
				Overall	69.2	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	%Capacity	Pass / Fail
1	Flange Connection	181.58	3.4	Pass
1	Flange Connection	141.42	44.6	Pass
1	Flange Connection	121.2	53.2	Pass
1	Flange Connection	100.9	35.2	Pass
1	Flange Connection	80.83	33.8	Pass
1	Flange Connection	60.58	25.5	Pass
1	Flange Connection	40.33	14.2	Pass
1	Flange Connection	20.08	17.8	Pass
1	Anchor Rods	0	38.7	Pass
1	Base Plate		66.3	Pass
1	Base Foundation (Structure)	0	79.6	Pass
1	Base Foundation (Soil Interaction)		76.2	Pass

Structure Rating (max from all components) =	79.6%*
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Notes:

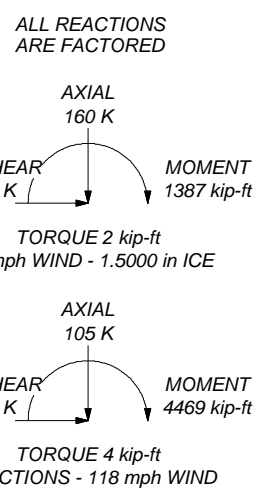
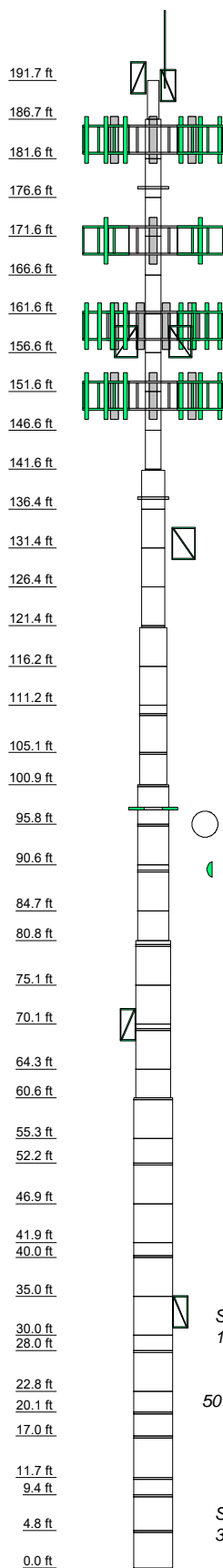
- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
- 2) *Rating per TIA-222-H, Section 15.5.

4.1) Recommendations

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

APPENDIX A
TNXTOWER OUTPUT

Section	Size	Length (ft)	Grade	Weight (K)
1		5.00		0.4
2		5.10		0.5
3		5.00		0.5
4		5.00		0.5
5		5.00		0.5
6		5.00		0.5
7		5.00		0.5
8		5.00		0.5
9		5.00		0.5
10		5.00		0.5
11		5.00		0.5
12		5.00		0.5
13		5.00		0.5
14		5.00		0.5
15		5.00		0.5
16		5.00		0.5
17		5.00		0.5
18		5.00		0.5
19		5.00		0.5
20		5.00		0.5
21		5.00		0.5
22		5.00		0.5
23		5.00		0.5
24		5.00		0.5
25		5.00		0.5
26		5.00		0.5
27		5.00		0.5
28		5.00		0.5
29		5.00		0.5
30		5.00		0.5
31		5.00		0.5
32		5.00		0.5
33		5.00		0.5
34		5.00		0.5
35		5.00		0.5
36		5.00		0.5
37		5.00		0.5
38		5.00		0.5
39		5.00		0.5
40		5.00		0.5
41		5.00		0.5
42		5.00		0.5
43		5.00		0.5
44		5.00		0.5
45		5.00		0.5
46		5.00		0.5
47		5.00		0.5
48		5.00		0.5
49		5.00		0.5
50		5.00		0.5
51		5.00		0.5
52		5.00		0.5
53		5.00		0.5
54		5.00		0.5
55		5.00		0.5
56		5.00		0.5
57		5.00		0.5
58		5.00		0.5
59		5.00		0.5
60		5.00		0.5
61		5.00		0.5
62		5.00		0.5
63		5.00		0.5



MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-42	42 ksi	63 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 0.00 ft
8. CCI POLE RATING: 69.2%



Morrison Hershfield
 1455 Lincoln Parkway, Suit 500
 Atlanta, GA 30346
 Phone: (770) 379-8500
 FAX: (770) 379-8501

Job: NT		
Project: 826217 / Newington_1		
Client: Crown Castle USA	Drawn by: ANS	App'd:
Code: TIA-222-H	Date: 07/11/22	Scale: NTS
Path:		Dwg No. E-1

C:\Users\Phumai\Desktop\July-09\CN7-585R5\CN7-585R5_SAIAnalysis\Modified.et

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: 133.00 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: 0.00 ft.

Nominal ice thickness of 1.5000 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

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

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

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

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

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

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

Maximum demand-capacity ratio is: 1.05.

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

Options

- Consider Moments - Legs
- Consider Moments - Horizontals
- Consider Moments - Diagonals
- Use Moment Magnification
- √ Use Code Stress Ratios
- √ Use Code Safety Factors - Guys
- Escalate Ice
- Always Use Max Kz
- Use Special Wind Profile

- Include Bolts In Member Capacity

- Leg Bolts Are At Top Of Section
- Secondary Horizontal Braces Leg
- Use Diamond Inner Bracing (4 Sided)
- SR Members Have Cut Ends
- SR Members Are Concentric

- Distribute Leg Loads As Uniform
- Assume Legs Pinned
- √ Assume Rigid Index Plate
- √ Use Clear Spans For Wind Area
- Use Clear Spans For KL/r
- Retension Guys To Initial Tension
- √ Bypass Mast Stability Checks
- √ Use Azimuth Dish Coefficients
- √ Project Wind Area of Appurt.

- Autocalc Torque Arm Areas

- Add IBC .6D+W Combination
- Sort Capacity Reports By Component
- Triangulate Diamond Inner Bracing
- Treat Feed Line Bundles As Cylinder
- Ignore KL/ry For 60 Deg. Angle Legs

- Use ASCE 10 X-Brace Ly Rules
- Calculate Redundant Bracing Forces
- Ignore Redundant Members in FEA
- SR Leg Bolts Resist Compression
- All Leg Panels Have Same Allowable
- Offset Girt At Foundation
- √ Consider Feed Line Torque
- Include Angle Block Shear Check
- Use TIA-222-H Bracing Resist. Exemption
- Use TIA-222-H Tension Splice Exemption

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

Pole Section Geometry

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L1	191.67-186.67	5.00	P18x0.375	A53-B-42 (42 ksi)	
L2	186.67-181.57	5.10	P24x0.375	A53-B-42 (42 ksi)	
L3	181.57-176.57	5.00	P24x0.375	A53-B-42 (42 ksi)	
L4	176.57-171.57	5.00	P24x0.375	A53-B-42 (42 ksi)	
L5	171.57-166.57	5.00	P24x0.375	A53-B-42 (42 ksi)	
L6	166.57-161.57	5.00	P24x0.375	A53-B-42 (42 ksi)	
L7	161.57-156.57	5.00	P24x0.375	A53-B-42 (42 ksi)	
L8	156.57-151.57	5.00	P24x0.375	A53-B-42 (42 ksi)	
L9	151.57-146.57	5.00	P24x0.375	A53-B-42 (42 ksi)	
L10	146.57-141.57	5.00	P24x0.375	A53-B-42 (42 ksi)	
L11	141.57-141.42	0.15	P24x0.375	A53-B-42 (42 ksi)	
L12	141.42-136.42	5.00	P36x0.375	A53-B-42 (42 ksi)	
L13	136.42-131.42	5.00	P36x0.375	A53-B-42 (42 ksi)	
L14	131.42-126.42	5.00	P36x0.375	A53-B-42 (42 ksi)	
L15	126.42-121.42	5.00	P36x0.375	A53-B-42 (42 ksi)	
L16	121.42-121.17	0.25	P36x0.375	A53-B-42 (42 ksi)	
L17	121.17-116.17	5.00	P42x0.375	A53-B-42 (42 ksi)	
L18	116.17-111.17	5.00	P42x0.375	A53-B-42 (42 ksi)	
L19	111.17-110.04	1.13	P42x0.375	A53-B-42 (42 ksi)	
L20	110.04-109.79	0.25	P42x0.4875	A53-B-42 (42 ksi)	
L21	109.79-105.08	4.71	P42x0.4875	A53-B-42 (42 ksi)	
L22	105.08-104.83	0.25	P42x0.5625	A53-B-42 (42 ksi)	
L23	104.83-100.92	3.92	P42x0.5625	A53-B-42 (42 ksi)	
L24	100.92-100.67	0.25	P48x0.375	A53-B-42 (42 ksi)	
L25	100.67-95.83	4.83	P48x0.375	A53-B-42 (42 ksi)	
L26	95.83-95.58	0.25	P48x0.475	A53-B-42 (42 ksi)	
L27	95.58-90.58	5.00	P48x0.475	A53-B-42 (42 ksi)	
L28	90.58-89.92	0.67	P48x0.475	A53-B-42 (42 ksi)	
L29	89.92-89.67	0.25	P48x0.575	A53-B-42 (42 ksi)	
L30	89.67-84.67	5.00	P48x0.575	A53-B-42 (42 ksi)	
L31	84.67-80.83	3.83	P48x0.575	A53-B-42 (42 ksi)	
L32	80.83-80.33	0.50	P54x0.55	A53-B-42 (42 ksi)	
L33	80.33-80.08	0.25	P54x0.4875	A53-B-42 (42 ksi)	

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L34	80.08-75.08	5.00	P54x0.4875	A53-B-42 (42 ksi)	
L35	75.08-70.08	5.00	P54x0.4875	A53-B-42 (42 ksi)	
L36	70.08-69.50	0.58	P54x0.4875	A53-B-42 (42 ksi)	
L37	69.50-69.25	0.25	P54x0.5875	A53-B-42 (42 ksi)	
L38	69.25-64.25	5.00	P54x0.5875	A53-B-42 (42 ksi)	
L39	64.25-60.58	3.67	P54x0.5875	A53-B-42 (42 ksi)	
L40	60.58-60.33	0.25	P60x0.5125	A53-B-42 (42 ksi)	
L41	60.33-55.33	5.00	P60x0.5125	A53-B-42 (42 ksi)	
L42	55.33-52.17	3.17	P60x0.5125	A53-B-42 (42 ksi)	
L43	52.17-51.92	0.25	P60x0.625	A53-B-42 (42 ksi)	
L44	51.92-46.92	5.00	P60x0.625	A53-B-42 (42 ksi)	
L45	46.92-41.92	5.00	P60x0.625	A53-B-42 (42 ksi)	
L46	41.92-40.23	1.68	P60x0.6	A53-B-42 (42 ksi)	
L47	40.23-39.98	0.25	P60x0.6	A53-B-42 (42 ksi)	
L48	39.98-34.98	5.00	P60x0.6	A53-B-42 (42 ksi)	
L49	34.98-29.98	5.00	P60x0.6	A53-B-42 (42 ksi)	
L50	29.98-28.00	1.98	P60x0.6	A53-B-42 (42 ksi)	
L51	28.00-27.75	0.25	P60x0.725	A53-B-42 (42 ksi)	
L52	27.75-22.75	5.00	P60x0.725	A53-B-42 (42 ksi)	
L53	22.75-20.08	2.67	P60x0.725	A53-B-42 (42 ksi)	
L54	20.08-19.83	0.25	P60x0.625	A53-B-42 (42 ksi)	
L55	19.83-17.00	2.83	P60x0.625	A53-B-42 (42 ksi)	
L56	17.00-16.75	0.25	P60x0.725	A53-B-42 (42 ksi)	
L57	16.75-11.65	5.10	P60x0.75	A53-B-42 (42 ksi)	
L58	11.65-11.42	0.23	P60x0.75	A53-B-42 (42 ksi)	
L59	11.42-9.40	2.02	P60x0.75	A53-B-42 (42 ksi)	
L60	9.40-9.15	0.25	P60x0.8	A53-B-42 (42 ksi)	
L61	9.15-4.83	4.31	P60x0.8	A53-B-42 (42 ksi)	
L62	4.83-4.58	0.25	P60x0.75	A53-B-42 (42 ksi)	
L63	4.58-0.00	4.58	P60x0.75	A53-B-42 (42 ksi)	

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _t	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontal in	Double Angle Stitch Bolt Spacing Redundants in
L1 191.67-				1	1	1			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_r	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
ft	ft ²	in							
186.67									
L2 186.67-181.57				1	1	1			
L3 181.57-176.57				1	1	1			
L4 176.57-171.57				1	1	1			
L5 171.57-166.57				1	1	1			
L6 166.57-161.57				1	1	1			
L7 161.57-156.57				1	1	1			
L8 156.57-151.57				1	1	1			
L9 151.57-146.57				1	1	1			
L10 146.57-141.57				1	1	1			
L11 141.57-141.42				1	1	1			
L12 141.42-136.42				1	1	1			
L13 136.42-131.42				1	1	1			
L14 131.42-126.42				1	1	1			
L15 126.42-121.42				1	1	1			
L16 121.42-121.17				1	1	1			
L17 121.17-116.17				1	1	1			
L18 116.17-111.17				1	1	1			
L19 111.17-110.04				1	1	1			
L20 110.04-109.79				1	1	0.983655			
L21 109.79-105.08				1	1	0.983655			
L22 105.08-104.83				1	1	0.976951			
L23 104.83-100.92				1	1	0.976951			
L24 100.92-100.67				1	1	1			
L25 100.67-95.83				1	1	1			
L26 95.83-95.58				1	1	0.981492			
L27 95.58-90.58				1	1	0.981492			
L28 90.58-89.92				1	1	0.981492			
L29 89.92-89.67				1	1	0.97009			
L30 89.67-84.67				1	1	0.97009			
L31 84.67-80.83				1	1	0.97009			
L32 80.83-80.33				1	1	0.976401			
L33 80.33-80.08				1	1	0.990478			
L34 80.08-75.08				1	1	0.990478			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_r	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
ft	ft ²	in							
L35 75.08-70.08				1	1	0.990478			
L36 70.08-69.50				1	1	0.990478			
L37 69.50-69.25				1	1	1.00601			
L38 69.25-64.25				1	1	1.00601			
L39 64.25-60.58				1	1	1.00601			
L40 60.58-60.33				1	1	0.987891			
L41 60.33-55.33				1	1	0.987891			
L42 55.33-52.17				1	1	0.987891			
L43 52.17-51.92				1	1	1.01747			
L44 51.92-46.92				1	1	1.01747			
L45 46.92-41.92				1	1	1.01747			
L46 41.92-40.23				1	1	0.995499			
L47 40.23-39.98				1	1	0.995499			
L48 39.98-34.98				1	1	0.995499			
L49 34.98-29.98				1	1	0.995499			
L50 29.98-28.00				1	1	0.995499			
L51 28.00-27.75				1	1	1.00337			
L52 27.75-22.75				1	1	1.00337			
L53 22.75-20.08				1	1	1.00337			
L54 20.08-19.83				1	1	1			
L55 19.83-17.00				1	1	1			
L56 17.00-16.75				1	1	1.04129			
L57 16.75-11.65				1	1	1.02849			
L58 11.65-11.42				1	1	1.02849			
L59 11.42-9.40				1	1	1.02849			
L60 9.40-9.15				1	1	1.00535			
L61 9.15-4.83				1	1	1.00535			
L62 4.83-4.58				1	1	1.04998			
L63 4.58-0.00				1	1	1.04998			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf

CU12PSM6P4XXX(1-	C	No	Surface Ar	171.00 -	1	1	0.450	1.7500		2.72

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
3/4)			(CaAa)	0.00			0.450			

AL7-50(1-5/8)	B	No	Surface Ar (CaAa)	160.00 - 4.00	12	12	-0.350 -0.100	1.9600		0.52

HB158-U12S24-XXX-LI(1-5/8)	B	No	Surface Ar (CaAa)	160.00 - 4.00	1	1	-0.375 -0.375	1.9760		3.20

Safety Line 3/8	C	No	Surface Ar (CaAa)	191.67 - 4.00	1	1	0.000 0.010	0.3750		0.22

* Reinforcement Plates*										
CCI 4" x 0.75" Plate	A	No	Surface Af (CaAa)	10.88 - 0.00	1	1	0.400 0.450	4.0000	9.5000	0.00
CCI 4" x 0.75" Plate	B	No	Surface Af (CaAa)	10.88 - 0.00	1	1	-0.250 -0.200	4.0000	9.5000	0.00
CCI 4" x 0.75" Plate	C	No	Surface Af (CaAa)	13.17 - 3.17	1	1	0.250 0.300	4.0000	9.5000	0.00
*										
CCI 6" x 1" Plate	A	No	Surface Af (CaAa)	39.75 - 20.75	1	1	0.400 0.500	6.0000	14.0000	0.00
CCI 6" x 1" Plate	B	No	Surface Af (CaAa)	39.75 - 20.75	1	1	0.400 0.500	6.0000	14.0000	0.00
CCI 6" x 1" Plate	C	No	Surface Af (CaAa)	39.75 - 20.75	1	1	0.400 0.500	6.0000	14.0000	0.00
*										
CCI 6.5" x 1.25" Plate	A	No	Surface Af (CaAa)	59.92 - 40.83	1	1	-0.450 -0.400	6.5000	15.5000	0.00
CCI 6.5" x 1.25" Plate	B	No	Surface Af (CaAa)	59.92 - 40.83	1	1	-0.450 -0.400	6.5000	15.5000	0.00
CCI 6.5" x 1.25" Plate	C	No	Surface Af (CaAa)	59.92 - 40.83	1	1	-0.400 -0.350	6.5000	15.5000	0.00
*										
CCI 6" x 1" Plate	A	No	Surface Af (CaAa)	80.17 - 61.17	1	1	-0.450 -0.400	6.0000	14.0000	0.00
CCI 6" x 1" Plate	B	No	Surface Af (CaAa)	80.17 - 61.17	1	1	-0.350 -0.300	6.0000	14.0000	0.00
CCI 6" x 1" Plate	C	No	Surface Af (CaAa)	80.17 - 61.17	1	1	-0.450 -0.400	6.0000	14.0000	0.00
*										
CCI 4" x 0.75" Plate	A	No	Surface Af (CaAa)	106.58 - 101.58	1	1	-0.500 -0.450	4.0000	9.5000	0.00
CCI 4" x 0.75" Plate	B	No	Surface Af (CaAa)	106.58 - 101.58	1	1	-0.500 -0.450	4.0000	9.5000	0.00
CCI 4" x 0.75" Plate	C	No	Surface Af (CaAa)	106.58 - 101.58	1	1	-0.500 -0.450	4.0000	9.5000	0.00
*										
1" x 2" Plate	A	No	Surface Af (CaAa)	50.42 - 40.58	1	1	-0.450 -0.400	1.0000	6.0000	6.81
1" x 2" Plate	B	No	Surface Af (CaAa)	50.42 - 40.58	1	1	-0.350 -0.300	1.0000	6.0000	6.81
1" x 2" Plate	B	No	Surface Af (CaAa)	50.42 - 40.58	1	1	0.200 0.250	1.0000	6.0000	6.81
1" x 2" Plate	C	No	Surface Af (CaAa)	50.42 - 40.58	1	1	-0.350 -0.300	1.0000	6.0000	6.81
*										
1" x 2" Plate	A	No	Surface Af (CaAa)	66.17 - 61.08	1	1	-0.350 -0.300	1.0000	6.0000	6.81
1" x 2" Plate	B	No	Surface Af (CaAa)	66.17 - 61.08	1	1	-0.450 -0.400	1.0000	6.0000	6.81
1" x 2" Plate	B	No	Surface Af (CaAa)	66.17 - 61.08	1	1	0.300 0.350	1.0000	6.0000	6.81
1" x 2" Plate	C	No	Surface Af (CaAa)	66.17 - 61.08	1	1	-0.450 -0.400	1.0000	6.0000	6.81
*										
CCI 6" x 1" Plate	A	No	Surface Af	19.00 -	1	1	0.300	6.0000	14.0000	0.00

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter r in	Perimeter r in	Weight plf
CCI 6" x 1" Plate	B	No	(CaAa) Surface Af	0.00 19.00 -	1	1	0.350 0.400	6.0000	14.0000	0.00
CCI 6" x 1" Plate	C	No	(CaAa) Surface Af	0.00 19.00 -	1	1	0.450 0.500	6.0000	14.0000	0.00
CCI 6" x 1" Plate	C	No	(CaAa) Surface Af	0.00 19.00 -	1	1	-0.500 -0.450	6.0000	14.0000	0.00
*										
CCI 6" x 1" Plate	A	No	(CaAa) Surface Af	17.00 30.00 -	1	1	-0.150 -0.100	6.0000	14.0000	0.00
CCI 6" x 1" Plate	B	No	(CaAa) Surface Af	17.00 30.00 -	1	1	-0.450 -0.400	6.0000	14.0000	0.00
CCI 6" x 1" Plate	C	No	(CaAa) Surface Af	17.00 30.00 -	1	1	0.350 0.400	6.0000	14.0000	0.00
CCI 6" x 1" Plate	C	No	(CaAa) Surface Af	17.00 30.00 -	1	1	-0.500 -0.450	6.0000	14.0000	0.00
*										
CCI 6" x 1" Plate	A	No	(CaAa) Surface Af	37.17 50.17 -	1	1	0.250 0.300	6.0000	14.0000	0.00
CCI 6" x 1" Plate	B	No	(CaAa) Surface Af	37.17 50.17 -	1	1	0.100 0.150	6.0000	14.0000	0.00
CCI 6" x 1" Plate	C	No	(CaAa) Surface Af	37.17 50.17 -	1	1	-0.400 -0.350	6.0000	14.0000	0.00
CCI 6" x 1" Plate	C	No	(CaAa) Surface Af	37.17 50.17 -	1	1	0.450 0.500	6.0000	14.0000	0.00
*										
CCI 4.5" x 1" Plate	A	No	(CaAa) Surface Af	61.00 71.00 -	1	1	-0.250 -0.200	4.5000	11.0000	0.00
CCI 4.5" x 1" Plate	B	No	(CaAa) Surface Af	61.00 71.00 -	1	1	-0.450 -0.400	4.5000	11.0000	0.00
CCI 4.5" x 1" Plate	B	No	(CaAa) Surface Af	61.00 71.00 -	1	1	0.400 0.450	4.5000	11.0000	0.00
CCI 4.5" x 1" Plate	C	No	(CaAa) Surface Af	61.00 71.00 -	1	1	0.350 0.400	4.5000	11.0000	0.00
*										
CCI 4.5" x 1" Plate	A	No	(CaAa) Surface Af	81.33 97.33 -	1	1	-0.500 -0.450	4.5000	11.0000	0.00
CCI 4.5" x 1" Plate	B	No	(CaAa) Surface Af	81.33 97.33 -	1	1	-0.500 -0.450	4.5000	11.0000	0.00
CCI 4.5" x 1" Plate	C	No	(CaAa) Surface Af	81.33 97.33 -	1	1	-0.500 -0.450	4.5000	11.0000	0.00
*										
CCI 4.5" x 1" Plate	A	No	(CaAa) Surface Af	101.54 111.54 -	1	1	-0.350 -0.300	4.5000	11.0000	0.00
CCI 4.5" x 1" Plate	A	No	(CaAa) Surface Af	101.54 111.54 -	1	1	-0.350 -0.300	4.5000	11.0000	0.00
CCI 4.5" x 1" Plate	A	No	(CaAa) Surface Af	101.54 111.54 -	1	1	-0.350 -0.300	4.5000	11.0000	0.00
*										
CCI 4.5" x 1" Plate	A	No	(CaAa) Surface Af	81.42 91.42 -	1	1	-0.150 -0.100	4.5000	11.0000	0.00
CCI 4.5" x 1" Plate	B	No	(CaAa) Surface Af	81.42 91.42 -	1	1	-0.150 -0.100	4.5000	11.0000	0.00
CCI 4.5" x 1" Plate	C	No	(CaAa) Surface Af	81.42 91.42 -	1	1	-0.150 -0.100	4.5000	11.0000	0.00
*										
* BS*										
CCI 6.5" x 1.25" Plate	A	No	(CaAa) Surface Af	12.67 27.50 -	1	1	0.400 0.450	6.5000	15.5000	27.65
CCI 6.5" x 1.25" Plate	A	No	(CaAa) Surface Af	12.67 27.50 -	1	1	-0.250 -0.200	6.5000	15.5000	27.65
CCI 6.5" x 1.25" Plate	B	No	(CaAa) Surface Af	12.67 27.50 -	1	1	0.450 0.500	6.5000	15.5000	27.65
CCI 6.5" x 1.25" Plate	B	No	(CaAa) Surface Af	12.67 27.50 -	1	1	-0.250 -0.200	6.5000	15.5000	27.65
CCI 6.5" x 1.25" Plate	C	No	(CaAa) Surface Af	12.67 27.50 -	1	1	0.350 0.400	6.5000	15.5000	27.65
CCI 6.5" x 1.25" Plate	C	No	(CaAa) Surface Af	12.67 27.50 -	1	1	-0.250 -0.200	6.5000	15.5000	27.65

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
*			(CaAa)	12.67			-0.200			
CCI 6.5" x 1.25" Plate	A	No	Surface Af (CaAa)	47.83 - 32.83	1	1	0.400 0.450	6.5000	15.5000	27.65
CCI 6.5" x 1.25" Plate	A	No	Surface Af (CaAa)	47.83 - 32.83	1	1	-0.400 -0.350	6.5000	15.5000	27.65
CCI 6.5" x 1.25" Plate	B	No	Surface Af (CaAa)	47.83 - 32.83	1	1	-0.400 -0.350	6.5000	15.5000	27.65
CCI 6.5" x 1.25" Plate	B	No	Surface Af (CaAa)	47.83 - 32.83	1	1	-0.250 -0.200	6.5000	15.5000	27.65
CCI 6.5" x 1.25" Plate	C	No	Surface Af (CaAa)	47.83 - 32.83	1	1	-0.400 0.350	6.5000	15.5000	27.65
CCI 6.5" x 1.25" Plate	C	No	Surface Af (CaAa)	47.83 - 32.83	1	1	-0.250 -0.200	6.5000	15.5000	27.65
*										
CCI 8.5" x 1.25" Plate	A	No	Surface Af (CaAa)	60.08 - 55.25	1	1	0.200 0.250	8.5000	19.5000	36.16
CCI 8.5" x 1.25" Plate	A	No	Surface Af (CaAa)	60.08 - 55.25	1	1	-0.400 -0.350	8.5000	19.5000	36.16
CCI 8.5" x 1.25" Plate	B	No	Surface Af (CaAa)	60.08 - 55.25	1	1	0.150 0.200	8.5000	19.5000	36.16
CCI 8.5" x 1.25" Plate	B	No	Surface Af (CaAa)	60.08 - 55.25	1	1	-0.350 -0.300	8.5000	19.5000	36.16
CCI 8.5" x 1.25" Plate	C	No	Surface Af (CaAa)	60.08 - 55.25	1	1	0.100 0.150	8.5000	19.5000	36.16
CCI 8.5" x 1.25" Plate	C	No	Surface Af (CaAa)	60.08 - 55.25	1	1	-0.500 -0.450	8.5000	19.5000	36.16
*										
CCI 8.5" x 1.25" Plate	A	No	Surface Af (CaAa)	61.08 - 60.08	1	1	0.200 0.250	8.5000	19.5000	36.16
CCI 8.5" x 1.25" Plate	A	No	Surface Af (CaAa)	61.08 - 60.08	1	1	-0.400 -0.350	8.5000	19.5000	36.16
CCI 8.5" x 1.25" Plate	B	No	Surface Af (CaAa)	61.08 - 60.08	1	1	0.150 0.200	8.5000	19.5000	36.16
CCI 8.5" x 1.25" Plate	B	No	Surface Af (CaAa)	61.08 - 60.08	1	1	-0.350 -0.300	8.5000	19.5000	36.16
CCI 8.5" x 1.25" Plate	C	No	Surface Af (CaAa)	61.08 - 60.08	1	1	0.100 0.150	8.5000	19.5000	36.16
CCI 8.5" x 1.25" Plate	C	No	Surface Af (CaAa)	61.08 - 60.08	1	1	-0.500 -0.450	8.5000	19.5000	36.16
*										
CCI 8.5" x 4.25" Plate	A	No	Surface Af (CaAa)	68.42 - 61.08	1	1	0.200 0.250	8.5000	25.5000	122.94
CCI 8.5" x 4.25" Plate	A	No	Surface Af (CaAa)	68.42 - 61.08	1	1	-0.400 -0.350	8.5000	25.5000	122.94
CCI 8.5" x 4.25" Plate	B	No	Surface Af (CaAa)	68.42 - 61.08	1	1	0.150 0.200	8.5000	25.5000	122.94
CCI 8.5" x 4.25" Plate	B	No	Surface Af (CaAa)	68.42 - 61.08	1	1	-0.350 -0.300	8.5000	25.5000	122.94
CCI 8.5" x 4.25" Plate	C	No	Surface Af (CaAa)	68.42 - 61.08	1	1	0.100 0.150	8.5000	25.5000	122.94
CCI 8.5" x 4.25" Plate	C	No	Surface Af (CaAa)	68.42 - 61.08	1	1	-0.500 -0.450	8.5000	25.5000	122.94
*										
CCI 8.5" x 1.25" Plate	A	No	Surface Af (CaAa)	73.42 - 68.42	1	1	0.200 0.250	8.5000	19.5000	36.16
CCI 8.5" x 1.25" Plate	A	No	Surface Af (CaAa)	73.42 - 68.42	1	1	-0.400 -0.350	8.5000	19.5000	36.16
CCI 8.5" x 1.25" Plate	B	No	Surface Af (CaAa)	73.42 - 68.42	1	1	0.150 0.200	8.5000	19.5000	36.16
CCI 8.5" x 1.25" Plate	B	No	Surface Af (CaAa)	73.42 - 68.42	1	1	-0.350 -0.300	8.5000	19.5000	36.16
CCI 8.5" x 1.25" Plate	C	No	Surface Af (CaAa)	73.42 - 68.42	1	1	0.100 0.150	8.5000	19.5000	36.16
CCI 8.5" x 1.25" Plate	C	No	Surface Af (CaAa)	73.42 - 68.42	1	1	-0.500 -0.450	8.5000	19.5000	36.16
*										
CCI 6.5" x 1.25" Plate	A	No	Surface Af	80.33 -	1	1	0.050	6.5000	15.5000	27.65

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
CCI 6.5" x 1.25" Plate	B	No	(CaAa) Surface Af	76.50 80.33 - 76.50	1	1	0.100 0.000 0.050	6.5000	15.5000	27.65
CCI 6.5" x 1.25" Plate	C	No	(CaAa) Surface Af	80.33 - 76.50	1	1	0.150 0.200	6.5000	15.5000	27.65
*										
CCI 6.5" x 1.25" Plate	A	No	(CaAa) Surface Af	80.50 - 80.33	1	1	0.050 0.100	6.5000	15.5000	27.65
CCI 6.5" x 1.25" Plate	B	No	(CaAa) Surface Af	80.50 - 80.33	1	1	0.000 0.050	6.5000	15.5000	27.65
CCI 6.5" x 1.25" Plate	C	No	(CaAa) Surface Af	80.50 - 80.33	1	1	0.150 0.200	6.5000	15.5000	27.65
*										
CCI 6.5" x 4.25" Plate	A	No	(CaAa) Surface Af	85.83 - 80.50	1	1	0.050 0.100	6.5000	21.5000	94.01
CCI 6.5" x 4.25" Plate	B	No	(CaAa) Surface Af	85.83 - 80.50	1	1	0.000 0.050	6.5000	21.5000	94.01
CCI 6.5" x 4.25" Plate	C	No	(CaAa) Surface Af	85.83 - 80.50	1	1	0.150 0.200	6.5000	21.5000	94.01
*										
CCI 6.5" x 1.25" Plate	A	No	(CaAa) Surface Af	89.75 - 85.83	1	1	0.050 0.100	6.5000	15.5000	27.65
CCI 6.5" x 1.25" Plate	B	No	(CaAa) Surface Af	89.75 - 85.83	1	1	0.000 0.050	6.5000	15.5000	27.65
CCI 6.5" x 1.25" Plate	C	No	(CaAa) Surface Af	89.75 - 85.83	1	1	0.150 0.200	6.5000	15.5000	27.65
*										
CCI 4.5" x 1" Plate	A	No	(CaAa) Surface Af	100.42 - 97.92	1	1	-0.150 -0.100	4.5000	11.0000	15.34
CCI 4.5" x 1" Plate	B	No	(CaAa) Surface Af	100.42 - 97.92	1	1	-0.100 -0.050	4.5000	11.0000	15.34
CCI 4.5" x 1" Plate	C	No	(CaAa) Surface Af	100.42 - 97.92	1	1	-0.100 -0.050	4.5000	11.0000	15.34
*										
CCI 4.5" x 1" Plate	A	No	(CaAa) Surface Af	101.42 - 100.42	1	1	-0.150 -0.100	4.5000	11.0000	15.34
CCI 4.5" x 1" Plate	B	No	(CaAa) Surface Af	101.42 - 100.42	1	1	-0.100 -0.050	4.5000	11.0000	15.34
CCI 4.5" x 1" Plate	C	No	(CaAa) Surface Af	101.42 - 100.42	1	1	-0.100 -0.050	4.5000	11.0000	15.34
*										
CCI 4.5" x 4" Plate	A	No	(CaAa) Surface Af	104.42 - 101.42	1	1	-0.150 -0.100	4.5000	17.0000	61.26
CCI 4.5" x 4" Plate	B	No	(CaAa) Surface Af	104.42 - 101.42	1	1	-0.100 -0.050	4.5000	17.0000	61.26
CCI 4.5" x 4" Plate	C	No	(CaAa) Surface Af	104.42 - 101.42	1	1	-0.100 -0.050	4.5000	17.0000	61.26
*										
CCI 4.5" x 1" Plate	A	No	(CaAa) Surface Af	107.17 - 104.42	1	1	-0.150 -0.100	4.5000	11.0000	15.34
CCI 4.5" x 1" Plate	B	No	(CaAa) Surface Af	107.17 - 104.42	1	1	-0.100 -0.050	4.5000	11.0000	15.34
CCI 4.5" x 1" Plate	C	No	(CaAa) Surface Af	107.17 - 104.42	1	1	-0.100 -0.050	4.5000	11.0000	15.34
*										
CCI 4.5" x 1" Plate	A	No	(CaAa) Surface Af	120.67 - 117.92	1	1	-0.150 -0.100	4.5000	11.0000	15.34
CCI 4.5" x 1" Plate	B	No	(CaAa) Surface Af	120.67 - 117.92	1	1	-0.100 -0.050	4.5000	11.0000	15.34
CCI 4.5" x 1" Plate	C	No	(CaAa) Surface Af	120.67 - 117.92	1	1	-0.200 -0.150	4.5000	11.0000	15.34
*										
CCI 4.5" x 1" Plate	A	No	(CaAa) Surface Af	121.67 - 120.67	1	1	-0.150 -0.100	4.5000	11.0000	15.34
CCI 4.5" x 1" Plate	B	No	(CaAa) Surface Af	121.67 - 120.67	1	1	-0.100 -0.050	4.5000	11.0000	15.34
CCI 4.5" x 1" Plate	C	No	(CaAa) Surface Af	121.67 - 120.67	1	1	-0.200 -0.150	4.5000	11.0000	15.34

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
*										
CCI 4.5" x 4" Plate	A	No	Surface Af (CaAa)	124.42 - 121.67	1	1	-0.150 -0.100	4.5000	17.0000	61.26
CCI 4.5" x 4" Plate	B	No	Surface Af (CaAa)	124.42 - 121.67	1	1	-0.100 -0.050	4.5000	17.0000	61.26
CCI 4.5" x 4" Plate	C	No	Surface Af (CaAa)	124.42 - 121.67	1	1	-0.200 -0.150	4.5000	17.0000	61.26
*										
CCI 4.5" x 1" Plate	A	No	Surface Af (CaAa)	127.17 - 124.42	1	1	-0.150 -0.100	4.5000	11.0000	15.34
CCI 4.5" x 1" Plate	B	No	Surface Af (CaAa)	127.17 - 124.42	1	1	-0.100 -0.050	4.5000	11.0000	15.34
CCI 4.5" x 1" Plate	C	No	Surface Af (CaAa)	127.17 - 124.42	1	1	-0.200 -0.150	4.5000	11.0000	15.34
*										
CCI 4.5" x 1" Plate	A	No	Surface Af (CaAa)	61.46 - 58.00	1	1	-0.250 -0.200	4.5000	11.0000	15.34
CCI 4.5" x 1" Plate	B	No	Surface Af (CaAa)	61.46 - 58.00	1	1	-0.450 -0.400	4.5000	11.0000	15.34
CCI 4.5" x 1" Plate	B	No	Surface Af (CaAa)	61.46 - 58.00	1	1	0.400 0.450	4.5000	11.0000	15.34
CCI 4.5" x 1" Plate	C	No	Surface Af (CaAa)	61.46 - 58.00	1	1	0.350 0.400	4.5000	11.0000	15.34
*										
CCI 4.5" x 3" Plate	A	No	Surface Af (CaAa)	62.96 - 61.55	1	1	-0.250 -0.200	4.5000	15.0000	45.94
CCI 4.5" x 3" Plate	B	No	Surface Af (CaAa)	62.96 - 61.55	1	1	-0.450 -0.400	4.5000	15.0000	45.94
CCI 4.5" x 3" Plate	B	No	Surface Af (CaAa)	62.96 - 61.55	1	1	0.400 0.450	4.5000	15.0000	45.94
CCI 4.5" x 3" Plate	C	No	Surface Af (CaAa)	62.96 - 61.55	1	1	0.350 0.400	4.5000	15.0000	45.94
*										
CCI 4.5" x 1" Plate	A	No	Surface Af (CaAa)	81.71 - 78.33	1	1	-0.500 -0.450	4.5000	11.0000	15.34
CCI 4.5" x 1" Plate	B	No	Surface Af (CaAa)	81.71 - 78.33	1	1	-0.500 -0.450	4.5000	11.0000	15.34
CCI 4.5" x 1" Plate	C	No	Surface Af (CaAa)	81.71 - 78.33	1	1	-0.500 -0.450	4.5000	11.0000	15.34
*										
CCI 4.5" x 3" Plate	A	No	Surface Af (CaAa)	83.21 - 81.71	1	1	-0.500 -0.450	4.5000	15.0000	45.94
CCI 4.5" x 3" Plate	B	No	Surface Af (CaAa)	83.21 - 81.71	1	1	-0.500 -0.450	4.5000	15.0000	45.94
CCI 4.5" x 3" Plate	C	No	Surface Af (CaAa)	83.21 - 81.71	1	1	-0.500 -0.450	4.5000	15.0000	45.94
*										
CCI 4.5" x 1" Plate	A	No	Surface Af (CaAa)	101.79 - 98.42	1	1	0.300 0.350	4.5000	11.0000	15.34
CCI 4.5" x 1" Plate	B	No	Surface Af (CaAa)	101.79 - 98.42	1	1	0.300 0.350	4.5000	11.0000	15.34
CCI 4.5" x 1" Plate	C	No	Surface Af (CaAa)	101.79 - 98.42	1	1	0.300 0.350	4.5000	11.0000	15.34
*										
CCI 4.5" x 3" Plate	A	No	Surface Af (CaAa)	103.29 - 101.79	1	1	0.300 0.350	4.5000	15.0000	45.94
CCI 4.5" x 3" Plate	B	No	Surface Af (CaAa)	103.29 - 101.79	1	1	0.300 0.350	4.5000	15.0000	45.94
CCI 4.5" x 3" Plate	C	No	Surface Af (CaAa)	103.29 - 101.79	1	1	0.300 0.350	4.5000	15.0000	45.94

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		CAAA ft ² /ft	Weight plf
LDF5-50A(7/8)	B	No	No	Inside Pole	191.67 - 5.00	1	No Ice	0.00	0.33
							1/2" Ice	0.00	0.33
							1" Ice	0.00	0.33
							2" Ice	0.00	0.33

ATCB-B01-001(5/16)	B	No	No	Inside Pole	191.00 - 5.00	1	No Ice	0.00	0.07
							1/2" Ice	0.00	0.07
							1" Ice	0.00	0.07
							2" Ice	0.00	0.07

HB158-21U6S24-xxM_TMO(1-5/8)	C	No	No	Inside Pole	184.00 - 5.00	1	No Ice	0.00	2.50
							1/2" Ice	0.00	2.50
							1" Ice	0.00	2.50
							2" Ice	0.00	2.50
HCS 6X12 4AWG(1-5/8)	C	No	No	Inside Pole	184.00 - 5.00	2	No Ice	0.00	2.40
							1/2" Ice	0.00	2.40
							1" Ice	0.00	2.40
							2" Ice	0.00	2.40

LDF5-50A(7/8)	B	No	No	Inside Pole	158.00 - 4.00	2	No Ice	0.00	0.33
							1/2" Ice	0.00	0.33
							1" Ice	0.00	0.33
							2" Ice	0.00	0.33

LDF6-50A(1-1/4)	C	No	No	Inside Pole	151.00 - 4.00	6	No Ice	0.00	0.60
							1/2" Ice	0.00	0.60
							1" Ice	0.00	0.60
							2" Ice	0.00	0.60

LDF6-50A(1-1/4)	B	No	No	Inside Pole	151.00 - 4.00	6	No Ice	0.00	0.60
							1/2" Ice	0.00	0.60
							1" Ice	0.00	0.60
							2" Ice	0.00	0.60
FB-L98B-002-XXX(3/8)	B	No	No	Inside Pole	151.00 - 4.00	2	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
							2" Ice	0.00	0.06
**									
PWRT-606-S(7/8)	B	No	No	Inside Pole	151.00 - 4.00	2	No Ice	0.00	0.89
							1/2" Ice	0.00	0.89
							1" Ice	0.00	0.89
							2" Ice	0.00	0.89
PWRT-608-S(13/16)	B	No	No	Inside Pole	151.00 - 4.00	4	No Ice	0.00	0.62
							1/2" Ice	0.00	0.62
							1" Ice	0.00	0.62
							2" Ice	0.00	0.62
FB-L98B-235-XXX(3/8)	B	No	No	Inside Pole	151.00 - 4.00	1	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
							2" Ice	0.00	0.06

LDF5-50A(7/8)	B	No	No	Inside Pole	132.00 - 4.00	1	No Ice	0.00	0.33
							1/2" Ice	0.00	0.33
							1" Ice	0.00	0.33
							2" Ice	0.00	0.33

ATCB-B01-001(5/16)	B	No	No	Inside Pole	90.00 - 4.00	1	No Ice	0.00	0.07
							1/2" Ice	0.00	0.07
							1" Ice	0.00	0.07
							2" Ice	0.00	0.07
LDF4-50A(1/2)	B	No	No	Inside Pole	90.00 - 4.00	2	No Ice	0.00	0.15
							1/2" Ice	0.00	0.15
							1" Ice	0.00	0.15

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _{AA} ft ² /ft	Weight plf
LDF5-50A(7/8)	B	No	No	Inside Pole	90.00 - 4.00	1	2" Ice	0.00	0.15
							No Ice	0.00	0.33
							1/2" Ice	0.00	0.33
							1" Ice	0.00	0.33
							2" Ice	0.00	0.33

LDF5-50A(7/8)	B	No	No	Inside Pole	70.00 - 4.00	2	No Ice	0.00	0.33
							1/2" Ice	0.00	0.33
							1" Ice	0.00	0.33
							2" Ice	0.00	0.33

LDF4-50A(1/2)	B	No	No	Inside Pole	33.00 - 4.00	2	No Ice	0.00	0.15
							1/2" Ice	0.00	0.15
							1" Ice	0.00	0.15
							2" Ice	0.00	0.15

*									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	191.67-186.67	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.188	0.000	0.00
L2	186.67-181.57	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.191	0.000	0.02
L3	181.57-176.57	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.188	0.000	0.04
L4	176.57-171.57	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.188	0.000	0.04
L5	171.57-166.57	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.963	0.000	0.05
L6	166.57-161.57	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	1.063	0.000	0.05
L7	161.57-156.57	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	8.753	0.000	0.04
		C	0.000	0.000	1.063	0.000	0.05
L8	156.57-151.57	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	12.748	0.000	0.05
		C	0.000	0.000	1.063	0.000	0.05
L9	151.57-146.57	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	12.748	0.000	0.09
		C	0.000	0.000	1.063	0.000	0.07
L10	146.57-141.57	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	12.748	0.000	0.09
		C	0.000	0.000	1.063	0.000	0.07
L11	141.57-141.42	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.382	0.000	0.00
		C	0.000	0.000	0.032	0.000	0.00
L12	141.42-136.42	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	12.748	0.000	0.09
		C	0.000	0.000	1.063	0.000	0.07
L13	136.42-131.42	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	12.748	0.000	0.09
		C	0.000	0.000	1.063	0.000	0.07
L14	131.42-126.42	A	0.000	0.000	0.395	0.000	0.01
		B	0.000	0.000	13.143	0.000	0.11

Tower Section	Tower Elevation	Face	A _R	A _F	C _{AA} _A In Face	C _{AA} _A Out Face	Weight
n	ft		ft ²	ft ²	ft ²	ft ²	K
L15	126.42-121.42	C	0.000	0.000	1.458	0.000	0.08
		A	0.000	0.000	2.541	0.000	0.20
		B	0.000	0.000	15.289	0.000	0.30
L16	121.42-121.17	C	0.000	0.000	3.604	0.000	0.27
		A	0.000	0.000	0.113	0.000	0.00
		B	0.000	0.000	0.750	0.000	0.01
		C	0.000	0.000	0.166	0.000	0.01
L17	121.17-116.17	A	0.000	0.000	1.675	0.000	0.05
		B	0.000	0.000	14.423	0.000	0.14
		C	0.000	0.000	2.738	0.000	0.12
L18	116.17-111.17	A	0.000	0.000	0.844	0.000	0.00
		B	0.000	0.000	12.748	0.000	0.09
		C	0.000	0.000	1.063	0.000	0.07
L19	111.17-110.04	A	0.000	0.000	2.531	0.000	0.00
		B	0.000	0.000	2.868	0.000	0.02
		C	0.000	0.000	0.239	0.000	0.02
L20	110.04-109.79	A	0.000	0.000	0.563	0.000	0.00
		B	0.000	0.000	0.637	0.000	0.00
		C	0.000	0.000	0.053	0.000	0.00
L21	109.79-105.08	A	0.000	0.000	12.523	0.000	0.03
		B	0.000	0.000	13.933	0.000	0.12
		C	0.000	0.000	2.928	0.000	0.10
L22	105.08-104.83	A	0.000	0.000	0.832	0.000	0.00
		B	0.000	0.000	0.907	0.000	0.01
		C	0.000	0.000	0.323	0.000	0.01
L23	104.83-100.92	A	0.000	0.000	12.345	0.000	0.28
		B	0.000	0.000	14.924	0.000	0.35
		C	0.000	0.000	5.772	0.000	0.33
L24	100.92-100.67	A	0.000	0.000	0.250	0.000	0.01
		B	0.000	0.000	0.887	0.000	0.01
		C	0.000	0.000	0.303	0.000	0.01
L25	100.67-95.83	A	0.000	0.000	3.761	0.000	0.08
		B	0.000	0.000	16.086	0.000	0.17
		C	0.000	0.000	4.789	0.000	0.14
L26	95.83-95.58	A	0.000	0.000	0.188	0.000	0.00
		B	0.000	0.000	0.825	0.000	0.00
		C	0.000	0.000	0.241	0.000	0.00
L27	95.58-90.58	A	0.000	0.000	4.375	0.000	0.00
		B	0.000	0.000	17.124	0.000	0.09
		C	0.000	0.000	5.438	0.000	0.07
L28	90.58-89.92	A	0.000	0.000	0.999	0.000	0.00
		B	0.000	0.000	2.697	0.000	0.01
		C	0.000	0.000	1.141	0.000	0.01
L29	89.92-89.67	A	0.000	0.000	0.438	0.000	0.00
		B	0.000	0.000	1.075	0.000	0.01
		C	0.000	0.000	0.491	0.000	0.01
L30	89.67-84.67	A	0.000	0.000	11.325	0.000	0.22
		B	0.000	0.000	24.073	0.000	0.31
		C	0.000	0.000	12.387	0.000	0.28
L31	84.67-80.83	A	0.000	0.000	9.104	0.000	0.44
		B	0.000	0.000	18.880	0.000	0.52
		C	0.000	0.000	9.919	0.000	0.50
L32	80.83-80.33	A	0.000	0.000	0.642	0.000	0.04
		B	0.000	0.000	1.917	0.000	0.05
		C	0.000	0.000	0.748	0.000	0.05
L33	80.33-80.08	A	0.000	0.000	0.410	0.000	0.01
		B	0.000	0.000	1.048	0.000	0.02
		C	0.000	0.000	0.463	0.000	0.01
L34	80.08-75.08	A	0.000	0.000	8.671	0.000	0.13
		B	0.000	0.000	21.419	0.000	0.22
		C	0.000	0.000	9.733	0.000	0.20
L35	75.08-70.08	A	0.000	0.000	12.297	0.000	0.24
		B	0.000	0.000	25.733	0.000	0.34
		C	0.000	0.000	13.359	0.000	0.31
L36	70.08-69.50	A	0.000	0.000	2.176	0.000	0.04
		B	0.000	0.000	4.100	0.000	0.05
		C	0.000	0.000	2.300	0.000	0.05
L37	69.50-69.25	A	0.000	0.000	0.933	0.000	0.02
		B	0.000	0.000	1.758	0.000	0.02

Tower Section	Tower Elevation	Face	A _R	A _F	C _A A _A In Face	C _A A _A Out Face	Weight
n	ft		ft ²	ft ²	ft ²	ft ²	K
L38	69.25-64.25	C	0.000	0.000	0.986	0.000	0.02
		A	0.000	0.000	19.430	0.000	1.10
		B	0.000	0.000	36.248	0.000	1.21
L39	64.25-60.58	C	0.000	0.000	20.493	0.000	1.17
		A	0.000	0.000	14.648	0.000	0.91
		B	0.000	0.000	28.093	0.000	1.09
L40	60.58-60.33	C	0.000	0.000	15.427	0.000	0.97
		A	0.000	0.000	0.563	0.000	0.02
		B	0.000	0.000	1.337	0.000	0.03
L41	60.33-55.33	C	0.000	0.000	0.616	0.000	0.03
		A	0.000	0.000	16.020	0.000	0.40
		B	0.000	0.000	30.052	0.000	0.53
L42	55.33-52.17	C	0.000	0.000	17.083	0.000	0.47
		A	0.000	0.000	3.593	0.000	0.01
		B	0.000	0.000	11.665	0.000	0.07
L43	52.17-51.92	C	0.000	0.000	4.266	0.000	0.05
		A	0.000	0.000	0.271	0.000	0.00
		B	0.000	0.000	0.908	0.000	0.01
L44	51.92-46.92	C	0.000	0.000	0.324	0.000	0.00
		A	0.000	0.000	11.228	0.000	0.07
		B	0.000	0.000	24.560	0.000	0.20
L45	46.92-41.92	C	0.000	0.000	15.541	0.000	0.14
		A	0.000	0.000	22.083	0.000	0.31
		B	0.000	0.000	35.665	0.000	0.45
L46	41.92-40.23	C	0.000	0.000	28.146	0.000	0.38
		A	0.000	0.000	6.729	0.000	0.10
		B	0.000	0.000	11.245	0.000	0.15
L47	40.23-39.98	C	0.000	0.000	8.771	0.000	0.13
		A	0.000	0.000	0.792	0.000	0.01
		B	0.000	0.000	1.429	0.000	0.02
L48	39.98-34.98	C	0.000	0.000	1.095	0.000	0.02
		A	0.000	0.000	18.416	0.000	0.28
		B	0.000	0.000	31.164	0.000	0.38
L49	34.98-29.98	C	0.000	0.000	22.295	0.000	0.35
		A	0.000	0.000	9.682	0.000	0.12
		B	0.000	0.000	22.430	0.000	0.22
L50	29.98-28.00	C	0.000	0.000	10.761	0.000	0.19
		A	0.000	0.000	3.966	0.000	0.00
		B	0.000	0.000	9.022	0.000	0.04
L51	28.00-27.75	C	0.000	0.000	6.370	0.000	0.03
		A	0.000	0.000	0.500	0.000	0.00
		B	0.000	0.000	1.137	0.000	0.01
L52	27.75-22.75	C	0.000	0.000	0.803	0.000	0.00
		A	0.000	0.000	20.292	0.000	0.26
		B	0.000	0.000	33.040	0.000	0.37
L53	22.75-20.08	C	0.000	0.000	26.354	0.000	0.33
		A	0.000	0.000	10.445	0.000	0.15
		B	0.000	0.000	17.245	0.000	0.20
L54	20.08-19.83	C	0.000	0.000	13.679	0.000	0.18
		A	0.000	0.000	0.792	0.000	0.01
		B	0.000	0.000	1.429	0.000	0.02
L55	19.83-17.00	C	0.000	0.000	1.095	0.000	0.02
		A	0.000	0.000	10.971	0.000	0.16
		B	0.000	0.000	18.194	0.000	0.21
L56	17.00-16.75	C	0.000	0.000	16.406	0.000	0.20
		A	0.000	0.000	0.792	0.000	0.01
		B	0.000	0.000	1.429	0.000	0.02
L57	16.75-11.65	C	0.000	0.000	1.095	0.000	0.02
		A	0.000	0.000	13.940	0.000	0.23
		B	0.000	0.000	26.943	0.000	0.33
L58	11.65-11.42	C	0.000	0.000	21.135	0.000	0.30
		A	0.000	0.000	0.233	0.000	0.00
		B	0.000	0.000	0.827	0.000	0.00
L59	11.42-9.40	C	0.000	0.000	0.671	0.000	0.00
		A	0.000	0.000	3.007	0.000	0.00
		B	0.000	0.000	8.160	0.000	0.04
L60	9.40-9.15	C	0.000	0.000	5.819	0.000	0.03
		A	0.000	0.000	0.417	0.000	0.00
		B	0.000	0.000	1.054	0.000	0.01

Tower Section	Tower Elevation	Face	A _R	A _F	C _A A _A In Face	C _A A _A Out Face	Weight
n	ft		ft ²	ft ²	ft ²	ft ²	K
L61	9.15-4.83	C	0.000	0.000	0.720	0.000	0.00
		A	0.000	0.000	7.188	0.000	0.00
		B	0.000	0.000	18.185	0.000	0.09
L62	4.83-4.58	C	0.000	0.000	12.418	0.000	0.06
		A	0.000	0.000	0.417	0.000	0.00
		B	0.000	0.000	1.054	0.000	0.01
L63	4.58-0.00	C	0.000	0.000	0.720	0.000	0.00
		A	0.000	0.000	7.638	0.000	0.00
		B	0.000	0.000	9.125	0.000	0.01
		C	0.000	0.000	10.934	0.000	0.01

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation	Face or Leg	Ice Thickness	A _R	A _F	C _A A _A In Face	C _A A _A Out Face	Weight
n	ft		in	ft ²	ft ²	ft ²	ft ²	K
L1	191.67-186.67	A	1.518	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	1.706	0.000	0.02
L2	186.67-181.57	A	1.514	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	1.736	0.000	0.04
L3	181.57-176.57	A	1.510	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	1.697	0.000	0.05
L4	176.57-171.57	A	1.506	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	1.693	0.000	0.05
L5	171.57-166.57	A	1.501	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	3.796	0.000	0.09
L6	166.57-161.57	A	1.497	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	4.056	0.000	0.10
L7	161.57-156.57	A	1.492	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	13.077	0.000	0.18
		C		0.000	0.000	4.047	0.000	0.10
L8	156.57-151.57	A	1.487	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	19.035	0.000	0.26
		C		0.000	0.000	4.037	0.000	0.10
L9	151.57-146.57	A	1.483	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	19.024	0.000	0.29
		C		0.000	0.000	4.028	0.000	0.11
L10	146.57-141.57	A	1.477	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	19.012	0.000	0.30
		C		0.000	0.000	4.017	0.000	0.12
L11	141.57-141.42	A	1.475	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.570	0.000	0.01
		C		0.000	0.000	0.120	0.000	0.00
L12	141.42-136.42	A	1.472	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	19.000	0.000	0.30
		C		0.000	0.000	4.007	0.000	0.11
L13	136.42-131.42	A	1.467	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	18.988	0.000	0.30
		C		0.000	0.000	3.996	0.000	0.11
L14	131.42-126.42	A	1.461	0.000	0.000	0.510	0.000	0.02
		B		0.000	0.000	19.485	0.000	0.31
		C		0.000	0.000	4.495	0.000	0.13
L15	126.42-121.42	A	1.455	0.000	0.000	3.327	0.000	0.26
		B		0.000	0.000	22.290	0.000	0.55
		C		0.000	0.000	7.300	0.000	0.37
L16	121.42-121.17	A	1.452	0.000	0.000	0.155	0.000	0.01
		B		0.000	0.000	1.103	0.000	0.02
		C		0.000	0.000	0.353	0.000	0.01
L17	121.17-116.17	A	1.449	0.000	0.000	2.176	0.000	0.08
		B		0.000	0.000	21.124	0.000	0.37

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
L18	116.17-111.17	C		0.000	0.000	6.136	0.000	0.19
		A	1.443	0.000	0.000	1.028	0.000	0.01
		B		0.000	0.000	18.934	0.000	0.29
		C		0.000	0.000	3.948	0.000	0.11
L19	111.17-110.04	A	1.439	0.000	0.000	3.081	0.000	0.03
		B		0.000	0.000	4.258	0.000	0.07
		C		0.000	0.000	0.887	0.000	0.03
L20	110.04-109.79	A	1.438	0.000	0.000	0.685	0.000	0.01
		B		0.000	0.000	0.946	0.000	0.01
		C		0.000	0.000	0.197	0.000	0.01
L21	109.79-105.08	A	1.435	0.000	0.000	15.362	0.000	0.19
		B		0.000	0.000	20.286	0.000	0.34
		C		0.000	0.000	6.173	0.000	0.17
L22	105.08-104.83	A	1.431	0.000	0.000	1.030	0.000	0.02
		B		0.000	0.000	1.291	0.000	0.02
		C		0.000	0.000	0.542	0.000	0.01
L23	104.83-100.92	A	1.429	0.000	0.000	15.424	0.000	0.47
		B		0.000	0.000	21.225	0.000	0.61
		C		0.000	0.000	9.490	0.000	0.47
L24	100.92-100.67	A	1.426	0.000	0.000	0.329	0.000	0.01
		B		0.000	0.000	1.274	0.000	0.03
		C		0.000	0.000	0.525	0.000	0.02
L25	100.67-95.83	A	1.422	0.000	0.000	4.946	0.000	0.14
		B		0.000	0.000	23.207	0.000	0.42
		C		0.000	0.000	8.723	0.000	0.24
L26	95.83-95.58	A	1.418	0.000	0.000	0.258	0.000	0.00
		B		0.000	0.000	1.202	0.000	0.02
		C		0.000	0.000	0.453	0.000	0.01
L27	95.58-90.58	A	1.414	0.000	0.000	5.924	0.000	0.05
		B		0.000	0.000	24.794	0.000	0.34
		C		0.000	0.000	9.815	0.000	0.16
L28	90.58-89.92	A	1.410	0.000	0.000	1.293	0.000	0.01
		B		0.000	0.000	3.806	0.000	0.05
		C		0.000	0.000	1.811	0.000	0.03
L29	89.92-89.67	A	1.409	0.000	0.000	0.561	0.000	0.01
		B		0.000	0.000	1.504	0.000	0.02
		C		0.000	0.000	0.755	0.000	0.01
L30	89.67-84.67	A	1.405	0.000	0.000	14.273	0.000	0.37
		B		0.000	0.000	33.122	0.000	0.66
		C		0.000	0.000	18.146	0.000	0.48
L31	84.67-80.83	A	1.398	0.000	0.000	11.514	0.000	0.58
		B		0.000	0.000	25.955	0.000	0.80
		C		0.000	0.000	14.472	0.000	0.67
L32	80.83-80.33	A	1.394	0.000	0.000	0.796	0.000	0.05
		B		0.000	0.000	2.679	0.000	0.08
		C		0.000	0.000	1.181	0.000	0.07
L33	80.33-80.08	A	1.393	0.000	0.000	0.507	0.000	0.02
		B		0.000	0.000	1.448	0.000	0.03
		C		0.000	0.000	0.700	0.000	0.02
L34	80.08-75.08	A	1.389	0.000	0.000	10.839	0.000	0.23
		B		0.000	0.000	29.652	0.000	0.52
		C		0.000	0.000	14.679	0.000	0.34
L35	75.08-70.08	A	1.380	0.000	0.000	14.775	0.000	0.39
		B		0.000	0.000	34.399	0.000	0.68
		C		0.000	0.000	18.597	0.000	0.50
L36	70.08-69.50	A	1.374	0.000	0.000	2.594	0.000	0.07
		B		0.000	0.000	5.312	0.000	0.11
		C		0.000	0.000	3.038	0.000	0.08
L37	69.50-69.25	A	1.373	0.000	0.000	1.112	0.000	0.03
		B		0.000	0.000	2.278	0.000	0.05
		C		0.000	0.000	1.303	0.000	0.03
L38	69.25-64.25	A	1.368	0.000	0.000	23.445	0.000	1.36
		B		0.000	0.000	47.415	0.000	1.72
		C		0.000	0.000	27.244	0.000	1.47
L39	64.25-60.58	A	1.359	0.000	0.000	18.035	0.000	1.13
		B		0.000	0.000	37.305	0.000	1.51
		C		0.000	0.000	20.807	0.000	1.21
L40	60.58-60.33	A	1.355	0.000	0.000	0.678	0.000	0.03
		B		0.000	0.000	1.789	0.000	0.05

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
L41	60.33-55.33	C	1.349	0.000	0.000	0.867	0.000	0.04
		A		0.000	0.000	19.007	0.000	0.60
		B		0.000	0.000	39.353	0.000	0.94
L42	55.33-52.17	C	1.339	0.000	0.000	22.766	0.000	0.70
		A		0.000	0.000	4.463	0.000	0.04
		B		0.000	0.000	16.304	0.000	0.22
L43	52.17-51.92	C	1.334	0.000	0.000	6.831	0.000	0.11
		A		0.000	0.000	0.337	0.000	0.00
		B		0.000	0.000	1.272	0.000	0.02
L44	51.92-46.92	C	1.328	0.000	0.000	0.524	0.000	0.01
		A		0.000	0.000	14.294	0.000	0.20
		B		0.000	0.000	34.476	0.000	0.53
L45	46.92-41.92	C	1.313	0.000	0.000	21.749	0.000	0.34
		A		0.000	0.000	27.227	0.000	0.54
		B		0.000	0.000	48.012	0.000	0.89
L46	41.92-40.23	C	1.303	0.000	0.000	36.659	0.000	0.70
		A		0.000	0.000	8.203	0.000	0.17
		B		0.000	0.000	15.044	0.000	0.28
L47	40.23-39.98	C	1.300	0.000	0.000	11.371	0.000	0.22
		A		0.000	0.000	0.917	0.000	0.02
		B		0.000	0.000	1.847	0.000	0.04
L48	39.98-34.98	C	1.291	0.000	0.000	1.387	0.000	0.03
		A		0.000	0.000	21.816	0.000	0.45
		B		0.000	0.000	40.409	0.000	0.73
L49	34.98-29.98	C	1.273	0.000	0.000	28.689	0.000	0.58
		A		0.000	0.000	11.705	0.000	0.21
		B		0.000	0.000	30.258	0.000	0.49
L50	29.98-28.00	C	1.259	0.000	0.000	15.333	0.000	0.31
		A		0.000	0.000	4.749	0.000	0.04
		B		0.000	0.000	12.094	0.000	0.15
L51	28.00-27.75	C	1.254	0.000	0.000	8.435	0.000	0.10
		A		0.000	0.000	0.598	0.000	0.00
		B		0.000	0.000	1.524	0.000	0.02
L52	27.75-22.75	C	1.241	0.000	0.000	1.062	0.000	0.01
		A		0.000	0.000	23.807	0.000	0.45
		B		0.000	0.000	42.288	0.000	0.72
L53	22.75-20.08	C	1.221	0.000	0.000	33.059	0.000	0.59
		A		0.000	0.000	12.175	0.000	0.24
		B		0.000	0.000	22.008	0.000	0.38
L54	20.08-19.83	C	1.212	0.000	0.000	17.082	0.000	0.32
		A		0.000	0.000	0.907	0.000	0.02
		B		0.000	0.000	1.828	0.000	0.03
L55	19.83-17.00	C	1.203	0.000	0.000	1.366	0.000	0.03
		A		0.000	0.000	12.754	0.000	0.25
		B		0.000	0.000	23.177	0.000	0.40
L56	17.00-16.75	C	1.192	0.000	0.000	20.423	0.000	0.35
		A		0.000	0.000	0.931	0.000	0.02
		B		0.000	0.000	1.850	0.000	0.03
L57	16.75-11.65	C	1.172	0.000	0.000	1.413	0.000	0.03
		A		0.000	0.000	16.424	0.000	0.34
		B		0.000	0.000	35.116	0.000	0.61
L58	11.65-11.42	C	1.148	0.000	0.000	27.464	0.000	0.50
		A		0.000	0.000	0.286	0.000	0.00
		B		0.000	0.000	1.138	0.000	0.01
L59	11.42-9.40	C	1.136	0.000	0.000	0.924	0.000	0.01
		A		0.000	0.000	3.755	0.000	0.03
		B		0.000	0.000	11.129	0.000	0.13
L60	9.40-9.15	C	1.123	0.000	0.000	7.993	0.000	0.09
		A		0.000	0.000	0.521	0.000	0.00
		B		0.000	0.000	1.432	0.000	0.02
L61	9.15-4.83	C	1.092	0.000	0.000	0.986	0.000	0.01
		A		0.000	0.000	8.952	0.000	0.06
		B		0.000	0.000	24.604	0.000	0.28
L62	4.83-4.58	C	1.049	0.000	0.000	16.886	0.000	0.17
		A		0.000	0.000	0.516	0.000	0.00
		B		0.000	0.000	1.418	0.000	0.02
L63	4.58-0.00	C	0.976	0.000	0.000	0.969	0.000	0.01
		A		0.000	0.000	9.355	0.000	0.05
		B		0.000	0.000	11.440	0.000	0.08

Tower Section	Tower Elevation	Face or Leg	Ice Thickness	A _R	A _F	C _A A _A In Face	C _A A _A Out Face	Weight
n	ft	C	in	ft ²	ft ²	ft ²	ft ²	K
				0.000	0.000	13.947	0.000	0.10

Feed Line Center of Pressure

Section	Elevation	CP _X	CP _Z	CP _X	CP _Z
	ft	in	in	Ice in	Ice in
L1	191.67-186.67	-0.0038	0.3675	-0.0134	1.2820
L2	186.67-181.57	-0.0039	0.3693	-0.0143	1.3629
L3	181.57-176.57	-0.0039	0.3693	-0.0142	1.3603
L4	176.57-171.57	-0.0039	0.3693	-0.0142	1.3576
L5	171.57-166.57	-1.1639	1.1713	-1.2812	2.1116
L6	166.57-161.57	-1.2939	1.2611	-1.4197	2.1920
L7	161.57-156.57	3.1756	-5.5327	1.8712	-3.2621
L8	156.57-151.57	3.9030	-6.6382	2.5367	-4.3646
L9	151.57-146.57	3.9030	-6.6382	2.5385	-4.3673
L10	146.57-141.57	3.9030	-6.6382	2.5404	-4.3701
L11	141.57-141.42	3.9030	-6.6382	2.5414	-4.3716
L12	141.42-136.42	4.9549	-8.4259	3.2257	-5.5371
L13	136.42-131.42	4.9549	-8.4259	3.2279	-5.5403
L14	131.42-126.42	4.8115	-7.9958	3.1918	-5.3542
L15	126.42-121.42	4.2392	-6.2429	3.0282	-4.4958
L16	121.42-121.17	4.2900	-6.4327	3.0331	-4.5594
L17	121.17-116.17	4.8706	-7.5310	3.3799	-5.2706
L18	116.17-111.17	4.5623	-8.2822	3.0455	-5.5527
L19	111.17-110.04	-2.3621	-0.9290	-1.4761	-0.9801
L20	110.04-109.79	-2.3621	-0.9290	-1.4759	-0.9804
L21	109.79-105.08	-2.0402	-0.6728	-1.3288	-0.7795
L22	105.08-104.83	-1.3683	-0.3448	-1.1292	-0.5551
L23	104.83-100.92	-0.8067	-0.8087	-0.6143	-0.9694
L24	100.92-100.67	2.7664	-4.5723	2.6704	-4.4423
L25	100.67-95.83	3.9271	-6.5580	2.8715	-4.8326
L26	95.83-95.58	4.0131	-6.8237	2.8954	-4.9599
L27	95.58-90.58	3.8197	-6.4949	2.8011	-4.7980
L28	90.58-89.92	2.4584	-4.1801	2.3996	-4.1099
L29	89.92-89.67	2.0856	-4.0777	2.0675	-4.0239
L30	89.67-84.67	1.4530	-3.9067	1.4925	-3.8785
L31	84.67-80.83	1.3820	-3.8037	1.4216	-3.7810
L32	80.83-80.33	1.9820	-5.2697	2.0353	-5.2729
L33	80.33-80.08	2.1093	-4.8564	2.1784	-4.8746
L34	80.08-75.08	2.8503	-4.6739	2.8891	-4.6870
L35	75.08-70.08	3.0897	-3.9629	3.1088	-4.0538
L36	70.08-69.50	0.8357	-2.7542	0.9125	-2.8748
L37	69.50-69.25	0.8357	-2.7542	0.9126	-2.8750
L38	69.25-64.25	0.9253	-2.6558	1.0284	-2.7295
L39	64.25-60.58	0.2248	-2.3332	0.3221	-2.3381
L40	60.58-60.33	1.0273	-3.8783	1.0218	-3.9949
L41	60.33-55.33	1.9744	-3.3663	1.9686	-3.4962
L42	55.33-52.17	3.8149	-6.1348	2.9158	-4.7319
L43	52.17-51.92	3.8186	-6.2031	2.9094	-4.7634
L44	51.92-46.92	3.6909	-4.9288	3.8628	-4.6619
L45	46.92-41.92	3.6832	-4.6820	3.8696	-4.4241
L46	41.92-40.23	3.8940	-5.1199	4.0499	-4.9102
L47	40.23-39.98	4.2855	-6.2521	4.2948	-6.3346
L48	39.98-34.98	3.4371	-5.1155	3.4487	-5.1900
L49	34.98-29.98	3.0582	-4.9747	3.1033	-5.0862
L50	29.98-28.00	-0.7101	-6.2260	-0.3710	-6.2437
L51	28.00-27.75	-0.7101	-6.2260	-0.3702	-6.2457
L52	27.75-22.75	-0.6296	-3.8993	-0.3881	-4.0387
L53	22.75-20.08	-0.6496	-3.9539	-0.4009	-4.1084
L54	20.08-19.83	-0.7298	-4.4415	-0.4503	-4.6286
L55	19.83-17.00	0.1944	-4.3158	0.4642	-4.4834
L56	17.00-16.75	3.0614	-3.3591	3.2074	-3.6108
L57	16.75-11.65	2.9621	-3.5199	3.0921	-3.7605
L58	11.65-11.42	3.1955	-4.9534	3.2473	-5.0908
L59	11.42-9.40	3.8433	-6.8672	3.9145	-7.0594

Section	Elevation	CP _x	CP _z	CP _x Ice	CP _z Ice
	ft	in	in	in	in
L60	9.40-9.15	4.0595	-7.5056	4.1384	-7.7179
L61	9.15-4.83	4.0595	-7.5056	4.1458	-7.7309
L62	4.83-4.58	4.0595	-7.5056	4.1558	-7.7487
L63	4.58-0.00	3.1775	-5.1112	3.1609	-5.4157

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

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L1	47	Safety Line 3/8	186.67 - 191.67	1.0000	1.0000
L2	47	Safety Line 3/8	181.57 - 186.67	1.0000	1.0000
L3	47	Safety Line 3/8	176.57 - 181.57	1.0000	1.0000
L4	47	Safety Line 3/8	171.57 - 176.57	1.0000	1.0000
L5	8	CU12PSM6P4XXX(1-3/4)	166.57 - 171.00	1.0000	1.0000
L5	47	Safety Line 3/8	166.57 - 171.57	1.0000	1.0000
L6	8	CU12PSM6P4XXX(1-3/4)	161.57 - 166.57	1.0000	1.0000
L6	47	Safety Line 3/8	161.57 - 166.57	1.0000	1.0000
L7	8	CU12PSM6P4XXX(1-3/4)	156.57 - 161.57	1.0000	1.0000
L7	11	AL7-50(1-5/8)	156.57 - 160.00	1.0000	1.0000
L7	13	HB158-U12S24-XXX-LI(1-5/8)	156.57 - 160.00	1.0000	1.0000
L7	47	Safety Line 3/8	156.57 - 161.57	1.0000	1.0000
L8	8	CU12PSM6P4XXX(1-3/4)	151.57 - 156.57	1.0000	1.0000
L8	11	AL7-50(1-5/8)	151.57 - 156.57	1.0000	1.0000
L8	13	HB158-U12S24-XXX-LI(1-5/8)	151.57 - 156.57	1.0000	1.0000
L8	47	Safety Line 3/8	151.57 - 156.57	1.0000	1.0000
L9	8	CU12PSM6P4XXX(1-3/4)	146.57 - 151.57	1.0000	1.0000
L9	11	AL7-50(1-5/8)	146.57 - 151.57	1.0000	1.0000
L9	13	HB158-U12S24-XXX-LI(1-5/8)	146.57 - 151.57	1.0000	1.0000
L9	47	Safety Line 3/8	146.57 - 151.57	1.0000	1.0000
L10	8	CU12PSM6P4XXX(1-3/4)	141.57 - 146.57	1.0000	1.0000
L10	11	AL7-50(1-5/8)	141.57 - 146.57	1.0000	1.0000
L10	13	HB158-U12S24-XXX-LI(1-5/8)	141.57 - 146.57	1.0000	1.0000
L10	47	Safety Line 3/8	141.57 - 146.57	1.0000	1.0000
L11	8	CU12PSM6P4XXX(1-3/4)	141.42 - 141.57	1.0000	1.0000
L11	11	AL7-50(1-5/8)	141.42 - 141.57	1.0000	1.0000
L11	13	HB158-U12S24-XXX-LI(1-5/8)	141.42 - 141.57	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L11	47	Safety Line 3/8	141.42 - 141.57	1.0000	1.0000
L12	8	CU12PSM6P4XXX(1-3/4)	136.42 - 141.42	1.0000	1.0000
L12	11	AL7-50(1-5/8)	136.42 - 141.42	1.0000	1.0000
L12	13	HB158-U12S24-XXX-LI(1-5/8)	136.42 - 141.42	1.0000	1.0000
L12	47	Safety Line 3/8	136.42 - 141.42	1.0000	1.0000
L13	8	CU12PSM6P4XXX(1-3/4)	131.42 - 136.42	1.0000	1.0000
L13	11	AL7-50(1-5/8)	131.42 - 136.42	1.0000	1.0000
L13	13	HB158-U12S24-XXX-LI(1-5/8)	131.42 - 136.42	1.0000	1.0000
L13	47	Safety Line 3/8	131.42 - 136.42	1.0000	1.0000
L14	8	CU12PSM6P4XXX(1-3/4)	126.42 - 131.42	1.0000	1.0000
L14	11	AL7-50(1-5/8)	126.42 - 131.42	1.0000	1.0000
L14	13	HB158-U12S24-XXX-LI(1-5/8)	126.42 - 131.42	1.0000	1.0000
L14	47	Safety Line 3/8	126.42 - 131.42	1.0000	1.0000
L14	200	CCI 4.5" x 1" Plate	126.42 - 127.17	1.0000	1.0000
L14	201	CCI 4.5" x 1" Plate	126.42 - 127.17	1.0000	1.0000
L14	202	CCI 4.5" x 1" Plate	126.42 - 127.17	1.0000	1.0000
L15	8	CU12PSM6P4XXX(1-3/4)	121.42 - 126.42	1.0000	1.0000
L15	11	AL7-50(1-5/8)	121.42 - 126.42	1.0000	1.0000
L15	13	HB158-U12S24-XXX-LI(1-5/8)	121.42 - 126.42	1.0000	1.0000
L15	47	Safety Line 3/8	121.42 - 126.42	1.0000	1.0000
L15	192	CCI 4.5" x 1" Plate	121.42 - 121.67	1.0000	1.0000
L15	193	CCI 4.5" x 1" Plate	121.42 - 121.67	1.0000	1.0000
L15	194	CCI 4.5" x 1" Plate	121.42 - 121.67	1.0000	1.0000
L15	196	CCI 4.5" x 4" Plate	121.67 - 124.42	1.0000	1.0000
L15	197	CCI 4.5" x 4" Plate	121.67 - 124.42	1.0000	1.0000
L15	198	CCI 4.5" x 4" Plate	121.67 - 124.42	1.0000	1.0000
L15	200	CCI 4.5" x 1" Plate	124.42 - 126.42	1.0000	1.0000
L15	201	CCI 4.5" x 1" Plate	124.42 - 126.42	1.0000	1.0000
L15	202	CCI 4.5" x 1" Plate	124.42 - 126.42	1.0000	1.0000
L16	8	CU12PSM6P4XXX(1-3/4)	121.17 - 121.42	1.0000	1.0000
L16	11	AL7-50(1-5/8)	121.17 - 121.42	1.0000	1.0000
L16	13	HB158-U12S24-XXX-LI(1-5/8)	121.17 - 121.42	1.0000	1.0000
L16	47	Safety Line 3/8	121.17 - 121.42	1.0000	1.0000
L16	192	CCI 4.5" x 1" Plate	121.17 - 121.42	1.0000	1.0000
L16	193	CCI 4.5" x 1" Plate	121.17 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L16	194	CCI 4.5" x 1" Plate	121.42 121.17 - 121.42	1.0000	1.0000
L17	8	CU12PSM6P4XXX(1-3/4)	116.17 - 121.17	1.0000	1.0000
L17	11	AL7-50(1-5/8)	116.17 - 121.17	1.0000	1.0000
L17	13	HB158-U12S24-XXX-LI(1-5/8)	116.17 - 121.17	1.0000	1.0000
L17	47	Safety Line 3/8	116.17 - 121.17	1.0000	1.0000
L17	188	CCI 4.5" x 1" Plate	117.92 - 120.67	1.0000	1.0000
L17	189	CCI 4.5" x 1" Plate	117.92 - 120.67	1.0000	1.0000
L17	190	CCI 4.5" x 1" Plate	117.92 - 120.67	1.0000	1.0000
L17	192	CCI 4.5" x 1" Plate	120.67 - 121.17	1.0000	1.0000
L17	193	CCI 4.5" x 1" Plate	120.67 - 121.17	1.0000	1.0000
L17	194	CCI 4.5" x 1" Plate	120.67 - 121.17	1.0000	1.0000
L18	8	CU12PSM6P4XXX(1-3/4)	111.17 - 116.17	1.0000	1.0000
L18	11	AL7-50(1-5/8)	111.17 - 116.17	1.0000	1.0000
L18	13	HB158-U12S24-XXX-LI(1-5/8)	111.17 - 116.17	1.0000	1.0000
L18	47	Safety Line 3/8	111.17 - 116.17	1.0000	1.0000
L18	105	CCI 4.5" x 1" Plate	111.17 - 111.54	1.0000	1.0000
L18	106	CCI 4.5" x 1" Plate	111.17 - 111.54	1.0000	1.0000
L18	107	CCI 4.5" x 1" Plate	111.17 - 111.54	1.0000	1.0000
L19	8	CU12PSM6P4XXX(1-3/4)	110.04 - 111.17	1.0000	1.0000
L19	11	AL7-50(1-5/8)	110.04 - 111.17	1.0000	1.0000
L19	13	HB158-U12S24-XXX-LI(1-5/8)	110.04 - 111.17	1.0000	1.0000
L19	47	Safety Line 3/8	110.04 - 111.17	1.0000	1.0000
L19	105	CCI 4.5" x 1" Plate	110.04 - 111.17	1.0000	1.0000
L19	106	CCI 4.5" x 1" Plate	110.04 - 111.17	1.0000	1.0000
L19	107	CCI 4.5" x 1" Plate	110.04 - 111.17	1.0000	1.0000
L20	8	CU12PSM6P4XXX(1-3/4)	109.79 - 110.04	1.0000	1.0000
L20	11	AL7-50(1-5/8)	109.79 - 110.04	1.0000	1.0000
L20	13	HB158-U12S24-XXX-LI(1-5/8)	109.79 - 110.04	1.0000	1.0000
L20	47	Safety Line 3/8	109.79 - 110.04	1.0000	1.0000
L20	105	CCI 4.5" x 1" Plate	109.79 - 110.04	1.0000	1.0000
L20	106	CCI 4.5" x 1" Plate	109.79 - 110.04	1.0000	1.0000
L20	107	CCI 4.5" x 1" Plate	109.79 - 110.04	1.0000	1.0000
L21	8	CU12PSM6P4XXX(1-3/4)	105.08 - 109.79	1.0000	1.0000
L21	11	AL7-50(1-5/8)	105.08 - 109.79	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L21	13	HB158-U12S24-XXX-LI(1-5/8)	105.08 - 109.79	1.0000	1.0000
L21	47	Safety Line 3/8	105.08 - 109.79	1.0000	1.0000
L21	67	CCI 4" x 0.75" Plate	105.08 - 106.58	1.0000	1.0000
L21	68	CCI 4" x 0.75" Plate	105.08 - 106.58	1.0000	1.0000
L21	69	CCI 4" x 0.75" Plate	105.08 - 106.58	1.0000	1.0000
L21	105	CCI 4.5" x 1" Plate	105.08 - 109.79	1.0000	1.0000
L21	106	CCI 4.5" x 1" Plate	105.08 - 109.79	1.0000	1.0000
L21	107	CCI 4.5" x 1" Plate	105.08 - 109.79	1.0000	1.0000
L21	184	CCI 4.5" x 1" Plate	105.08 - 107.17	1.0000	1.0000
L21	185	CCI 4.5" x 1" Plate	105.08 - 107.17	1.0000	1.0000
L21	186	CCI 4.5" x 1" Plate	105.08 - 107.17	1.0000	1.0000
L22	8	CU12PSM6P4XXX(1-3/4)	104.83 - 105.08	1.0000	1.0000
L22	11	AL7-50(1-5/8)	104.83 - 105.08	1.0000	1.0000
L22	13	HB158-U12S24-XXX-LI(1-5/8)	104.83 - 105.08	1.0000	1.0000
L22	47	Safety Line 3/8	104.83 - 105.08	1.0000	1.0000
L22	67	CCI 4" x 0.75" Plate	104.83 - 105.08	1.0000	1.0000
L22	68	CCI 4" x 0.75" Plate	104.83 - 105.08	1.0000	1.0000
L22	69	CCI 4" x 0.75" Plate	104.83 - 105.08	1.0000	1.0000
L22	105	CCI 4.5" x 1" Plate	104.83 - 105.08	1.0000	1.0000
L22	106	CCI 4.5" x 1" Plate	104.83 - 105.08	1.0000	1.0000
L22	107	CCI 4.5" x 1" Plate	104.83 - 105.08	1.0000	1.0000
L22	184	CCI 4.5" x 1" Plate	104.83 - 105.08	1.0000	1.0000
L22	185	CCI 4.5" x 1" Plate	104.83 - 105.08	1.0000	1.0000
L22	186	CCI 4.5" x 1" Plate	104.83 - 105.08	1.0000	1.0000
L23	8	CU12PSM6P4XXX(1-3/4)	100.92 - 104.83	1.0000	1.0000
L23	11	AL7-50(1-5/8)	100.92 - 104.83	1.0000	1.0000
L23	13	HB158-U12S24-XXX-LI(1-5/8)	100.92 - 104.83	1.0000	1.0000
L23	47	Safety Line 3/8	100.92 - 104.83	1.0000	1.0000
L23	67	CCI 4" x 0.75" Plate	101.58 - 104.83	1.0000	1.0000
L23	68	CCI 4" x 0.75" Plate	101.58 - 104.83	1.0000	1.0000
L23	69	CCI 4" x 0.75" Plate	101.58 - 104.83	1.0000	1.0000
L23	105	CCI 4.5" x 1" Plate	101.54 - 104.83	1.0000	1.0000
L23	106	CCI 4.5" x 1" Plate	101.54 - 104.83	1.0000	1.0000
L23	107	CCI 4.5" x 1" Plate	101.54 - 104.83	1.0000	1.0000
L23	176	CCI 4.5" x 1" Plate	100.92 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L23	177	CCI 4.5" x 1" Plate	101.42 100.92 - 101.42	1.0000	1.0000
L23	178	CCI 4.5" x 1" Plate	100.92 - 101.42	1.0000	1.0000
L23	180	CCI 4.5" x 4" Plate	101.42 - 104.42	1.0000	1.0000
L23	181	CCI 4.5" x 4" Plate	101.42 - 104.42	1.0000	1.0000
L23	182	CCI 4.5" x 4" Plate	101.42 - 104.42	1.0000	1.0000
L23	184	CCI 4.5" x 1" Plate	104.42 - 104.83	1.0000	1.0000
L23	185	CCI 4.5" x 1" Plate	104.42 - 104.83	1.0000	1.0000
L23	186	CCI 4.5" x 1" Plate	104.42 - 104.83	1.0000	1.0000
L23	222	CCI 4.5" x 1" Plate	100.92 - 101.79	1.0000	1.0000
L23	223	CCI 4.5" x 1" Plate	100.92 - 101.79	1.0000	1.0000
L23	224	CCI 4.5" x 1" Plate	100.92 - 101.79	1.0000	1.0000
L23	226	CCI 4.5" x 3" Plate	101.79 - 103.29	1.0000	1.0000
L23	227	CCI 4.5" x 3" Plate	101.79 - 103.29	1.0000	1.0000
L23	228	CCI 4.5" x 3" Plate	101.79 - 103.29	1.0000	1.0000
L24	8	CU12PSM6P4XXX(1-3/4)	100.67 - 100.92	1.0000	1.0000
L24	11	AL7-50(1-5/8)	100.67 - 100.92	1.0000	1.0000
L24	13	HB158-U12S24-XXX-LI(1-5/8)	100.67 - 100.92	1.0000	1.0000
L24	47	Safety Line 3/8	100.67 - 100.92	1.0000	1.0000
L24	176	CCI 4.5" x 1" Plate	100.67 - 100.92	1.0000	1.0000
L24	177	CCI 4.5" x 1" Plate	100.67 - 100.92	1.0000	1.0000
L24	178	CCI 4.5" x 1" Plate	100.67 - 100.92	1.0000	1.0000
L24	222	CCI 4.5" x 1" Plate	100.67 - 100.92	1.0000	1.0000
L24	223	CCI 4.5" x 1" Plate	100.67 - 100.92	1.0000	1.0000
L24	224	CCI 4.5" x 1" Plate	100.67 - 100.92	1.0000	1.0000
L25	8	CU12PSM6P4XXX(1-3/4)	95.83 - 100.67	1.0000	1.0000
L25	11	AL7-50(1-5/8)	95.83 - 100.67	1.0000	1.0000
L25	13	HB158-U12S24-XXX-LI(1-5/8)	95.83 - 100.67	1.0000	1.0000
L25	47	Safety Line 3/8	95.83 - 100.67	1.0000	1.0000
L25	101	CCI 4.5" x 1" Plate	95.83 - 97.33	1.0000	1.0000
L25	102	CCI 4.5" x 1" Plate	95.83 - 97.33	1.0000	1.0000
L25	103	CCI 4.5" x 1" Plate	95.83 - 97.33	1.0000	1.0000
L25	172	CCI 4.5" x 1" Plate	97.92 - 100.42	1.0000	1.0000
L25	173	CCI 4.5" x 1" Plate	97.92 - 100.42	1.0000	1.0000
L25	174	CCI 4.5" x 1" Plate	97.92 - 100.42	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L25	176	CCI 4.5" x 1" Plate	100.42 - 100.67	1.0000	1.0000
L25	177	CCI 4.5" x 1" Plate	100.42 - 100.67	1.0000	1.0000
L25	178	CCI 4.5" x 1" Plate	100.42 - 100.67	1.0000	1.0000
L25	222	CCI 4.5" x 1" Plate	98.42 - 100.67	1.0000	1.0000
L25	223	CCI 4.5" x 1" Plate	98.42 - 100.67	1.0000	1.0000
L25	224	CCI 4.5" x 1" Plate	98.42 - 100.67	1.0000	1.0000
L26	8	CU12PSM6P4XXX(1-3/4)	95.58 - 95.83	1.0000	1.0000
L26	11	AL7-50(1-5/8)	95.58 - 95.83	1.0000	1.0000
L26	13	HB158-U12S24-XXX-LI(1-5/8)	95.58 - 95.83	1.0000	1.0000
L26	47	Safety Line 3/8	95.58 - 95.83	1.0000	1.0000
L26	101	CCI 4.5" x 1" Plate	95.58 - 95.83	1.0000	1.0000
L26	102	CCI 4.5" x 1" Plate	95.58 - 95.83	1.0000	1.0000
L26	103	CCI 4.5" x 1" Plate	95.58 - 95.83	1.0000	1.0000
L27	8	CU12PSM6P4XXX(1-3/4)	90.58 - 95.58	1.0000	1.0000
L27	11	AL7-50(1-5/8)	90.58 - 95.58	1.0000	1.0000
L27	13	HB158-U12S24-XXX-LI(1-5/8)	90.58 - 95.58	1.0000	1.0000
L27	47	Safety Line 3/8	90.58 - 95.58	1.0000	1.0000
L27	101	CCI 4.5" x 1" Plate	90.58 - 95.58	1.0000	1.0000
L27	102	CCI 4.5" x 1" Plate	90.58 - 95.58	1.0000	1.0000
L27	103	CCI 4.5" x 1" Plate	90.58 - 95.58	1.0000	1.0000
L27	109	CCI 4.5" x 1" Plate	90.58 - 91.42	1.0000	1.0000
L27	110	CCI 4.5" x 1" Plate	90.58 - 91.42	1.0000	1.0000
L27	111	CCI 4.5" x 1" Plate	90.58 - 91.42	1.0000	1.0000
L28	8	CU12PSM6P4XXX(1-3/4)	89.92 - 90.58	1.0000	1.0000
L28	11	AL7-50(1-5/8)	89.92 - 90.58	1.0000	1.0000
L28	13	HB158-U12S24-XXX-LI(1-5/8)	89.92 - 90.58	1.0000	1.0000
L28	47	Safety Line 3/8	89.92 - 90.58	1.0000	1.0000
L28	101	CCI 4.5" x 1" Plate	89.92 - 90.58	1.0000	1.0000
L28	102	CCI 4.5" x 1" Plate	89.92 - 90.58	1.0000	1.0000
L28	103	CCI 4.5" x 1" Plate	89.92 - 90.58	1.0000	1.0000
L28	109	CCI 4.5" x 1" Plate	89.92 - 90.58	1.0000	1.0000
L28	110	CCI 4.5" x 1" Plate	89.92 - 90.58	1.0000	1.0000
L28	111	CCI 4.5" x 1" Plate	89.92 - 90.58	1.0000	1.0000
L29	8	CU12PSM6P4XXX(1-3/4)	89.67 - 89.92	1.0000	1.0000
L29	11	AL7-50(1-5/8)	89.67 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L29	13	HB158-U12S24-XXX-LI(1-5/8)	89.92	1.0000	1.0000
L29	47	Safety Line 3/8	89.67 - 89.92	1.0000	1.0000
L29	101	CCI 4.5" x 1" Plate	89.67 - 89.92	1.0000	1.0000
L29	102	CCI 4.5" x 1" Plate	89.67 - 89.92	1.0000	1.0000
L29	103	CCI 4.5" x 1" Plate	89.67 - 89.92	1.0000	1.0000
L29	109	CCI 4.5" x 1" Plate	89.67 - 89.92	1.0000	1.0000
L29	110	CCI 4.5" x 1" Plate	89.67 - 89.92	1.0000	1.0000
L29	111	CCI 4.5" x 1" Plate	89.67 - 89.92	1.0000	1.0000
L29	168	CCI 6.5" x 1.25" Plate	89.67 - 89.75	1.0000	1.0000
L29	169	CCI 6.5" x 1.25" Plate	89.67 - 89.75	1.0000	1.0000
L29	170	CCI 6.5" x 1.25" Plate	89.67 - 89.75	1.0000	1.0000
L30	8	CU12PSM6P4XXX(1-3/4)	84.67 - 89.67	1.0000	1.0000
L30	11	AL7-50(1-5/8)	84.67 - 89.67	1.0000	1.0000
L30	13	HB158-U12S24-XXX-LI(1-5/8)	84.67 - 89.67	1.0000	1.0000
L30	47	Safety Line 3/8	84.67 - 89.67	1.0000	1.0000
L30	101	CCI 4.5" x 1" Plate	84.67 - 89.67	1.0000	1.0000
L30	102	CCI 4.5" x 1" Plate	84.67 - 89.67	1.0000	1.0000
L30	103	CCI 4.5" x 1" Plate	84.67 - 89.67	1.0000	1.0000
L30	109	CCI 4.5" x 1" Plate	84.67 - 89.67	1.0000	1.0000
L30	110	CCI 4.5" x 1" Plate	84.67 - 89.67	1.0000	1.0000
L30	111	CCI 4.5" x 1" Plate	84.67 - 89.67	1.0000	1.0000
L30	164	CCI 6.5" x 4.25" Plate	84.67 - 85.83	1.0000	1.0000
L30	165	CCI 6.5" x 4.25" Plate	84.67 - 85.83	1.0000	1.0000
L30	166	CCI 6.5" x 4.25" Plate	84.67 - 85.83	1.0000	1.0000
L30	168	CCI 6.5" x 1.25" Plate	85.83 - 89.67	1.0000	1.0000
L30	169	CCI 6.5" x 1.25" Plate	85.83 - 89.67	1.0000	1.0000
L30	170	CCI 6.5" x 1.25" Plate	85.83 - 89.67	1.0000	1.0000
L31	8	CU12PSM6P4XXX(1-3/4)	80.83 - 84.67	1.0000	1.0000
L31	11	AL7-50(1-5/8)	80.83 - 84.67	1.0000	1.0000
L31	13	HB158-U12S24-XXX-LI(1-5/8)	80.83 - 84.67	1.0000	1.0000
L31	47	Safety Line 3/8	80.83 - 84.67	1.0000	1.0000
L31	101	CCI 4.5" x 1" Plate	81.33 - 84.67	1.0000	1.0000
L31	102	CCI 4.5" x 1" Plate	81.33 - 84.67	1.0000	1.0000
L31	103	CCI 4.5" x 1" Plate	81.33 - 84.67	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L31	109	CCI 4.5" x 1" Plate	81.42 - 84.67	1.0000	1.0000
L31	110	CCI 4.5" x 1" Plate	81.42 - 84.67	1.0000	1.0000
L31	111	CCI 4.5" x 1" Plate	81.42 - 84.67	1.0000	1.0000
L31	164	CCI 6.5" x 4.25" Plate	80.83 - 84.67	1.0000	1.0000
L31	165	CCI 6.5" x 4.25" Plate	80.83 - 84.67	1.0000	1.0000
L31	166	CCI 6.5" x 4.25" Plate	80.83 - 84.67	1.0000	1.0000
L31	214	CCI 4.5" x 1" Plate	80.83 - 81.71	1.0000	1.0000
L31	215	CCI 4.5" x 1" Plate	80.83 - 81.71	1.0000	1.0000
L31	216	CCI 4.5" x 1" Plate	80.83 - 81.71	1.0000	1.0000
L31	218	CCI 4.5" x 3" Plate	81.71 - 83.20	1.0000	1.0000
L31	219	CCI 4.5" x 3" Plate	81.71 - 83.20	1.0000	1.0000
L31	220	CCI 4.5" x 3" Plate	81.71 - 83.20	1.0000	1.0000
L32	8	CU12PSM6P4XXX(1-3/4)	80.33 - 80.83	1.0000	1.0000
L32	11	AL7-50(1-5/8)	80.33 - 80.83	1.0000	1.0000
L32	13	HB158-U12S24-XXX-LI(1-5/8)	80.33 - 80.83	1.0000	1.0000
L32	47	Safety Line 3/8	80.33 - 80.83	1.0000	1.0000
L32	160	CCI 6.5" x 1.25" Plate	80.33 - 80.50	1.0000	1.0000
L32	161	CCI 6.5" x 1.25" Plate	80.33 - 80.50	1.0000	1.0000
L32	162	CCI 6.5" x 1.25" Plate	80.33 - 80.50	1.0000	1.0000
L32	164	CCI 6.5" x 4.25" Plate	80.50 - 80.83	1.0000	1.0000
L32	165	CCI 6.5" x 4.25" Plate	80.50 - 80.83	1.0000	1.0000
L32	166	CCI 6.5" x 4.25" Plate	80.50 - 80.83	1.0000	1.0000
L32	214	CCI 4.5" x 1" Plate	80.33 - 80.83	1.0000	1.0000
L32	215	CCI 4.5" x 1" Plate	80.33 - 80.83	1.0000	1.0000
L32	216	CCI 4.5" x 1" Plate	80.33 - 80.83	1.0000	1.0000
L33	8	CU12PSM6P4XXX(1-3/4)	80.08 - 80.33	1.0000	1.0000
L33	11	AL7-50(1-5/8)	80.08 - 80.33	1.0000	1.0000
L33	13	HB158-U12S24-XXX-LI(1-5/8)	80.08 - 80.33	1.0000	1.0000
L33	47	Safety Line 3/8	80.08 - 80.33	1.0000	1.0000
L33	63	CCI 6" x 1" Plate	80.08 - 80.17	1.0000	1.0000
L33	64	CCI 6" x 1" Plate	80.08 - 80.17	1.0000	1.0000
L33	65	CCI 6" x 1" Plate	80.08 - 80.17	1.0000	1.0000
L33	156	CCI 6.5" x 1.25" Plate	80.08 - 80.33	1.0000	1.0000
L33	157	CCI 6.5" x 1.25" Plate	80.08 - 80.33	1.0000	1.0000
L33	158	CCI 6.5" x 1.25" Plate	80.08 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
			80.33		
L33	214	CCI 4.5" x 1" Plate	80.08 - 80.33	1.0000	1.0000
L33	215	CCI 4.5" x 1" Plate	80.08 - 80.33	1.0000	1.0000
L33	216	CCI 4.5" x 1" Plate	80.08 - 80.33	1.0000	1.0000
L34	8	CU12PSM6P4XXX(1-3/4)	75.08 - 80.08	1.0000	1.0000
L34	11	AL7-50(1-5/8)	75.08 - 80.08	1.0000	1.0000
L34	13	HB158-U12S24-XXX-LI(1-5/8)	75.08 - 80.08	1.0000	1.0000
L34	47	Safety Line 3/8	75.08 - 80.08	1.0000	1.0000
L34	63	CCI 6" x 1" Plate	75.08 - 80.08	1.0000	1.0000
L34	64	CCI 6" x 1" Plate	75.08 - 80.08	1.0000	1.0000
L34	65	CCI 6" x 1" Plate	75.08 - 80.08	1.0000	1.0000
L34	156	CCI 6.5" x 1.25" Plate	76.50 - 80.08	1.0000	1.0000
L34	157	CCI 6.5" x 1.25" Plate	76.50 - 80.08	1.0000	1.0000
L34	158	CCI 6.5" x 1.25" Plate	76.50 - 80.08	1.0000	1.0000
L34	214	CCI 4.5" x 1" Plate	78.33 - 80.08	1.0000	1.0000
L34	215	CCI 4.5" x 1" Plate	78.33 - 80.08	1.0000	1.0000
L34	216	CCI 4.5" x 1" Plate	78.33 - 80.08	1.0000	1.0000
L35	8	CU12PSM6P4XXX(1-3/4)	70.08 - 75.08	1.0000	1.0000
L35	11	AL7-50(1-5/8)	70.08 - 75.08	1.0000	1.0000
L35	13	HB158-U12S24-XXX-LI(1-5/8)	70.08 - 75.08	1.0000	1.0000
L35	47	Safety Line 3/8	70.08 - 75.08	1.0000	1.0000
L35	63	CCI 6" x 1" Plate	70.08 - 75.08	1.0000	1.0000
L35	64	CCI 6" x 1" Plate	70.08 - 75.08	1.0000	1.0000
L35	65	CCI 6" x 1" Plate	70.08 - 75.08	1.0000	1.0000
L35	96	CCI 4.5" x 1" Plate	70.08 - 71.00	1.0000	1.0000
L35	97	CCI 4.5" x 1" Plate	70.08 - 71.00	1.0000	1.0000
L35	98	CCI 4.5" x 1" Plate	70.08 - 71.00	1.0000	1.0000
L35	99	CCI 4.5" x 1" Plate	70.08 - 71.00	1.0000	1.0000
L35	149	CCI 8.5" x 1.25" Plate	70.08 - 73.42	1.0000	1.0000
L35	150	CCI 8.5" x 1.25" Plate	70.08 - 73.42	1.0000	1.0000
L35	151	CCI 8.5" x 1.25" Plate	70.08 - 73.42	1.0000	1.0000
L35	152	CCI 8.5" x 1.25" Plate	70.08 - 73.42	1.0000	1.0000
L35	153	CCI 8.5" x 1.25" Plate	70.08 - 73.42	1.0000	1.0000
L35	154	CCI 8.5" x 1.25" Plate	70.08 - 73.42	1.0000	1.0000
L36	8	CU12PSM6P4XXX(1-3/4)	69.50 - 70.08	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L36	11	AL7-50(1-5/8)	69.50 - 70.08	1.0000	1.0000
L36	13	HB158-U12S24-XXX-LI(1-5/8)	69.50 - 70.08	1.0000	1.0000
L36	47	Safety Line 3/8	69.50 - 70.08	1.0000	1.0000
L36	63	CCI 6" x 1" Plate	69.50 - 70.08	1.0000	1.0000
L36	64	CCI 6" x 1" Plate	69.50 - 70.08	1.0000	1.0000
L36	65	CCI 6" x 1" Plate	69.50 - 70.08	1.0000	1.0000
L36	96	CCI 4.5" x 1" Plate	69.50 - 70.08	1.0000	1.0000
L36	97	CCI 4.5" x 1" Plate	69.50 - 70.08	1.0000	1.0000
L36	98	CCI 4.5" x 1" Plate	69.50 - 70.08	1.0000	1.0000
L36	99	CCI 4.5" x 1" Plate	69.50 - 70.08	1.0000	1.0000
L36	149	CCI 8.5" x 1.25" Plate	69.50 - 70.08	1.0000	1.0000
L36	150	CCI 8.5" x 1.25" Plate	69.50 - 70.08	1.0000	1.0000
L36	151	CCI 8.5" x 1.25" Plate	69.50 - 70.08	1.0000	1.0000
L36	152	CCI 8.5" x 1.25" Plate	69.50 - 70.08	1.0000	1.0000
L36	153	CCI 8.5" x 1.25" Plate	69.50 - 70.08	1.0000	1.0000
L36	154	CCI 8.5" x 1.25" Plate	69.50 - 70.08	1.0000	1.0000
L37	8	CU12PSM6P4XXX(1-3/4)	69.25 - 69.50	1.0000	1.0000
L37	11	AL7-50(1-5/8)	69.25 - 69.50	1.0000	1.0000
L37	13	HB158-U12S24-XXX-LI(1-5/8)	69.25 - 69.50	1.0000	1.0000
L37	47	Safety Line 3/8	69.25 - 69.50	1.0000	1.0000
L37	63	CCI 6" x 1" Plate	69.25 - 69.50	1.0000	1.0000
L37	64	CCI 6" x 1" Plate	69.25 - 69.50	1.0000	1.0000
L37	65	CCI 6" x 1" Plate	69.25 - 69.50	1.0000	1.0000
L37	96	CCI 4.5" x 1" Plate	69.25 - 69.50	1.0000	1.0000
L37	97	CCI 4.5" x 1" Plate	69.25 - 69.50	1.0000	1.0000
L37	98	CCI 4.5" x 1" Plate	69.25 - 69.50	1.0000	1.0000
L37	99	CCI 4.5" x 1" Plate	69.25 - 69.50	1.0000	1.0000
L37	149	CCI 8.5" x 1.25" Plate	69.25 - 69.50	1.0000	1.0000
L37	150	CCI 8.5" x 1.25" Plate	69.25 - 69.50	1.0000	1.0000
L37	151	CCI 8.5" x 1.25" Plate	69.25 - 69.50	1.0000	1.0000
L37	152	CCI 8.5" x 1.25" Plate	69.25 - 69.50	1.0000	1.0000
L37	153	CCI 8.5" x 1.25" Plate	69.25 - 69.50	1.0000	1.0000
L37	154	CCI 8.5" x 1.25" Plate	69.25 - 69.50	1.0000	1.0000
L38	8	CU12PSM6P4XXX(1-3/4)	64.25 - 69.25	1.0000	1.0000
L38	11	AL7-50(1-5/8)	64.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L38	13	HB158-U12S24-XXX-LI(1-5/8)	69.25 - 64.25	1.0000	1.0000
L38	47	Safety Line 3/8	69.25 - 64.25	1.0000	1.0000
L38	63	CCI 6" x 1" Plate	69.25 - 64.25	1.0000	1.0000
L38	64	CCI 6" x 1" Plate	69.25 - 64.25	1.0000	1.0000
L38	65	CCI 6" x 1" Plate	69.25 - 64.25	1.0000	1.0000
L38	76	1" x 2" Plate	69.25 - 64.25	1.0000	1.0000
L38	77	1" x 2" Plate	66.17 - 64.25	1.0000	1.0000
L38	78	1" x 2" Plate	66.17 - 64.25	1.0000	1.0000
L38	79	1" x 2" Plate	66.17 - 64.25	1.0000	1.0000
L38	96	CCI 4.5" x 1" Plate	66.17 - 64.25	1.0000	1.0000
L38	97	CCI 4.5" x 1" Plate	69.25 - 64.25	1.0000	1.0000
L38	98	CCI 4.5" x 1" Plate	69.25 - 64.25	1.0000	1.0000
L38	99	CCI 4.5" x 1" Plate	69.25 - 64.25	1.0000	1.0000
L38	142	CCI 8.5" x 4.25" Plate	69.25 - 64.25	1.0000	1.0000
L38	143	CCI 8.5" x 4.25" Plate	68.42 - 64.25	1.0000	1.0000
L38	144	CCI 8.5" x 4.25" Plate	68.42 - 64.25	1.0000	1.0000
L38	145	CCI 8.5" x 4.25" Plate	68.42 - 64.25	1.0000	1.0000
L38	146	CCI 8.5" x 4.25" Plate	68.42 - 64.25	1.0000	1.0000
L38	147	CCI 8.5" x 4.25" Plate	68.42 - 64.25	1.0000	1.0000
L38	149	CCI 8.5" x 1.25" Plate	68.42 - 69.25	1.0000	1.0000
L38	150	CCI 8.5" x 1.25" Plate	68.42 - 69.25	1.0000	1.0000
L38	151	CCI 8.5" x 1.25" Plate	68.42 - 69.25	1.0000	1.0000
L38	152	CCI 8.5" x 1.25" Plate	68.42 - 69.25	1.0000	1.0000
L38	153	CCI 8.5" x 1.25" Plate	68.42 - 69.25	1.0000	1.0000
L38	154	CCI 8.5" x 1.25" Plate	68.42 - 69.25	1.0000	1.0000
L39	8	CU12PSM6P4XXX(1-3/4)	60.58 - 64.25	1.0000	1.0000
L39	11	AL7-50(1-5/8)	60.58 - 64.25	1.0000	1.0000
L39	13	HB158-U12S24-XXX-LI(1-5/8)	60.58 - 64.25	1.0000	1.0000
L39	47	Safety Line 3/8	60.58 - 64.25	1.0000	1.0000
L39	63	CCI 6" x 1" Plate	61.17 - 64.25	1.0000	1.0000
L39	64	CCI 6" x 1" Plate	61.17 - 64.25	1.0000	1.0000
L39	65	CCI 6" x 1" Plate	61.17 - 64.25	1.0000	1.0000
L39	76	1" x 2" Plate	61.08 - 64.25	1.0000	1.0000
L39	77	1" x 2" Plate	61.08 - 64.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L39	78	1" x 2" Plate	61.08 - 64.25	1.0000	1.0000
L39	79	1" x 2" Plate	61.08 - 64.25	1.0000	1.0000
L39	96	CCI 4.5" x 1" Plate	61.00 - 64.25	1.0000	1.0000
L39	97	CCI 4.5" x 1" Plate	61.00 - 64.25	1.0000	1.0000
L39	98	CCI 4.5" x 1" Plate	61.00 - 64.25	1.0000	1.0000
L39	99	CCI 4.5" x 1" Plate	61.00 - 64.25	1.0000	1.0000
L39	135	CCI 8.5" x 1.25" Plate	60.58 - 61.08	1.0000	1.0000
L39	136	CCI 8.5" x 1.25" Plate	60.58 - 61.08	1.0000	1.0000
L39	137	CCI 8.5" x 1.25" Plate	60.58 - 61.08	1.0000	1.0000
L39	138	CCI 8.5" x 1.25" Plate	60.58 - 61.08	1.0000	1.0000
L39	139	CCI 8.5" x 1.25" Plate	60.58 - 61.08	1.0000	1.0000
L39	140	CCI 8.5" x 1.25" Plate	60.58 - 61.08	1.0000	1.0000
L39	142	CCI 8.5" x 4.25" Plate	61.08 - 64.25	1.0000	1.0000
L39	143	CCI 8.5" x 4.25" Plate	61.08 - 64.25	1.0000	1.0000
L39	144	CCI 8.5" x 4.25" Plate	61.08 - 64.25	1.0000	1.0000
L39	145	CCI 8.5" x 4.25" Plate	61.08 - 64.25	1.0000	1.0000
L39	146	CCI 8.5" x 4.25" Plate	61.08 - 64.25	1.0000	1.0000
L39	147	CCI 8.5" x 4.25" Plate	61.08 - 64.25	1.0000	1.0000
L39	204	CCI 4.5" x 1" Plate	60.58 - 61.46	1.0000	1.0000
L39	205	CCI 4.5" x 1" Plate	60.58 - 61.46	1.0000	1.0000
L39	206	CCI 4.5" x 1" Plate	60.58 - 61.46	1.0000	1.0000
L39	207	CCI 4.5" x 1" Plate	60.58 - 61.46	1.0000	1.0000
L39	209	CCI 4.5" x 3" Plate	61.55 - 62.96	1.0000	1.0000
L39	210	CCI 4.5" x 3" Plate	61.55 - 62.96	1.0000	1.0000
L39	211	CCI 4.5" x 3" Plate	61.55 - 62.96	1.0000	1.0000
L39	212	CCI 4.5" x 3" Plate	61.55 - 62.96	1.0000	1.0000
L40	8	CU12PSM6P4XXX(1-3/4)	60.33 - 60.58	1.0000	1.0000
L40	11	AL7-50(1-5/8)	60.33 - 60.58	1.0000	1.0000
L40	13	HB158-U12S24-XXX-LI(1-5/8)	60.33 - 60.58	1.0000	1.0000
L40	47	Safety Line 3/8	60.33 - 60.58	1.0000	1.0000
L40	135	CCI 8.5" x 1.25" Plate	60.33 - 60.58	1.0000	1.0000
L40	136	CCI 8.5" x 1.25" Plate	60.33 - 60.58	1.0000	1.0000
L40	137	CCI 8.5" x 1.25" Plate	60.33 - 60.58	1.0000	1.0000
L40	138	CCI 8.5" x 1.25" Plate	60.33 - 60.58	1.0000	1.0000
L40	139	CCI 8.5" x 1.25" Plate	60.33 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L40	140	CCI 8.5" x 1.25" Plate	60.58 60.33 - 60.58	1.0000	1.0000
L40	204	CCI 4.5" x 1" Plate	60.33 - 60.58	1.0000	1.0000
L40	205	CCI 4.5" x 1" Plate	60.33 - 60.58	1.0000	1.0000
L40	206	CCI 4.5" x 1" Plate	60.33 - 60.58	1.0000	1.0000
L40	207	CCI 4.5" x 1" Plate	60.33 - 60.58	1.0000	1.0000
L41	8	CU12PSM6P4XXX(1-3/4)	55.33 - 60.33	1.0000	1.0000
L41	11	AL7-50(1-5/8)	55.33 - 60.33	1.0000	1.0000
L41	13	HB158-U12S24-XXX-LI(1-5/8)	55.33 - 60.33	1.0000	1.0000
L41	47	Safety Line 3/8	55.33 - 60.33	1.0000	1.0000
L41	59	CCI 6.5" x 1.25" Plate	55.33 - 59.92	1.0000	1.0000
L41	60	CCI 6.5" x 1.25" Plate	55.33 - 59.92	1.0000	1.0000
L41	61	CCI 6.5" x 1.25" Plate	55.33 - 59.92	1.0000	1.0000
L41	128	CCI 8.5" x 1.25" Plate	55.33 - 60.08	1.0000	1.0000
L41	129	CCI 8.5" x 1.25" Plate	55.33 - 60.08	1.0000	1.0000
L41	130	CCI 8.5" x 1.25" Plate	55.33 - 60.08	1.0000	1.0000
L41	131	CCI 8.5" x 1.25" Plate	55.33 - 60.08	1.0000	1.0000
L41	132	CCI 8.5" x 1.25" Plate	55.33 - 60.08	1.0000	1.0000
L41	133	CCI 8.5" x 1.25" Plate	55.33 - 60.08	1.0000	1.0000
L41	135	CCI 8.5" x 1.25" Plate	60.08 - 60.33	1.0000	1.0000
L41	136	CCI 8.5" x 1.25" Plate	60.08 - 60.33	1.0000	1.0000
L41	137	CCI 8.5" x 1.25" Plate	60.08 - 60.33	1.0000	1.0000
L41	138	CCI 8.5" x 1.25" Plate	60.08 - 60.33	1.0000	1.0000
L41	139	CCI 8.5" x 1.25" Plate	60.08 - 60.33	1.0000	1.0000
L41	140	CCI 8.5" x 1.25" Plate	60.08 - 60.33	1.0000	1.0000
L41	204	CCI 4.5" x 1" Plate	58.00 - 60.33	1.0000	1.0000
L41	205	CCI 4.5" x 1" Plate	58.00 - 60.33	1.0000	1.0000
L41	206	CCI 4.5" x 1" Plate	58.00 - 60.33	1.0000	1.0000
L41	207	CCI 4.5" x 1" Plate	58.00 - 60.33	1.0000	1.0000
L42	8	CU12PSM6P4XXX(1-3/4)	52.17 - 55.33	1.0000	1.0000
L42	11	AL7-50(1-5/8)	52.17 - 55.33	1.0000	1.0000
L42	13	HB158-U12S24-XXX-LI(1-5/8)	52.17 - 55.33	1.0000	1.0000
L42	47	Safety Line 3/8	52.17 - 55.33	1.0000	1.0000
L42	59	CCI 6.5" x 1.25" Plate	52.17 - 55.33	1.0000	1.0000
L42	60	CCI 6.5" x 1.25" Plate	52.17 - 55.33	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L42	61	CCI 6.5" x 1.25" Plate	52.17 - 55.33	1.0000	1.0000
L42	128	CCI 8.5" x 1.25" Plate	55.25 - 55.33	1.0000	1.0000
L42	129	CCI 8.5" x 1.25" Plate	55.25 - 55.33	1.0000	1.0000
L42	130	CCI 8.5" x 1.25" Plate	55.25 - 55.33	1.0000	1.0000
L42	131	CCI 8.5" x 1.25" Plate	55.25 - 55.33	1.0000	1.0000
L42	132	CCI 8.5" x 1.25" Plate	55.25 - 55.33	1.0000	1.0000
L42	133	CCI 8.5" x 1.25" Plate	55.25 - 55.33	1.0000	1.0000
L43	8	CU12PSM6P4XXX(1-3/4)	51.92 - 52.17	1.0000	1.0000
L43	11	AL7-50(1-5/8)	51.92 - 52.17	1.0000	1.0000
L43	13	HB158-U12S24-XXX-LI(1-5/8)	51.92 - 52.17	1.0000	1.0000
L43	47	Safety Line 3/8	51.92 - 52.17	1.0000	1.0000
L43	59	CCI 6.5" x 1.25" Plate	51.92 - 52.17	1.0000	1.0000
L43	60	CCI 6.5" x 1.25" Plate	51.92 - 52.17	1.0000	1.0000
L43	61	CCI 6.5" x 1.25" Plate	51.92 - 52.17	1.0000	1.0000
L44	8	CU12PSM6P4XXX(1-3/4)	46.92 - 51.92	1.0000	1.0000
L44	11	AL7-50(1-5/8)	46.92 - 51.92	1.0000	1.0000
L44	13	HB158-U12S24-XXX-LI(1-5/8)	46.92 - 51.92	1.0000	1.0000
L44	47	Safety Line 3/8	46.92 - 51.92	1.0000	1.0000
L44	59	CCI 6.5" x 1.25" Plate	46.92 - 51.92	1.0000	1.0000
L44	60	CCI 6.5" x 1.25" Plate	46.92 - 51.92	1.0000	1.0000
L44	61	CCI 6.5" x 1.25" Plate	46.92 - 51.92	1.0000	1.0000
L44	71	1" x 2" Plate	46.92 - 50.42	1.0000	1.0000
L44	72	1" x 2" Plate	46.92 - 50.42	1.0000	1.0000
L44	73	1" x 2" Plate	46.92 - 50.42	1.0000	1.0000
L44	74	1" x 2" Plate	46.92 - 50.42	1.0000	1.0000
L44	91	CCI 6" x 1" Plate	46.92 - 50.17	1.0000	1.0000
L44	92	CCI 6" x 1" Plate	46.92 - 50.17	1.0000	1.0000
L44	93	CCI 6" x 1" Plate	46.92 - 50.17	1.0000	1.0000
L44	94	CCI 6" x 1" Plate	46.92 - 50.17	1.0000	1.0000
L44	121	CCI 6.5" x 1.25" Plate	46.92 - 47.83	1.0000	1.0000
L44	122	CCI 6.5" x 1.25" Plate	46.92 - 47.83	1.0000	1.0000
L44	123	CCI 6.5" x 1.25" Plate	46.92 - 47.83	1.0000	1.0000
L44	124	CCI 6.5" x 1.25" Plate	46.92 - 47.83	1.0000	1.0000
L44	125	CCI 6.5" x 1.25" Plate	46.92 - 47.83	1.0000	1.0000
L44	126	CCI 6.5" x 1.25" Plate	46.92 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
			47.83		
L45	8	CU12PSM6P4XXX(1-3/4)	41.92 - 46.92	1.0000	1.0000
L45	11	AL7-50(1-5/8)	41.92 - 46.92	1.0000	1.0000
L45	13	HB158-U12S24-XXX-LI(1-5/8)	41.92 - 46.92	1.0000	1.0000
L45	47	Safety Line 3/8	41.92 - 46.92	1.0000	1.0000
L45	59	CCI 6.5" x 1.25" Plate	41.92 - 46.92	1.0000	1.0000
L45	60	CCI 6.5" x 1.25" Plate	41.92 - 46.92	1.0000	1.0000
L45	61	CCI 6.5" x 1.25" Plate	41.92 - 46.92	1.0000	1.0000
L45	71	1" x 2" Plate	41.92 - 46.92	1.0000	1.0000
L45	72	1" x 2" Plate	41.92 - 46.92	1.0000	1.0000
L45	73	1" x 2" Plate	41.92 - 46.92	1.0000	1.0000
L45	74	1" x 2" Plate	41.92 - 46.92	1.0000	1.0000
L45	91	CCI 6" x 1" Plate	41.92 - 46.92	1.0000	1.0000
L45	92	CCI 6" x 1" Plate	41.92 - 46.92	1.0000	1.0000
L45	93	CCI 6" x 1" Plate	41.92 - 46.92	1.0000	1.0000
L45	94	CCI 6" x 1" Plate	41.92 - 46.92	1.0000	1.0000
L45	121	CCI 6.5" x 1.25" Plate	41.92 - 46.92	1.0000	1.0000
L45	122	CCI 6.5" x 1.25" Plate	41.92 - 46.92	1.0000	1.0000
L45	123	CCI 6.5" x 1.25" Plate	41.92 - 46.92	1.0000	1.0000
L45	124	CCI 6.5" x 1.25" Plate	41.92 - 46.92	1.0000	1.0000
L45	125	CCI 6.5" x 1.25" Plate	41.92 - 46.92	1.0000	1.0000
L45	126	CCI 6.5" x 1.25" Plate	41.92 - 46.92	1.0000	1.0000
L46	8	CU12PSM6P4XXX(1-3/4)	40.23 - 41.92	1.0000	1.0000
L46	11	AL7-50(1-5/8)	40.23 - 41.92	1.0000	1.0000
L46	13	HB158-U12S24-XXX-LI(1-5/8)	40.23 - 41.92	1.0000	1.0000
L46	47	Safety Line 3/8	40.23 - 41.92	1.0000	1.0000
L46	59	CCI 6.5" x 1.25" Plate	40.83 - 41.92	1.0000	1.0000
L46	60	CCI 6.5" x 1.25" Plate	40.83 - 41.92	1.0000	1.0000
L46	61	CCI 6.5" x 1.25" Plate	40.83 - 41.92	1.0000	1.0000
L46	71	1" x 2" Plate	40.58 - 41.92	1.0000	1.0000
L46	72	1" x 2" Plate	40.58 - 41.92	1.0000	1.0000
L46	73	1" x 2" Plate	40.58 - 41.92	1.0000	1.0000
L46	74	1" x 2" Plate	40.58 - 41.92	1.0000	1.0000
L46	91	CCI 6" x 1" Plate	40.23 - 41.92	1.0000	1.0000
L46	92	CCI 6" x 1" Plate	40.23 - 41.92	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L46	93	CCI 6" x 1" Plate	40.23 - 41.92	1.0000	1.0000
L46	94	CCI 6" x 1" Plate	40.23 - 41.92	1.0000	1.0000
L46	121	CCI 6.5" x 1.25" Plate	40.23 - 41.92	1.0000	1.0000
L46	122	CCI 6.5" x 1.25" Plate	40.23 - 41.92	1.0000	1.0000
L46	123	CCI 6.5" x 1.25" Plate	40.23 - 41.92	1.0000	1.0000
L46	124	CCI 6.5" x 1.25" Plate	40.23 - 41.92	1.0000	1.0000
L46	125	CCI 6.5" x 1.25" Plate	40.23 - 41.92	1.0000	1.0000
L46	126	CCI 6.5" x 1.25" Plate	40.23 - 41.92	1.0000	1.0000
L47	8	CU12PSM6P4XXX(1-3/4)	39.98 - 40.23	1.0000	1.0000
L47	11	AL7-50(1-5/8)	39.98 - 40.23	1.0000	1.0000
L47	13	HB158-U12S24-XXX-LI(1-5/8)	39.98 - 40.23	1.0000	1.0000
L47	47	Safety Line 3/8	39.98 - 40.23	1.0000	1.0000
L47	91	CCI 6" x 1" Plate	39.98 - 40.23	1.0000	1.0000
L47	92	CCI 6" x 1" Plate	39.98 - 40.23	1.0000	1.0000
L47	93	CCI 6" x 1" Plate	39.98 - 40.23	1.0000	1.0000
L47	94	CCI 6" x 1" Plate	39.98 - 40.23	1.0000	1.0000
L47	121	CCI 6.5" x 1.25" Plate	39.98 - 40.23	1.0000	1.0000
L47	122	CCI 6.5" x 1.25" Plate	39.98 - 40.23	1.0000	1.0000
L47	123	CCI 6.5" x 1.25" Plate	39.98 - 40.23	1.0000	1.0000
L47	124	CCI 6.5" x 1.25" Plate	39.98 - 40.23	1.0000	1.0000
L47	125	CCI 6.5" x 1.25" Plate	39.98 - 40.23	1.0000	1.0000
L47	126	CCI 6.5" x 1.25" Plate	39.98 - 40.23	1.0000	1.0000
L48	8	CU12PSM6P4XXX(1-3/4)	34.98 - 39.98	1.0000	1.0000
L48	11	AL7-50(1-5/8)	34.98 - 39.98	1.0000	1.0000
L48	13	HB158-U12S24-XXX-LI(1-5/8)	34.98 - 39.98	1.0000	1.0000
L48	47	Safety Line 3/8	34.98 - 39.98	1.0000	1.0000
L48	55	CCI 6" x 1" Plate	34.98 - 39.75	1.0000	1.0000
L48	56	CCI 6" x 1" Plate	34.98 - 39.75	1.0000	1.0000
L48	57	CCI 6" x 1" Plate	34.98 - 39.75	1.0000	1.0000
L48	91	CCI 6" x 1" Plate	37.17 - 39.98	1.0000	1.0000
L48	92	CCI 6" x 1" Plate	37.17 - 39.98	1.0000	1.0000
L48	93	CCI 6" x 1" Plate	37.17 - 39.98	1.0000	1.0000
L48	94	CCI 6" x 1" Plate	37.17 - 39.98	1.0000	1.0000
L48	121	CCI 6.5" x 1.25" Plate	34.98 - 39.98	1.0000	1.0000
L48	122	CCI 6.5" x 1.25" Plate	34.98 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
			39.98		
L48	123	CCI 6.5" x 1.25" Plate	34.98 - 39.98	1.0000	1.0000
L48	124	CCI 6.5" x 1.25" Plate	34.98 - 39.98	1.0000	1.0000
L48	125	CCI 6.5" x 1.25" Plate	34.98 - 39.98	1.0000	1.0000
L48	126	CCI 6.5" x 1.25" Plate	34.98 - 39.98	1.0000	1.0000
L49	8	CU12PSM6P4XXX(1-3/4)	29.98 - 34.98	1.0000	1.0000
L49	11	AL7-50(1-5/8)	29.98 - 34.98	1.0000	1.0000
L49	13	HB158-U12S24-XXX-LI(1-5/8)	29.98 - 34.98	1.0000	1.0000
L49	47	Safety Line 3/8	29.98 - 34.98	1.0000	1.0000
L49	55	CCI 6" x 1" Plate	29.98 - 34.98	1.0000	1.0000
L49	56	CCI 6" x 1" Plate	29.98 - 34.98	1.0000	1.0000
L49	57	CCI 6" x 1" Plate	29.98 - 34.98	1.0000	1.0000
L49	86	CCI 6" x 1" Plate	29.98 - 30.00	1.0000	1.0000
L49	87	CCI 6" x 1" Plate	29.98 - 30.00	1.0000	1.0000
L49	88	CCI 6" x 1" Plate	29.98 - 30.00	1.0000	1.0000
L49	89	CCI 6" x 1" Plate	29.98 - 30.00	1.0000	1.0000
L49	121	CCI 6.5" x 1.25" Plate	32.83 - 34.98	1.0000	1.0000
L49	122	CCI 6.5" x 1.25" Plate	32.83 - 34.98	1.0000	1.0000
L49	123	CCI 6.5" x 1.25" Plate	32.83 - 34.98	1.0000	1.0000
L49	124	CCI 6.5" x 1.25" Plate	32.83 - 34.98	1.0000	1.0000
L49	125	CCI 6.5" x 1.25" Plate	32.83 - 34.98	1.0000	1.0000
L49	126	CCI 6.5" x 1.25" Plate	32.83 - 34.98	1.0000	1.0000
L50	8	CU12PSM6P4XXX(1-3/4)	28.00 - 29.98	1.0000	1.0000
L50	11	AL7-50(1-5/8)	28.00 - 29.98	1.0000	1.0000
L50	13	HB158-U12S24-XXX-LI(1-5/8)	28.00 - 29.98	1.0000	1.0000
L50	47	Safety Line 3/8	28.00 - 29.98	1.0000	1.0000
L50	55	CCI 6" x 1" Plate	28.00 - 29.98	1.0000	1.0000
L50	56	CCI 6" x 1" Plate	28.00 - 29.98	1.0000	1.0000
L50	57	CCI 6" x 1" Plate	28.00 - 29.98	1.0000	1.0000
L50	86	CCI 6" x 1" Plate	28.00 - 29.98	1.0000	1.0000
L50	87	CCI 6" x 1" Plate	28.00 - 29.98	1.0000	1.0000
L50	88	CCI 6" x 1" Plate	28.00 - 29.98	1.0000	1.0000
L50	89	CCI 6" x 1" Plate	28.00 - 29.98	1.0000	1.0000
L51	8	CU12PSM6P4XXX(1-3/4)	27.75 - 28.00	1.0000	1.0000
L51	11	AL7-50(1-5/8)	27.75 - 28.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L51	13	HB158-U12S24-XXX-LI(1-5/8)	27.75 - 28.00	1.0000	1.0000
L51	47	Safety Line 3/8	27.75 - 28.00	1.0000	1.0000
L51	55	CCI 6" x 1" Plate	27.75 - 28.00	1.0000	1.0000
L51	56	CCI 6" x 1" Plate	27.75 - 28.00	1.0000	1.0000
L51	57	CCI 6" x 1" Plate	27.75 - 28.00	1.0000	1.0000
L51	86	CCI 6" x 1" Plate	27.75 - 28.00	1.0000	1.0000
L51	87	CCI 6" x 1" Plate	27.75 - 28.00	1.0000	1.0000
L51	88	CCI 6" x 1" Plate	27.75 - 28.00	1.0000	1.0000
L51	89	CCI 6" x 1" Plate	27.75 - 28.00	1.0000	1.0000
L52	8	CU12PSM6P4XXX(1-3/4)	22.75 - 27.75	1.0000	1.0000
L52	11	AL7-50(1-5/8)	22.75 - 27.75	1.0000	1.0000
L52	13	HB158-U12S24-XXX-LI(1-5/8)	22.75 - 27.75	1.0000	1.0000
L52	47	Safety Line 3/8	22.75 - 27.75	1.0000	1.0000
L52	55	CCI 6" x 1" Plate	22.75 - 27.75	1.0000	1.0000
L52	56	CCI 6" x 1" Plate	22.75 - 27.75	1.0000	1.0000
L52	57	CCI 6" x 1" Plate	22.75 - 27.75	1.0000	1.0000
L52	86	CCI 6" x 1" Plate	22.75 - 27.75	1.0000	1.0000
L52	87	CCI 6" x 1" Plate	22.75 - 27.75	1.0000	1.0000
L52	88	CCI 6" x 1" Plate	22.75 - 27.75	1.0000	1.0000
L52	89	CCI 6" x 1" Plate	22.75 - 27.75	1.0000	1.0000
L52	114	CCI 6.5" x 1.25" Plate	22.75 - 27.50	1.0000	1.0000
L52	115	CCI 6.5" x 1.25" Plate	22.75 - 27.50	1.0000	1.0000
L52	116	CCI 6.5" x 1.25" Plate	22.75 - 27.50	1.0000	1.0000
L52	117	CCI 6.5" x 1.25" Plate	22.75 - 27.50	1.0000	1.0000
L52	118	CCI 6.5" x 1.25" Plate	22.75 - 27.50	1.0000	1.0000
L52	119	CCI 6.5" x 1.25" Plate	22.75 - 27.50	1.0000	1.0000
L53	8	CU12PSM6P4XXX(1-3/4)	20.08 - 22.75	1.0000	1.0000
L53	11	AL7-50(1-5/8)	20.08 - 22.75	1.0000	1.0000
L53	13	HB158-U12S24-XXX-LI(1-5/8)	20.08 - 22.75	1.0000	1.0000
L53	47	Safety Line 3/8	20.08 - 22.75	1.0000	1.0000
L53	55	CCI 6" x 1" Plate	20.75 - 22.75	1.0000	1.0000
L53	56	CCI 6" x 1" Plate	20.75 - 22.75	1.0000	1.0000
L53	57	CCI 6" x 1" Plate	20.75 - 22.75	1.0000	1.0000
L53	86	CCI 6" x 1" Plate	20.08 - 22.75	1.0000	1.0000
L53	87	CCI 6" x 1" Plate	20.08 - 22.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L53	88	CCI 6" x 1" Plate	22.75 20.08 -	1.0000	1.0000
L53	89	CCI 6" x 1" Plate	22.75 20.08 -	1.0000	1.0000
L53	114	CCI 6.5" x 1.25" Plate	22.75 20.08 -	1.0000	1.0000
L53	115	CCI 6.5" x 1.25" Plate	22.75 20.08 -	1.0000	1.0000
L53	116	CCI 6.5" x 1.25" Plate	22.75 20.08 -	1.0000	1.0000
L53	117	CCI 6.5" x 1.25" Plate	22.75 20.08 -	1.0000	1.0000
L53	118	CCI 6.5" x 1.25" Plate	22.75 20.08 -	1.0000	1.0000
L53	119	CCI 6.5" x 1.25" Plate	22.75 20.08 -	1.0000	1.0000
L54	8	CU12PSM6P4XXX(1-3/4)	19.83 - 20.08	1.0000	1.0000
L54	11	AL7-50(1-5/8)	19.83 - 20.08	1.0000	1.0000
L54	13	HB158-U12S24-XXX-LI(1-5/8)	19.83 - 20.08	1.0000	1.0000
L54	47	Safety Line 3/8	19.83 - 20.08	1.0000	1.0000
L54	86	CCI 6" x 1" Plate	19.83 - 20.08	1.0000	1.0000
L54	87	CCI 6" x 1" Plate	19.83 - 20.08	1.0000	1.0000
L54	88	CCI 6" x 1" Plate	19.83 - 20.08	1.0000	1.0000
L54	89	CCI 6" x 1" Plate	19.83 - 20.08	1.0000	1.0000
L54	114	CCI 6.5" x 1.25" Plate	19.83 - 20.08	1.0000	1.0000
L54	115	CCI 6.5" x 1.25" Plate	19.83 - 20.08	1.0000	1.0000
L54	116	CCI 6.5" x 1.25" Plate	19.83 - 20.08	1.0000	1.0000
L54	117	CCI 6.5" x 1.25" Plate	19.83 - 20.08	1.0000	1.0000
L54	118	CCI 6.5" x 1.25" Plate	19.83 - 20.08	1.0000	1.0000
L54	119	CCI 6.5" x 1.25" Plate	19.83 - 20.08	1.0000	1.0000
L55	8	CU12PSM6P4XXX(1-3/4)	17.00 - 19.83	1.0000	1.0000
L55	11	AL7-50(1-5/8)	17.00 - 19.83	1.0000	1.0000
L55	13	HB158-U12S24-XXX-LI(1-5/8)	17.00 - 19.83	1.0000	1.0000
L55	47	Safety Line 3/8	17.00 - 19.83	1.0000	1.0000
L55	81	CCI 6" x 1" Plate	17.00 - 19.00	1.0000	1.0000
L55	82	CCI 6" x 1" Plate	17.00 - 19.00	1.0000	1.0000
L55	83	CCI 6" x 1" Plate	17.00 - 19.00	1.0000	1.0000
L55	84	CCI 6" x 1" Plate	17.00 - 19.00	1.0000	1.0000
L55	86	CCI 6" x 1" Plate	17.00 - 19.83	1.0000	1.0000
L55	87	CCI 6" x 1" Plate	17.00 - 19.83	1.0000	1.0000
L55	88	CCI 6" x 1" Plate	17.00 - 19.83	1.0000	1.0000
L55	89	CCI 6" x 1" Plate	17.00 - 19.83	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L55	114	CCI 6.5" x 1.25" Plate	17.00 - 19.83	1.0000	1.0000
L55	115	CCI 6.5" x 1.25" Plate	17.00 - 19.83	1.0000	1.0000
L55	116	CCI 6.5" x 1.25" Plate	17.00 - 19.83	1.0000	1.0000
L55	117	CCI 6.5" x 1.25" Plate	17.00 - 19.83	1.0000	1.0000
L55	118	CCI 6.5" x 1.25" Plate	17.00 - 19.83	1.0000	1.0000
L55	119	CCI 6.5" x 1.25" Plate	17.00 - 19.83	1.0000	1.0000
L56	8	CU12PSM6P4XXX(1-3/4)	16.75 - 17.00	1.0000	1.0000
L56	11	AL7-50(1-5/8)	16.75 - 17.00	1.0000	1.0000
L56	13	HB158-U12S24-XXX-LI(1-5/8)	16.75 - 17.00	1.0000	1.0000
L56	47	Safety Line 3/8	16.75 - 17.00	1.0000	1.0000
L56	81	CCI 6" x 1" Plate	16.75 - 17.00	1.0000	1.0000
L56	82	CCI 6" x 1" Plate	16.75 - 17.00	1.0000	1.0000
L56	83	CCI 6" x 1" Plate	16.75 - 17.00	1.0000	1.0000
L56	84	CCI 6" x 1" Plate	16.75 - 17.00	1.0000	1.0000
L56	114	CCI 6.5" x 1.25" Plate	16.75 - 17.00	1.0000	1.0000
L56	115	CCI 6.5" x 1.25" Plate	16.75 - 17.00	1.0000	1.0000
L56	116	CCI 6.5" x 1.25" Plate	16.75 - 17.00	1.0000	1.0000
L56	117	CCI 6.5" x 1.25" Plate	16.75 - 17.00	1.0000	1.0000
L56	118	CCI 6.5" x 1.25" Plate	16.75 - 17.00	1.0000	1.0000
L56	119	CCI 6.5" x 1.25" Plate	16.75 - 17.00	1.0000	1.0000
L57	8	CU12PSM6P4XXX(1-3/4)	11.65 - 16.75	1.0000	1.0000
L57	11	AL7-50(1-5/8)	11.65 - 16.75	1.0000	1.0000
L57	13	HB158-U12S24-XXX-LI(1-5/8)	11.65 - 16.75	1.0000	1.0000
L57	47	Safety Line 3/8	11.65 - 16.75	1.0000	1.0000
L57	53	CCI 4" x 0.75" Plate	11.65 - 13.17	1.0000	1.0000
L57	81	CCI 6" x 1" Plate	11.65 - 16.75	1.0000	1.0000
L57	82	CCI 6" x 1" Plate	11.65 - 16.75	1.0000	1.0000
L57	83	CCI 6" x 1" Plate	11.65 - 16.75	1.0000	1.0000
L57	84	CCI 6" x 1" Plate	11.65 - 16.75	1.0000	1.0000
L57	114	CCI 6.5" x 1.25" Plate	12.67 - 16.75	1.0000	1.0000
L57	115	CCI 6.5" x 1.25" Plate	12.67 - 16.75	1.0000	1.0000
L57	116	CCI 6.5" x 1.25" Plate	12.67 - 16.75	1.0000	1.0000
L57	117	CCI 6.5" x 1.25" Plate	12.67 - 16.75	1.0000	1.0000
L57	118	CCI 6.5" x 1.25" Plate	12.67 - 16.75	1.0000	1.0000
L57	119	CCI 6.5" x 1.25" Plate	12.67 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
			16.75		
L58	8	CU12PSM6P4XXX(1-3/4)	11.42 - 11.65	1.0000	1.0000
L58	11	AL7-50(1-5/8)	11.42 - 11.65	1.0000	1.0000
L58	13	HB158-U12S24-XXX-LI(1-5/8)	11.42 - 11.65	1.0000	1.0000
L58	47	Safety Line 3/8	11.42 - 11.65	1.0000	1.0000
L58	53	CCI 4" x 0.75" Plate	11.42 - 11.65	1.0000	1.0000
L58	81	CCI 6" x 1" Plate	11.42 - 11.65	1.0000	1.0000
L58	82	CCI 6" x 1" Plate	11.42 - 11.65	1.0000	1.0000
L58	83	CCI 6" x 1" Plate	11.42 - 11.65	1.0000	1.0000
L58	84	CCI 6" x 1" Plate	11.42 - 11.65	1.0000	1.0000
L59	8	CU12PSM6P4XXX(1-3/4)	9.40 - 11.42	1.0000	1.0000
L59	11	AL7-50(1-5/8)	9.40 - 11.42	1.0000	1.0000
L59	13	HB158-U12S24-XXX-LI(1-5/8)	9.40 - 11.42	1.0000	1.0000
L59	47	Safety Line 3/8	9.40 - 11.42	1.0000	1.0000
L59	51	CCI 4" x 0.75" Plate	9.40 - 10.88	1.0000	1.0000
L59	52	CCI 4" x 0.75" Plate	9.40 - 10.88	1.0000	1.0000
L59	53	CCI 4" x 0.75" Plate	9.40 - 11.42	1.0000	1.0000
L59	81	CCI 6" x 1" Plate	9.40 - 11.42	1.0000	1.0000
L59	82	CCI 6" x 1" Plate	9.40 - 11.42	1.0000	1.0000
L59	83	CCI 6" x 1" Plate	9.40 - 11.42	1.0000	1.0000
L59	84	CCI 6" x 1" Plate	9.40 - 11.42	1.0000	1.0000
L60	8	CU12PSM6P4XXX(1-3/4)	9.15 - 9.40	1.0000	1.0000
L60	11	AL7-50(1-5/8)	9.15 - 9.40	1.0000	1.0000
L60	13	HB158-U12S24-XXX-LI(1-5/8)	9.15 - 9.40	1.0000	1.0000
L60	47	Safety Line 3/8	9.15 - 9.40	1.0000	1.0000
L60	51	CCI 4" x 0.75" Plate	9.15 - 9.40	1.0000	1.0000
L60	52	CCI 4" x 0.75" Plate	9.15 - 9.40	1.0000	1.0000
L60	53	CCI 4" x 0.75" Plate	9.15 - 9.40	1.0000	1.0000
L60	81	CCI 6" x 1" Plate	9.15 - 9.40	1.0000	1.0000
L60	82	CCI 6" x 1" Plate	9.15 - 9.40	1.0000	1.0000
L60	83	CCI 6" x 1" Plate	9.15 - 9.40	1.0000	1.0000
L60	84	CCI 6" x 1" Plate	9.15 - 9.40	1.0000	1.0000
L61	8	CU12PSM6P4XXX(1-3/4)	4.83 - 9.15	1.0000	1.0000
L61	11	AL7-50(1-5/8)	4.83 - 9.15	1.0000	1.0000
L61	13	HB158-U12S24-XXX-LI(1-5/8)	4.83 - 9.15	1.0000	1.0000
L61	47	Safety Line 3/8	4.83 - 9.15	1.0000	1.0000
L61	51	CCI 4" x 0.75" Plate	4.83 - 9.15	1.0000	1.0000
L61	52	CCI 4" x 0.75" Plate	4.83 - 9.15	1.0000	1.0000
L61	53	CCI 4" x 0.75" Plate	4.83 - 9.15	1.0000	1.0000
L61	81	CCI 6" x 1" Plate	4.83 - 9.15	1.0000	1.0000
L61	82	CCI 6" x 1" Plate	4.83 - 9.15	1.0000	1.0000
L61	83	CCI 6" x 1" Plate	4.83 - 9.15	1.0000	1.0000
L61	84	CCI 6" x 1" Plate	4.83 - 9.15	1.0000	1.0000
L62	8	CU12PSM6P4XXX(1-3/4)	4.58 - 4.83	1.0000	1.0000
L62	11	AL7-50(1-5/8)	4.58 - 4.83	1.0000	1.0000
L62	13	HB158-U12S24-XXX-LI(1-5/8)	4.58 - 4.83	1.0000	1.0000
L62	47	Safety Line 3/8	4.58 - 4.83	1.0000	1.0000
L62	51	CCI 4" x 0.75" Plate	4.58 - 4.83	1.0000	1.0000
L62	52	CCI 4" x 0.75" Plate	4.58 - 4.83	1.0000	1.0000
L62	53	CCI 4" x 0.75" Plate	4.58 - 4.83	1.0000	1.0000
L62	81	CCI 6" x 1" Plate	4.58 - 4.83	1.0000	1.0000
L62	82	CCI 6" x 1" Plate	4.58 - 4.83	1.0000	1.0000
L62	83	CCI 6" x 1" Plate	4.58 - 4.83	1.0000	1.0000
L62	84	CCI 6" x 1" Plate	4.58 - 4.83	1.0000	1.0000
L63	8	CU12PSM6P4XXX(1-3/4)	0.00 - 4.58	1.0000	1.0000
L63	11	AL7-50(1-5/8)	4.00 - 4.58	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L63	13	HB158-U12S24-XXX-LI(1-5/8)	4.00 - 4.58	1.0000	1.0000
L63	47	Safety Line 3/8	4.00 - 4.58	1.0000	1.0000
L63	51	CCI 4" x 0.75" Plate	0.00 - 4.58	1.0000	1.0000
L63	52	CCI 4" x 0.75" Plate	0.00 - 4.58	1.0000	1.0000
L63	53	CCI 4" x 0.75" Plate	3.17 - 4.58	1.0000	1.0000
L63	81	CCI 6" x 1" Plate	0.00 - 4.58	1.0000	1.0000
L63	82	CCI 6" x 1" Plate	0.00 - 4.58	1.0000	1.0000
L63	83	CCI 6" x 1" Plate	0.00 - 4.58	1.0000	1.0000
L63	84	CCI 6" x 1" Plate	0.00 - 4.58	1.0000	1.0000

Effective Width of Flat Linear Attachments / Feed Lines

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L14	200	CCI 4.5" x 1" Plate	126.42 - 127.17	Auto	1.0000
L14	201	CCI 4.5" x 1" Plate	126.42 - 127.17	Auto	1.0000
L14	202	CCI 4.5" x 1" Plate	126.42 - 127.17	Auto	1.0000
L15	192	CCI 4.5" x 1" Plate	121.42 - 121.67	Auto	1.0000
L15	193	CCI 4.5" x 1" Plate	121.42 - 121.67	Auto	1.0000
L15	194	CCI 4.5" x 1" Plate	121.42 - 121.67	Auto	1.0000
L15	196	CCI 4.5" x 4" Plate	121.67 - 124.42	Auto	1.0000
L15	197	CCI 4.5" x 4" Plate	121.67 - 124.42	Auto	1.0000
L15	198	CCI 4.5" x 4" Plate	121.67 - 124.42	Auto	1.0000
L15	200	CCI 4.5" x 1" Plate	124.42 - 126.42	Auto	1.0000
L15	201	CCI 4.5" x 1" Plate	124.42 - 126.42	Auto	1.0000
L15	202	CCI 4.5" x 1" Plate	124.42 - 126.42	Auto	1.0000
L16	192	CCI 4.5" x 1" Plate	121.17 - 121.42	Auto	1.0000
L16	193	CCI 4.5" x 1" Plate	121.17 - 121.42	Auto	1.0000
L16	194	CCI 4.5" x 1" Plate	121.17 - 121.42	Auto	1.0000
L17	188	CCI 4.5" x 1" Plate	117.92 - 120.67	Auto	1.0000
L17	189	CCI 4.5" x 1" Plate	117.92 - 120.67	Auto	1.0000
L17	190	CCI 4.5" x 1" Plate	117.92 - 120.67	Auto	1.0000
L17	192	CCI 4.5" x 1" Plate	120.67 - 121.17	Auto	1.0000
L17	193	CCI 4.5" x 1" Plate	120.67 - 121.17	Auto	1.0000
L17	194	CCI 4.5" x 1" Plate	120.67 - 121.17	Auto	1.0000
L18	105	CCI 4.5" x 1" Plate	111.17 - 111.54	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L18	106	CCI 4.5" x 1" Plate	111.17 - 111.54	Auto	1.0000
L18	107	CCI 4.5" x 1" Plate	111.17 - 111.54	Auto	1.0000
L19	105	CCI 4.5" x 1" Plate	110.04 - 111.17	Auto	1.0000
L19	106	CCI 4.5" x 1" Plate	110.04 - 111.17	Auto	1.0000
L19	107	CCI 4.5" x 1" Plate	110.04 - 111.17	Auto	1.0000
L20	105	CCI 4.5" x 1" Plate	109.79 - 110.04	Auto	1.0000
L20	106	CCI 4.5" x 1" Plate	109.79 - 110.04	Auto	1.0000
L20	107	CCI 4.5" x 1" Plate	109.79 - 110.04	Auto	1.0000
L21	67	CCI 4" x 0.75" Plate	105.08 - 106.58	Auto	1.0000
L21	68	CCI 4" x 0.75" Plate	105.08 - 106.58	Auto	1.0000
L21	69	CCI 4" x 0.75" Plate	105.08 - 106.58	Auto	1.0000
L21	105	CCI 4.5" x 1" Plate	105.08 - 109.79	Auto	1.0000
L21	106	CCI 4.5" x 1" Plate	105.08 - 109.79	Auto	1.0000
L21	107	CCI 4.5" x 1" Plate	105.08 - 109.79	Auto	1.0000
L21	184	CCI 4.5" x 1" Plate	105.08 - 107.17	Auto	1.0000
L21	185	CCI 4.5" x 1" Plate	105.08 - 107.17	Auto	1.0000
L21	186	CCI 4.5" x 1" Plate	105.08 - 107.17	Auto	1.0000
L22	67	CCI 4" x 0.75" Plate	104.83 - 105.08	Auto	1.0000
L22	68	CCI 4" x 0.75" Plate	104.83 - 105.08	Auto	1.0000
L22	69	CCI 4" x 0.75" Plate	104.83 - 105.08	Auto	1.0000
L22	105	CCI 4.5" x 1" Plate	104.83 - 105.08	Auto	1.0000
L22	106	CCI 4.5" x 1" Plate	104.83 - 105.08	Auto	1.0000
L22	107	CCI 4.5" x 1" Plate	104.83 - 105.08	Auto	1.0000
L22	184	CCI 4.5" x 1" Plate	104.83 - 105.08	Auto	1.0000
L22	185	CCI 4.5" x 1" Plate	104.83 - 105.08	Auto	1.0000
L22	186	CCI 4.5" x 1" Plate	104.83 - 105.08	Auto	1.0000
L23	67	CCI 4" x 0.75" Plate	101.58 - 104.83	Auto	1.0000
L23	68	CCI 4" x 0.75" Plate	101.58 - 104.83	Auto	1.0000
L23	69	CCI 4" x 0.75" Plate	101.58 - 104.83	Auto	1.0000
L23	105	CCI 4.5" x 1" Plate	101.54 - 104.83	Auto	1.0000
L23	106	CCI 4.5" x 1" Plate	101.54 - 104.83	Auto	1.0000
L23	107	CCI 4.5" x 1" Plate	101.54 - 104.83	Auto	1.0000
L23	176	CCI 4.5" x 1" Plate	100.92 - 101.42	Auto	1.0000
L23	177	CCI 4.5" x 1" Plate	100.92 - 101.42	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L23	178	CCI 4.5" x 1" Plate	100.92 - 101.42	Auto	1.0000
L23	180	CCI 4.5" x 4" Plate	101.42 - 104.42	Auto	1.0000
L23	181	CCI 4.5" x 4" Plate	101.42 - 104.42	Auto	1.0000
L23	182	CCI 4.5" x 4" Plate	101.42 - 104.42	Auto	1.0000
L23	184	CCI 4.5" x 1" Plate	104.42 - 104.83	Auto	1.0000
L23	185	CCI 4.5" x 1" Plate	104.42 - 104.83	Auto	1.0000
L23	186	CCI 4.5" x 1" Plate	104.42 - 104.83	Auto	1.0000
L23	222	CCI 4.5" x 1" Plate	100.92 - 101.79	Auto	1.0000
L23	223	CCI 4.5" x 1" Plate	100.92 - 101.79	Auto	1.0000
L23	224	CCI 4.5" x 1" Plate	100.92 - 101.79	Auto	1.0000
L23	226	CCI 4.5" x 3" Plate	101.79 - 103.29	Auto	1.0000
L23	227	CCI 4.5" x 3" Plate	101.79 - 103.29	Auto	1.0000
L23	228	CCI 4.5" x 3" Plate	101.79 - 103.29	Auto	1.0000
L24	176	CCI 4.5" x 1" Plate	100.67 - 100.92	Auto	1.0000
L24	177	CCI 4.5" x 1" Plate	100.67 - 100.92	Auto	1.0000
L24	178	CCI 4.5" x 1" Plate	100.67 - 100.92	Auto	1.0000
L24	222	CCI 4.5" x 1" Plate	100.67 - 100.92	Auto	1.0000
L24	223	CCI 4.5" x 1" Plate	100.67 - 100.92	Auto	1.0000
L24	224	CCI 4.5" x 1" Plate	100.67 - 100.92	Auto	1.0000
L25	101	CCI 4.5" x 1" Plate	95.83 - 97.33	Auto	1.0000
L25	102	CCI 4.5" x 1" Plate	95.83 - 97.33	Auto	1.0000
L25	103	CCI 4.5" x 1" Plate	95.83 - 97.33	Auto	1.0000
L25	172	CCI 4.5" x 1" Plate	97.92 - 100.42	Auto	1.0000
L25	173	CCI 4.5" x 1" Plate	97.92 - 100.42	Auto	1.0000
L25	174	CCI 4.5" x 1" Plate	97.92 - 100.42	Auto	1.0000
L25	176	CCI 4.5" x 1" Plate	100.42 - 100.67	Auto	1.0000
L25	177	CCI 4.5" x 1" Plate	100.42 - 100.67	Auto	1.0000
L25	178	CCI 4.5" x 1" Plate	100.42 - 100.67	Auto	1.0000
L25	222	CCI 4.5" x 1" Plate	98.42 - 100.67	Auto	1.0000
L25	223	CCI 4.5" x 1" Plate	98.42 - 100.67	Auto	1.0000
L25	224	CCI 4.5" x 1" Plate	98.42 - 100.67	Auto	1.0000
L26	101	CCI 4.5" x 1" Plate	95.58 - 95.83	Auto	1.0000
L26	102	CCI 4.5" x 1" Plate	95.58 - 95.83	Auto	1.0000
L26	103	CCI 4.5" x 1" Plate	95.58 - 95.83	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L27	101	CCI 4.5" x 1" Plate	90.58 - 95.58	Auto	1.0000
L27	102	CCI 4.5" x 1" Plate	90.58 - 95.58	Auto	1.0000
L27	103	CCI 4.5" x 1" Plate	90.58 - 95.58	Auto	1.0000
L27	109	CCI 4.5" x 1" Plate	90.58 - 91.42	Auto	1.0000
L27	110	CCI 4.5" x 1" Plate	90.58 - 91.42	Auto	1.0000
L27	111	CCI 4.5" x 1" Plate	90.58 - 91.42	Auto	1.0000
L28	101	CCI 4.5" x 1" Plate	89.92 - 90.58	Auto	1.0000
L28	102	CCI 4.5" x 1" Plate	89.92 - 90.58	Auto	1.0000
L28	103	CCI 4.5" x 1" Plate	89.92 - 90.58	Auto	1.0000
L28	109	CCI 4.5" x 1" Plate	89.92 - 90.58	Auto	1.0000
L28	110	CCI 4.5" x 1" Plate	89.92 - 90.58	Auto	1.0000
L28	111	CCI 4.5" x 1" Plate	89.92 - 90.58	Auto	1.0000
L29	101	CCI 4.5" x 1" Plate	89.67 - 89.92	Auto	1.0000
L29	102	CCI 4.5" x 1" Plate	89.67 - 89.92	Auto	1.0000
L29	103	CCI 4.5" x 1" Plate	89.67 - 89.92	Auto	1.0000
L29	109	CCI 4.5" x 1" Plate	89.67 - 89.92	Auto	1.0000
L29	110	CCI 4.5" x 1" Plate	89.67 - 89.92	Auto	1.0000
L29	111	CCI 4.5" x 1" Plate	89.67 - 89.92	Auto	1.0000
L29	168	CCI 6.5" x 1.25" Plate	89.67 - 89.75	Auto	1.0000
L29	169	CCI 6.5" x 1.25" Plate	89.67 - 89.75	Auto	1.0000
L29	170	CCI 6.5" x 1.25" Plate	89.67 - 89.75	Auto	1.0000
L30	101	CCI 4.5" x 1" Plate	84.67 - 89.67	Auto	1.0000
L30	102	CCI 4.5" x 1" Plate	84.67 - 89.67	Auto	1.0000
L30	103	CCI 4.5" x 1" Plate	84.67 - 89.67	Auto	1.0000
L30	109	CCI 4.5" x 1" Plate	84.67 - 89.67	Auto	1.0000
L30	110	CCI 4.5" x 1" Plate	84.67 - 89.67	Auto	1.0000
L30	111	CCI 4.5" x 1" Plate	84.67 - 89.67	Auto	1.0000
L30	164	CCI 6.5" x 4.25" Plate	84.67 - 85.83	Auto	1.0000
L30	165	CCI 6.5" x 4.25" Plate	84.67 - 85.83	Auto	1.0000
L30	166	CCI 6.5" x 4.25" Plate	84.67 - 85.83	Auto	1.0000
L30	168	CCI 6.5" x 1.25" Plate	85.83 - 89.67	Auto	1.0000
L30	169	CCI 6.5" x 1.25" Plate	85.83 - 89.67	Auto	1.0000
L30	170	CCI 6.5" x 1.25" Plate	85.83 - 89.67	Auto	1.0000
L31	101	CCI 4.5" x 1" Plate	81.33 - 84.67	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L31	102	CCI 4.5" x 1" Plate	81.33 - 84.67	Auto	1.0000
L31	103	CCI 4.5" x 1" Plate	81.33 - 84.67	Auto	1.0000
L31	109	CCI 4.5" x 1" Plate	81.42 - 84.67	Auto	1.0000
L31	110	CCI 4.5" x 1" Plate	81.42 - 84.67	Auto	1.0000
L31	111	CCI 4.5" x 1" Plate	81.42 - 84.67	Auto	1.0000
L31	164	CCI 6.5" x 4.25" Plate	80.83 - 84.67	Auto	1.0000
L31	165	CCI 6.5" x 4.25" Plate	80.83 - 84.67	Auto	1.0000
L31	166	CCI 6.5" x 4.25" Plate	80.83 - 84.67	Auto	1.0000
L31	214	CCI 4.5" x 1" Plate	80.83 - 81.71	Auto	1.0000
L31	215	CCI 4.5" x 1" Plate	80.83 - 81.71	Auto	1.0000
L31	216	CCI 4.5" x 1" Plate	80.83 - 81.71	Auto	1.0000
L31	218	CCI 4.5" x 3" Plate	81.71 - 83.20	Auto	1.0000
L31	219	CCI 4.5" x 3" Plate	81.71 - 83.20	Auto	1.0000
L31	220	CCI 4.5" x 3" Plate	81.71 - 83.20	Auto	1.0000
L32	160	CCI 6.5" x 1.25" Plate	80.33 - 80.50	Auto	1.0000
L32	161	CCI 6.5" x 1.25" Plate	80.33 - 80.50	Auto	1.0000
L32	162	CCI 6.5" x 1.25" Plate	80.33 - 80.50	Auto	1.0000
L32	164	CCI 6.5" x 4.25" Plate	80.50 - 80.83	Auto	1.0000
L32	165	CCI 6.5" x 4.25" Plate	80.50 - 80.83	Auto	1.0000
L32	166	CCI 6.5" x 4.25" Plate	80.50 - 80.83	Auto	1.0000
L32	214	CCI 4.5" x 1" Plate	80.33 - 80.83	Auto	1.0000
L32	215	CCI 4.5" x 1" Plate	80.33 - 80.83	Auto	1.0000
L32	216	CCI 4.5" x 1" Plate	80.33 - 80.83	Auto	1.0000
L33	63	CCI 6" x 1" Plate	80.08 - 80.17	Auto	1.0000
L33	64	CCI 6" x 1" Plate	80.08 - 80.17	Auto	1.0000
L33	65	CCI 6" x 1" Plate	80.08 - 80.17	Auto	1.0000
L33	156	CCI 6.5" x 1.25" Plate	80.08 - 80.33	Auto	1.0000
L33	157	CCI 6.5" x 1.25" Plate	80.08 - 80.33	Auto	1.0000
L33	158	CCI 6.5" x 1.25" Plate	80.08 - 80.33	Auto	1.0000
L33	214	CCI 4.5" x 1" Plate	80.08 - 80.33	Auto	1.0000
L33	215	CCI 4.5" x 1" Plate	80.08 - 80.33	Auto	1.0000
L33	216	CCI 4.5" x 1" Plate	80.08 - 80.33	Auto	1.0000
L34	63	CCI 6" x 1" Plate	75.08 - 80.08	Auto	1.0000
L34	64	CCI 6" x 1" Plate	75.08 - 80.08	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L34	65	CCI 6" x 1" Plate	75.08 - 80.08	Auto	1.0000
L34	156	CCI 6.5" x 1.25" Plate	76.50 - 80.08	Auto	1.0000
L34	157	CCI 6.5" x 1.25" Plate	76.50 - 80.08	Auto	1.0000
L34	158	CCI 6.5" x 1.25" Plate	76.50 - 80.08	Auto	1.0000
L34	214	CCI 4.5" x 1" Plate	78.33 - 80.08	Auto	1.0000
L34	215	CCI 4.5" x 1" Plate	78.33 - 80.08	Auto	1.0000
L34	216	CCI 4.5" x 1" Plate	78.33 - 80.08	Auto	1.0000
L35	63	CCI 6" x 1" Plate	70.08 - 75.08	Auto	1.0000
L35	64	CCI 6" x 1" Plate	70.08 - 75.08	Auto	1.0000
L35	65	CCI 6" x 1" Plate	70.08 - 75.08	Auto	1.0000
L35	96	CCI 4.5" x 1" Plate	70.08 - 71.00	Auto	1.0000
L35	97	CCI 4.5" x 1" Plate	70.08 - 71.00	Auto	1.0000
L35	98	CCI 4.5" x 1" Plate	70.08 - 71.00	Auto	1.0000
L35	99	CCI 4.5" x 1" Plate	70.08 - 71.00	Auto	1.0000
L35	149	CCI 8.5" x 1.25" Plate	70.08 - 73.42	Auto	1.0000
L35	150	CCI 8.5" x 1.25" Plate	70.08 - 73.42	Auto	1.0000
L35	151	CCI 8.5" x 1.25" Plate	70.08 - 73.42	Auto	1.0000
L35	152	CCI 8.5" x 1.25" Plate	70.08 - 73.42	Auto	1.0000
L35	153	CCI 8.5" x 1.25" Plate	70.08 - 73.42	Auto	1.0000
L35	154	CCI 8.5" x 1.25" Plate	70.08 - 73.42	Auto	1.0000
L36	63	CCI 6" x 1" Plate	69.50 - 70.08	Auto	1.0000
L36	64	CCI 6" x 1" Plate	69.50 - 70.08	Auto	1.0000
L36	65	CCI 6" x 1" Plate	69.50 - 70.08	Auto	1.0000
L36	96	CCI 4.5" x 1" Plate	69.50 - 70.08	Auto	1.0000
L36	97	CCI 4.5" x 1" Plate	69.50 - 70.08	Auto	1.0000
L36	98	CCI 4.5" x 1" Plate	69.50 - 70.08	Auto	1.0000
L36	99	CCI 4.5" x 1" Plate	69.50 - 70.08	Auto	1.0000
L36	149	CCI 8.5" x 1.25" Plate	69.50 - 70.08	Auto	1.0000
L36	150	CCI 8.5" x 1.25" Plate	69.50 - 70.08	Auto	1.0000
L36	151	CCI 8.5" x 1.25" Plate	69.50 - 70.08	Auto	1.0000
L36	152	CCI 8.5" x 1.25" Plate	69.50 - 70.08	Auto	1.0000
L36	153	CCI 8.5" x 1.25" Plate	69.50 - 70.08	Auto	1.0000
L36	154	CCI 8.5" x 1.25" Plate	69.50 - 70.08	Auto	1.0000
L37	63	CCI 6" x 1" Plate	69.25 - 69.50	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L37	64	CCI 6" x 1" Plate	69.25 - 69.50	Auto	1.0000
L37	65	CCI 6" x 1" Plate	69.25 - 69.50	Auto	1.0000
L37	96	CCI 4.5" x 1" Plate	69.25 - 69.50	Auto	1.0000
L37	97	CCI 4.5" x 1" Plate	69.25 - 69.50	Auto	1.0000
L37	98	CCI 4.5" x 1" Plate	69.25 - 69.50	Auto	1.0000
L37	99	CCI 4.5" x 1" Plate	69.25 - 69.50	Auto	1.0000
L37	149	CCI 8.5" x 1.25" Plate	69.25 - 69.50	Auto	1.0000
L37	150	CCI 8.5" x 1.25" Plate	69.25 - 69.50	Auto	1.0000
L37	151	CCI 8.5" x 1.25" Plate	69.25 - 69.50	Auto	1.0000
L37	152	CCI 8.5" x 1.25" Plate	69.25 - 69.50	Auto	1.0000
L37	153	CCI 8.5" x 1.25" Plate	69.25 - 69.50	Auto	1.0000
L37	154	CCI 8.5" x 1.25" Plate	69.25 - 69.50	Auto	1.0000
L38	63	CCI 6" x 1" Plate	64.25 - 69.25	Auto	1.0000
L38	64	CCI 6" x 1" Plate	64.25 - 69.25	Auto	1.0000
L38	65	CCI 6" x 1" Plate	64.25 - 69.25	Auto	1.0000
L38	76	1" x 2" Plate	64.25 - 66.17	Auto	1.0000
L38	77	1" x 2" Plate	64.25 - 66.17	Auto	1.0000
L38	78	1" x 2" Plate	64.25 - 66.17	Auto	1.0000
L38	79	1" x 2" Plate	64.25 - 66.17	Auto	1.0000
L38	96	CCI 4.5" x 1" Plate	64.25 - 69.25	Auto	1.0000
L38	97	CCI 4.5" x 1" Plate	64.25 - 69.25	Auto	1.0000
L38	98	CCI 4.5" x 1" Plate	64.25 - 69.25	Auto	1.0000
L38	99	CCI 4.5" x 1" Plate	64.25 - 69.25	Auto	1.0000
L38	142	CCI 8.5" x 4.25" Plate	64.25 - 68.42	Auto	1.0000
L38	143	CCI 8.5" x 4.25" Plate	64.25 - 68.42	Auto	1.0000
L38	144	CCI 8.5" x 4.25" Plate	64.25 - 68.42	Auto	1.0000
L38	145	CCI 8.5" x 4.25" Plate	64.25 - 68.42	Auto	1.0000
L38	146	CCI 8.5" x 4.25" Plate	64.25 - 68.42	Auto	1.0000
L38	147	CCI 8.5" x 4.25" Plate	64.25 - 68.42	Auto	1.0000
L38	149	CCI 8.5" x 1.25" Plate	68.42 - 69.25	Auto	1.0000
L38	150	CCI 8.5" x 1.25" Plate	68.42 - 69.25	Auto	1.0000
L38	151	CCI 8.5" x 1.25" Plate	68.42 - 69.25	Auto	1.0000
L38	152	CCI 8.5" x 1.25" Plate	68.42 - 69.25	Auto	1.0000
L38	153	CCI 8.5" x 1.25" Plate	68.42 - 69.25	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L38	154	CCI 8.5" x 1.25" Plate	68.42 - 69.25	Auto	1.0000
L39	63	CCI 6" x 1" Plate	61.17 - 64.25	Auto	1.0000
L39	64	CCI 6" x 1" Plate	61.17 - 64.25	Auto	1.0000
L39	65	CCI 6" x 1" Plate	61.17 - 64.25	Auto	1.0000
L39	76	1" x 2" Plate	61.08 - 64.25	Auto	1.0000
L39	77	1" x 2" Plate	61.08 - 64.25	Auto	1.0000
L39	78	1" x 2" Plate	61.08 - 64.25	Auto	1.0000
L39	79	1" x 2" Plate	61.08 - 64.25	Auto	1.0000
L39	96	CCI 4.5" x 1" Plate	61.00 - 64.25	Auto	1.0000
L39	97	CCI 4.5" x 1" Plate	61.00 - 64.25	Auto	1.0000
L39	98	CCI 4.5" x 1" Plate	61.00 - 64.25	Auto	1.0000
L39	99	CCI 4.5" x 1" Plate	61.00 - 64.25	Auto	1.0000
L39	135	CCI 8.5" x 1.25" Plate	60.58 - 61.08	Auto	1.0000
L39	136	CCI 8.5" x 1.25" Plate	60.58 - 61.08	Auto	1.0000
L39	137	CCI 8.5" x 1.25" Plate	60.58 - 61.08	Auto	1.0000
L39	138	CCI 8.5" x 1.25" Plate	60.58 - 61.08	Auto	1.0000
L39	139	CCI 8.5" x 1.25" Plate	60.58 - 61.08	Auto	1.0000
L39	140	CCI 8.5" x 1.25" Plate	60.58 - 61.08	Auto	1.0000
L39	142	CCI 8.5" x 4.25" Plate	61.08 - 64.25	Auto	1.0000
L39	143	CCI 8.5" x 4.25" Plate	61.08 - 64.25	Auto	1.0000
L39	144	CCI 8.5" x 4.25" Plate	61.08 - 64.25	Auto	1.0000
L39	145	CCI 8.5" x 4.25" Plate	61.08 - 64.25	Auto	1.0000
L39	146	CCI 8.5" x 4.25" Plate	61.08 - 64.25	Auto	1.0000
L39	147	CCI 8.5" x 4.25" Plate	61.08 - 64.25	Auto	1.0000
L39	204	CCI 4.5" x 1" Plate	60.58 - 61.46	Auto	1.0000
L39	205	CCI 4.5" x 1" Plate	60.58 - 61.46	Auto	1.0000
L39	206	CCI 4.5" x 1" Plate	60.58 - 61.46	Auto	1.0000
L39	207	CCI 4.5" x 1" Plate	60.58 - 61.46	Auto	1.0000
L39	209	CCI 4.5" x 3" Plate	61.55 - 62.96	Auto	1.0000
L39	210	CCI 4.5" x 3" Plate	61.55 - 62.96	Auto	1.0000
L39	211	CCI 4.5" x 3" Plate	61.55 - 62.96	Auto	1.0000
L39	212	CCI 4.5" x 3" Plate	61.55 - 62.96	Auto	1.0000
L40	135	CCI 8.5" x 1.25" Plate	60.33 - 60.58	Auto	1.0000
L40	136	CCI 8.5" x 1.25" Plate	60.33 - 60.58	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L40	137	CCI 8.5" x 1.25" Plate	60.33 - 60.58	Auto	1.0000
L40	138	CCI 8.5" x 1.25" Plate	60.33 - 60.58	Auto	1.0000
L40	139	CCI 8.5" x 1.25" Plate	60.33 - 60.58	Auto	1.0000
L40	140	CCI 8.5" x 1.25" Plate	60.33 - 60.58	Auto	1.0000
L40	204	CCI 4.5" x 1" Plate	60.33 - 60.58	Auto	1.0000
L40	205	CCI 4.5" x 1" Plate	60.33 - 60.58	Auto	1.0000
L40	206	CCI 4.5" x 1" Plate	60.33 - 60.58	Auto	1.0000
L40	207	CCI 4.5" x 1" Plate	60.33 - 60.58	Auto	1.0000
L41	59	CCI 6.5" x 1.25" Plate	55.33 - 59.92	Auto	1.0000
L41	60	CCI 6.5" x 1.25" Plate	55.33 - 59.92	Auto	1.0000
L41	61	CCI 6.5" x 1.25" Plate	55.33 - 59.92	Auto	1.0000
L41	128	CCI 8.5" x 1.25" Plate	55.33 - 60.08	Auto	1.0000
L41	129	CCI 8.5" x 1.25" Plate	55.33 - 60.08	Auto	1.0000
L41	130	CCI 8.5" x 1.25" Plate	55.33 - 60.08	Auto	1.0000
L41	131	CCI 8.5" x 1.25" Plate	55.33 - 60.08	Auto	1.0000
L41	132	CCI 8.5" x 1.25" Plate	55.33 - 60.08	Auto	1.0000
L41	133	CCI 8.5" x 1.25" Plate	55.33 - 60.08	Auto	1.0000
L41	135	CCI 8.5" x 1.25" Plate	60.08 - 60.33	Auto	1.0000
L41	136	CCI 8.5" x 1.25" Plate	60.08 - 60.33	Auto	1.0000
L41	137	CCI 8.5" x 1.25" Plate	60.08 - 60.33	Auto	1.0000
L41	138	CCI 8.5" x 1.25" Plate	60.08 - 60.33	Auto	1.0000
L41	139	CCI 8.5" x 1.25" Plate	60.08 - 60.33	Auto	1.0000
L41	140	CCI 8.5" x 1.25" Plate	60.08 - 60.33	Auto	1.0000
L41	204	CCI 4.5" x 1" Plate	58.00 - 60.33	Auto	1.0000
L41	205	CCI 4.5" x 1" Plate	58.00 - 60.33	Auto	1.0000
L41	206	CCI 4.5" x 1" Plate	58.00 - 60.33	Auto	1.0000
L41	207	CCI 4.5" x 1" Plate	58.00 - 60.33	Auto	1.0000
L42	59	CCI 6.5" x 1.25" Plate	52.17 - 55.33	Auto	1.0000
L42	60	CCI 6.5" x 1.25" Plate	52.17 - 55.33	Auto	1.0000
L42	61	CCI 6.5" x 1.25" Plate	52.17 - 55.33	Auto	1.0000
L42	128	CCI 8.5" x 1.25" Plate	55.25 - 55.33	Auto	1.0000
L42	129	CCI 8.5" x 1.25" Plate	55.25 - 55.33	Auto	1.0000
L42	130	CCI 8.5" x 1.25" Plate	55.25 - 55.33	Auto	1.0000
L42	131	CCI 8.5" x 1.25" Plate	55.25 - 55.33	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L42	132	CCI 8.5" x 1.25" Plate	55.25 - 55.33	Auto	1.0000
L42	133	CCI 8.5" x 1.25" Plate	55.25 - 55.33	Auto	1.0000
L43	59	CCI 6.5" x 1.25" Plate	51.92 - 52.17	Auto	1.0000
L43	60	CCI 6.5" x 1.25" Plate	51.92 - 52.17	Auto	1.0000
L43	61	CCI 6.5" x 1.25" Plate	51.92 - 52.17	Auto	1.0000
L44	59	CCI 6.5" x 1.25" Plate	46.92 - 51.92	Auto	1.0000
L44	60	CCI 6.5" x 1.25" Plate	46.92 - 51.92	Auto	1.0000
L44	61	CCI 6.5" x 1.25" Plate	46.92 - 51.92	Auto	1.0000
L44	71	1" x 2" Plate	46.92 - 50.42	Auto	1.0000
L44	72	1" x 2" Plate	46.92 - 50.42	Auto	1.0000
L44	73	1" x 2" Plate	46.92 - 50.42	Auto	1.0000
L44	74	1" x 2" Plate	46.92 - 50.42	Auto	1.0000
L44	91	CCI 6" x 1" Plate	46.92 - 50.17	Auto	1.0000
L44	92	CCI 6" x 1" Plate	46.92 - 50.17	Auto	1.0000
L44	93	CCI 6" x 1" Plate	46.92 - 50.17	Auto	1.0000
L44	94	CCI 6" x 1" Plate	46.92 - 50.17	Auto	1.0000
L44	121	CCI 6.5" x 1.25" Plate	46.92 - 47.83	Auto	1.0000
L44	122	CCI 6.5" x 1.25" Plate	46.92 - 47.83	Auto	1.0000
L44	123	CCI 6.5" x 1.25" Plate	46.92 - 47.83	Auto	1.0000
L44	124	CCI 6.5" x 1.25" Plate	46.92 - 47.83	Auto	1.0000
L44	125	CCI 6.5" x 1.25" Plate	46.92 - 47.83	Auto	1.0000
L44	126	CCI 6.5" x 1.25" Plate	46.92 - 47.83	Auto	1.0000
L45	59	CCI 6.5" x 1.25" Plate	41.92 - 46.92	Auto	1.0000
L45	60	CCI 6.5" x 1.25" Plate	41.92 - 46.92	Auto	1.0000
L45	61	CCI 6.5" x 1.25" Plate	41.92 - 46.92	Auto	1.0000
L45	71	1" x 2" Plate	41.92 - 46.92	Auto	1.0000
L45	72	1" x 2" Plate	41.92 - 46.92	Auto	1.0000
L45	73	1" x 2" Plate	41.92 - 46.92	Auto	1.0000
L45	74	1" x 2" Plate	41.92 - 46.92	Auto	1.0000
L45	91	CCI 6" x 1" Plate	41.92 - 46.92	Auto	1.0000
L45	92	CCI 6" x 1" Plate	41.92 - 46.92	Auto	1.0000
L45	93	CCI 6" x 1" Plate	41.92 - 46.92	Auto	1.0000
L45	94	CCI 6" x 1" Plate	41.92 - 46.92	Auto	1.0000
L45	121	CCI 6.5" x 1.25" Plate	41.92 - 46.92	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L45	122	CCI 6.5" x 1.25" Plate	41.92 - 46.92	Auto	1.0000
L45	123	CCI 6.5" x 1.25" Plate	41.92 - 46.92	Auto	1.0000
L45	124	CCI 6.5" x 1.25" Plate	41.92 - 46.92	Auto	1.0000
L45	125	CCI 6.5" x 1.25" Plate	41.92 - 46.92	Auto	1.0000
L45	126	CCI 6.5" x 1.25" Plate	41.92 - 46.92	Auto	1.0000
L46	59	CCI 6.5" x 1.25" Plate	40.83 - 41.92	Auto	1.0000
L46	60	CCI 6.5" x 1.25" Plate	40.83 - 41.92	Auto	1.0000
L46	61	CCI 6.5" x 1.25" Plate	40.83 - 41.92	Auto	1.0000
L46	71	1" x 2" Plate	40.58 - 41.92	Auto	1.0000
L46	72	1" x 2" Plate	40.58 - 41.92	Auto	1.0000
L46	73	1" x 2" Plate	40.58 - 41.92	Auto	1.0000
L46	74	1" x 2" Plate	40.58 - 41.92	Auto	1.0000
L46	91	CCI 6" x 1" Plate	40.23 - 41.92	Auto	1.0000
L46	92	CCI 6" x 1" Plate	40.23 - 41.92	Auto	1.0000
L46	93	CCI 6" x 1" Plate	40.23 - 41.92	Auto	1.0000
L46	94	CCI 6" x 1" Plate	40.23 - 41.92	Auto	1.0000
L46	121	CCI 6.5" x 1.25" Plate	40.23 - 41.92	Auto	1.0000
L46	122	CCI 6.5" x 1.25" Plate	40.23 - 41.92	Auto	1.0000
L46	123	CCI 6.5" x 1.25" Plate	40.23 - 41.92	Auto	1.0000
L46	124	CCI 6.5" x 1.25" Plate	40.23 - 41.92	Auto	1.0000
L46	125	CCI 6.5" x 1.25" Plate	40.23 - 41.92	Auto	1.0000
L46	126	CCI 6.5" x 1.25" Plate	40.23 - 41.92	Auto	1.0000
L47	91	CCI 6" x 1" Plate	39.98 - 40.23	Auto	1.0000
L47	92	CCI 6" x 1" Plate	39.98 - 40.23	Auto	1.0000
L47	93	CCI 6" x 1" Plate	39.98 - 40.23	Auto	1.0000
L47	94	CCI 6" x 1" Plate	39.98 - 40.23	Auto	1.0000
L47	121	CCI 6.5" x 1.25" Plate	39.98 - 40.23	Auto	1.0000
L47	122	CCI 6.5" x 1.25" Plate	39.98 - 40.23	Auto	1.0000
L47	123	CCI 6.5" x 1.25" Plate	39.98 - 40.23	Auto	1.0000
L47	124	CCI 6.5" x 1.25" Plate	39.98 - 40.23	Auto	1.0000
L47	125	CCI 6.5" x 1.25" Plate	39.98 - 40.23	Auto	1.0000
L47	126	CCI 6.5" x 1.25" Plate	39.98 - 40.23	Auto	1.0000
L48	55	CCI 6" x 1" Plate	34.98 - 39.75	Auto	1.0000
L48	56	CCI 6" x 1" Plate	34.98 - 39.75	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L48	57	CCI 6" x 1" Plate	34.98 - 39.75	Auto	1.0000
L48	91	CCI 6" x 1" Plate	37.17 - 39.98	Auto	1.0000
L48	92	CCI 6" x 1" Plate	37.17 - 39.98	Auto	1.0000
L48	93	CCI 6" x 1" Plate	37.17 - 39.98	Auto	1.0000
L48	94	CCI 6" x 1" Plate	37.17 - 39.98	Auto	1.0000
L48	121	CCI 6.5" x 1.25" Plate	34.98 - 39.98	Auto	1.0000
L48	122	CCI 6.5" x 1.25" Plate	34.98 - 39.98	Auto	1.0000
L48	123	CCI 6.5" x 1.25" Plate	34.98 - 39.98	Auto	1.0000
L48	124	CCI 6.5" x 1.25" Plate	34.98 - 39.98	Auto	1.0000
L48	125	CCI 6.5" x 1.25" Plate	34.98 - 39.98	Auto	1.0000
L48	126	CCI 6.5" x 1.25" Plate	34.98 - 39.98	Auto	1.0000
L49	55	CCI 6" x 1" Plate	29.98 - 34.98	Auto	1.0000
L49	56	CCI 6" x 1" Plate	29.98 - 34.98	Auto	1.0000
L49	57	CCI 6" x 1" Plate	29.98 - 34.98	Auto	1.0000
L49	86	CCI 6" x 1" Plate	29.98 - 30.00	Auto	1.0000
L49	87	CCI 6" x 1" Plate	29.98 - 30.00	Auto	1.0000
L49	88	CCI 6" x 1" Plate	29.98 - 30.00	Auto	1.0000
L49	89	CCI 6" x 1" Plate	29.98 - 30.00	Auto	1.0000
L49	121	CCI 6.5" x 1.25" Plate	32.83 - 34.98	Auto	1.0000
L49	122	CCI 6.5" x 1.25" Plate	32.83 - 34.98	Auto	1.0000
L49	123	CCI 6.5" x 1.25" Plate	32.83 - 34.98	Auto	1.0000
L49	124	CCI 6.5" x 1.25" Plate	32.83 - 34.98	Auto	1.0000
L49	125	CCI 6.5" x 1.25" Plate	32.83 - 34.98	Auto	1.0000
L49	126	CCI 6.5" x 1.25" Plate	32.83 - 34.98	Auto	1.0000
L50	55	CCI 6" x 1" Plate	28.00 - 29.98	Auto	1.0000
L50	56	CCI 6" x 1" Plate	28.00 - 29.98	Auto	1.0000
L50	57	CCI 6" x 1" Plate	28.00 - 29.98	Auto	1.0000
L50	86	CCI 6" x 1" Plate	28.00 - 29.98	Auto	1.0000
L50	87	CCI 6" x 1" Plate	28.00 - 29.98	Auto	1.0000
L50	88	CCI 6" x 1" Plate	28.00 - 29.98	Auto	1.0000
L50	89	CCI 6" x 1" Plate	28.00 - 29.98	Auto	1.0000
L51	55	CCI 6" x 1" Plate	27.75 - 28.00	Auto	1.0000
L51	56	CCI 6" x 1" Plate	27.75 - 28.00	Auto	1.0000
L51	57	CCI 6" x 1" Plate	27.75 - 28.00	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L51	86	CCI 6" x 1" Plate	27.75 - 28.00	Auto	1.0000
L51	87	CCI 6" x 1" Plate	27.75 - 28.00	Auto	1.0000
L51	88	CCI 6" x 1" Plate	27.75 - 28.00	Auto	1.0000
L51	89	CCI 6" x 1" Plate	27.75 - 28.00	Auto	1.0000
L52	55	CCI 6" x 1" Plate	22.75 - 27.75	Auto	1.0000
L52	56	CCI 6" x 1" Plate	22.75 - 27.75	Auto	1.0000
L52	57	CCI 6" x 1" Plate	22.75 - 27.75	Auto	1.0000
L52	86	CCI 6" x 1" Plate	22.75 - 27.75	Auto	1.0000
L52	87	CCI 6" x 1" Plate	22.75 - 27.75	Auto	1.0000
L52	88	CCI 6" x 1" Plate	22.75 - 27.75	Auto	1.0000
L52	89	CCI 6" x 1" Plate	22.75 - 27.75	Auto	1.0000
L52	114	CCI 6.5" x 1.25" Plate	22.75 - 27.50	Auto	1.0000
L52	115	CCI 6.5" x 1.25" Plate	22.75 - 27.50	Auto	1.0000
L52	116	CCI 6.5" x 1.25" Plate	22.75 - 27.50	Auto	1.0000
L52	117	CCI 6.5" x 1.25" Plate	22.75 - 27.50	Auto	1.0000
L52	118	CCI 6.5" x 1.25" Plate	22.75 - 27.50	Auto	1.0000
L52	119	CCI 6.5" x 1.25" Plate	22.75 - 27.50	Auto	1.0000
L53	55	CCI 6" x 1" Plate	20.75 - 22.75	Auto	1.0000
L53	56	CCI 6" x 1" Plate	20.75 - 22.75	Auto	1.0000
L53	57	CCI 6" x 1" Plate	20.75 - 22.75	Auto	1.0000
L53	86	CCI 6" x 1" Plate	20.08 - 22.75	Auto	1.0000
L53	87	CCI 6" x 1" Plate	20.08 - 22.75	Auto	1.0000
L53	88	CCI 6" x 1" Plate	20.08 - 22.75	Auto	1.0000
L53	89	CCI 6" x 1" Plate	20.08 - 22.75	Auto	1.0000
L53	114	CCI 6.5" x 1.25" Plate	20.08 - 22.75	Auto	1.0000
L53	115	CCI 6.5" x 1.25" Plate	20.08 - 22.75	Auto	1.0000
L53	116	CCI 6.5" x 1.25" Plate	20.08 - 22.75	Auto	1.0000
L53	117	CCI 6.5" x 1.25" Plate	20.08 - 22.75	Auto	1.0000
L53	118	CCI 6.5" x 1.25" Plate	20.08 - 22.75	Auto	1.0000
L53	119	CCI 6.5" x 1.25" Plate	20.08 - 22.75	Auto	1.0000
L54	86	CCI 6" x 1" Plate	19.83 - 20.08	Auto	1.0000
L54	87	CCI 6" x 1" Plate	19.83 - 20.08	Auto	1.0000
L54	88	CCI 6" x 1" Plate	19.83 - 20.08	Auto	1.0000
L54	89	CCI 6" x 1" Plate	19.83 - 20.08	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L54	114	CCI 6.5" x 1.25" Plate	19.83 - 20.08	Auto	1.0000
L54	115	CCI 6.5" x 1.25" Plate	19.83 - 20.08	Auto	1.0000
L54	116	CCI 6.5" x 1.25" Plate	19.83 - 20.08	Auto	1.0000
L54	117	CCI 6.5" x 1.25" Plate	19.83 - 20.08	Auto	1.0000
L54	118	CCI 6.5" x 1.25" Plate	19.83 - 20.08	Auto	1.0000
L54	119	CCI 6.5" x 1.25" Plate	19.83 - 20.08	Auto	1.0000
L55	81	CCI 6" x 1" Plate	17.00 - 19.00	Auto	1.0000
L55	82	CCI 6" x 1" Plate	17.00 - 19.00	Auto	1.0000
L55	83	CCI 6" x 1" Plate	17.00 - 19.00	Auto	1.0000
L55	84	CCI 6" x 1" Plate	17.00 - 19.00	Auto	1.0000
L55	86	CCI 6" x 1" Plate	17.00 - 19.83	Auto	1.0000
L55	87	CCI 6" x 1" Plate	17.00 - 19.83	Auto	1.0000
L55	88	CCI 6" x 1" Plate	17.00 - 19.83	Auto	1.0000
L55	89	CCI 6" x 1" Plate	17.00 - 19.83	Auto	1.0000
L55	114	CCI 6.5" x 1.25" Plate	17.00 - 19.83	Auto	1.0000
L55	115	CCI 6.5" x 1.25" Plate	17.00 - 19.83	Auto	1.0000
L55	116	CCI 6.5" x 1.25" Plate	17.00 - 19.83	Auto	1.0000
L55	117	CCI 6.5" x 1.25" Plate	17.00 - 19.83	Auto	1.0000
L55	118	CCI 6.5" x 1.25" Plate	17.00 - 19.83	Auto	1.0000
L55	119	CCI 6.5" x 1.25" Plate	17.00 - 19.83	Auto	1.0000
L56	81	CCI 6" x 1" Plate	16.75 - 17.00	Auto	1.0000
L56	82	CCI 6" x 1" Plate	16.75 - 17.00	Auto	1.0000
L56	83	CCI 6" x 1" Plate	16.75 - 17.00	Auto	1.0000
L56	84	CCI 6" x 1" Plate	16.75 - 17.00	Auto	1.0000
L56	114	CCI 6.5" x 1.25" Plate	16.75 - 17.00	Auto	1.0000
L56	115	CCI 6.5" x 1.25" Plate	16.75 - 17.00	Auto	1.0000
L56	116	CCI 6.5" x 1.25" Plate	16.75 - 17.00	Auto	1.0000
L56	117	CCI 6.5" x 1.25" Plate	16.75 - 17.00	Auto	1.0000
L56	118	CCI 6.5" x 1.25" Plate	16.75 - 17.00	Auto	1.0000
L56	119	CCI 6.5" x 1.25" Plate	16.75 - 17.00	Auto	1.0000
L57	53	CCI 4" x 0.75" Plate	11.65 - 13.17	Auto	1.0000
L57	81	CCI 6" x 1" Plate	11.65 - 16.75	Auto	1.0000
L57	82	CCI 6" x 1" Plate	11.65 - 16.75	Auto	1.0000
L57	83	CCI 6" x 1" Plate	11.65 - 16.75	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L57	84	CCI 6" x 1" Plate	11.65 - 16.75	Auto	1.0000
L57	114	CCI 6.5" x 1.25" Plate	12.67 - 16.75	Auto	1.0000
L57	115	CCI 6.5" x 1.25" Plate	12.67 - 16.75	Auto	1.0000
L57	116	CCI 6.5" x 1.25" Plate	12.67 - 16.75	Auto	1.0000
L57	117	CCI 6.5" x 1.25" Plate	12.67 - 16.75	Auto	1.0000
L57	118	CCI 6.5" x 1.25" Plate	12.67 - 16.75	Auto	1.0000
L57	119	CCI 6.5" x 1.25" Plate	12.67 - 16.75	Auto	1.0000
L58	53	CCI 4" x 0.75" Plate	11.42 - 11.65	Auto	1.0000
L58	81	CCI 6" x 1" Plate	11.42 - 11.65	Auto	1.0000
L58	82	CCI 6" x 1" Plate	11.42 - 11.65	Auto	1.0000
L58	83	CCI 6" x 1" Plate	11.42 - 11.65	Auto	1.0000
L58	84	CCI 6" x 1" Plate	11.42 - 11.65	Auto	1.0000
L59	51	CCI 4" x 0.75" Plate	9.40 - 10.88	Auto	1.0000
L59	52	CCI 4" x 0.75" Plate	9.40 - 10.88	Auto	1.0000
L59	53	CCI 4" x 0.75" Plate	9.40 - 11.42	Auto	1.0000
L59	81	CCI 6" x 1" Plate	9.40 - 11.42	Auto	1.0000
L59	82	CCI 6" x 1" Plate	9.40 - 11.42	Auto	1.0000
L59	83	CCI 6" x 1" Plate	9.40 - 11.42	Auto	1.0000
L59	84	CCI 6" x 1" Plate	9.40 - 11.42	Auto	1.0000
L60	51	CCI 4" x 0.75" Plate	9.15 - 9.40	Auto	1.0000
L60	52	CCI 4" x 0.75" Plate	9.15 - 9.40	Auto	1.0000
L60	53	CCI 4" x 0.75" Plate	9.15 - 9.40	Auto	1.0000
L60	81	CCI 6" x 1" Plate	9.15 - 9.40	Auto	1.0000
L60	82	CCI 6" x 1" Plate	9.15 - 9.40	Auto	1.0000
L60	83	CCI 6" x 1" Plate	9.15 - 9.40	Auto	1.0000
L60	84	CCI 6" x 1" Plate	9.15 - 9.40	Auto	1.0000
L61	51	CCI 4" x 0.75" Plate	4.83 - 9.15	Auto	1.0000
L61	52	CCI 4" x 0.75" Plate	4.83 - 9.15	Auto	1.0000
L61	53	CCI 4" x 0.75" Plate	4.83 - 9.15	Auto	1.0000
L61	81	CCI 6" x 1" Plate	4.83 - 9.15	Auto	1.0000
L61	82	CCI 6" x 1" Plate	4.83 - 9.15	Auto	1.0000
L61	83	CCI 6" x 1" Plate	4.83 - 9.15	Auto	1.0000
L61	84	CCI 6" x 1" Plate	4.83 - 9.15	Auto	1.0000
L62	51	CCI 4" x 0.75" Plate	4.58 - 4.83	Auto	1.0000
L62	52	CCI 4" x 0.75" Plate	4.58 - 4.83	Auto	1.0000
L62	53	CCI 4" x 0.75" Plate	4.58 - 4.83	Auto	1.0000
L62	81	CCI 6" x 1" Plate	4.58 - 4.83	Auto	1.0000
L62	82	CCI 6" x 1" Plate	4.58 - 4.83	Auto	1.0000
L62	83	CCI 6" x 1" Plate	4.58 - 4.83	Auto	1.0000
L62	84	CCI 6" x 1" Plate	4.58 - 4.83	Auto	1.0000
L63	51	CCI 4" x 0.75" Plate	0.00 - 4.58	Auto	1.0000
L63	52	CCI 4" x 0.75" Plate	0.00 - 4.58	Auto	1.0000
L63	53	CCI 4" x 0.75" Plate	3.17 - 4.58	Auto	1.0000
L63	81	CCI 6" x 1" Plate	0.00 - 4.58	Auto	1.0000
L63	82	CCI 6" x 1" Plate	0.00 - 4.58	Auto	1.0000
L63	83	CCI 6" x 1" Plate	0.00 - 4.58	Auto	1.0000
L63	84	CCI 6" x 1" Plate	0.00 - 4.58	Auto	1.0000

Discrete Tower Loads

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
Lightning Rod 5/8" x 4' on 4' Pole	B	From Leg	1.00	0.0000	191.67	No Ice	1.36	1.36	0.07
			0.00			1/2"	2.13	2.13	0.09
			4.00			Ice	2.70	2.70	0.11
						1" Ice	3.77	3.77	0.17
						2" Ice			
*									
4' ICE SHIELDS	A	From Leg	0.50	0.0000	178.00	No Ice	1.40	0.47	0.03
			0.00			1/2"	1.88	0.64	0.10
			0.00			Ice	2.38	0.82	0.17
						1" Ice	3.39	1.21	0.33
						2" Ice			
4' ICE SHIELDS	A	From Leg	0.50	0.0000	138.00	No Ice	1.40	0.47	0.03
			0.00			1/2"	1.88	0.64	0.10
			0.00			Ice	2.38	0.82	0.17
						1" Ice	3.39	1.21	0.33
						2" Ice			
4' ICE SHIELDS	A	From Leg	0.50	0.0000	98.00	No Ice	1.40	0.47	0.03
			0.00			1/2"	1.88	0.64	0.10
			0.00			Ice	2.38	0.82	0.17
						1" Ice	3.39	1.21	0.33
						2" Ice			
4' ICE SHIELDS	B	From Leg	0.50	0.0000	98.00	No Ice	1.40	0.47	0.03
			0.00			1/2"	1.88	0.64	0.10
			0.00			Ice	2.38	0.82	0.17
						1" Ice	3.39	1.21	0.33
						2" Ice			
4' ICE SHIELDS	C	From Leg	0.50	0.0000	98.00	No Ice	1.40	0.47	0.03
			0.00			1/2"	1.88	0.64	0.10
			0.00			Ice	2.38	0.82	0.17
						1" Ice	3.39	1.21	0.33
						2" Ice			

OGB4-900D	C	From Leg	3.00	0.0000	192.00	No Ice	0.79	0.79	0.01
			0.00			1/2"	1.03	1.03	0.02
			4.00			Ice	1.28	1.28	0.03
						1" Ice	1.81	1.81	0.05
						2" Ice			
Side Arm Mount [SO 701-1]	C	From Leg	1.50	0.0000	192.00	No Ice	0.85	1.67	0.07
			0.00			1/2"	1.14	2.34	0.08
			0.00			Ice	1.43	3.01	0.09
						1" Ice	2.01	4.35	0.12
						2" Ice			

DB589-A	B	From Leg	3.00	0.0000	191.00	No Ice	2.76	2.76	0.01
			0.00			1/2"	4.17	4.17	0.03
			5.00			Ice	5.59	5.59	0.06
						1" Ice	8.49	8.49	0.15
						2" Ice			
WB2623 w/ Mount Pipe	B	From Leg	3.00	0.0000	191.00	No Ice	1.93	0.87	0.02
			0.00			1/2"	2.16	1.11	0.04
			-1.00			Ice	2.40	1.37	0.06
						1" Ice	2.91	1.94	0.11
						2" Ice			
Side Arm Mount [SO 701-1]	B	From Leg	1.50	0.0000	191.00	No Ice	0.85	1.67	0.07
			0.00			1/2"	1.14	2.34	0.08
			0.00			Ice	1.43	3.01	0.09
						1" Ice	2.01	4.35	0.12
						2" Ice			

AIR -32 B2A/B66AA w/ Mount Pipe	A	From Leg	4.00	0.0000	184.00	No Ice	3.76	3.15	0.19
			0.00			1/2"	4.12	3.49	0.25
			0.00			Ice	4.48	3.84	0.32
						1" Ice	5.24	4.58	0.48
						2" Ice			
AIR -32 B2A/B66AA w/	B	From Leg	4.00	0.0000	184.00	No Ice	3.76	3.15	0.19

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight	
			Horz	Lateral			ft ²	ft ²		
			ft	ft	°	ft	ft ²	ft ²	K	
Mount Pipe			0.00			1/2"	4.12	3.49	0.25	
			0.00			Ice	4.48	3.84	0.32	
						1" Ice	5.24	4.58	0.48	
						2" Ice				
AIR -32 B2A/B66AA w/ Mount Pipe	C	From Leg	4.00		0.0000	184.00	No Ice	3.76	3.15	0.19
			0.00				1/2"	4.12	3.49	0.25
			0.00				Ice	4.48	3.84	0.32
							1" Ice	5.24	4.58	0.48
AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Leg	4.00		0.0000	184.00	No Ice	5.19	2.71	0.13
			0.00				1/2"	5.59	3.04	0.17
			0.00				Ice	6.02	3.38	0.23
							1" Ice	6.90	4.12	0.35
AIR6449 B41_T-MOBILE w/ Mount Pipe	B	From Leg	4.00		0.0000	184.00	No Ice	5.19	2.71	0.13
			0.00				1/2"	5.59	3.04	0.17
			0.00				Ice	6.02	3.38	0.23
							1" Ice	6.90	4.12	0.35
AIR6449 B41_T-MOBILE w/ Mount Pipe	C	From Leg	4.00		0.0000	184.00	No Ice	5.19	2.71	0.13
			0.00				1/2"	5.59	3.04	0.17
			0.00				Ice	6.02	3.38	0.23
							1" Ice	6.90	4.12	0.35
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.00		0.0000	184.00	No Ice	14.69	6.87	0.19
			0.00				1/2"	15.46	7.55	0.31
			0.00				Ice	16.23	8.25	0.46
							1" Ice	17.82	9.67	0.79
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.00		0.0000	184.00	No Ice	14.69	6.87	0.19
			0.00				1/2"	15.46	7.55	0.31
			0.00				Ice	16.23	8.25	0.46
							1" Ice	17.82	9.67	0.79
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.00		0.0000	184.00	No Ice	14.69	6.87	0.19
			0.00				1/2"	15.46	7.55	0.31
			0.00				Ice	16.23	8.25	0.46
							1" Ice	17.82	9.67	0.79
RADIO 4415 B25_TMO	A	From Leg	4.00		0.0000	184.00	No Ice	1.86	0.87	0.05
			0.00				1/2"	2.03	1.00	0.06
			0.00				Ice	2.20	1.13	0.08
							1" Ice	2.58	1.43	0.12
RADIO 4415 B25_TMO	B	From Leg	4.00		0.0000	184.00	No Ice	1.86	0.87	0.05
			0.00				1/2"	2.03	1.00	0.06
			0.00				Ice	2.20	1.13	0.08
							1" Ice	2.58	1.43	0.12
RADIO 4415 B25_TMO	C	From Leg	4.00		0.0000	184.00	No Ice	1.86	0.87	0.05
			0.00				1/2"	2.03	1.00	0.06
			0.00				Ice	2.20	1.13	0.08
							1" Ice	2.58	1.43	0.12
RADIO 4449 B71 B85A_T-MOBILE	A	From Leg	4.00		0.0000	184.00	No Ice	1.97	1.59	0.07
			0.00				1/2"	2.15	1.75	0.09
			0.00				Ice	2.33	1.92	0.12
							1" Ice	2.72	2.28	0.17
RADIO 4449 B71 B85A_T-MOBILE	B	From Leg	4.00		0.0000	184.00	No Ice	1.97	1.59	0.07
			0.00				1/2"	2.15	1.75	0.09
			0.00				Ice	2.33	1.92	0.12
							1" Ice	2.72	2.28	0.17
RADIO 4449 B71 B85A_T-	C	From Leg	4.00		0.0000	184.00	No Ice	1.97	1.59	0.07

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
MOBILE			0.00 0.00			1/2" Ice 1" Ice 2" Ice	2.15 1.75 2.33 1.92 2.72 2.28	0.09 0.12 0.17	
Platform Mount [LP 405-1_HR-1]	C	None		0.0000	184.00	No Ice 1/2" Ice 1" Ice 2" Ice	25.33 33.79 42.16 58.77	25.33 33.79 42.16 58.77	2.06 2.63 3.36 5.25

MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	171.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.01 8.52 9.04 10.11	4.23 4.69 5.16 6.12	0.11 0.19 0.29 0.52
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	171.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.01 8.52 9.04 10.11	4.23 4.69 5.16 6.12	0.11 0.19 0.29 0.52
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	171.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.01 8.52 9.04 10.11	4.23 4.69 5.16 6.12	0.11 0.19 0.29 0.52
TA08025-B604	A	From Leg	4.00 0.00 0.00	0.0000	171.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.96 2.14 2.32 2.71	0.98 1.11 1.25 1.55	0.06 0.08 0.10 0.15
TA08025-B604	B	From Leg	4.00 0.00 0.00	0.0000	171.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.96 2.14 2.32 2.71	0.98 1.11 1.25 1.55	0.06 0.08 0.10 0.15
TA08025-B604	C	From Leg	4.00 0.00 0.00	0.0000	171.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.96 2.14 2.32 2.71	0.98 1.11 1.25 1.55	0.06 0.08 0.10 0.15
TA08025-B605	A	From Leg	4.00 0.00 0.00	0.0000	171.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.96 2.14 2.32 2.71	1.13 1.27 1.41 1.72	0.08 0.09 0.11 0.16
TA08025-B605	B	From Leg	4.00 0.00 0.00	0.0000	171.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.96 2.14 2.32 2.71	1.13 1.27 1.41 1.72	0.08 0.09 0.11 0.16
TA08025-B605	C	From Leg	4.00 0.00 0.00	0.0000	171.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.96 2.14 2.32 2.71	1.13 1.27 1.41 1.72	0.08 0.09 0.11 0.16
RDIDC-9181-PF-48	A	From Leg	4.00 0.00 0.00	0.0000	171.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.01 2.19 2.37 2.76	1.17 1.31 1.46 1.78	0.02 0.04 0.06 0.11
(2) 8' x 2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	171.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12

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
(2) 8' x 2" Mount Pipe	B	From Leg	4.00	0.0000	171.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice	4.40	4.40	0.12
						2" Ice			
(2) 8' x 2" Mount Pipe	C	From Leg	4.00	0.0000	171.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice	4.40	4.40	0.12
						2" Ice			
Commscope MC-PK8-DSH	C	None		0.0000	171.00	No Ice	34.24	34.24	1.75
						1/2"	62.95	62.95	2.10
						Ice	91.66	91.66	2.45
						1" Ice	149.08	149.08	3.15
						2" Ice			

(2) NNHH-65B-R4 w/ Mount Pipe	A	From Leg	4.00	0.0000	160.00	No Ice	7.55	4.23	0.11
			0.00			1/2"	8.04	4.67	0.20
			0.00			Ice	8.53	5.12	0.30
						1" Ice	9.56	6.05	0.53
						2" Ice			
(2) NNHH-65B-R4 w/ Mount Pipe	B	From Leg	4.00	0.0000	160.00	No Ice	7.55	4.23	0.11
			0.00			1/2"	8.04	4.67	0.20
			0.00			Ice	8.53	5.12	0.30
						1" Ice	9.56	6.05	0.53
						2" Ice			
(2) NNHH-65B-R4 w/ Mount Pipe	C	From Leg	4.00	0.0000	160.00	No Ice	7.55	4.23	0.11
			0.00			1/2"	8.04	4.67	0.20
			0.00			Ice	8.53	5.12	0.30
						1" Ice	9.56	6.05	0.53
						2" Ice			
LNx-6514DS-A1M w/ Mount Pipe	A	From Leg	4.00	0.0000	160.00	No Ice	4.09	3.30	0.06
			0.00			1/2"	4.49	3.68	0.13
			0.00			Ice	4.89	4.06	0.20
						1" Ice	5.71	4.87	0.38
						2" Ice			
RFV01U-D1A	A	From Leg	4.00	0.0000	160.00	No Ice	1.88	1.25	0.08
			0.00			1/2"	2.05	1.39	0.10
			2.00			Ice	2.22	1.54	0.12
						1" Ice	2.60	1.86	0.18
						2" Ice			
RFV01U-D1A	B	From Leg	4.00	0.0000	160.00	No Ice	1.88	1.25	0.08
			0.00			1/2"	2.05	1.39	0.10
			2.00			Ice	2.22	1.54	0.12
						1" Ice	2.60	1.86	0.18
						2" Ice			
RFV01U-D1A	C	From Leg	4.00	0.0000	160.00	No Ice	1.88	1.25	0.08
			0.00			1/2"	2.05	1.39	0.10
			2.00			Ice	2.22	1.54	0.12
						1" Ice	2.60	1.86	0.18
						2" Ice			
RFV01U-D2A	A	From Leg	4.00	0.0000	160.00	No Ice	1.88	1.01	0.07
			0.00			1/2"	2.05	1.14	0.09
			2.00			Ice	2.22	1.28	0.11
						1" Ice	2.60	1.59	0.15
						2" Ice			
RFV01U-D2A	B	From Leg	4.00	0.0000	160.00	No Ice	1.88	1.01	0.07
			0.00			1/2"	2.05	1.14	0.09
			2.00			Ice	2.22	1.28	0.11
						1" Ice	2.60	1.59	0.15
						2" Ice			
RFV01U-D2A	C	From Leg	4.00	0.0000	160.00	No Ice	1.88	1.01	0.07
			0.00			1/2"	2.05	1.14	0.09
			2.00			Ice	2.22	1.28	0.11
						1" Ice	2.60	1.59	0.15
						2" Ice			

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight	
			Horz	Lateral						Vert
			ft	ft	°	ft	ft ²	ft ²	K	
Platform Mount [LP 303-1]	C	None			0.0000	160.00	2" Ice			
							No Ice	14.69	14.69	1.25
							1/2"	18.01	18.01	1.57
							Ice	21.34	21.34	1.94
							1" Ice	28.08	28.08	2.85
							2" Ice			

LNx-6514DS-A1M w/ Mount Pipe	C	From Leg	4.00	0.00	0.0000	160.00	No Ice	4.09	3.30	0.06
							1/2"	4.49	3.68	0.13
							Ice	4.89	4.06	0.20
							1" Ice	5.71	4.87	0.38
							2" Ice			
HBXX-6517DS-A2M w/ Mount Pipe	B	From Leg	4.00	0.00	0.0000	160.00	No Ice	7.97	5.99	0.08
							1/2"	8.73	6.72	0.14
							Ice	9.51	7.47	0.21
							1" Ice	11.11	9.02	0.40
							2" Ice			
MT6407-77A w/ Mount Pipe	A	From Leg	4.00	0.00	0.0000	160.00	No Ice	4.91	2.68	0.10
							1/2"	5.26	3.14	0.14
							Ice	5.61	3.62	0.18
							1" Ice	6.36	4.63	0.29
							2" Ice			
MT6407-77A w/ Mount Pipe	B	From Leg	4.00	0.00	0.0000	160.00	No Ice	4.91	2.68	0.10
							1/2"	5.26	3.14	0.14
							Ice	5.61	3.62	0.18
							1" Ice	6.36	4.63	0.29
							2" Ice			
MT6407-77A w/ Mount Pipe	C	From Leg	4.00	0.00	0.0000	160.00	No Ice	4.91	2.68	0.10
							1/2"	5.26	3.14	0.14
							Ice	5.61	3.62	0.18
							1" Ice	6.36	4.63	0.29
							2" Ice			
RVZDC-6627-PF-48	A	From Leg	4.00	0.00	0.0000	160.00	No Ice	3.79	2.51	0.03
							1/2"	4.04	2.73	0.06
							Ice	4.30	2.95	0.10
							1" Ice	4.84	3.42	0.18
							2" Ice			

SRL-224NM-4	B	From Leg	6.00	0.00	0.0000	158.00	No Ice	2.60	2.60	0.04
							1/2"	4.68	4.68	0.05
							Ice	6.76	6.76	0.06
							1" Ice	10.92	10.92	0.08
							2" Ice			
DB205-A	C	From Leg	6.00	0.00	0.0000	158.00	No Ice	1.20	1.20	0.04
							1/2"	2.16	2.16	0.05
							Ice	3.12	3.12	0.06
							1" Ice	5.04	5.04	0.08
							2" Ice			
Side Arm Mount [SO 702-1]	B	From Leg	3.00	0.00	0.0000	158.00	No Ice	0.62	1.49	0.03
							1/2"	0.74	2.07	0.04
							Ice	0.89	2.54	0.06
							1" Ice	1.25	3.55	0.12
							2" Ice			
Side Arm Mount [SO 702-1]	C	From Leg	3.00	0.00	0.0000	158.00	No Ice	0.62	1.49	0.03
							1/2"	0.74	2.07	0.04
							Ice	0.89	2.54	0.06
							1" Ice	1.25	3.55	0.12
							2" Ice			
4' x 2" Pipe Mount	B	From Leg	6.00	0.00	0.0000	158.00	No Ice	0.79	0.79	0.03
							1/2"	1.03	1.03	0.04
							Ice	1.28	1.28	0.04
							1" Ice	1.81	1.81	0.07
							2" Ice			
4' x 2" Pipe Mount	C	From Leg	6.00	0.00	0.0000	158.00	No Ice	0.79	0.79	0.03
							1/2"	1.03	1.03	0.04

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	CAAA	CAAA	Weight
			Horz	Lateral	Vert			Front	Side	
			ft	ft	ft	ft	ft ²	ft ²	K	
			0.00				Ice	1.28	1.28	0.04
							1" Ice	1.81	1.81	0.07
							2" Ice			

RRUS 32 B30	A	From Leg	4.00	0.0000	151.00		No Ice	2.69	1.57	0.06
			0.00				1/2"	2.91	1.76	0.08
			-2.00				Ice	3.14	1.95	0.10
							1" Ice	3.61	2.35	0.16
							2" Ice			
RRUS 32 B30	B	From Leg	4.00	0.0000	151.00		No Ice	2.69	1.57	0.06
			0.00				1/2"	2.91	1.76	0.08
			-2.00				Ice	3.14	1.95	0.10
							1" Ice	3.61	2.35	0.16
							2" Ice			
RRUS 32 B30	C	From Leg	4.00	0.0000	151.00		No Ice	2.69	1.57	0.06
			0.00				1/2"	2.91	1.76	0.08
			-2.00				Ice	3.14	1.95	0.10
							1" Ice	3.61	2.35	0.16
							2" Ice			
DC6-48-60-18-8F	C	From Leg	4.00	0.0000	151.00		No Ice	0.92	0.92	0.02
			0.00				1/2"	1.46	1.46	0.04
			-2.00				Ice	1.64	1.64	0.06
							1" Ice	2.04	2.04	0.11
							2" Ice			
Platform Mount [LP 402-1_KCKR]	C	None		0.0000	151.00		No Ice	38.87	38.87	2.44
							1/2"	48.96	48.96	3.25
							Ice	59.00	59.00	4.23
							1" Ice	79.39	79.39	6.69
							2" Ice			

DMP65R-BU8D w/ Mount Pipe	A	From Leg	4.00	0.0000	151.00		No Ice	15.89	7.89	0.14
			0.00				1/2"	16.81	8.74	0.25
			-2.00				Ice	17.76	9.60	0.38
							1" Ice	19.70	11.37	0.68
							2" Ice			
DMP65R-BU8D w/ Mount Pipe	B	From Leg	4.00	0.0000	151.00		No Ice	15.89	7.89	0.14
			0.00				1/2"	16.81	8.74	0.25
			-2.00				Ice	17.76	9.60	0.38
							1" Ice	19.70	11.37	0.68
							2" Ice			
DMP65R-BU8D w/ Mount Pipe	C	From Leg	4.00	0.0000	151.00		No Ice	15.89	7.89	0.14
			0.00				1/2"	16.81	8.74	0.25
			-2.00				Ice	17.76	9.60	0.38
							1" Ice	19.70	11.37	0.68
							2" Ice			
TPA65R-BU8D w/ Mount Pipe	A	From Leg	4.00	0.0000	151.00		No Ice	15.94	7.91	0.12
			0.00				1/2"	16.87	8.76	0.24
			-2.00				Ice	17.82	9.63	0.36
							1" Ice	19.76	11.40	0.67
							2" Ice			
TPA65R-BU8D w/ Mount Pipe	B	From Leg	4.00	0.0000	151.00		No Ice	15.94	7.91	0.12
			0.00				1/2"	16.87	8.76	0.24
			-2.00				Ice	17.82	9.63	0.36
							1" Ice	19.76	11.40	0.67
							2" Ice			
TPA65R-BU8D w/ Mount Pipe	C	From Leg	4.00	0.0000	151.00		No Ice	15.94	7.91	0.12
			0.00				1/2"	16.87	8.76	0.24
			-2.00				Ice	17.82	9.63	0.36
							1" Ice	19.76	11.40	0.67
							2" Ice			
AIR 6449 N77	A	From Leg	4.00	0.0000	151.00		No Ice	3.70	2.14	0.10
			0.00				1/2"	4.06	2.45	0.13
			-1.00				Ice	4.44	2.78	0.17
							1" Ice	5.23	3.48	0.26
							2" Ice			

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
AIR 6449 N77	B	From Leg	4.00	0.0000	151.00	No Ice	3.70	2.14	0.10
			0.00			1/2"	4.06	2.45	0.13
			-1.00			Ice	4.44	2.78	0.17
						1" Ice	5.23	3.48	0.26
						2" Ice			
AIR 6449 N77	C	From Leg	4.00	0.0000	151.00	No Ice	3.70	2.14	0.10
			0.00			1/2"	4.06	2.45	0.13
			-1.00			Ice	4.44	2.78	0.17
						1" Ice	5.23	3.48	0.26
						2" Ice			
AIR 6419 B77G	A	From Leg	4.00	0.0000	151.00	No Ice	4.64	1.87	0.07
			0.00			1/2"	5.11	2.23	0.09
			-3.00			Ice	5.59	2.62	0.12
						1" Ice	6.62	3.45	0.19
						2" Ice			
AIR 6419 B77G	B	From Leg	4.00	0.0000	151.00	No Ice	4.64	1.87	0.07
			0.00			1/2"	5.11	2.23	0.09
			-3.00			Ice	5.59	2.62	0.12
						1" Ice	6.62	3.45	0.19
						2" Ice			
AIR 6419 B77G	C	From Leg	4.00	0.0000	151.00	No Ice	4.64	1.87	0.07
			0.00			1/2"	5.11	2.23	0.09
			-3.00			Ice	5.59	2.62	0.12
						1" Ice	6.62	3.45	0.19
						2" Ice			
RRUS 8843 B2/B66A_CCIV2	A	From Leg	4.00	0.0000	151.00	No Ice	1.98	1.70	0.08
			0.00			1/2"	2.16	1.86	0.10
			-2.00			Ice	2.34	2.04	0.12
						1" Ice	2.73	2.41	0.18
						2" Ice			
RRUS 8843 B2/B66A_CCIV2	B	From Leg	4.00	0.0000	151.00	No Ice	1.98	1.70	0.08
			0.00			1/2"	2.16	1.86	0.10
			-2.00			Ice	2.34	2.04	0.12
						1" Ice	2.73	2.41	0.18
						2" Ice			
RRUS 8843 B2/B66A_CCIV2	C	From Leg	4.00	0.0000	151.00	No Ice	1.98	1.70	0.08
			0.00			1/2"	2.16	1.86	0.10
			-2.00			Ice	2.34	2.04	0.12
						1" Ice	2.73	2.41	0.18
						2" Ice			
RRUS 4449 B5/B12	A	From Leg	4.00	0.0000	151.00	No Ice	1.97	1.41	0.07
			0.00			1/2"	2.14	1.56	0.09
			-2.00			Ice	2.33	1.73	0.11
						1" Ice	2.72	2.07	0.16
						2" Ice			
RRUS 4449 B5/B12	B	From Leg	4.00	0.0000	151.00	No Ice	1.97	1.41	0.07
			0.00			1/2"	2.14	1.56	0.09
			-2.00			Ice	2.33	1.73	0.11
						1" Ice	2.72	2.07	0.16
						2" Ice			
RRUS 4449 B5/B12	C	From Leg	4.00	0.0000	151.00	No Ice	1.97	1.41	0.07
			0.00			1/2"	2.14	1.56	0.09
			-2.00			Ice	2.33	1.73	0.11
						1" Ice	2.72	2.07	0.16
						2" Ice			
RRUS 4478 B14_CCIV2	A	From Leg	4.00	0.0000	151.00	No Ice	2.02	1.25	0.06
			0.00			1/2"	2.20	1.40	0.08
			-2.00			Ice	2.39	1.55	0.10
						1" Ice	2.78	1.89	0.15
						2" Ice			
RRUS 4478 B14_CCIV2	B	From Leg	4.00	0.0000	151.00	No Ice	2.02	1.25	0.06
			0.00			1/2"	2.20	1.40	0.08
			-2.00			Ice	2.39	1.55	0.10
						1" Ice	2.78	1.89	0.15
						2" Ice			

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
RRUS 4478 B14_CCIV2	C	From Leg	4.00	0.0000	151.00	No Ice	2.02	1.25	0.06
			0.00			1/2"	2.20	1.40	0.08
			-2.00			Ice	2.39	1.55	0.10
						1" Ice	2.78	1.89	0.15
						2" Ice			
DC9-48-60-24-8C-EV	A	From Leg	4.00	0.0000	151.00	No Ice	2.74	4.78	0.03
			0.00			1/2"	2.96	5.06	0.06
			-2.00			Ice	3.20	5.35	0.10
						1" Ice	3.68	5.95	0.20
						2" Ice			
8' x 2" Mount Pipe	A	From Leg	4.00	0.0000	151.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice	4.40	4.40	0.12
						2" Ice			
8' x 2" Mount Pipe	B	From Leg	4.00	0.0000	151.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice	4.40	4.40	0.12
						2" Ice			
8' x 2" Mount Pipe	C	From Leg	4.00	0.0000	151.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice	4.40	4.40	0.12
						2" Ice			

DC6-48-60-18-8F	B	From Leg	2.00	0.0000	150.00	No Ice	0.92	0.92	0.02
			0.00			1/2"	1.46	1.46	0.04
			-1.00			Ice	1.64	1.64	0.06
						1" Ice	2.04	2.04	0.11
						2" Ice			
Side Arm Mount [SO 102-1]	B	From Leg	1.00	0.0000	150.00	No Ice	1.50	1.50	0.03
			0.00			1/2"	1.74	1.74	0.04
			0.00			Ice	1.98	1.98	0.04
						1" Ice	2.46	2.46	0.07
						2" Ice			

SRL-235-2	B	From Leg	6.00	0.0000	132.00	No Ice	7.00	7.00	0.08
			0.00			1/2"	9.04	9.04	0.13
			0.00			Ice	11.09	11.09	0.19
						1" Ice	15.25	15.25	0.35
						2" Ice			
Side Arm Mount [SO 702-1]	B	From Leg	3.00	0.0000	132.00	No Ice	0.62	1.49	0.03
			0.00			1/2"	0.74	2.07	0.04
			0.00			Ice	0.89	2.54	0.06
						1" Ice	1.25	3.55	0.12
						2" Ice			
Side Arm Mount [SO 104-3]	C	None		0.0000	132.00	No Ice	2.62	2.62	0.29
						1/2"	3.30	3.30	0.41
						Ice	3.98	3.98	0.53
						1" Ice	5.35	5.35	0.77
						2" Ice			
4' x 2" Pipe Mount	B	From Leg	6.00	0.0000	132.00	No Ice	0.79	0.79	0.03
			0.00			1/2"	1.03	1.03	0.04
			0.00			Ice	1.28	1.28	0.04
						1" Ice	1.81	1.81	0.07
						2" Ice			

PCS 1900 TMA RX	A	From Leg	2.00	0.0000	124.00	No Ice	0.54	0.53	0.02
			0.00			1/2"	0.64	0.63	0.02
			0.00			Ice	0.75	0.73	0.03
						1" Ice	0.98	0.97	0.05
						2" Ice			
Side Arm Mount [SO 104-3]	A	None		0.0000	124.00	No Ice	2.62	2.62	0.29
						1/2"	3.30	3.30	0.41

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
						Ice	3.98	3.98	0.53
						1" Ice	5.35	5.35	0.77
						2" Ice			
2' x 2" Pipe Mount	A	From Leg	2.00 0.00 0.00	0.0000	124.00	No Ice	0.02	0.02	0.01
						1/2"	0.05	0.05	0.01
						Ice	0.09	0.09	0.01
						1" Ice	0.19	0.19	0.01
						2" Ice			

DB205-A	C	From Leg	6.00 0.00 9.00	0.0000	90.00	No Ice	1.20	1.20	0.04
						1/2"	2.16	2.16	0.05
						Ice	3.12	3.12	0.06
						1" Ice	5.04	5.04	0.08
						2" Ice			
MT-485002	C	From Leg	6.00 0.00 0.00	0.0000	90.00	No Ice	1.20	0.13	0.00
						1/2"	1.34	0.21	0.01
						Ice	1.48	0.29	0.02
						1" Ice	1.79	0.47	0.04
						2" Ice			
Side Arm Mount [SO 702-3]	C	None		0.0000	90.00	No Ice	2.53	2.53	0.08
						1/2"	3.37	3.37	0.13
						Ice	4.12	4.12	0.19
						1" Ice	5.76	5.76	0.36
						2" Ice			
5' x 2" Pipe Mount	C	From Leg	6.00 0.00 0.00	0.0000	90.00	No Ice	1.19	1.19	0.02
						1/2"	1.50	1.50	0.03
						Ice	1.81	1.81	0.04
						1" Ice	2.46	2.46	0.08
						2" Ice			

SRL-235-2	C	From Leg	3.00 0.00 0.00	0.0000	70.00	No Ice	7.00	7.00	0.08
						1/2"	9.04	9.04	0.13
						Ice	11.09	11.09	0.19
						1" Ice	15.25	15.25	0.35
						2" Ice			
Side Arm Mount [SO 701-1]	C	From Leg	1.50 0.00 0.00	0.0000	70.00	No Ice	0.85	1.67	0.07
						1/2"	1.14	2.34	0.08
						Ice	1.43	3.01	0.09
						1" Ice	2.01	4.35	0.12
						2" Ice			
Side Arm Mount [SO 102-3]	C	None		0.0000	70.00	No Ice	3.60	3.60	0.07
						1/2"	4.18	4.18	0.11
						Ice	4.75	4.75	0.14
						1" Ice	5.90	5.90	0.20
						2" Ice			
6' x 2" Mount Pipe	C	From Leg	3.00 0.00 0.00	0.0000	70.00	No Ice	1.43	1.43	0.02
						1/2"	1.92	1.92	0.03
						Ice	2.29	2.29	0.05
						1" Ice	3.06	3.06	0.09
						2" Ice			

DB909XVTE-M	B	From Leg	3.00 0.00 0.00	0.0000	33.00	No Ice	1.95	1.95	0.02
						1/2"	2.62	2.62	0.05
						Ice	2.95	2.95	0.07
						1" Ice	3.64	3.64	0.14
						2" Ice			
Side Arm Mount [SO 701-1]	B	From Leg	1.50 0.00 0.00	0.0000	33.00	No Ice	0.85	1.67	0.07
						1/2"	1.14	2.34	0.08
						Ice	1.43	3.01	0.09
						1" Ice	2.01	4.35	0.12
						2" Ice			
Side Arm Mount [SO 102-3]	B	None		0.0000	33.00	No Ice	3.60	3.60	0.07

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	
3]						1/2" Ice	4.18 4.75	4.18 4.75	0.11 0.14
						1" Ice	5.90	5.90	0.20
6' x 2" Mount Pipe	B	From Leg	3.00 0.00 0.00	0.0000	33.00	No Ice 1/2" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
						1" Ice	3.06	3.06	0.09
						2" Ice			

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft ²	Weight K	
*											
KP2F-34	B	Grid	From Leg	6.00 0.00 0.00	5.0000		90.00	2.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.14 3.41 3.68 4.28	0.01 0.02 0.04 0.07

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

Comb. No.	Description
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	191.667 - 186.667	Pole	Max Tension	36	0.00	-0.00	0.00
			Max. Compression	26	-1.27	-0.76	-0.88
			Max. Mx	8	-0.67	-3.39	-0.38
			Max. My	14	-0.67	-0.25	-3.62
			Max. Vy	8	0.60	-3.39	-0.38
			Max. Vx	14	0.61	-0.25	-3.62
			Max. Torque	6			-0.72
L2	186.667 - 181.567	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-11.96	-0.77	-0.90
			Max. Mx	8	-5.76	-15.67	-0.48
			Max. My	14	-5.76	-0.35	-15.97
			Max. Vy	8	4.37	-15.67	-0.48
			Max. Vx	14	4.39	-0.35	-15.97
			Max. Torque	6			-0.72
L3	181.567 - 176.567	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-13.08	-0.79	-0.54
			Max. Mx	8	-6.40	-38.28	-0.54
			Max. My	14	-6.39	-0.46	-38.66
			Max. Vy	8	4.68	-38.28	-0.54
			Max. Vx	14	4.73	-0.46	-38.66
			Max. Torque	6			-0.72
L4	176.567 - 171.567	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-13.95	-0.82	-0.56
			Max. Mx	8	-7.00	-62.39	-0.65
			Max. My	14	-6.99	-0.57	-63.03
			Max. Vy	8	4.96	-62.39	-0.65
			Max. Vx	14	5.02	-0.57	-63.03
			Max. Torque	6			-0.70
L5	171.567 - 166.567	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-20.85	-0.85	-0.18
			Max. Mx	8	-10.66	-100.72	-0.67
			Max. My	14	-10.66	-0.69	-101.65
			Max. Vy	8	8.13	-100.72	-0.67
			Max. Vx	14	8.21	-0.69	-101.65

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L6	166.567 - 161.567	Pole	Max. Torque	6			-0.70
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-21.76	-0.89	-0.25
			Max. Mx	8	-11.29	-142.03	-0.80
			Max. My	14	-11.28	-0.80	-143.39
			Max. Vy	8	8.40	-142.03	-0.80
			Max. Vx	14	8.48	-0.80	-143.39
L7	161.567 - 156.567	Pole	Max. Torque	17			0.58
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.32	-1.14	-0.91
			Max. Mx	8	-15.46	-196.41	-1.46
			Max. My	14	-15.45	-1.01	-198.78
			Max. Vy	8	12.06	-196.41	-1.46
			Max. Vx	14	12.20	-1.01	-198.78
L8	156.567 - 151.567	Pole	Max. Torque	17			1.58
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-32.50	-1.43	-0.84
			Max. Mx	8	-16.17	-257.34	-1.65
			Max. My	14	-16.16	-1.27	-260.35
			Max. Vy	8	12.29	-257.34	-1.65
			Max. Vx	14	12.43	-1.27	-260.35
L9	151.567 - 146.567	Pole	Max. Torque	17			1.58
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.53	-1.70	-0.38
			Max. Mx	8	-22.29	-337.53	-1.82
			Max. My	14	-22.28	-1.54	-340.96
			Max. Vy	8	18.28	-337.53	-1.82
			Max. Vx	14	18.36	-1.54	-340.96
L10	146.567 - 141.567	Pole	Max. Torque	17			1.58
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.77	-2.02	-0.31
			Max. Mx	8	-23.13	-429.37	-2.01
			Max. My	14	-23.12	-1.80	-433.12
			Max. Vy	8	18.45	-429.37	-2.01
			Max. Vx	14	18.52	-1.80	-433.12
L11	141.567 - 141.417	Pole	Max. Torque	5			-1.34
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.81	-2.03	-0.31
			Max. Mx	8	-23.16	-432.14	-2.01
			Max. My	14	-23.15	-1.81	-435.90
			Max. Vy	8	18.44	-432.14	-2.01
			Max. Vx	14	18.52	-1.81	-435.90
L12	141.417 - 136.417	Pole	Max. Torque	5			-1.34
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.70	-2.45	0.29
			Max. Mx	8	-24.26	-525.33	-2.13
			Max. My	14	-24.25	-2.09	-529.36
			Max. Vy	8	18.82	-525.33	-2.13
			Max. Vx	14	18.93	-2.09	-529.36
L13	136.417 - 131.417	Pole	Max. Torque	5			-1.34
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.47	-5.46	-1.10
			Max. Mx	8	-25.82	-621.56	-2.81
			Max. My	14	-25.81	-3.25	-625.65
			Max. Vy	8	19.60	-621.56	-2.81
			Max. Vx	14	19.73	-3.25	-625.65
L14	131.417 - 126.417	Pole	Max. Torque	5			-3.76
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.16	-5.89	-1.00
			Max. Mx	8	-26.95	-720.43	-2.92

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L15	126.417 - 121.417	Pole	Max. My	14	-26.94	-3.47	-725.06
			Max. Vy	8	19.92	-720.43	-2.92
			Max. Vx	14	20.05	-3.47	-725.06
			Max. Torque	5			-3.76
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.45	-6.37	-0.74
			Max. Mx	8	-29.15	-821.32	-2.95
			Max. My	14	-29.13	-3.73	-827.20
			Max. Vy	20	-20.73	818.43	0.91
			Max. Vx	14	20.85	-3.73	-827.20
L16	121.417 - 121.167	Pole	Max. Torque	5			-3.75
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.55	-6.39	-0.73
			Max. Mx	8	-29.22	-826.42	-2.96
			Max. My	14	-29.20	-3.74	-832.41
			Max. Vy	20	-20.74	823.60	0.91
			Max. Vx	14	20.86	-3.74	-832.41
			Max. Torque	5			-3.72
			Max Tension	1	0.00	0.00	0.00
			L17	121.167 - 116.167	Pole	Max. Compression	26
Max. Mx	8	-30.62				-929.45	-3.07
Max. My	14	-30.60				-3.98	-937.64
Max. Vy	20	-21.11				928.10	1.03
Max. Vx	14	21.24				-3.98	-937.64
Max. Torque	5						-3.72
Max Tension	1	0.00				0.00	0.00
Max. Compression	26	-61.48				-7.32	-0.51
Max. Mx	20	-31.84				1034.43	1.16
Max. My	14	-31.83				-4.20	-1044.69
L18	116.167 - 111.167	Pole	Max. Vy	20	-21.47	1034.43	1.16
			Max. Vx	14	21.60	-4.20	-1044.69
			Max. Torque	5			-3.72
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-61.92	-7.35	-0.48
			Max. Mx	20	-32.12	1058.59	1.19
			Max. My	14	-32.11	-4.25	-1069.01
			Max. Vy	20	-21.54	1058.59	1.19
			Max. Vx	14	21.67	-4.25	-1069.01
			Max. Torque	5			-3.72
L19	111.167 - 110.042	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62.03	-7.36	-0.48
			Max. Mx	20	-32.20	1063.98	1.20
			Max. My	14	-32.19	-4.26	-1074.43
			Max. Vy	20	-21.56	1063.98	1.20
			Max. Vx	14	21.69	-4.26	-1074.43
			Max. Torque	5			-3.72
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-64.34	-7.51	-0.38
			Max. Mx	20	-33.73	1166.20	1.31
L20	110.042 - 109.792	Pole	Max. My	14	-33.72	-4.46	-1177.32
			Max. Vy	8	22.07	-1165.75	-3.31
			Max. Vx	14	22.03	-4.46	-1177.32
			Max. Torque	5			-3.72
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-64.49	-7.52	-0.38
			Max. Mx	20	-33.83	1171.67	1.32
			Max. My	14	-33.82	-4.47	-1182.83
			Max. Vy	8	22.11	-1171.28	-3.31
			Max. Vx	14	22.06	-4.47	-1182.83
L21	109.792 - 105.083	Pole	Max. Torque	5			-3.72
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-64.99	-7.52	-0.38
			Max. Mx	20	-33.83	1171.67	1.32
			Max. My	14	-33.82	-4.47	-1182.83
			Max. Vy	8	22.11	-1171.28	-3.31
			Max. Vx	14	22.06	-4.47	-1182.83
			Max. Torque	5			-3.72
			Max Tension	1	0.00	0.00	0.00
			L22	105.083 - 104.833	Pole	Max. Compression	26
Max. Mx	20	-33.83				1171.67	1.32
Max. My	14	-33.82				-4.47	-1182.83
Max. Vy	8	22.11				-1171.28	-3.31
Max. Vx	14	22.06				-4.47	-1182.83
Max. Torque	5						-3.72
Max Tension	1	0.00				0.00	0.00
Max. Compression	26	-64.99				-7.52	-0.38
Max. Mx	20	-33.83				1171.67	1.32
Max. My	14	-33.82				-4.47	-1182.83
L23	104.833 -	Pole	Max. Vy	8	22.11	-1171.28	-3.31
			Max. Vx	14	22.06	-4.47	-1182.83
			Max. Torque	5			-3.72
			Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
	100.917		Max. Compression	26	-67.67	-7.66	-0.33
			Max. Mx	8	-36.13	-1259.22	-3.43
			Max. My	14	-36.13	-4.62	-1270.48
			Max. Vy	8	22.79	-1259.22	-3.43
			Max. Vx	14	22.70	-4.62	-1270.48
			Max. Torque	5			-3.72
L24	100.917 - 100.667	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-67.81	-7.68	-0.33
			Max. Mx	8	-36.23	-1264.93	-3.43
			Max. My	14	-36.23	-4.63	-1276.16
			Max. Vy	8	22.83	-1264.93	-3.43
			Max. Vx	14	22.74	-4.63	-1276.16
			Max. Torque	5			-3.72
L25	100.667 - 95.833	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-70.93	-8.16	-0.21
			Max. Mx	8	-37.94	-1376.47	-3.54
			Max. My	14	-37.94	-4.84	-1387.17
			Max. Vy	8	23.31	-1376.47	-3.54
			Max. Vx	14	23.22	-4.84	-1387.17
			Max. Torque	5			-3.72
L26	95.833 - 95.583	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-71.05	-8.19	-0.20
			Max. Mx	8	-38.03	-1382.30	-3.54
			Max. My	14	-38.03	-4.86	-1392.98
			Max. Vy	8	23.32	-1382.30	-3.54
			Max. Vx	14	23.24	-4.86	-1392.98
			Max. Torque	5			-3.72
L27	95.583 - 90.583	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.49	-8.69	-0.06
			Max. Mx	8	-39.67	-1499.96	-3.64
			Max. My	14	-39.67	-5.08	-1510.07
			Max. Vy	8	23.71	-1499.96	-3.64
			Max. Vx	14	23.62	-5.08	-1510.07
			Max. Torque	5			-3.72
L28	90.583 - 89.917	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-74.33	-8.00	-0.92
			Max. Mx	8	-40.06	-1515.70	-3.96
			Max. My	14	-40.06	-4.65	-1526.55
			Max. Vy	8	24.01	-1515.70	-3.96
			Max. Vx	14	23.95	-4.65	-1526.55
			Max. Torque	5			-3.72
L29	89.917 - 89.667	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-74.48	-8.03	-0.92
			Max. Mx	8	-40.17	-1521.71	-3.96
			Max. My	14	-40.17	-4.66	-1532.54
			Max. Vy	8	24.05	-1521.71	-3.96
			Max. Vx	14	23.99	-4.66	-1532.54
			Max. Torque	17			3.60
L30	89.667 - 84.667	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-78.26	-8.36	-0.72
			Max. Mx	8	-42.85	-1644.09	-3.97
			Max. My	14	-42.85	-4.73	-1654.59
			Max. Vy	8	24.92	-1644.09	-3.97
			Max. Vx	14	24.86	-4.73	-1654.59
			Max. Torque	17			3.60
L31	84.667 - 80.833	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-82.23	-8.50	-0.54
			Max. Mx	8	-45.92	-1740.76	-3.94
			Max. My	14	-45.91	-4.66	-1751.12
			Max. Vy	8	25.60	-1740.76	-3.94

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L32	80.833 - 80.333	Pole	Max. Vx	14	25.56	-4.66	-1751.12
			Max. Torque	17			3.60
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-82.69	-8.52	-0.51
			Max. Mx	8	-46.28	-1753.57	-3.94
			Max. My	14	-46.28	-4.66	-1763.90
			Max. Vy	8	25.69	-1753.57	-3.94
			Max. Vx	14	25.64	-4.66	-1763.90
			Max. Torque	17			3.60
			Max Tension	1	0.00	0.00	0.00
L33	80.333 - 80.083	Pole	Max. Compression	26	-82.88	-8.55	-0.50
			Max. Mx	8	-46.41	-1760.00	-3.94
			Max. My	14	-46.41	-4.66	-1770.32
			Max. Vy	8	25.74	-1760.00	-3.94
			Max. Vx	14	25.69	-4.66	-1770.32
			Max. Torque	17			3.60
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.22	-9.01	-0.34
			Max. Mx	8	-48.74	-1890.89	-3.97
			Max. My	14	-48.74	-4.81	-1900.88
L34	80.083 - 75.083	Pole	Max. Vy	8	26.61	-1890.89	-3.97
			Max. Vx	14	26.56	-4.81	-1900.88
			Max. Torque	17			3.60
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-90.09	-9.69	-0.20
			Max. Mx	8	-51.49	-2026.35	-4.03
			Max. My	14	-51.49	-5.14	-2035.84
			Max. Vy	8	27.49	-2026.35	-4.03
			Max. Vx	14	27.44	-5.14	-2035.84
			Max. Torque	17			3.60
L35	75.083 - 70.083	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-91.25	-7.89	-1.28
			Max. Mx	8	-52.14	-2041.85	-4.48
			Max. My	14	-52.14	-4.43	-2052.54
			Max. Vy	8	28.01	-2041.85	-4.48
			Max. Vx	14	27.98	-4.43	-2052.54
			Max. Torque	17			3.60
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-91.49	-7.93	-1.27
			Max. Mx	8	-52.32	-2048.87	-4.49
L36	70.083 - 69.5	Pole	Max. My	14	-52.32	-4.45	-2059.54
			Max. Vy	8	28.06	-2048.87	-4.49
			Max. Vx	14	28.03	-4.45	-2059.54
			Max. Torque	7			-3.36
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-99.23	-9.16	-1.12
			Max. Mx	8	-58.54	-2192.42	-4.60
			Max. My	14	-58.54	-5.34	-2202.13
			Max. Vy	8	29.07	-2192.42	-4.60
			Max. Vx	14	29.03	-5.34	-2202.13
L37	69.5 - 69.25	Pole	Max. Torque	7			-3.36
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-105.49	-10.13	-0.97
			Max. Mx	8	-63.60	-2301.22	-4.64
			Max. My	14	-63.60	-6.04	-2310.17
			Max. Vy	8	29.97	-2301.22	-4.64
			Max. Vx	14	29.95	-6.04	-2310.17
			Max. Torque	7			-3.36
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-105.75	-10.17	-0.96
L38	69.25 - 64.25	Pole	Max. Mx	8	-63.80	-2308.73	-4.64
			Max. My	14	-63.60	-6.04	-2310.17
			Max. Vy	8	29.97	-2301.22	-4.64
			Max. Vx	14	29.95	-6.04	-2310.17
			Max. Torque	7			-3.36
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-105.49	-10.13	-0.97
			Max. Mx	8	-63.60	-2301.22	-4.64
			Max. My	14	-63.60	-6.04	-2310.17
			Max. Vy	8	29.97	-2301.22	-4.64
L39	64.25 - 60.583	Pole	Max. Vx	14	29.95	-6.04	-2310.17
			Max. Torque	7			-3.36
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-105.49	-10.13	-0.97
			Max. Mx	8	-63.60	-2301.22	-4.64
			Max. My	14	-63.60	-6.04	-2310.17
			Max. Vy	8	29.97	-2301.22	-4.64
			Max. Vx	14	29.95	-6.04	-2310.17
			Max. Torque	7			-3.36
			Max Tension	1	0.00	0.00	0.00
L40	60.583 - 60.333	Pole	Max. Compression	26	-105.75	-10.17	-0.96
			Max. Mx	8	-63.80	-2308.73	-4.64

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L41	60.333 - 55.333	Pole	Max. My	14	-63.80	-6.07	-2317.66
			Max. Vy	8	30.01	-2308.73	-4.64
			Max. Vx	14	29.99	-6.07	-2317.66
			Max. Torque	7			-3.36
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-110.70	-10.96	-0.77
			Max. Mx	8	-67.43	-2461.43	-4.74
			Max. My	14	-67.43	-6.55	-2469.87
			Max. Vy	8	30.95	-2461.43	-4.74
			Max. Vx	14	30.93	-6.55	-2469.87
L42	55.333 - 52.167	Pole	Max. Torque	7			-3.36
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-112.64	-11.30	-0.67
			Max. Mx	8	-68.83	-2559.85	-4.80
			Max. My	14	-68.83	-6.73	-2568.12
			Max. Vy	8	31.19	-2559.85	-4.80
			Max. Vx	14	31.17	-6.73	-2568.12
			Max. Torque	7			-3.36
			Max Tension	1	0.00	0.00	0.00
			L43	52.167 - 51.917	Pole	Max. Compression	26
Max. Mx	8	-68.96				-2567.65	-4.81
Max. My	14	-68.96				-6.74	-2575.91
Max. Vy	8	31.20				-2567.65	-4.81
Max. Vx	14	31.18				-6.74	-2575.91
Max. Torque	7						-3.36
Max Tension	1	0.00				0.00	0.00
Max. Compression	26	-116.89				-11.98	-0.45
Max. Mx	8	-71.91				-2725.90	-4.83
Max. My	14	-71.91				-7.08	-2733.76
L44	51.917 - 46.917	Pole	Max. Vy	8	32.03	-2725.90	-4.83
			Max. Vx	14	32.02	-7.08	-2733.76
			Max. Torque	7			-3.36
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-122.16	-12.67	0.23
			Max. Mx	8	-75.73	-2888.40	-4.48
			Max. My	14	-75.72	-7.44	-2895.56
			Max. Vy	8	32.90	-2888.40	-4.48
			Max. Vx	14	32.91	-7.44	-2895.56
			Max. Torque	7			-3.36
L45	46.917 - 41.917	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-123.84	-12.89	0.46
			Max. Mx	8	-76.95	-2944.09	-4.35
			Max. My	14	-76.95	-7.55	-2951.04
			Max. Vy	8	33.18	-2944.09	-4.35
			Max. Vx	14	33.21	-7.55	-2951.04
			Max. Torque	7			-3.36
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-124.08	-12.92	0.49
			Max. Mx	8	-77.13	-2952.39	-4.34
L46	41.917 - 40.233	Pole	Max. My	14	-77.13	-7.57	-2959.32
			Max. Vy	8	33.21	-2952.39	-4.34
			Max. Vx	14	33.23	-7.57	-2959.32
			Max. Torque	7			-3.36
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-128.80	-13.43	1.21
			Max. Mx	8	-80.64	-3120.45	-3.97
			Max. My	14	-80.64	-7.82	-3126.92
			Max. Vy	20	-33.99	3108.75	3.62
			Max. Vx	14	34.02	-7.82	-3126.92
L47	40.233 - 39.983	Pole	Max. Torque	7			-3.36
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-128.80	-13.43	1.21
			Max. Mx	8	-80.64	-3120.45	-3.97
			Max. My	14	-80.64	-7.82	-3126.92
			Max. Vy	20	-33.99	3108.75	3.62
			Max. Vx	14	34.02	-7.82	-3126.92
			Max. Torque	7			-3.36
			Max Tension	1	0.00	0.00	0.00
			L48	39.983 - 34.983	Pole	Max. Compression	26
Max. Mx	8	-80.64				-3120.45	-3.97
Max. My	14	-80.64				-7.82	-3126.92
Max. Vy	20	-33.99				3108.75	3.62
Max. Vx	14	34.02				-7.82	-3126.92
Max. Torque	7						-3.36
Max Tension	1	0.00				0.00	0.00
Max. Compression	26	-128.80				-13.43	1.21
Max. Mx	8	-80.64				-3120.45	-3.97
Max. My	14	-80.64				-7.82	-3126.92
L49	34.983 -	Pole	Max. Vy	8	34.02	-7.82	-3126.92
			Max. Vx	14	34.02	-7.82	-3126.92
			Max. Torque	7			-3.36
			Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
	29.983		Max. Compression	26	-133.11	-15.08	0.97
			Max. Mx	8	-83.81	-3293.23	-4.13
			Max. My	14	-83.81	-8.55	-3299.34
			Max. Vy	20	-34.86	3280.31	3.66
			Max. Vx	14	34.90	-8.55	-3299.34
			Max. Torque	7			-3.91
L50	29.983 - 28	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-134.49	-15.27	1.01
			Max. Mx	8	-84.81	-3362.62	-4.15
			Max. My	14	-84.81	-8.64	-3368.77
			Max. Vy	8	35.13	-3362.62	-4.15
			Max. Vx	14	35.17	-8.64	-3368.77
			Max. Torque	7			-3.91
L51	28 - 27.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-134.69	-15.30	1.02
			Max. Mx	8	-84.97	-3371.41	-4.16
			Max. My	14	-84.97	-8.65	-3377.55
			Max. Vy	8	35.14	-3371.41	-4.16
			Max. Vx	14	35.18	-8.65	-3377.55
			Max. Torque	7			-3.91
L52	27.75 - 22.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-139.87	-15.84	1.08
			Max. Mx	8	-88.93	-3549.07	-4.25
			Max. My	14	-88.93	-8.93	-3555.21
			Max. Vy	8	35.87	-3549.07	-4.25
			Max. Vx	14	35.90	-8.93	-3555.21
			Max. Torque	7			-3.91
L53	22.75 - 20.083	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-142.63	-16.13	1.11
			Max. Mx	8	-91.07	-3645.29	-4.29
			Max. My	14	-91.07	-9.08	-3651.41
			Max. Vy	8	36.25	-3645.29	-4.29
			Max. Vx	14	36.27	-9.08	-3651.41
			Max. Torque	7			-3.91
L54	20.083 - 19.833	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-142.87	-16.16	1.11
			Max. Mx	8	-91.26	-3654.36	-4.30
			Max. My	14	-91.26	-9.10	-3660.47
			Max. Vy	8	36.27	-3654.36	-4.30
			Max. Vx	14	36.29	-9.10	-3660.47
			Max. Torque	7			-3.91
L55	19.833 - 17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-145.59	-16.49	1.09
			Max. Mx	8	-93.32	-3757.74	-4.35
			Max. My	14	-93.32	-9.26	-3763.80
			Max. Vy	8	36.67	-3757.74	-4.35
			Max. Vx	14	36.68	-9.26	-3763.80
			Max. Torque	7			-3.91
L56	17 - 16.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-145.85	-16.53	1.09
			Max. Mx	8	-93.53	-3766.91	-4.35
			Max. My	14	-93.53	-9.27	-3772.97
			Max. Vy	8	36.68	-3766.91	-4.35
			Max. Vx	14	36.69	-9.27	-3772.97
			Max. Torque	7			-3.91
L57	16.75 - 11.65	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-150.91	-17.15	1.06
			Max. Mx	8	-97.59	-3955.82	-4.44
			Max. My	14	-97.59	-9.55	-3961.73
			Max. Vy	8	37.35	-3955.82	-4.44
			Max. Vx	14	37.35	-9.55	-3961.73
			Max. Torque	7			-3.91
L58	11.65 - 11.417	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L59	11.417 - 9.396	Pole	Max. Compression	26	-151.09	-17.18	1.05
			Max. Mx	8	-97.75	-3964.52	-4.44
			Max. My	14	-97.75	-9.56	-3970.43
			Max. Vy	8	37.35	-3964.52	-4.44
			Max. Vx	14	37.35	-9.56	-3970.43
			Max. Torque	7			-3.91
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-152.71	-17.39	1.08
L60	9.396 - 9.146	Pole	Max. Mx	8	-99.03	-4040.29	-4.46
			Max. My	14	-99.04	-9.65	-4045.98
			Max. Vy	8	37.60	-4040.29	-4.46
			Max. Vx	14	37.45	-9.65	-4045.98
			Max. Torque	7			-3.91
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-152.91	-17.41	1.09
			Max. Mx	8	-99.21	-4049.69	-4.46
L61	9.146 - 4.833	Pole	Max. My	14	-99.21	-9.66	-4055.34
			Max. Vy	8	37.62	-4049.69	-4.46
			Max. Vx	14	37.47	-9.66	-4055.34
			Max. Torque	7			-3.91
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-156.44	-17.85	1.19
			Max. Mx	8	-102.06	-4213.13	-4.51
			Max. My	14	-102.06	-9.85	-4217.99
L62	4.833 - 4.583	Pole	Max. Vy	8	38.14	-4213.13	-4.51
			Max. Vx	14	37.99	-9.85	-4217.99
			Max. Torque	7			-3.91
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-156.63	-17.88	1.19
			Max. Mx	8	-102.23	-4222.67	-4.51
			Max. My	14	-102.23	-9.86	-4227.49
			Max. Vy	8	38.16	-4222.67	-4.51
L63	4.583 - 0	Pole	Max. Vx	14	38.01	-9.86	-4227.49
			Max. Torque	7			-3.91
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-159.95	-17.99	1.16
			Max. Mx	8	-105.06	-4397.94	-4.61
			Max. My	14	-105.06	-9.95	-4402.88
			Max. Vy	20	-38.69	4383.73	4.07
			Max. Vx	14	38.54	-9.95	-4402.88
Max. Torque	7			-3.91			

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	159.95	-0.00	-0.00
	Max. H _x	20	105.06	38.67	0.01
	Max. H _z	2	105.06	0.02	38.43
	Max. M _x	2	4361.89	0.02	38.43
	Max. M _z	8	4397.94	-38.33	-0.02
	Max. Torsion	19	3.91	33.05	-19.14
	Min. Vert	17	78.80	18.96	-32.96
	Min. H _x	8	105.06	-38.33	-0.02
	Min. H _z	14	105.06	-0.02	-38.52
	Min. M _x	14	-4402.88	-0.02	-38.52
	Min. M _z	20	-4383.73	38.67	0.01
	Min. Torsion	7	-3.91	-32.92	19.05

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	87.55	0.00	0.00	0.07	-4.25	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	105.06	-0.02	-38.43	-4361.89	-0.80	2.15
0.9 Dead+1.0 Wind 0 deg - No Ice	78.80	-0.02	-38.43	-4316.64	0.51	2.16
1.2 Dead+1.0 Wind 30 deg - No Ice	105.06	19.02	-33.06	-3847.83	-2214.58	3.42
0.9 Dead+1.0 Wind 30 deg - No Ice	78.80	19.02	-33.06	-3808.00	-2190.35	3.43
1.2 Dead+1.0 Wind 60 deg - No Ice	105.06	32.92	-19.05	-2219.74	-3837.52	3.91
0.9 Dead+1.0 Wind 60 deg - No Ice	78.80	32.92	-19.05	-2196.79	-3796.45	3.91
1.2 Dead+1.0 Wind 90 deg - No Ice	105.06	38.33	0.02	4.61	-4397.94	3.27
0.9 Dead+1.0 Wind 90 deg - No Ice	78.80	38.33	0.02	4.50	-4351.08	3.27
1.2 Dead+1.0 Wind 120 deg - No Ice	105.06	33.88	19.63	2228.89	-3843.52	1.67
0.9 Dead+1.0 Wind 120 deg - No Ice	78.80	33.88	19.63	2205.78	-3802.50	1.67
1.2 Dead+1.0 Wind 150 deg - No Ice	105.06	19.51	33.89	3871.66	-2232.80	-0.33
0.9 Dead+1.0 Wind 150 deg - No Ice	78.80	19.51	33.89	3831.54	-2208.39	-0.34
1.2 Dead+1.0 Wind 180 deg - No Ice	105.06	0.02	38.52	4402.88	-9.95	-2.14
0.9 Dead+1.0 Wind 180 deg - No Ice	78.80	0.02	38.52	4357.13	-8.51	-2.16
1.2 Dead+1.0 Wind 210 deg - No Ice	105.06	-18.96	32.96	3757.95	2150.91	-3.44
0.9 Dead+1.0 Wind 210 deg - No Ice	78.80	-18.96	32.96	3718.78	2129.87	-3.45
1.2 Dead+1.0 Wind 240 deg - No Ice	105.06	-33.05	19.14	2173.48	3745.52	-3.90
0.9 Dead+1.0 Wind 240 deg - No Ice	78.80	-33.05	19.14	2150.85	3707.95	-3.91
1.2 Dead+1.0 Wind 270 deg - No Ice	105.06	-38.67	-0.01	-4.07	4383.73	-3.30
0.9 Dead+1.0 Wind 270 deg - No Ice	78.80	-38.67	-0.01	-4.05	4339.63	-3.30
1.2 Dead+1.0 Wind 300 deg - No Ice	105.06	-33.60	-19.47	-2216.13	3811.54	-1.69
0.9 Dead+1.0 Wind 300 deg - No Ice	78.80	-33.60	-19.47	-2193.19	3773.39	-1.68
1.2 Dead+1.0 Wind 330 deg - No Ice	105.06	-19.01	-33.02	-3783.31	2170.95	0.35
0.9 Dead+1.0 Wind 330 deg - No Ice	78.80	-19.01	-33.02	-3743.97	2149.68	0.36
1.2 Dead+1.0 Ice+1.0 Temp	159.95	0.00	0.00	-1.16	-17.99	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	159.95	-0.03	-10.44	-1372.90	-15.28	0.71
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	159.95	5.15	-8.99	-1186.13	-696.35	1.37
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	159.95	8.93	-5.18	-684.80	-1194.94	1.65
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	159.95	10.37	-0.00	-0.76	-1380.49	1.50
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	159.95	9.06	5.26	688.47	-1203.65	0.88
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	159.95	5.21	9.07	1190.59	-701.64	0.05
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	159.95	0.00	10.42	1369.52	-19.02	-0.76
1.2 Dead+1.0 Wind 210	159.95	-5.14	8.96	1181.64	658.68	-1.36

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturing Moment, M _x kip-ft	Overturing Moment, M _z kip-ft	Torque kip-ft
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 240	159.95	-8.96	5.17	680.40	1158.98	-1.61
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 270	159.95	-10.39	-0.02	-3.55	1344.50	-1.39
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 300	159.95	-9.04	-5.25	-690.50	1165.55	-0.85
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 330	159.95	-5.22	-9.06	-1191.26	665.49	-0.11
deg+1.0 Ice+1.0 Temp						
Dead+Wind 0 deg - Service	87.55	-0.00	-9.36	-1055.60	-3.32	0.54
Dead+Wind 30 deg - Service	87.55	4.63	-8.05	-931.19	-539.11	0.85
Dead+Wind 60 deg - Service	87.55	8.02	-4.64	-537.15	-931.90	0.97
Dead+Wind 90 deg - Service	87.55	9.34	0.00	1.20	-1067.54	0.81
Dead+Wind 120 deg - Service	87.55	8.25	4.78	539.54	-933.37	0.41
Dead+Wind 150 deg - Service	87.55	4.75	8.26	937.14	-543.52	-0.08
Dead+Wind 180 deg - Service	87.55	0.00	9.39	1065.69	-5.53	-0.53
Dead+Wind 210 deg - Service	87.55	-4.62	8.03	909.58	517.45	-0.85
Dead+Wind 240 deg - Service	87.55	-8.05	4.66	526.12	903.39	-0.97
Dead+Wind 270 deg - Service	87.55	-9.42	-0.00	-0.90	1057.86	-0.82
Dead+Wind 300 deg - Service	87.55	-8.19	-4.74	-536.28	919.38	-0.42
Dead+Wind 330 deg - Service	87.55	-4.63	-8.05	-915.56	522.30	0.09

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-87.55	0.00	0.00	87.55	0.00	0.000%
2	-0.02	-105.06	-38.43	0.02	105.06	38.43	0.000%
3	-0.02	-78.80	-38.43	0.02	78.80	38.43	0.000%
4	19.02	-105.06	-33.06	-19.02	105.06	33.06	0.000%
5	19.02	-78.80	-33.06	-19.02	78.80	33.06	0.000%
6	32.92	-105.06	-19.05	-32.92	105.06	19.05	0.000%
7	32.92	-78.80	-19.05	-32.92	78.80	19.05	0.000%
8	38.33	-105.06	0.02	-38.33	105.06	-0.02	0.000%
9	38.33	-78.80	0.02	-38.33	78.80	-0.02	0.000%
10	33.88	-105.06	19.63	-33.88	105.06	-19.63	0.000%
11	33.88	-78.80	19.63	-33.88	78.80	-19.63	0.000%
12	19.51	-105.06	33.89	-19.51	105.06	-33.89	0.000%
13	19.51	-78.80	33.89	-19.51	78.80	-33.89	0.000%
14	0.02	-105.06	38.52	-0.02	105.06	-38.52	0.000%
15	0.02	-78.80	38.52	-0.02	78.80	-38.52	0.000%
16	-18.96	-105.06	32.96	18.96	105.06	-32.96	0.000%
17	-18.96	-78.80	32.96	18.96	78.80	-32.96	0.000%
18	-33.05	-105.06	19.14	33.05	105.06	-19.14	0.000%
19	-33.05	-78.80	19.14	33.05	78.80	-19.14	0.000%
20	-38.67	-105.06	-0.01	38.67	105.06	0.01	0.000%
21	-38.67	-78.80	-0.01	38.67	78.80	0.01	0.000%
22	-33.60	-105.06	-19.47	33.60	105.06	19.47	0.000%
23	-33.60	-78.80	-19.47	33.60	78.80	19.47	0.000%
24	-19.01	-105.06	-33.02	19.01	105.06	33.02	0.000%
25	-19.01	-78.80	-33.02	19.01	78.80	33.02	0.000%
26	0.00	-159.95	0.00	-0.00	159.95	-0.00	0.000%
27	-0.03	-159.95	-10.44	0.03	159.95	10.44	0.000%
28	5.15	-159.95	-8.99	-5.15	159.95	8.99	0.000%
29	8.93	-159.95	-5.18	-8.93	159.95	5.18	0.000%
30	10.37	-159.95	-0.00	-10.37	159.95	0.00	0.000%
31	9.06	-159.95	5.26	-9.06	159.95	-5.26	0.000%

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
32	5.21	-159.95	9.07	-5.21	159.95	-9.07	0.000%
33	0.00	-159.95	10.42	-0.00	159.95	-10.42	0.000%
34	-5.14	-159.95	8.96	5.14	159.95	-8.96	0.000%
35	-8.96	-159.95	5.17	8.96	159.95	-5.17	0.000%
36	-10.39	-159.95	-0.02	10.39	159.95	0.02	0.000%
37	-9.04	-159.95	-5.25	9.04	159.95	5.25	0.000%
38	-5.22	-159.95	-9.06	5.22	159.95	9.06	0.000%
39	-0.00	-87.55	-9.36	0.00	87.55	9.36	0.000%
40	4.63	-87.55	-8.05	-4.63	87.55	8.05	0.000%
41	8.02	-87.55	-4.64	-8.02	87.55	4.64	0.000%
42	9.34	-87.55	0.00	-9.34	87.55	-0.00	0.000%
43	8.25	-87.55	4.78	-8.25	87.55	-4.78	0.000%
44	4.75	-87.55	8.26	-4.75	87.55	-8.26	0.000%
45	0.00	-87.55	9.39	-0.00	87.55	-9.39	0.000%
46	-4.62	-87.55	8.03	4.62	87.55	-8.03	0.000%
47	-8.05	-87.55	4.66	8.05	87.55	-4.66	0.000%
48	-9.42	-87.55	-0.00	9.42	87.55	0.00	0.000%
49	-8.19	-87.55	-4.74	8.19	87.55	4.74	0.000%
50	-4.63	-87.55	-8.05	4.63	87.55	8.05	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00060368
3	Yes	5	0.00000001	0.00030112
4	Yes	6	0.00000001	0.00032203
5	Yes	6	0.00000001	0.00012027
6	Yes	6	0.00000001	0.00028129
7	Yes	6	0.00000001	0.00010399
8	Yes	5	0.00000001	0.00061634
9	Yes	5	0.00000001	0.00030805
10	Yes	6	0.00000001	0.00030417
11	Yes	6	0.00000001	0.00011297
12	Yes	6	0.00000001	0.00031042
13	Yes	6	0.00000001	0.00011525
14	Yes	5	0.00000001	0.00063453
15	Yes	5	0.00000001	0.00031705
16	Yes	6	0.00000001	0.00026678
17	Yes	6	0.00000001	0.00009898
18	Yes	6	0.00000001	0.00030694
19	Yes	6	0.00000001	0.00011508
20	Yes	5	0.00000001	0.00059252
21	Yes	5	0.00000001	0.00029558
22	Yes	6	0.00000001	0.00029095
23	Yes	6	0.00000001	0.00010807
24	Yes	6	0.00000001	0.00028425
25	Yes	6	0.00000001	0.00010571
26	Yes	5	0.00000001	0.00009693
27	Yes	6	0.00000001	0.00080185
28	Yes	6	0.00000001	0.00087290
29	Yes	6	0.00000001	0.00086834
30	Yes	6	0.00000001	0.00080841
31	Yes	6	0.00000001	0.00087490
32	Yes	6	0.00000001	0.00087447
33	Yes	6	0.00000001	0.00080311
34	Yes	6	0.00000001	0.00085010
35	Yes	6	0.00000001	0.00084910
36	Yes	6	0.00000001	0.00078374
37	Yes	6	0.00000001	0.00084788
38	Yes	6	0.00000001	0.00085369
39	Yes	5	0.00000001	0.00005436
40	Yes	5	0.00000001	0.00011500
41	Yes	5	0.00000001	0.00009504

42	Yes	5	0.00000001	0.00005474
43	Yes	5	0.00000001	0.00010324
44	Yes	5	0.00000001	0.00010531
45	Yes	5	0.00000001	0.00005516
46	Yes	5	0.00000001	0.00009064
47	Yes	5	0.00000001	0.00011004
48	Yes	5	0.00000001	0.00005413
49	Yes	5	0.00000001	0.00009580
50	Yes	5	0.00000001	0.00009368

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	191.667 - 186.667	18.921	44	0.9502	0.0044
L2	186.667 - 181.567	17.927	44	0.9489	0.0041
L3	181.567 - 176.567	16.914	44	0.9474	0.0039
L4	176.567 - 171.567	15.924	44	0.9424	0.0037
L5	171.567 - 166.567	14.942	44	0.9333	0.0036
L6	166.567 - 161.567	13.972	44	0.9188	0.0035
L7	161.567 - 156.567	13.020	44	0.8971	0.0033
L8	156.567 - 151.567	12.096	44	0.8671	0.0031
L9	151.567 - 146.567	11.208	44	0.8263	0.0027
L10	146.567 - 141.567	10.369	44	0.7737	0.0024
L11	141.567 - 141.417	9.594	44	0.7051	0.0021
L12	141.417 - 136.417	9.572	44	0.7028	0.0021
L13	136.417 - 131.417	8.848	44	0.6778	0.0020
L14	131.417 - 126.417	8.154	44	0.6479	0.0019
L15	126.417 - 121.417	7.493	44	0.6128	0.0017
L16	121.417 - 121.167	6.872	44	0.5726	0.0014
L17	121.167 - 116.167	6.842	44	0.5704	0.0014
L18	116.167 - 111.167	6.260	44	0.5416	0.0012
L19	111.167 - 110.042	5.709	44	0.5094	0.0011
L20	110.042 - 109.792	5.590	44	0.5016	0.0010
L21	109.792 - 105.083	5.564	44	0.5003	0.0010
L22	105.083 - 104.833	5.083	44	0.4735	0.0009
L23	104.833 - 100.917	5.059	44	0.4722	0.0009
L24	100.917 - 100.667	4.680	44	0.4511	0.0009
L25	100.667 - 95.833	4.656	44	0.4497	0.0009
L26	95.833 - 95.583	4.215	44	0.4217	0.0008
L27	95.583 - 90.583	4.193	44	0.4205	0.0008
L28	90.583 - 89.917	3.766	44	0.3953	0.0007
L29	89.917 - 89.667	3.711	44	0.3918	0.0007

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L30	89.667 - 84.667	3.690	44	0.3907	0.0007
L31	84.667 - 80.833	3.293	44	0.3678	0.0006
L32	80.833 - 80.333	3.005	44	0.3490	0.0006
L33	80.333 - 80.083	2.969	44	0.3471	0.0006
L34	80.083 - 75.083	2.951	44	0.3461	0.0006
L35	75.083 - 70.083	2.599	44	0.3243	0.0005
L36	70.083 - 69.5	2.272	44	0.3010	0.0005
L37	69.5 - 69.25	2.235	44	0.2982	0.0005
L38	69.25 - 64.25	2.220	44	0.2972	0.0005
L39	64.25 - 60.583	1.919	44	0.2761	0.0004
L40	60.583 - 60.333	1.714	44	0.2597	0.0004
L41	60.333 - 55.333	1.700	44	0.2587	0.0004
L42	55.333 - 52.167	1.439	44	0.2390	0.0003
L43	52.167 - 51.917	1.285	44	0.2259	0.0003
L44	51.917 - 46.917	1.273	44	0.2250	0.0003
L45	46.917 - 41.917	1.047	44	0.2070	0.0003
L46	41.917 - 40.233	0.840	44	0.1879	0.0003
L47	40.233 - 39.983	0.775	44	0.1809	0.0002
L48	39.983 - 34.983	0.766	44	0.1799	0.0002
L49	34.983 - 29.983	0.588	44	0.1584	0.0002
L50	29.983 - 28	0.434	44	0.1356	0.0002
L51	28 - 27.75	0.380	44	0.1263	0.0002
L52	27.75 - 22.75	0.373	44	0.1253	0.0002
L53	22.75 - 20.083	0.253	44	0.1049	0.0001
L54	20.083 - 19.833	0.197	44	0.0935	0.0001
L55	19.833 - 17	0.193	44	0.0923	0.0001
L56	17 - 16.75	0.142	44	0.0780	0.0001
L57	16.75 - 11.65	0.138	44	0.0769	0.0001
L58	11.65 - 11.417	0.068	44	0.0543	0.0001
L59	11.417 - 9.396	0.065	44	0.0533	0.0001
L60	9.396 - 9.146	0.045	44	0.0440	0.0001
L61	9.146 - 4.833	0.042	44	0.0429	0.0001
L62	4.833 - 4.583	0.012	44	0.0238	0.0000
L63	4.583 - 0	0.011	44	0.0226	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
192.00	OGB4-900D	44	18.921	0.9502	0.0044	210884
191.67	Lightning Rod 5/8" x 4' on 4' Pole	44	18.921	0.9502	0.0044	210884
191.00	DB589-A	44	18.789	0.9500	0.0043	210884
184.00	AIR -32 B2A/B66AA w/ Mount Pipe	44	17.397	0.9483	0.0040	139087
178.00	4' ICE SHIELDS	44	16.207	0.9442	0.0038	49532
171.00	MX08FRO665-21 w/ Mount Pipe	44	14.831	0.9319	0.0036	23448
160.00	(2) NNHH-65B-R4 w/ Mount Pipe	44	12.727	0.8887	0.0033	10077
158.00	SRL-224NM-4	44	12.358	0.8767	0.0032	8849
151.00	RRUS 32 B30	44	11.111	0.8210	0.0027	6004
150.00	DC6-48-60-18-8F	44	10.940	0.8112	0.0026	5692
138.00	4' ICE SHIELDS	44	9.074	0.6805	0.0020	10012
132.00	SRL-235-2	44	8.233	0.6522	0.0019	8998
124.00	PCS 1900 TMA RX	44	7.188	0.5942	0.0015	7411
98.00	4' ICE SHIELDS	44	4.409	0.4338	0.0008	10193
90.00	KP2F-34	44	3.718	0.3922	0.0007	11841
70.00	SRL-235-2	44	2.267	0.3006	0.0005	12726
33.00	DB909XVTE-M	44	0.525	0.1497	0.0002	12674

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt c	Twist c
L1	191.667 - 186.667	78.113	12	3.9239	0.0181
L2	186.667 - 181.567	74.012	12	3.9200	0.0168
L3	181.567 - 176.567	69.832	12	3.9143	0.0161
L4	176.567 - 171.567	65.748	12	3.8942	0.0155
L5	171.567 - 166.567	61.693	12	3.8569	0.0148
L6	166.567 - 161.567	57.689	12	3.7970	0.0143
L7	161.567 - 156.567	53.762	12	3.7071	0.0137
L8	156.567 - 151.567	49.946	12	3.5830	0.0128
L9	151.567 - 146.567	46.282	12	3.4147	0.0113
L10	146.567 - 141.567	42.818	12	3.1972	0.0100
L11	141.567 - 141.417	39.615	12	2.9132	0.0087
L12	141.417 - 136.417	39.524	12	2.9036	0.0087
L13	136.417 - 131.417	36.538	12	2.8002	0.0083
L14	131.417 - 126.417	33.670	12	2.6766	0.0078
L15	126.417 - 121.417	30.943	12	2.5318	0.0068
L16	121.417 - 121.167	28.379	12	2.3654	0.0058
L17	121.167 - 116.167	28.255	12	2.3565	0.0057
L18	116.167 - 111.167	25.849	12	2.2376	0.0051
L19	111.167 - 110.042	23.576	12	2.1044	0.0044
L20	110.042 - 109.792	23.084	12	2.0724	0.0043
L21	109.792 - 105.083	22.976	12	2.0668	0.0043
L22	105.083 - 104.833	20.992	12	1.9563	0.0038
L23	104.833 - 100.917	20.889	12	1.9509	0.0038
L24	100.917 - 100.667	19.325	12	1.8636	0.0035
L25	100.667 - 95.833	19.228	12	1.8578	0.0035
L26	95.833 - 95.583	17.405	12	1.7420	0.0031
L27	95.583 - 90.583	17.314	12	1.7371	0.0031
L28	90.583 - 89.917	15.549	12	1.6332	0.0028
L29	89.917 - 89.667	15.322	12	1.6187	0.0028
L30	89.667 - 84.667	15.238	12	1.6142	0.0028
L31	84.667 - 80.833	13.597	12	1.5193	0.0025
L32	80.833 - 80.333	12.408	12	1.4415	0.0023
L33	80.333 - 80.083	12.258	12	1.4339	0.0023
L34	80.083 - 75.083	12.183	12	1.4296	0.0023
L35	75.083 - 70.083	10.732	12	1.3397	0.0021
L36	70.083 - 69.5	9.380	12	1.2432	0.0019
L37	69.5 - 69.25	9.229	12	1.2316	0.0018
L38	69.25 - 64.25	9.164	12	1.2273	0.0018
L39	64.25 - 60.583	7.924	12	1.1402	0.0017
L40	60.583 - 60.333	7.074	12	1.0724	0.0015
L41	60.333 - 55.333	7.018	12	1.0685	0.0015
L42	55.333 - 52.167	5.942	12	0.9871	0.0014
L43	52.167 - 51.917	5.305	12	0.9328	0.0013
L44	51.917 - 46.917	5.256	12	0.9292	0.0013
L45	46.917 - 41.917	4.322	12	0.8548	0.0012

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L46	41.917 - 40.233	3.468	12	0.7758	0.0010
L47	40.233 - 39.983	3.199	12	0.7470	0.0010
L48	39.983 - 34.983	3.160	12	0.7427	0.0010
L49	34.983 - 29.983	2.429	12	0.6538	0.0009
L50	29.983 - 28	1.793	12	0.5599	0.0007
L51	28 - 27.75	1.568	12	0.5213	0.0007
L52	27.75 - 22.75	1.541	12	0.5172	0.0007
L53	22.75 - 20.083	1.044	12	0.4328	0.0005
L54	20.083 - 19.833	0.815	12	0.3860	0.0005
L55	19.833 - 17	0.795	12	0.3809	0.0005
L56	17 - 16.75	0.586	12	0.3218	0.0004
L57	16.75 - 11.65	0.569	12	0.3172	0.0004
L58	11.65 - 11.417	0.280	12	0.2242	0.0003
L59	11.417 - 9.396	0.269	12	0.2199	0.0003
L60	9.396 - 9.146	0.184	12	0.1817	0.0002
L61	9.146 - 4.833	0.175	12	0.1772	0.0002
L62	4.833 - 4.583	0.050	12	0.0982	0.0001
L63	4.583 - 0	0.045	12	0.0932	0.0001

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
192.00	OGB4-900D	12	78.113	3.9239	0.0181	65179
191.67	Lightning Rod 5/8" x 4' on 4' Pole	12	78.113	3.9239	0.0181	65179
191.00	DB589-A	12	77.566	3.9234	0.0179	65179
184.00	AIR -32 B2A/B66AA w/ Mount Pipe	12	71.825	3.9181	0.0164	38408
178.00	4' ICE SHIELDS	12	66.916	3.9017	0.0157	12344
171.00	MX08FRO665-21 w/ Mount Pipe	12	61.236	3.8514	0.0148	5749
160.00	(2) NNHH-65B-R4 w/ Mount Pipe	12	52.552	3.6723	0.0135	2457
158.00	SRL-224NM-4	12	51.026	3.6227	0.0131	2160
151.00	RRUS 32 B30	12	45.878	3.3927	0.0111	1464
150.00	DC6-48-60-18-8F	12	45.172	3.3525	0.0109	1387
138.00	4' ICE SHIELDS	12	37.471	2.8115	0.0083	2431
132.00	SRL-235-2	12	33.998	2.6942	0.0079	2188
124.00	PCS 1900 TMA RX	12	29.682	2.4549	0.0063	1802
98.00	4' ICE SHIELDS	12	18.208	1.7919	0.0033	2472
90.00	KP2F-34	12	15.351	1.6204	0.0028	2870
70.00	SRL-235-2	12	9.358	1.2415	0.0019	3082
33.00	DB909XVTE-M	12	2.165	0.6179	0.0008	3068

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
L1	191.667 - 186.667 (1)	P18x0.375	5.00	0.00	0.0	20.764 0	-0.67	784.88	0.001
L2	186.667 - 181.567 (2)	P24x0.375	5.10	0.00	0.0	27.832 5	-5.76	1052.07	0.005
L3	181.567 - 176.567 (3)	P24x0.375	5.00	0.00	0.0	27.832 5	-6.39	1052.07	0.006
L4	176.567 - 171.567 (4)	P24x0.375	5.00	0.00	0.0	27.832 5	-6.99	1052.07	0.007

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
L5	171.567 - 166.567 (5)	P24x0.375	5.00	0.00	0.0	27.832 5	-10.65	1052.07	0.010
L6	166.567 - 161.567 (6)	P24x0.375	5.00	0.00	0.0	27.832 5	-11.28	1052.07	0.011
L7	161.567 - 156.567 (7)	P24x0.375	5.00	0.00	0.0	27.832 5	-15.44	1052.07	0.015
L8	156.567 - 151.567 (8)	P24x0.375	5.00	0.00	0.0	27.832 5	-16.15	1052.07	0.015
L9	151.567 - 146.567 (9)	P24x0.375	5.00	0.00	0.0	27.832 5	-22.27	1052.07	0.021
L10	146.567 - 141.567 (10)	P24x0.375	5.00	0.00	0.0	27.832 5	-23.10	1052.07	0.022
L11	141.567 - 141.417 (11)	P24x0.375	0.15	0.00	0.0	27.832 5	-23.14	1052.07	0.022
L12	141.417 - 136.417 (12)	P36x0.375	5.00	0.00	0.0	41.969 7	-24.24	1490.10	0.016
L13	136.417 - 131.417 (13)	P36x0.375	5.00	0.00	0.0	41.969 7	-25.80	1490.10	0.017
L14	131.417 - 126.417 (14)	P36x0.375	5.00	0.00	0.0	41.969 7	-26.93	1490.10	0.018
L15	126.417 - 121.417 (15)	P36x0.375	5.00	0.00	0.0	41.969 7	-29.11	1490.10	0.020
L16	121.417 - 121.167 (16)	P36x0.375	0.25	0.00	0.0	41.969 7	-29.19	1490.10	0.020
L17	121.167 - 116.167 (17)	P42x0.375	5.00	0.00	0.0	49.038 3	-30.59	1668.87	0.018
L18	116.167 - 111.167 (18)	P42x0.375	5.00	0.00	0.0	49.038 3	-31.82	1668.87	0.019
L19	111.167 - 110.042 (19)	P42x0.375	1.13	0.00	0.0	49.038 3	-32.10	1668.87	0.019
L20	110.042 - 109.792 (20)	P42x0.4875	0.25	0.00	0.0	63.577 5	-32.18	2332.13	0.014
L21	109.792 - 105.083 (21)	P42x0.4875	4.71	0.00	0.0	63.577 5	-33.69	2332.13	0.014
L22	105.083 - 104.833 (22)	P42x0.5625	0.25	0.00	0.0	73.226 1	-33.80	2767.95	0.012
L23	104.833 - 100.917 (23)	P42x0.5625	3.92	0.00	0.0	73.226 1	-36.11	2767.95	0.013
L24	100.917 - 100.667 (24)	P48x0.375	0.25	0.00	0.0	56.106 9	-36.21	1847.49	0.020
L25	100.667 - 95.833 (25)	P48x0.375	4.83	0.00	0.0	56.106 9	-37.92	1847.49	0.021
L26	95.833 - 95.583 (26)	P48x0.475	0.25	0.00	0.0	70.919 5	-38.00	2481.39	0.015
L27	95.583 - 90.583 (27)	P48x0.475	5.00	0.00	0.0	70.919 5	-39.65	2481.39	0.016
L28	90.583 - 89.917 (28)	P48x0.475	0.67	0.00	0.0	70.919 5	-40.04	2481.39	0.016
L29	89.917 - 89.667 (29)	P48x0.575	0.25	0.00	0.0	85.669 3	-40.14	3174.02	0.013
L30	89.667 - 84.667 (30)	P48x0.575	5.00	0.00	0.0	85.669 3	-42.83	3174.02	0.013
L31	84.667 - 80.833 (31)	P48x0.575	3.83	0.00	0.0	85.669 3	-45.89	3174.02	0.014
L32	80.833 - 80.333 (32)	P54x0.55	0.50	0.00	0.0	92.355 0	-46.26	3257.83	0.014
L33	80.333 - 80.083 (33)	P54x0.4875	0.25	0.00	0.0	81.955 8	-46.39	2797.17	0.017
L34	80.083 - 75.083 (34)	P54x0.4875	5.00	0.00	0.0	81.955 8	-48.72	2797.17	0.017
L35	75.083 - 70.083 (35)	P54x0.4875	5.00	0.00	0.0	81.955 8	-51.47	2797.17	0.018
L36	70.083 - 69.5 (36)	P54x0.4875	0.58	0.00	0.0	81.955 8	-52.12	2797.17	0.019
L37	69.5 - 69.25 (37)	P54x0.5875	0.25	0.00	0.0	98.582 7	-52.30	3545.23	0.015
L38	69.25 - 64.25 (38)	P54x0.5875	5.00	0.00	0.0	98.582 7	-58.52	3545.23	0.017
L39	64.25 -	P54x0.5875	3.67	0.00	0.0	98.582	-63.58	3545.23	0.018

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
	60.583 (39)					7			
L40	60.583 - 60.333 (40)	P60x0.5125	0.25	0.00	0.0	95.778	-63.78	3222.89	0.020
L41	60.333 - 55.333 (41)	P60x0.5125	5.00	0.00	0.0	95.778	-67.41	3222.89	0.021
L42	55.333 - 52.167 (42)	P60x0.5125	3.17	0.00	0.0	95.778	-68.81	3222.89	0.021
L43	52.167 - 51.917 (43)	P60x0.625	0.25	0.00	0.0	116.58	-68.95	4139.15	0.017
L44	51.917 - 46.917 (44)	P60x0.625	5.00	0.00	0.0	116.58	-71.89	4139.15	0.017
L45	46.917 - 41.917 (45)	P60x0.625	5.00	0.00	0.0	116.58	-75.71	4139.15	0.018
L46	41.917 - 40.233 (46)	P60x0.6	1.68	0.00	0.0	111.96	-76.93	3929.11	0.020
L47	40.233 - 39.983 (47)	P60x0.6	0.25	0.00	0.0	111.96	-77.12	3929.11	0.020
L48	39.983 - 34.983 (48)	P60x0.6	5.00	0.00	0.0	111.96	-80.63	3929.11	0.021
L49	34.983 - 29.983 (49)	P60x0.6	5.00	0.00	0.0	111.96	-83.80	3929.11	0.021
L50	29.983 - 28 (50)	P60x0.6	1.98	0.00	0.0	111.96	-84.80	3929.11	0.022
L51	28 - 27.75 (51)	P60x0.725	0.25	0.00	0.0	135.00	-84.96	5015.91	0.017
L52	27.75 - 22.75 (52)	P60x0.725	5.00	0.00	0.0	135.00	-88.92	5015.91	0.018
L53	22.75 - 20.083 (53)	P60x0.725	2.67	0.00	0.0	135.00	-91.06	5015.91	0.018
L54	20.083 - 19.833 (54)	P60x0.625	0.25	0.00	0.0	116.58	-91.25	4139.15	0.022
L55	19.833 - 17 (55)	P60x0.625	2.83	0.00	0.0	116.58	-93.31	4139.15	0.023
L56	17 - 16.75 (56)	P60x0.725	0.25	0.00	0.0	135.00	-93.52	5015.91	0.019
L57	16.75 - 11.65 (57)	P60x0.75	5.10	0.00	0.0	139.60	-97.59	5244.23	0.019
L58	11.65 - 11.417 (58)	P60x0.75	0.23	0.00	0.0	139.60	-97.74	5244.23	0.019
L59	11.417 - 9.396 (59)	P60x0.75	2.02	0.00	0.0	139.60	-99.03	5244.23	0.019
L60	9.396 - 9.146 (60)	P60x0.8	0.25	0.00	0.0	148.78	-99.20	5624.10	0.018
L61	9.146 - 4.833 (61)	P60x0.8	4.31	0.00	0.0	148.78	-102.06	5624.10	0.018
L62	4.833 - 4.583 (62)	P60x0.75	0.25	0.00	0.0	139.60	-102.22	5244.23	0.019
L63	4.583 - 0 (63)	P60x0.75	4.58	0.00	0.0	139.60	-105.06	5244.23	0.020

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{nx} kip-ft	Ratio M _{ux} / φM _{nx}	M _{uy} kip-ft	φM _{ny} kip-ft	Ratio M _{uy} / φM _{ny}
L1	191.667 - 186.667 (1)	P18x0.375	3.72	367.00	0.010	0.00	367.00	0.000
L2	186.667 - 181.567 (2)	P24x0.375	16.15	623.72	0.026	0.00	623.72	0.000
L3	181.567 - 176.567 (3)	P24x0.375	38.91	623.72	0.062	0.00	623.72	0.000
L4	176.567 - 171.567 (4)	P24x0.375	63.32	623.72	0.102	0.00	623.72	0.000
L5	171.567 - 166.567 (5)	P24x0.375	101.97	623.72	0.163	0.00	623.72	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L6	166.567 - 161.567 (6)	P24x0.375	143.72	623.72	0.230	0.00	623.72	0.000
L7	161.567 - 156.567 (7)	P24x0.375	199.13	623.72	0.319	0.00	623.72	0.000
L8	156.567 - 151.567 (8)	P24x0.375	260.81	623.72	0.418	0.00	623.72	0.000
L9	151.567 - 146.567 (9)	P24x0.375	341.70	623.72	0.548	0.00	623.72	0.000
L10	146.567 - 141.567 (10)	P24x0.375	434.25	623.72	0.696	0.00	623.72	0.000
L11	141.567 - 141.417 (11)	P24x0.375	437.04	623.72	0.701	0.00	623.72	0.000
L12	141.417 - 136.417 (12)	P36x0.375	530.96	1338.81	0.397	0.00	1338.81	0.000
L13	136.417 - 131.417 (13)	P36x0.375	628.06	1338.81	0.469	0.00	1338.81	0.000
L14	131.417 - 126.417 (14)	P36x0.375	727.80	1338.81	0.544	0.00	1338.81	0.000
L15	126.417 - 121.417 (15)	P36x0.375	830.30	1338.81	0.620	0.00	1338.81	0.000
L16	121.417 - 121.167 (16)	P36x0.375	835.53	1338.81	0.624	0.00	1338.81	0.000
L17	121.167 - 116.167 (17)	P42x0.375	941.10	1796.56	0.524	0.00	1796.56	0.000
L18	116.167 - 111.167 (18)	P42x0.375	1048.47	1796.56	0.584	0.00	1796.56	0.000
L19	111.167 - 110.042 (19)	P42x0.375	1072.88	1796.56	0.597	0.00	1796.56	0.000
L20	110.042 - 109.792 (20)	P42x0.4875	1078.31	2395.43	0.450	0.00	2395.43	0.000
L21	109.792 - 105.083 (21)	P42x0.4875	1182.38	2395.43	0.494	0.00	2395.43	0.000
L22	105.083 - 104.833 (22)	P42x0.5625	1188.01	2809.31	0.423	0.00	2809.31	0.000
L23	104.833 - 100.917 (23)	P42x0.5625	1277.43	2809.31	0.455	0.00	2809.31	0.000
L24	100.917 - 100.667 (24)	P48x0.375	1283.22	2321.11	0.553	0.00	2321.11	0.000
L25	100.667 - 95.833 (25)	P48x0.375	1396.51	2321.11	0.602	0.00	2321.11	0.000
L26	95.833 - 95.583 (26)	P48x0.475	1402.43	2999.96	0.467	0.00	2999.96	0.000
L27	95.583 - 90.583 (27)	P48x0.475	1521.88	2999.96	0.507	0.00	2999.96	0.000
L28	90.583 - 89.917 (28)	P48x0.475	1538.40	2999.96	0.513	0.00	2999.96	0.000
L29	89.917 - 89.667 (29)	P48x0.575	1544.51	3702.97	0.417	0.00	3702.97	0.000
L30	89.667 - 84.667 (30)	P48x0.575	1668.86	3702.97	0.451	0.00	3702.97	0.000
L31	84.667 - 80.833 (31)	P48x0.575	1767.35	3702.97	0.477	0.00	3702.97	0.000
L32	80.833 - 80.333 (32)	P54x0.55	1780.43	4408.41	0.404	0.00	4408.41	0.000
L33	80.333 - 80.083 (33)	P54x0.4875	1786.99	3864.47	0.462	0.00	3864.47	0.000
L34	80.083 - 75.083 (34)	P54x0.4875	1920.55	3864.47	0.497	0.00	3864.47	0.000
L35	75.083 - 70.083 (35)	P54x0.4875	2058.59	3864.47	0.533	0.00	3864.47	0.000
L36	70.083 - 69.5 (36)	P54x0.4875	2075.19	3864.47	0.537	0.00	3864.47	0.000
L37	69.5 - 69.25 (37)	P54x0.5875	2082.35	4739.87	0.439	0.00	4739.87	0.000
L38	69.25 - 64.25 (38)	P54x0.5875	2228.35	4739.87	0.470	0.00	4739.87	0.000
L39	64.25 - 60.583 (39)	P54x0.5875	2338.93	4739.87	0.493	0.00	4739.87	0.000
L40	60.583 -	P60x0.5125	2346.57	4992.04	0.470	0.00	4992.04	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L41	60.333 (40)	P60x0.5125	2502.00	4992.04	0.501	0.00	4992.04	0.000
L42	60.333 - 55.333 (41)	P60x0.5125	2602.22	4992.04	0.521	0.00	4992.04	0.000
L43	55.333 - 52.167 (42)	P60x0.625	2610.17	6198.18	0.421	0.00	6198.18	0.000
L44	52.167 - 51.917 (43)	P60x0.625	2771.19	6198.18	0.447	0.00	6198.18	0.000
L45	51.917 - 46.917 (44)	P60x0.625	2936.21	6198.18	0.474	0.00	6198.18	0.000
L46	46.917 - 41.917 (45)	P60x0.6	2992.77	5926.84	0.505	0.00	5926.84	0.000
L47	41.917 - 40.233 (46)	P60x0.6	3001.20	5926.84	0.506	0.00	5926.84	0.000
L48	40.233 - 39.983 (47)	P60x0.6	3171.93	5926.84	0.535	0.00	5926.84	0.000
L49	39.983 - 34.983 (48)	P60x0.6	3347.60	5926.84	0.565	0.00	5926.84	0.000
L50	34.983 - 29.983 (49)	P60x0.6	3418.21	5926.84	0.577	0.00	5926.84	0.000
L51	29.983 - 28 (50)	P60x0.6	3418.21	5926.84	0.577	0.00	5926.84	0.000
L52	28 - 27.75 (51)	P60x0.725	3427.15	7302.23	0.469	0.00	7302.23	0.000
L53	27.75 - 22.75 (52)	P60x0.725	3607.83	7302.23	0.494	0.00	7302.23	0.000
L54	22.75 - 20.083 (53)	P60x0.725	3705.67	7302.23	0.507	0.00	7302.23	0.000
L55	20.083 - 19.833 (54)	P60x0.625	3714.89	6198.18	0.599	0.00	6198.18	0.000
L56	19.833 - 17 (55)	P60x0.625	3819.96	6198.18	0.616	0.00	6198.18	0.000
L57	17 - 16.75 (56)	P60x0.725	3829.28	7302.23	0.524	0.00	7302.23	0.000
L58	16.75 - 11.65 (57)	P60x0.75	4021.19	7582.87	0.530	0.00	7582.87	0.000
L59	11.65 - 11.417 (58)	P60x0.75	4030.03	7582.87	0.531	0.00	7582.87	0.000
L60	11.417 - 9.396 (59)	P60x0.75	4106.82	7582.87	0.542	0.00	7582.87	0.000
L61	9.396 - 9.146 (60)	P60x0.8	4116.32	8149.65	0.505	0.00	8149.65	0.000
L62	9.146 - 4.833 (61)	P60x0.8	4281.61	8149.65	0.525	0.00	8149.65	0.000
L63	4.833 - 4.583 (62)	P60x0.75	4291.26	7582.87	0.566	0.00	7582.87	0.000
L63	4.583 - 0 (63)	P60x0.75	4469.35	7582.87	0.589	0.00	7582.87	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	191.667 - 186.667 (1)	P18x0.375	0.63	235.46	0.003	0.12	364.87	0.000
L2	186.667 - 181.567 (2)	P24x0.375	4.41	315.62	0.014	0.12	655.57	0.000
L3	181.567 - 176.567 (3)	P24x0.375	4.74	315.62	0.015	0.13	655.57	0.000
L4	176.567 - 171.567 (4)	P24x0.375	5.02	315.62	0.016	0.13	655.57	0.000
L5	171.567 - 166.567 (5)	P24x0.375	8.22	315.62	0.026	0.23	655.57	0.000
L6	166.567 - 161.567 (6)	P24x0.375	8.48	315.62	0.027	0.23	655.57	0.000
L7	161.567 -	P24x0.375	12.21	315.62	0.039	0.45	655.57	0.001

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 $\frac{T_u}{\phi T_n}$
L8	156.567 (7) 156.567 - 151.567 (8)	P24x0.375	12.46	315.62	0.039	0.45	655.57	0.001
L9	151.567 - 146.567 (9)	P24x0.375	18.43	315.62	0.058	0.75	655.57	0.001
L10	146.567 - 141.567 (10)	P24x0.375	18.61	315.62	0.059	0.75	655.57	0.001
L11	141.567 - 141.417 (11)	P24x0.375	18.61	315.62	0.059	0.75	655.57	0.001
L12	141.417 - 136.417 (12)	P36x0.375	19.00	454.19	0.042	0.77	1094.28	0.001
L13	136.417 - 131.417 (13)	P36x0.375	19.79	454.19	0.044	1.98	1094.28	0.002
L14	131.417 - 126.417 (14)	P36x0.375	20.11	454.19	0.044	1.98	1094.28	0.002
L15	126.417 - 121.417 (15)	P36x0.375	20.91	454.19	0.046	2.02	1094.28	0.002
L16	121.417 - 121.167 (16)	P36x0.375	20.92	454.19	0.046	2.02	1094.28	0.002
L17	121.167 - 116.167 (17)	P42x0.375	21.30	421.13	0.051	2.02	1185.51	0.002
L18	116.167 - 111.167 (18)	P42x0.375	21.65	421.13	0.051	2.02	1185.51	0.002
L19	111.167 - 110.042 (19)	P42x0.375	21.73	421.13	0.052	2.02	1185.51	0.002
L20	110.042 - 109.792 (20)	P42x0.4875	21.75	720.97	0.030	2.02	2272.02	0.001
L21	109.792 - 105.083 (21)	P42x0.4875	22.46	720.97	0.031	2.02	2272.02	0.001
L22	105.083 - 104.833 (22)	P42x0.5625	22.50	830.38	0.027	2.02	3025.18	0.001
L23	104.833 - 100.917 (23)	P42x0.5625	23.16	830.38	0.028	2.02	3025.18	0.001
L24	100.917 - 100.667 (24)	P48x0.375	23.20	394.37	0.059	2.02	1270.22	0.002
L25	100.667 - 95.833 (25)	P48x0.375	23.68	394.37	0.060	2.02	1270.22	0.002
L26	95.833 - 95.583 (26)	P48x0.475	23.70	710.64	0.033	2.02	2284.06	0.001
L27	95.583 - 90.583 (27)	P48x0.475	24.08	710.64	0.034	2.02	2284.06	0.001
L28	90.583 - 89.917 (28)	P48x0.475	24.42	710.64	0.034	2.02	2284.06	0.001
L29	89.917 - 89.667 (29)	P48x0.575	24.46	971.49	0.025	1.52	3667.03	0.000
L30	89.667 - 84.667 (30)	P48x0.575	25.32	971.49	0.026	1.52	3667.03	0.000
L31	84.667 - 80.833 (31)	P48x0.575	26.15	971.49	0.027	1.58	3667.03	0.000
L32	80.833 - 80.333 (32)	P54x0.55	26.24	966.32	0.027	1.58	3493.03	0.000
L33	80.333 - 80.083 (33)	P54x0.4875	26.28	729.66	0.036	1.58	2639.00	0.001
L34	80.083 - 75.083 (34)	P54x0.4875	27.15	729.66	0.037	1.58	2639.00	0.001
L35	75.083 - 70.083 (35)	P54x0.4875	28.04	729.66	0.038	1.58	2639.00	0.001
L36	70.083 - 69.5 (36)	P54x0.4875	28.58	729.66	0.039	1.58	2639.00	0.001
L37	69.5 - 69.25 (37)	P54x0.5875	28.62	1117.93	0.026	0.01	4113.45	0.000
L38	69.25 - 64.25 (38)	P54x0.5875	29.65	1117.93	0.027	0.01	4113.45	0.000
L39	64.25 - 60.583 (39)	P54x0.5875	30.55	1117.93	0.027	0.01	4113.45	0.000
L40	60.583 - 60.333 (40)	P60x0.5125	30.59	838.76	0.036	0.01	3372.33	0.000
L41	60.333 - 55.333 (41)	P60x0.5125	31.54	838.76	0.038	0.01	3372.33	0.000

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio V_u ϕV_n	Actual T_u kip-ft	ϕT_n kip-ft	Ratio T_u ϕT_n
L42	55.333 - 52.167 (42)	P60x0.5125	31.78	838.76	0.038	0.01	3372.33	0.000
L43	52.167 - 51.917 (43)	P60x0.625	31.79	1308.39	0.024	0.01	5250.55	0.000
L44	51.917 - 46.917 (44)	P60x0.625	32.63	1308.39	0.025	0.01	5250.55	0.000
L45	46.917 - 41.917 (45)	P60x0.625	33.52	1308.39	0.026	0.01	5250.55	0.000
L46	41.917 - 40.233 (46)	P60x0.6	33.81	1194.07	0.028	0.01	4793.81	0.000
L47	40.233 - 39.983 (47)	P60x0.6	33.84	1194.07	0.028	0.01	4793.81	0.000
L48	39.983 - 34.983 (48)	P60x0.6	34.62	1194.07	0.029	0.01	4793.81	0.000
L49	34.983 - 29.983 (49)	P60x0.6	35.49	1194.07	0.030	0.33	4793.81	0.000
L50	29.983 - 28 (50)	P60x0.6	35.75	1194.07	0.030	0.33	4793.81	0.000
L51	28 - 27.75 (51)	P60x0.725	35.76	1530.99	0.023	0.33	7317.32	0.000
L52	27.75 - 22.75 (52)	P60x0.725	36.49	1530.99	0.024	0.33	7317.32	0.000
L53	22.75 - 20.083 (53)	P60x0.725	36.87	1530.99	0.024	0.33	7317.32	0.000
L54	20.083 - 19.833 (54)	P60x0.625	36.88	1308.39	0.028	0.33	5250.55	0.000
L55	19.833 - 17 (55)	P60x0.625	37.28	1308.39	0.028	0.33	5250.55	0.000
L56	17 - 16.75 (56)	P60x0.725	37.29	1530.99	0.024	0.33	7317.32	0.000
L57	16.75 - 11.65 (57)	P60x0.75	37.95	1583.12	0.024	0.33	7957.82	0.000
L58	11.65 - 11.417 (58)	P60x0.75	37.94	1583.12	0.024	0.33	7957.82	0.000
L59	11.417 - 9.396 (59)	P60x0.75	38.05	1583.12	0.024	0.33	7957.82	0.000
L60	9.396 - 9.146 (60)	P60x0.8	38.06	1687.23	0.023	0.33	8781.67	0.000
L61	9.146 - 4.833 (61)	P60x0.8	38.58	1687.23	0.023	0.33	8781.67	0.000
L62	4.833 - 4.583 (62)	P60x0.75	38.60	1583.12	0.024	0.33	7957.82	0.000
L63	4.583 - 0 (63)	P60x0.75	39.13	1583.12	0.025	0.33	7957.82	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P_u ϕP_n	Ratio M_{ux} ϕM_{nx}	Ratio M_{uy} ϕM_{ny}	Ratio V_u ϕV_n	Ratio T_u ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	191.667 - 186.667 (1)	0.001	0.010	0.000	0.003	0.000	0.011	1.050	4.8.2
L2	186.667 - 181.567 (2)	0.005	0.026	0.000	0.014	0.000	0.032	1.050	4.8.2
L3	181.567 - 176.567 (3)	0.006	0.062	0.000	0.015	0.000	0.069	1.050	4.8.2
L4	176.567 - 171.567 (4)	0.007	0.102	0.000	0.016	0.000	0.108	1.050	4.8.2
L5	171.567 - 166.567 (5)	0.010	0.163	0.000	0.026	0.000	0.174	1.050	4.8.2
L6	166.567 - 161.567 (6)	0.011	0.230	0.000	0.027	0.000	0.242	1.050	4.8.2
L7	161.567 - 156.567 (7)	0.015	0.319	0.000	0.039	0.001	0.335	1.050	4.8.2

Section No.	Elevation ft	Ratio	Ratio	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		P_u	M_{ux}	M_{uy}	V_u	T_u			
		ϕP_n	ϕM_{nx}	ϕM_{ny}	ϕV_n	ϕT_n			
L8	156.567 - 151.567 (8)	0.015	0.418	0.000	0.039	0.001	0.435	1.050	4.8.2
L9	151.567 - 146.567 (9)	0.021	0.548	0.000	0.058	0.001	0.573	1.050	4.8.2
L10	146.567 - 141.567 (10)	0.022	0.696	0.000	0.059	0.001	0.722	1.050	4.8.2
L11	141.567 - 141.417 (11)	0.022	0.701	0.000	0.059	0.001	0.726	1.050	4.8.2
L12	141.417 - 136.417 (12)	0.016	0.397	0.000	0.042	0.001	0.415	1.050	4.8.2
L13	136.417 - 131.417 (13)	0.017	0.469	0.000	0.044	0.002	0.488	1.050	4.8.2
L14	131.417 - 126.417 (14)	0.018	0.544	0.000	0.044	0.002	0.564	1.050	4.8.2
L15	126.417 - 121.417 (15)	0.020	0.620	0.000	0.046	0.002	0.642	1.050	4.8.2
L16	121.417 - 121.167 (16)	0.020	0.624	0.000	0.046	0.002	0.646	1.050	4.8.2
L17	121.167 - 116.167 (17)	0.018	0.524	0.000	0.051	0.002	0.545	1.050	4.8.2
L18	116.167 - 111.167 (18)	0.019	0.584	0.000	0.051	0.002	0.605	1.050	4.8.2
L19	111.167 - 110.042 (19)	0.019	0.597	0.000	0.052	0.002	0.619	1.050	4.8.2
L20	110.042 - 109.792 (20)	0.014	0.450	0.000	0.030	0.001	0.465	1.050	4.8.2
L21	109.792 - 105.083 (21)	0.014	0.494	0.000	0.031	0.001	0.509	1.050	4.8.2
L22	105.083 - 104.833 (22)	0.012	0.423	0.000	0.027	0.001	0.436	1.050	4.8.2
L23	104.833 - 100.917 (23)	0.013	0.455	0.000	0.028	0.001	0.469	1.050	4.8.2
L24	100.917 - 100.667 (24)	0.020	0.553	0.000	0.059	0.002	0.576	1.050	4.8.2
L25	100.667 - 95.833 (25)	0.021	0.602	0.000	0.060	0.002	0.626	1.050	4.8.2
L26	95.833 - 95.583 (26)	0.015	0.467	0.000	0.033	0.001	0.484	1.050	4.8.2
L27	95.583 - 90.583 (27)	0.016	0.507	0.000	0.034	0.001	0.524	1.050	4.8.2
L28	90.583 - 89.917 (28)	0.016	0.513	0.000	0.034	0.001	0.530	1.050	4.8.2
L29	89.917 - 89.667 (29)	0.013	0.417	0.000	0.025	0.000	0.430	1.050	4.8.2
L30	89.667 - 84.667 (30)	0.013	0.451	0.000	0.026	0.000	0.465	1.050	4.8.2
L31	84.667 - 80.833 (31)	0.014	0.477	0.000	0.027	0.000	0.492	1.050	4.8.2
L32	80.833 - 80.333 (32)	0.014	0.404	0.000	0.027	0.000	0.419	1.050	4.8.2
L33	80.333 - 80.083 (33)	0.017	0.462	0.000	0.036	0.001	0.480	1.050	4.8.2
L34	80.083 - 75.083 (34)	0.017	0.497	0.000	0.037	0.001	0.516	1.050	4.8.2
L35	75.083 - 70.083 (35)	0.018	0.533	0.000	0.038	0.001	0.553	1.050	4.8.2
L36	70.083 - 69.5 (36)	0.019	0.537	0.000	0.039	0.001	0.557	1.050	4.8.2
L37	69.5 - 69.25 (37)	0.015	0.439	0.000	0.026	0.000	0.455	1.050	4.8.2
L38	69.25 - 64.25 (38)	0.017	0.470	0.000	0.027	0.000	0.487	1.050	4.8.2
L39	64.25 - 60.583 (39)	0.018	0.493	0.000	0.027	0.000	0.512	1.050	4.8.2
L40	60.583 - 60.333 (40)	0.020	0.470	0.000	0.036	0.000	0.491	1.050	4.8.2
L41	60.333 - 55.333 (41)	0.021	0.501	0.000	0.038	0.000	0.524	1.050	4.8.2
L42	55.333 -	0.021	0.521	0.000	0.038	0.000	0.544	1.050	4.8.2

Section No.	Elevation ft	Ratio	Ratio	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		P_u ϕP_n	M_{ux} ϕM_{nx}	M_{uy} ϕM_{ny}	V_u ϕV_n	T_u ϕT_n			
L43	52.167 (42) 52.167 - 51.917 (43)	0.017	0.421	0.000	0.024	0.000	0.438	1.050	4.8.2
L44	51.917 - 46.917 (44)	0.017	0.447	0.000	0.025	0.000	0.465	1.050	4.8.2
L45	46.917 - 41.917 (45)	0.018	0.474	0.000	0.026	0.000	0.493	1.050	4.8.2
L46	41.917 - 40.233 (46)	0.020	0.505	0.000	0.028	0.000	0.525	1.050	4.8.2
L47	40.233 - 39.983 (47)	0.020	0.506	0.000	0.028	0.000	0.527	1.050	4.8.2
L48	39.983 - 34.983 (48)	0.021	0.535	0.000	0.029	0.000	0.557	1.050	4.8.2
L49	34.983 - 29.983 (49)	0.021	0.565	0.000	0.030	0.000	0.587	1.050	4.8.2
L50	29.983 - 28 (50)	0.022	0.577	0.000	0.030	0.000	0.599	1.050	4.8.2
L51	28 - 27.75 (51)	0.017	0.469	0.000	0.023	0.000	0.487	1.050	4.8.2
L52	27.75 - 22.75 (52)	0.018	0.494	0.000	0.024	0.000	0.512	1.050	4.8.2
L53	22.75 - 20.083 (53)	0.018	0.507	0.000	0.024	0.000	0.526	1.050	4.8.2
L54	20.083 - 19.833 (54)	0.022	0.599	0.000	0.028	0.000	0.622	1.050	4.8.2
L55	19.833 - 17 (55)	0.023	0.616	0.000	0.028	0.000	0.640	1.050	4.8.2
L56	17 - 16.75 (56)	0.019	0.524	0.000	0.024	0.000	0.544	1.050	4.8.2
L57	16.75 - 11.65 (57)	0.019	0.530	0.000	0.024	0.000	0.549	1.050	4.8.2
L58	11.65 - 11.417 (58)	0.019	0.531	0.000	0.024	0.000	0.551	1.050	4.8.2
L59	11.417 - 9.396 (59)	0.019	0.542	0.000	0.024	0.000	0.561	1.050	4.8.2
L60	9.396 - 9.146 (60)	0.018	0.505	0.000	0.023	0.000	0.523	1.050	4.8.2
L61	9.146 - 4.833 (61)	0.018	0.525	0.000	0.023	0.000	0.544	1.050	4.8.2
L62	4.833 - 4.583 (62)	0.019	0.566	0.000	0.024	0.000	0.586	1.050	4.8.2
L63	4.583 - 0 (63)	0.020	0.589	0.000	0.025	0.000	0.610	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	191.667 - 186.667	Pole	P18x0.375	1	-0.67	824.12	1.0	Pass
L2	186.667 - 181.567	Pole	P24x0.375	2	-5.76	1104.67	3.0	Pass
L3	181.567 - 176.567	Pole	P24x0.375	3	-6.39	1104.67	6.5	Pass
L4	176.567 - 171.567	Pole	P24x0.375	4	-6.99	1104.67	10.3	Pass
L5	171.567 - 166.567	Pole	P24x0.375	5	-10.65	1104.67	16.6	Pass
L6	166.567 - 161.567	Pole	P24x0.375	6	-11.28	1104.67	23.0	Pass
L7	161.567 - 156.567	Pole	P24x0.375	7	-15.44	1104.67	32.0	Pass
L8	156.567 -	Pole	P24x0.375	8	-16.15	1104.67	41.4	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L9	151.567	Pole	P24x0.375	9	-22.27	1104.67	54.5	Pass
L10	151.567 - 146.567	Pole	P24x0.375	10	-23.10	1104.67	68.7	Pass
L11	146.567 - 141.567	Pole	P24x0.375	11	-23.14	1104.67	69.2	Pass
L12	141.567 - 141.417	Pole	P36x0.375	12	-24.24	1564.60	39.5	Pass
L13	141.417 - 136.417	Pole	P36x0.375	13	-25.80	1564.60	46.5	Pass
L14	136.417 - 131.417	Pole	P36x0.375	14	-26.93	1564.60	53.7	Pass
L15	131.417 - 126.417	Pole	P36x0.375	15	-29.11	1564.60	61.1	Pass
L16	126.417 - 121.417	Pole	P36x0.375	16	-29.19	1564.60	61.5	Pass
L17	121.417 - 121.167	Pole	P42x0.375	17	-30.59	1752.31	51.9	Pass
L18	121.167 - 116.167	Pole	P42x0.375	18	-31.82	1752.31	57.7	Pass
L19	116.167 - 111.167	Pole	P42x0.375	19	-32.10	1752.31	59.0	Pass
L20	111.167 - 110.042	Pole	P42x0.4875	20	-32.18	2448.74	44.3	Pass
L21	110.042 - 109.792	Pole	P42x0.4875	21	-33.69	2448.74	48.5	Pass
L22	109.792 - 105.083	Pole	P42x0.5625	22	-33.80	2906.35	41.5	Pass
L23	105.083 - 104.833	Pole	P42x0.5625	23	-36.11	2906.35	44.6	Pass
L24	104.833 - 100.917	Pole	P48x0.375	24	-36.21	1939.86	54.9	Pass
L25	100.917 - 100.667	Pole	P48x0.375	25	-37.92	1939.86	59.6	Pass
L26	100.667 - 95.833	Pole	P48x0.475	26	-38.00	2605.46	46.1	Pass
L27	95.833 - 95.583	Pole	P48x0.475	27	-39.65	2605.46	50.0	Pass
L28	95.583 - 90.583	Pole	P48x0.475	28	-40.04	2605.46	50.5	Pass
L29	90.583 - 89.917	Pole	P48x0.575	29	-40.14	3332.72	41.0	Pass
L30	89.917 - 89.667	Pole	P48x0.575	30	-42.83	3332.72	44.3	Pass
L31	89.667 - 84.667	Pole	P48x0.575	31	-45.89	3332.72	46.9	Pass
L32	84.667 - 80.833	Pole	P48x0.575	32	-46.26	3420.72	39.9	Pass
L33	80.833 - 80.333	Pole	P54x0.55	33	-46.39	3420.72	39.9	Pass
L34	80.333 - 80.083	Pole	P54x0.4875	34	-46.39	2937.03	45.7	Pass
L35	80.083 - 75.083	Pole	P54x0.4875	35	-48.72	2937.03	49.1	Pass
L36	75.083 - 70.083	Pole	P54x0.4875	36	-51.47	2937.03	52.6	Pass
L37	70.083 - 69.5	Pole	P54x0.4875	37	-52.12	2937.03	53.1	Pass
L38	69.5 - 69.25	Pole	P54x0.5875	38	-52.30	3722.49	43.3	Pass
L39	69.25 - 64.25	Pole	P54x0.5875	39	-58.52	3722.49	46.4	Pass
L40	64.25 - 60.583	Pole	P54x0.5875	40	-63.58	3722.49	48.8	Pass
L41	60.583 - 60.333	Pole	P60x0.5125	41	-63.78	3384.03	46.8	Pass
L42	60.333 - 55.333	Pole	P60x0.5125	42	-67.41	3384.03	49.9	Pass
L43	55.333 - 52.167	Pole	P60x0.5125	43	-68.81	3384.03	51.8	Pass
L44	52.167 - 51.917	Pole	P60x0.625	44	-68.95	4346.11	41.7	Pass
L45	51.917 - 46.917	Pole	P60x0.625	45	-71.89	4346.11	44.3	Pass
L46	46.917 - 41.917	Pole	P60x0.625	46	-75.71	4346.11	46.9	Pass
L47	41.917 - 40.233	Pole	P60x0.6	47	-76.93	4125.57	50.0	Pass
L48	40.233 - 39.983	Pole	P60x0.6	48	-77.12	4125.57	50.2	Pass
L49	39.983 - 34.983	Pole	P60x0.6	49	-80.63	4125.57	53.0	Pass
L50	34.983 - 29.983	Pole	P60x0.6	50	-83.80	4125.57	55.9	Pass
L51	29.983 - 28	Pole	P60x0.6	51	-84.80	4125.57	57.1	Pass
L52	28 - 27.75	Pole	P60x0.725	52	-84.96	5266.71	46.4	Pass
L53	27.75 - 22.75	Pole	P60x0.725	53	-88.92	5266.71	48.8	Pass
L54	22.75 - 20.083	Pole	P60x0.725	54	-91.06	5266.71	50.1	Pass
L55	20.083 - 19.833	Pole	P60x0.625	55	-91.25	4346.11	59.3	Pass
L56	19.833 - 17	Pole	P60x0.625	56	-93.31	4346.11	60.9	Pass
L57	17 - 16.75	Pole	P60x0.725	57	-93.52	5266.71	51.8	Pass
L58	16.75 - 11.65	Pole	P60x0.75	58	-97.59	5506.44	52.3	Pass
L59	11.65 - 11.417	Pole	P60x0.75	59	-97.74	5506.44	52.4	Pass
L60	11.417 - 9.396	Pole	P60x0.75	60	-99.03	5506.44	53.4	Pass
L60	9.396 - 9.146	Pole	P60x0.8	60	-99.20	5905.30	49.8	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail	
L61	9.146 - 4.833	Pole	P60x0.8	61	-102.06	5905.30	51.8	Pass	
L62	4.833 - 4.583	Pole	P60x0.75	62	-102.22	5506.44	55.8	Pass	
L63	4.583 - 0	Pole	P60x0.75	63	-105.06	5506.44	58.1	Pass	
							Summary		
							Pole (L11)	69.2	Pass
							RATING =	69.2	Pass

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

APPENDIX B
BASE LEVEL DRAWING



(PROPOSED EQUIPMENT CONFIGURATION)
 (2) 3/8" TO 151 FT LEVEL
 (6) 1-1/4" TO 151 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
 (13) 1-5/8" TO 160 FT LEVEL

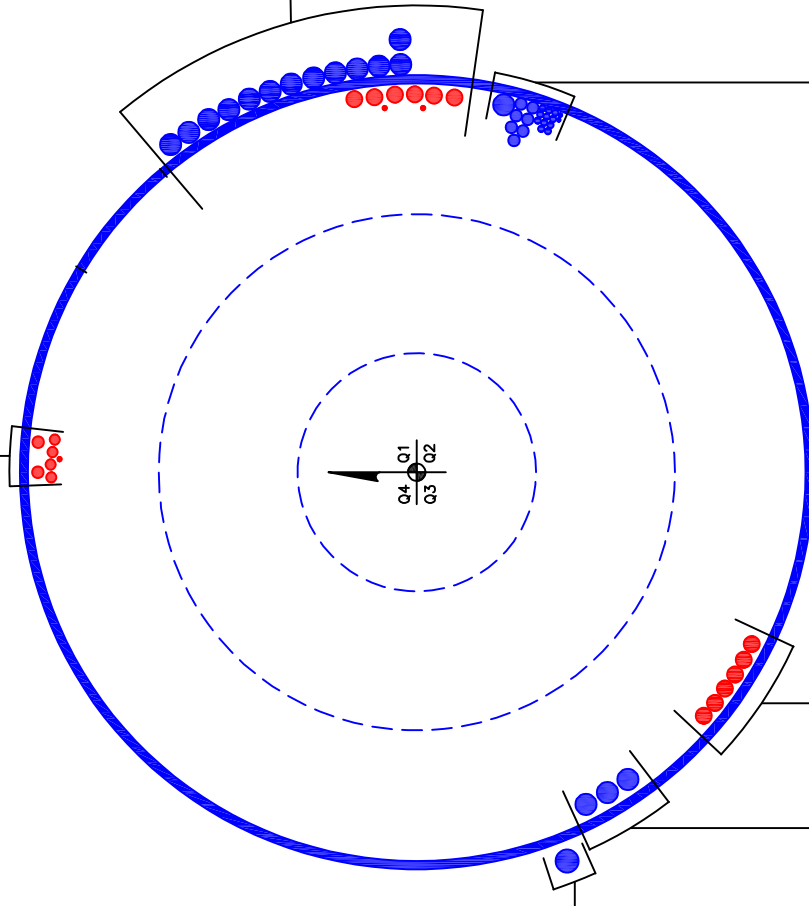
(OTHER CONSIDERED EQUIPMENT)
 (2) 1/2" TO 33 FT LEVEL
 (2) 7/8" TO 70 FT LEVEL
 (1) 5/16" TO 90 FT LEVEL
 (2) 1/2" TO 90 FT LEVEL
 (1) 7/8" TO 90 FT LEVEL
 (1) 7/8" TO 132 FT LEVEL
 (2) 7/8" TO 158 FT LEVEL
 (1) 5/16" TO 191 FT LEVEL
 (1) 7/8" TO 192 FT LEVEL

(PROPOSED EQUIPMENT CONFIGURATION)
 (1) 3/8" TO 151 FT LEVEL
 (4) 13/16" TO 151 FT LEVEL
 (2) 7/8" TO 151 FT LEVEL

(PROPOSED EQUIPMENT CONFIGURATION)
 (6) 1-1/4" TO 151 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
 (3) 1-5/8" TO 184 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
 (1) 1-3/4" TO 171 FT LEVEL



APPENDIX C
ADDITIONAL CALCULATIONS

Site BU: 826217
Work Order: 2133073



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Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	191.667	10.084		0	18	18	0.375		A53-B-42
2	181.583	40.166		0	24.00	24	0.375		A53-B-42
3	141.417	20.25		0	36.00	36	0.375		A53-B-42
4	121.167	20.25		0	42.00	42	0.375		A53-B-42
5	100.917	20.084		0	48.00	48	0.375		A53-B-42
6	80.833	20.25		0	54.00	54	0.375		A53-B-42
7	60.583	20.25		0	60.00	60	0.375		A53-B-42
8	40.333	20.25		0	60.00	60	0.5		A53-B-42
9	20.083	20.083		0	60.00	60	0.625		A53-B-42

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1	0	9.396	plate	CCI-AFP-040075	2				70													313		
2	20.083	40.33	plate	CCI-SFP-060100	3				66						189							312		
3	40.333	60.583	plate	CCI-SFP-065125	3				67.5						188							307		
4	60.583	80.333	plate	CCI-SFP-060100	3				67.5						190							307		
5	80.333	89.917	plate	CCI-SFP-045100	3				72						192							312		
6	100.917	105.083	plate	CCI-AFP-040075	3			53						178								303		
7	4.833	11.667	plate	CCI-AFP-040075	1										198									
8	0	17	plate	CCI-SFP-060100	4		36				113						223				294			
9	20.083	28	plate	CCI-SFP-060100	4			53					157					247				339		
10	40.333	52.167	plate	CCI-SFP-060100	4		36					126					234				294			
11	60.583	69.5	plate	CCI-SFP-045100	4				80				155					254						341
12	80.333	95.833	plate	CCI-SFP-045100	3					93						213						333		
13	100.917	110.042	plate	CCI-SFP-045100	3		30							150							270			
14																								

Reinforcement Details

	B (in)	H (in)	Gross Area (in ²)	Pole Face to Centroid (in)	Bottom Termination Type	Bottom Termination Length (in)	Top Termination Type	Top Termination Length (in)	Lu (in)	Net Area (in ²)	Bolt Hole Size (in)	Reinforcement Material
1	4	0.75	3	0.375	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	16.000	2.063	1.1875	A572-65
2	6	1	6	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	16.000	4.750	1.1875	A572-65
3	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	33	PC 8.8 - M20 (100)	33.000	19.000	6.563	1.1875	A572-65
4	6	1	6	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	16.000	4.750	1.1875	A572-65
5	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65
6	4	0.75	3	0.375	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	16.000	2.063	1.1875	A572-65
7	4	0.75	3	0.375	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	16.000	2.063	1.1875	A572-65
8	6	1	6	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	16.000	4.750	1.1875	A572-65
9	6	1	6	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	16.000	4.750	1.1875	A572-65
10	6	1	6	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	16.000	4.750	1.1875	A572-65
11	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65
12	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65
13	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65

TNX Geometry Input

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

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	191.667 - 186.667	5	0	0	18.000	18.000	0.375	A53-B-42	1.000
2	186.667 - 181.567	5.1		0	24.000	24.000	0.375	A53-B-42	1.000
3	181.567 - 176.567	5		0	24.000	24.000	0.375	A53-B-42	1.000
4	176.567 - 171.567	5		0	24.000	24.000	0.375	A53-B-42	1.000
5	171.567 - 166.567	5		0	24.000	24.000	0.375	A53-B-42	1.000
6	166.567 - 161.567	5		0	24.000	24.000	0.375	A53-B-42	1.000
7	161.567 - 156.567	5		0	24.000	24.000	0.375	A53-B-42	1.000
8	156.567 - 151.567	5		0	24.000	24.000	0.375	A53-B-42	1.000
9	151.567 - 146.567	5		0	24.000	24.000	0.375	A53-B-42	1.000
10	146.567 - 141.567	5		0	24.000	24.000	0.375	A53-B-42	1.000
11	141.567 - 141.417	0.15	0	0	24.000	24.000	0.375	A53-B-42	1.000
12	141.417 - 136.417	5		0	36.000	36.000	0.375	A53-B-42	1.000
13	136.417 - 131.417	5		0	36.000	36.000	0.375	A53-B-42	1.000
14	131.417 - 126.417	5		0	36.000	36.000	0.375	A53-B-42	1.000
15	126.417 - 121.417	5		0	36.000	36.000	0.375	A53-B-42	1.000
16	121.417 - 121.167	0.25	0	0	36.000	36.000	0.375	A53-B-42	1.000
17	121.167 - 116.167	5		0	42.000	42.000	0.375	A53-B-42	1.000
18	116.167 - 111.167	5		0	42.000	42.000	0.375	A53-B-42	1.000
19	111.167 - 110.042	1.125		0	42.000	42.000	0.375	A53-B-42	1.000
20	110.042 - 109.792	0.25		0	42.000	42.000	0.4875	A53-B-42	0.984
21	109.792 - 105.083	4.709		0	42.000	42.000	0.4875	A53-B-42	0.984
22	105.083 - 104.833	0.25		0	42.000	42.000	0.5625	A53-B-42	0.977
23	104.833 - 100.917	3.916	0	0	42.000	42.000	0.5625	A53-B-42	0.977
24	100.917 - 100.667	0.25		0	48.000	48.000	0.375	A53-B-42	1.000
25	100.667 - 95.833	4.834		0	48.000	48.000	0.375	A53-B-42	1.000
26	95.833 - 95.583	0.25		0	48.000	48.000	0.475	A53-B-42	0.981
27	95.583 - 90.583	5		0	48.000	48.000	0.475	A53-B-42	0.981
28	90.583 - 89.917	0.666		0	48.000	48.000	0.475	A53-B-42	0.981
29	89.917 - 89.667	0.25		0	48.000	48.000	0.575	A53-B-42	0.970
30	89.667 - 84.667	5		0	48.000	48.000	0.575	A53-B-42	0.970
31	84.667 - 80.833	3.834	0	0	48.000	48.000	0.575	A53-B-42	0.970
32	80.833 - 80.333	0.5		0	54.000	54.000	0.55	A53-B-42	0.976
33	80.333 - 80.083	0.25		0	54.000	54.000	0.4875	A53-B-42	0.990
34	80.083 - 75.083	5		0	54.000	54.000	0.4875	A53-B-42	0.990
35	75.083 - 70.083	5		0	54.000	54.000	0.4875	A53-B-42	0.990
36	70.083 - 69.5	0.583		0	54.000	54.000	0.4875	A53-B-42	0.990
37	69.5 - 69.25	0.25		0	54.000	54.000	0.5875	A53-B-42	1.006
38	69.25 - 64.25	5		0	54.000	54.000	0.5875	A53-B-42	1.006
39	64.25 - 60.583	3.667	0	0	54.000	54.000	0.5875	A53-B-42	1.006
40	60.583 - 60.333	0.25		0	60.000	60.000	0.5125	A53-B-42	0.988
41	60.333 - 55.333	5		0	60.000	60.000	0.5125	A53-B-42	0.988
42	55.333 - 52.167	3.166		0	60.000	60.000	0.5125	A53-B-42	0.988
43	52.167 - 51.917	0.25		0	60.000	60.000	0.625	A53-B-42	1.017
44	51.917 - 46.917	5		0	60.000	60.000	0.625	A53-B-42	1.017
45	46.917 - 41.917	5	0	0	60.000	60.000	0.625	A53-B-42	1.017
46	41.917 - 40.233	1.684		0	60.000	60.000	0.6	A53-B-42	0.995
47	40.233 - 39.983	0.25		0	60.000	60.000	0.6	A53-B-42	0.995
48	39.983 - 34.983	5		0	60.000	60.000	0.6	A53-B-42	0.995
49	34.983 - 29.983	5		0	60.000	60.000	0.6	A53-B-42	0.995
50	29.983 - 28	1.983		0	60.000	60.000	0.6	A53-B-42	0.995
51	28 - 27.75	0.25		0	60.000	60.000	0.725	A53-B-42	1.003
52	27.75 - 22.75	5		0	60.000	60.000	0.725	A53-B-42	1.003
53	22.75 - 20.083	2.667	0	0	60.000	60.000	0.725	A53-B-42	1.003
54	20.083 - 19.833	0.25		0	60.000	60.000	0.625	A53-B-42	1.000
55	19.833 - 17	2.833		0	60.000	60.000	0.625	A53-B-42	1.000
56	17 - 16.75	0.25		0	60.000	60.000	0.725	A53-B-42	1.041
57	16.75 - 11.65	5.1		0	60.000	60.000	0.75	A53-B-42	1.028
58	11.65 - 11.417	0.233		0	60.000	60.000	0.75	A53-B-42	1.028
59	11.417 - 9.396	2.021		0	60.000	60.000	0.75	A53-B-42	1.028
60	9.396 - 9.146	0.25		0	60.000	60.000	0.8	A53-B-42	1.005
61	9.146 - 4.833	4.313		0	60.000	60.000	0.8	A53-B-42	1.005
62	4.833 - 4.583	0.25		0	60.000	60.000	0.75	A53-B-42	1.050
63	4.583 - 0	4.583		0	60.000	60.000	0.75	A53-B-42	1.050

TNX Section Forces

Increment (ft):		5	TNX Output		
	Section Height (ft)	P _u (K)	M _{ux} (kip-ft)	V _u (K)	
1	191.667 - 186.667	0.67	3.72	0.63	
2	186.667 - 181.567	5.76	16.15	4.41	
3	181.567 - 176.567	6.39	38.91	4.74	
4	176.567 - 171.567	6.99	63.32	5.02	
5	171.567 - 166.567	10.65	101.97	8.22	
6	166.567 - 161.567	11.28	143.72	8.48	
7	161.567 - 156.567	15.44	199.13	12.21	
8	156.567 - 151.567	16.15	260.81	12.46	
9	151.567 - 146.567	22.27	341.70	18.43	
10	146.567 - 141.567	23.10	434.25	18.61	
11	141.567 - 141.417	23.14	437.04	18.61	
12	141.417 - 136.417	24.24	530.96	19.00	
13	136.417 - 131.417	25.80	628.06	19.79	
14	131.417 - 126.417	26.93	727.80	20.11	
15	126.417 - 121.417	29.11	830.30	20.91	
16	121.417 - 121.167	29.19	835.53	20.92	
17	121.167 - 116.167	30.59	941.10	21.30	
18	116.167 - 111.167	31.82	1048.48	21.65	
19	111.167 - 110.042	32.10	1072.88	21.73	
20	110.042 - 109.792	32.18	1078.31	21.75	
21	109.792 - 105.083	33.69	1182.39	22.46	
22	105.083 - 104.833	33.80	1188.01	22.50	
23	104.833 - 100.917	36.11	1277.42	23.16	
24	100.917 - 100.667	36.21	1283.22	23.20	
25	100.667 - 95.833	37.92	1396.51	23.68	
26	95.833 - 95.583	38.00	1402.43	23.70	
27	95.583 - 90.583	39.65	1521.89	24.08	
28	90.583 - 89.917	40.04	1538.40	24.42	
29	89.917 - 89.667	40.14	1544.51	24.46	
30	89.667 - 84.667	42.83	1668.86	25.32	
31	84.667 - 80.833	45.89	1767.35	26.15	
32	80.833 - 80.333	46.26	1780.43	26.24	
33	80.333 - 80.083	46.39	1786.99	26.28	
34	80.083 - 75.083	48.72	1920.55	27.15	
35	75.083 - 70.083	51.47	2058.59	28.04	
36	70.083 - 69.5	52.12	2075.19	28.58	
37	69.5 - 69.25	52.30	2082.35	28.62	
38	69.25 - 64.25	58.52	2228.35	29.65	
39	64.25 - 60.583	63.58	2338.93	30.55	
40	60.583 - 60.333	63.78	2346.57	30.59	
41	60.333 - 55.333	67.41	2502.00	31.54	
42	55.333 - 52.167	68.81	2602.22	31.78	
43	52.167 - 51.917	68.95	2610.17	31.79	
44	51.917 - 46.917	71.89	2771.19	32.63	
45	46.917 - 41.917	75.71	2936.21	33.52	
46	41.917 - 40.233	76.93	2992.77	33.81	
47	40.233 - 39.983	77.12	3001.20	33.84	
48	39.983 - 34.983	80.63	3171.93	34.62	
49	34.983 - 29.983	83.80	3347.60	35.49	
50	29.983 - 28	84.80	3418.21	35.75	
51	28 - 27.75	84.96	3427.15	35.76	
52	27.75 - 22.75	88.92	3607.84	36.49	
53	22.75 - 20.083	91.06	3705.67	36.87	
54	20.083 - 19.833	91.25	3714.89	36.88	
55	19.833 - 17	93.31	3819.96	37.28	
56	17 - 16.75	93.52	3829.28	37.29	
57	16.75 - 11.65	97.59	4021.19	37.95	
58	11.65 - 11.417	97.74	4030.03	37.94	
59	11.417 - 9.396	99.03	4106.82	38.05	
60	9.396 - 9.146	99.20	4116.33	38.06	
61	9.146 - 4.833	102.06	4281.61	38.58	
62	4.833 - 4.583	102.23	4291.26	38.60	
63	4.583 - 0	105.06	4469.35	39.13	

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
191.67 - 186.67	Pole	TP18x18x0.375	Pole	1.0%	Pass
186.67 - 181.57	Pole	TP24x24x0.375	Pole	3.0%	Pass
181.57 - 176.57	Pole	TP24x24x0.375	Pole	6.5%	Pass
176.57 - 171.57	Pole	TP24x24x0.375	Pole	10.3%	Pass
171.57 - 166.57	Pole	TP24x24x0.375	Pole	16.6%	Pass
166.57 - 161.57	Pole	TP24x24x0.375	Pole	23.0%	Pass
161.57 - 156.57	Pole	TP24x24x0.375	Pole	31.9%	Pass
156.57 - 151.57	Pole	TP24x24x0.375	Pole	41.4%	Pass
151.57 - 146.57	Pole	TP24x24x0.375	Pole	54.5%	Pass
146.57 - 141.57	Pole	TP24x24x0.375	Pole	68.7%	Pass
141.57 - 141.42	Pole	TP24x24x0.375	Pole	69.2%	Pass
141.42 - 136.42	Pole	TP36x36x0.375	Pole	39.5%	Pass
136.42 - 131.42	Pole	TP36x36x0.375	Pole	46.5%	Pass
131.42 - 126.42	Pole	TP36x36x0.375	Pole	53.7%	Pass
126.42 - 121.42	Pole	TP36x36x0.375	Pole	61.1%	Pass
121.42 - 121.17	Pole	TP36x36x0.375	Pole	61.5%	Pass
121.17 - 116.17	Pole	TP42x42x0.375	Pole	51.8%	Pass
116.17 - 111.17	Pole	TP42x42x0.375	Pole	57.6%	Pass
111.17 - 110.04	Pole	TP42x42x0.375	Pole	58.9%	Pass
110.04 - 109.79	Pole + Reinf.	TP42x42x0.4875	Reinf. 13 Tension Rupture	45.9%	Pass
109.79 - 105.08	Pole + Reinf.	TP42x42x0.4875	Reinf. 13 Tension Rupture	50.2%	Pass
105.08 - 104.83	Pole + Reinf.	TP42x42x0.5625	Reinf. 6 Tension Rupture	45.8%	Pass
104.83 - 100.92	Pole + Reinf.	TP42x42x0.5625	Reinf. 6 Tension Rupture	49.2%	Pass
100.92 - 100.67	Pole	TP48x48x0.375	Pole	54.7%	Pass
100.67 - 95.83	Pole	TP48x48x0.375	Pole	59.4%	Pass
95.83 - 95.58	Pole + Reinf.	TP48x48x0.475	Pole	47.4%	Pass
95.58 - 90.58	Pole + Reinf.	TP48x48x0.475	Pole	51.3%	Pass
90.58 - 89.92	Pole + Reinf.	TP48x48x0.475	Pole	51.9%	Pass
89.92 - 89.67	Pole + Reinf.	TP48x48x0.575	Pole	43.2%	Pass
89.67 - 84.67	Pole + Reinf.	TP48x48x0.575	Pole	46.7%	Pass
84.67 - 80.83	Pole + Reinf.	TP48x48x0.575	Pole	49.5%	Pass
80.83 - 80.33	Pole + Reinf.	TP54x54x0.55	Pole	41.5%	Pass
80.33 - 80.08	Pole + Reinf.	TP54x54x0.4875	Pole	46.9%	Pass
80.08 - 75.08	Pole + Reinf.	TP54x54x0.4875	Pole	50.4%	Pass
75.08 - 70.08	Pole + Reinf.	TP54x54x0.4875	Pole	54.0%	Pass
70.08 - 69.5	Pole + Reinf.	TP54x54x0.4875	Pole	54.4%	Pass
69.5 - 69.25	Pole + Reinf.	TP54x54x0.5875	Pole	45.1%	Pass
69.25 - 64.25	Pole + Reinf.	TP54x54x0.5875	Pole	48.4%	Pass
64.25 - 60.58	Pole + Reinf.	TP54x54x0.5875	Pole	50.8%	Pass
60.58 - 60.33	Pole + Reinf.	TP60x60x0.5125	Pole	47.7%	Pass
60.33 - 55.33	Pole + Reinf.	TP60x60x0.5125	Pole	50.9%	Pass
55.33 - 52.17	Pole + Reinf.	TP60x60x0.5125	Pole	52.9%	Pass
52.17 - 51.92	Pole + Reinf.	TP60x60x0.625	Pole	44.2%	Pass
51.92 - 46.92	Pole + Reinf.	TP60x60x0.625	Pole	46.9%	Pass
46.92 - 41.92	Pole + Reinf.	TP60x60x0.625	Pole	49.7%	Pass
41.92 - 40.23	Pole + Reinf.	TP60x60x0.6	Pole	51.1%	Pass
40.23 - 39.98	Pole + Reinf.	TP60x60x0.6	Pole	51.3%	Pass
39.98 - 34.98	Pole + Reinf.	TP60x60x0.6	Pole	54.2%	Pass
34.98 - 29.98	Pole + Reinf.	TP60x60x0.6	Pole	57.2%	Pass
29.98 - 28	Pole + Reinf.	TP60x60x0.6	Pole	58.3%	Pass
28 - 27.75	Pole + Reinf.	TP60x60x0.725	Pole	49.1%	Pass
27.75 - 22.75	Pole + Reinf.	TP60x60x0.725	Pole	51.7%	Pass
22.75 - 20.08	Pole + Reinf.	TP60x60x0.725	Pole	53.1%	Pass
20.08 - 19.83	Pole	TP60x60x0.625	Pole	59.3%	Pass
19.83 - 17	Pole	TP60x60x0.625	Pole	60.9%	Pass
17 - 16.75	Pole + Reinf.	TP60x60x0.725	Pole	52.7%	Pass
16.75 - 11.65	Pole + Reinf.	TP60x60x0.75	Pole	54.1%	Pass
11.65 - 11.42	Pole + Reinf.	TP60x60x0.75	Pole	54.2%	Pass
11.42 - 9.4	Pole + Reinf.	TP60x60x0.75	Pole	55.3%	Pass
9.4 - 9.15	Pole + Reinf.	TP60x60x0.8	Reinf. 7 Tension Rupture	55.0%	Pass
9.15 - 4.83	Pole + Reinf.	TP60x60x0.8	Reinf. 7 Tension Rupture	57.2%	Pass
4.83 - 4.58	Pole + Reinf.	TP60x60x0.75	Pole	58.4%	Pass
4.58 - 0	Pole + Reinf.	TP60x60x0.75	Pole	60.8%	Pass
				Summary	
			Pole	69.2%	Pass
			Reinforcement	59.3%	Pass
			Overall	69.2%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in ⁴)			Area (in ²)			% Capacity*													
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13
191.67 - 186.67	807	n/a	807	20.76	n/a	20.76	1.0%													
186.67 - 181.57	1942	n/a	1942	27.83	n/a	27.83	3.0%													
181.57 - 176.57	1942	n/a	1942	27.83	n/a	27.83	6.5%													
176.57 - 171.57	1942	n/a	1942	27.83	n/a	27.83	10.3%													
171.57 - 166.57	1942	n/a	1942	27.83	n/a	27.83	16.6%													
166.57 - 161.57	1942	n/a	1942	27.83	n/a	27.83	23.0%													
161.57 - 156.57	1942	n/a	1942	27.83	n/a	27.83	31.9%													
156.57 - 151.57	1942	n/a	1942	27.83	n/a	27.83	41.4%													
151.57 - 146.57	1942	n/a	1942	27.83	n/a	27.83	54.5%													
146.57 - 141.57	1942	n/a	1942	27.83	n/a	27.83	68.7%													
141.57 - 141.42	1942	n/a	1942	27.83	n/a	27.83	69.2%													
141.42 - 136.42	6659	n/a	6659	41.97	n/a	41.97	39.5%													
136.42 - 131.42	6659	n/a	6659	41.97	n/a	41.97	46.5%													
131.42 - 126.42	6659	n/a	6659	41.97	n/a	41.97	53.7%													
126.42 - 121.42	6659	n/a	6659	41.97	n/a	41.97	61.1%													
121.42 - 121.17	6659	n/a	6659	41.97	n/a	41.97	61.6%													
121.17 - 116.17	10622	n/a	10622	49.04	n/a	49.04	51.8%													
116.17 - 111.17	10622	n/a	10622	49.04	n/a	49.04	57.6%													
111.17 - 110.04	10622	n/a	10622	49.04	n/a	49.04	58.9%													
110.04 - 109.79	10622	3132	13754	49.04	13.50	62.54	45.6%													45.9%
109.79 - 105.08	10622	3132	13754	49.04	13.50	62.54	49.9%													50.2%
105.08 - 104.83	10622	5106	15728	49.04	22.50	71.54	43.9%						45.8%							44.4%
104.83 - 100.92	10622	5106	15728	49.04	22.50	71.54	47.2%						49.2%							47.8%
100.92 - 100.67	15908	n/a	15908	56.11	n/a	56.11	54.7%													
100.67 - 95.83	15908	n/a	15908	56.11	n/a	56.11	59.4%													
95.83 - 95.58	15908	4064	19972	56.11	13.50	69.61	47.4%													46.9%
95.58 - 90.58	15908	4064	19972	56.11	13.50	69.61	51.3%													50.8%
90.58 - 89.92	15908	4064	19972	56.11	13.50	69.61	51.9%													51.4%
89.92 - 89.67	15908	8127	24036	56.11	27.00	83.11	43.2%					42.8%								42.8%
89.67 - 84.67	15908	8127	24036	56.11	27.00	83.11	46.7%					46.2%								46.2%
84.67 - 80.83	15908	8127	24036	56.11	27.00	83.11	49.5%					49.0%								49.0%
80.83 - 80.33	22710	10233	32943	63.18	27.00	90.18	41.5%					40.6%								40.6%
80.33 - 80.08	22710	6621	29331	63.18	18.00	81.18	46.9%				41.7%									
80.08 - 75.08	22710	6621	29331	63.18	18.00	81.18	50.4%				44.7%									
75.08 - 70.08	22710	6621	29331	63.18	18.00	81.18	54.0%				47.9%									
70.08 - 69.5	22710	6621	29331	63.18	18.00	81.18	54.4%				48.3%									
69.5 - 69.25	22710	12688	35398	63.18	36.00	99.18	45.1%				40.1%								43.3%	
69.25 - 64.25	22710	12688	35398	63.18	36.00	99.18	48.4%				43.0%								46.4%	
64.25 - 60.58	22710	12688	35398	63.18	36.00	99.18	50.8%				45.2%								48.7%	
60.58 - 60.33	31217	11364	42581	70.24	24.38	94.62	47.7%			41.5%										
60.33 - 55.33	31217	11364	42581	70.24	24.38	94.62	50.9%			44.2%										
55.33 - 52.17	31217	11364	42581	70.24	24.38	94.62	52.9%			46.0%										
52.17 - 51.92	31219	19812	51030	70.24	48.38	118.62	44.2%			38.2%									37.6%	
51.92 - 46.92	31219	19812	51030	70.24	48.38	118.62	46.9%			40.5%									39.9%	
46.92 - 41.92	31219	19812	51030	70.24	48.38	118.62	49.7%			42.9%									42.3%	
41.92 - 40.23	41363	7892	49255	93.46	18.00	111.46	51.1%	46.1%												
40.23 - 39.98	41363	7892	49255	93.46	18.00	111.46	51.3%	46.2%												
39.98 - 34.98	41363	7892	49255	93.46	18.00	111.46	54.2%	48.8%												
34.98 - 29.98	41363	7892	49255	93.46	18.00	111.46	57.2%	51.5%												
29.98 - 28	41363	7892	49255	93.46	18.00	111.46	58.3%	52.6%												
28 - 27.75	41368	17587	58955	93.46	42.00	135.46	49.1%	43.2%								43.4%				
27.75 - 22.75	41368	17587	58955	93.46	42.00	135.46	51.7%	45.5%								45.6%				
22.75 - 20.08	41368	17587	58955	93.46	42.00	135.46	53.1%	46.7%								46.9%				
20.08 - 19.83	51381	n/a	51381	116.58	n/a	116.58	59.3%													
19.83 - 17	51381	n/a	51381	116.58	n/a	116.58	60.9%													
17 - 16.75	51383	8145	59528	116.58	24.00	140.58	52.7%								46.4%					
16.75 - 11.65	51395	9920	61315	116.58	27.00	143.58	54.1%						53.9%		48.4%					
11.65 - 11.42	51395	9920	61315	116.58	27.00	143.58	54.2%						54.0%		48.5%					
11.42 - 9.4	51395	9920	61315	116.58	27.00	143.58	55.3%						55.1%		49.4%					
9.4 - 9.15	51382	13787	65169	116.58	33.00	149.58	51.7%	54.5%					55.0%		47.0%					
9.15 - 4.83	51382	13787	65169	116.58	33.00	149.58	53.8%	56.7%					57.2%		48.9%					
4.83 - 4.58	51446	9839	61284	116.58	30.00	146.58	58.4%	56.9%					50.9%							
4.58 - 0	51446	9839	61284	116.58	30.00	146.58	60.8%	59.3%					53.0%							

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

Monopole Flange Plate Connection

Elevation = 181.583 ft.

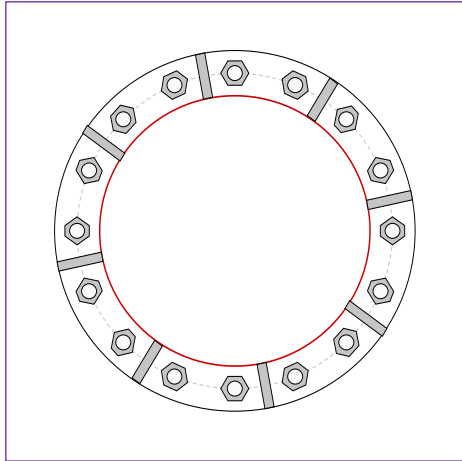


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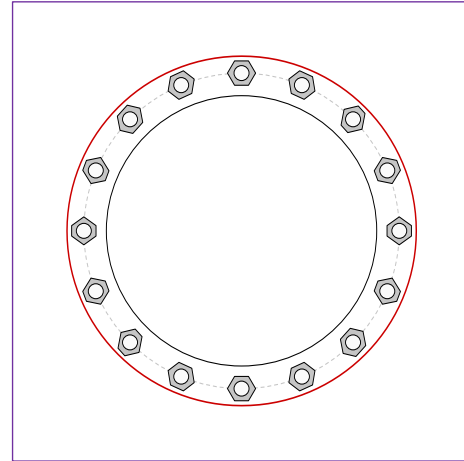
Applied Loads	
Moment (kip-ft)	16.15
Axial Force (kips)	5.76
Shear Force (kips)	4.41

*TIA-222-H Section 15.5 Applied

Top Plate - External



Bottom Plate - Internal



Connection Properties

Bolt Data

(16) 1" \emptyset bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 21" BC

Top Plate Data

24" OD x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

(8) 5"H x 3"W x 0.625"T, Notch: 0.75"
 plate: Fy= 36 ksi ; weld: Fy= 70 ksi
 horiz. weld: 0.3125" fillet
 vert. weld: 0.3125" fillet

Top Pole Data

18" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Plate Data

18" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

N/A

Bottom Pole Data

24" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	1.95
Allowable (kips)	54.54
Stress Rating:	3.4%

Pass

Top Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Piroad OK
Tension Side Stress Rating:	Piroad OK

Top Stiffener Capacity

Horizontal Weld:	Piroad OK
Vertical Weld:	Piroad OK
Plate Flexure+Shear:	Piroad OK
Plate Tension+Shear:	Piroad OK
Plate Compression:	Piroad OK

Top Pole Capacity

Punching Shear:	Piroad OK
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Bottom Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Piroad OK
Tension Side Stress Rating:	Piroad OK

Bottom Stiffener Capacity

Horizontal Weld:	N/A
Vertical Weld:	N/A
Plate Flexure+Shear:	N/A
Plate Tension+Shear:	N/A
Plate Compression:	N/A

Bottom Pole Capacity

Punching Shear:	N/A
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Monopole Flange Plate Connection

Elevation = 141.417 ft.

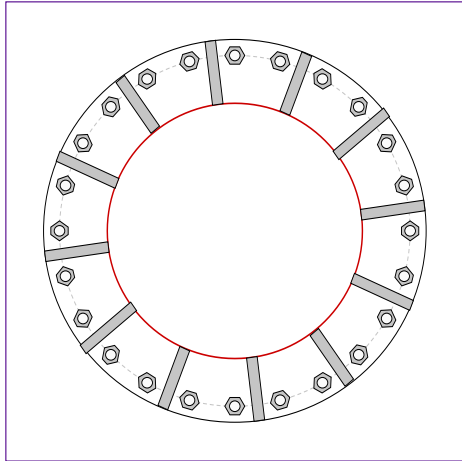


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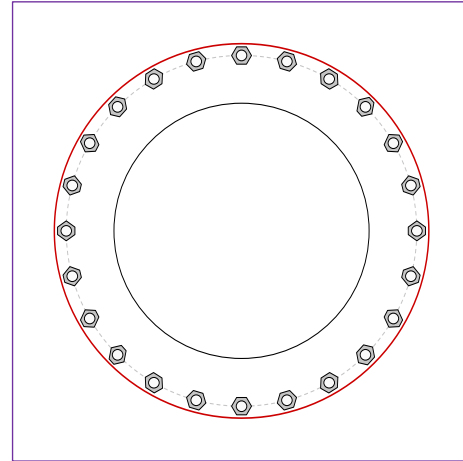
Applied Loads	
Moment (kip-ft)	437.04
Axial Force (kips)	23.14
Shear Force (kips)	18.61

*TIA-222-H Section 15.5 Applied

Top Plate - External



Bottom Plate - Internal



Connection Properties

Bolt Data

(24) 1" \emptyset bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 33" BC

Top Plate Data

36" OD x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

(12) 8"H x 6"W x 1"T, Notch: 1"
 plate: Fy= 36 ksi ; weld: Fy= 70 ksi
 horiz. weld: 0.3125" fillet
 vert. weld: 0.3125" fillet

Top Pole Data

24" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Plate Data

24" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

N/A

Bottom Pole Data

36" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	25.51
Allowable (kips)	54.53
Stress Rating:	44.6% Pass

Top Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Piroad OK
Tension Side Stress Rating:	Piroad OK

Top Stiffener Capacity

Horizontal Weld:	Piroad OK
Vertical Weld:	Piroad OK
Plate Flexure+Shear:	Piroad OK
Plate Tension+Shear:	Piroad OK
Plate Compression:	Piroad OK

Top Pole Capacity

Punching Shear:	Piroad OK
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Bottom Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Piroad OK
Tension Side Stress Rating:	Piroad OK

Bottom Stiffener Capacity

Horizontal Weld:	N/A
Vertical Weld:	N/A
Plate Flexure+Shear:	N/A
Plate Tension+Shear:	N/A
Plate Compression:	N/A

Bottom Pole Capacity

Punching Shear:	N/A
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MORRISON HERSHFIELD

Flange Connection Force Distribution

Site Data

Site ID:	826217
Site Name:	Newington_1
Order ID:	616608 Rev. 2

Flange Connection Data

Number of Bolts:	28	
Flange Bolt Diameter:	1	in
Bolt Circle:	39.00	in
Area of Bolt:	0.79	in ²
Moment of Inertia:	4181.07	in ⁴

Jump Plates (Configuration #1)

Number of Bridge Stiffeners:	3	
Bridge Stiffener Width:	4.5	in
Bridge Stiffener Thickness:	1.00	in
Bolt Circle of Bridge Stiffener:	44.00	in
Area of Stiffener:	4.50	in ²
Moment of Inertia:	3267.00	in ⁴

Reactions

Mu:	835.53	kips-ft
Axial, Pu:	29.19	kip
Shear, Vu:	20.92	kip
Elevation:	121.167	ft

Forces on Flange Bolts

Moment:	469.04	kips-ft
Axial:	18.09	kip
Shear:	20.92	kip

Forces on Bridge Stiffener #1

Moment:	366.49	kips-ft
Axial:	11.10	kip

Monopole Flange Plate Connection

Elevation = 121.167 ft.

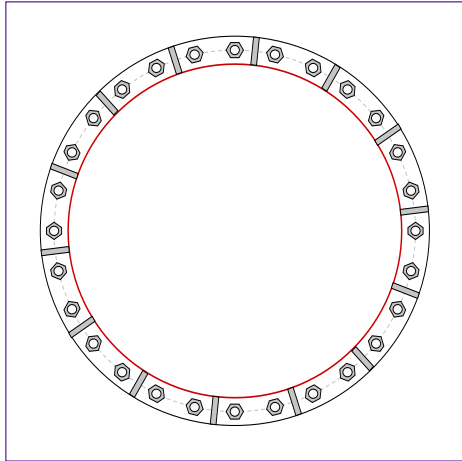


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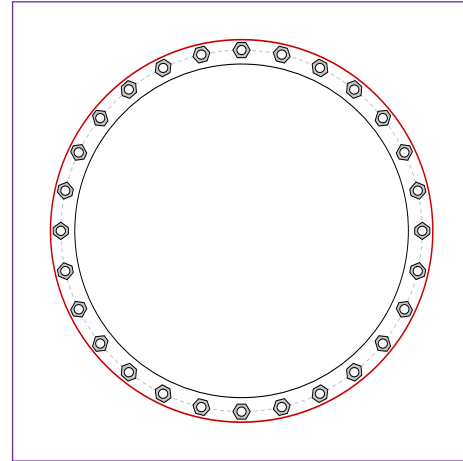
Applied Loads	
Moment (kip-ft)	469.04
Axial Force (kips)	18.09
Shear Force (kips)	20.92

*TIA-222-H Section 15.5 Applied

Top Plate - External



Bottom Plate - Internal



Connection Properties

Bolt Data

(28) 1" \emptyset bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 39" BC

Top Plate Data

42" OD x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

(14) 5"H x 3"W x 0.625"T, Notch: 0.75"
 plate: Fy= 36 ksi ; weld: Fy= 70 ksi
 horiz. weld: 0.3125" fillet
 vert. weld: 0.3125" fillet

Top Pole Data

36" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Plate Data

36" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

N/A

Bottom Pole Data

42" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	19.97
Allowable (kips)	54.53
Stress Rating:	34.9% Pass

Top Plate Capacity

Max Stress (ksi):	12.72	(Flexural (b/Le>2))
Allowable Stress (ksi):	32.40	
Stress Rating:	37.4%	Pass
Tension Side Stress Rating:	13.3%	Pass

Top Stiffener Capacity

Horizontal Weld:	53.2%	Pass
Vertical Weld:	34.2%	Pass
Plate Flexure+Shear:	23.1%	Pass
Plate Tension+Shear:	39.4%	Pass
Plate Compression:	50.8%	Pass

Top Pole Capacity

Punching Shear:	17.4%	Pass
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Bottom Plate Capacity

Max Stress (ksi):	13.23	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	38.9%	Pass
Tension Side Stress Rating:	N/A	

Bottom Stiffener Capacity

Horizontal Weld:	N/A
Vertical Weld:	N/A
Plate Flexure+Shear:	N/A
Plate Tension+Shear:	N/A
Plate Compression:	N/A

Bottom Pole Capacity

Punching Shear:	N/A
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MORRISON HERSHFIELD

Flange Connection Force Distribution

Site Data

Site ID:	826217
Site Name:	Newington_1
Order ID:	616608 Rev. 2

Flange Connection Data

Number of Bolts:	32	
Flange Bolt Diameter:	1	in
Bolt Circle:	45.00	in
Area of Bolt:	0.79	in ²
Moment of Inertia:	6361.73	in ⁴

Jump Plates (Configuration #1)

Number of Bridge Stiffeners:	6	
Bridge Stiffener Width:	4.5	in
Bridge Stiffener Thickness:	1.00	in
Bolt Circle of Bridge Stiffener:	49.00	in
Area of Stiffener:	4.50	in ²
Moment of Inertia:	8103.38	in ⁴

Reactions

Mu:	1277.42	kips-ft
Axial, Pu:	36.11	kip
Shear, Vu:	23.16	kip
Elevation:	100.917	ft

Forces on Flange Bolts

Moment:	561.81	kips-ft
Axial:	17.41	kip
Shear:	23.16	kip

Forces on Bridge Stiffener #1

Moment:	715.61	kips-ft
Axial:	18.70	kip

Monopole Flange Plate Connection

Elevation = 100.917 ft.

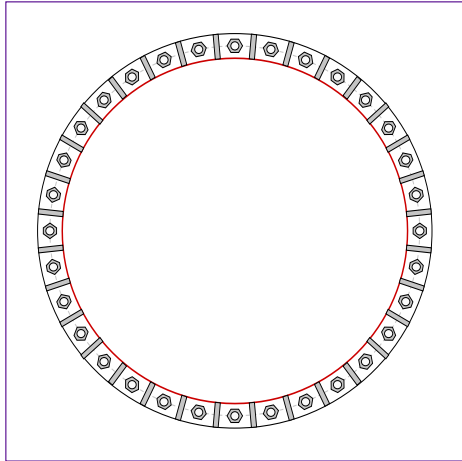


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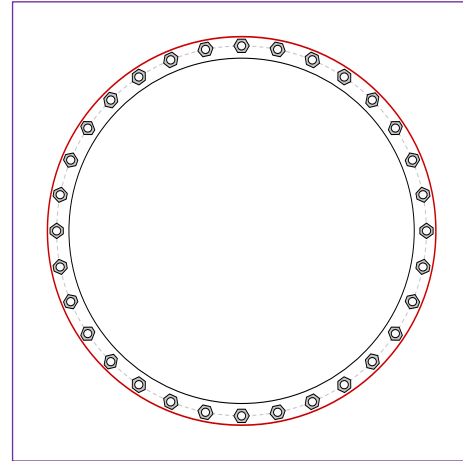
Applied Loads	
Moment (kip-ft)	561.81
Axial Force (kips)	17.41
Shear Force (kips)	26.16

*TIA-222-H Section 15.5 Applied

Top Plate - External



Bottom Plate - Internal



Connection Properties

Bolt Data

(32) 1" \emptyset bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 45" BC

Top Plate Data

48" OD x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

(32) 5"H x 3"W x 0.625"T, Notch: 0.75"
 plate: Fy= 36 ksi ; weld: Fy= 70 ksi
 horiz. weld: 0.3125" fillet
 vert. weld: 0.3125" fillet

Top Pole Data

42" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Plate Data

42" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

N/A

Bottom Pole Data

48" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	18.18
Allowable (kips)	54.53
Stress Rating:	31.8% Pass

Top Plate Capacity

Max Stress (ksi):	11.41	(Roark's Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	33.6%	Pass
Tension Side Stress Rating:	N/A	

Top Stiffener Capacity

Horizontal Weld:	34.5%	Pass
Vertical Weld:	22.2%	Pass
Plate Flexure+Shear:	13.4%	Pass
Plate Tension+Shear:	23.9%	Pass
Plate Compression:	32.9%	Pass

Top Pole Capacity

Punching Shear:	11.3%	Pass
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Bottom Plate Capacity

Max Stress (ksi):	11.96	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	35.2%	Pass
Tension Side Stress Rating:	N/A	

Bottom Stiffener Capacity

Horizontal Weld:	N/A
Vertical Weld:	N/A
Plate Flexure+Shear:	N/A
Plate Tension+Shear:	N/A
Plate Compression:	N/A

Bottom Pole Capacity

Punching Shear:	N/A
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MORRISON HERSHFIELD

Flange Connection Force Distribution

Site Data

Site ID:	826217
Site Name:	Newington_1
Order ID:	616608 Rev. 2

Flange Connection Data

Number of Bolts:	36	
Flange Bolt Diameter:	1	in
Bolt Circle:	51.00	in
Area of Bolt:	0.79	in ²
Moment of Inertia:	9192.69	in ⁴

Jump Plates (Configuration #1)

Number of Bridge Stiffeners:	3	
Bridge Stiffener Width:	4.5	in
Bridge Stiffener Thickness:	1.00	in
Bolt Circle of Bridge Stiffener:	55.00	in
Area of Stiffener:	4.50	in ²
Moment of Inertia:	5104.69	in ⁴

Jump Plates (Configuration #2)

Number of Bridge Stiffeners:	3	
Bridge Stiffener Width:	6.5	in
Bridge Stiffener Thickness:	1.25	in
Bolt Circle of Bridge Stiffener:	55.13	in
Area of Stiffener:	8.13	in ²
Moment of Inertia:	9259.07	in ⁴

Reactions

Mu:	1767.35	kips-ft
Axial, Pu:	45.89	kip
Shear, Vu:	26.15	kip
Elevation:	80.833	ft

Forces on Flange Bolts

Moment:	689.69	kips-ft
Axial:	19.61	kip
Shear:	26.15	kip

Forces on Bridge Stiffener #1

Moment:	382.99	kips-ft
Axial:	9.37	kip

Forces on Bridge Stiffener #2

Moment:	694.67	kips-ft
Axial:	16.91	kip

Monopole Flange Plate Connection

Elevation = 80.833 ft.

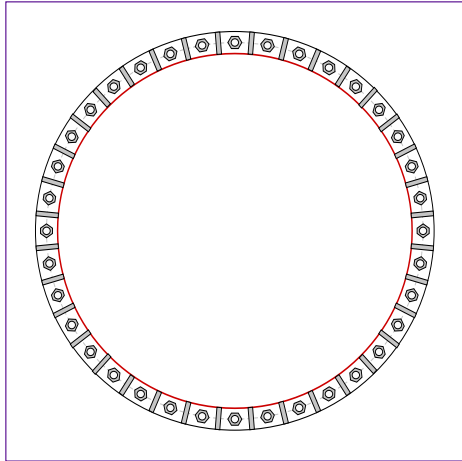


BU #	826217
Site Name	Newington_1
Order #	616608 Rev. 2
TIA-222 Revision	H

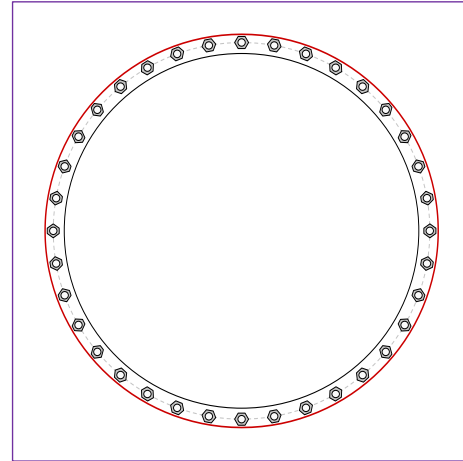
Applied Loads	
Moment (kip-ft)	689.69
Axial Force (kips)	19.61
Shear Force (kips)	26.15

*TIA-222-H Section 15.5 Applied

Top Plate - External



Bottom Plate - Internal



Connection Properties

Bolt Data

(36) 1" \emptyset bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 51" BC

Top Plate Data

54" OD x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

(36) 5"H x 3"W x 0.625"T, Notch: 0.75"
 plate: Fy= 36 ksi ; weld: Fy= 70 ksi
 horiz. weld: 0.3125" fillet
 vert. weld: 0.3125" fillet

Top Pole Data

48" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Plate Data

48" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

N/A

Bottom Pole Data

54" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	17.48
Allowable (kips)	54.53
Stress Rating:	30.5% Pass

Top Plate Capacity

Max Stress (ksi):	11.00	(Roark's Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	32.3%	Pass
Tension Side Stress Rating:	N/A	

Top Stiffener Capacity

Horizontal Weld:	32.7%	Pass
Vertical Weld:	21.0%	Pass
Plate Flexure+Shear:	12.6%	Pass
Plate Tension+Shear:	22.5%	Pass
Plate Compression:	31.2%	Pass

Top Pole Capacity

Punching Shear:	10.7%	Pass
-----------------	--------------	------

Bottom Plate Capacity

Max Stress (ksi):	11.51	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	33.8%	Pass
Tension Side Stress Rating:	N/A	

Bottom Stiffener Capacity

Horizontal Weld:	N/A
Vertical Weld:	N/A
Plate Flexure+Shear:	N/A
Plate Tension+Shear:	N/A
Plate Compression:	N/A

Bottom Pole Capacity

Punching Shear:	N/A
-----------------	-----



MORRISON HERSHFIELD

Flange Connection Force Distribution

Site Data	
Site ID:	826217
Site Name:	Newington_1
Order ID:	616608 Rev. 2

Flange Connection Data		
Number of Bolts:	48	
Flange Bolt Diameter:	1	in
Bolt Circle:	57.00	in
Area of Bolt:	0.79	in ²
Moment of Inertia:	15310.55	in ⁴

Jump Plates (Configuration #1)		
Number of Bridge Stiffeners:	4	
Bridge Stiffener Width:	4.5	in
Bridge Stiffener Thickness:	1.00	in
Bolt Circle of Bridge Stiffener:	61.00	in
Area of Stiffener:	4.50	in ²
Moment of Inertia:	8372.25	in ⁴

Jump Plates (Configuration #2)		
Number of Bridge Stiffeners:	6	
Bridge Stiffener Width:	8.5	in
Bridge Stiffener Thickness:	1.25	in
Bolt Circle of Bridge Stiffener:	63.50	in
Area of Stiffener:	10.63	in ²
Moment of Inertia:	32131.99	in ⁴

Reactions		
Mu:	2338.93	kips-ft
Axial, Pu:	63.58	kip
Shear, Vu:	30.55	kip
Elevation:	60.583	ft

Forces on Flange Bolts		
Moment:	641.59	kips-ft
Axial:	20.07	kip
Shear:	30.55	kip

Forces on Bridge Stiffener #1		
Moment:	350.84	kips-ft
Axial:	9.58	kip

Forces on Bridge Stiffener #2		
Moment:	1346.50	kips-ft
Axial:	33.93	kip

Monopole Flange Plate Connection

Elevation = 60.583 ft.

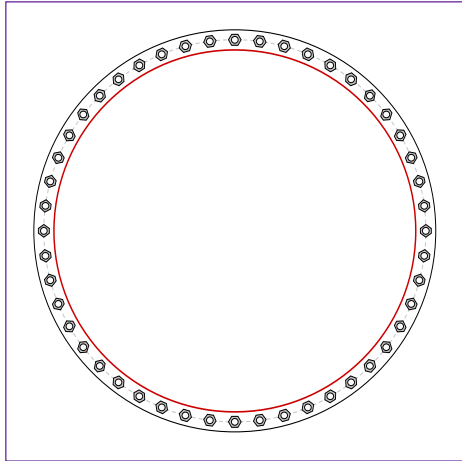


BU #	826217
Site Name	Newington_1
Order #	616608 Rev. 2
TIA-222 Revision	H

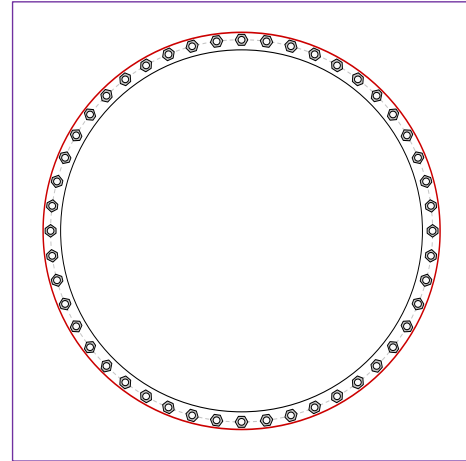
Applied Loads	
Moment (kip-ft)	641.59
Axial Force (kips)	20.07
Shear Force (kips)	30.55

*TIA-222-H Section 15.5 Applied

Top Plate - External



Bottom Plate - Internal



Connection Properties

Bolt Data

(48) 1" \emptyset bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 57" BC

Top Plate Data

60" OD x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Top Pole Data

54" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Plate Data

54" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

N/A

Bottom Pole Data

60" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	10.84
Allowable (kips)	54.53
Stress Rating:	18.9% Pass

Top Plate Capacity

Max Stress (ksi):	8.21	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	24.1%	Pass
Tension Side Stress Rating:	8.4%	Pass

Bottom Plate Capacity

Max Stress (ksi):	8.67	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	25.5%	Pass
Tension Side Stress Rating:	N/A	



MORRISON HERSHFIELD

Flange Connection Force Distribution

Site Data	
Site ID:	826217
Site Name:	Newington_1
Order ID:	616608 Rev. 2

Flange Connection (Bolt Circle 1)		
Number of Bolts:	32	
Flange Bolt Diameter:	1.25	in
Bolt Circle:	47.00	in
Area of Bolt:	1.23	in ²
Moment of Inertia:	10843.40	in ⁴

Flange Connection (Bolt Circle 2)		
Number of Bolts:	32	
Flange Bolt Diameter:	1.25	in
Bolt Circle:	53.00	in
Area of Bolt:	1.23	in
Moment of Inertia:	13788.65	in ²

Jump Plates (Configuration #1)		
Number of Bridge Stiffeners:	6	
Bridge Stiffener Width:	1.25	in
Bridge Stiffener Thickness:	6.50	in
Bolt Circle of Bridge Stiffener:	63.75	in
Area of Stiffener:	8.13	in ²
Moment of Inertia:	24765.38	in ⁴

Jump Plates (Configuration #2)		
Number of Bridge Stiffeners:	4	
Bridge Stiffener Width:	1	in
Bridge Stiffener Thickness:	6.00	in
Bolt Circle of Bridge Stiffener:	63.50	in
Area of Stiffener:	6.00	in ²
Moment of Inertia:	12096.75	in ⁴

Reactions		
Mu:	2992.77	kips-ft
Axial, Pu:	76.93	kip
Shear, Vu:	33.81	kip
Elevation:	40.333	ft

Forces on Flange Bolts		
Moment:	527.72	kips-ft
Axial:	19.97	kip
Shear:	33.81	kip

Forces on Bridge Stiffener #1		
Moment:	671.06	kips-ft
Axial:	19.97	kip

Forces on Bridge Stiffener #2		
Moment:	1205.27	kips-ft
Axial:	24.79	kip

Forces on Bridge Stiffener #3		
Moment:	588.72	kips-ft
Axial:	12.20	kip

Monopole Flange Plate Connection

Elevation = 40.333 ft.

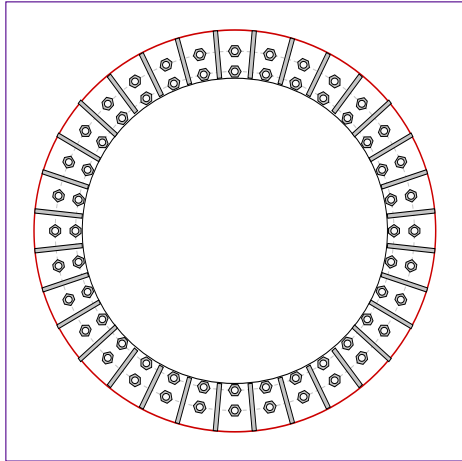


BU #	826217
Site Name	Newington_1
Order #	616608 Rev. 2
TIA-222 Revision	H

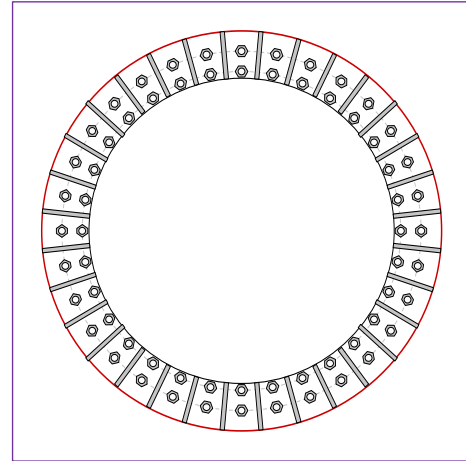
Applied Loads	
Moment (kip-ft)	527.72
Axial Force (kips)	19.97
Shear Force (kips)	33.81

*TIA-222-H Section 15.5 Applied

Top Plate - Internal



Bottom Plate - Internal



Connection Properties

Bolt Data

- GROUP 1: (32) 1" ϕ bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 53" BC
- GROUP 2: (32) 1" ϕ bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 47" BC

Top Plate Data

45" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

(32) 10"H x 7"W x 0.625"T, Notch: 0.5"
 plate: Fy= 36 ksi ; weld: Fy= 70 ksi
 horiz. weld: 0.3125" fillet
 vert. weld: 0.3125" fillet

Top Pole Data

60" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Plate Data

45" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

(32) 10"H x 7"W x 0.625"T, Notch: 0.5"
 plate: Fy= 36 ksi ; weld: Fy= 70 ksi
 horiz. weld: 0.3125" fillet
 vert. weld: 0.3125" fillet

Bottom Pole Data

60" x 0.5" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	7.74
Allowable (kips)	54.52
Stress Rating:	13.5% Pass

Top Plate Capacity

Max Stress (ksi):	4.75	(Roark's Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	14.0%	Pass
Tension Side Stress Rating:	N/A	

Top Stiffener Capacity

Horizontal Weld:	11.2%	Pass
Vertical Weld:	9.8%	Pass
Plate Flexure+Shear:	5.4%	Pass
Plate Tension+Shear:	7.1%	Pass
Plate Compression:	16.1%	Pass

Top Pole Capacity

Punching Shear:	5.3%	Pass
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Bottom Plate Capacity

Max Stress (ksi):	4.83	(Roark's Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	14.2%	Pass
Tension Side Stress Rating:	N/A	

Bottom Stiffener Capacity

Horizontal Weld:	9.9%	Pass
Vertical Weld:	8.6%	Pass
Plate Flexure+Shear:	4.7%	Pass
Plate Tension+Shear:	6.2%	Pass
Plate Compression:	14.2%	Pass

Bottom Pole Capacity

Punching Shear:	3.5%	Pass
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MORRISON HERSHFIELD

Flange Connection Force Distribution

Site Data	
Site ID:	826217
Site Name:	Newington_1
Order ID:	616608 Rev. 2

Flange Connection (Bolt Circle 1)		
Number of Bolts:	32	
Flange Bolt Diameter:	1.25	in
Bolt Circle:	47.00	in
Area of Bolt:	1.23	in ²
Moment of Inertia:	10843.40	in ⁴

Flange Connection (Bolt Circle 2)		
Number of Bolts:	32	
Flange Bolt Diameter:	1.25	in
Bolt Circle:	53.00	in
Area of Bolt:	1.23	in
Moment of Inertia:	13788.65	in ²

Jump Plates (Configuration #1)		
Number of Bridge Stiffeners:	6	
Bridge Stiffener Width:	1.25	in
Bridge Stiffener Thickness:	6.50	in
Bolt Circle of Bridge Stiffener:	63.75	in
Area of Stiffener:	8.13	in ²
Moment of Inertia:	24765.38	in ⁴

Jump Plates (Configuration #2)		
Number of Bridge Stiffeners:	4	
Bridge Stiffener Width:	1	in
Bridge Stiffener Thickness:	6.00	in
Bolt Circle of Bridge Stiffener:	63.50	in
Area of Stiffener:	6.00	in ²
Moment of Inertia:	12096.75	in ⁴

Reactions		
Mu:	3705.67	kips-ft
Axial, Pu:	91.06	kip
Shear, Vu:	36.87	kip
Elevation:	20.083	ft

Forces on Flange Bolts		
Moment:	653.43	kips-ft
Axial:	23.64	kip
Shear:	36.87	kip

Forces on Bridge Stiffener #1		
Moment:	830.91	kips-ft
Axial:	23.64	kip

Forces on Bridge Stiffener #2		
Moment:	1492.37	kips-ft
Axial:	29.34	kip

Forces on Bridge Stiffener #3		
Moment:	728.96	kips-ft
Axial:	14.45	kip

Monopole Flange Plate Connection

Elevation = 20.083 ft.

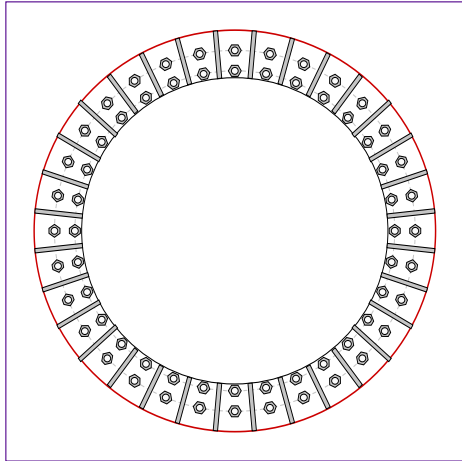


BU #	826217
Site Name	Newington_1
Order #	616608 Rev. 2
TIA-222 Revision	H

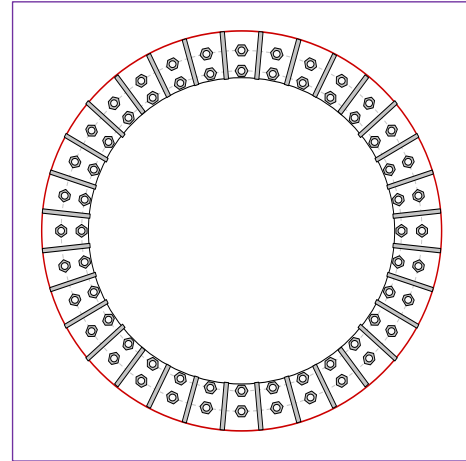
Applied Loads	
Moment (kip-ft)	653.43
Axial Force (kips)	23.64
Shear Force (kips)	36.87

*TIA-222-H Section 15.5 Applied

Top Plate - Internal



Bottom Plate - Internal



Connection Properties

Bolt Data

- GROUP 1: (32) 1" ϕ bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 53" BC
- GROUP 2: (32) 1" ϕ bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 47" BC

Top Plate Data

45" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

(32) 10"H x 7"W x 0.625"T, Notch: 0.5"
 plate: Fy= 36 ksi ; weld: Fy= 70 ksi
 horiz. weld: 0.3125" fillet
 vert. weld: 0.3125" fillet

Top Pole Data

60" x 0.5" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Plate Data

45" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

(32) 10"H x 7"W x 0.625"T, Notch: 0.5"
 plate: Fy= 36 ksi ; weld: Fy= 70 ksi
 horiz. weld: 0.3125" fillet
 vert. weld: 0.3125" fillet

Bottom Pole Data

60" x 0.625" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	9.61
Allowable (kips)	54.51
Stress Rating:	16.8% Pass

Top Plate Capacity

Max Stress (ksi):	5.97	(Roark's Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	17.5%	Pass
Tension Side Stress Rating:	N/A	

Top Stiffener Capacity

Horizontal Weld:	12.2%	Pass
Vertical Weld:	10.7%	Pass
Plate Flexure+Shear:	5.9%	Pass
Plate Tension+Shear:	7.7%	Pass
Plate Compression:	17.6%	Pass

Top Pole Capacity

Punching Shear:	4.3%	Pass
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Bottom Plate Capacity

Max Stress (ksi):	6.07	(Roark's Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	17.8%	Pass
Tension Side Stress Rating:	N/A	

Bottom Stiffener Capacity

Horizontal Weld:	11.0%	Pass
Vertical Weld:	9.4%	Pass
Plate Flexure+Shear:	5.1%	Pass
Plate Tension+Shear:	6.9%	Pass
Plate Compression:	15.6%	Pass

Bottom Pole Capacity

Punching Shear:	3.0%	Pass
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Monopole Base Plate Connection

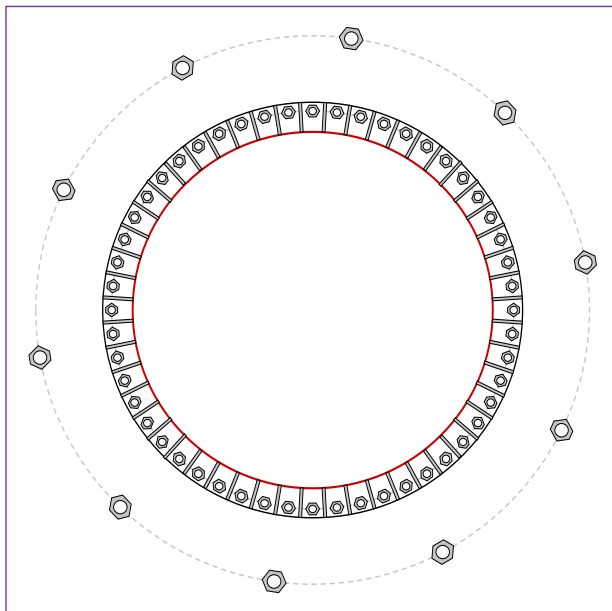


Site Info	
BU #	826217
Site Name	Newington_1
Order #	616608 Rev. 2

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

Applied Loads	
Moment (kip-ft)	4469.35
Axial Force (kips)	105.06
Shear Force (kips)	39.13

*TIA-222-H Section 15.5 Applied



Connection Properties	Analysis Results
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Anchor Rod Data
 GROUP 1: (52) 1-1/4" ϕ bolts (A687 N; $F_y=105$ ksi, $F_u=125$ ksi) on 67" BC
 GROUP 2: (10) 2-1/4" ϕ bolts (A687 N; $F_y=105$ ksi, $F_u=125$ ksi) on 92.3" BC

Base Plate Data
 70" OD x 1.25" Plate (A36; $F_y=36$ ksi, $F_u=58$ ksi)

Stiffener Data
 (52) 6"H x 5"W x 0.5"T, Notch: 0.5"
 plate: $F_y=36$ ksi ; weld: $F_y=70$ ksi
 horiz. weld: 0.3125" fillet
 vert. weld: 0.3125" fillet

Pole Data
 60" x 0.625" round pole (A53-B-42; $F_y=42$ ksi, $F_u=63$ ksi)

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

GROUP 1:		
$Pu_t = 26.45$	$\phi Pn_t = 90.84$	Stress Rating
$Vu = 0.46$	$\phi Vn = 57.52$	27.7%
$Mu = n/a$	$\phi Mn = n/a$	Pass

GROUP 2:		
$Pu_t = 123.78$	$\phi Pn_t = 304.69$	Stress Rating
$Vu = 1.53$	$\phi Vn = 186.38$	38.7%
$Mu = n/a$	$\phi Mn = n/a$	Pass

Base Plate Summary

Max Stress (ksi):	2.31	(Shear)
Allowable Stress (ksi):	21.6	
Stress Rating:	10.2%	Pass

Stiffener Summary

Horizontal Weld:	30.5%	Pass
Vertical Weld:	33.2%	Pass
Plate Flexure+Shear:	29.7%	Pass
Plate Tension+Shear:	26.8%	Pass
Plate Compression:	66.3%	Pass

Pole Summary

Punching Shear:	11.5%	Pass
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Pier and Pad Foundation



BU # :	826217
Site Name:	Newington_1
App. Number:	616608 Rev. 2

TIA-222 Revision:	H
Tower Type:	Monopole

Top & Bot. Pad Rein. Different?:	<input type="checkbox"/>
Block Foundation?:	<input type="checkbox"/>
Rectangular Pad?:	<input type="checkbox"/>

Superstructure Analysis Reactions		
Compression, P_{comp} :	105.06	kips
Base Shear, V_{u_comp} :	39.1	kips
Moment, M_u :	4469.36	ft-kips
Tower Height, H :	191.67	ft
BP Dist. Above Fdn, bp_{dist} :	2.5	in

Foundation Analysis Checks				
	Capacity	Demand	Rating*	Check
<i>Lateral (Sliding) (kips)</i>	333.80	39.10	11.2%	Pass
<i>Bearing Pressure (ksf)</i>	12.00	5.16	43.0%	Pass
<i>Overturning (kip*ft)</i>	6359.71	4848.96	76.2%	Pass
<i>Pier Flexure (Comp.) (kip*ft)</i>	5676.79	4743.06	79.6%	Pass
<i>Pier Compression (kip)</i>	24494.62	153.55	0.6%	Pass
<i>Pad Flexure (kip*ft)</i>	4887.26	2420.52	47.2%	Pass
<i>Pad Shear - 1-way (kips)</i>	580.76	442.07	72.5%	Pass
<i>Pad Shear - 2-way (Comp) (ksi)</i>	0.190	0.000	0.0%	Pass
<i>Flexural 2-way (Comp) (kip*ft)</i>	6892.45	2845.84	39.3%	Pass

Pier Properties		
Pier Shape:	Circular	
Pier Diameter, $dpier$:	7	ft
Ext. Above Grade, E :	0.5	ft
Pier Rebar Size, Sc :	9	
Pier Rebar Quantity, mc :	34	
Pier Tie/Spiral Size, St :	4	
Pier Tie/Spiral Quantity, mt :	11	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier} :	3	in

*Rating per TIA-222-H Section 15.5

Structural Rating*:	79.6%
Soil Rating*:	76.2%

Pad Properties		
Depth, D :	9	ft
Pad Width, W_1 :	20.5	ft
Pad Thickness, T :	2.5	ft
Pad Rebar Size (Bottom dir. 2), Sp_2 :	11	
Pad Rebar Quantity (Bottom dir. 2), mp_2 :	30	
Pad Clear Cover, cc_{pad} :	3	in

Material Properties		
Rebar Grade, F_y :	60	ksi
Concrete Compressive Strength, F'_c :	4	ksi
Dry Concrete Density, δ_c :	150	pcf

Soil Properties		
Total Soil Unit Weight, γ :	130	pcf
Ultimate Gross Bearing, Q_{ult} :	16.000	ksf
Cohesion, C_u :	0.000	ksf
Friction Angle, ϕ :	36	degrees
SPT Blow Count, N_{blows} :		
Base Friction, μ :	0.35	
Neglected Depth, N :	3.33	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, gw :	N/A	ft

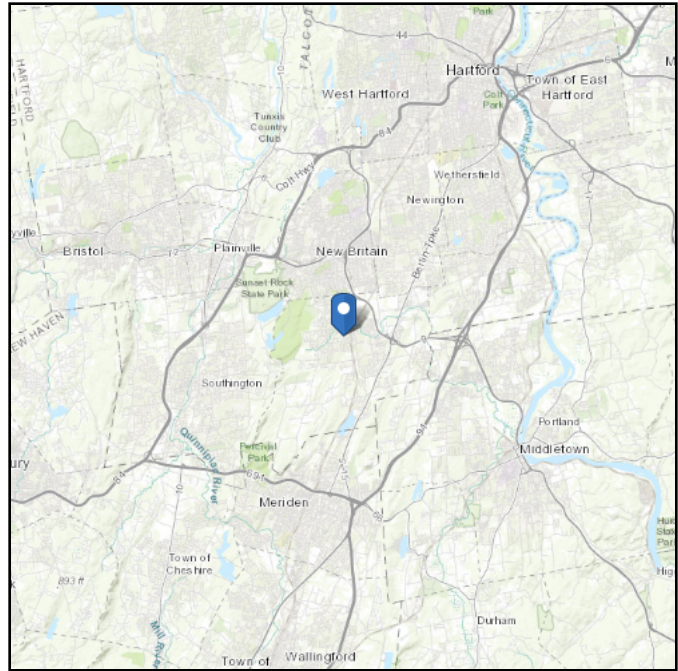
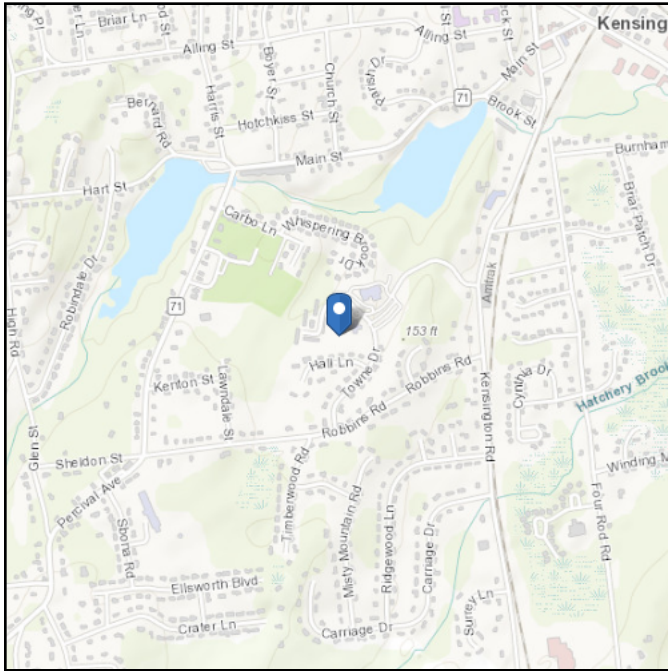
<-- Toggle between Gross and Net

ASCE 7 Hazards Report

Address:
No Address at This
Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 133.49 ft (NAVD 88)
Latitude: 41.626194
Longitude: -72.775647



Wind

Results:

Wind Speed	118 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	98 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Fri Jul 08 2022

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

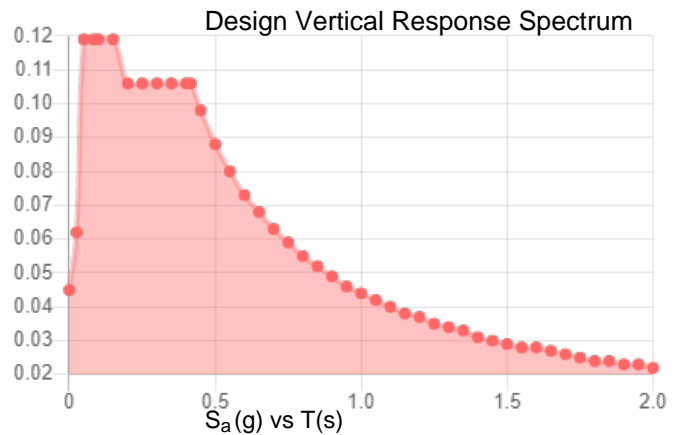
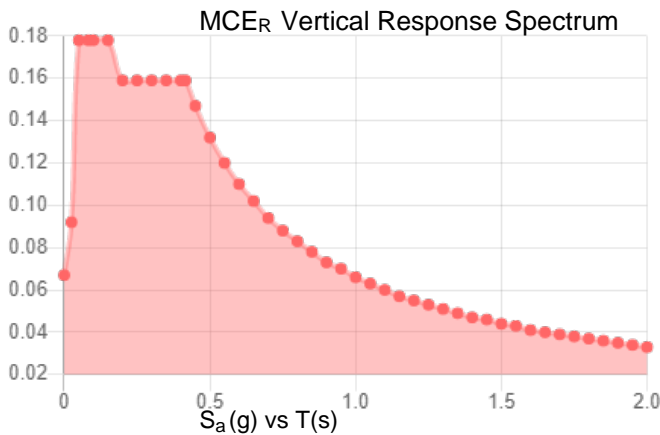
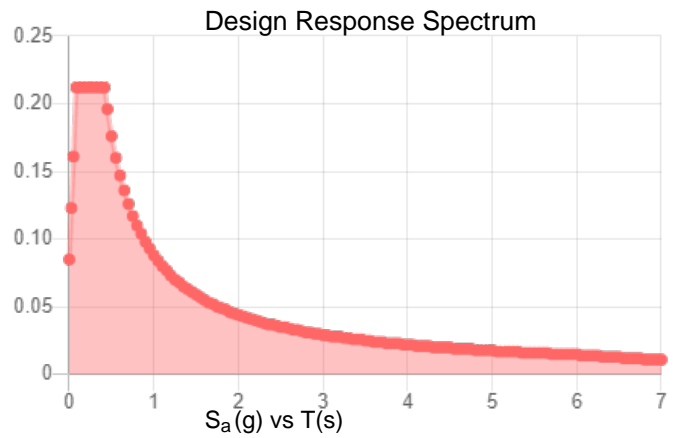
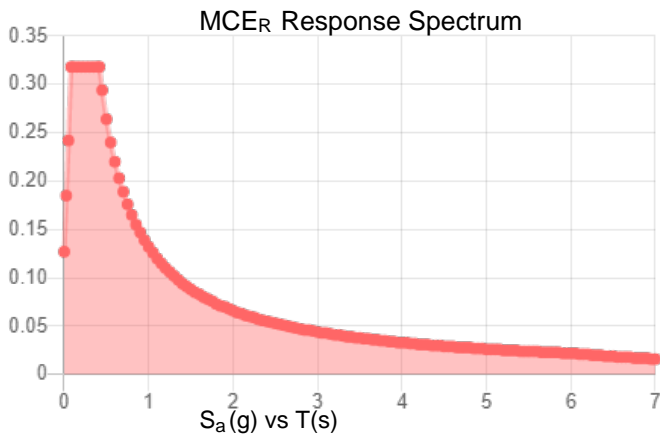
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: D - Stiff Soil

Results:

S_s :	0.199	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.109
F_v :	2.4	PGA _M :	0.173
S_{MS} :	0.318	F_{PGA} :	1.582
S_{M1} :	0.132	I_e :	1
S_{DS} :	0.212	C_v :	0.7

Seismic Design Category B



Data Accessed: Fri Jul 08 2022

Date Source:

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

Ice

Results:

Ice Thickness: 1.50 in.
Concurrent Temperature: 15 F
Gust Speed 50 mph

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

Date Accessed: Fri Jul 08 2022

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

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

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

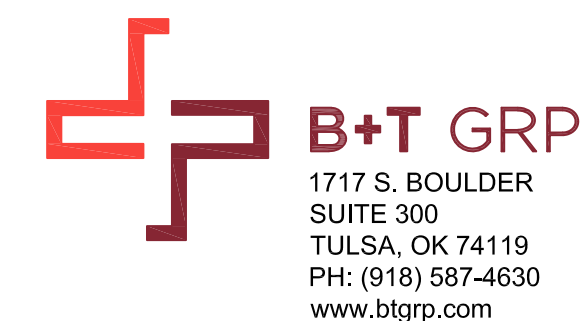
ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting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



AT&T SITE NUMBER: CTL01019
AT&T SITE NAME: BERLIN POLICE DEPT
AT&T FA CODE: 10035299
AT&T PACE NUMBER: MRCTB054211, MRCTB053703, MRCTB055404, MRCTB055390, MRCTB054640, MRCTB054482, MRCTB054628, MRCTB055317
AT&T PROJECT: LTE 4C, 5G NR ACTIVATION, 5G NR 1SR CBAND, 5G NR 1DR-1, 5G NR SOFTWARE UPGRADE, 4TX4RX SOFTWARE RETROFIT

BUSINESS UNIT #: 826217
SITE ADDRESS: 240 KENSINGTON ROAD, BERLIN, CT 06037
COUNTY: HARTFORD
SITE TYPE: MONOPOLE
TOWER HEIGHT: 190' -0"



AT&T SITE NUMBER: CTL01019

BU #: 826217
NEWINGTON_1

240 KENSINGTON ROAD
 BERLIN, CT 06037

EXISTING
 190' -0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	12/30/21	HN	PRELIMINARY REVIEW	JTS
B	2/22/22	JTS	PRELIMINARY REVIEW	KT
C	4/11/22	DAS	PRELIMINARY REVIEW	KT
0	7/27/22	GAC	CONSTRUCTION	KT



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

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

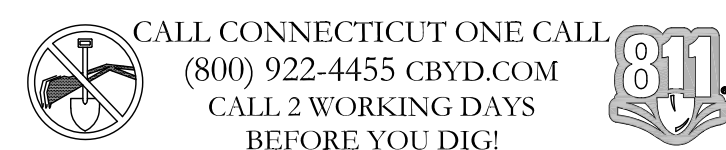
SITE INFORMATION

CROWN CASTLE USA INC. NEWINGTON_1
SITE NAME: NEWINGTON_1
SITE ADDRESS: 240 KENSINGTON ROAD, BERLIN, CT 06037
COUNTY: HARTFORD
MAP/PARCEL #: 9-3-54-29-8026
AREA OF CONSTRUCTION: EXISTING
LATITUDE: 41° 37' 34.298"
LONGITUDE: -72° 46' 32.329"
LAT/LONG TYPE: NAD83
GROUND ELEVATION: 127'
CURRENT ZONING: R-15
JURISDICTION: CONNECTICUT SITTING COUNCIL
OCCUPANCY CLASSIFICATION: U
TYPE OF CONSTRUCTION: IIB
A.D.A. COMPLIANCE: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER: BERLIN TOWN OF 240 KENSINGTON ROAD, KENSINGTON, CT 06037
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: NORTHEAST UTILITIES, 800-286-2000
TELCO PROVIDER: LIGHTOWER

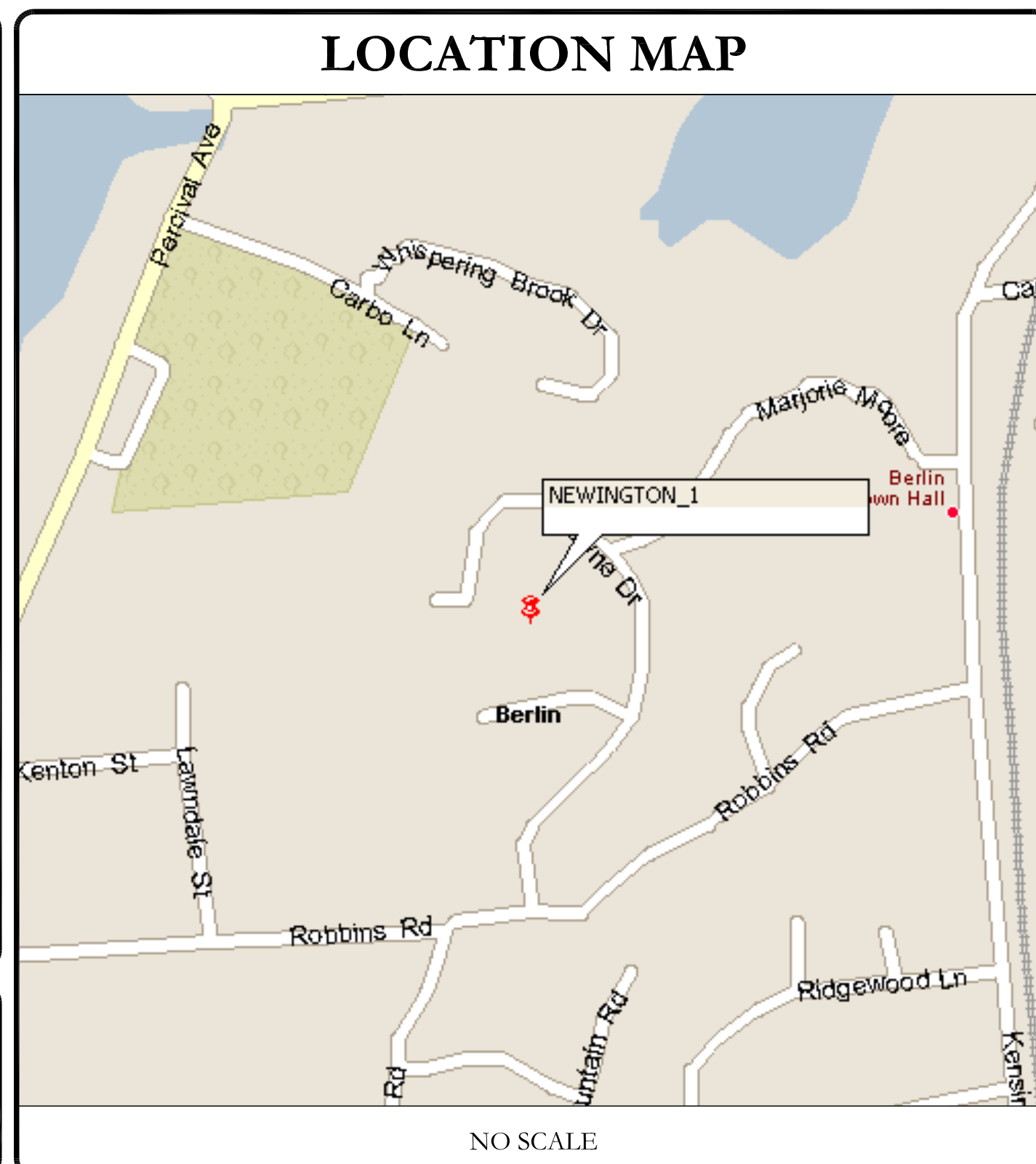
DRAWING INDEX

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
ATTACHED	CROSSOVER HARDWARE SPECS

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

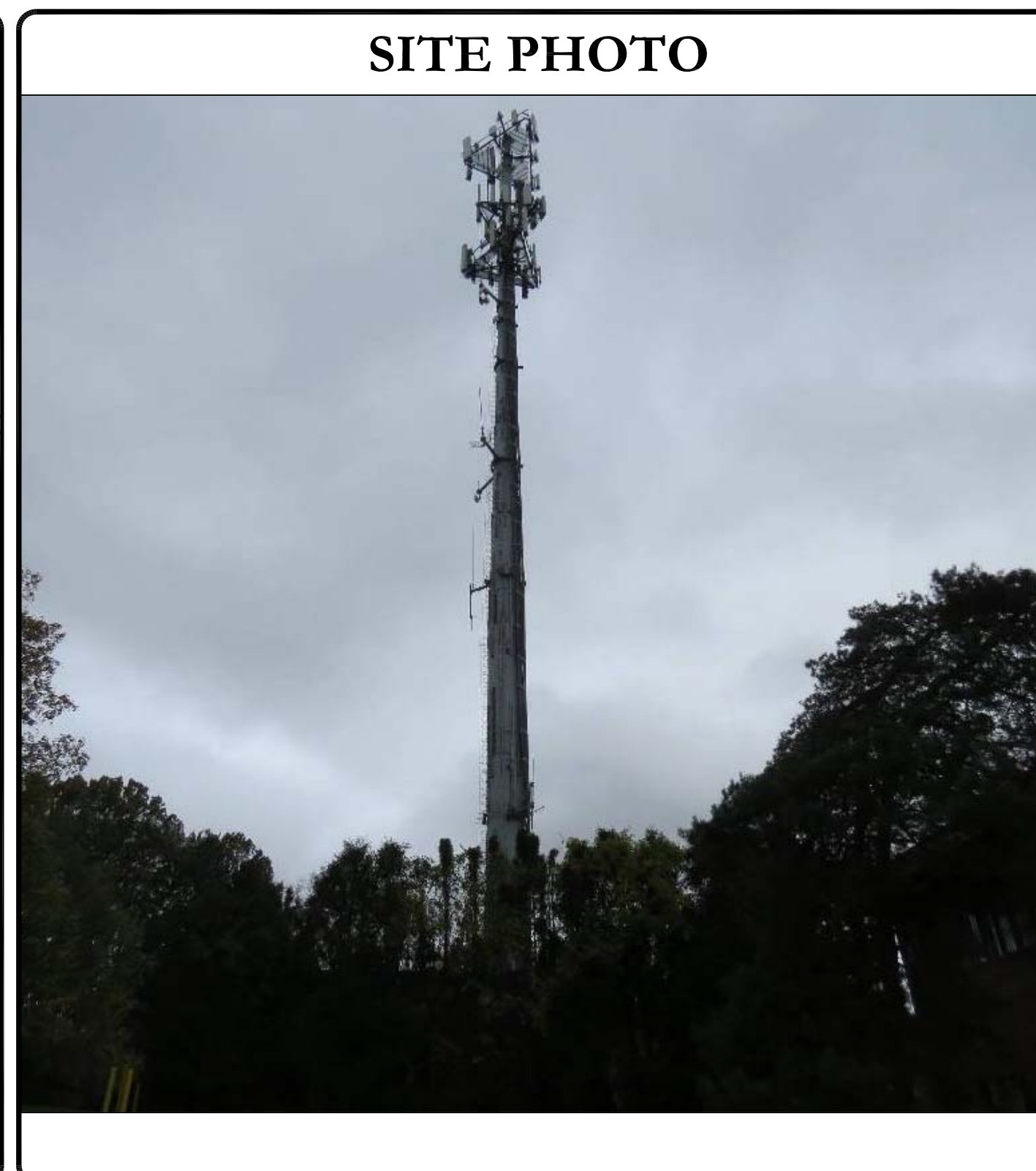


LOCATION MAP



NO SCALE

SITE PHOTO



PROJECT TEAM

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

PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.
TOWER SCOPE OF WORK:
 • REMOVE (3) POWERRWAVE - 7770.00 ANTENNAS
 • REMOVE (3) ANDREW -SBNH-1D6565C ANTENNAS
 • REMOVE (3) CCI - TPA-65R-LCUUUU-H8 ANTENNAS
 • REMOVE (3) ERICSSON - RRUS-11 B12 RRHs
 • REMOVE (3) ERICSSON - RRUS-32 B2 RRHs
 • REMOVE (6) DTMABP7819VG12A TMAs
 • REMOVE (6) DBC0061F1V51-2 DIPLEXERS
 • REMOVE (6) COAX CABLE (1-1/4")
 • INSTALL (3) CCI - TPA65R-BU8DA-K ANTENNAS
 • INSTALL (6) ERICSSON - AIR6449 B77D+AIR6419 B77G STACKED ANTENNAS
 • INSTALL (3) CCI - DMP65R-BU8DA ANTENNAS
 • INSTALL (3) ERICSSON - 4478 B14 RRHs
 • INSTALL (3) ERICSSON - 8843 B2/B66A RRHs
 • INSTALL (3) ERICSSON - 4449 B5/B12 RRHs
 • INSTALL (1) RAYCAP - DC9-48-60-24-EC-EV SQUID
 • INSTALL (3) 7/8" 6AWG DC
 • INSTALL (1) 3/8" 24-PAIR FIBER
 • INSTALL (3) Y CABLES FOR NEW DUAL BAND RADIOS
 • INSTALL (6) DUAL RADIO MOUNTS
 • INSTALL (3) 2-1/2" SCH 40 x 6'-0" LONG MOUNT PIPE W/ CROSSOVER HARDWARE
GROUND SCOPE OF WORK:
 • REMOVE (1) RETIRED GSM CABINET
 • REMOVE (6) LGP21901 DIPLEXERS
 • INSTALL (1) 23" FIF RACK
 • INSTALL (1) DC12-48-60-RM IN NEW 23" FIF RACK
 • INSTALL (5) RECTIFIERS IN EXISTING POWER PLANT
 • INSTALL (1) FIBER MANAGEMENT BOX ON EXTERIOR ICE BRIDGE POST
 • INSTALL (1) FIBER DRAWER IN EXISTING LTE RACK
 • INSTALL 6630(+DLE)-6648(+Xcede) IN NEW FIF RACK
 • UPGRADE TO SF7 CARD
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:

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

REFERENCE DOCUMENTS:
 STRUCTURAL ANALYSIS: BY OTHERS
 DATED:
 MOUNT ANALYSIS: KIMLEY-HORN AND ASSOCIATES, INC
 DATED: 7/6/22
 AC ELECTRICAL POWER DESIGN: N/A
 DATED:
 RFDS REVISION: FINAL
 DATED: 10/1/21
 ORDER ID: 586247
 REVISION: 0

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

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CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

- 1. NOTICE TO PROCEED-- NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER...
2. "LOOK UP" - CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT: THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY...
3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED...
4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR...
5. ALL SITE WORK TO COMPLY WITH QAS-STD-10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE..."
6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES...
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS...
9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION...
10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK...
11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS...
12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK...
13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK...
14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE...
15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS...
16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION...
17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE...
18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION...
19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES...
20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS...
21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION...
22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND...

GREENFIELD GROUNDING NOTES:

- 1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE...
2. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING...
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION...
4. METAL CONDUIT AND TRAY SHALL BE GROUNDING AND MADE ELECTRICALLY CONTINUOUS...
5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR...
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR...
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK...
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS...
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS...
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED...
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS...
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS...
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS...
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED...
15. APPROVED ANTI-OXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED...
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL...
17. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED...
18. BOND ALL METALLIC OBJECTS WITHIN 6 FT OF MAIN GROUND RING...
19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS...
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE...
21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE...

GENERAL NOTES:

- 1. 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.
2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE...
3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE...
4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE...
5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS...
6. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE...
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE...
8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS...
9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS...
10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN...
11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION AND IS TO DETERMINE THE BEST ROUTING...
12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS...
13. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS...
14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION...

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

- 1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE...
2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf...
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (fc) OF 3000 PSI AT 28 DAYS...
4. CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES...
5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615...
6. #4 BARS AND SMALLER... 40 ksi
#5 BARS AND LARGER... 60 ksi
7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES...

ELECTRICAL INSTALLATION NOTES:

- 1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE...
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS...
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. ALL THE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR...
10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR...
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR...
12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR...
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE...
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE...
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS...
18. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS...
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE...
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE...
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH...
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER...
23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE...
24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL...
25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED...
26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2...
27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER...
28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS...
29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "AT&T".
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

Table with 3 columns: SYSTEM, CONDUCTOR, COLOR. Lists color codes for 120/240V, 120/208V, 277/480V, and DC VOLTAGE.

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

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

ABBREVIATIONS:

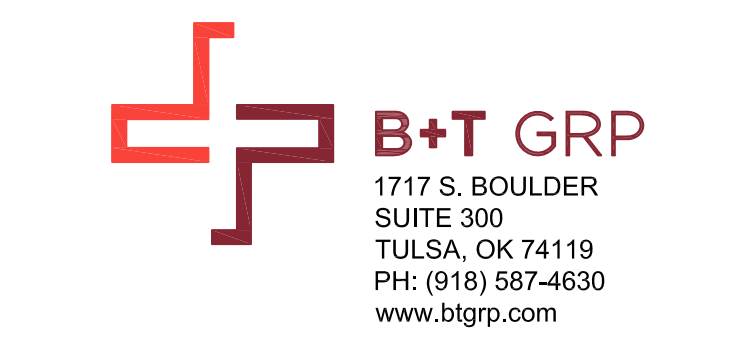
- ANT ANTENNA
(E) EXISTING
FIF FACILITY INTERFACE FRAME
GEN GENERATOR
GPS GLOBAL POSITIONING SYSTEM
GSM GLOBAL SYSTEM FOR MOBILE
LTE LONG TERM EVOLUTION
MGB MASTER GROUND BAR
MW MICROWAVE
(N) NEW
NEC NATIONAL ELECTRIC CODE
(P) PROPOSED
PP POWER PLANT
QTY QUANTITY
RECT RECTIFIER
RBS RADIO BASE STATION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



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:
CTL01019

BU #: 826217
NEWINGTON_1

240 KENSINGTON ROAD
BERLIN, CT 06037

EXISTING
190' -0" MONOPOLE

ISSUED FOR:

Table with 5 columns: REV, DATE, DRWN, DESCRIPTION, DES./QA. Shows revision history for preliminary review and construction.



B&T ENGINEERING, INC.
PEC-001564
Expires 2/10/23

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

SHEET NUMBER: T-2
REVISION: 0

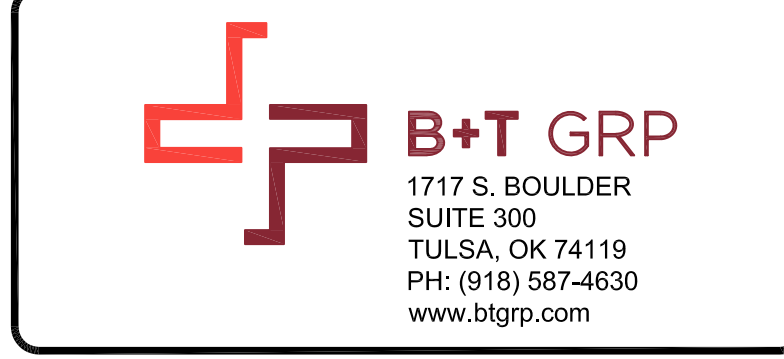
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575 MOROSGO DRIVE
ATLANTA, GA 30324-3300



3530 TORINGDON WAY, SUITE 300
CHARLOTTE, NC 28277



1717 S. BOULDER
SUITE 300
TULSA, OK 74119
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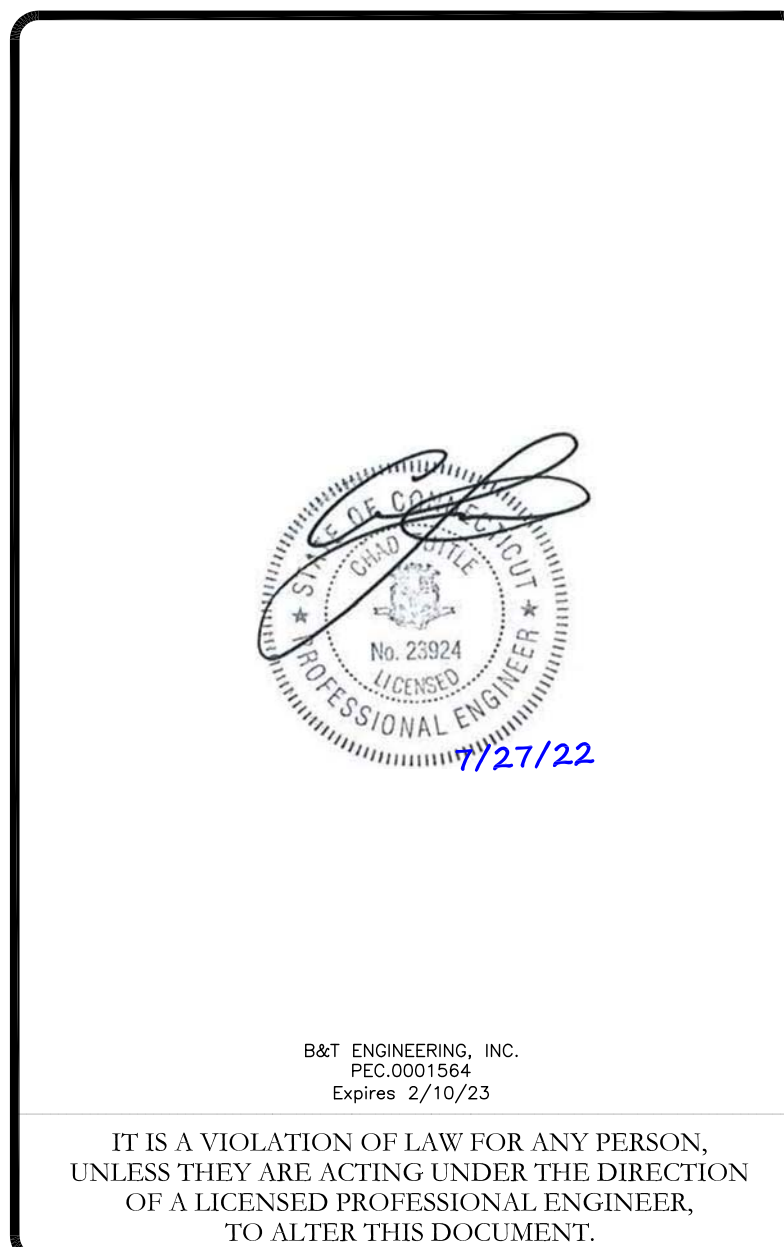
BU #: **826217**
NEWINGTON_1

240 KENSINGTON ROAD
BERLIN, CT 06037

EXISTING
190' -0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	12/30/21	HN	PRELIMINARY REVIEW	JTS
B	2/22/22	JTS	PRELIMINARY REVIEW	KT
C	4/11/22	DAS	PRELIMINARY REVIEW	KT
0	7/27/22	GAC	CONSTRUCTION	KT

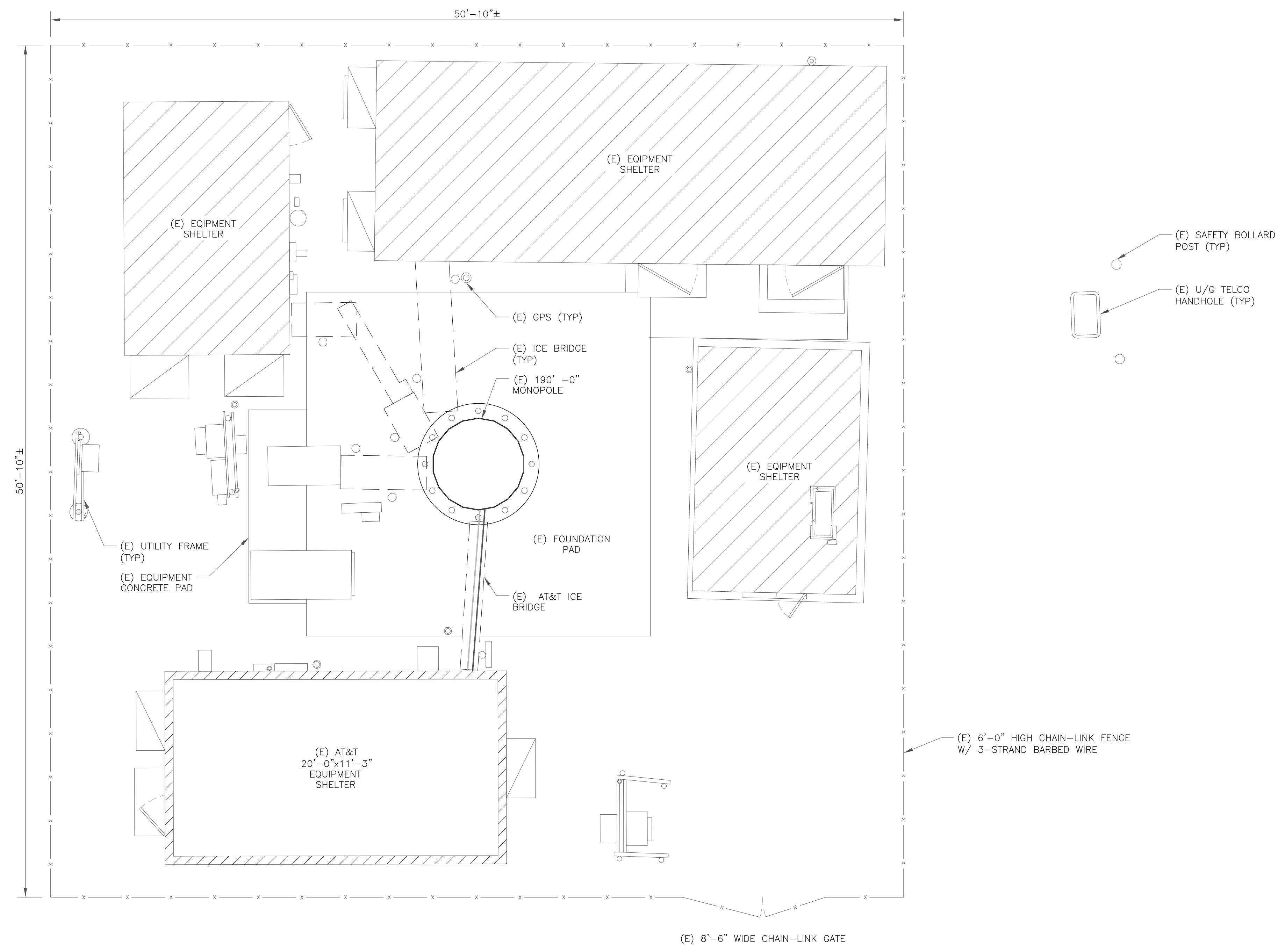


7/27/22

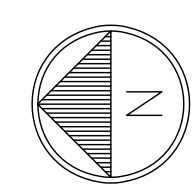
B&T ENGINEERING, INC.
PEC:001564
Expires 2/10/23

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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)



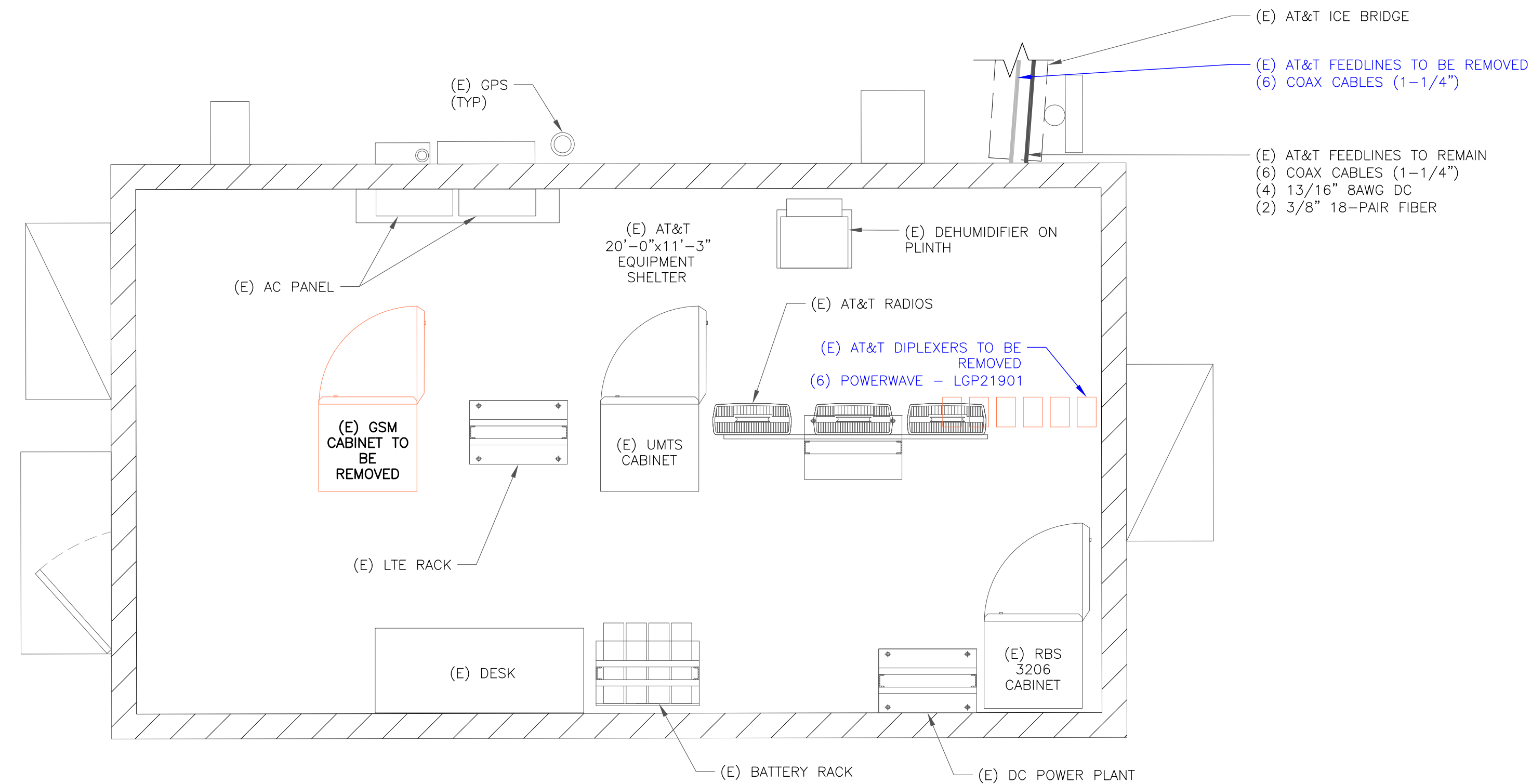
87581.029.01_826217_NEWINGTON_1.dwg - Sheet C-1.1 - User: kevin.turkhal - Jul 27, 2022 - 12:57pm

AT&T SITE NUMBER:
CTL01019

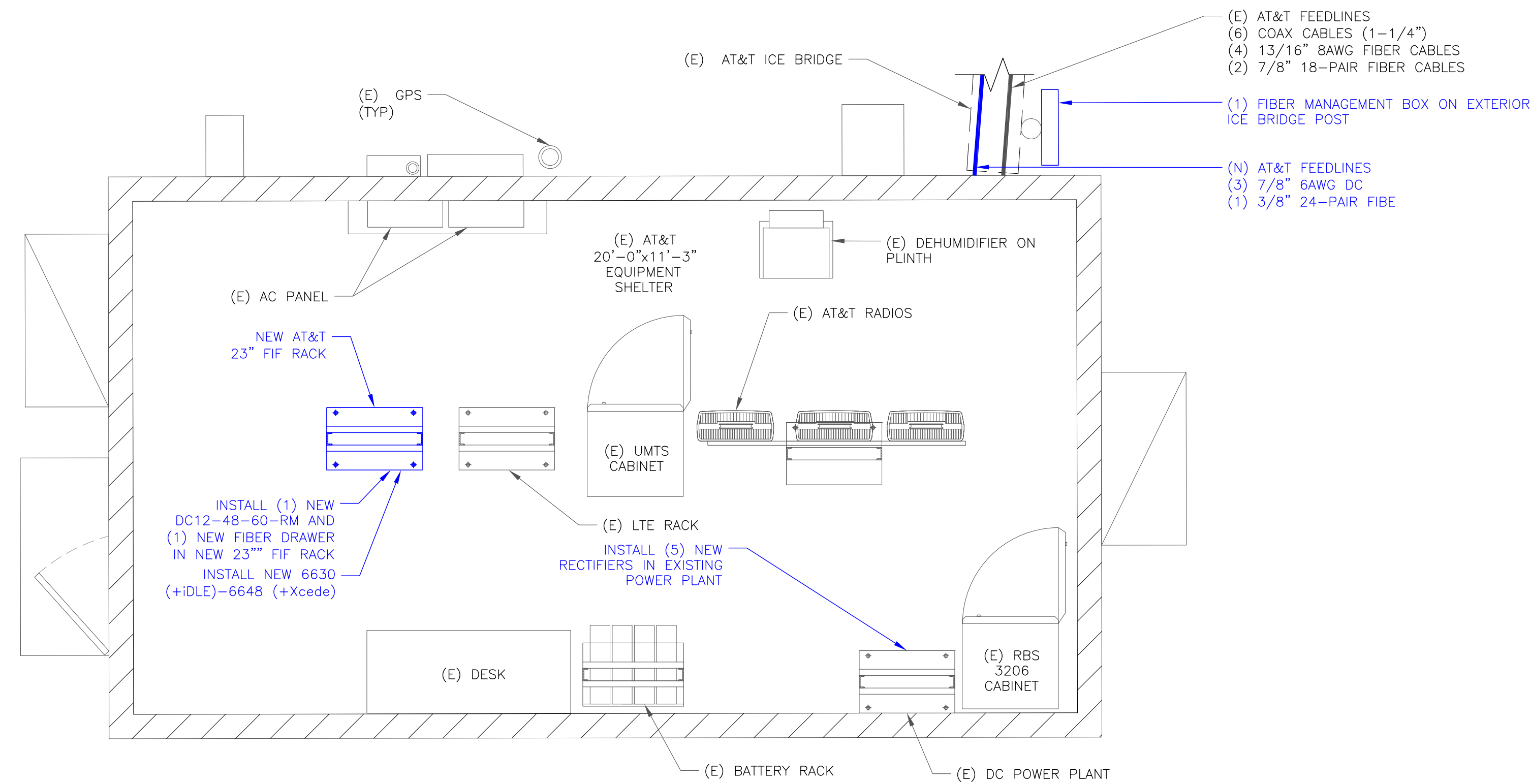
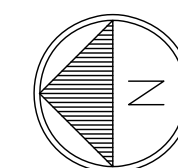
BU #: **826217**
NEWINGTON_1

240 KENSINGTON ROAD
BERLIN, CT 06037

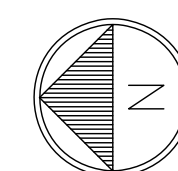
EXISTING
190' -0" MONOPOLE



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



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



GROUND SCOPE OF WORK:

- INSTALL (1) 23" FIF RACK
- INSTALL (1) DC12-48-60-RM IN NEW 23" FIF RACK
- INSTALL (5) RECTIFIERS IN EXISTING POWER PLANT
- INSTALL (1) FIBER DRAWER IN NEW LTE RACK
- INSTALL 6630 (+IDLE)-6648 (+Xcede)
- UPGRADE TO SFP7 CARD
- INSTALL (1) FIBER MANAGEMENT BOX ON EXTERIOR ICE BRIDGE POST

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:

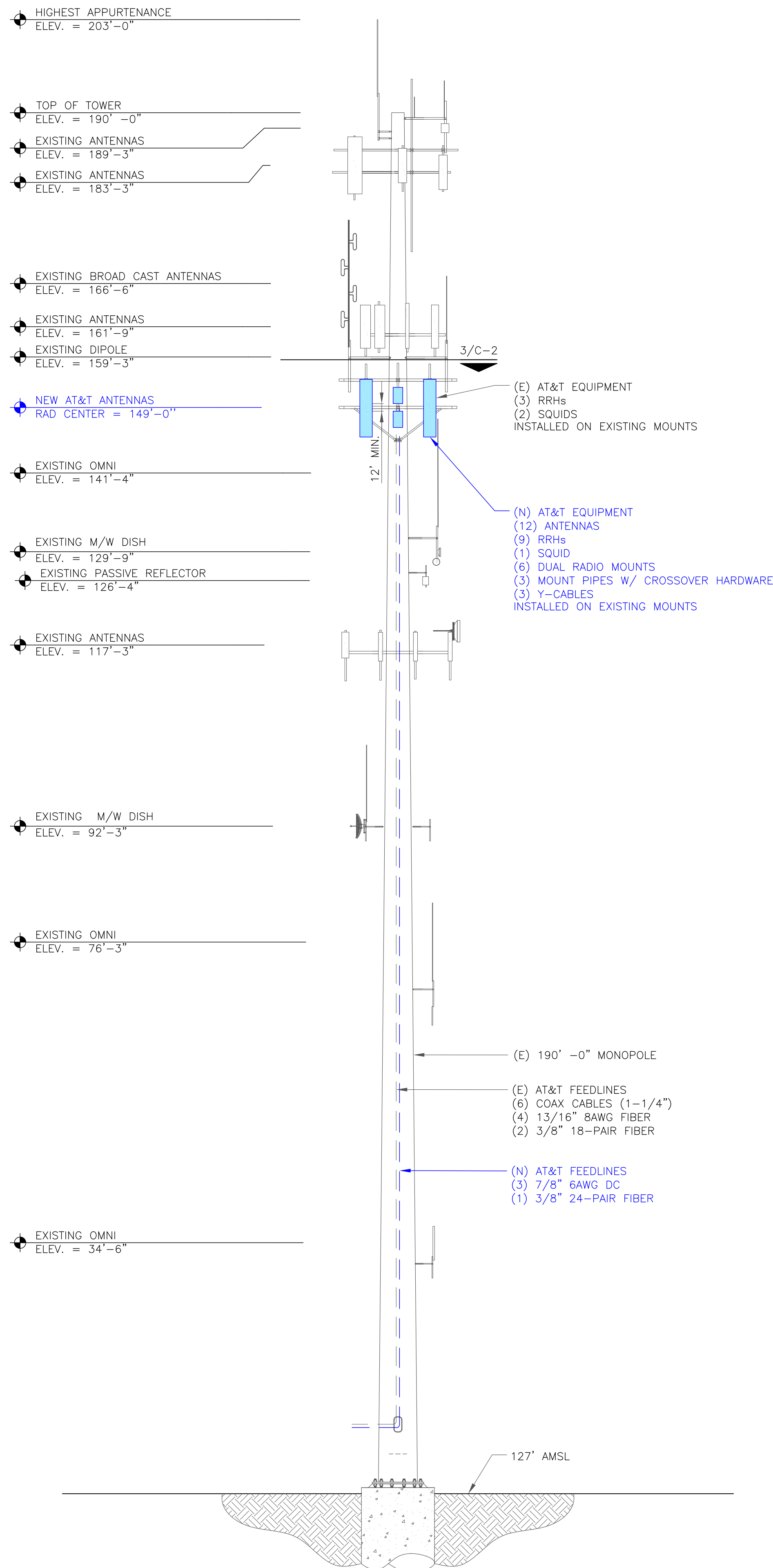
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B	2/22/22	JTS	PRELIMINARY REVIEW	KT
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0	7/27/22	GAC	CONSTRUCTION	KT



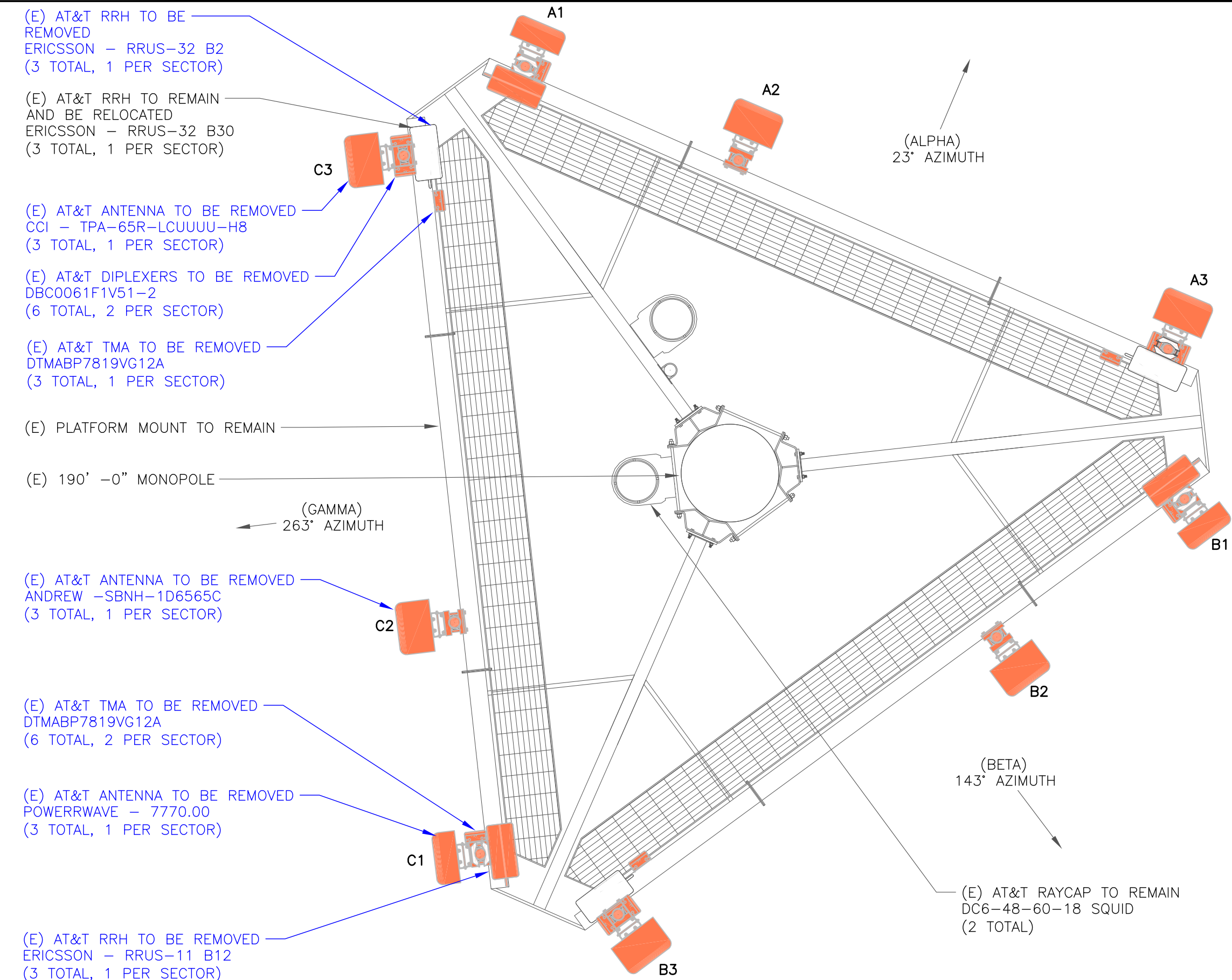
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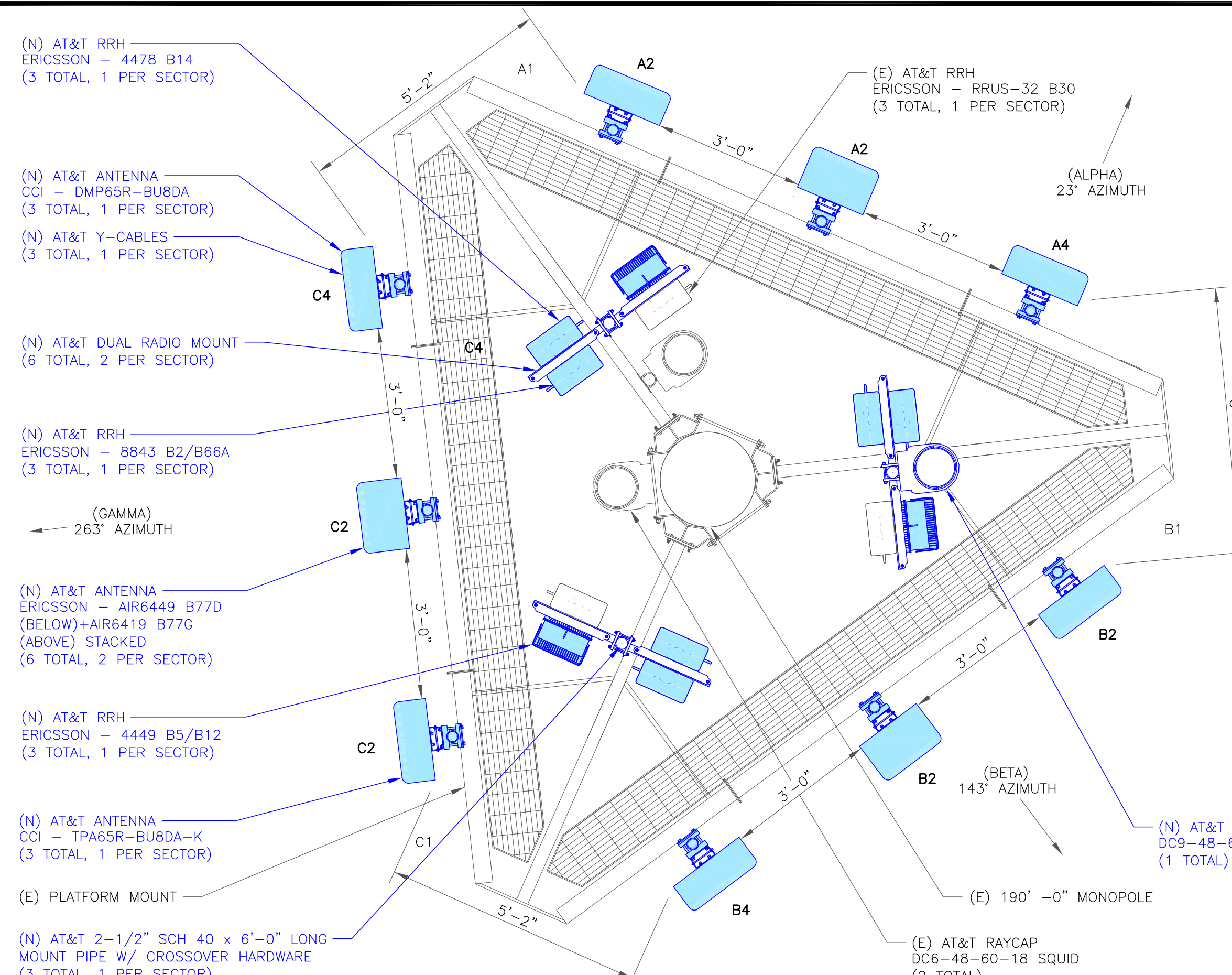
SHEET NUMBER: **C-1.2** REVISION: **0**



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:
- REFERENCE C-3 FOR FINAL EQUIPMENT SCHEDULE.
 - REFERENCE C-4 FOR NEW EQUIPMENT SPECIFICATIONS.
 - CONTRACTOR TO VERIFY ALL ANTENNA TIP HEIGHTS DO NOT EXCEED BEACON BASE HEIGHT.
 - 3'-0" MINIMUM DISTANCE REQUIRED BETWEEN LTE ANTENNAS ON SAME SECTOR.
 - 6'-0" MINIMUM DISTANCE REQUIRED BETWEEN 700BC & 700DE ANTENNAS ON SAME SECTOR.
 - 4'-0" MINIMUM DISTANCE REQUIRED BETWEEN LTE 700 ANTENNAS ON OPPOSING SECTORS.
 - ALL ANTENNA MEASUREMENT DISTANCES MUST BE EDGE TO EDGE (RELOCATE ANTENNAS AS NEEDED).
 - 8" MINIMUM DISTANCE REQUIRED BETWEEN ANTENNA & RADIO. SEE GENERIC EXAMPLE DETAIL ON SHEET C-4.
 - EXISTING TO BE RELOCATED AS WELL AS PROPOSED RADIOS TO BE INSTALLED ON NEW B2B BRACKET ON NEW PIPE TO BE ATTACHED TO CROSSARM.

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AT&T SITE NUMBER:
CTL01019

BU #: **826217**
NEWINGTON_1

240 KENSINGTON ROAD
BERLIN, CT 06037

EXISTING
190' -0" MONOPOLE

ISSUED FOR:

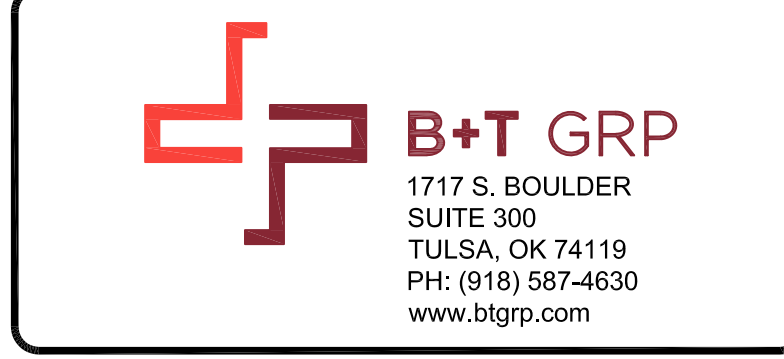
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B	2/22/22	JTS	PRELIMINARY REVIEW	KT
C	4/11/22	DAS	PRELIMINARY REVIEW	KT
0	7/27/22	GAC	CONSTRUCTION	KT

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

87581.029.01_826217_NEWINGTON_1.dwg - Sheet C-2 - User: kevin.turkall - Jul 27, 2022 - 12:59pm



AT&T SITE NUMBER:
CTL01019

BU #: **826217**
NEWINGTON_1

240 KENSINGTON ROAD
BERLIN, CT 06037

EXISTING
190' -0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
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C	4/11/22	DAS	PRELIMINARY REVIEW	KT
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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																		
A2	LTE 700/LTE WCS/5G AWS/LTE AWS	NEW	23°	CCI - TPA65R-BU8DA-K	149'-0"	0°	0°/0°/0°	1-1/4"	199'-0"	2	-	(2) (E) DC6-48-60-18 SQUID	(2) (E) 3/8" 18-PAIR FIBER (4) (E) 13/16" 8AWG FIBER	(1) ERICSSON - 4478 B14 (1) ERICSSON - 8843 B2/B66A	TOWER	N	N	N
A3	5G CBAND	NEW	23°	ERICSSON - AIR6449 B77D+AIR6419 B77G STACKED	151'-0" 147'-0"	0°	0°	-	-	-	-			INTEGRATED WITHIN	TOWER	N	N	N
A4	LTE 700/5G 850/LTE 1900/5G 1900	NEW	23°	CCI - DMP65R-BU8DA	149'-0"	0°	9°/0°/0°	-	-	-	-			(1) ERICSSON - 4449 B5/B12 (1) ERICSSON - RRUS-32 B30	TOWER	N	N	N
BETA SECTOR																		
B2	LTE 700/LTE WCS/5G AWS/LTE AWS	NEW	143°	CCI - TPA65R-BU8DA-K	149'-0"	0°	0°/0°/0°	1-1/4"	199'-0"	2	-	(1) (N) DC9-48-60-24-8C -EV SQUID	(1) (N) 3/8" 24-PAIR FIBER (3) (N) 7/8" 6AWG DC	(1) ERICSSON - 4478 B14 (1) ERICSSON - 8843 B2/B66A	TOWER	N	N	N
B3	5G CBAND	NEW	143°	ERICSSON - AIR6449 B77D+AIR6419 B77G STACKED	151'-0" 147'-0"	0°	0°	-	-	-	-			INTEGRATED WITHIN	TOWER	N	N	N
B4	LTE 700/5G 850/LTE 1900/5G 1900	NEW	143°	CCI - DMP65R-BU8DA	149'-0"	0°	3°/0°/0°	-	-	-	-			(1) ERICSSON - 4449 B5/B12 (1) ERICSSON - RRUS-32 B30	TOWER	N	N	N
GAMMA SECTOR																		
C2	LTE 700/LTE WCS/5G AWS/LTE AWS	NEW	263°	CCI - TPA65R-BU8DA-K	149'-0"	0°	0°/0°/0°	1-1/4"	199'-0"	2	-	-	-	(1) ERICSSON - 4478 B14 (1) ERICSSON - 8843 B2/B66A	TOWER	N	N	N
C3	5G CBAND	NEW	263°	ERICSSON - AIR6449 B77D+AIR6419 B77G STACKED	151'-0" 147'-0"	0°	0°	-	-	-	-			INTEGRATED WITHIN	TOWER	N	N	N
C4	LTE 700/5G 850/LTE 1900/5G 1900	NEW	263°	CCI - DMP65R-BU8DA	149'-0"	0°	2°/0°/0°	-	-	-	-			(1) ERICSSON - 4449 B5/B12 (1) ERICSSON - RRUS-32 B30	TOWER	N	N	N

NOTE: BOLD DENOTES NEW EQUIPMENT

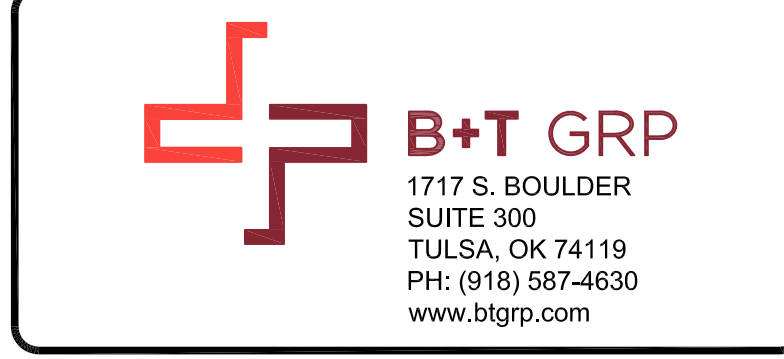
87581.029.01_826217_NEWINGTON_1.dwg - Sheet C-3 - User: kevin.turkall - Jul 27, 2022 - 12:57pm



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ATLANTA, GA 30324-3300



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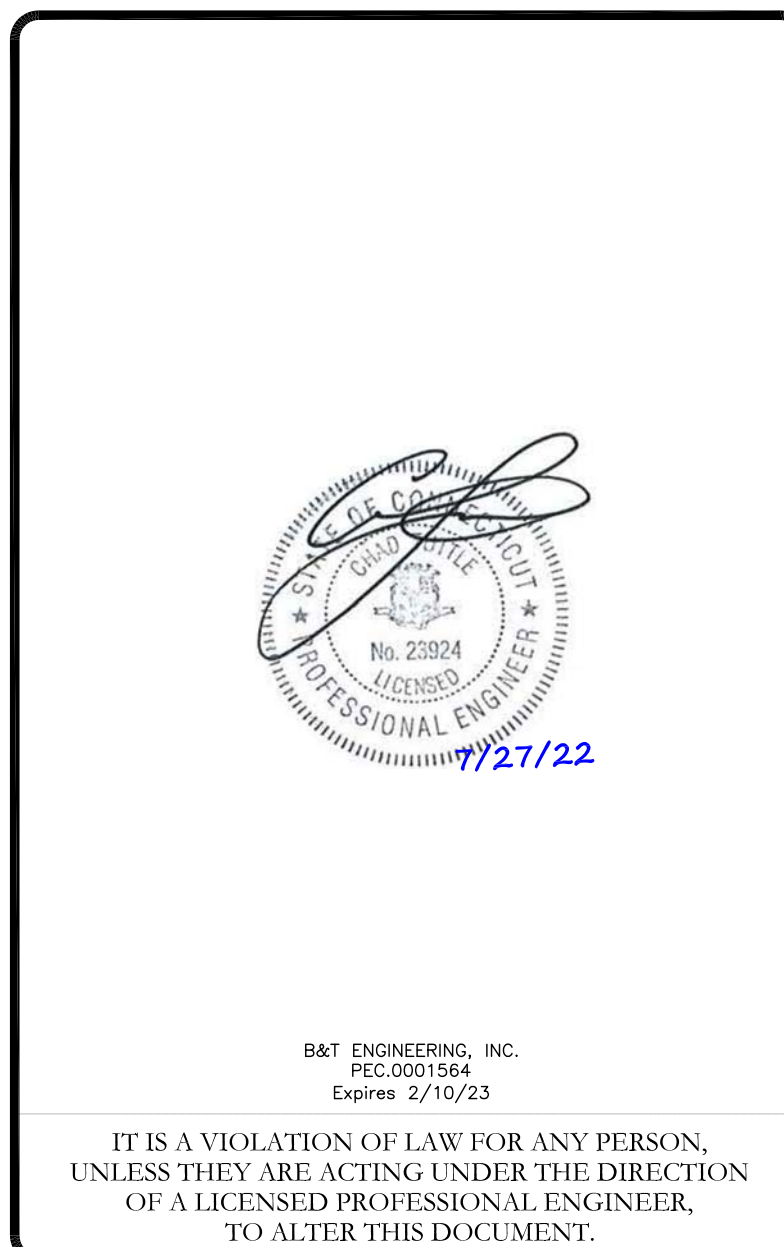
BU #: **826217**
NEWINGTON_1

240 KENSINGTON ROAD
BERLIN, CT 06037

EXISTING
190' -0" MONOPOLE

ISSUED FOR:

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A	12/30/21	HN	PRELIMINARY REVIEW	JTS
B	2/22/22	JTS	PRELIMINARY REVIEW	KT
C	4/11/22	DAS	PRELIMINARY REVIEW	KT
0	7/27/22	GAC	CONSTRUCTION	KT



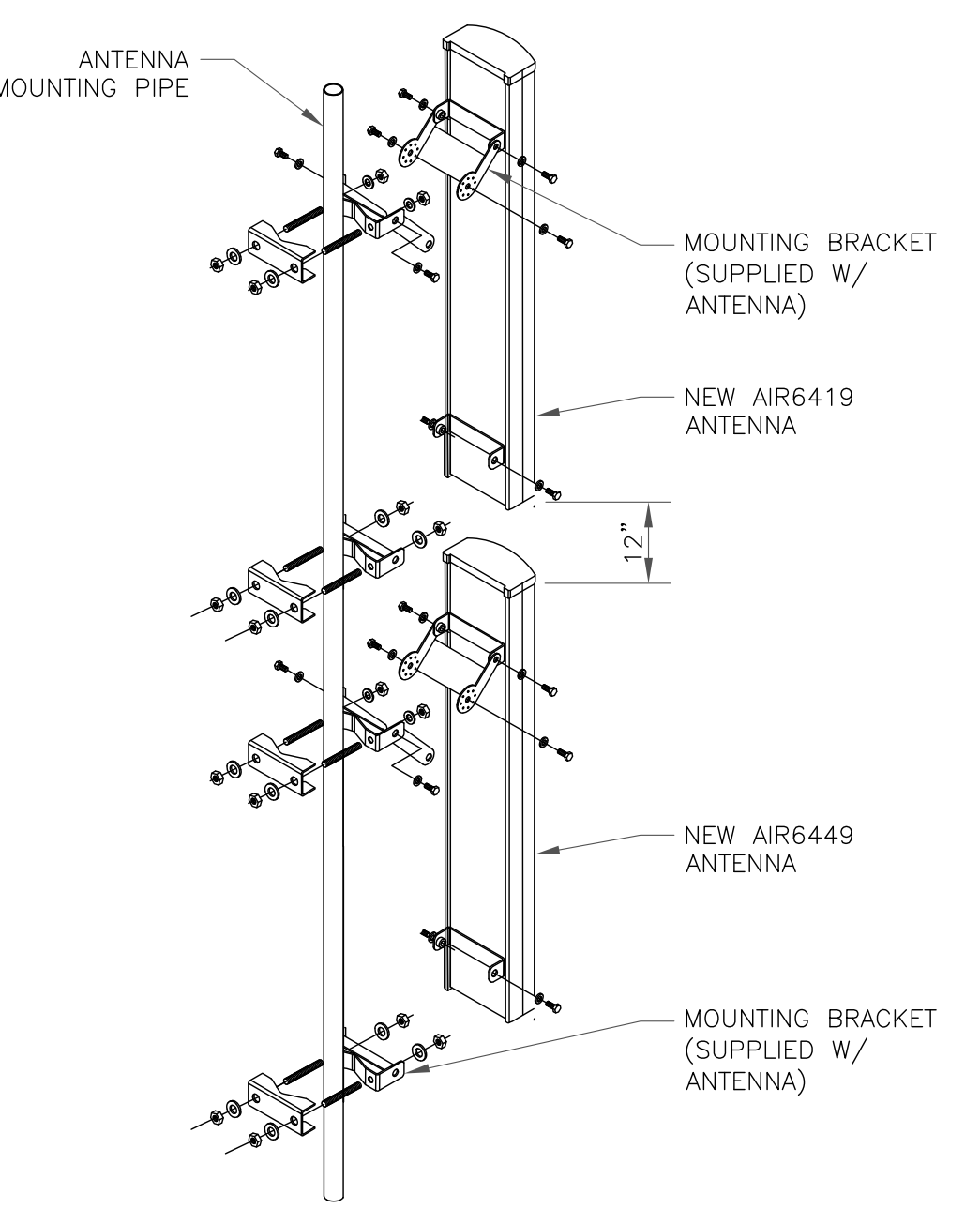
7/27/22

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

1 NOT USED
SCALE: NOT TO SCALE

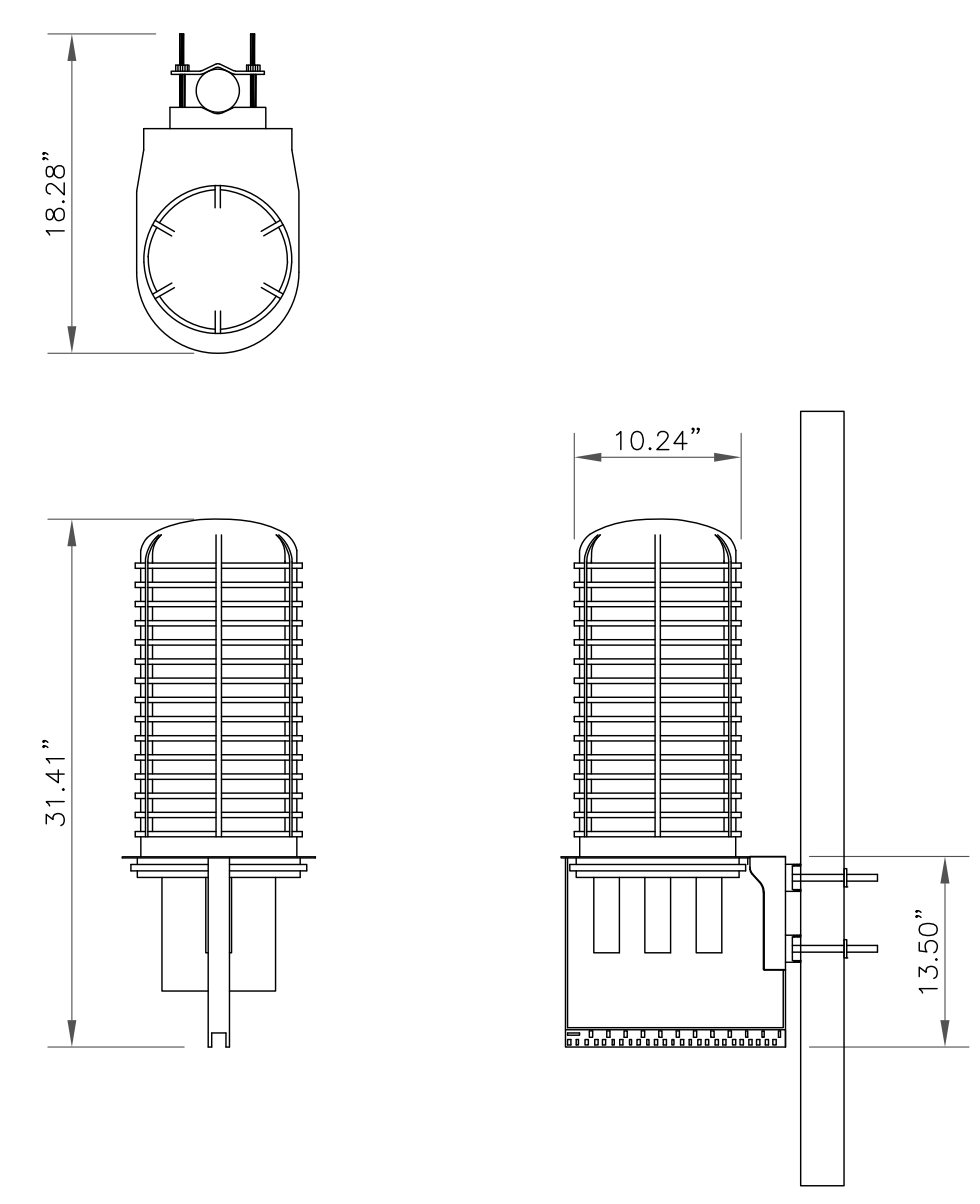


2 STACKED ANTENNA MOUNTING DETAIL
SCALE: NOT TO SCALE

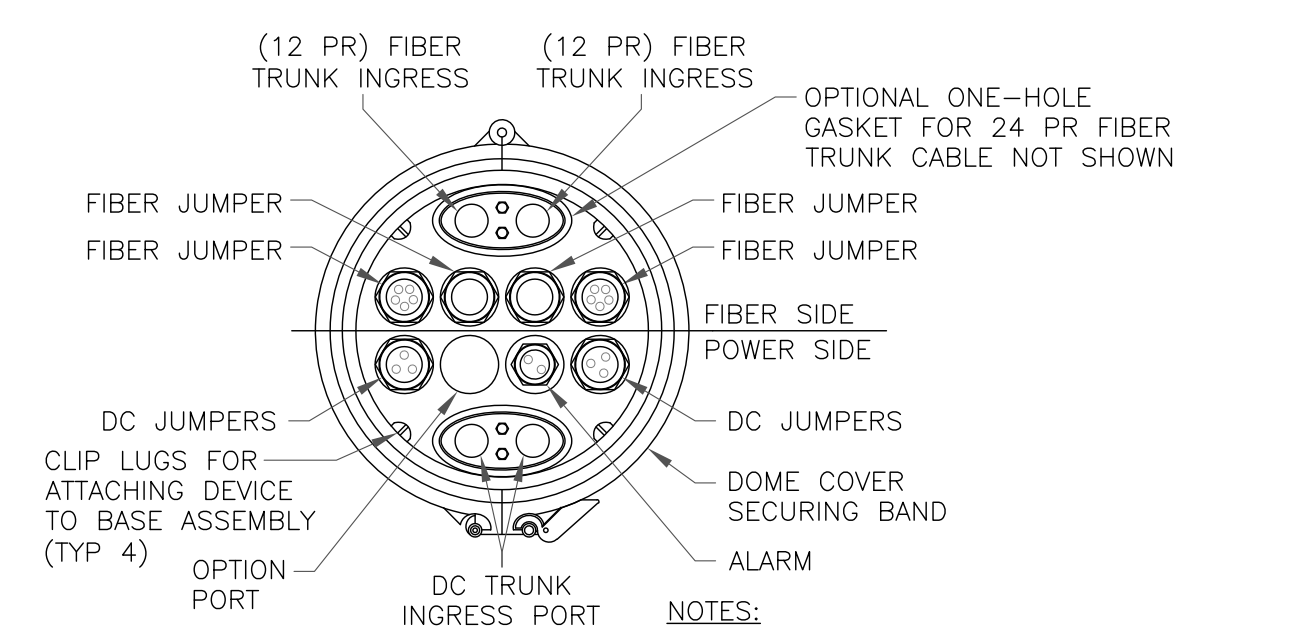
3 NOT USED
SCALE: NOT TO SCALE

RAYCAP
DC9-48-60-24-8C-EV

RAYCAP - DC9-48-60-24-8C-EV
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)



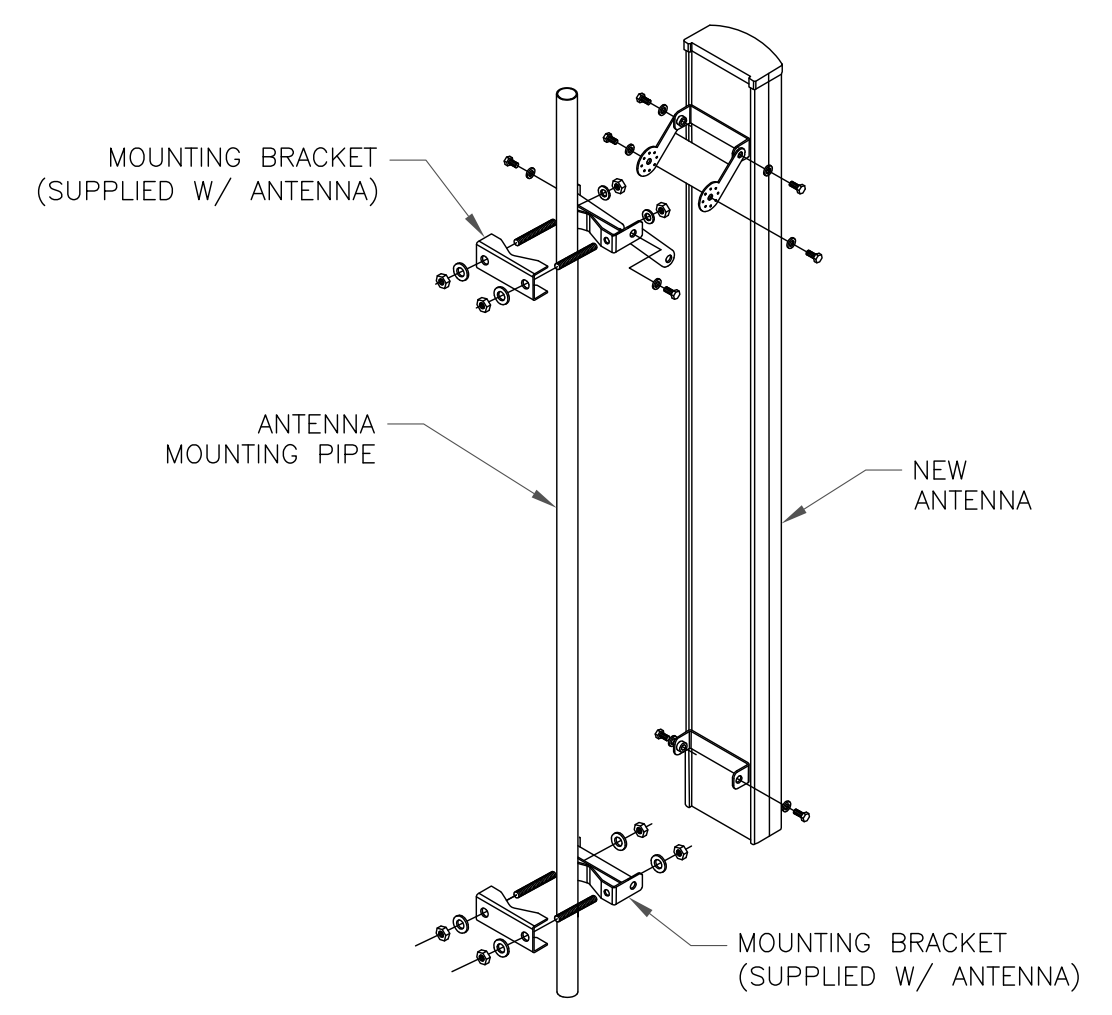
CONTRACTOR TO USE "THREAD LUBRICANT" ON MOUNTING BOLTS DURING INSTALLATION



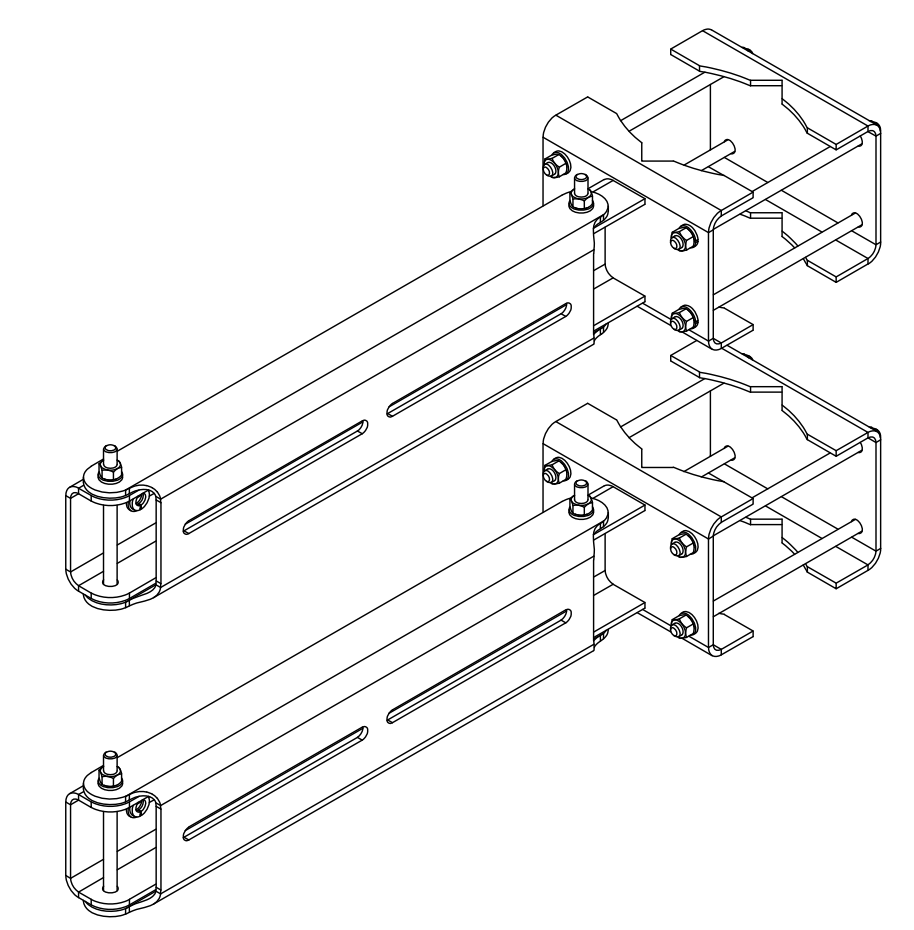
NOTES:
1. REMOVE CABLE SEALING GLAND AND INSTALL M3x1.5 METRIC-TO-1" NPT ADAPTER (COOPER CROUSE-HINES P/N CAP 740 994 OR EQUIVALENT MFR) WHEN CONNECTING CONDUIT TO OVP.

6 SQUID MOUNTING DETAIL
SCALE: NOT TO SCALE

INSTALLER NOTE:
1. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.

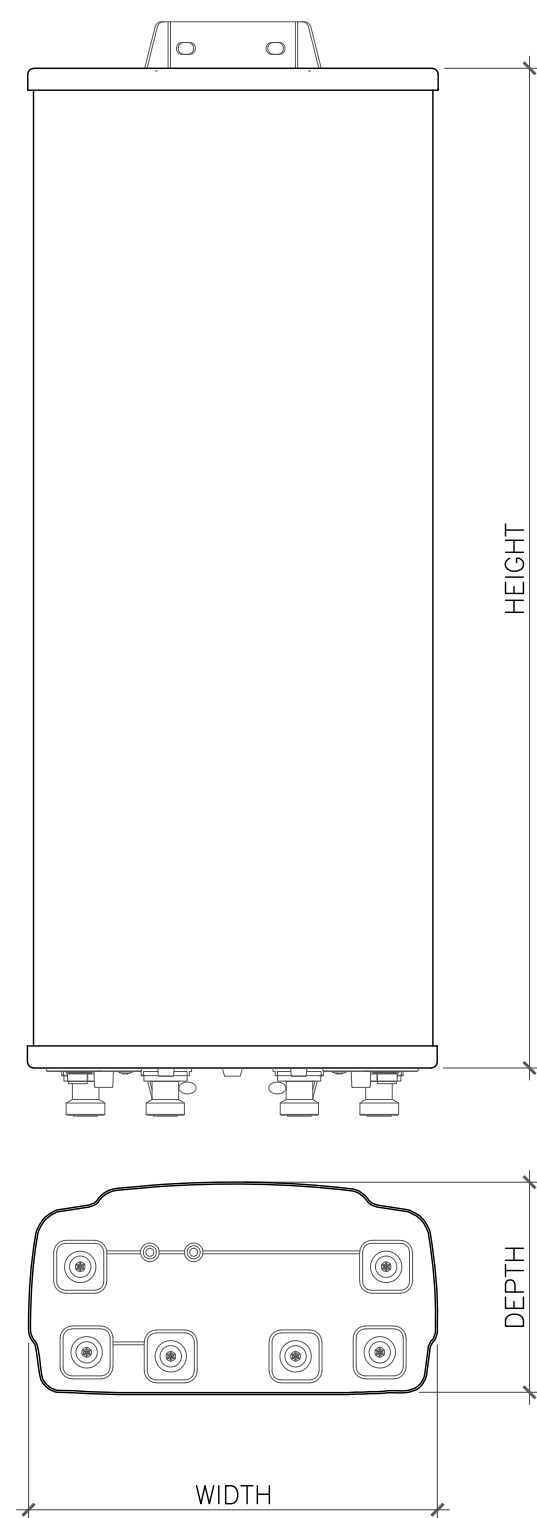


4 ANTENNA MOUNTING DETAIL
SCALE: NOT TO SCALE



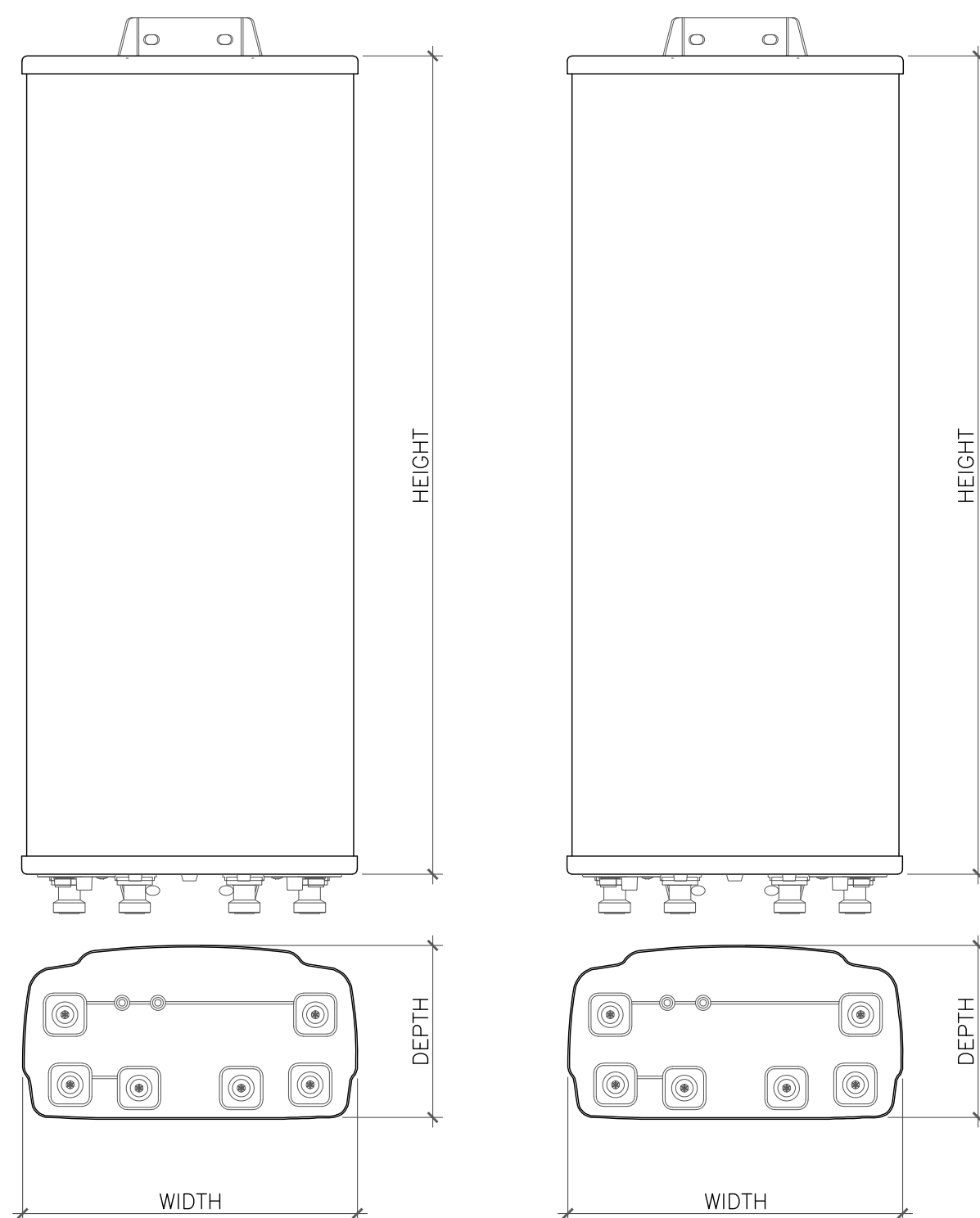
5 DUAL RADIO MOUNT
SCALE: NOT TO SCALE

87581.029.01_826217_NEWINGTON_1.dwg - Sheet C-4 - User: kevin.turckall - Jul 27, 2022 - 12:57pm



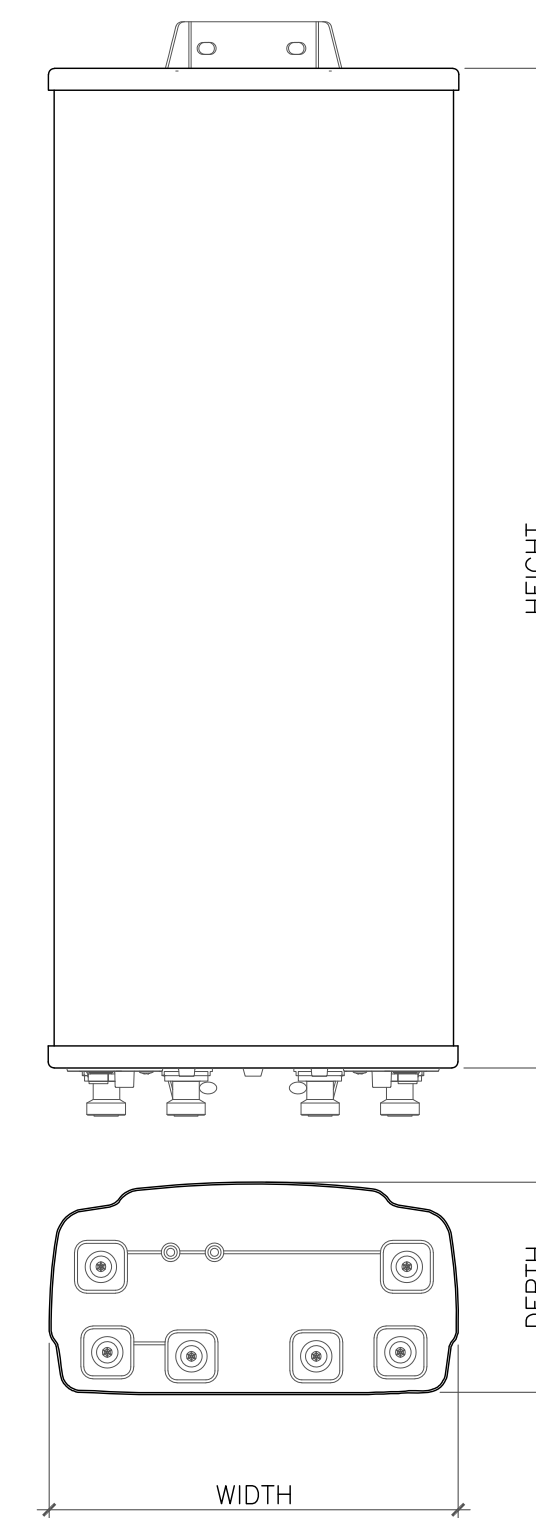
ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
TPA65R-BU8DA-K	96"	21"	7.8"	87.5 lbs

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"	96.80lbs

2 ANTENNA DETAIL
SCALE: NOT TO SCALE



ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
DMP65R-BU8DA	96"	20.7"	7.7"	105.6 lbs

3 ANTENNA DETAIL
SCALE: NOT TO SCALE

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ATLANTA, GA 30324-3300

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1717 S. BOULDER
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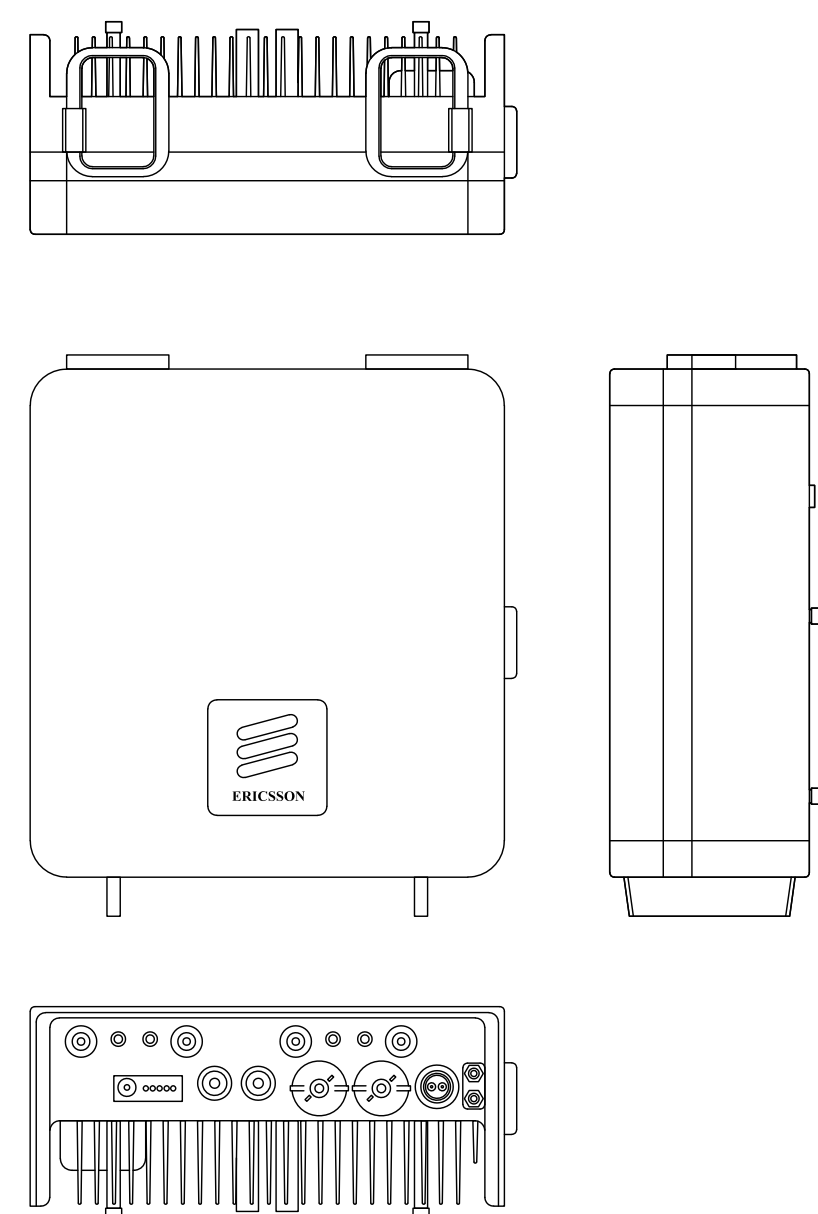
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240 KENSINGTON ROAD
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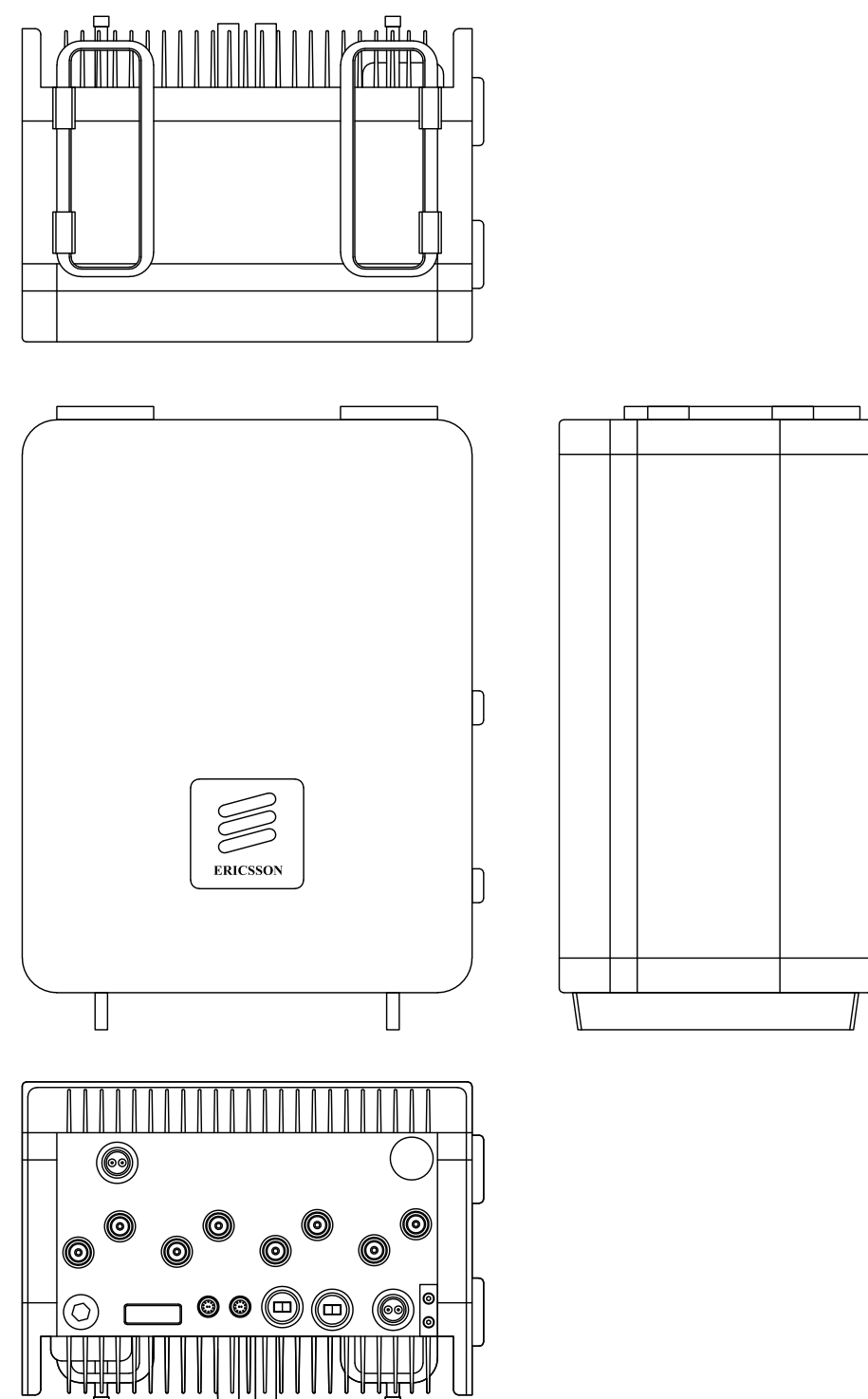
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0	7/27/22	GAC	CONSTRUCTION	KT



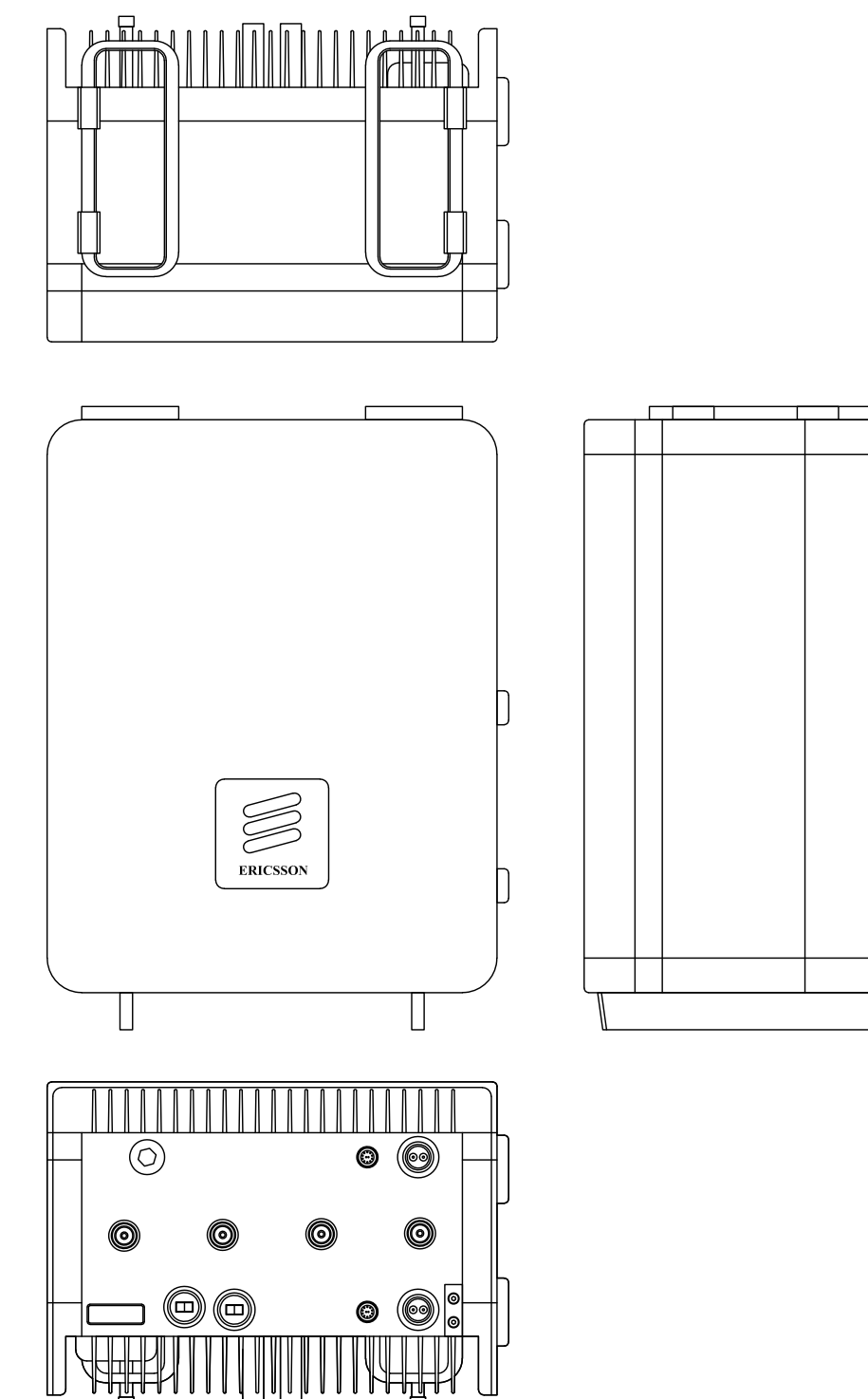
ERICSSON - RADIO 4478 B14
WEIGHT: 60.0 LBS
SIZE (HxWxD): 15.0x13.0x8.0 IN.

4 ERICSSON - RADIO 4478 B14
SCALE: NOT TO SCALE



ERICSSON - RADIO 8843 B2/B66A
WEIGHT: 75.0 LBS
SIZE (HxWxD): 18.0x13.2x11.3 IN.

5 ERICSSON - RADIO 8843 B2/B66A
SCALE: NOT TO SCALE



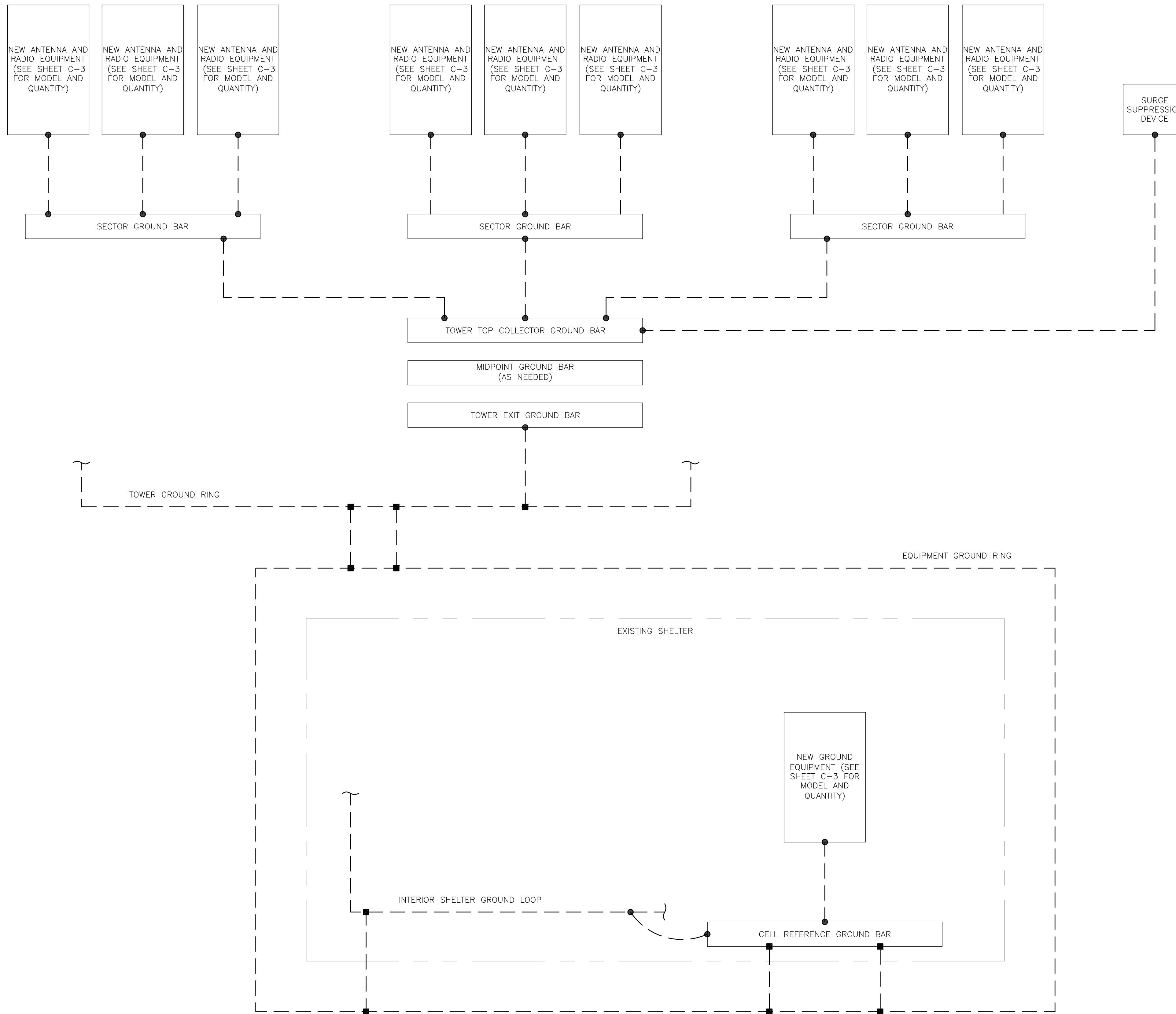
ERICSSON - RADIO 4449 B5/B12
WEIGHT: 70.0 LBS
SIZE (HxWxD): 18.0x13.2x9.4 IN.

6 ERICSSON - RADIO 4449 B5/B12
SCALE: NOT TO SCALE



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SHEET NUMBER: **C-5** REVISION: **0**



GROUNDING PLAN LEGEND:

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

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.

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AT&T SITE NUMBER:
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190' -0" MONOPOLE

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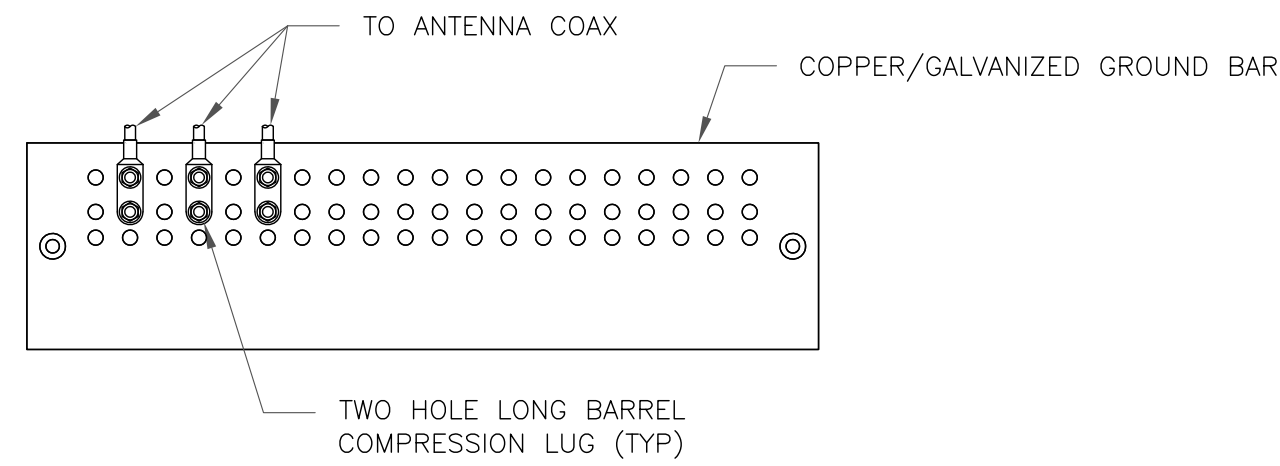
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PEC.001564
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SHEET NUMBER: **G-1** **REVISION:** **0**

1 GROUNDING SCHEMATIC
SCALE: NOT TO SCALE

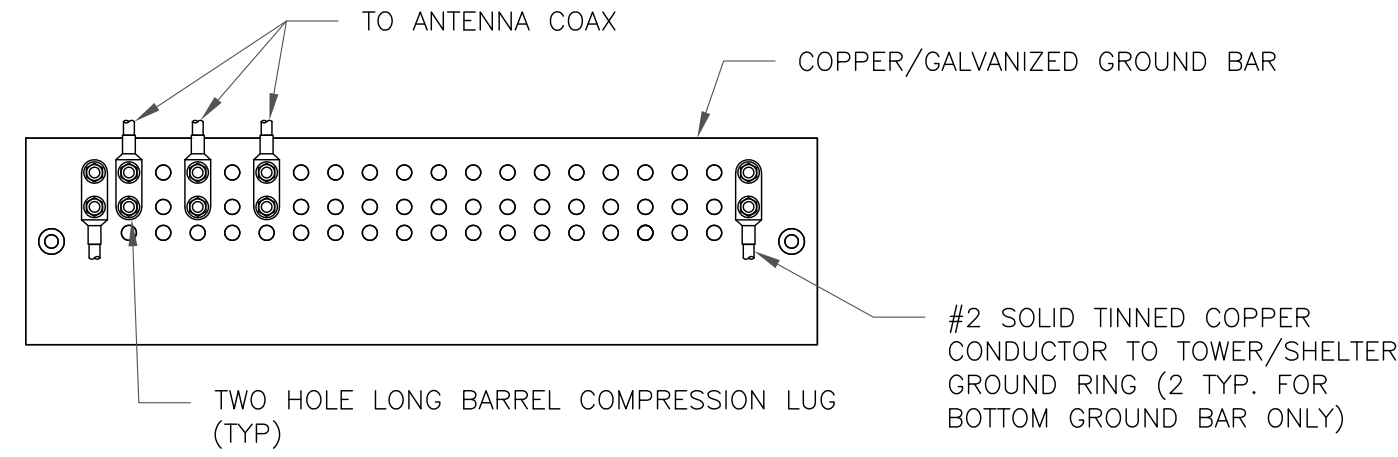
87581.029.01_826217_NEWINGTON_1.dwg - Sheet:G-1 - User: kevin.turkall - Jul 27, 2022 - 12:57pm



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

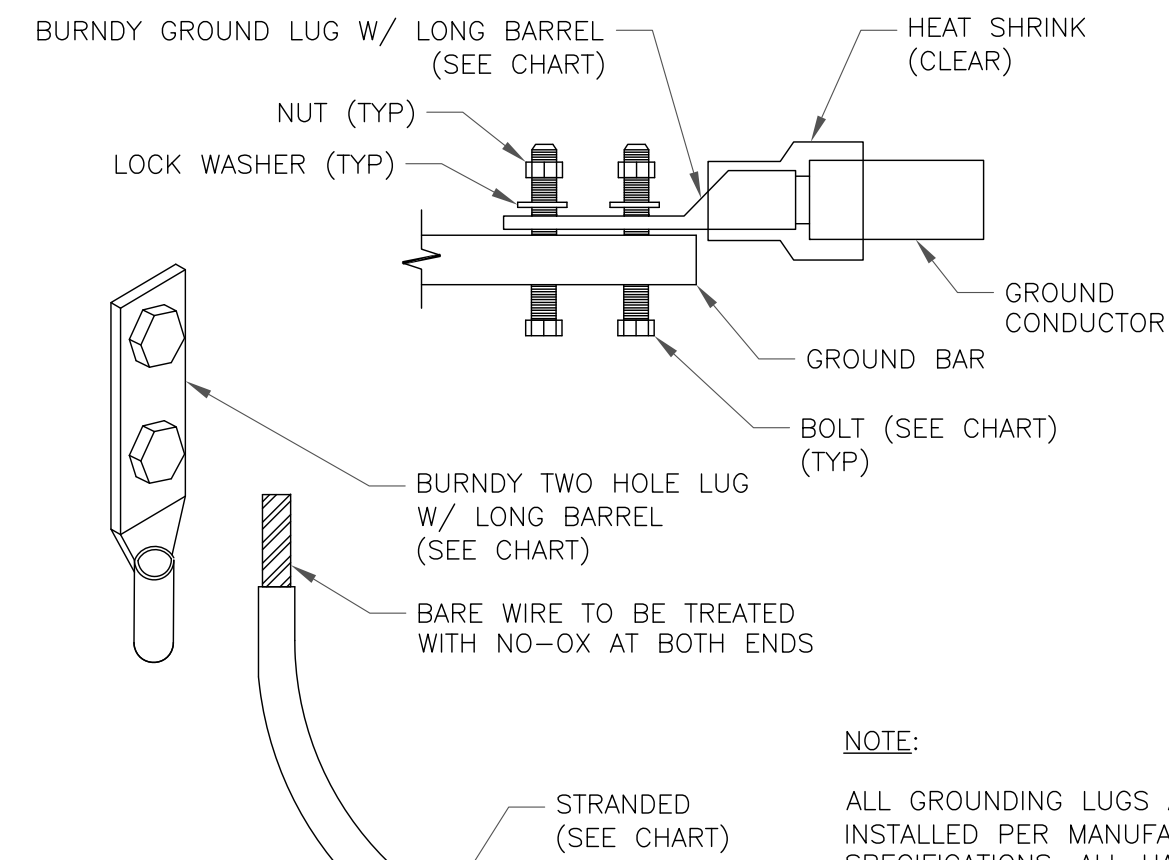


NOTES:

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

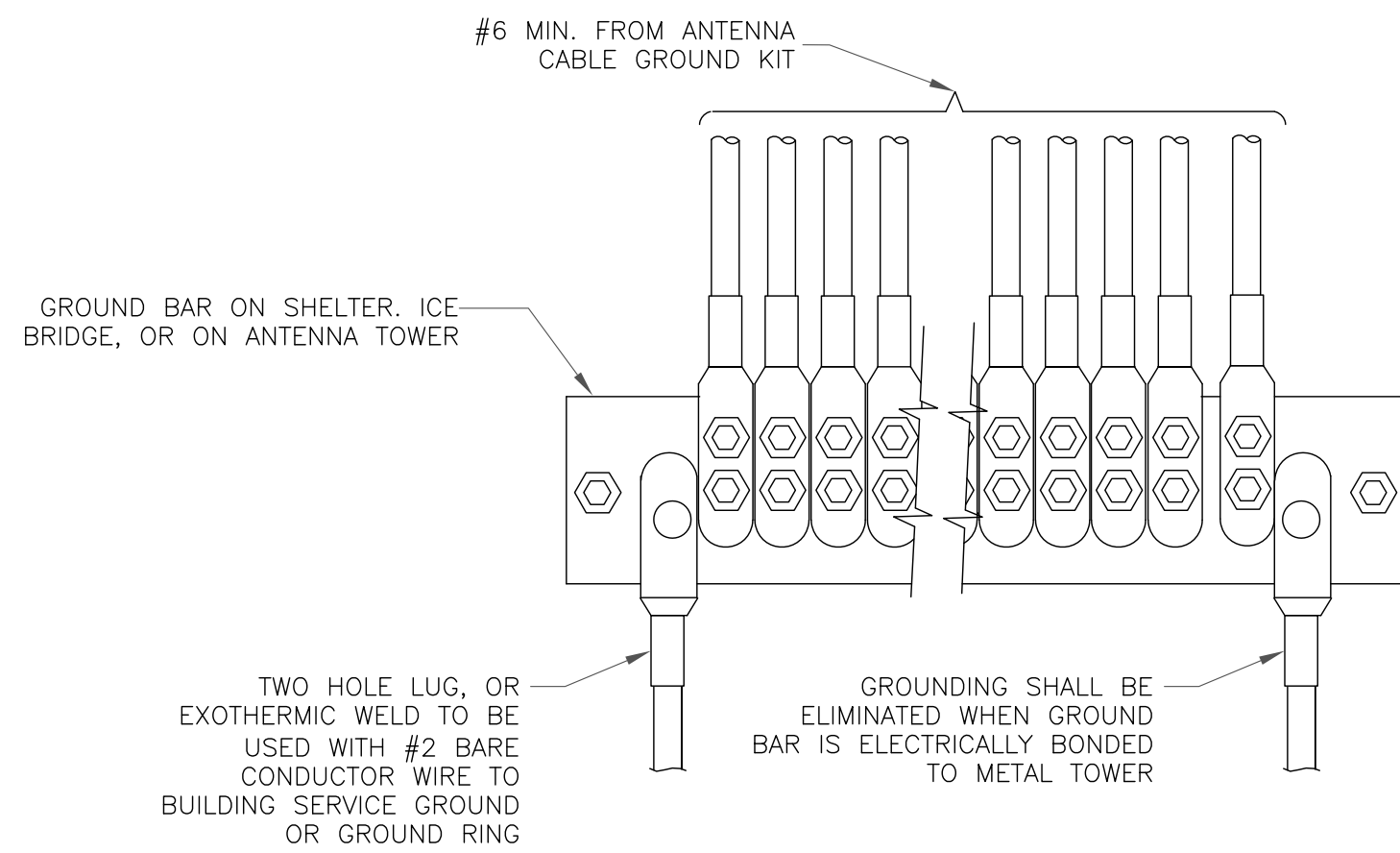
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 STRANDED	YA2C-2TC38	3/8" - 16 NC SS 2 BOLT
#2/0 STRANDED	YA26-2TC38	3/8" - 16 NC SS 2 BOLT
#4/0 STRANDED	YA28-2N	1/2" - 16 NC SS 2 BOLT



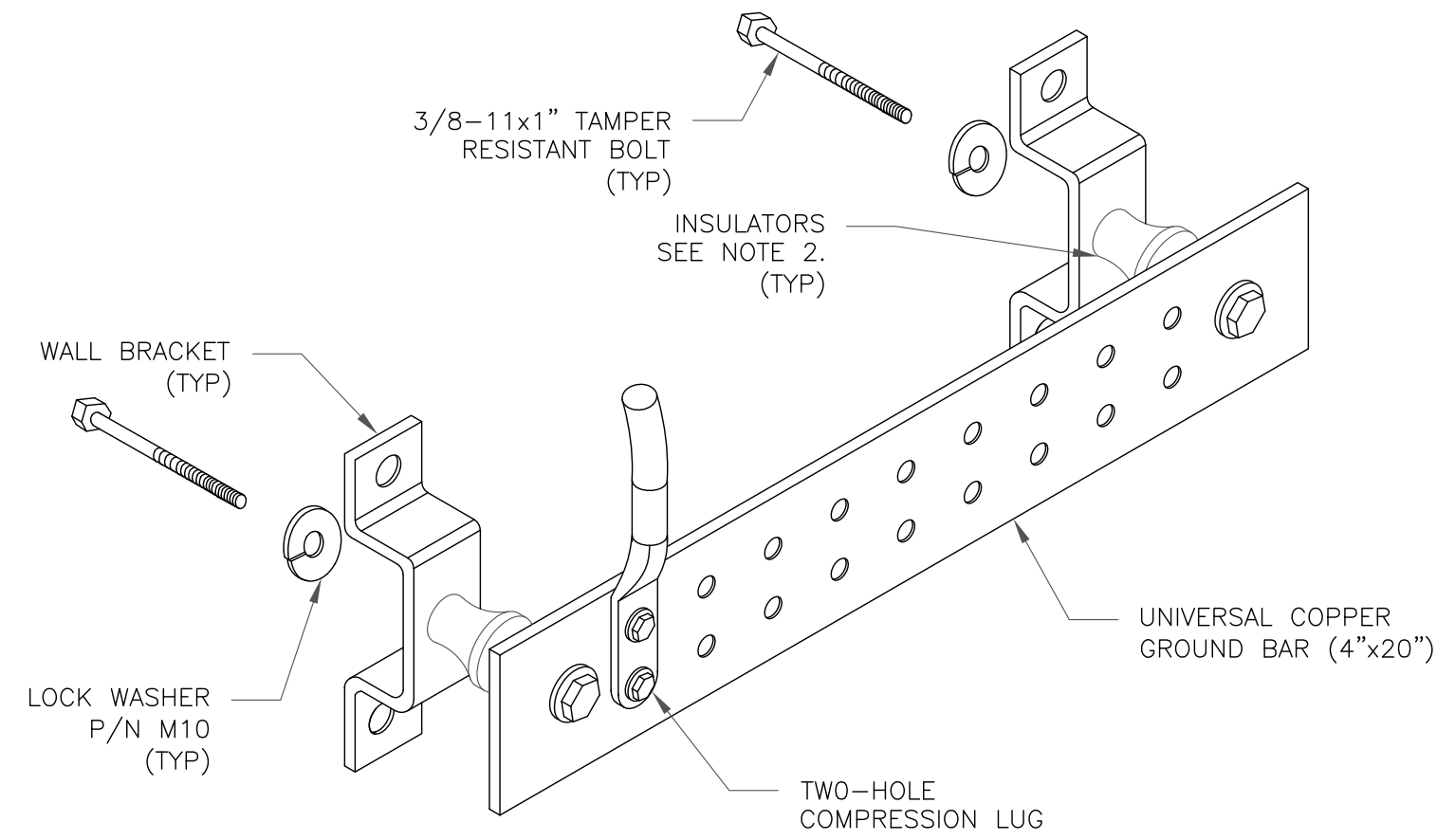
NOTE:

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



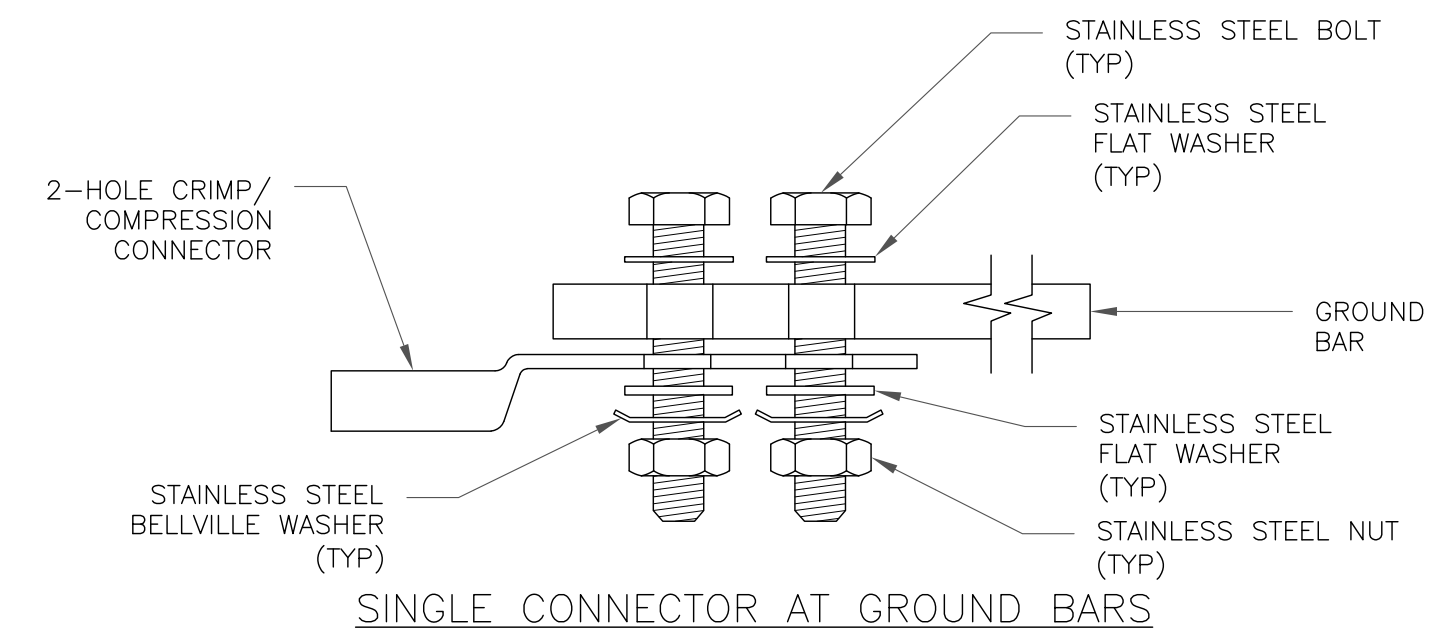
4 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



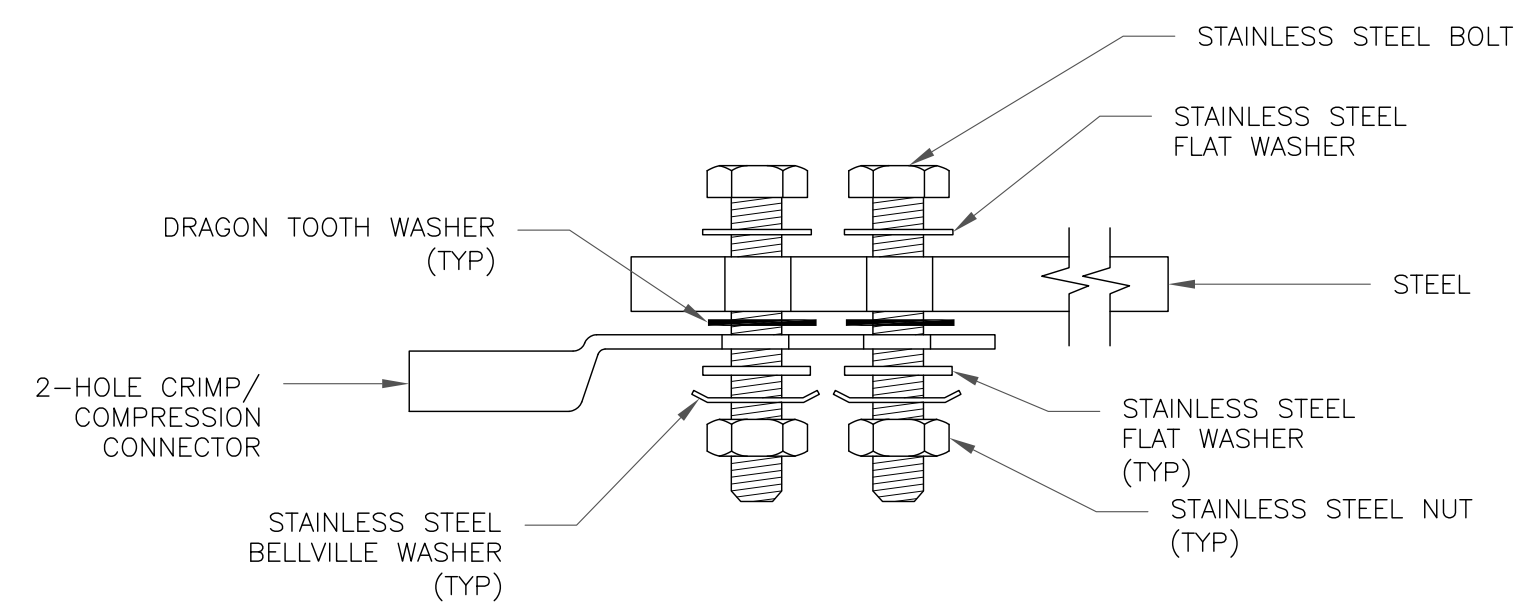
NOTES:

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.

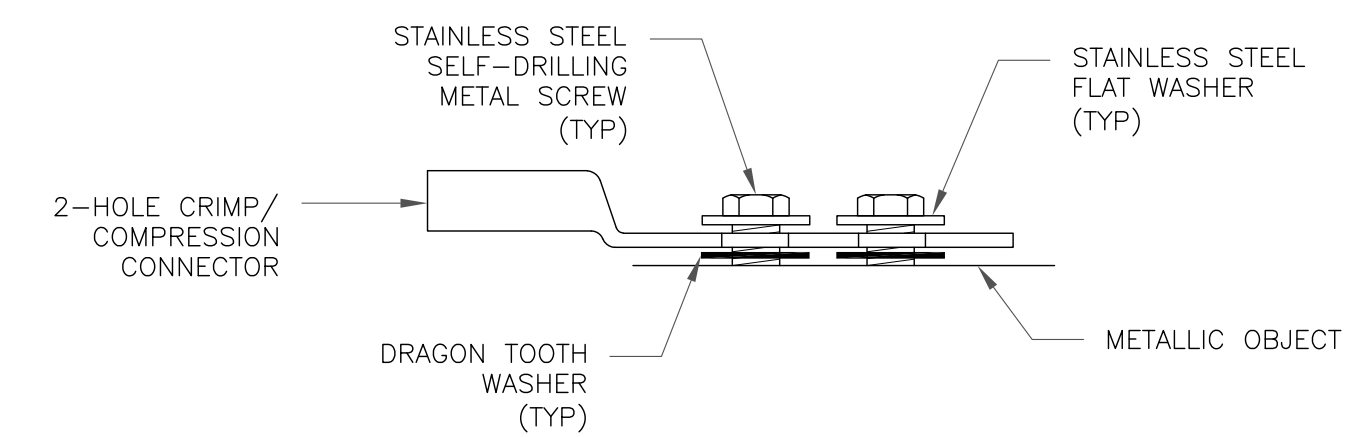
5 GROUND BAR DETAIL
SCALE: NOT TO SCALE



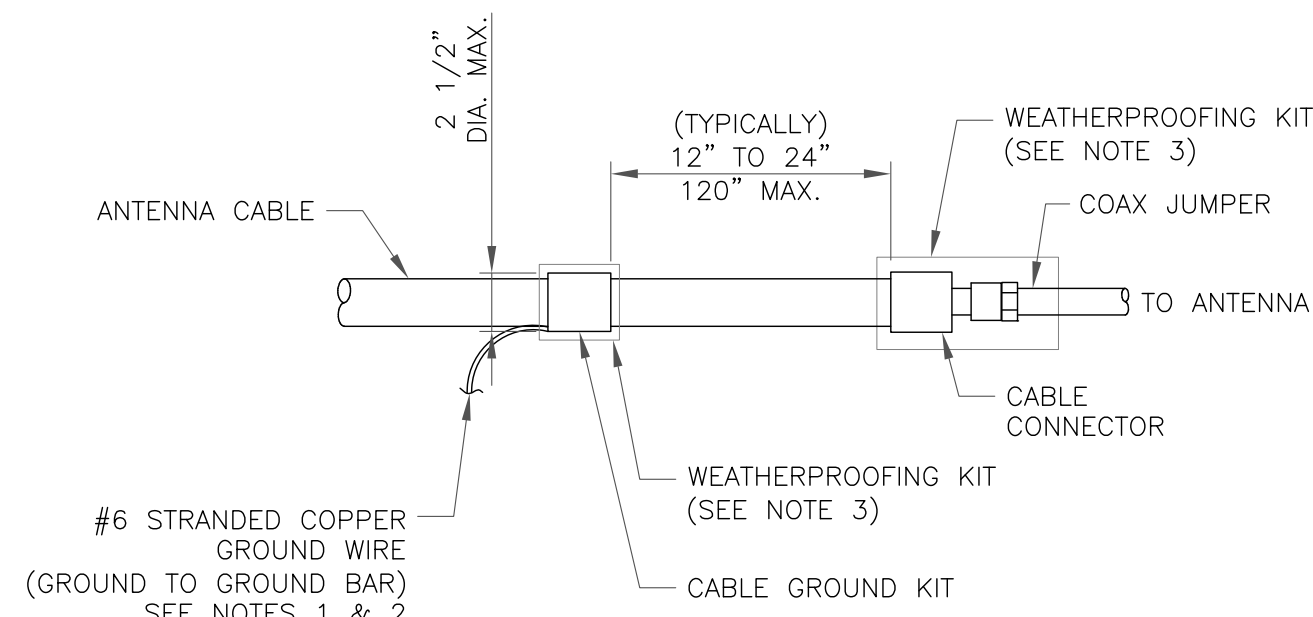
SINGLE CONNECTOR AT GROUND BARS



SINGLE CONNECTOR AT STEEL OBJECTS



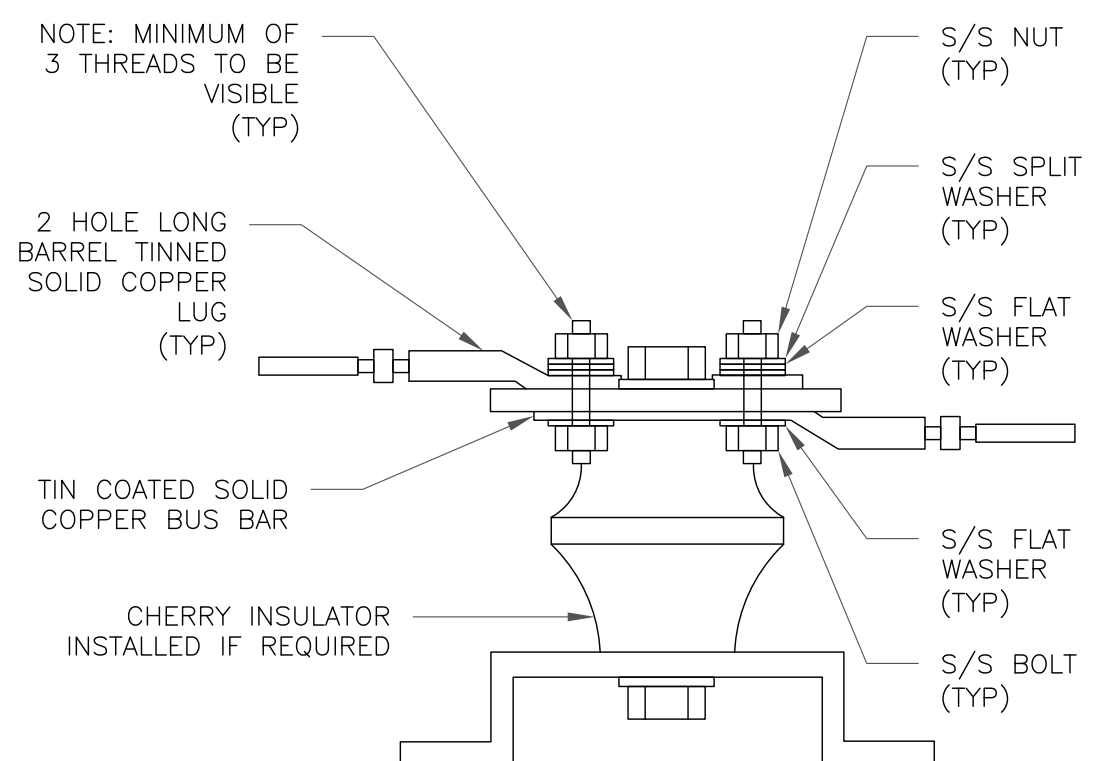
SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS



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

8 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
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:
CTL01019

BU #: 826217
NEWINGTON_1

240 KENSINGTON ROAD
BERLIN, CT 06037

EXISTING
190' -0" MONOPOLE

ISSUED FOR:

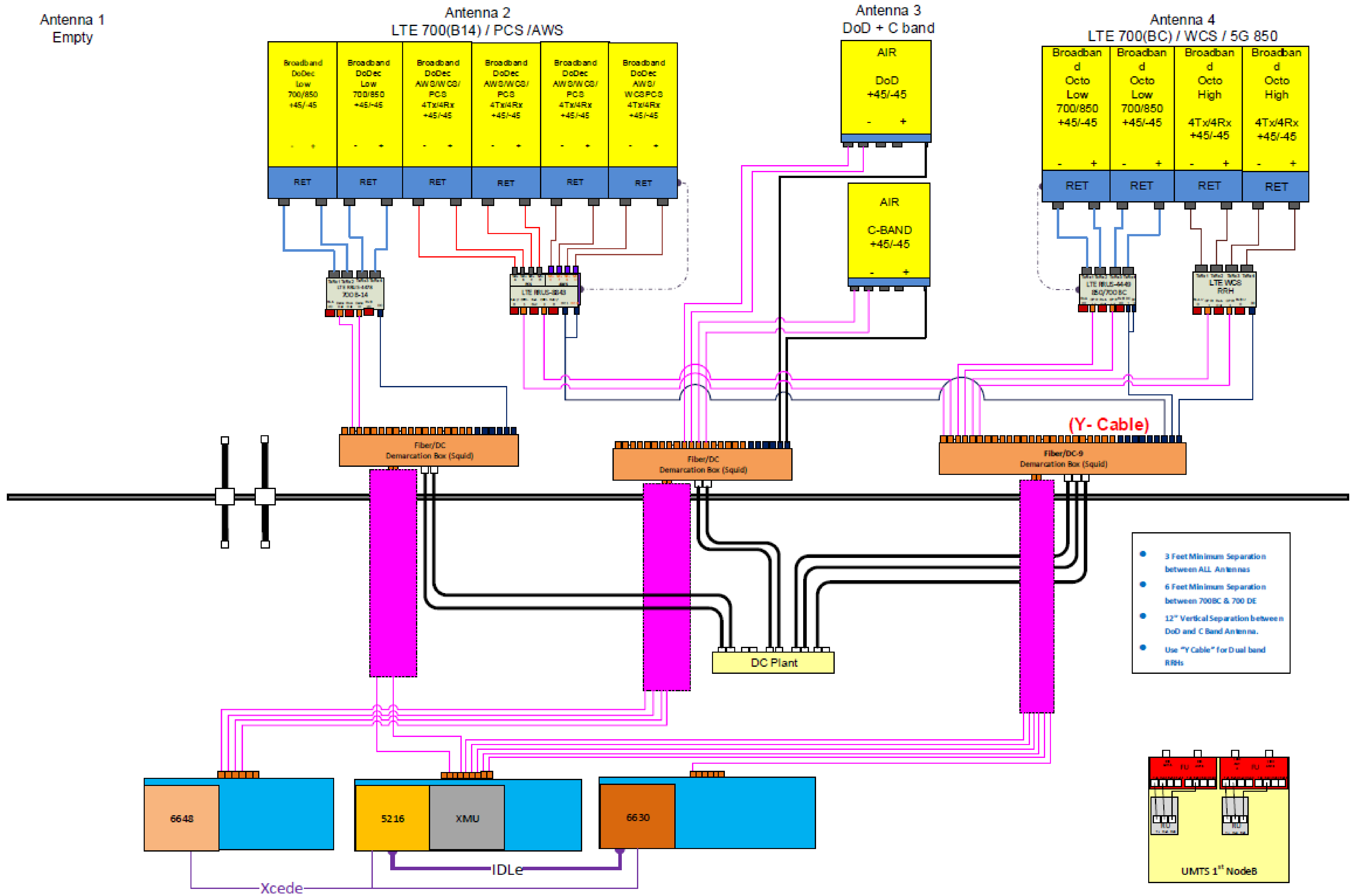
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	12/30/21	HN	PRELIMINARY REVIEW	JTS
B	2/22/22	JTS	PRELIMINARY REVIEW	KT
C	4/11/22	DAS	PRELIMINARY REVIEW	KT
0	7/27/22	GAC	CONSTRUCTION	KT



B&T ENGINEERING, INC.
PEC.001564
Expires 2/10/23

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

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

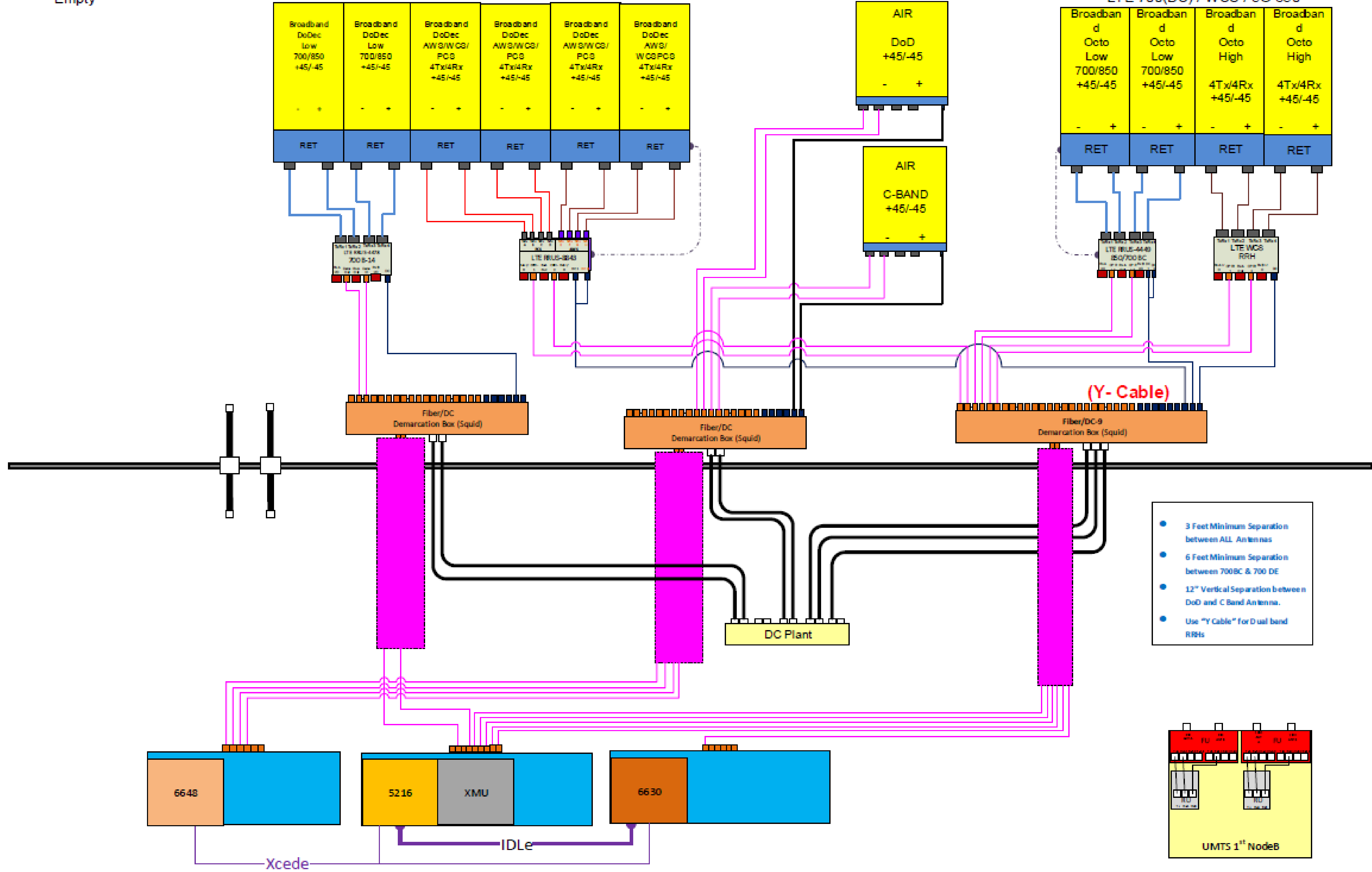


Antenna 1
Empty

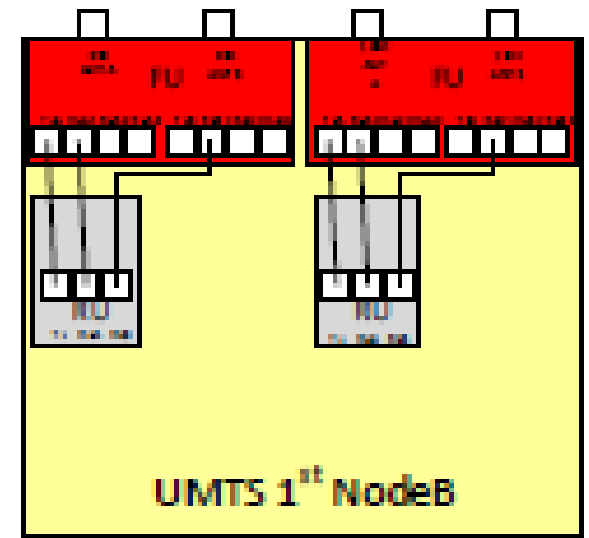
Antenna 2
LTE 700(B14) / PCS / AWS

Antenna 3
DoD + C band

Antenna 4
LTE 700(BC) / WCS / 5G 850



- 3 Feet Minimum Separation between ALL Antennas
- 6 Feet Minimum Separation between 700BC & 700 DE
- 12" Vertical Separation between DoD and C Band Antenna.
- Use "Y Cable" for Dual band RRHs

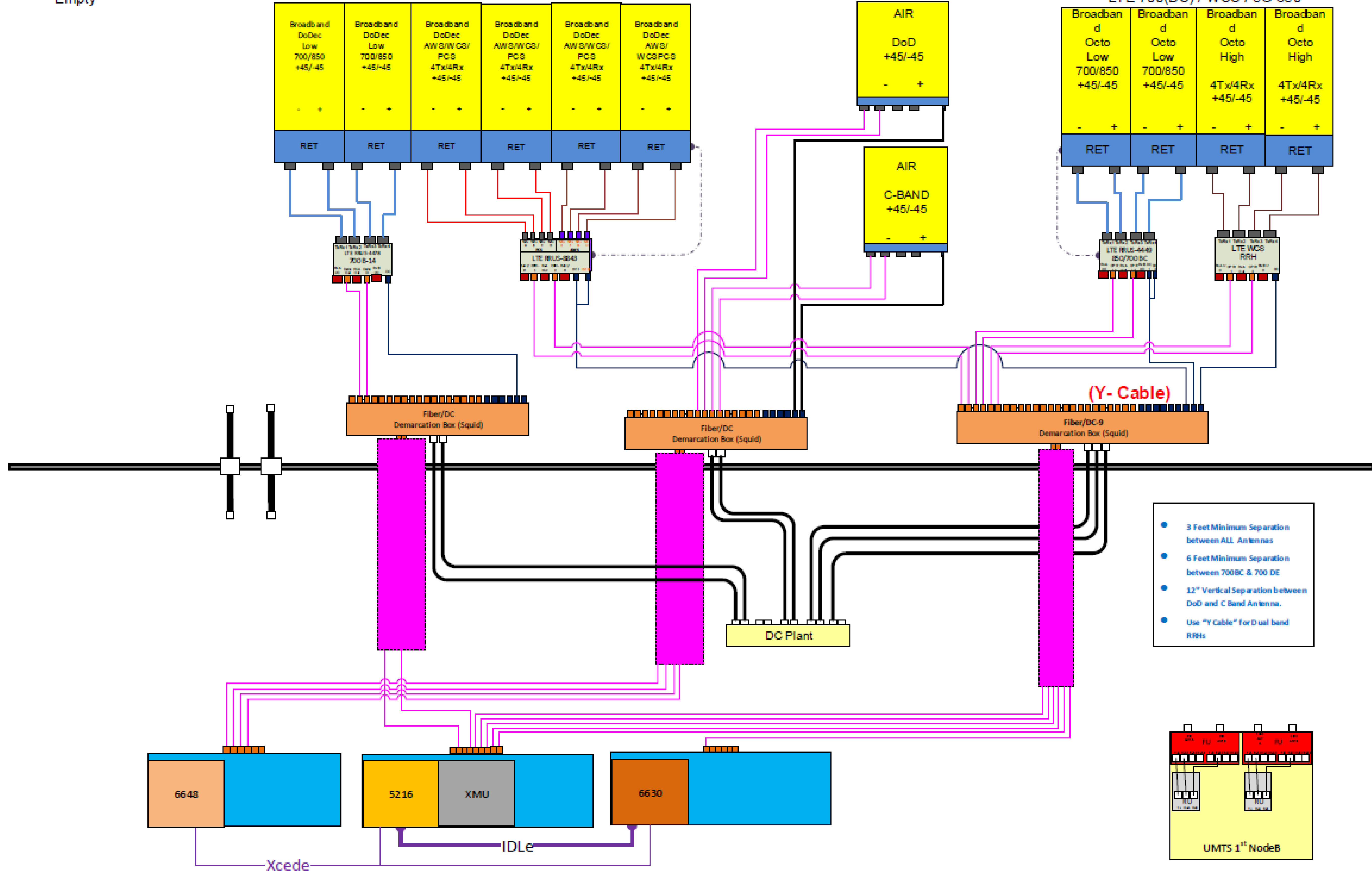


Antenna 1
Empty

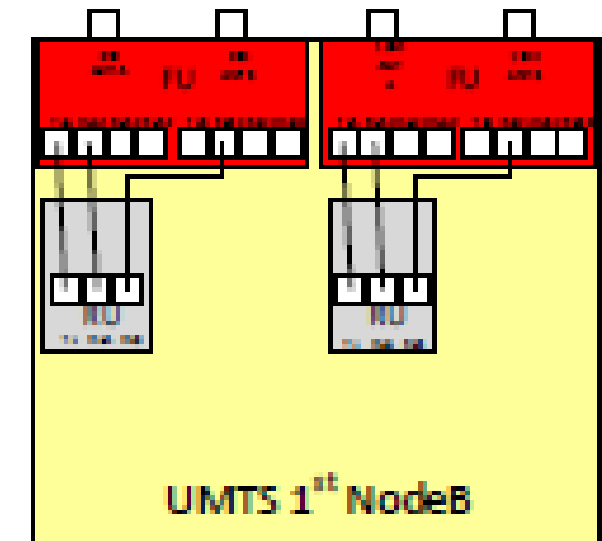
Antenna 2
LTE 700(B14) / PCS / AWS

Antenna 3
DoD + C band

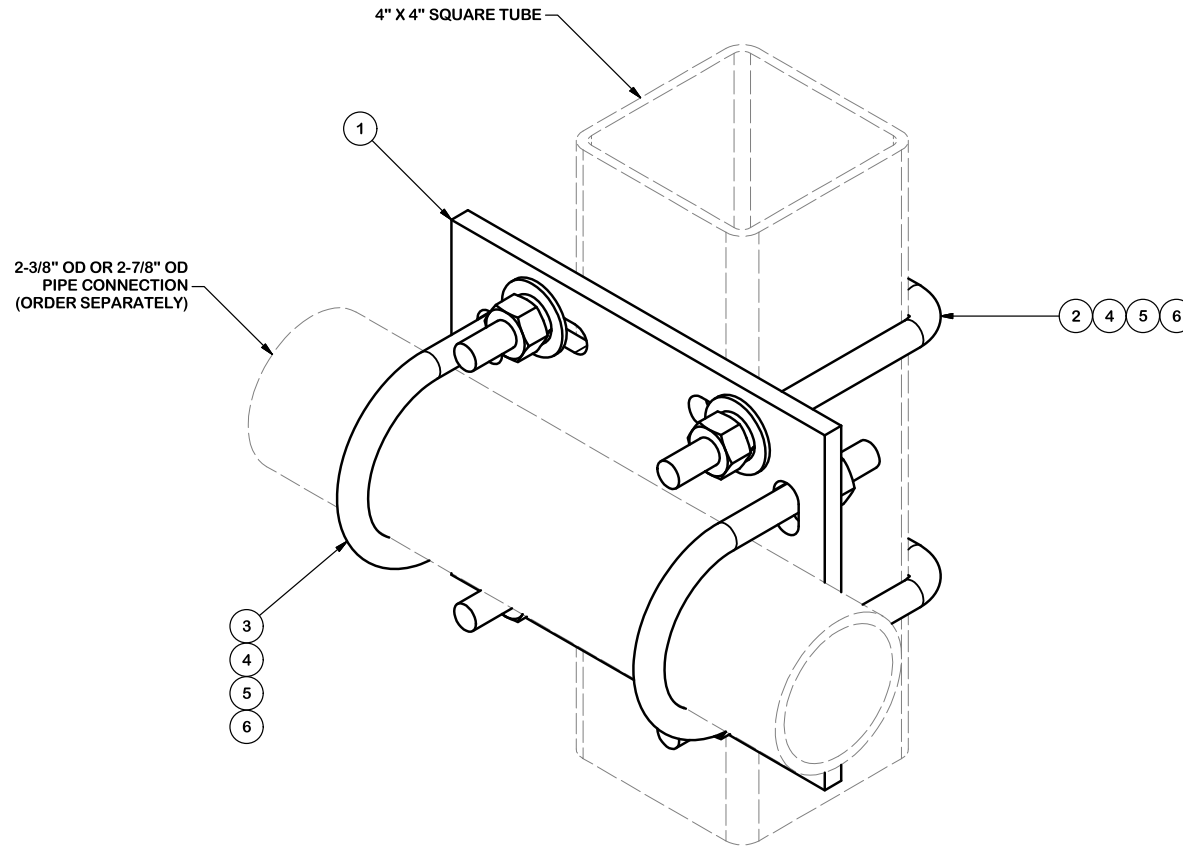
Antenna 4
LTE 700(BC) / WCS / 5G 850



- 3 Feet Minimum Separation between ALL Antennas
- 6 Feet Minimum Separation between 700BC & 700 DE
- 12" Vertical Separation between DoD and C Band Antenna.
- Use "Y Cable" for Dual band RRHs



PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	SCX4	CROSSOVER PLATE	8 1/2 in	6.02	6.02
2	2	X-SUB1418	SQUARE U-BOLT 0.5" DIA. X 4.125" IW X 6" IL X 3" TR		0.98	1.95
3	2	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.60	1.19
3	2	X-UB1300	1/2" X 3" X 5" X 2" U-BOLT (HDG.)		0.67	1.34
4	8	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	0.27
5	8	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.11
6	8	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.57
					TOTAL WT. #	11.35



TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
 SAWED, SHEARED AND GAS CUT EDGES ($\pm 0.030''$)
 DRILLED AND GAS CUT HOLES ($\pm 0.030''$) - NO CONING OF HOLES
 LASER CUT EDGES AND HOLES ($\pm 0.010''$) - NO CONING OF HOLES
 BENDS ARE $\pm 1/2$ DEGREE
 ALL OTHER MACHINING ($\pm 0.030''$)
 ALL OTHER ASSEMBLY ($\pm 0.060''$)

PROPRIETARY NOTE:
 THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION
**CROSSOVER PLATE KIT
 W/ SQUARE U-BOLTS AND STD. U-BOLTS**

SITE PRO 1
 Engineering Support Team:
 1-888-753-7446

Locations:
 New York, NY
 Atlanta, GA
 Los Angeles, CA
 Plymouth, IN
 Salem, OR
 Dallas, TX

CPD NO.	DRAWN BY	ENG. APPROVAL
	CSL 9/18/2018	3RD PARTY
CLASS	DRAWING USAGE	CHECKED BY
87	CUSTOMER	BMC 11/12/2018

PART NO.	SQCX4-K
DWG. NO.	SQCX4-K