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

October 4, 2022

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

RE: **Notice of Exempt Modification for ATT**
Crown #855662; ATT Site ID CTL05138
340 Bloomfield Avenue, Windsor, CT 06095
Latitude: 41° 51′ 8.97″ / Longitude: -72° 39′ 38.16″

Dear Ms. Bachman:

AT&T currently maintains six (6) antennas at the 148-foot level of the existing 148-foot monopole tower at 340 Bloomfield Avenue, Windsor, CT. The tower is owned by Crown Castle USA Inc. and the property is owned by the Town of Windsor. AT&T now intends to replace six (6) antennas with six (6) new antennas and ancillary equipment at the 148-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:

(1) CCI-TPA65R-BU8DA-K Antenna
(1) COMMSCOPE-NNHHS4-65C-R5 Antenna
(2) CCI-TPA65R-BU6DA-K Antenna
(2) COMMSCOPE-NNHHS4-65B-R5 Antennas
(12) COMMSCOPE-TMAT192123B68-31 Amplifier
(6) COMMSCOPE-STX61742Q-43 Combiner
(18) Coax Cables 1-5/8"
Mount modification per mount modification drawing

Remove:

(3) KATHREIN-800-10121 Antennas
(1) QUINTEL-QS86512-2 Antennas
(2) QUILTEN-QS66512-2 Antennas
(3) ERICSSON-RRUS-11 B12 RRHs
(3) ERICSSON-RRUS-12 B2+A2 RRHs
(1) RAYCAP-DC6-48-60-18-8F SQUID
Rotate platform mount +/- 30 degrees counter-clockwise

Ground:

Install New:

(2) 23" Racks w/Unistrut
(6) COMMSCOPE-STX61742Q-43 Combiner
(72) Polyphaser-TSXDC-4310FM Surge Protector
(12) KATHREIN-782-11055 BTS
(3) ERICSSON-4449 B5/B12
(3) ERICSSON-8843 B2/B66A
(3) ERICSSON-4478 B14
(3) ERICSSON-8863 N77
(1) 6630 w/IDLE
(1) 6648 w/XCEDE Cable
(4) Rectifiers

Remove:

Decomm (1) UMTS Cabinet

The facility was approved by the Town of Windsor on October 25, 2000. 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 Mayor Donald Trinks, as both the municipality and property owner, Town Planner Eric Barz, 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

Attachments
cc:

Mayor Donald Trinks
Windsor Town Hall
275 Broad Street
Windsor, CT 06095
860-285-1800

Town Planner Eric Barz
Windsor Town Hall
275 Broad Street
Windsor, CT 06095
860-285-1981

Crown Castle, Tower Owner

From: TrackingUpdates@fedex.com
To: Tatasciore, Domenica
Subject: FedEx Shipment 770111689213: Your package has been delivered
Date: Wednesday, October 5, 2022 10:27:53 AM

FedEx

Hi. Your package was delivered Wed, 10/05/2022 at 10:15am.

Delivered to 275 BROAD ST, WINDSOR, CT 06095
Received by L.WHITE

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 770111689213

FROM Domenica Tatasciore
1800 West Park Drive

	Suite 200 WESTBOROUGH, MA, US, 01581
TO	Town of Windsor Mayor Donald Trinks 275 Broad Street WINDSOR, CT, US, 06095
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Tue 10/04/2022 05:14 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	WINDSOR, CT, US, 06095
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

From: TrackingUpdates@fedex.com
To: Tatasciore, Domenica
Subject: FedEx Shipment 770111702144: Your package has been delivered
Date: Wednesday, October 5, 2022 10:29:13 AM

Hi. Your package was delivered Wed, 10/05/2022 at 10:15am.

Delivered to 275 BROAD ST, WINDSOR, CT 06095
Received by L.WHITE

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 770111702144

FROM Domenica Tatasciore
1800 West Park Drive

	Suite 200 WESTBOROUGH, MA, US, 01581
TO	Town of Windsor Eric Barz, Town Planner 275 Broad Street WINDSOR, CT, US, 06095
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Tue 10/04/2022 05:14 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	WINDSOR, CT, US, 06095
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	2.00 LB
SERVICE TYPE	FedEx Priority Overnight

TOWN OF WINDSOR

First in Connecticut. First for its citizens.

October 25, 2000

Cuddy & Feder & Worby LLP
ATTN: Daniel F. Leary
90 Maple Avenue
White Plains, NY 10601-5196

Subject: **Special Use #546** - Wireless Telecommunications Tower, 340 Bloomfield Avenue, Zoning Regulations Sections 12.2 & 2.2.19E(1), NZ Zone, Town of Windsor/AT&T Wireless PCS, LLC

Site Plan #308E - Revision, Wireless Telecommunications Tower, 340 Bloomfield Avenue, NZ Zone, Town of Windsor/AT&T Wireless PCS, LLC

Dear Mr. Leary:

At its meeting on October 10, 2000 the Windsor Town Planning & Zoning Commission took the following action on the subject applications:

Approved subject to the following condition:

1) Final approval of the Fire Marshal regarding fire safety issues

Approval includes the following distance waiver:

1) 83 feet for Bloomfield Avenue south of site

Very truly yours,

Town Planning & Zoning Commission

/mm

I, Anita M. Mips, Chairperson of the Windsor Town Planning and Zoning Commission, hereby certify that on October 10, 2000 the Planning and Zoning Commission of the Town of Windsor granted approval of Special Use Application #546 for a Wireless Telecommunications Tower with a monopole height of 150 feet plus 20-foot Town public service whip antennas for a total height of 170 feet, under Zoning Regulations Sections 12.2 & 2.2.19E(1), subject to the following condition:

1) **Final approval of the Fire Marshal regarding fire safety issues.**

This approval also includes the following waiver in accordance with Zoning Regulations Section 12.1:

1) **a waiver of the fall zone distance requirement for 83 feet in relation to the distance of the tower from Bloomfield Avenue, 340 feet being required, 257 feet being proposed.**

Said Special Use was granted for the property located at: **340 Bloomfield Avenue**

The owner of record of said parcel is: **Town of Windsor**

Dated at Windsor, Connecticut, this 30th **day of November, 2000**

_____ **Chairperson**

Public Act #75-317

Received for Record this _____ **day of** _____**, 2000**

_____ **Attest: Town Clerk**

Property Location 340 BLOOMFIELD AVE | Map ID 54/ 456/ 98/ / | Bldg Name | State Use 903C
Vision ID 5910 | Account # 03788.00 | Bldg # 1 | Sec # 1 of 1 | Card # 1 of 2 | Print Date 02-01-2022 12:00:19

CURRENT OWNER

WINDSOR TOWN OF
PUBLIC SAFETY COMPLEX
275 BROAD STREET

WINDSOR CT 06095

TOPO	UTILITIES	STRT / ROAD	LOCATION
1 Level	2 Public Water	1 Paved	
	3 Public Sewer		

SUPPLEMENTAL DATA

Alt Prcl ID	3788	CTRACT	4736.02
INC:		CBLOCK	208
GH		DIST	
		HEART	
2007	1827350	GL YEAR	
GIS ID	3788	Assoc Pid#	

CURRENT ASSESSMENT

Description	Code	Appraised	Assessed
EX COM LN	21	348,800	244,160
EX COM BL	22	4,995,800	3,497,060
EX CM OTB	25	99,700	69,790
	Total	5,444,300	3,811,010

6164
WINDSOR, CT

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE		SALE DATE	Q/U	V/I	SALE PRICE	VC
WINDSOR TOWN OF	0190	0568	08-06-1963	U	V	0	

PREVIOUS ASSESSMENTS (HISTORY)

Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed
2021	21	244,160	2020	21	244,160	2019	21	244,160
	22	3,497,060		22	1,871,940		22	1,871,940
	25	69,790		25	69,790		25	69,790
	Total	3,811,010		Total	2,185,890		Total	2,185,890

EXEMPTIONS

Year	Code	Description	Amount
2011	BAAX	MUNICIPAL	0.00
		Total	0.00

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm Int

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

Nbhd	Sub	Nbhd Name	B	Tracing	Batch
200	A				

NOTES

03788.00
54-456-98
WINDSOR PUBLIC SAFETY
COMPLEX
V1279 P152 ELEC EASEMENT
.05AC REMOVED & ASSESSED
TO AT&T WIRELESS FOR CELL
TOWER 10/01/2001

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	4,981,300
Appraised Xf (B) Value (Bldg)	14,500
Appraised Ob (B) Value (Bldg)	99,700
Appraised Land Value (Bldg)	348,800
Special Land Value	0
Total Appraised Parcel Value	5,444,300
Valuation Method	C
Total Appraised Parcel Value	5,444,300

BUILDING PERMIT RECORD

Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments
SP-210425	03-01-2021	FP	Fire Protect	1,740		0		Install (2) Ansul kitchen hood fi
E-210386	03-01-2021	EL	Electric	95,365		0		Please see attached scope of
SP-202281	11-23-2020	FP	Fire Protect	106,500		0		Demo existing system and inst
E-202664	11-10-2020	EL	Electric	92,000		0		Install control wiring for HVAC
P-201529	10-07-2020	RE	Renovation			0		Renovation of existing police s
B-201529-T	09-11-2020	CM	Commercial	11,000		0		Trailer 40'x10'. Construction jo
E-201529	08-31-2020	EL	Electric	1,250,000		0		Windsor Fire Department & E

VISIT / CHANGE HISTORY

Date	Id	Type	Is	Cd	Purpost/Result
10-01-2021	LL			20	Bldg Permit Insp
06-19-2015	LL			20	Bldg Permit Insp
06-19-2013	LL			20	Bldg Permit Insp
05-02-2012	WS			95	Desk Review
03-31-1988	GH			OO	

LAND LINE VALUATION SECTION

B	Use Code	Description	Zone	Land Type	Land Units		Unit Price	I. Factor	Site Index	Cond.	Nbhd.	Nhbd Adj	Notes	Location Adjustment		Adj Unit Pric	Land Value
1	903C	Municipal MDL-9	NZ		3.000	AC	82,000.00	1.00000	C	1.00	200	1.400			0		344,400
1	9030	Municipal MDL-	NZ		1.650	AC	9,500.00	1.00000	0	0.20	200	1.400			0		4,400
				Total Card Land Units	4.650	AC	Parcel Total Land Area:		4.650							Total Land Value	348,800

Property Location 340 BLOOMFIELD AVE | Map ID 54/ 456/ 98/ / | Bldg Name | State Use 903C
Vision ID 5910 | Account # 03788.00 | Bldg # 1 | Sec # 1 of 1 | Card # 1 of 2 | Print Date 02-01-2022 12:00:20

CONSTRUCTION DETAIL

Element	Cd	Description
Style:	59	Fire Station
Model	94	Comm/Ind
Grade	09	Excellent
Stories:	1	1 Story
Occupancy		
Exterior Wall 1	19	Brick Veneer
Exterior Wall 2		
Roof Structure	01	Flat
Roof Cover	04	T&G/Rubber
Interior Wall 1	05	Drywall
Interior Wall 2		
Interior Floor 1	06	Inlaid Sht Gds
Interior Floor 2	03	Concrete
Heating Fuel	03	Gas
Heating Type	04	Forced Air
AC Type	03	Central
Bldg Use	903C	Municipal MDL-94
Total Rooms		
Total Bedrms	00	
Total Baths	2	
Heat/AC	01	Heat/AC Pkgs
Frame Type	03	Masonary
Baths/Plumbing	02	Average
Ceiling/Wall	06	Ceil & Walls
Rooms/Prtns	02	Average
Wall Height	10.00	
% Comn Wall	0.00	
1st Floor Use:	903C	

CONSTRUCTION DETAIL (CONTINUED)

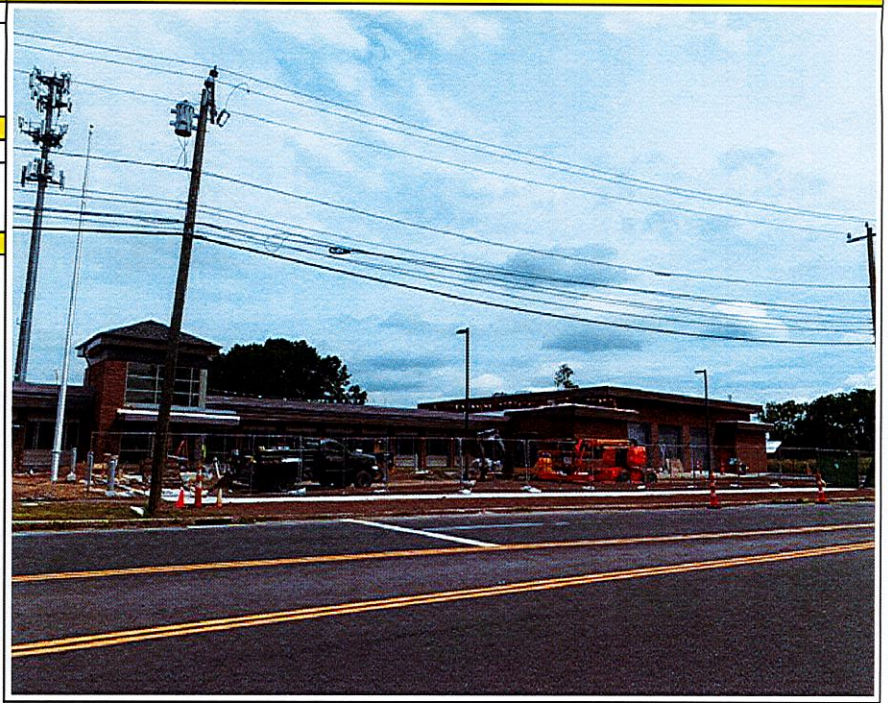
Element	Cd	Description

MIXED USE

Code	Description	Percentage
903C	Municipal MDL-94	100
		0
		0

COST / MARKET VALUATION

RCN	4,941,402
Year Built	1978
Effective Year Built	
Depreciation Code	G
Remodel Rating	
Year Remodeled	
Depreciation %	8
Functional Obsol	0
External Obsol	0
Trend Factor	1
Condition	UC
Condition %	90
Percent Good	90
Cns Sect Rcnld	4,447,300
Dep % Ovr	
Dep Ovr Comment	
Misc Imp Ovr	
Misc Imp Ovr Comment	
Cost to Cure Ovr	
Cost to Cure Ovr Comment	

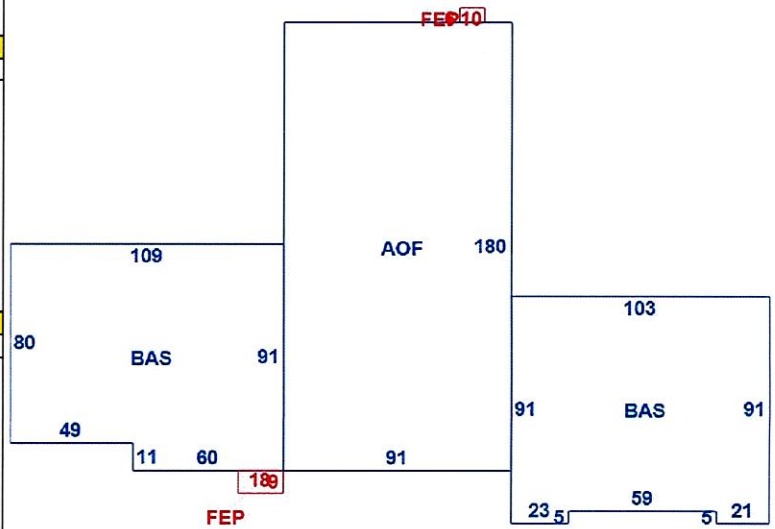


OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)

Code	Descripti	Sub	Sub Ty	L/B	Units	Unit Price	Yr Blt	Cond. Cd	% Gd	Grade	Grade Ad	Appr. V
PAV1	PAVING-			L	40,00	2.50	2003		60		0.00	60,000
LT1	LIGHTS-			L	11	1625.00	2003		75		0.00	13,400
LT2	W/DOU			L	3	2300.00	2003		75		0.00	5,200
SHD1	SHED F			L	552	8.00	2004		100		0.00	4,400
SHD1	SHED F			L	360	8.00	2012		94		0.00	2,700
TNK5	ELEVAT			L	500	4.00	2018		100		0.00	2,000

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
AOF	Office	16,380	16,380		141.30	2,314,494
BAS	First Floor	18,458	18,458		141.30	2,608,115
FEP	Porch, Enclosed	0	222		84.65	18,793
	Ttl Gross Liv / Lease Area	34,838	35,060			4,941,402



Property Location 340 BLOOMFIELD AVE | Map ID 54/ 456/ 98/ / | Bldg Name | State Use 903C
Vision ID 5910 | Account # 03788.00 | Bldg # 2 | Sec # 1 of 1 | Card # 2 of 2 | Print Date 02-01-2022 12:00:20

CURRENT OWNER

WINDSOR TOWN OF
PUBLIC SAFETY COMPLEX
275 BROAD STREET
WINDSOR CT 06095

TOPO	UTILITIES	STRT / ROAD	LOCATION
1 Level	2 Public Water	1 Paved	
	3 Public Sewer		

SUPPLEMENTAL DATA

Alt Prcl ID	3788	CTRACT	4736.02
INC:		CBLOCK	208
GH		DIST	
		HEART	
2007	1827350	GL YEAR	
GIS ID	3788	Assoc Pid#	

CURRENT ASSESSMENT

Description	Code	Appraised	Assessed
EX COM LN	21	348,800	244,160
EX COM BL	22	4,995,800	3,497,060
EX CM OTB	25	99,700	69,790
	Total	5,444,300	3,811,010

6164
WINDSOR, CT

VISION

RECORD OF OWNERSHIP

	BK-VOL/PAGE		SALE DATE	Q/U	V/I	SALE PRICE	VC
WINDSOR TOWN OF	0190	0568	08-06-1963	U	V	0	

PREVIOUS ASSESSMENTS (HISTORY)

Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed
2021	21	244,160	2020	21	244,160	2019	21	244,160
	22	3,497,060		22	1,871,940		22	1,871,940
	25	69,790		25	69,790		25	69,790
	Total	3,811,010		Total	2,185,890		Total	2,185,890

EXEMPTIONS

Year	Code	Description	Amount
2011	BAAX	MUNICIPAL	0.00
		Total	0.00

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm Int

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

Nbhd	Sub	Nbhd Name	B	Tracing	Batch
200	A				

NOTES

WINDSOR AMBULANCE
FACILITY

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	4,981,300
Appraised Xf (B) Value (Bldg)	14,500
Appraised Ob (B) Value (Bldg)	99,700
Appraised Land Value (Bldg)	348,800
Special Land Value	0
Total Appraised Parcel Value	5,444,300
Valuation Method	C
Total Appraised Parcel Value	5,444,300

BUILDING PERMIT RECORD

Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments

VISIT / CHANGE HISTORY

Date	Id	Type	Is	Cd	Purpost/Result

LAND LINE VALUATION SECTION

B	Use Code	Description	Zone	Land Type	Land Units		Unit Price	I. Factor	Site Index	Cond.	Nbhd.	Nbhd Adj	Notes	Location Adjustment		Adj Unit Pric	Land Value
2	903C	Municipal MDL-9	NZ		0	SF	0.00	0.01000	0	0.01		1.000			0		0
				Total Card Land Units	0.000	AC	Parcel Total Land Area:		4.650							Total Land Value	348,800

Property Location 340 BLOOMFIELD AVE | Map ID 54/ 456/ 98/ / | Bldg Name | State Use 903C
Vision ID 5910 | Account # 03788.00 | Bldg # 2 | Sec # 1 of 1 | Card # 2 of 2 | Print Date 02-01-2022 12:00:20

CONSTRUCTION DETAIL

Element	Cd	Description
Style:	59	Fire Station
Model	94	Comm/Ind
Grade	03	Average
Stories:	1	1 Story
Occupancy		
Exterior Wall 1	20	Brick/Masonry
Exterior Wall 2		
Roof Structure	01	Flat
Roof Cover	04	T&G/Rubber
Interior Wall 1	05	Drywall
Interior Wall 2		
Interior Floor 1	03	Concrete
Interior Floor 2		
Heating Fuel	03	Gas
Heating Type	04	Forced Air
AC Type	03	Central
Bldg Use	903C	Municipal MDL-94
Total Rooms		
Total Bedrms	00	
Total Baths	2	
Heat/AC	02	Heat/AC Split
Frame Type	05	Steel
Baths/Plumbing	02	Average
Ceiling/Wall	04	Ceil & Min Wl
Rooms/Prtns	02	Average
Wall Height	15.00	
% Comn Wall	0.00	
1st Floor Use:	903C	

CONSTRUCTION DETAIL (CONTINUED)

Element	Cd	Description

MIXED USE

Code	Description	Percentage
903C	Municipal MDL-94	100
		0
		0

COST / MARKET VALUATION

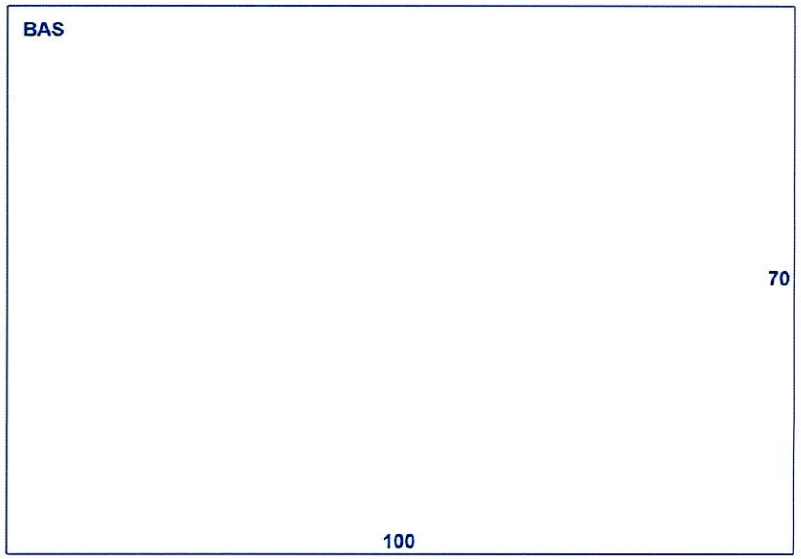
RCN	643,370
Year Built	1991
Effective Year Built	
Depreciation Code	A
Remodel Rating	
Year Remodeled	
Depreciation %	17
Functional Obsol	0
External Obsol	0
Trend Factor	1
Condition	
Condition %	
Percent Good	83
Cns Sect RcnId	534,000
Dep % Ovr	
Dep Ovr Comment	
Misc Imp Ovr	
Misc Imp Ovr Comment	
Cost to Cure Ovr	
Cost to Cure Ovr Comment	

OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)

Code	Descripti	Sub	Sub Ty	L/B	Units	Unit Price	Yr Blt	Cond. Cd	% Gd	Grade	Grade Ad	Appr. V
SHD1	SHED F			L	288	8.00	1991		100		0.00	2,300
SPR1	SPRINK			B	7,000	2.50	2001		83		0.00	14,500
FN4	FENCE-			L	500	25.75	2003		75		0.00	9,700

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
BAS	First Floor	7,000	7,000		91.91	643,370
	Ttl Gross Liv / Lease Area	7,000	7,000			643,370



Parcels

Abutters

Town of Windsor, CT

Town of Windsor makes no warranties, expressed or implied concerning the accuracy, completeness, reliability or suitability of this data. The Town of Windsor does not assume any liability associated with the use or misuse of this information.

N

W E

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Printed: 9/27/2022 12:05 PM

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

Site Name:	WINDSORCENTRAL
Crown Castle Site#	855662
Site ID:	CTL05138
Project Name:	5G NR 1SR C-BAND
Address:	340 BLOOMFIELD AVENUE, WINDSOR, CT 06095
County:	HARTFORD
Latitude:	41.8524919
Longitude:	-72.6605989
Structure Type:	MONOPOLE
Property Owner:	TOWN OF WINDSOR
Property Contact:	VERONICA CHAPMAN

AT&T Existing Facility

Report Information

Report Writer: Sushil Dogra **Report Generated Date:** 09-28-2022

Site Compliance Statement

Compliance Status	Compliant
Cumulative General Population % MPE (Ground Level)	37.31%

September 28, 2022

Emissions Analysis for Site: **CTL05138– WINDSORCENTRAL**

MobileComm Professionals, Inc was directed to analyze the proposed AT&T facility located at **340 BLOOMFIELD AVENUE, WINDSOR, CT 06095**, 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 milliwatts per square centimeter (mW/cm^2). The number of mW/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 public 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 public 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 milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the 700 and 850 MHz Bands are approximately 0.467 mW/cm^2 and 0.567 mW/cm^2 respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS), 2300 MHz (WCS), 3450 MHz (DoD Band) and 3840 MHz (C Band) bands is 1 mW/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.

1. Theoretical Calculations

Calculations were done for the proposed AT&T Wireless antenna facility located at **340 BLOOMFIELD AVENUE, WINDSOR, CT 06095** 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 all calculations, all equipment was calculated using the following assumptions:

1) 4 LTE channels (700 MHz Band 12) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
2) 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.
3) 4 LTE/5G channels (1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
4) 4 LTE channels (700 MHz Band 14) 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 (2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
6) 8 5G channels (C Band - 3840 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
7) 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.
8) 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.

9) The antennas used in this modeling are the CCI TPA65R-BU8D for the 700 MHz(Band 12) / 850 MHz / 1900 MHz channel(s), the CommScope NNHHS4-65C-R5 for the 700 MHz(B14) / 2100 MHz / 3840 MHz (C Band) channel(s) in Sector A, CCI TPA65R-BU6D for the 700 MHz(Band 12) / 850 MHz / 1900 MHz channel(s), the CommScope NNHHS4-65B-R5 for the 700 MHz(B14) / 2100 MHz / 3840 MHz (C Band) channel(s) in Sector B, CCI TPA65R-BU6D for the 700 MHz(Band 12) / 850 MHz / 1900 MHz channel(s), the CommScope NNHHS4-65B-R5 for the 700 MHz(B14) / 2100 MHz / 3840 MHz (C Band) 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.
10) The antenna mounting height centerline of the proposed antennas is 148 feet above ground level (AGL).
11) 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.
12) All calculations were done with respect to uncontrolled / general population threshold limits.

2. Antenna Inventory & Power Data

Sector	Ant ID	Operator	Antenna Mfg	Antenna Model	Antenna Type	FREQ. (MHz)	TECH.	AZ. (^{0})	H B W (^{0})	Antenna Gain (dBd)	Antenna Aperture (ft)	#of Channels	Transmitter Power (Watts)	Total ERP (Watts)	Total EIRP (Watts)	Total Ant Transmitter Power (Watts)	Total Ant ERP(Watts)	Ant MPE%
A	1	AT&T	CCI	TPA65R-BU8D	Panel	700	LTE(B12)	50	73	13.45	8	4	160.00	3540.95	5809.25	480	14094.91	3.51%
A	1	AT&T	CCI	TPA65R-BU8D	Panel	850	5G	50	64	14.25	8	4	160.00	4257.16	6984.25			
A	1	AT&T	CCI	TPA65R-BU8D	Panel	1900	LTE/5G	50	66	15.95	8	4	160.00	6296.80	10330.47			
A	2	AT&T	Commscope	NNHHS4-65C-R5	Panel	700	LTE(B14)	50	72	13.35	8	4	160.00	3460.35	5677.01	640	38247.47	6.93%
A	2	AT&T	Commscope	NNHHS4-65C-R5	Panel	2100	LTE/5G	50	60	16.15	8	4	160.00	6593.56	10817.33			
A	2	AT&T	Commscope	NNHHS4-65C-R5	Panel	3840	5G	50	24	19.45	8	8	320.00	28193.56	46254.07			
B	3	AT&T	CCI	TPA65R-BU6D	Panel	700	LTE(B12)	160	73	12.35	6	4	160.00	2748.65	4509.41	480	12201.33	2.92%
B	3	AT&T	CCI	TPA65R-BU6D	Panel	850	5G	160	63	12.95	6	4	160.00	3155.88	5177.50			
B	3	AT&T	CCI	TPA65R-BU6D	Panel	1900	LTE/5G	160	66	15.95	6	4	160.00	6296.80	10330.47			
B	4	AT&T	Commscope	NNHHS4-65B-R5	Panel	700	LTE(B14)	160	72	12.45	6	4	160.00	2812.68	4614.45	640	36330.88	6.50%
B	4	AT&T	Commscope	NNHHS4-65B-R5	Panel	2100	LTE/5G	160	59	16.15	6	4	160.00	6593.56	10817.33			
B	4	AT&T	Commscope	NNHHS4-65B-R5	Panel	3840	5G	160	24	19.25	6	8	320.00	26924.64	44172.30			
C	5	AT&T	CCI	TPA65R-BU6D	Panel	700	LTE(B12)	280	73	12.35	6	4	160.00	2748.65	4509.41	480	12201.33	2.92%
C	5	AT&T	CCI	TPA65R-BU6D	Panel	850	5G	280	63	12.95	6	4	160.00	3155.88	5177.50			
C	5	AT&T	CCI	TPA65R-BU6D	Panel	1900	LTE/5G	280	66	15.95	6	4	160.00	6296.80	10330.47			
C	6	AT&T	Commscope	NNHHS4-65B-R5	Panel	700	LTE(B14)	280	72	12.45	6	4	160.00	2812.68	4614.45	640	36330.88	6.50%
C	6	AT&T	Commscope	NNHHS4-65B-R5	Panel	2100	LTE/5G	280	59	16.15	6	4	160.00	6593.56	10817.33			
C	6	AT&T	Commscope	NNHHS4-65B-R5	Panel	3840	5G	280	24	19.25	6	8	320.00	26924.64	44172.30			

Table 2.1: Antenna Inventory & Power Data

Cumulative Site MPE%	
Carrier	**MPE%**
AT&T (Max MPE% at Sector A)	10.45%
T-Mobile	2.14%
Clearwire	0.12%
Verizon	13.87%
Sprint	0.07%
Dish	1.83%
Town of Windsor	8.83%
Site Total MPE%	**37.31%**

Table 2.2: Cumulative Site MPE%

AT&T Max MPE% Per Sector	
AT&T Sector A Total	10.45%
AT&T Sector B Total	9.41%
AT&T Sector C Total	9.41%
Site Total MPE%	**37.31%**

Table 2.3: AT&T MPE% Per Sector

Sector	Ant ID	Operator	Antenna Mfg	Antenna Model	FREQ. (MHz)	TECH.	#of Channels	Transmitter Power (Watts)	Total ERP (Watts)	Total EIRP (Watts)	Height (ft)	Total Power Density (mW/cm^2)	Allowable MPE (mW/cm^2)	Calculated MPE%
A	1	AT&T	CCI	TPA65R-BU8D	700	LTE(B12)	4	160.00	3540.95	5809.25	148.00	0.005816	0.467	1.25%
A	1	AT&T	CCI	TPA65R-BU8D	850	5G	4	160.00	4257.16	6984.25	148.00	0.006992	0.567	1.23%
A	1	AT&T	CCI	TPA65R-BU8D	1900	LTE/5G	4	160.00	6296.80	10330.47	148.00	0.010342	1.000	1.03%
A	2	AT&T	Commscope	NNHHS4-65C-R5	700	LTE(B14)	4	160.00	3460.35	5677.01	148.00	0.005683	0.467	1.22%
A	2	AT&T	Commscope	NNHHS4-65C-R5	2100	LTE/5G	4	160.00	6593.56	10817.33	148.00	0.010829	1.000	1.08%
A	2	AT&T	Commscope	NNHHS4-65C-R5	3840	5G	8	320.00	28193.56	46254.07	148.00	0.046306	1.000	4.63%
													Total	**10.45%**

Table 2.4: Detailed MPE% at AT&T Sector A

3. Compliance Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general public 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 public exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector A	10.45%
Sector B	9.41%
Sector C	9.41%
AT&T Maximum Total (per sector)	10.45%
Site Total MPE%	**37.31%**
Site Compliance Status	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is 37.31% of the allowable FCC established general public 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 within the allowable 100% threshold standard per the federal government.

Date: **May 24, 2022**

Trylon
1825 W. Walnut Hill Lane,
Suite 302
Irving, TX 75038
214-930-1730

Subject:	**Mount Modification Report**	
Carrier Designation:	**AT&T Mobility Equipment Change-Out**	
	Carrier Site Number:	CT5138
	Carrier Site Name:	Windsor Central
	Carrier FA Number:	10092835
Crown Castle Designation:	**BU Number:**	855662
	Site Name:	Windsorcentral
	JDE Job Number:	709486
	Order Number:	608801 Rev. 0
Engineering Firm Designation:	**Trylon Report Designation:**	209426
Site Data:	**340 Bloomfield Avenue, Windsor, Hartford County, CT, 06095**	
	Latitude 41°51'9.34" Longitude -72°39'37.79"	
Structure Information:	**Tower Height & Type:**	**148.0 ft Monopole**
	Mount Elevation:	**148.0 ft**
	Mount Width & Type:	**14.0 ft Platform**

Trylon is pleased to submit this **"Mount Modification 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 **Sufficient***

***Sufficient upon completion of the changes listed in the 'Recommendations' section of this report.**

This analysis has been performed in accordance with the 2018 International Building Code based upon an ultimate 3-second gust wind speed of 117 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Ioana Gurgu

Respectfully Submitted by:
Cliff Abernathy,P.E.

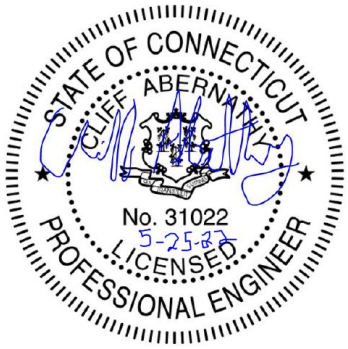


TABLE OF CONTENTS

1) INTRODUCTION

This is an existing 3 sector 14.0 ft Platform, designed by Summit.

The mount has been modified per reinforcement drawings prepared by Fullerton, in July of 2016. Reinforcement consists of the installation of a Handrail Kit.

2) ANALYSIS CRITERIA

Building Code:	2018 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	117 mph
Exposure Category:	C
Topographic Factor at Base:	1.000
Topographic Factor at Mount:	1.000
Ice Thickness:	1.50 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.181
Seismic S_1:	0.055
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	250 lb
Man Live Load at Mount Pipes:	500 lb

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
148.0	148.0	3	CCI Antennas	OPA65R-BU8D	14.0 ft Platform
		3	Kathrein	800482001	
		3	Ericsson	RRUS 4449 B5/B12	
		3	Ericsson	RRUS 4478 B14_CCIV2	
		3	Ericsson	RRUS 8843 B2/B66A	
		3	Raycap	DC6-48-60-18-8F	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	AT&T Mobility Application	608801 Rev.0	CCI Sites
Exposure Category Determination	Crown Castle	5962154	CCI Sites
Mount Manufacturer Drawings	Summit	140R Modular Platform	Trylon
Mount Analysis Report	Fullerton	10327660	CCI Sites
Mount Modification Drawings	Trylon	Appendix E	Trylon

3.1) Analysis Method

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

A tool internally developed, using Microsoft Excel, by Trylon 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 *Tower Mount Analysis* (Revision E).

3.2) Assumptions

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

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

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

4) ANALYSIS RESULTS

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

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1,2,3	Mount Pipe(s)	MP6	148.0	54.0	Pass
	Horizontal(s)	H1		58.4	Pass
	Standoff(s)	M3		32.4	Pass
	Bracing(s)	M9		27.6	Pass
	Kicker(s)	M77		20.8	Pass
	Mount Connection(s)	-		17.9	Pass

Structure Rating (max from all components) =	58.4%

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

4.1) Recommendations

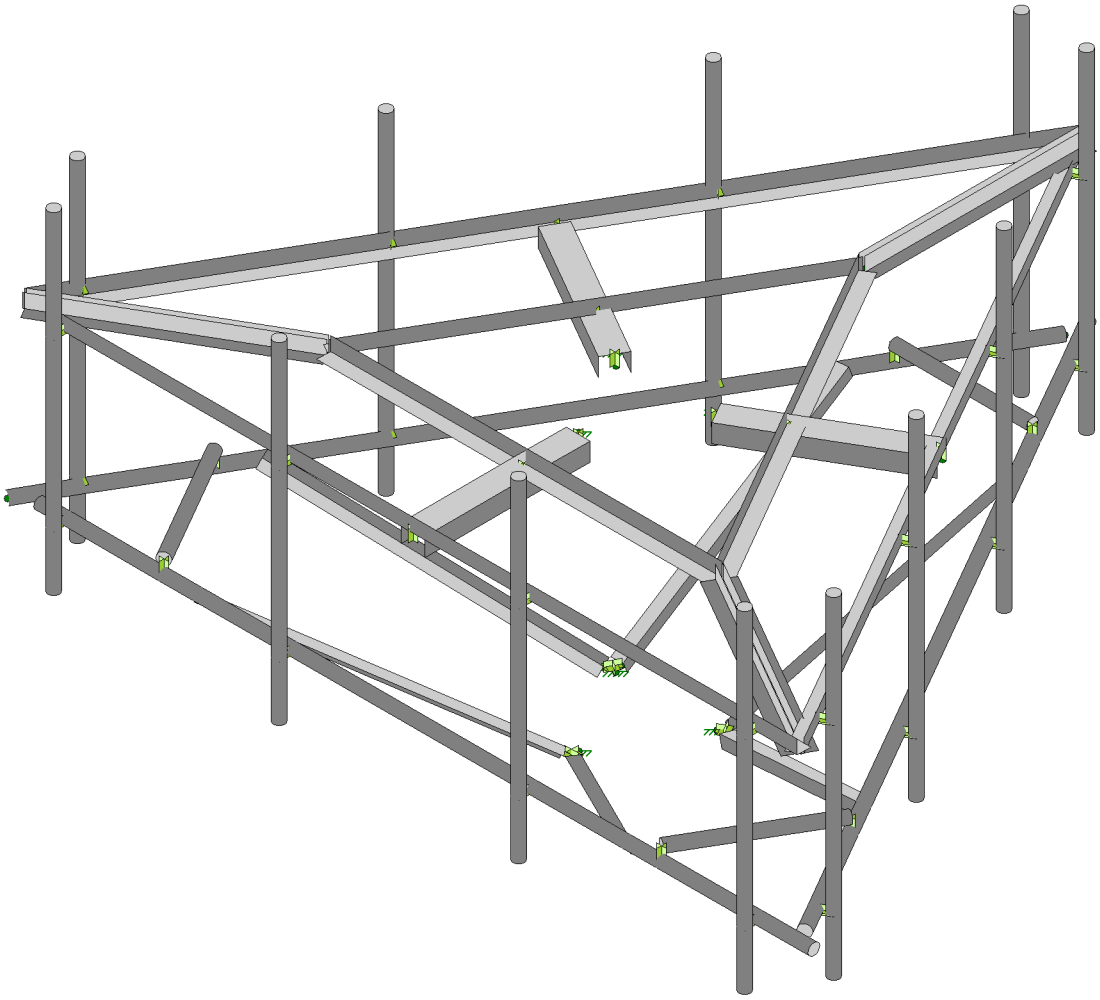
The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the structural modifications listed below must be completed.

1. Install new Site Pro 1, PRK-SFS-L stabilizer kit.

Engineering detail drawings have been provided in Appendix E – Mount Modification Design Drawings. Connection from the mount to the tower and local stresses on the tower are sufficient.

APPENDIX A

WIRE FRAME AND RENDERED MODELS



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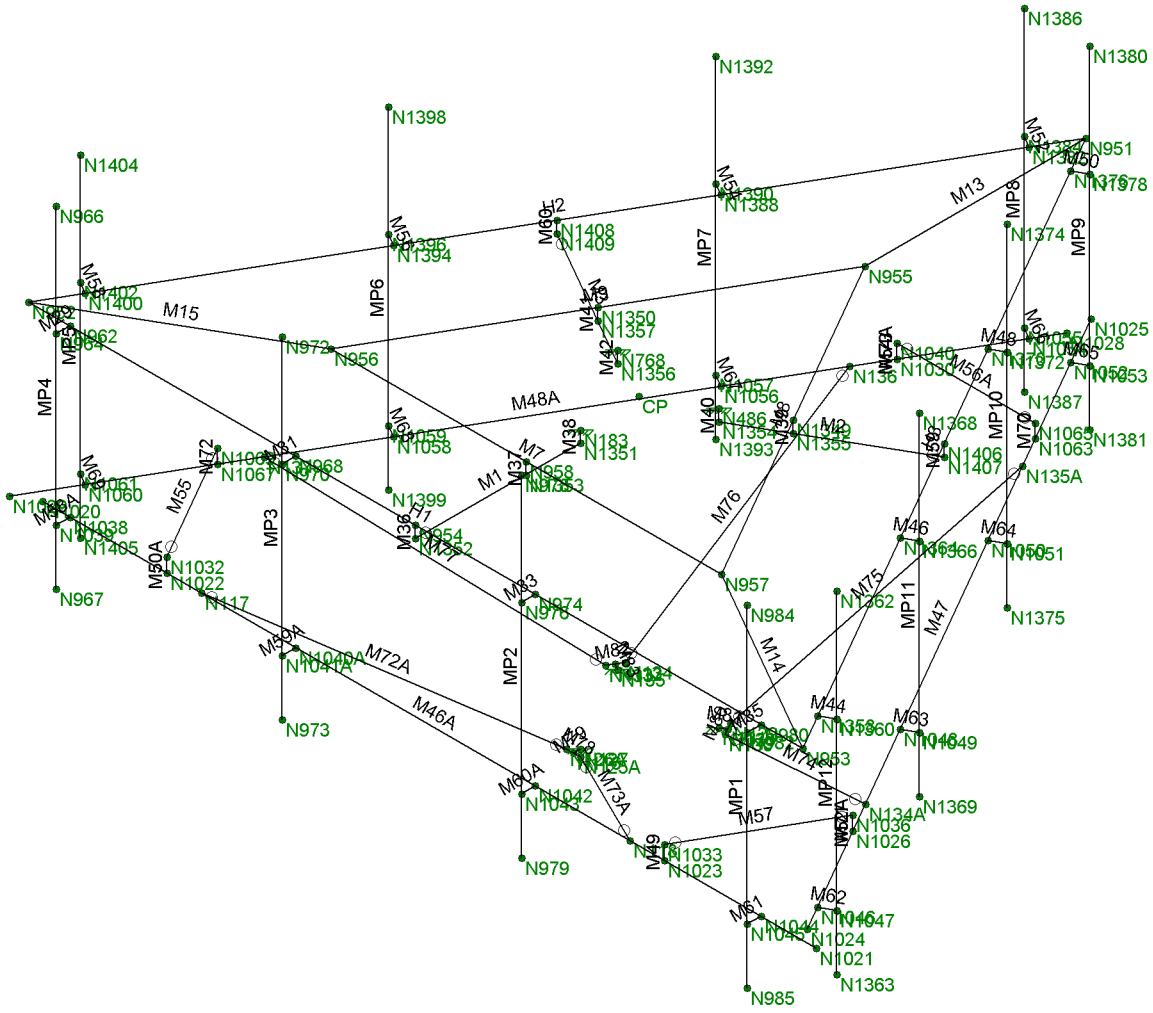

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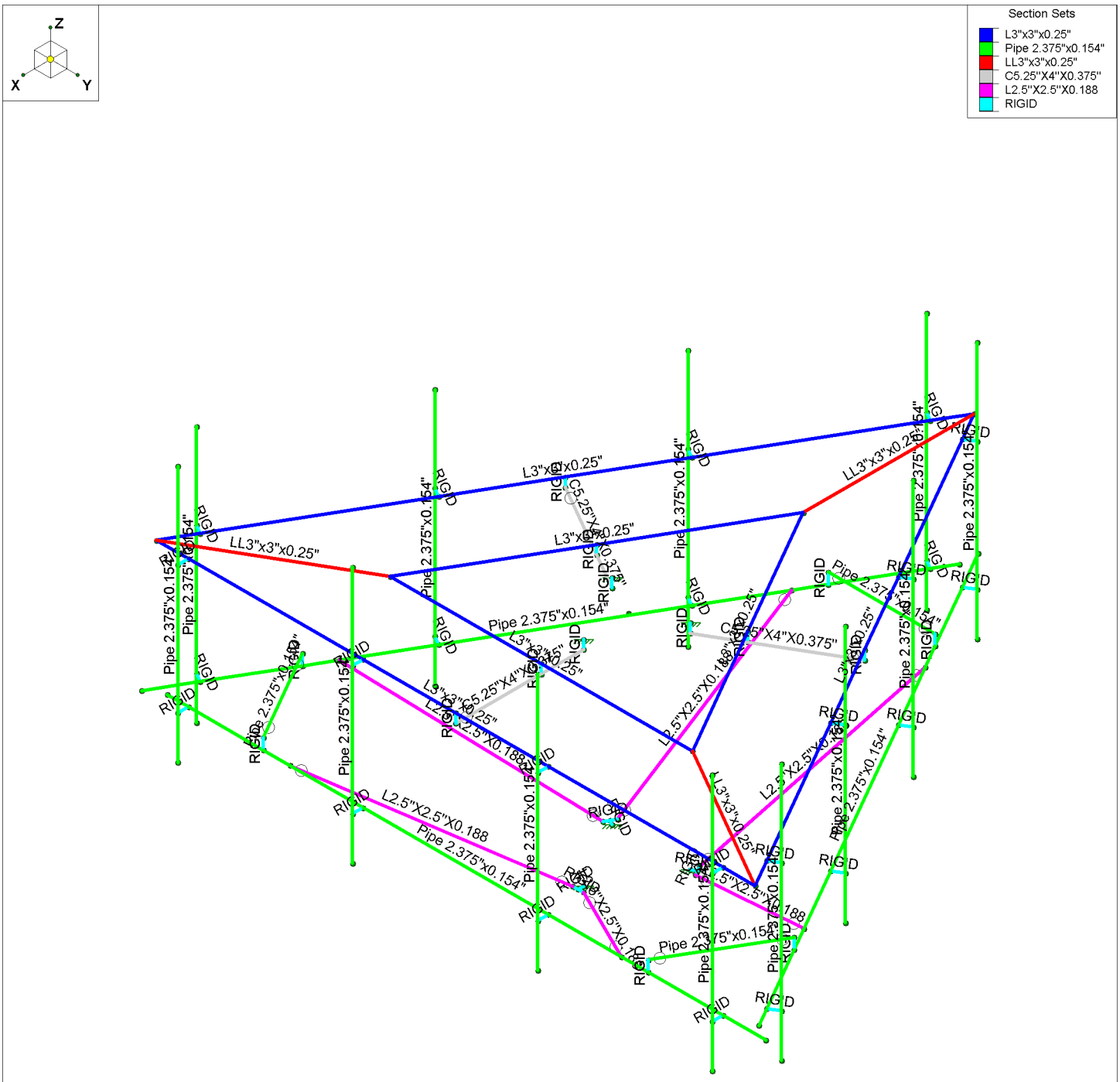

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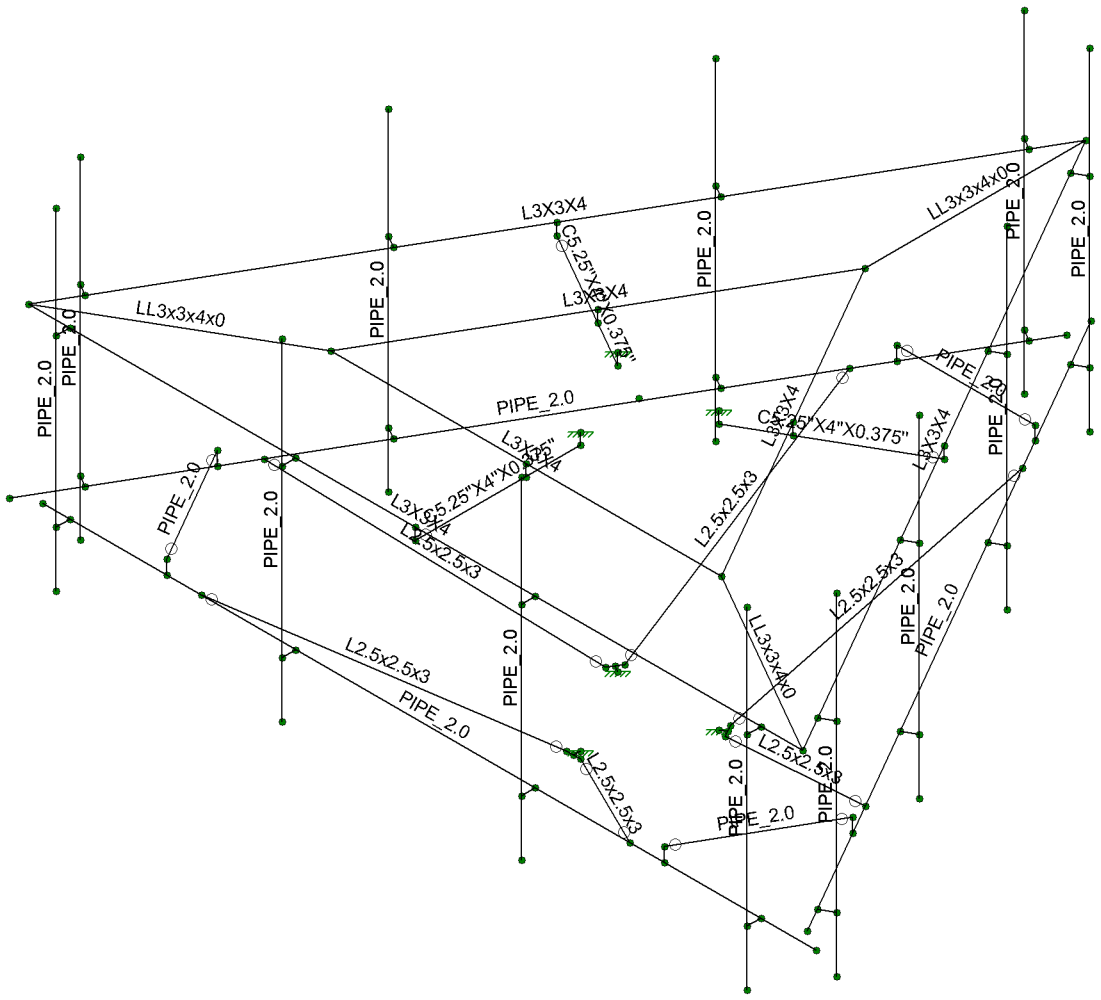

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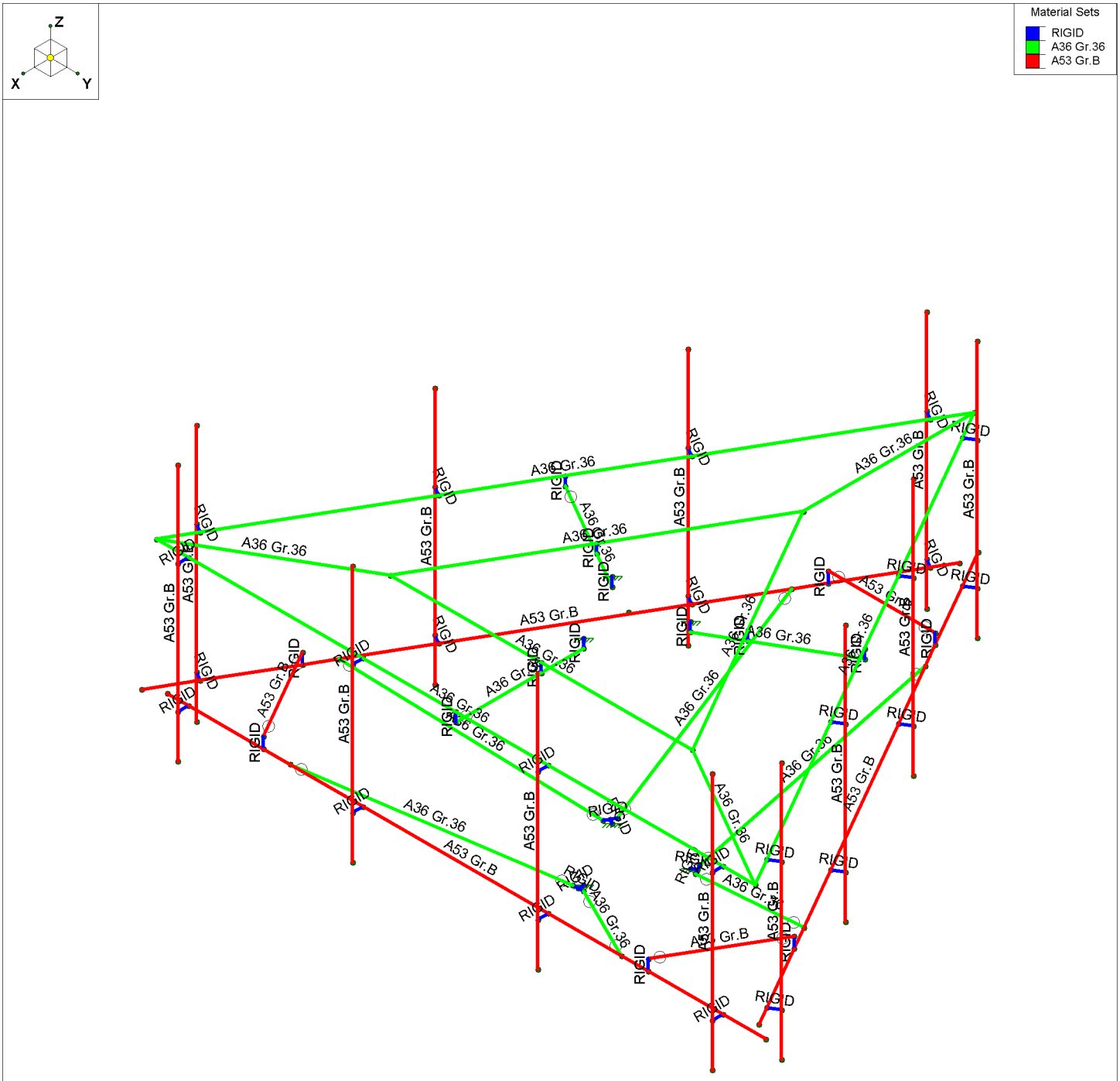

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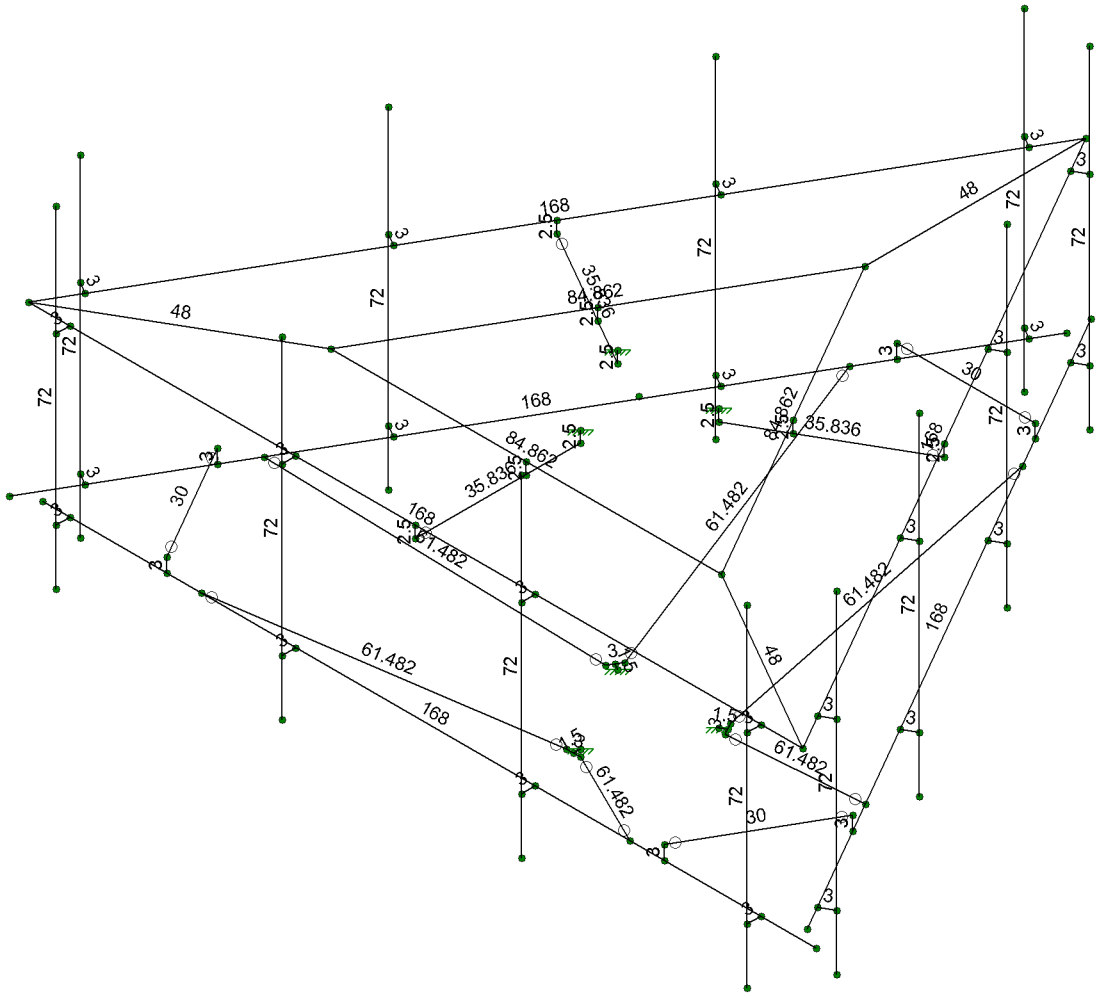

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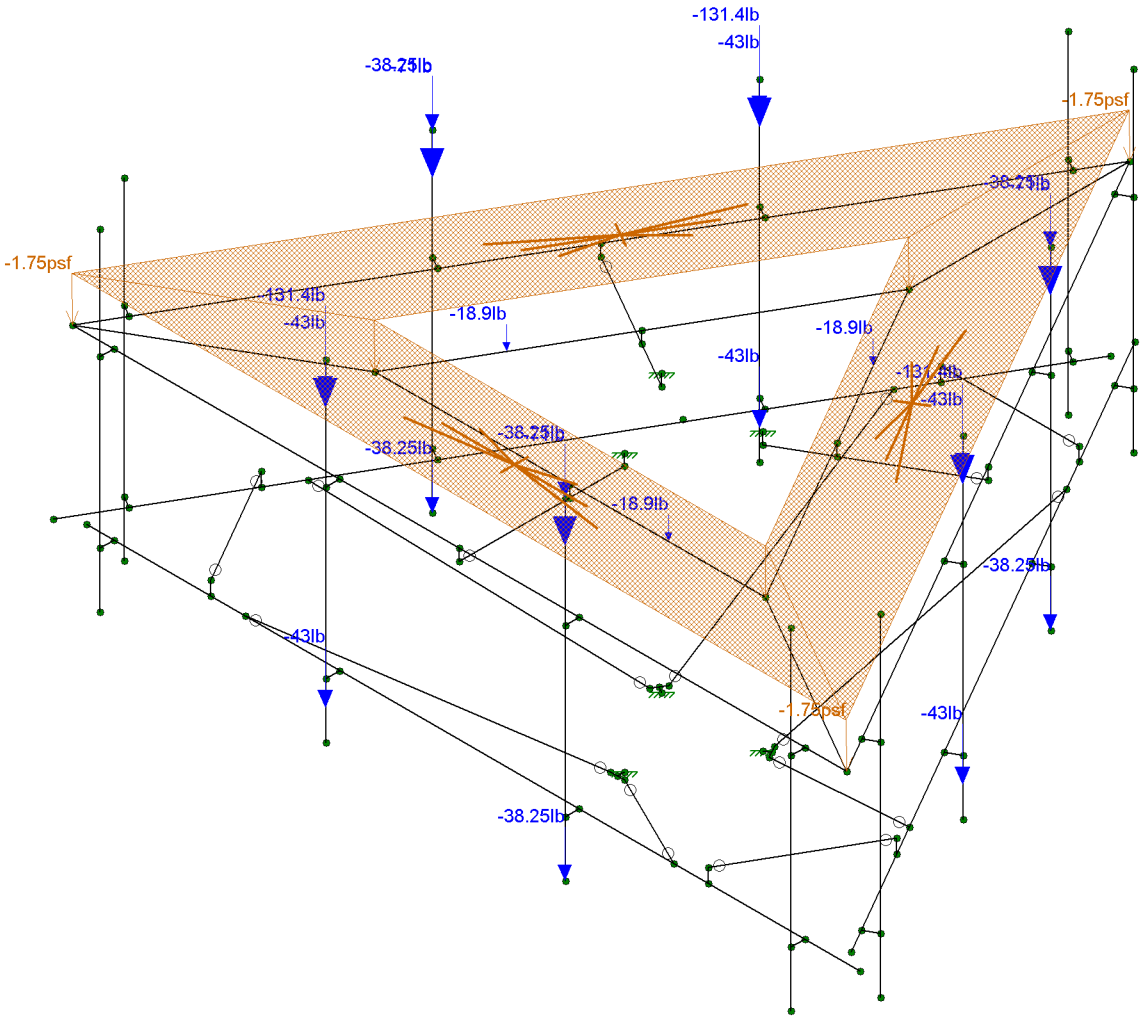

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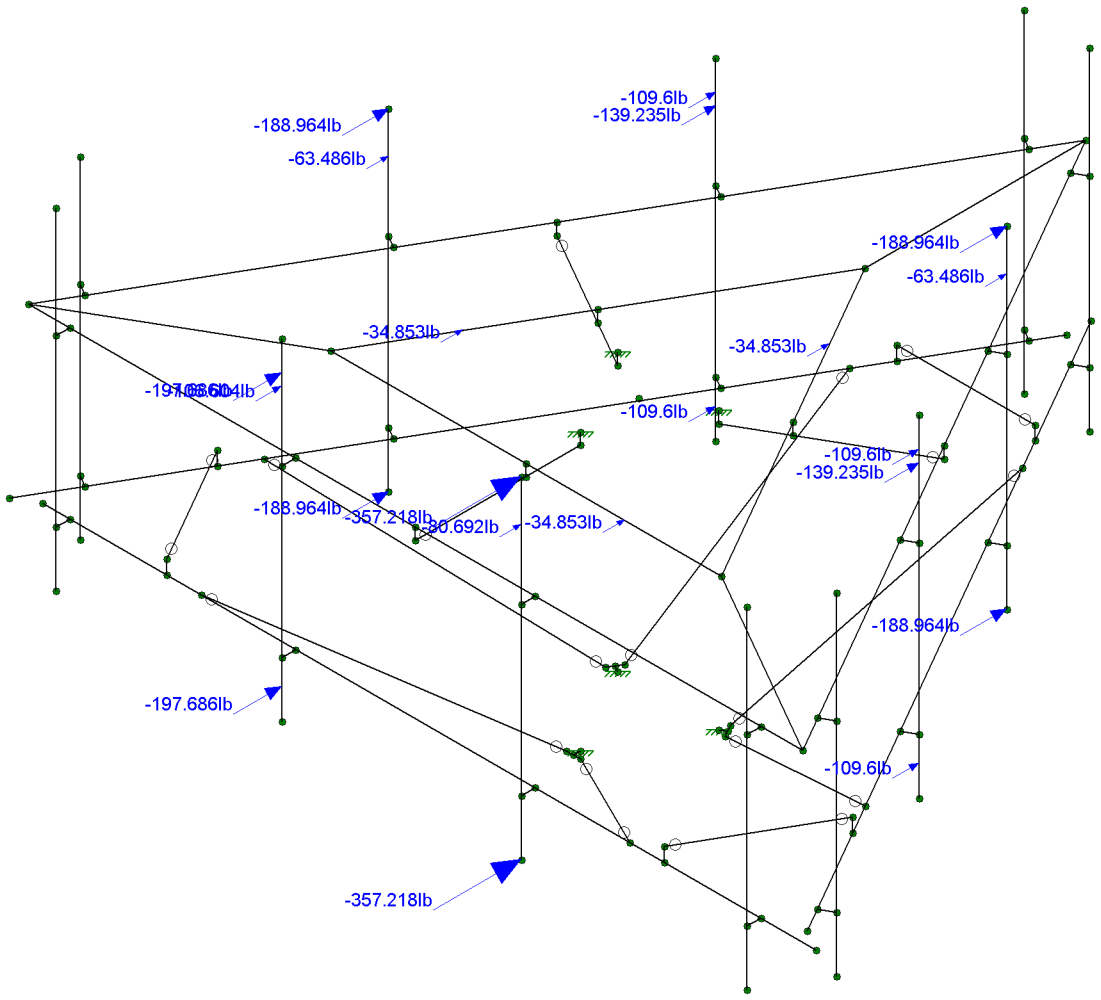

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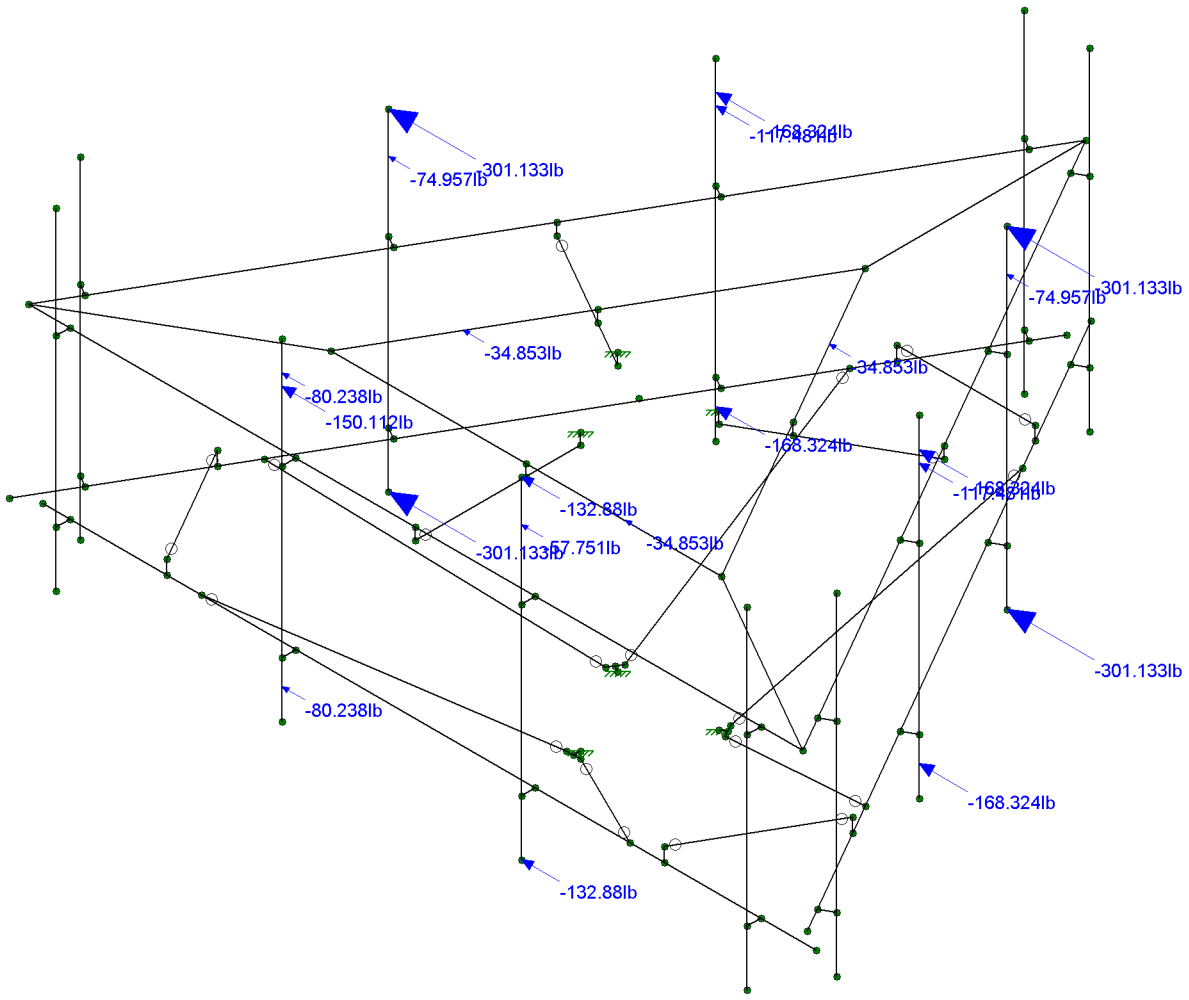

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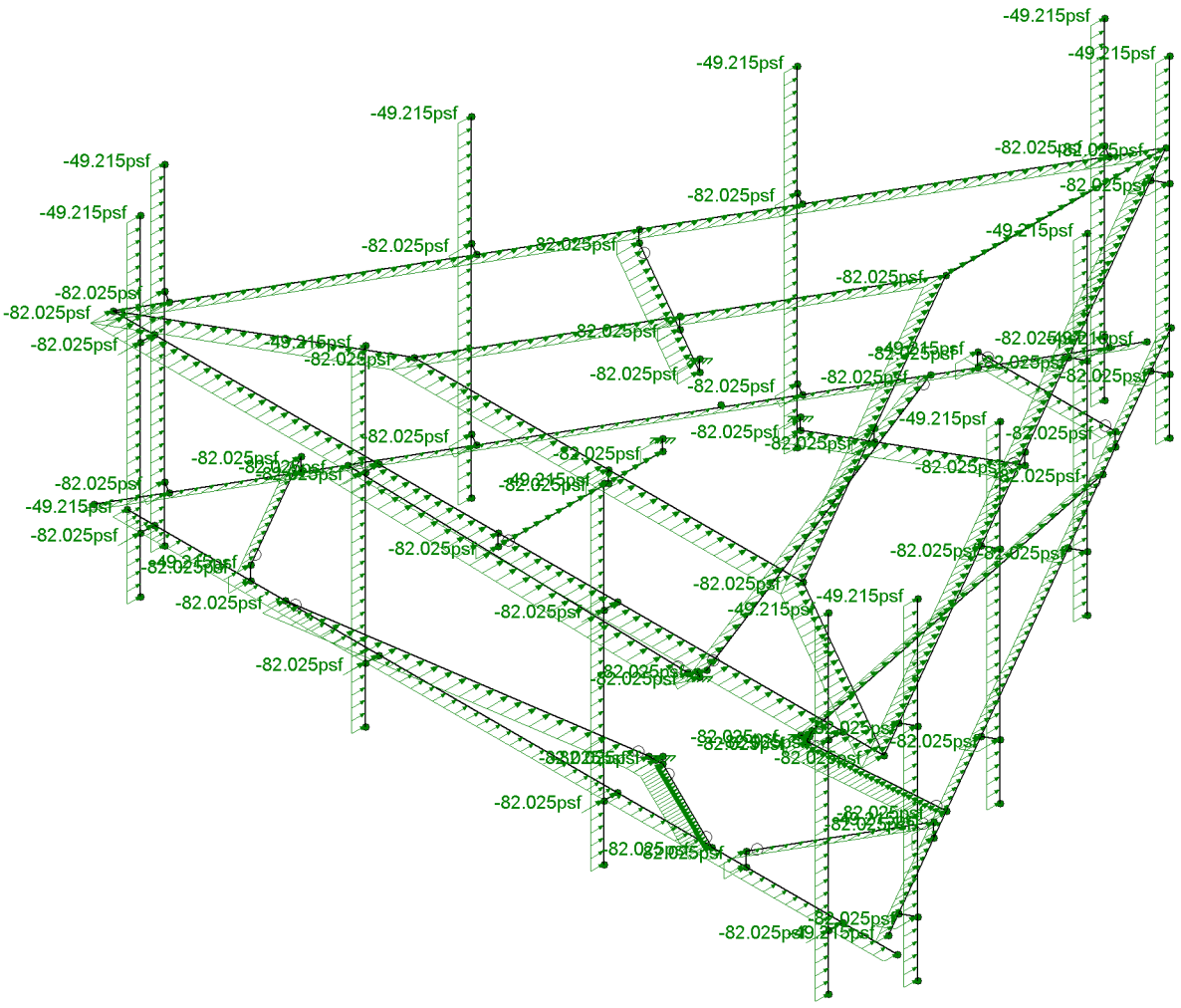

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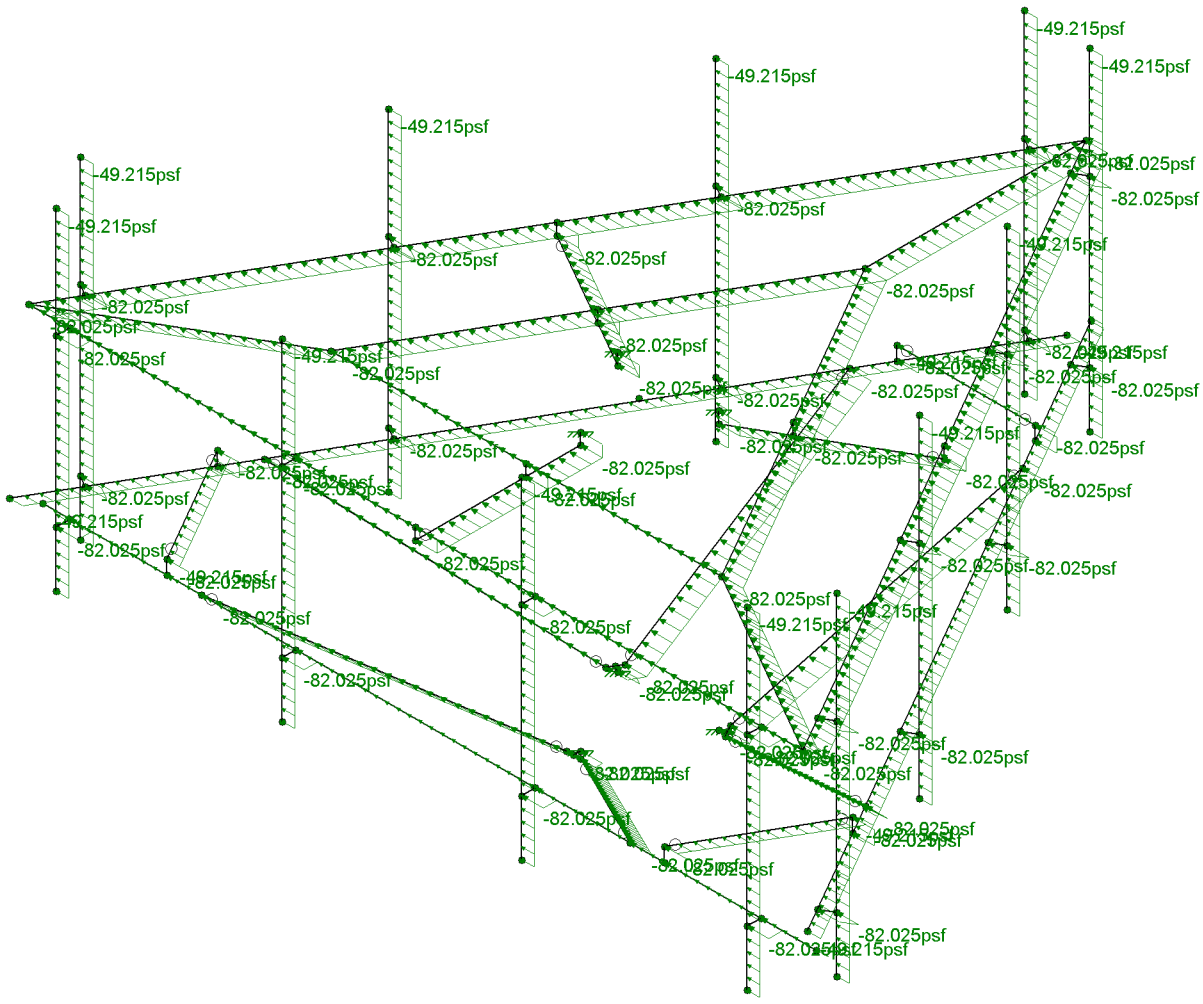

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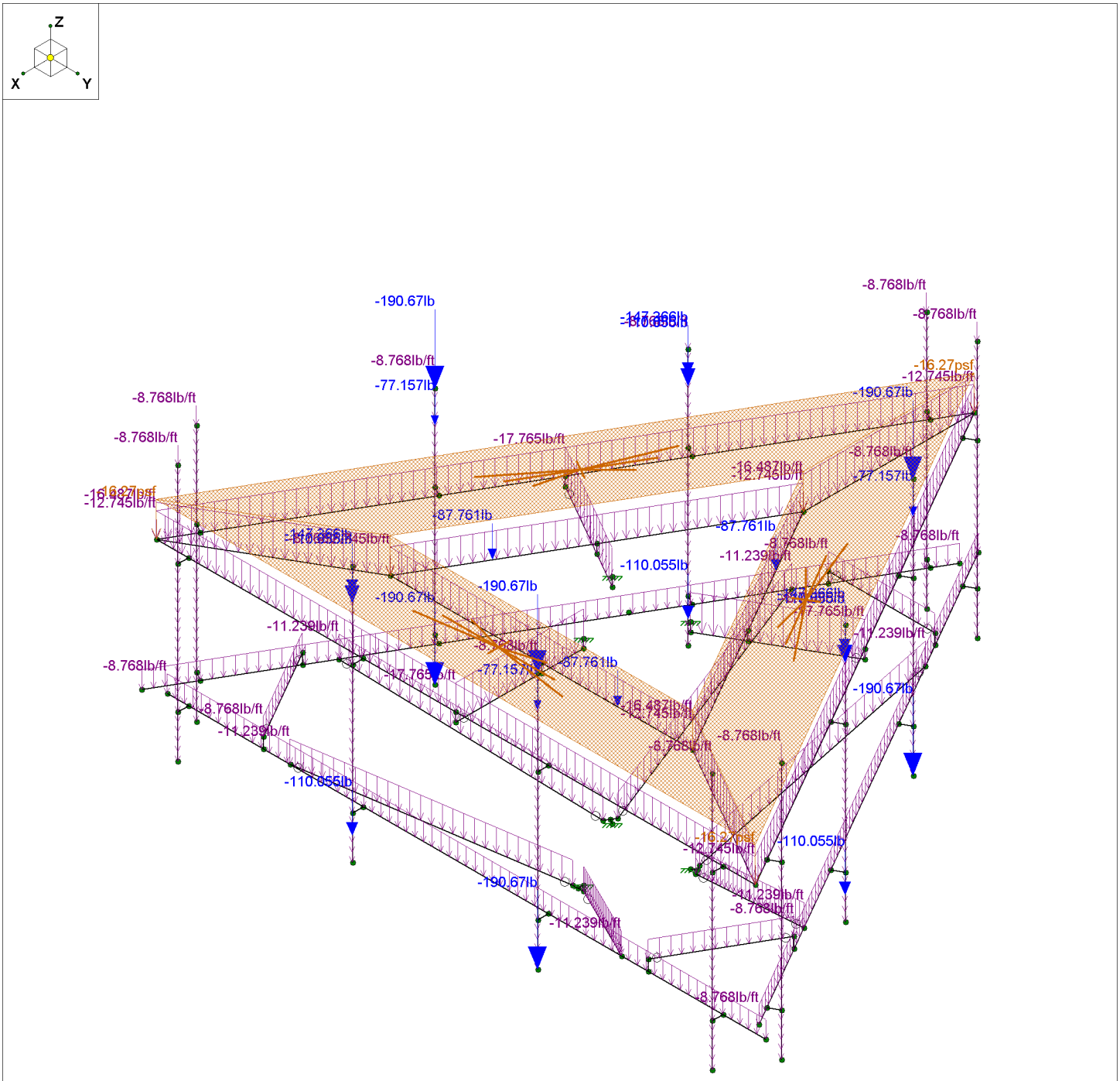

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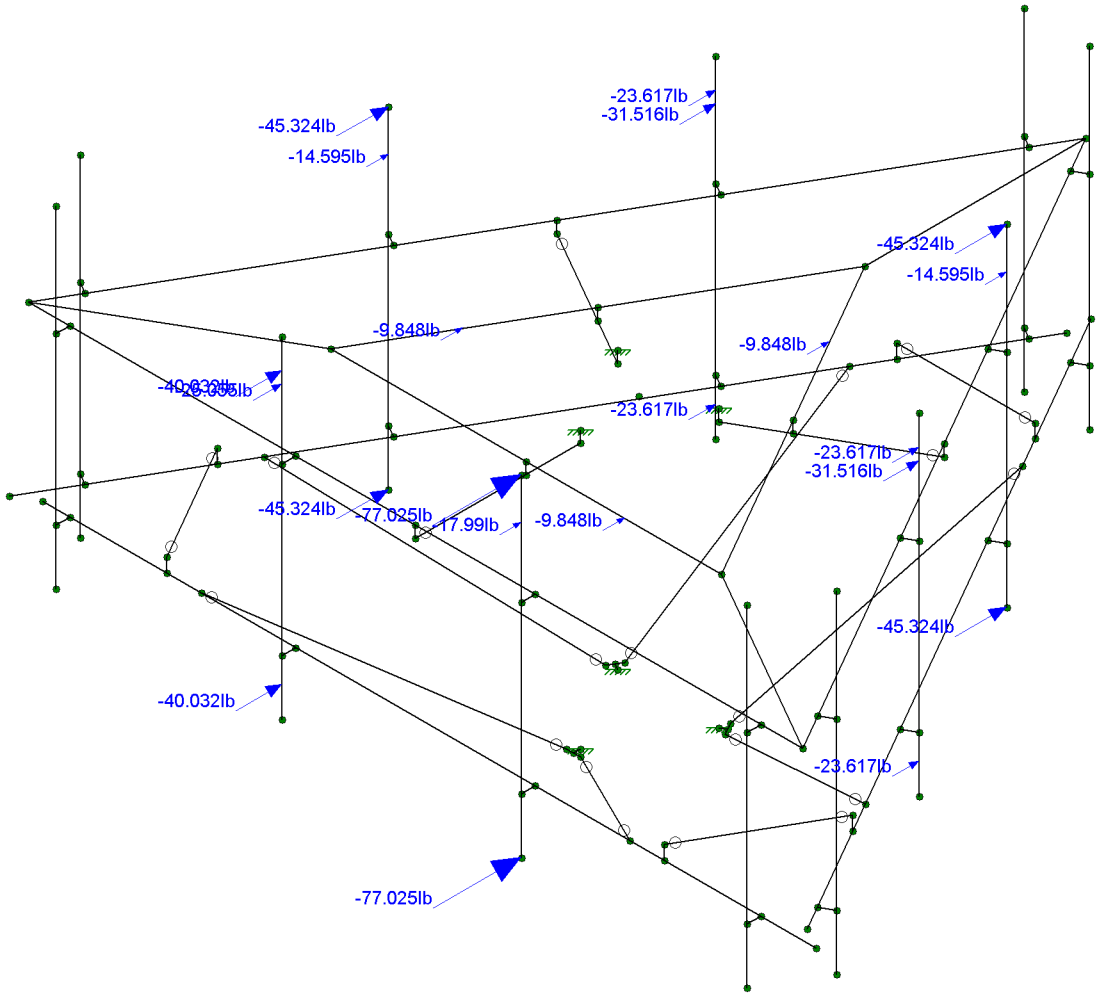

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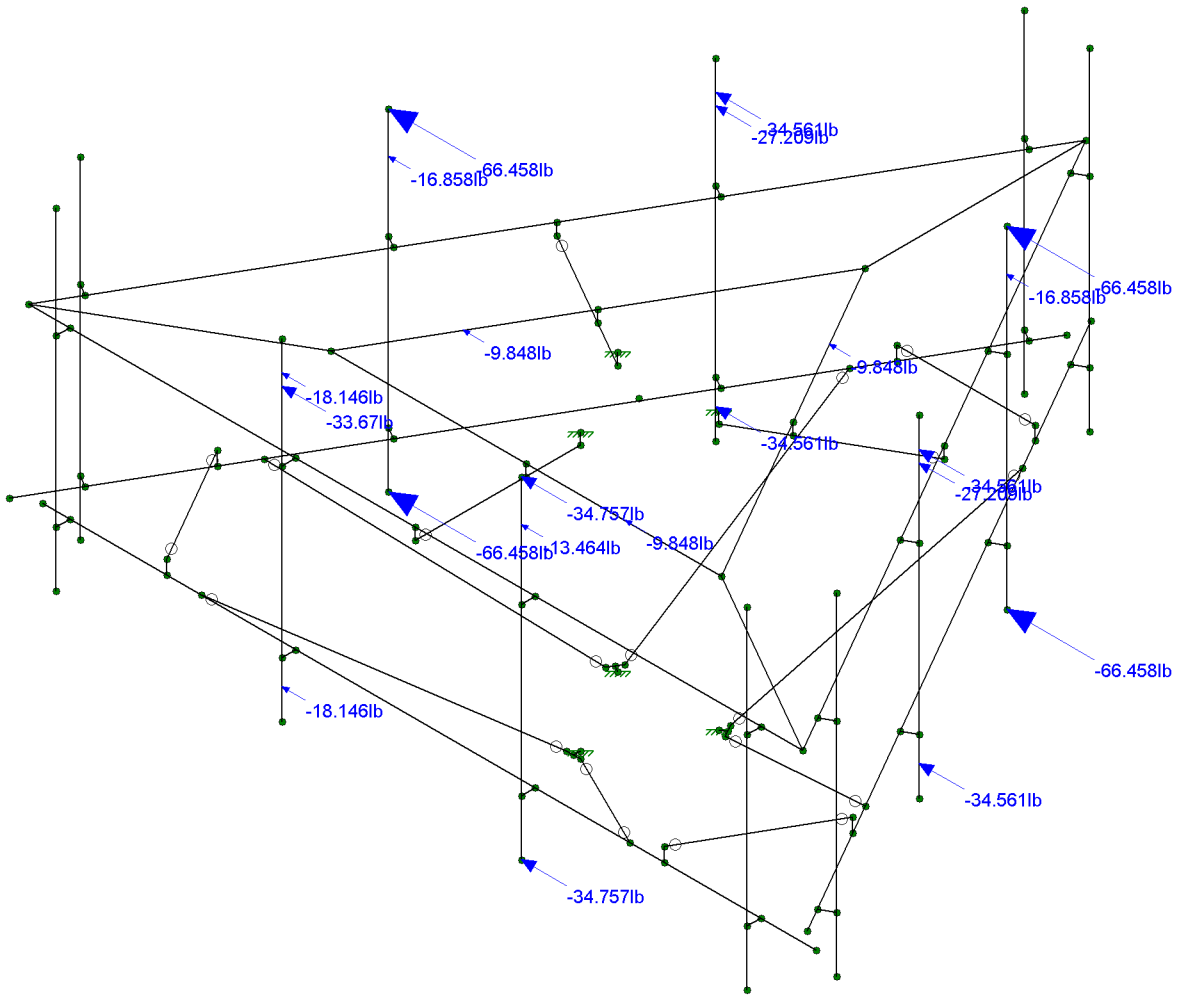

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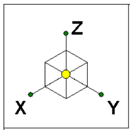
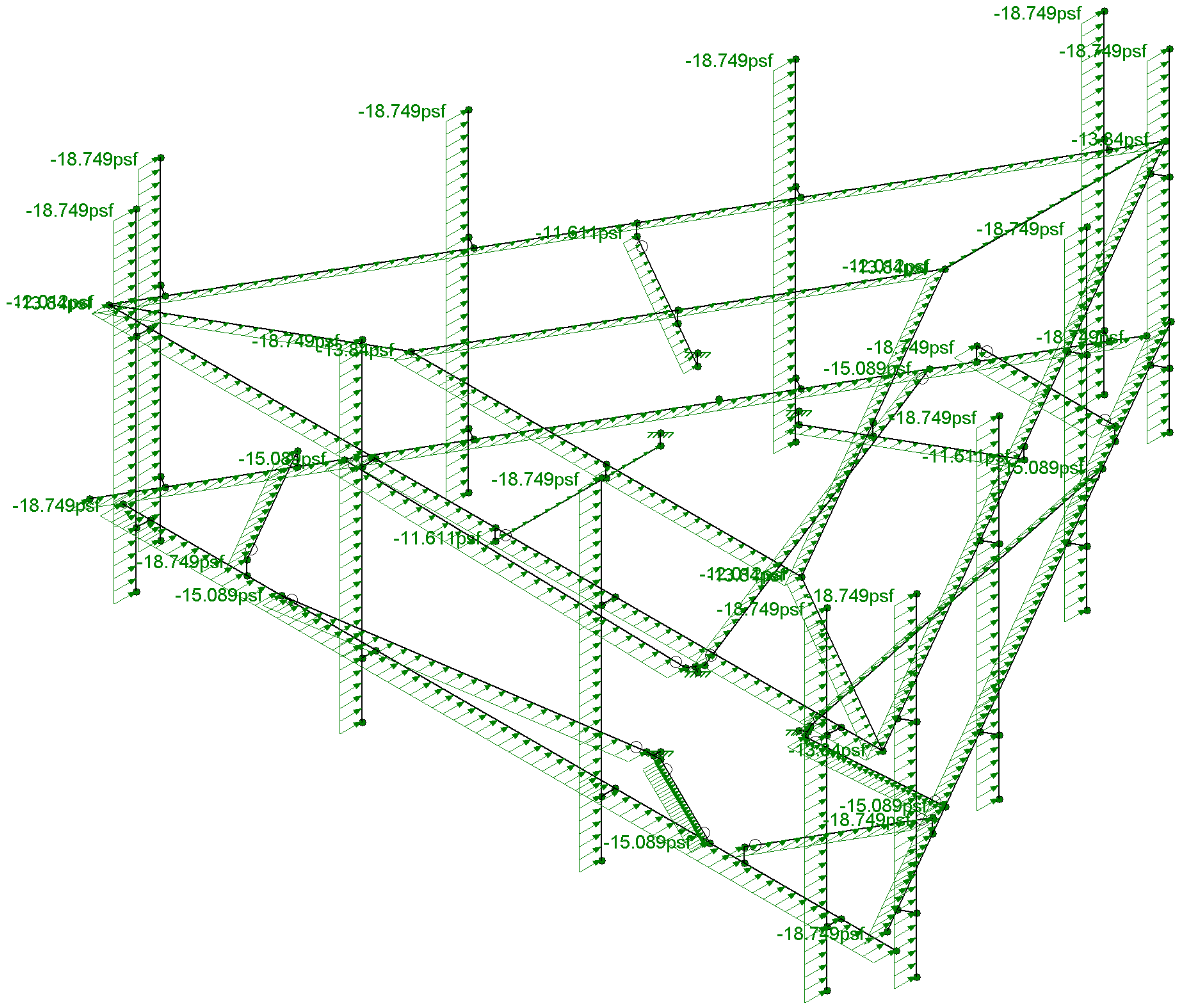
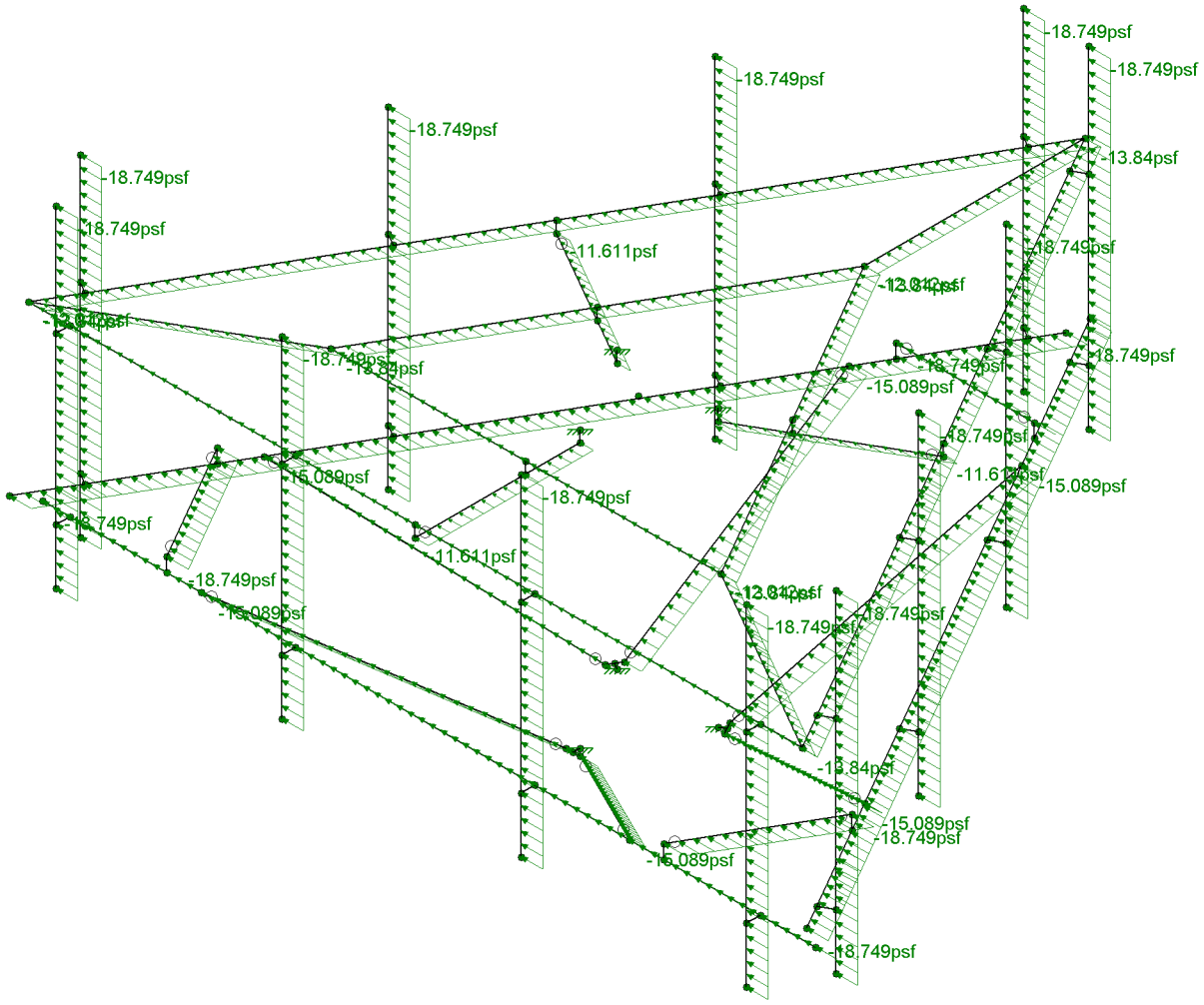




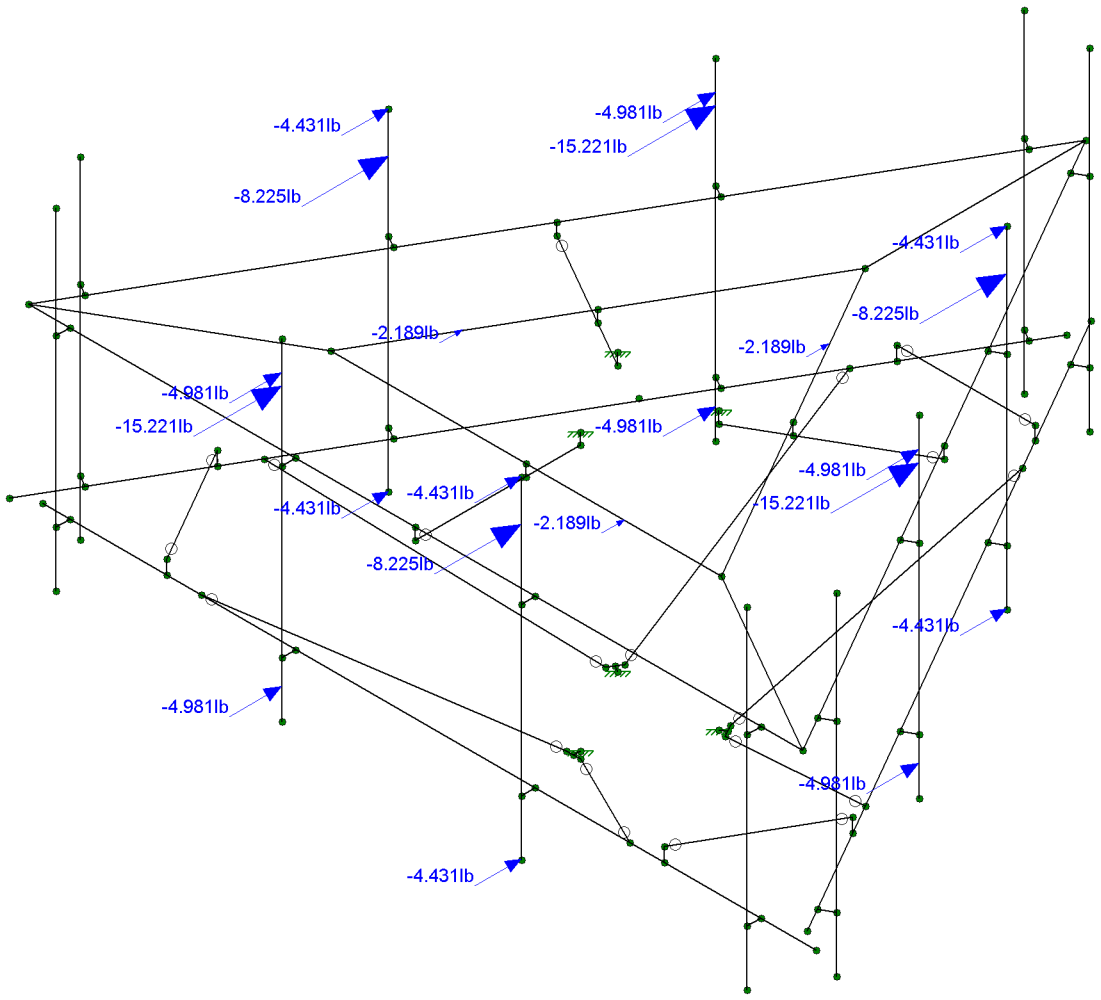
Loads: BLC 13, Ice Structure Wind X

Trylon	855662	SK - 15
IG		May 24, 2022 at 6:11 PM
209426		855662_loaded.r3d



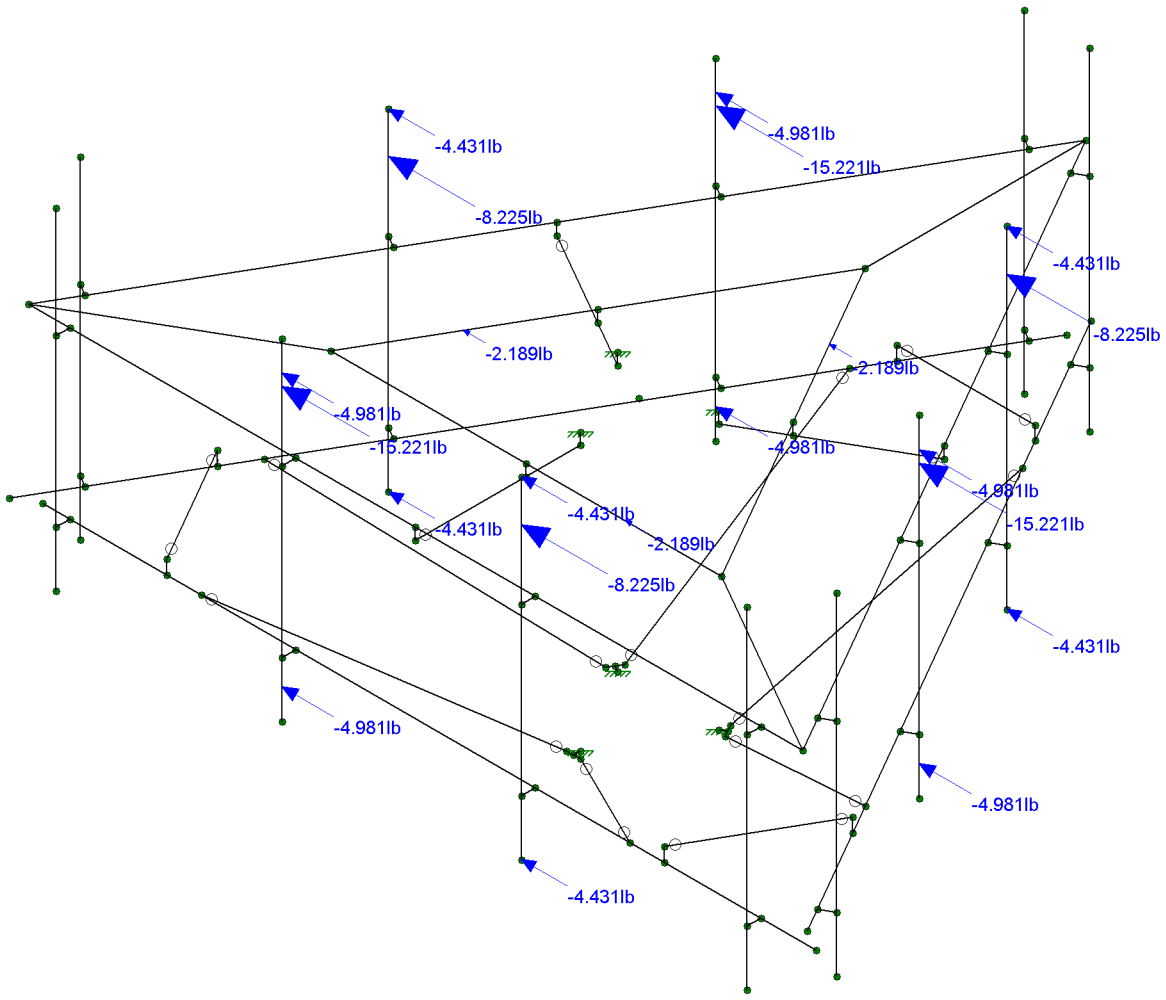
Loads: BLC 14, Ice Structure Wind Y

Trylon	855662	SK - 16
IG		May 24, 2022 at 6:11 PM
209426		855662_loaded.r3d



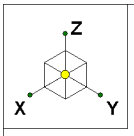
Loads: BLC 23, Seismic Load X

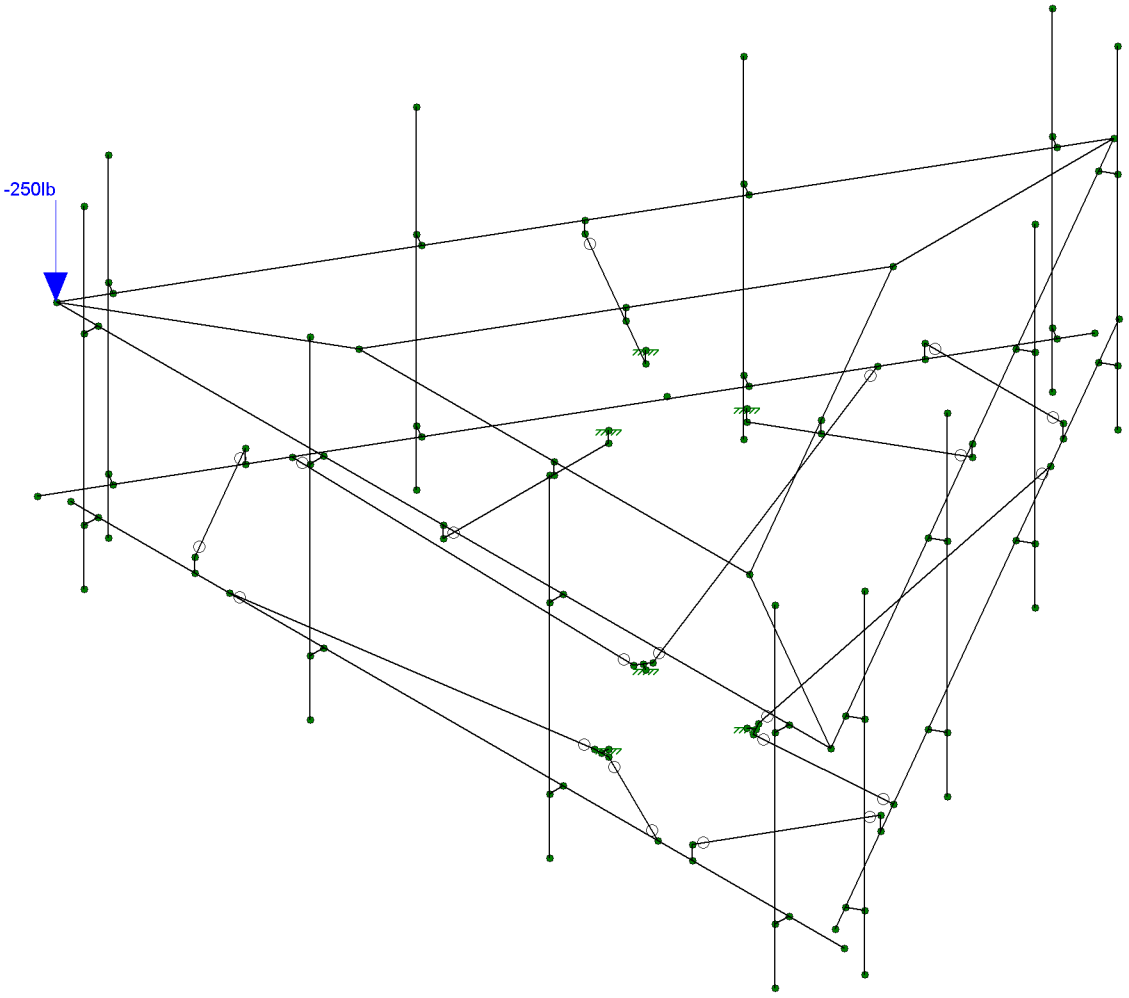
Trylon	855662	SK - 17
IG		May 24, 2022 at 6:11 PM
209426		855662_loaded.r3d



Loads: BLC 24, Seismic Load Y

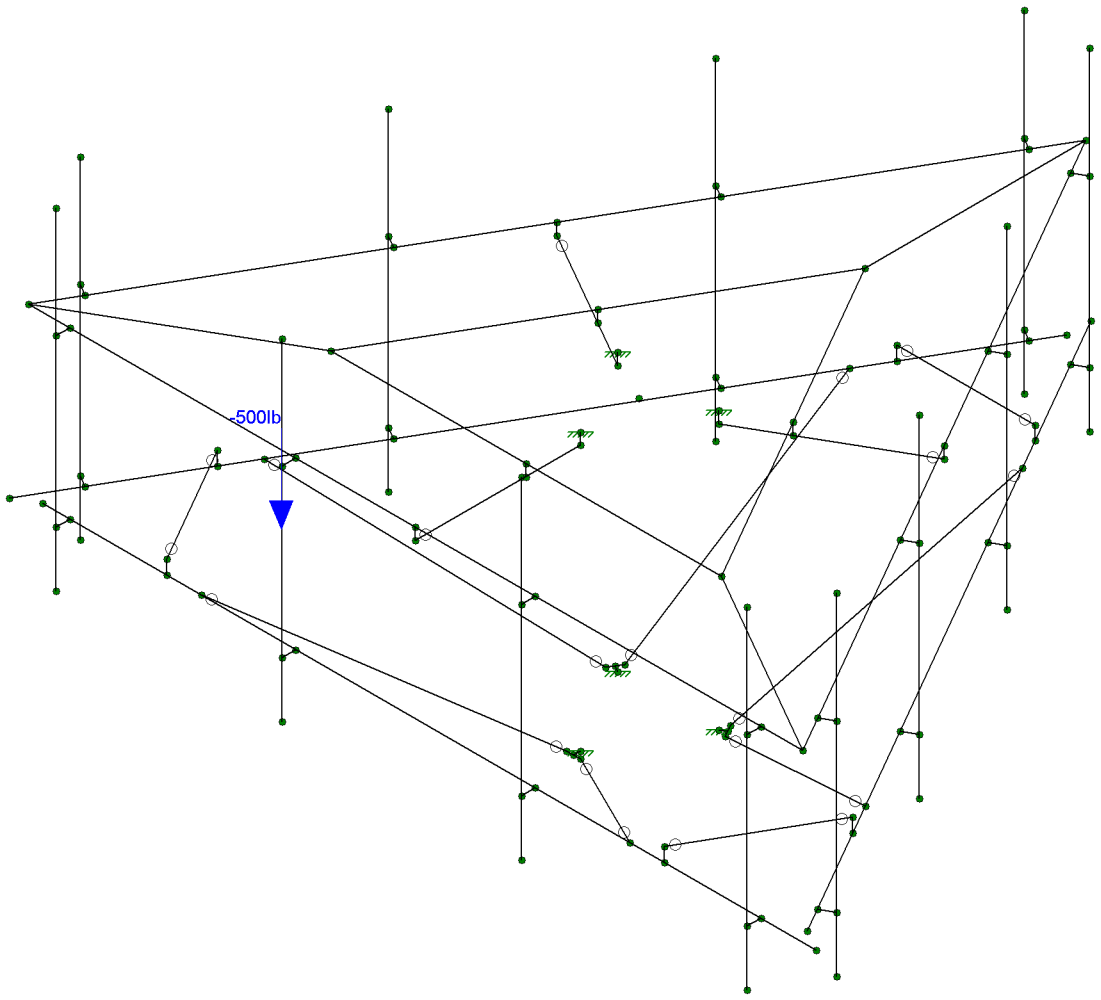
Trylon	855662	SK - 18
IG		May 24, 2022 at 6:11 PM
209426		855662_loaded.r3d





Loads: BLC 25, Live Load 1 (Lv)

Trylon	855662	SK - 19
IG		May 24, 2022 at 6:11 PM
209426		855662_loaded.r3d



Loads: BLC 35, Maintenance Load 2 (Lm)

Trylon	855662	SK - 20
IG		May 24, 2022 at 6:11 PM
209426		855662_loaded.r3d

APPENDIX B

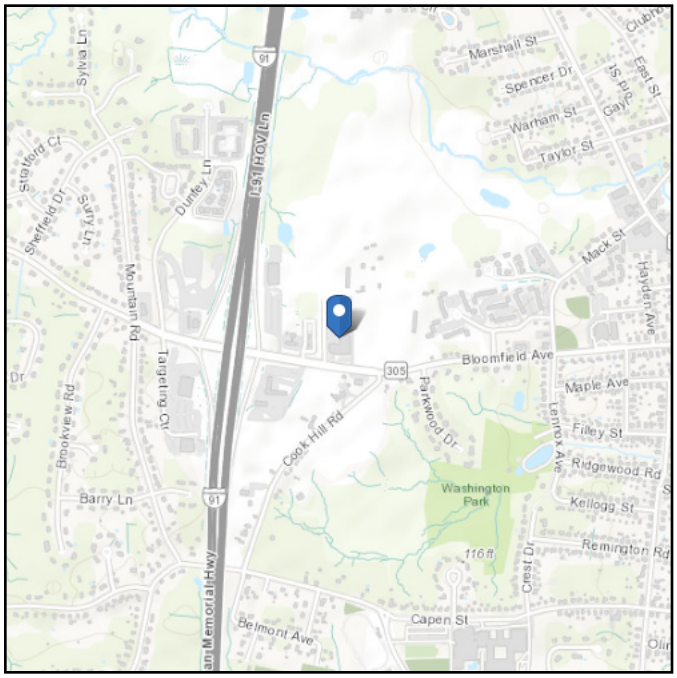
SOFTWARE INPUT CALCULATIONS

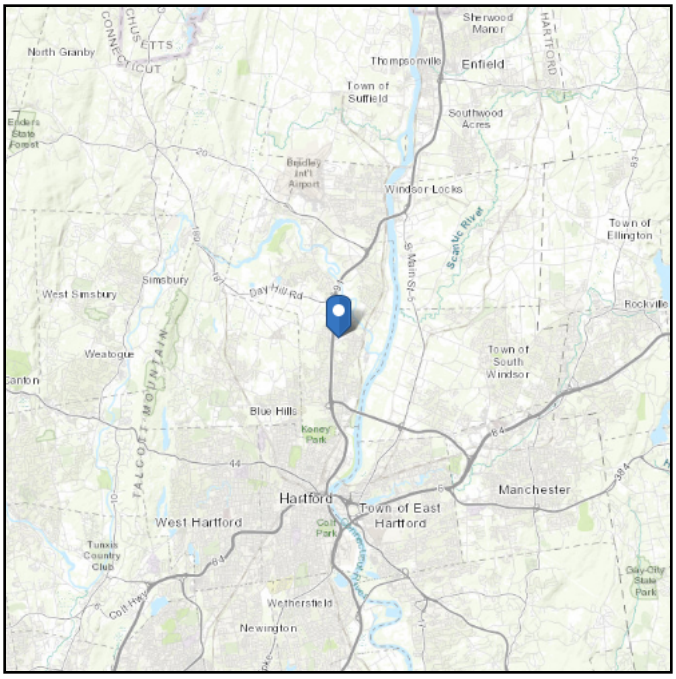
ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 115.16 ft (NAVD 88)
Latitude: 41.852594
Longitude: -72.660497





Wind

Results:

Wind Speed	117 Vmph
10-year MRI	75 Vmph
25-year MRI	83 Vmph
50-year MRI	90 Vmph
100-year MRI	97 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Mon May 09 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.

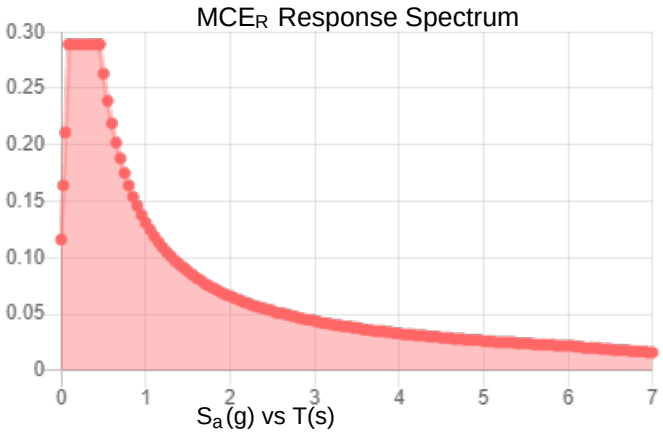
Seismic

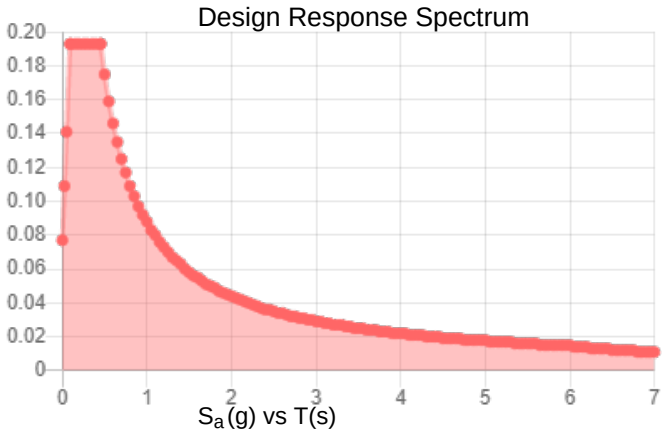
Site Soil Class: D - Default (see Section 11.4.3)

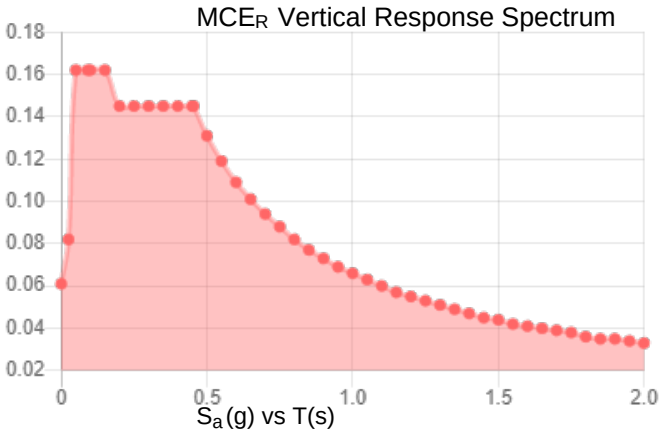
Results:

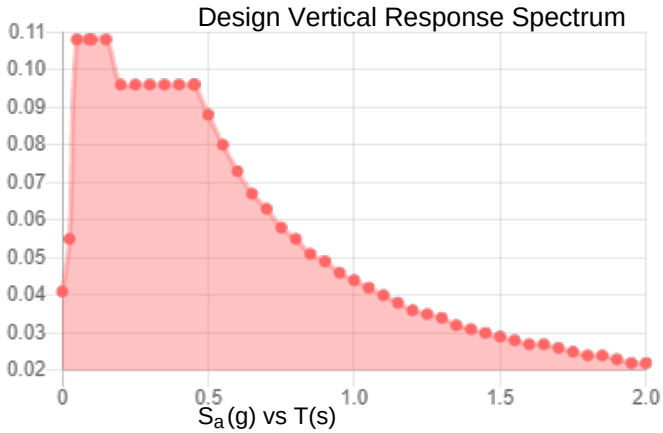
S_S :	0.181	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.096
F_v :	2.4	PGA_M :	0.154
S_{MS} :	0.289	F_{PGA} :	1.6
S_{M1} :	0.131	I_e :	1
S_{DS} :	0.193	C_v :	0.7

Seismic Design Category B









Data Accessed: **Mon May 09 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:	5 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Mon May 09 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.

Trylon
1825 W. Walnut Hill Lane Suite 120
Irving, TX 75038

TIA LOAD CALCULATOR 2.2

PROJECT DATA	
Job Code:	209426
Carrier Site ID:	CT5138
Carrier Site Name:	Windsor Central

CODES AND STANDARDS	
Building Code:	2018 IBC
Local Building Code:	2018 IBC
Design Standard:	TIA-222-H

STRUCTURE DETAILS		
Mount Type:	Platform	--
Mount Elevation:	148.0	ft.
Number of Sectors:	3	--
Structure Type:	Monopole	--
Structure Height:	148.0	ft.

ANALYSIS CRITERIA		
Structure Risk Category:	II	--
Exposure Category:	C	--
Site Class:	D - Default	--
Ground Elevation:	115.16	ft.

TOPOGRAPHIC DATA		
Topographic Category:	1.00	--
Topographic Feature:	N/A	--
Crest Point Elevation:	0.00	ft.
Base Point Elevation:	0.00	ft.
Crest to Mid-Height (L/2):	0.00	ft.
Distance from Crest (x):	0.00	ft.
Base Topo Factor (K_{zt}):	1.00	--
Mount Topo Factor (K_{zt}):	1.00	--

WIND PARAMETERS		
Design Wind Speed:	117	mph
Wind Escalation Factor (K_s):	1.00	--
Velocity Coefficient (K_z):	1.37	--
Directionality Factor (K_d):	0.95	--
Gust Effect Factor (Gh):	1.00	--
Shielding Factor (K_a):	0.90	--
Velocity Pressure (q_z):	45.57	psf
Ground Elevation Factor (K_e):	1.00	--

ICE PARAMETERS		
Design Ice Wind Speed:	50	mph
Design Ice Thickness (t_i):	1.50	in
Importance Factor (I_i):	1.00	--
Ice Velocity Pressure (q_{zi}):	7.04	psf
Mount Ice Thickness (t_{iz}):	1.74	in

WIND STRUCTURE CALCULATIONS		
Flat Member Pressure:	82.02	psf
Round Member Pressure:	49.21	psf
Ice Wind Pressure:	7.60	psf

SEISMIC PARAMETERS		
Importance Factor (I_e):	1.00	--
Short Period Accel .(S_s):	0.181	g
1 Second Accel (S_1):	0.055	g
Short Period Des. (S_{DS}):	0.19	g
1 Second Des. (S_{D1}):	0.09	g
Short Period Coeff. (F_a):	1.60	--
1 Second Coeff. (F_v):	2.40	--
Response Coefficient (Cs):	0.10	--
Amplification Factor (A_S):	1.20	--

LOAD COMBINATIONS [LRFD]

#	Description
1	1.4DL
2	1.2DL + 1WL 0 AZI
3	1.2DL + 1WL 30 AZI
4	1.2DL + 1WL 45 AZI
5	1.2DL + 1WL 60 AZI
6	1.2DL + 1WL 90 AZI
7	1.2DL + 1WL 120 AZI
8	1.2DL + 1WL 135 AZI
9	1.2DL + 1WL 150 AZI
10	1.2DL + 1WL 180 AZI
11	1.2DL + 1WL 210 AZI
12	1.2DL + 1WL 225 AZI
13	1.2DL + 1WL 240 AZI
14	1.2DL + 1WL 270 AZI
15	1.2DL + 1WL 300 AZI
16	1.2DL + 1WL 315 AZI
17	1.2DL + 1WL 330 AZI
18	0.9DL + 1WL 0 AZI
19	0.9DL + 1WL 30 AZI
20	0.9DL + 1WL 45 AZI
21	0.9DL + 1WL 60 AZI
22	0.9DL + 1WL 90 AZI
23	0.9DL + 1WL 120 AZI
24	0.9DL + 1WL 135 AZI
25	0.9DL + 1WL 150 AZI
26	0.9DL + 1WL 180 AZI
27	0.9DL + 1WL 210 AZI
28	0.9DL + 1WL 225 AZI
29	0.9DL + 1WL 240 AZI
30	0.9DL + 1WL 270 AZI
31	0.9DL + 1WL 300 AZI
32	0.9DL + 1WL 315 AZI
33	0.9DL + 1WL 330 AZI
34	1.2DL + 1DLi + 1WLi 0 AZI
35	1.2DL + 1DLi + 1WLi 30 AZI
36	1.2DL + 1DLi + 1WLi 45 AZI
37	1.2DL + 1DLi + 1WLi 60 AZI
38	1.2DL + 1DLi + 1WLi 90 AZI
39	1.2DL + 1DLi + 1WLi 120 AZI
40	1.2DL + 1DLi + 1WLi 135 AZI
41	1.2DL + 1DLi + 1WLi 150 AZI

#	Description
42	1.2DL + 1DLi + 1WLi 180 AZI
43	1.2DL + 1DLi + 1WLi 210 AZI
44	1.2DL + 1DLi + 1WLi 225 AZI
45	1.2DL + 1DLi + 1WLi 240 AZI
46	1.2DL + 1DLi + 1WLi 270 AZI
47	1.2DL + 1DLi + 1WLi 300 AZI
48	1.2DL + 1DLi + 1WLi 315 AZI
49	1.2DL + 1DLi + 1WLi 330 AZI
50	(1.2+0.2Sds) + 1.0E 0 AZI
51	(1.2+0.2Sds) + 1.0E 30 AZI
52	(1.2+0.2Sds) + 1.0E 45 AZI
53	(1.2+0.2Sds) + 1.0E 60 AZI
54	(1.2+0.2Sds) + 1.0E 90 AZI
55	(1.2+0.2Sds) + 1.0E 120 AZI
56	(1.2+0.2Sds) + 1.0E 135 AZI
57	(1.2+0.2Sds) + 1.0E 150 AZI
58	(1.2+0.2Sds) + 1.0E 180 AZI
59	(1.2+0.2Sds) + 1.0E 210 AZI
60	(1.2+0.2Sds) + 1.0E 225 AZI
61	(1.2+0.2Sds) + 1.0E 240 AZI
62	(1.2+0.2Sds) + 1.0E 270 AZI
63	(1.2+0.2Sds) + 1.0E 300 AZI
64	(1.2+0.2Sds) + 1.0E 315 AZI
65	(1.2+0.2Sds) + 1.0E 330 AZI
66	(0.9-0.2Sds) + 1.0E 0 AZI
67	(0.9-0.2Sds) + 1.0E 30 AZI
68	(0.9-0.2Sds) + 1.0E 45 AZI
69	(0.9-0.2Sds) + 1.0E 60 AZI
70	(0.9-0.2Sds) + 1.0E 90 AZI
71	(0.9-0.2Sds) + 1.0E 120 AZI
72	(0.9-0.2Sds) + 1.0E 135 AZI
73	(0.9-0.2Sds) + 1.0E 150 AZI
74	(0.9-0.2Sds) + 1.0E 180 AZI
75	(0.9-0.2Sds) + 1.0E 210 AZI
76	(0.9-0.2Sds) + 1.0E 225 AZI
77	(0.9-0.2Sds) + 1.0E 240 AZI
78	(0.9-0.2Sds) + 1.0E 270 AZI
79	(0.9-0.2Sds) + 1.0E 300 AZI
80	(0.9-0.2Sds) + 1.0E 315 AZI
81	(0.9-0.2Sds) + 1.0E 330 AZI
82-88	1.2D + 1.5 Lv1

#	Description
89	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP1
90	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP1
91	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP1
92	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP1
93	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP1
94	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP1
95	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP1
96	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP1
97	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP1
98	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP1
99	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP1
100	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP1
101	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP1
102	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP1
103	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP1
104	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP1
105	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP2
106	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP2
107	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP2
108	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP2
109	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP2
110	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP2
111	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP2
112	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP2
113	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP2
114	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP2
115	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP2
116	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP2
117	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP2
118	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP2
119	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP2
120	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP2

#	Description
121	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP3
122	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP3
123	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP3
124	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP3
125	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP3
126	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP3
127	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP3
128	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP3
129	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP3
130	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP3
131	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP3
132	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP3
133	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP3
134	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP3
135	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP3
136	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP3
137	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP4
138	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP4
139	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP4
140	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP4
141	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP4
142	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP4
143	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP4
144	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP4
145	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP4
146	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP4
147	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP4
148	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP4
149	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP4
150	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP4
151	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP4
152	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP4

*This page shows an example of maintenance loads for (4) pipes, the number of mount pipe LCs may vary per site

EQUIPMENT LOADING

Appurtenance Name	Qty.	Elevation [ft]	--	EPA_N (ft2)	EPA_T (ft2)	Weight (lbs)
OPA65R-BU8D	3	148	No Ice	17.42	6.48	76.50
--	--	--	w/ Ice	20.57	9.28	381.34
800482001	3	148	No Ice	9.64	3.91	86.00
--	--	--	w/ Ice	10.69	4.85	220.11
RRUS 4449 B5/B12	3	148	No Ice	1.97	1.41	71.00
--	--	--	w/ Ice	2.40	1.80	77.16
RRUS 4478 B14_CCIV2	3	148	No Ice	2.02	1.25	59.40
--	--	--	w/ Ice	2.46	1.62	73.82
RRUS 8843 B2/B66A	3	148	No Ice	1.64	1.35	72.00
--	--	--	w/ Ice	2.03	1.72	73.55
DC6-48-60-18-8F	3	148	No Ice	0.85	0.85	18.90
--	--	--	w/ Ice	1.31	1.31	87.76
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			

EQUIPMENT LOADING [CONT.]

Appurtenance Name	Qty.	Elevation [ft]	--	EPA $_N$ (ft2)	EPA $_T$ (ft2)	Weight (lbs)
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			

EQUIPMENT WIND CALCULATIONS

Appurtenance Name	Qty.	Elevation [ft]	K_{zt}	K_z	K_d	t_d	q_z [psf]	q_{zi} [psf]
OPA65R-BU8D	3	148	1.00	1.37	0.95	1.74	45.57	8.32
800482001	3	148	1.00	1.37	0.95	1.74	45.57	8.32
RRUS 4449 B5/B12	3	148	1.00	1.37	0.95	1.74	45.57	8.32
RRUS 4478 B14_CCIV2	3	148	1.00	1.37	0.95	1.74	45.57	8.32
RRUS 8843 B2/B66A	3	148	1.00	1.37	0.95	1.74	45.57	8.32
DC6-48-60-18-8F	3	148	1.00	1.37	0.95	1.74	45.57	8.32

EQUIPMENT LATERAL WIND FORCE CALCULATIONS

Appurtenance Name	Qty.	--	0° 180°	30° 210°	60° 240°	90° 270°	120° 300°	150° 330°
OPA65R-BU8D	3	No Ice	714.44	377.93	602.27	265.76	602.27	377.93
--	--	w/ Ice	154.05	90.65	132.92	69.51	132.92	90.65
800482001	3	No Ice	395.37	219.20	336.65	160.48	336.65	219.20
--	--	w/ Ice	80.06	47.23	69.12	36.29	69.12	47.23
RRUS 4449 B5/B12	3	No Ice	80.69	63.49	74.96	57.75	74.96	63.49
--	--	w/ Ice	17.99	14.60	16.86	13.46	16.86	14.60
RRUS 4478 B14_CCIV2	3	No Ice	82.89	59.05	74.94	51.10	74.94	59.05
--	--	w/ Ice	18.43	13.73	16.86	12.16	16.86	13.73
RRUS 8843 B2/B66A	3	No Ice	67.22	58.43	64.29	55.51	64.29	58.43
--	--	w/ Ice	15.24	13.48	14.65	12.89	14.65	13.48
DC6-48-60-18-8F	3	No Ice	34.85	34.85	34.85	34.85	34.85	34.85
--	--	w/ Ice	9.85	9.85	9.85	9.85	9.85	9.85
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
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		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						

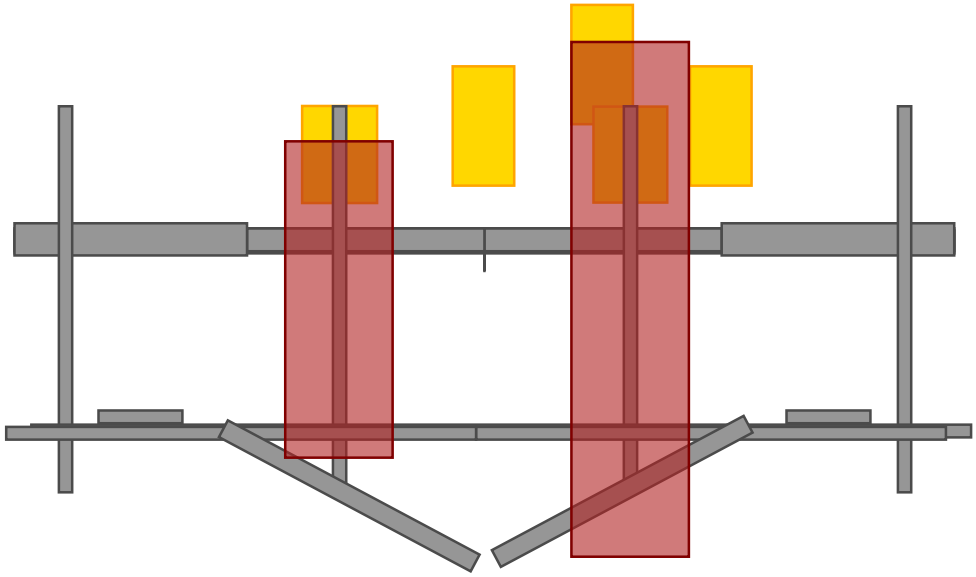
EQUIPMENT LATERAL WIND FORCE CALCULATIONS [CONT.]

Appurtenance Name	Qty.	--	0° 180°	30° 210°	60° 240°	90° 270°	120° 300°	150° 330°
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						

EQUIPMENT SEISMIC FORCE CALCULATIONS

Appurtenance Name	*Qty.*	*Elevation [ft]*	*Weight [lbs]*	F_p [lbs]
OPA65R-BU8D	3	148	76.5	8.86
800482001	3	148	86	9.96
RRUS 4449 B5/B12	3	148	71	8.22
RRUS 4478 B14_CCIV2	3	148	59.4	6.88
RRUS 8843 B2/B66A	3	148	72	8.34
DC6-48-60-18-8F	3	148	18.9	2.19

ELEVATION VIEW

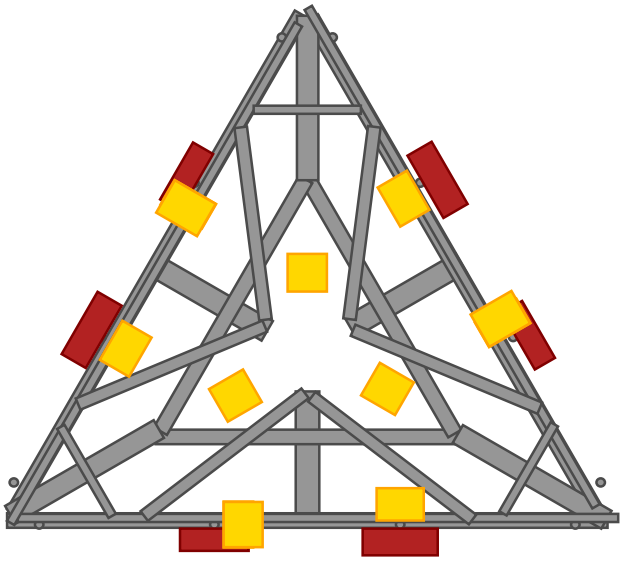


MP4 MP3 MP2 MP1

*these drawings are intended to show approximate locations of equipment on the mount and should not be used to determine exact placement of equipment or additional hardware

**Elevation View Shows Only One Sector

PLAN VIEW



1825 W. Walnut Hill Lane, Suite 120
Irving, Texas 75038

Equipment Name	Total Quantity	Antenna Centerline	Mount Pipe Positions	Equipment Azimuths
OPA65R-BU8D	3	148	MP2/MP6/MP10	0/120/240
800482001	3	148	MP3/MP7/MP11	0/120/240
RRUS 4449 B5/B12	3	148	MP2/MP6/MP10	0/120/240
RRUS 4478 B14_CCIV2	3	148	MP3/MP7/MP11	90/210/330
RRUS 8843 B2/B66A	3	148	MP3/MP7/MP11	90/210/330
DC6-48-60-18-8F	3	148	M7/M9/M8	0/120/240

APPENDIX C

SOFTWARE ANALYSIS OUTPUT

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (in/sec^2)	386.4
Wall Mesh Size (in)	24
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Z
Global Member Orientation Plane	XY
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 15th(360-16): LRFD
Adjust Stiffness?	Yes(Iterative)
RISAConnection Code	AISC 15th(360-16): LRFD
Cold Formed Steel Code	AISI S100-16: LRFD
Wood Code	None
Wood Temperature	< 100F
Concrete Code	None
Masonry Code	None
Aluminum Code	None - Building
Stainless Steel Code	AISC 14th(360-10): LRFD
Adjust Stiffness?	Yes(Iterative)

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	No
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8

(Global) Model Settings, Continued

Seismic Code	ASCE 7-16
Seismic Base Elevation (in)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	5
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	1
Cd X	1
Rho Z	1
Rho X	1

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E5 F)	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	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	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E5 F)	Density[k/ft^3]	Yield[ksi]	Fu[ksi]
1	A653 SS Gr33	29500	11346	.3	.65	.49	33	45
2	A653 SS Gr50/1	29500	11346	.3	.65	.49	50	65
3	A36	29500	11346	.3	.65	.49	36	58

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design L...	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	L3"x3"x0.25"	L3X3X4	Beam	Single A...	A36 Gr.36	Typical	1.44	1.23	1.23	.031
2	Pipe 2.375"x0.154"	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
3	LL3"x3"x0.25"	LL3x3x4x0	Beam	Double A...	A36 Gr.36	Typical	2.88	4.5	2.46	.063
4	C5.25"X4"X0.375"	C5.25"X4"X0.375"	Beam	Channel	A36 Gr.36	Typical	4.688	7.568	20.707	.207
5	L2.5"X2.5"X0.188	L2.5x2.5x3	Beam	Single A...	A36 Gr.36	Typical	.901	.535	.535	.011

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Ru...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	C5.25"x4"	C5.25"x4"x0.375"	Beam	CU	A36	Typical	4.446	7.105	19.039	.208

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	N183	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N486	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N768	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N116						
5	N125A						
6	N126A						
7	N127	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
8	N128						
9	N129						
10	N130						
11	N131	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
12	N132						
13	N133						
14	N134						
15	N135	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1352	N1351		90	C5.25"X4"X0....	Beam	Channel	A36 Gr.36	Typical
2	M2	N1407	N1354		90	C5.25"X4"X0....	Beam	Channel	A36 Gr.36	Typical
3	M3	N1409	N1356		90	C5.25"X4"X0....	Beam	Channel	A36 Gr.36	Typical
4	H1	N952	N953		270	L3"x3"x0.25"	Beam	Single Angle	A36 Gr.36	Typical
5	H3	N953	N951		270	L3"x3"x0.25"	Beam	Single Angle	A36 Gr.36	Typical
6	H2	N951	N952		270	L3"x3"x0.25"	Beam	Single Angle	A36 Gr.36	Typical
7	M7	N957	N956		270	L3"x3"x0.25"	Beam	Single Angle	A36 Gr.36	Typical
8	M8	N955	N957		270	L3"x3"x0.25"	Beam	Single Angle	A36 Gr.36	Typical
9	M9	N956	N955		270	L3"x3"x0.25"	Beam	Single Angle	A36 Gr.36	Typical
10	M13	N955	N951		180	LL3"x3"x0.25"	Beam	Double Angle (...	A36 Gr.36	Typical
11	M14	N957	N953		180	LL3"x3"x0.25"	Beam	Double Angle (...	A36 Gr.36	Typical
12	M15	N952	N956		180	LL3"x3"x0.25"	Beam	Double Angle (...	A36 Gr.36	Typical
13	MP4	N966	N967			Pipe 2.375"x0....	Beam	Pipe	A53 Gr.B	Typical
14	MP3	N972	N973			Pipe 2.375"x0....	Beam	Pipe	A53 Gr.B	Typical
15	MP2	N978	N979			Pipe 2.375"x0....	Beam	Pipe	A53 Gr.B	Typical
16	MP1	N984	N985			Pipe 2.375"x0....	Beam	Pipe	A53 Gr.B	Typical
17	MP12	N1362	N1363			Pipe 2.375"x0....	Beam	Pipe	A53 Gr.B	Typical
18	MP11	N1368	N1369			Pipe 2.375"x0....	Beam	Pipe	A53 Gr.B	Typical
19	MP10	N1374	N1375			Pipe 2.375"x0....	Beam	Pipe	A53 Gr.B	Typical
20	MP9	N1380	N1381			Pipe 2.375"x0....	Beam	Pipe	A53 Gr.B	Typical
21	MP8	N1386	N1387			Pipe 2.375"x0....	Beam	Pipe	A53 Gr.B	Typical
22	MP7	N1392	N1393			Pipe 2.375"x0....	Beam	Pipe	A53 Gr.B	Typical
23	MP6	N1398	N1399			Pipe 2.375"x0....	Beam	Pipe	A53 Gr.B	Typical
24	MP5	N1404	N1405			Pipe 2.375"x0....	Beam	Pipe	A53 Gr.B	Typical
25	M29	N964	N962			RIGID	None	None	RIGID	Typical
26	M31	N970	N968			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
27	M33	N976	N974			RIGID	None	None	RIGID	Typical
28	M35	N982	N980			RIGID	None	None	RIGID	Typical
29	M36	N1352	N954			RIGID	None	None	RIGID	Typical
30	M37	N1353	N958			RIGID	None	None	RIGID	Typical
31	M38	N1351	N183			RIGID	None	None	RIGID	Typical
32	M39	N1355	N1349			RIGID	None	None	RIGID	Typical
33	M40	N1354	N486			RIGID	None	None	RIGID	Typical
34	M41	N1357	N1350			RIGID	None	None	RIGID	Typical
35	M42	N1356	N768			RIGID	None	None	RIGID	Typical
36	M44	N1360	N1358			RIGID	None	None	RIGID	Typical
37	M46	N1366	N1364			RIGID	None	None	RIGID	Typical
38	M48	N1372	N1370			RIGID	None	None	RIGID	Typical
39	M50	N1378	N1376			RIGID	None	None	RIGID	Typical
40	M52	N1384	N1382			RIGID	None	None	RIGID	Typical
41	M54	N1390	N1388			RIGID	None	None	RIGID	Typical
42	M56	N1396	N1394			RIGID	None	None	RIGID	Typical
43	M58	N1402	N1400			RIGID	None	None	RIGID	Typical
44	M59	N1407	N1406			RIGID	None	None	RIGID	Typical
45	M60	N1409	N1408			RIGID	None	None	RIGID	Typical
46	M46A	N1020	N1021		270	Pipe 2.375"x0....	Beam	Pipe	A53 Gr.B	Typical
47	M47	N1024	N1025		270	Pipe 2.375"x0....	Beam	Pipe	A53 Gr.B	Typical
48	M48A	N1028	N1029		270	Pipe 2.375"x0....	Beam	Pipe	A53 Gr.B	Typical
49	M49	N1033	N1023			RIGID	None	None	RIGID	Typical
50	M50A	N1032	N1022			RIGID	None	None	RIGID	Typical
51	M52A	N1036	N1026			RIGID	None	None	RIGID	Typical
52	M54A	N1040	N1030			RIGID	None	None	RIGID	Typical
53	M55	N1032	N1069			Pipe 2.375"x0....	Beam	Pipe	A53 Gr.B	Typical
54	M56A	N1040	N1065			Pipe 2.375"x0....	Beam	Pipe	A53 Gr.B	Typical
55	M57	N1036	N1033			Pipe 2.375"x0....	Beam	Pipe	A53 Gr.B	Typical
56	M58A	N1039	N1038			RIGID	None	None	RIGID	Typical
57	M59A	N1041A	N1040A			RIGID	None	None	RIGID	Typical
58	M60A	N1043	N1042			RIGID	None	None	RIGID	Typical
59	M61	N1045	N1044			RIGID	None	None	RIGID	Typical
60	M62	N1047	N1046			RIGID	None	None	RIGID	Typical
61	M63	N1049	N1048			RIGID	None	None	RIGID	Typical
62	M64	N1051	N1050			RIGID	None	None	RIGID	Typical
63	M65	N1053	N1052			RIGID	None	None	RIGID	Typical
64	M66	N1055	N1054			RIGID	None	None	RIGID	Typical
65	M67	N1057	N1056			RIGID	None	None	RIGID	Typical
66	M68	N1059	N1058			RIGID	None	None	RIGID	Typical
67	M69	N1061	N1060			RIGID	None	None	RIGID	Typical
68	M70	N1065	N1063			RIGID	None	None	RIGID	Typical
69	M71	N1036	N1026			RIGID	None	None	RIGID	Typical
70	M72	N1069	N1067			RIGID	None	None	RIGID	Typical
71	M73	N1040	N1030			RIGID	None	None	RIGID	Typical
72	M72A	N117	N126A		90	L2.5"X2.5"X0....	Beam	Single Angle	A36 Gr.36	Typical
73	M73A	N118	N125A		180	L2.5"X2.5"X0....	Beam	Single Angle	A36 Gr.36	Typical
74	M74	N134A	N130		90	L2.5"X2.5"X0....	Beam	Single Angle	A36 Gr.36	Typical
75	M75	N135A	N129		180	L2.5"X2.5"X0....	Beam	Single Angle	A36 Gr.36	Typical
76	M76	N136	N134		90	L2.5"X2.5"X0....	Beam	Single Angle	A36 Gr.36	Typical
77	M77	N137	N133		180	L2.5"X2.5"X0....	Beam	Single Angle	A36 Gr.36	Typical
78	M78	N126A	N125A			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
79	M79	N127	N116			RIGID	None	None	RIGID	Typical
80	M80	N130	N129			RIGID	None	None	RIGID	Typical
81	M81	N131	N128			RIGID	None	None	RIGID	Typical
82	M82	N134	N133			RIGID	None	None	RIGID	Typical
83	M83	N135	N132			RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1	BenPIN					Yes	Default			None
2	M2	BenPIN					Yes	Default			None
3	M3	BenPIN					Yes	Default			None
4	H1						Yes	Default			None
5	H3						Yes				None
6	H2						Yes				None
7	M7						Yes				None
8	M8						Yes				None
9	M9						Yes				None
10	M13						Yes				None
11	M14						Yes				None
12	M15						Yes				None
13	MP4						Yes				None
14	MP3						Yes				None
15	MP2						Yes				None
16	MP1						Yes				None
17	MP12						Yes				None
18	MP11						Yes				None
19	MP10						Yes				None
20	MP9						Yes				None
21	MP8						Yes				None
22	MP7						Yes				None
23	MP6						Yes				None
24	MP5						Yes				None
25	M29						Yes	** NA **			None
26	M31						Yes	** NA **			None
27	M33						Yes	** NA **			None
28	M35						Yes	** NA **			None
29	M36						Yes	** NA **			None
30	M37						Yes	** NA **			None
31	M38						Yes	** NA **			None
32	M39						Yes	** NA **			None
33	M40						Yes	** NA **			None
34	M41						Yes	** NA **			None
35	M42						Yes	** NA **			None
36	M44						Yes	** NA **			None
37	M46						Yes	** NA **			None
38	M48						Yes	** NA **			None
39	M50						Yes	** NA **			None
40	M52						Yes	** NA **			None
41	M54						Yes	** NA **			None
42	M56						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
43	M58						Yes	** NA **			None
44	M59						Yes	** NA **			None
45	M60						Yes	** NA **			None
46	M46A						Yes				None
47	M47						Yes				None
48	M48A						Yes				None
49	M49						Yes	** NA **			None
50	M50A						Yes	** NA **			None
51	M52A						Yes	** NA **			None
52	M54A						Yes	** NA **			None
53	M55	BenPIN	BenPIN				Yes				None
54	M56A	BenPIN	BenPIN				Yes				None
55	M57	BenPIN	BenPIN				Yes				None
56	M58A						Yes	** NA **			None
57	M59A						Yes	** NA **			None
58	M60A						Yes	** NA **			None
59	M61						Yes	** NA **			None
60	M62						Yes	** NA **			None
61	M63						Yes	** NA **			None
62	M64						Yes	** NA **			None
63	M65						Yes	** NA **			None
64	M66						Yes	** NA **			None
65	M67						Yes	** NA **			None
66	M68						Yes	** NA **			None
67	M69						Yes	** NA **			None
68	M70						Yes	** NA **			None
69	M71						Yes	** NA **			None
70	M72						Yes	** NA **			None
71	M73						Yes	** NA **			None
72	M72A	BenPIN	BenPIN				Yes				None
73	M73A	BenPIN	BenPIN				Yes				None
74	M74	BenPIN	BenPIN				Yes				None
75	M75	BenPIN	BenPIN				Yes				None
76	M76	BenPIN	BenPIN				Yes				None
77	M77	BenPIN	BenPIN				Yes				None
78	M78						Yes	** NA **			None
79	M79						Yes	** NA **			None
80	M80						Yes	** NA **			None
81	M81						Yes	** NA **			None
82	M82						Yes	** NA **			None
83	M83						Yes	** NA **			None

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	M1	C5.25"X4"X...	35.836	Segment	Segment			Segme...	2.1	1		Lateral
2	M2	C5.25"X4"X...	35.836	Segment	Segment			Segme...	2.1	1		Lateral
3	M3	C5.25"X4"X...	35.836	Segment	Segment			Segme...	2.1	1		Lateral
4	H1	L3"x3"x0.25"	168	84	168	Lbyy		84	1	1		Lateral
5	H3	L3"x3"x0.25"	168	84	168	Lbyy		84	1	1		Lateral
6	H2	L3"x3"x0.25"	168	84	168	Lbyy		84	1	1		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
7	M7	L3"x3"x0.25"	84.862	Segment	Segment	Lbyy		Segme...	1	1		Lateral
8	M8	L3"x3"x0.25"	84.862	Segment	Segment	Lbyy		Segme...	1	1		Lateral
9	M9	L3"x3"x0.25"	84.862	Segment	Segment	Lbyy		Segme...	1	1		Lateral
10	M13	LL3"x3"x0.25"	48	48	48	Lbyy		48	1	1		Lateral
11	M14	LL3"x3"x0.25"	48	48	48	Lbyy		48	1	1		Lateral
12	M15	LL3"x3"x0.25"	48	48	48	Lbyy		48	1	1		Lateral
13	MP4	Pipe 2.375"...	72	Segment	Segment	Lbyy		Segme...	1	1		Lateral
14	MP3	Pipe 2.375"...	72	Segment	Segment	Lbyy		Segme...	1	1		Lateral
15	MP2	Pipe 2.375"...	72	Segment	Segment	Lbyy		Segme...	1	1		Lateral
16	MP1	Pipe 2.375"...	72	Segment	Segment	Lbyy		Segme...	1	1		Lateral
17	MP12	Pipe 2.375"...	72	Segment	Segment	Lbyy		Segme...	1	1		Lateral
18	MP11	Pipe 2.375"...	72	Segment	Segment	Lbyy		Segme...	1	1		Lateral
19	MP10	Pipe 2.375"...	72	Segment	Segment	Lbyy		Segme...	1	1		Lateral
20	MP9	Pipe 2.375"...	72	Segment	Segment	Lbyy		Segme...	1	1		Lateral
21	MP8	Pipe 2.375"...	72	Segment	Segment	Lbyy		Segme...	1	1		Lateral
22	MP7	Pipe 2.375"...	72	Segment	Segment	Lbyy		Segme...	1	1		Lateral
23	MP6	Pipe 2.375"...	72	Segment	Segment	Lbyy		Segme...	1	1		Lateral
24	MP5	Pipe 2.375"...	72	Segment	Segment	Lbyy		Segme...	1	1		Lateral
25	M46A	Pipe 2.375"...	168	108	93	Lbyy		108	1	1		Lateral
26	M47	Pipe 2.375"...	168	108	93	Lbyy		108	1	1		Lateral
27	M48A	Pipe 2.375"...	168	108	93	Lbyy		108	1	1		Lateral
28	M55	Pipe 2.375"...	30	Segment	Segment	Lbyy		Segme...	1	1		Lateral
29	M56A	Pipe 2.375"...	30	Segment	Segment	Lbyy		Segme...	1	1		Lateral
30	M57	Pipe 2.375"...	30	Segment	Segment	Lbyy		Segme...	1	1		Lateral
31	M72A	L2.5"X2.5"...	61.482	Segment	Segment	Lbyy		Segme...	1	1		Lateral
32	M73A	L2.5"X2.5"...	61.482	Segment	Segment	Lbyy		Segme...	1	1		Lateral
33	M74	L2.5"X2.5"...	61.482	Segment	Segment	Lbyy		Segme...	1	1		Lateral
34	M75	L2.5"X2.5"...	61.482	Segment	Segment	Lbyy		Segme...	1	1		Lateral
35	M76	L2.5"X2.5"...	61.482	Segment	Segment	Lbyy		Segme...	1	1		Lateral
36	M77	L2.5"X2.5"...	61.482	Segment	Segment	Lbyy		Segme...	1	1		Lateral

Cold Formed Steel Design Parameters

Label	Shape	Length...	Lbyy[in]	Lbzz[in]	Lcomp to...	Lcomp bo...	L-torque[in]	Kyy	Kzz	Cb	R	a[in]	Funct...
No Data to Print ...													

Joint Loads and Enforced Displacements

Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
No Data to Print ...			

Member Point Loads (BLC 1 : Self Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	-38.25	0
2	MP2	Z	-38.25	72
3	MP3	Z	-43	6.5
4	MP3	Z	-43	65.5
5	MP2	Z	-71	9
6	MP3	Z	-59.4	9

Member Point Loads (BLC 1 : Self Weight) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
7	MP3	Z	-72	9
8	M7	Z	-18.9	21
9	MP6	Z	-38.25	0
10	MP6	Z	-38.25	72
11	MP7	Z	-43	6.5
12	MP7	Z	-43	65.5
13	MP6	Z	-71	9
14	MP7	Z	-59.4	9
15	MP7	Z	-72	9
16	M9	Z	-18.9	21
17	MP10	Z	-38.25	0
18	MP10	Z	-38.25	72
19	MP11	Z	-43	6.5
20	MP11	Z	-43	65.5
21	MP10	Z	-71	9
22	MP11	Z	-59.4	9
23	MP11	Z	-72	9
24	M8	Z	-18.9	21

Member Point Loads (BLC 4 : Wind Load 0 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-357.218	0
2	MP2	X	-357.218	72
3	MP3	X	-197.686	6.5
4	MP3	X	-197.686	65.5
5	MP2	X	-80.692	9
6	MP3	X	-51.097	9
7	MP3	X	-55.507	9
8	M7	X	-34.853	21
9	MP6	X	-188.964	0
10	MP6	X	-188.964	72
11	MP7	X	-109.6	6.5
12	MP7	X	-109.6	65.5
13	MP6	X	-63.486	9
14	MP7	X	-74.944	9
15	MP7	X	-64.291	9
16	M9	X	-34.853	21
17	MP10	X	-188.964	0
18	MP10	X	-188.964	72
19	MP11	X	-109.6	6.5
20	MP11	X	-109.6	65.5
21	MP10	X	-63.486	9
22	MP11	X	-74.944	9
23	MP11	X	-64.291	9
24	M8	X	-34.853	21
25	MP2	Y	0	0
26	MP2	Y	0	72
27	MP3	Y	0	6.5
28	MP3	Y	0	65.5
29	MP2	Y	0	9
30	MP3	Y	0	9

Member Point Loads (BLC 4 : Wind Load 0 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
31	MP3	Y	0	9
32	M7	Y	0	21
33	MP6	Y	0	0
34	MP6	Y	0	72
35	MP7	Y	0	6.5
36	MP7	Y	0	65.5
37	MP6	Y	0	9
38	MP7	Y	0	9
39	MP7	Y	0	9
40	M9	Y	0	21
41	MP10	Y	0	0
42	MP10	Y	0	72
43	MP11	Y	0	6.5
44	MP11	Y	0	65.5
45	MP10	Y	0	9
46	MP11	Y	0	9
47	MP11	Y	0	9
48	M8	Y	0	21

Member Point Loads (BLC 5 : Wind Load 30 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-260.789	0
2	MP2	X	-260.789	72
3	MP3	X	-145.773	6.5
4	MP3	X	-145.773	65.5
5	MP2	X	-64.915	9
6	MP3	X	-51.135	9
7	MP3	X	-50.606	9
8	M7	X	-30.184	21
9	MP6	X	-260.789	0
10	MP6	X	-260.789	72
11	MP7	X	-145.773	6.5
12	MP7	X	-145.773	65.5
13	MP6	X	-64.915	9
14	MP7	X	-51.135	9
15	MP7	X	-50.606	9
16	M9	X	-30.184	21
17	MP10	X	-115.078	0
18	MP10	X	-115.078	72
19	MP11	X	-69.488	6.5
20	MP11	X	-69.488	65.5
21	MP10	X	-50.014	9
22	MP11	X	-71.787	9
23	MP11	X	-58.214	9
24	M8	X	-30.184	21
25	MP2	Y	-150.567	0
26	MP2	Y	-150.567	72
27	MP3	Y	-84.162	6.5
28	MP3	Y	-84.162	65.5
29	MP2	Y	-37.478	9
30	MP3	Y	-29.523	9

Member Point Loads (BLC 5 : Wind Load 30 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
31	MP3	Y	-29.217	9
32	M7	Y	-17.427	21
33	MP6	Y	-150.567	0
34	MP6	Y	-150.567	72
35	MP7	Y	-84.162	6.5
36	MP7	Y	-84.162	65.5
37	MP6	Y	-37.478	9
38	MP7	Y	-29.523	9
39	MP7	Y	-29.217	9
40	M9	Y	-17.427	21
41	MP10	Y	-66.44	0
42	MP10	Y	-66.44	72
43	MP11	Y	-40.119	6.5
44	MP11	Y	-40.119	65.5
45	MP10	Y	-28.875	9
46	MP11	Y	-41.446	9
47	MP11	Y	-33.61	9
48	M8	Y	-17.427	21

Member Point Loads (BLC 6 : Wind Load 45 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-173.276	0
2	MP2	X	-173.276	72
3	MP3	X	-98.261	6.5
4	MP3	X	-98.261	65.5
5	MP2	X	-48.947	9
6	MP3	X	-47.372	9
7	MP3	X	-43.39	9
8	M7	X	-24.645	21
9	MP6	X	-241.965	0
10	MP6	X	-241.965	72
11	MP7	X	-134.222	6.5
12	MP7	X	-134.222	65.5
13	MP6	X	-55.971	9
14	MP7	X	-37.637	9
15	MP7	X	-39.804	9
16	M9	X	-24.645	21
17	MP10	X	-104.587	0
18	MP10	X	-104.587	72
19	MP11	X	-62.3	6.5
20	MP11	X	-62.3	65.5
21	MP10	X	-41.923	9
22	MP11	X	-57.108	9
23	MP11	X	-46.976	9
24	M8	X	-24.645	21
25	MP2	Y	-173.276	0
26	MP2	Y	-173.276	72
27	MP3	Y	-98.261	6.5
28	MP3	Y	-98.261	65.5
29	MP2	Y	-48.947	9
30	MP3	Y	-47.372	9

Member Point Loads (BLC 6 : Wind Load 45 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
31	MP3	Y	-43.39	9
32	M7	Y	-24.645	21
33	MP6	Y	-241.965	0
34	MP6	Y	-241.965	72
35	MP7	Y	-134.222	6.5
36	MP7	Y	-134.222	65.5
37	MP6	Y	-55.971	9
38	MP7	Y	-37.637	9
39	MP7	Y	-39.804	9
40	M9	Y	-24.645	21
41	MP10	Y	-104.587	0
42	MP10	Y	-104.587	72
43	MP11	Y	-62.3	6.5
44	MP11	Y	-62.3	65.5
45	MP10	Y	-41.923	9
46	MP11	Y	-57.108	9
47	MP11	Y	-46.976	9
48	M8	Y	-24.645	21

Member Point Loads (BLC 7 : Wind Load 60 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-94.482	0
2	MP2	X	-94.482	72
3	MP3	X	-54.8	6.5
4	MP3	X	-54.8	65.5
5	MP2	X	-31.743	9
6	MP3	X	-37.472	9
7	MP3	X	-32.146	9
8	M7	X	-17.427	21
9	MP6	X	-178.609	0
10	MP6	X	-178.609	72
11	MP7	X	-98.843	6.5
12	MP7	X	-98.843	65.5
13	MP6	X	-40.346	9
14	MP7	X	-25.548	9
15	MP7	X	-27.753	9
16	M9	X	-17.427	21
17	MP10	X	-94.482	0
18	MP10	X	-94.482	72
19	MP11	X	-54.8	6.5
20	MP11	X	-54.8	65.5
21	MP10	X	-31.743	9
22	MP11	X	-37.472	9
23	MP11	X	-32.146	9
24	M8	X	-17.427	21
25	MP2	Y	-163.648	0
26	MP2	Y	-163.648	72
27	MP3	Y	-94.916	6.5
28	MP3	Y	-94.916	65.5
29	MP2	Y	-54.981	9
30	MP3	Y	-64.903	9

Member Point Loads (BLC 7 : Wind Load 60 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
31	MP3	Y	-55.678	9
32	M7	Y	-30.184	21
33	MP6	Y	-309.36	0
34	MP6	Y	-309.36	72
35	MP7	Y	-171.201	6.5
36	MP7	Y	-171.201	65.5
37	MP6	Y	-69.881	9
38	MP7	Y	-44.251	9
39	MP7	Y	-48.07	9
40	M9	Y	-30.184	21
41	MP10	Y	-163.648	0
42	MP10	Y	-163.648	72
43	MP11	Y	-94.916	6.5
44	MP11	Y	-94.916	65.5
45	MP10	Y	-54.981	9
46	MP11	Y	-64.903	9
47	MP11	Y	-55.678	9
48	M8	Y	-30.184	21

Member Point Loads (BLC 8 : Wind Load 90 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	0	0
2	MP2	X	0	72
3	MP3	X	0	6.5
4	MP3	X	0	65.5
5	MP2	X	0	9
6	MP3	X	0	9
7	MP3	X	0	9
8	M7	X	0	21
9	MP6	X	0	0
10	MP6	X	0	72
11	MP7	X	0	6.5
12	MP7	X	0	65.5
13	MP6	X	0	9
14	MP7	X	0	9
15	MP7	X	0	9
16	M9	X	0	21
17	MP10	X	0	0
18	MP10	X	0	72
19	MP11	X	0	6.5
20	MP11	X	0	65.5
21	MP10	X	0	9
22	MP11	X	0	9
23	MP11	X	0	9
24	M8	X	0	21
25	MP2	Y	-132.88	0
26	MP2	Y	-132.88	72
27	MP3	Y	-80.238	6.5
28	MP3	Y	-80.238	65.5
29	MP2	Y	-57.751	9
30	MP3	Y	-82.893	9

Member Point Loads (BLC 8 : Wind Load 90 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
31	MP3	Y	-67.219	9
32	M7	Y	-34.853	21
33	MP6	Y	-301.133	0
34	MP6	Y	-301.133	72
35	MP7	Y	-168.324	6.5
36	MP7	Y	-168.324	65.5
37	MP6	Y	-74.957	9
38	MP7	Y	-59.046	9
39	MP7	Y	-58.435	9
40	M9	Y	-34.853	21
41	MP10	Y	-301.133	0
42	MP10	Y	-301.133	72
43	MP11	Y	-168.324	6.5
44	MP11	Y	-168.324	65.5
45	MP10	Y	-74.957	9
46	MP11	Y	-59.046	9
47	MP11	Y	-58.435	9
48	M8	Y	-34.853	21

Member Point Loads (BLC 9 : Wind Load 120 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	94.482	0
2	MP2	X	94.482	72
3	MP3	X	54.8	6.5
4	MP3	X	54.8	65.5
5	MP2	X	31.743	9
6	MP3	X	37.472	9
7	MP3	X	32.146	9
8	M7	X	17.427	21
9	MP6	X	94.482	0
10	MP6	X	94.482	72
11	MP7	X	54.8	6.5
12	MP7	X	54.8	65.5
13	MP6	X	31.743	9
14	MP7	X	37.472	9
15	MP7	X	32.146	9
16	M9	X	17.427	21
17	MP10	X	178.609	0
18	MP10	X	178.609	72
19	MP11	X	98.843	6.5
20	MP11	X	98.843	65.5
21	MP10	X	40.346	9
22	MP11	X	25.548	9
23	MP11	X	27.753	9
24	M8	X	17.427	21
25	MP2	Y	-163.648	0
26	MP2	Y	-163.648	72
27	MP3	Y	-94.916	6.5
28	MP3	Y	-94.916	65.5
29	MP2	Y	-54.981	9
30	MP3	Y	-64.903	9

Member Point Loads (BLC 9 : Wind Load 120 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
31	MP3	Y	-55.678	9
32	M7	Y	-30.184	21
33	MP6	Y	-163.648	0
34	MP6	Y	-163.648	72
35	MP7	Y	-94.916	6.5
36	MP7	Y	-94.916	65.5
37	MP6	Y	-54.981	9
38	MP7	Y	-64.903	9
39	MP7	Y	-55.678	9
40	M9	Y	-30.184	21
41	MP10	Y	-309.36	0
42	MP10	Y	-309.36	72
43	MP11	Y	-171.201	6.5
44	MP11	Y	-171.201	65.5
45	MP10	Y	-69.881	9
46	MP11	Y	-44.251	9
47	MP11	Y	-48.07	9
48	M8	Y	-30.184	21

Member Point Loads (BLC 10 : Wind Load 135 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	173.276	0
2	MP2	X	173.276	72
3	MP3	X	98.261	6.5
4	MP3	X	98.261	65.5
5	MP2	X	48.947	9
6	MP3	X	47.372	9
7	MP3	X	43.39	9
8	M7	X	24.645	21
9	MP6	X	104.587	0
10	MP6	X	104.587	72
11	MP7	X	62.3	6.5
12	MP7	X	62.3	65.5
13	MP6	X	41.923	9
14	MP7	X	57.108	9
15	MP7	X	46.976	9
16	M9	X	24.645	21
17	MP10	X	241.965	0
18	MP10	X	241.965	72
19	MP11	X	134.222	6.5
20	MP11	X	134.222	65.5
21	MP10	X	55.971	9
22	MP11	X	37.637	9
23	MP11	X	39.804	9
24	M8	X	24.645	21
25	MP2	Y	-173.276	0
26	MP2	Y	-173.276	72
27	MP3	Y	-98.261	6.5
28	MP3	Y	-98.261	65.5
29	MP2	Y	-48.947	9
30	MP3	Y	-47.372	9

Member Point Loads (BLC 10 : Wind Load 135 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
31	MP3	Y	-43.39	9
32	M7	Y	-24.645	21
33	MP6	Y	-104.587	0
34	MP6	Y	-104.587	72
35	MP7	Y	-62.3	6.5
36	MP7	Y	-62.3	65.5
37	MP6	Y	-41.923	9
38	MP7	Y	-57.108	9
39	MP7	Y	-46.976	9
40	M9	Y	-24.645	21
41	MP10	Y	-241.965	0
42	MP10	Y	-241.965	72
43	MP11	Y	-134.222	6.5
44	MP11	Y	-134.222	65.5
45	MP10	Y	-55.971	9
46	MP11	Y	-37.637	9
47	MP11	Y	-39.804	9
48	M8	Y	-24.645	21

Member Point Loads (BLC 11 : Wind Load 150 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	260.789	0
2	MP2	X	260.789	72
3	MP3	X	145.773	6.5
4	MP3	X	145.773	65.5
5	MP2	X	64.915	9
6	MP3	X	51.135	9
7	MP3	X	50.606	9
8	M7	X	30.184	21
9	MP6	X	115.078	0
10	MP6	X	115.078	72
11	MP7	X	69.488	6.5
12	MP7	X	69.488	65.5
13	MP6	X	50.014	9
14	MP7	X	71.787	9
15	MP7	X	58.214	9
16	M9	X	30.184	21
17	MP10	X	260.789	0
18	MP10	X	260.789	72
19	MP11	X	145.773	6.5
20	MP11	X	145.773	65.5
21	MP10	X	64.915	9
22	MP11	X	51.135	9
23	MP11	X	50.606	9
24	M8	X	30.184	21
25	MP2	Y	-150.567	0
26	MP2	Y	-150.567	72
27	MP3	Y	-84.162	6.5
28	MP3	Y	-84.162	65.5
29	MP2	Y	-37.478	9
30	MP3	Y	-29.523	9

Member Point Loads (BLC 11 : Wind Load 150 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
31	MP3	Y	-29.217	9
32	M7	Y	-17.427	21
33	MP6	Y	-66.44	0
34	MP6	Y	-66.44	72
35	MP7	Y	-40.119	6.5
36	MP7	Y	-40.119	65.5
37	MP6	Y	-28.875	9
38	MP7	Y	-41.446	9
39	MP7	Y	-33.61	9
40	M9	Y	-17.427	21
41	MP10	Y	-150.567	0
42	MP10	Y	-150.567	72
43	MP11	Y	-84.162	6.5
44	MP11	Y	-84.162	65.5
45	MP10	Y	-37.478	9
46	MP11	Y	-29.523	9
47	MP11	Y	-29.217	9
48	M8	Y	-17.427	21

Member Point Loads (BLC 12 : Ice Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	-190.67	0
2	MP2	Z	-190.67	72
3	MP3	Z	-110.055	6.5
4	MP3	Z	-110.055	65.5
5	MP2	Z	-77.157	9
6	MP3	Z	-73.819	9
7	MP3	Z	-73.547	9
8	M7	Z	-87.761	21
9	MP6	Z	-190.67	0
10	MP6	Z	-190.67	72
11	MP7	Z	-110.055	6.5
12	MP7	Z	-110.055	65.5
13	MP6	Z	-77.157	9
14	MP7	Z	-73.819	9
15	MP7	Z	-73.547	9
16	M9	Z	-87.761	21
17	MP10	Z	-190.67	0
18	MP10	Z	-190.67	72
19	MP11	Z	-110.055	6.5
20	MP11	Z	-110.055	65.5
21	MP10	Z	-77.157	9
22	MP11	Z	-73.819	9
23	MP11	Z	-73.547	9
24	M8	Z	-87.761	21

Member Point Loads (BLC 15 : Ice Wind Load 0 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-77.025	0
2	MP2	X	-77.025	72
3	MP3	X	-40.032	6.5

Member Point Loads (BLC 15 : Ice Wind Load 0 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP3	X	-40.032	65.5
5	MP2	X	-17.99	9
6	MP3	X	-12.163	9
7	MP3	X	-12.892	9
8	M7	X	-9.848	21
9	MP6	X	-45.324	0
10	MP6	X	-45.324	72
11	MP7	X	-23.617	6.5
12	MP7	X	-23.617	65.5
13	MP6	X	-14.595	9
14	MP7	X	-16.863	9
15	MP7	X	-14.653	9
16	M9	X	-9.848	21
17	MP10	X	-45.324	0
18	MP10	X	-45.324	72
19	MP11	X	-23.617	6.5
20	MP11	X	-23.617	65.5
21	MP10	X	-14.595	9
22	MP11	X	-16.863	9
23	MP11	X	-14.653	9
24	M8	X	-9.848	21
25	MP2	Y	0	0
26	MP2	Y	0	72
27	MP3	Y	0	6.5
28	MP3	Y	0	65.5
29	MP2	Y	0	9
30	MP3	Y	0	9
31	MP3	Y	0	9
32	M7	Y	0	21
33	MP6	Y	0	0
34	MP6	Y	0	72
35	MP7	Y	0	6.5
36	MP7	Y	0	65.5
37	MP6	Y	0	9
38	MP7	Y	0	9
39	MP7	Y	0	9
40	M9	Y	0	21
41	MP10	Y	0	0
42	MP10	Y	0	72
43	MP11	Y	0	6.5
44	MP11	Y	0	65.5
45	MP10	Y	0	9
46	MP11	Y	0	9
47	MP11	Y	0	9
48	M8	Y	0	21

Member Point Loads (BLC 16 : Ice Wind Load 30 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-57.555	0
2	MP2	X	-57.555	72
3	MP3	X	-29.93	6.5

Member Point Loads (BLC 16 : Ice Wind Load 30 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP3	X	-29.93	65.5
5	MP2	X	-14.6	9
6	MP3	X	-11.891	9
7	MP3	X	-11.673	9
8	M7	X	-8.528	21
9	MP6	X	-57.555	0
10	MP6	X	-57.555	72
11	MP7	X	-29.93	6.5
12	MP7	X	-29.93	65.5
13	MP6	X	-14.6	9
14	MP7	X	-11.891	9
15	MP7	X	-11.673	9
16	M9	X	-8.528	21
17	MP10	X	-30.1	0
18	MP10	X	-30.1	72
19	MP11	X	-15.715	6.5
20	MP11	X	-15.715	65.5
21	MP10	X	-11.66	9
22	MP11	X	-15.961	9
23	MP11	X	-13.198	9
24	M8	X	-8.528	21
25	MP2	Y	-33.229	0
26	MP2	Y	-33.229	72
27	MP3	Y	-17.28	6.5
28	MP3	Y	-17.28	65.5
29	MP2	Y	-8.429	9
30	MP3	Y	-6.865	9
31	MP3	Y	-6.74	9
32	M7	Y	-4.924	21
33	MP6	Y	-33.229	0
34	MP6	Y	-33.229	72
35	MP7	Y	-17.28	6.5
36	MP7	Y	-17.28	65.5
37	MP6	Y	-8.429	9
38	MP7	Y	-6.865	9
39	MP7	Y	-6.74	9
40	M9	Y	-4.924	21
41	MP10	Y	-17.378	0
42	MP10	Y	-17.378	72
43	MP11	Y	-9.073	6.5
44	MP11	Y	-9.073	65.5
45	MP10	Y	-6.732	9
46	MP11	Y	-9.215	9
47	MP11	Y	-7.62	9
48	M8	Y	-4.924	21

Member Point Loads (BLC 17 : Ice Wind Load 45 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-39.521	0
2	MP2	X	-39.521	72
3	MP3	X	-20.569	6.5

Member Point Loads (BLC 17 : Ice Wind Load 45 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP3	X	-20.569	65.5
5	MP2	X	-11.12	9
6	MP3	X	-10.816	9
7	MP3	X	-9.946	9
8	M7	X	-6.963	21
9	MP6	X	-52.463	0
10	MP6	X	-52.463	72
11	MP7	X	-27.27	6.5
12	MP7	X	-27.27	65.5
13	MP6	X	-12.506	9
14	MP7	X	-8.898	9
15	MP7	X	-9.227	9
16	M9	X	-6.963	21
17	MP10	X	-26.579	0
18	MP10	X	-26.579	72
19	MP11	X	-13.868	6.5
20	MP11	X	-13.868	65.5
21	MP10	X	-9.735	9
22	MP11	X	-12.735	9
23	MP11	X	-10.665	9
24	M8	X	-6.963	21
25	MP2	Y	-39.521	0
26	MP2	Y	-39.521	72
27	MP3	Y	-20.569	6.5
28	MP3	Y	-20.569	65.5
29	MP2	Y	-11.12	9
30	MP3	Y	-10.816	9
31	MP3	Y	-9.946	9
32	M7	Y	-6.963	21
33	MP6	Y	-52.463	0
34	MP6	Y	-52.463	72
35	MP7	Y	-27.27	6.5
36	MP7	Y	-27.27	65.5
37	MP6	Y	-12.506	9
38	MP7	Y	-8.898	9
39	MP7	Y	-9.227	9
40	M9	Y	-6.963	21
41	MP10	Y	-26.579	0
42	MP10	Y	-26.579	72
43	MP11	Y	-13.868	6.5
44	MP11	Y	-13.868	65.5
45	MP10	Y	-9.735	9
46	MP11	Y	-12.735	9
47	MP11	Y	-10.665	9
48	M8	Y	-6.963	21

Member Point Loads (BLC 18 : Ice Wind Load 60 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-22.662	0
2	MP2	X	-22.662	72
3	MP3	X	-11.809	6.5

Member Point Loads (BLC 18 : Ice Wind Load 60 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP3	X	-11.809	65.5
5	MP2	X	-7.298	9
6	MP3	X	-8.432	9
7	MP3	X	-7.326	9
8	M7	X	-4.924	21
9	MP6	X	-38.513	0
10	MP6	X	-38.513	72
11	MP7	X	-20.016	6.5
12	MP7	X	-20.016	65.5
13	MP6	X	-8.995	9
14	MP7	X	-6.082	9
15	MP7	X	-6.446	9
16	M9	X	-4.924	21
17	MP10	X	-22.662	0
18	MP10	X	-22.662	72
19	MP11	X	-11.809	6.5
20	MP11	X	-11.809	65.5
21	MP10	X	-7.298	9
22	MP11	X	-8.432	9
23	MP11	X	-7.326	9
24	M8	X	-4.924	21
25	MP2	Y	-39.252	0
26	MP2	Y	-39.252	72
27	MP3	Y	-20.453	6.5
28	MP3	Y	-20.453	65.5
29	MP2	Y	-12.64	9
30	MP3	Y	-14.604	9
31	MP3	Y	-12.69	9
32	M7	Y	-8.528	21
33	MP6	Y	-66.706	0
34	MP6	Y	-66.706	72
35	MP7	Y	-34.669	6.5
36	MP7	Y	-34.669	65.5
37	MP6	Y	-15.579	9
38	MP7	Y	-10.534	9
39	MP7	Y	-11.165	9
40	M9	Y	-8.528	21
41	MP10	Y	-39.252	0
42	MP10	Y	-39.252	72
43	MP11	Y	-20.453	6.5
44	MP11	Y	-20.453	65.5
45	MP10	Y	-12.64	9
46	MP11	Y	-14.604	9
47	MP11	Y	-12.69	9
48	M8	Y	-8.528	21

Member Point Loads (BLC 19 : Ice Wind Load 90 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	0	0
2	MP2	X	0	72
3	MP3	X	0	6.5

Member Point Loads (BLC 19 : Ice Wind Load 90 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP3	X	0	65.5
5	MP2	X	0	9
6	MP3	X	0	9
7	MP3	X	0	9
8	M7	X	0	21
9	MP6	X	0	0
10	MP6	X	0	72
11	MP7	X	0	6.5
12	MP7	X	0	65.5
13	MP6	X	0	9
14	MP7	X	0	9
15	MP7	X	0	9
16	M9	X	0	21
17	MP10	X	0	0
18	MP10	X	0	72
19	MP11	X	0	6.5
20	MP11	X	0	65.5
21	MP10	X	0	9
22	MP11	X	0	9
23	MP11	X	0	9
24	M8	X	0	21
25	MP2	Y	-34.757	0
26	MP2	Y	-34.757	72
27	MP3	Y	-18.146	6.5
28	MP3	Y	-18.146	65.5
29	MP2	Y	-13.464	9
30	MP3	Y	-18.43	9
31	MP3	Y	-15.24	9
32	M7	Y	-9.848	21
33	MP6	Y	-66.458	0
34	MP6	Y	-66.458	72
35	MP7	Y	-34.561	6.5
36	MP7	Y	-34.561	65.5
37	MP6	Y	-16.858	9
38	MP7	Y	-13.73	9
39	MP7	Y	-13.479	9
40	M9	Y	-9.848	21
41	MP10	Y	-66.458	0
42	MP10	Y	-66.458	72
43	MP11	Y	-34.561	6.5
44	MP11	Y	-34.561	65.5
45	MP10	Y	-16.858	9
46	MP11	Y	-13.73	9
47	MP11	Y	-13.479	9
48	M8	Y	-9.848	21

Member Point Loads (BLC 20 : Ice Wind Load 120 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	22.662	0
2	MP2	X	22.662	72
3	MP3	X	11.809	6.5

Member Point Loads (BLC 20 : Ice Wind Load 120 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP3	X	11.809	65.5
5	MP2	X	7.298	9
6	MP3	X	8.432	9
7	MP3	X	7.326	9
8	M7	X	4.924	21
9	MP6	X	22.662	0
10	MP6	X	22.662	72
11	MP7	X	11.809	6.5
12	MP7	X	11.809	65.5
13	MP6	X	7.298	9
14	MP7	X	8.432	9
15	MP7	X	7.326	9
16	M9	X	4.924	21
17	MP10	X	38.513	0
18	MP10	X	38.513	72
19	MP11	X	20.016	6.5
20	MP11	X	20.016	65.5
21	MP10	X	8.995	9
22	MP11	X	6.082	9
23	MP11	X	6.446	9
24	M8	X	4.924	21
25	MP2	Y	-39.252	0
26	MP2	Y	-39.252	72
27	MP3	Y	-20.453	6.5
28	MP3	Y	-20.453	65.5
29	MP2	Y	-12.64	9
30	MP3	Y	-14.604	9
31	MP3	Y	-12.69	9
32	M7	Y	-8.528	21
33	MP6	Y	-39.252	0
34	MP6	Y	-39.252	72
35	MP7	Y	-20.453	6.5
36	MP7	Y	-20.453	65.5
37	MP6	Y	-12.64	9
38	MP7	Y	-14.604	9
39	MP7	Y	-12.69	9
40	M9	Y	-8.528	21
41	MP10	Y	-66.706	0
42	MP10	Y	-66.706	72
43	MP11	Y	-34.669	6.5
44	MP11	Y	-34.669	65.5
45	MP10	Y	-15.579	9
46	MP11	Y	-10.534	9
47	MP11	Y	-11.165	9
48	M8	Y	-8.528	21

Member Point Loads (BLC 21 : Ice Wind Load 135 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	39.521	0
2	MP2	X	39.521	72
3	MP3	X	20.569	6.5

Member Point Loads (BLC 21 : Ice Wind Load 135 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP3	X	20.569	65.5
5	MP2	X	11.12	9
6	MP3	X	10.816	9
7	MP3	X	9.946	9
8	M7	X	6.963	21
9	MP6	X	26.579	0
10	MP6	X	26.579	72
11	MP7	X	13.868	6.5
12	MP7	X	13.868	65.5
13	MP6	X	9.735	9
14	MP7	X	12.735	9
15	MP7	X	10.665	9
16	M9	X	6.963	21
17	MP10	X	52.463	0
18	MP10	X	52.463	72
19	MP11	X	27.27	6.5
20	MP11	X	27.27	65.5
21	MP10	X	12.506	9
22	MP11	X	8.898	9
23	MP11	X	9.227	9
24	M8	X	6.963	21
25	MP2	Y	-39.521	0
26	MP2	Y	-39.521	72
27	MP3	Y	-20.569	6.5
28	MP3	Y	-20.569	65.5
29	MP2	Y	-11.12	9
30	MP3	Y	-10.816	9
31	MP3	Y	-9.946	9
32	M7	Y	-6.963	21
33	MP6	Y	-26.579	0
34	MP6	Y	-26.579	72
35	MP7	Y	-13.868	6.5
36	MP7	Y	-13.868	65.5
37	MP6	Y	-9.735	9
38	MP7	Y	-12.735	9
39	MP7	Y	-10.665	9
40	M9	Y	-6.963	21
41	MP10	Y	-52.463	0
42	MP10	Y	-52.463	72
43	MP11	Y	-27.27	6.5
44	MP11	Y	-27.27	65.5
45	MP10	Y	-12.506	9
46	MP11	Y	-8.898	9
47	MP11	Y	-9.227	9
48	M8	Y	-6.963	21

Member Point Loads (BLC 22 : Ice Wind Load 150 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	57.555	0
2	MP2	X	57.555	72
3	MP3	X	29.93	6.5

Member Point Loads (BLC 22 : Ice Wind Load 150 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP3	X	29.93	65.5
5	MP2	X	14.6	9
6	MP3	X	11.891	9
7	MP3	X	11.673	9
8	M7	X	8.528	21
9	MP6	X	30.1	0
10	MP6	X	30.1	72
11	MP7	X	15.715	6.5
12	MP7	X	15.715	65.5
13	MP6	X	11.66	9
14	MP7	X	15.961	9
15	MP7	X	13.198	9
16	M9	X	8.528	21
17	MP10	X	57.555	0
18	MP10	X	57.555	72
19	MP11	X	29.93	6.5
20	MP11	X	29.93	65.5
21	MP10	X	14.6	9
22	MP11	X	11.891	9
23	MP11	X	11.673	9
24	M8	X	8.528	21
25	MP2	Y	-33.229	0
26	MP2	Y	-33.229	72
27	MP3	Y	-17.28	6.5
28	MP3	Y	-17.28	65.5
29	MP2	Y	-8.429	9
30	MP3	Y	-6.865	9
31	MP3	Y	-6.74	9
32	M7	Y	-4.924	21
33	MP6	Y	-17.378	0
34	MP6	Y	-17.378	72
35	MP7	Y	-9.073	6.5
36	MP7	Y	-9.073	65.5
37	MP6	Y	-6.732	9
38	MP7	Y	-9.215	9
39	MP7	Y	-7.62	9
40	M9	Y	-4.924	21
41	MP10	Y	-33.229	0
42	MP10	Y	-33.229	72
43	MP11	Y	-17.28	6.5
44	MP11	Y	-17.28	65.5
45	MP10	Y	-8.429	9
46	MP11	Y	-6.865	9
47	MP11	Y	-6.74	9
48	M8	Y	-4.924	21

Member Point Loads (BLC 23 : Seismic Load X)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-4.431	0
2	MP2	X	-4.431	72
3	MP3	X	-4.981	6.5

Member Point Loads (BLC 23 : Seismic Load X) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP3	X	-4.981	65.5
5	MP2	X	-8.225	9
6	MP3	X	-6.881	9
7	MP3	X	-8.34	9
8	M7	X	-2.189	21
9	MP6	X	-4.431	0
10	MP6	X	-4.431	72
11	MP7	X	-4.981	6.5
12	MP7	X	-4.981	65.5
13	MP6	X	-8.225	9
14	MP7	X	-6.881	9
15	MP7	X	-8.34	9
16	M9	X	-2.189	21
17	MP10	X	-4.431	0
18	MP10	X	-4.431	72
19	MP11	X	-4.981	6.5
20	MP11	X	-4.981	65.5
21	MP10	X	-8.225	9
22	MP11	X	-6.881	9
23	MP11	X	-8.34	9
24	M8	X	-2.189	21

Member Point Loads (BLC 24 : Seismic Load Y)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Y	-4.431	0
2	MP2	Y	-4.431	72
3	MP3	Y	-4.981	6.5
4	MP3	Y	-4.981	65.5
5	MP2	Y	-8.225	9
6	MP3	Y	-6.881	9
7	MP3	Y	-8.34	9
8	M7	Y	-2.189	21
9	MP6	Y	-4.431	0
10	MP6	Y	-4.431	72
11	MP7	Y	-4.981	6.5
12	MP7	Y	-4.981	65.5
13	MP6	Y	-8.225	9
14	MP7	Y	-6.881	9
15	MP7	Y	-8.34	9
16	M9	Y	-2.189	21
17	MP10	Y	-4.431	0
18	MP10	Y	-4.431	72
19	MP11	Y	-4.981	6.5
20	MP11	Y	-4.981	65.5
21	MP10	Y	-8.225	9
22	MP11	Y	-6.881	9
23	MP11	Y	-8.34	9
24	M8	Y	-2.189	21

Member Point Loads (BLC 25 : Live Load 1 (Lv))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]

Member Point Loads (BLC 25 : Live Load 1 (Lv)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	H1	Z	-250	0

Member Point Loads (BLC 26 : Live Load 2 (Lv))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	H1	Z	-250	%50

Member Point Loads (BLC 27 : Live Load 3 (Lv))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	H1	Z	-250	%100

Member Point Loads (BLC 28 : Live Load 4 (Lv))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	H3	Z	-250	0

Member Point Loads (BLC 29 : Live Load 5 (Lv))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	H3	Z	-250	%50

Member Point Loads (BLC 30 : Live Load 6 (Lv))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	H3	Z	-250	%100

Member Point Loads (BLC 31 : Live Load 7 (Lv))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	H2	Z	-250	0

Member Point Loads (BLC 32 : Live Load 8 (Lv))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	H2	Z	-250	%50

Member Point Loads (BLC 33 : Live Load 9 (Lv))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	H2	Z	-250	%100

Member Point Loads (BLC 34 : Maintenance Load 1 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP4	Z	-500	%50

Member Point Loads (BLC 35 : Maintenance Load 2 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	Z	-500	%50

Member Point Loads (BLC 36 : Maintenance Load 3 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	-500	%50

Member Point Loads (BLC 37 : Maintenance Load 4 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Z	-500	%50

Member Point Loads (BLC 38 : Maintenance Load 5 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP12	Z	-500	%50

Member Point Loads (BLC 39 : Maintenance Load 6 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP11	Z	-500	%50

Member Point Loads (BLC 40 : Maintenance Load 7 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP10	Z	-500	%50

Member Point Loads (BLC 41 : Maintenance Load 8 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP9	Z	-500	%50

Member Point Loads (BLC 42 : Maintenance Load 9 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP8	Z	-500	%50

Member Point Loads (BLC 43 : Maintenance Load 10 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP7	Z	-500	%50

Member Point Loads (BLC 44 : Maintenance Load 11 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP6	Z	-500	%50

Member Point Loads (BLC 45 : Maintenance Load 12 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP5	Z	-500	%50

Member Distributed Loads (BLC 2 : Structure Wind X)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
1	M1	SX	-82.025	-82.025	0	%100
2	M2	SX	-82.025	-82.025	0	%100
3	M3	SX	-82.025	-82.025	0	%100
4	H1	SX	-82.025	-82.025	0	%100
5	H3	SX	-82.025	-82.025	0	%100
6	H2	SX	-82.025	-82.025	0	%100
7	M7	SX	-82.025	-82.025	0	%100
8	M8	SX	-82.025	-82.025	0	%100
9	M9	SX	-82.025	-82.025	0	%100
10	M13	SX	-82.025	-82.025	0	%100

Member Distributed Loads (BLC 2 : Structure Wind X) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
11	M14	SX	-82.025	-82.025	0	%100
12	M15	SX	-82.025	-82.025	0	%100
13	MP4	SX	-49.215	-49.215	0	%100
14	MP3	SX	-49.215	-49.215	0	%100
15	MP2	SX	-49.215	-49.215	0	%100
16	MP1	SX	-49.215	-49.215	0	%100
17	MP12	SX	-49.215	-49.215	0	%100
18	MP11	SX	-49.215	-49.215	0	%100
19	MP10	SX	-49.215	-49.215	0	%100
20	MP9	SX	-49.215	-49.215	0	%100
21	MP8	SX	-49.215	-49.215	0	%100
22	MP7	SX	-49.215	-49.215	0	%100
23	MP6	SX	-49.215	-49.215	0	%100
24	MP5	SX	-49.215	-49.215	0	%100
25	M29	SX	-82.025	-82.025	0	%100
26	M31	SX	-82.025	-82.025	0	%100
27	M33	SX	-82.025	-82.025	0	%100
28	M35	SX	-82.025	-82.025	0	%100
29	M36	SX	-82.025	-82.025	0	%100
30	M37	SX	-82.025	-82.025	0	%100
31	M38	SX	-82.025	-82.025	0	%100
32	M39	SX	-82.025	-82.025	0	%100
33	M40	SX	-82.025	-82.025	0	%100
34	M41	SX	-82.025	-82.025	0	%100
35	M42	SX	-82.025	-82.025	0	%100
36	M44	SX	-82.025	-82.025	0	%100
37	M46	SX	-82.025	-82.025	0	%100
38	M48	SX	-82.025	-82.025	0	%100
39	M50	SX	-82.025	-82.025	0	%100
40	M52	SX	-82.025	-82.025	0	%100
41	M54	SX	-82.025	-82.025	0	%100
42	M56	SX	-82.025	-82.025	0	%100
43	M58	SX	-82.025	-82.025	0	%100
44	M59	SX	-82.025	-82.025	0	%100
45	M60	SX	-82.025	-82.025	0	%100
46	M46A	SX	-49.215	-49.215	0	%100
47	M47	SX	-49.215	-49.215	0	%100
48	M48A	SX	-49.215	-49.215	0	%100
49	M49	SX	-82.025	-82.025	0	%100
50	M50A	SX	-82.025	-82.025	0	%100
51	M52A	SX	-82.025	-82.025	0	%100
52	M54A	SX	-82.025	-82.025	0	%100
53	M55	SX	-49.215	-49.215	0	%100
54	M56A	SX	-49.215	-49.215	0	%100
55	M57	SX	-49.215	-49.215	0	%100
56	M58A	SX	-82.025	-82.025	0	%100
57	M59A	SX	-82.025	-82.025	0	%100
58	M60A	SX	-82.025	-82.025	0	%100
59	M61	SX	-82.025	-82.025	0	%100
60	M62	SX	-82.025	-82.025	0	%100
61	M63	SX	-82.025	-82.025	0	%100
62	M64	SX	-82.025	-82.025	0	%100

Member Distributed Loads (BLC 2 : Structure Wind X) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
63	M65	SX	-82.025	-82.025	0	%100
64	M66	SX	-82.025	-82.025	0	%100
65	M67	SX	-82.025	-82.025	0	%100
66	M68	SX	-82.025	-82.025	0	%100
67	M69	SX	-82.025	-82.025	0	%100
68	M70	SX	-82.025	-82.025	0	%100
69	M71	SX	-82.025	-82.025	0	%100
70	M72	SX	-82.025	-82.025	0	%100
71	M73	SX	-82.025	-82.025	0	%100
72	M72A	SX	-82.025	-82.025	0	%100
73	M73A	SX	-82.025	-82.025	0	%100
74	M74	SX	-82.025	-82.025	0	%100
75	M75	SX	-82.025	-82.025	0	%100
76	M76	SX	-82.025	-82.025	0	%100
77	M77	SX	-82.025	-82.025	0	%100
78	M78	SX	-82.025	-82.025	0	%100
79	M79	SX	-82.025	-82.025	0	%100
80	M80	SX	-82.025	-82.025	0	%100
81	M81	SX	-82.025	-82.025	0	%100
82	M82	SX	-82.025	-82.025	0	%100
83	M83	SX	-82.025	-82.025	0	%100

Member Distributed Loads (BLC 3 : Structure Wind Y)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
1	M1	SY	-82.025	-82.025	0	%100
2	M2	SY	-82.025	-82.025	0	%100
3	M3	SY	-82.025	-82.025	0	%100
4	H1	SY	-82.025	-82.025	0	%100
5	H3	SY	-82.025	-82.025	0	%100
6	H2	SY	-82.025	-82.025	0	%100
7	M7	SY	-82.025	-82.025	0	%100
8	M8	SY	-82.025	-82.025	0	%100
9	M9	SY	-82.025	-82.025	0	%100
10	M13	SY	-82.025	-82.025	0	%100
11	M14	SY	-82.025	-82.025	0	%100
12	M15	SY	-82.025	-82.025	0	%100
13	MP4	SY	-49.215	-49.215	0	%100
14	MP3	SY	-49.215	-49.215	0	%100
15	MP2	SY	-49.215	-49.215	0	%100
16	MP1	SY	-49.215	-49.215	0	%100
17	MP12	SY	-49.215	-49.215	0	%100
18	MP11	SY	-49.215	-49.215	0	%100
19	MP10	SY	-49.215	-49.215	0	%100
20	MP9	SY	-49.215	-49.215	0	%100
21	MP8	SY	-49.215	-49.215	0	%100
22	MP7	SY	-49.215	-49.215	0	%100
23	MP6	SY	-49.215	-49.215	0	%100
24	MP5	SY	-49.215	-49.215	0	%100
25	M29	SY	-82.025	-82.025	0	%100
26	M31	SY	-82.025	-82.025	0	%100
27	M33	SY	-82.025	-82.025	0	%100

Member Distributed Loads (BLC 3 : Structure Wind Y) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
28	M35	SY	-82.025	-82.025	0	%100
29	M36	SY	-82.025	-82.025	0	%100
30	M37	SY	-82.025	-82.025	0	%100
31	M38	SY	-82.025	-82.025	0	%100
32	M39	SY	-82.025	-82.025	0	%100
33	M40	SY	-82.025	-82.025	0	%100
34	M41	SY	-82.025	-82.025	0	%100
35	M42	SY	-82.025	-82.025	0	%100
36	M44	SY	-82.025	-82.025	0	%100
37	M46	SY	-82.025	-82.025	0	%100
38	M48	SY	-82.025	-82.025	0	%100
39	M50	SY	-82.025	-82.025	0	%100
40	M52	SY	-82.025	-82.025	0	%100
41	M54	SY	-82.025	-82.025	0	%100
42	M56	SY	-82.025	-82.025	0	%100
43	M58	SY	-82.025	-82.025	0	%100
44	M59	SY	-82.025	-82.025	0	%100
45	M60	SY	-82.025	-82.025	0	%100
46	M46A	SY	-49.215	-49.215	0	%100
47	M47	SY	-49.215	-49.215	0	%100
48	M48A	SY	-49.215	-49.215	0	%100
49	M49	SY	-82.025	-82.025	0	%100
50	M50A	SY	-82.025	-82.025	0	%100
51	M52A	SY	-82.025	-82.025	0	%100
52	M54A	SY	-82.025	-82.025	0	%100
53	M55	SY	-49.215	-49.215	0	%100
54	M56A	SY	-49.215	-49.215	0	%100
55	M57	SY	-49.215	-49.215	0	%100
56	M58A	SY	-82.025	-82.025	0	%100
57	M59A	SY	-82.025	-82.025	0	%100
58	M60A	SY	-82.025	-82.025	0	%100
59	M61	SY	-82.025	-82.025	0	%100
60	M62	SY	-82.025	-82.025	0	%100
61	M63	SY	-82.025	-82.025	0	%100
62	M64	SY	-82.025	-82.025	0	%100
63	M65	SY	-82.025	-82.025	0	%100
64	M66	SY	-82.025	-82.025	0	%100
65	M67	SY	-82.025	-82.025	0	%100
66	M68	SY	-82.025	-82.025	0	%100
67	M69	SY	-82.025	-82.025	0	%100
68	M70	SY	-82.025	-82.025	0	%100
69	M71	SY	-82.025	-82.025	0	%100
70	M72	SY	-82.025	-82.025	0	%100
71	M73	SY	-82.025	-82.025	0	%100
72	M72A	SY	-82.025	-82.025	0	%100
73	M73A	SY	-82.025	-82.025	0	%100
74	M74	SY	-82.025	-82.025	0	%100
75	M75	SY	-82.025	-82.025	0	%100
76	M76	SY	-82.025	-82.025	0	%100
77	M77	SY	-82.025	-82.025	0	%100
78	M78	SY	-82.025	-82.025	0	%100
79	M79	SY	-82.025	-82.025	0	%100

Member Distributed Loads (BLC 3 : Structure Wind Y) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
80	M80	SY	-82.025	-82.025	0	%100
81	M81	SY	-82.025	-82.025	0	%100
82	M82	SY	-82.025	-82.025	0	%100
83	M83	SY	-82.025	-82.025	0	%100

Member Distributed Loads (BLC 12 : Ice Weight)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
1	M1	Z	-17.765	-17.765	0	%100
2	M2	Z	-17.765	-17.765	0	%100
3	M3	Z	-17.765	-17.765	0	%100
4	H1	Z	-12.745	-12.745	0	%100
5	H3	Z	-12.745	-12.745	0	%100
6	H2	Z	-12.745	-12.745	0	%100
7	M7	Z	-12.745	-12.745	0	%100
8	M8	Z	-12.745	-12.745	0	%100
9	M9	Z	-12.745	-12.745	0	%100
10	M13	Z	-16.487	-16.487	0	%100
11	M14	Z	-16.487	-16.487	0	%100
12	M15	Z	-16.487	-16.487	0	%100
13	MP4	Z	-8.768	-8.768	0	%100
14	MP3	Z	-8.768	-8.768	0	%100
15	MP2	Z	-8.768	-8.768	0	%100
16	MP1	Z	-8.768	-8.768	0	%100
17	MP12	Z	-8.768	-8.768	0	%100
18	MP11	Z	-8.768	-8.768	0	%100
19	MP10	Z	-8.768	-8.768	0	%100
20	MP9	Z	-8.768	-8.768	0	%100
21	MP8	Z	-8.768	-8.768	0	%100
22	MP7	Z	-8.768	-8.768	0	%100
23	MP6	Z	-8.768	-8.768	0	%100
24	MP5	Z	-8.768	-8.768	0	%100
25	M29	Z	0	0	0	%100
26	M31	Z	0	0	0	%100
27	M33	Z	0	0	0	%100
28	M35	Z	0	0	0	%100
29	M36	Z	0	0	0	%100
30	M37	Z	0	0	0	%100
31	M38	Z	0	0	0	%100
32	M39	Z	0	0	0	%100
33	M40	Z	0	0	0	%100
34	M41	Z	0	0	0	%100
35	M42	Z	0	0	0	%100
36	M44	Z	0	0	0	%100
37	M46	Z	0	0	0	%100
38	M48	Z	0	0	0	%100
39	M50	Z	0	0	0	%100
40	M52	Z	0	0	0	%100
41	M54	Z	0	0	0	%100
42	M56	Z	0	0	0	%100
43	M58	Z	0	0	0	%100
44	M59	Z	0	0	0	%100

Member Distributed Loads (BLC 12 : Ice Weight) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
45	M60	Z	0	0	0	%100
46	M46A	Z	-8.768	-8.768	0	%100
47	M47	Z	-8.768	-8.768	0	%100
48	M48A	Z	-8.768	-8.768	0	%100
49	M49	Z	0	0	0	%100
50	M50A	Z	0	0	0	%100
51	M52A	Z	0	0	0	%100
52	M54A	Z	0	0	0	%100
53	M55	Z	-8.768	-8.768	0	%100
54	M56A	Z	-8.768	-8.768	0	%100
55	M57	Z	-8.768	-8.768	0	%100
56	M58A	Z	0	0	0	%100
57	M59A	Z	0	0	0	%100
58	M60A	Z	0	0	0	%100
59	M61	Z	0	0	0	%100
60	M62	Z	0	0	0	%100
61	M63	Z	0	0	0	%100
62	M64	Z	0	0	0	%100
63	M65	Z	0	0	0	%100
64	M66	Z	0	0	0	%100
65	M67	Z	0	0	0	%100
66	M68	Z	0	0	0	%100
67	M69	Z	0	0	0	%100
68	M70	Z	0	0	0	%100
69	M71	Z	0	0	0	%100
70	M72	Z	0	0	0	%100
71	M73	Z	0	0	0	%100
72	M72A	Z	-11.239	-11.239	0	%100
73	M73A	Z	-11.239	-11.239	0	%100
74	M74	Z	-11.239	-11.239	0	%100
75	M75	Z	-11.239	-11.239	0	%100
76	M76	Z	-11.239	-11.239	0	%100
77	M77	Z	-11.239	-11.239	0	%100
78	M78	Z	0	0	0	%100
79	M79	Z	0	0	0	%100
80	M80	Z	0	0	0	%100
81	M81	Z	0	0	0	%100
82	M82	Z	0	0	0	%100
83	M83	Z	0	0	0	%100

Member Distributed Loads (BLC 13 : Ice Structure Wind X)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
1	M1	SX	-11.611	-11.611	0	%100
2	M2	SX	-11.611	-11.611	0	%100
3	M3	SX	-11.611	-11.611	0	%100
4	H1	SX	-13.84	-13.84	0	%100
5	H3	SX	-13.84	-13.84	0	%100
6	H2	SX	-13.84	-13.84	0	%100
7	M7	SX	-13.84	-13.84	0	%100
8	M8	SX	-13.84	-13.84	0	%100
9	M9	SX	-13.84	-13.84	0	%100

Member Distributed Loads (BLC 13 : Ice Structure Wind X) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
10	M13	SX	-12.012	-12.012	0	%100
11	M14	SX	-12.012	-12.012	0	%100
12	M15	SX	-12.012	-12.012	0	%100
13	MP4	SX	-18.749	-18.749	0	%100
14	MP3	SX	-18.749	-18.749	0	%100
15	MP2	SX	-18.749	-18.749	0	%100
16	MP1	SX	-18.749	-18.749	0	%100
17	MP12	SX	-18.749	-18.749	0	%100
18	MP11	SX	-18.749	-18.749	0	%100
19	MP10	SX	-18.749	-18.749	0	%100
20	MP9	SX	-18.749	-18.749	0	%100
21	MP8	SX	-18.749	-18.749	0	%100
22	MP7	SX	-18.749	-18.749	0	%100
23	MP6	SX	-18.749	-18.749	0	%100
24	MP5	SX	-18.749	-18.749	0	%100
25	M29	SX	0	0	0	%100
26	M31	SX	0	0	0	%100
27	M33	SX	0	0	0	%100
28	M35	SX	0	0	0	%100
29	M36	SX	0	0	0	%100
30	M37	SX	0	0	0	%100
31	M38	SX	0	0	0	%100
32	M39	SX	0	0	0	%100
33	M40	SX	0	0	0	%100
34	M41	SX	0	0	0	%100
35	M42	SX	0	0	0	%100
36	M44	SX	0	0	0	%100
37	M46	SX	0	0	0	%100
38	M48	SX	0	0	0	%100
39	M50	SX	0	0	0	%100
40	M52	SX	0	0	0	%100
41	M54	SX	0	0	0	%100
42	M56	SX	0	0	0	%100
43	M58	SX	0	0	0	%100
44	M59	SX	0	0	0	%100
45	M60	SX	0	0	0	%100
46	M46A	SX	-18.749	-18.749	0	%100
47	M47	SX	-18.749	-18.749	0	%100
48	M48A	SX	-18.749	-18.749	0	%100
49	M49	SX	0	0	0	%100
50	M50A	SX	0	0	0	%100
51	M52A	SX	0	0	0	%100
52	M54A	SX	0	0	0	%100
53	M55	SX	-18.749	-18.749	0	%100
54	M56A	SX	-18.749	-18.749	0	%100
55	M57	SX	-18.749	-18.749	0	%100
56	M58A	SX	0	0	0	%100
57	M59A	SX	0	0	0	%100
58	M60A	SX	0	0	0	%100
59	M61	SX	0	0	0	%100
60	M62	SX	0	0	0	%100
61	M63	SX	0	0	0	%100

Member Distributed Loads (BLC 13 : Ice Structure Wind X) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
62	M64	SX	0	0	0	%100
63	M65	SX	0	0	0	%100
64	M66	SX	0	0	0	%100
65	M67	SX	0	0	0	%100
66	M68	SX	0	0	0	%100
67	M69	SX	0	0	0	%100
68	M70	SX	0	0	0	%100
69	M71	SX	0	0	0	%100
70	M72	SX	0	0	0	%100
71	M73	SX	0	0	0	%100
72	M72A	SX	-15.089	-15.089	0	%100
73	M73A	SX	-15.089	-15.089	0	%100
74	M74	SX	-15.089	-15.089	0	%100
75	M75	SX	-15.089	-15.089	0	%100
76	M76	SX	-15.089	-15.089	0	%100
77	M77	SX	-15.089	-15.089	0	%100
78	M78	SX	0	0	0	%100
79	M79	SX	0	0	0	%100
80	M80	SX	0	0	0	%100
81	M81	SX	0	0	0	%100
82	M82	SX	0	0	0	%100
83	M83	SX	0	0	0	%100

Member Distributed Loads (BLC 14 : Ice Structure Wind Y)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
1	M1	SY	-11.611	-11.611	0	%100
2	M2	SY	-11.611	-11.611	0	%100
3	M3	SY	-11.611	-11.611	0	%100
4	H1	SY	-13.84	-13.84	0	%100
5	H3	SY	-13.84	-13.84	0	%100
6	H2	SY	-13.84	-13.84	0	%100
7	M7	SY	-13.84	-13.84	0	%100
8	M8	SY	-13.84	-13.84	0	%100
9	M9	SY	-13.84	-13.84	0	%100
10	M13	SY	-12.012	-12.012	0	%100
11	M14	SY	-12.012	-12.012	0	%100
12	M15	SY	-12.012	-12.012	0	%100
13	MP4	SY	-18.749	-18.749	0	%100
14	MP3	SY	-18.749	-18.749	0	%100
15	MP2	SY	-18.749	-18.749	0	%100
16	MP1	SY	-18.749	-18.749	0	%100
17	MP12	SY	-18.749	-18.749	0	%100
18	MP11	SY	-18.749	-18.749	0	%100
19	MP10	SY	-18.749	-18.749	0	%100
20	MP9	SY	-18.749	-18.749	0	%100
21	MP8	SY	-18.749	-18.749	0	%100
22	MP7	SY	-18.749	-18.749	0	%100
23	MP6	SY	-18.749	-18.749	0	%100
24	MP5	SY	-18.749	-18.749	0	%100
25	M29	SY	0	0	0	%100
26	M31	SY	0	0	0	%100

Member Distributed Loads (BLC 14 : Ice Structure Wind Y) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
27	M33	SY	0	0	0	%100
28	M35	SY	0	0	0	%100
29	M36	SY	0	0	0	%100
30	M37	SY	0	0	0	%100
31	M38	SY	0	0	0	%100
32	M39	SY	0	0	0	%100
33	M40	SY	0	0	0	%100
34	M41	SY	0	0	0	%100
35	M42	SY	0	0	0	%100
36	M44	SY	0	0	0	%100
37	M46	SY	0	0	0	%100
38	M48	SY	0	0	0	%100
39	M50	SY	0	0	0	%100
40	M52	SY	0	0	0	%100
41	M54	SY	0	0	0	%100
42	M56	SY	0	0	0	%100
43	M58	SY	0	0	0	%100
44	M59	SY	0	0	0	%100
45	M60	SY	0	0	0	%100
46	M46A	SY	-18.749	-18.749	0	%100
47	M47	SY	-18.749	-18.749	0	%100
48	M48A	SY	-18.749	-18.749	0	%100
49	M49	SY	0	0	0	%100
50	M50A	SY	0	0	0	%100
51	M52A	SY	0	0	0	%100
52	M54A	SY	0	0	0	%100
53	M55	SY	-18.749	-18.749	0	%100
54	M56A	SY	-18.749	-18.749	0	%100
55	M57	SY	-18.749	-18.749	0	%100
56	M58A	SY	0	0	0	%100
57	M59A	SY	0	0	0	%100
58	M60A	SY	0	0	0	%100
59	M61	SY	0	0	0	%100
60	M62	SY	0	0	0	%100
61	M63	SY	0	0	0	%100
62	M64	SY	0	0	0	%100
63	M65	SY	0	0	0	%100
64	M66	SY	0	0	0	%100
65	M67	SY	0	0	0	%100
66	M68	SY	0	0	0	%100
67	M69	SY	0	0	0	%100
68	M70	SY	0	0	0	%100
69	M71	SY	0	0	0	%100
70	M72	SY	0	0	0	%100
71	M73	SY	0	0	0	%100
72	M72A	SY	-15.089	-15.089	0	%100
73	M73A	SY	-15.089	-15.089	0	%100
74	M74	SY	-15.089	-15.089	0	%100
75	M75	SY	-15.089	-15.089	0	%100
76	M76	SY	-15.089	-15.089	0	%100
77	M77	SY	-15.089	-15.089	0	%100
78	M78	SY	0	0	0	%100

Member Distributed Loads (BLC 14 : Ice Structure Wind Y) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
79	M79	SY	0	0	0	%100
80	M80	SY	0	0	0	%100
81	M81	SY	0	0	0	%100
82	M82	SY	0	0	0	%100
83	M83	SY	0	0	0	%100

Member Distributed Loads (BLC 46 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
1	H1	Z	-.085	-1.221	0	28
2	H1	Z	-1.221	-1.733	28	56
3	H1	Z	-1.733	-1.912	56	84
4	H1	Z	-1.912	-2.027	84	112
5	H1	Z	-2.027	-1.221	112	140
6	H1	Z	-1.221	-.085	140	168
7	M7	Z	-2.067	-1.51	0	21.215
8	M7	Z	-1.51	-1.231	21.215	42.431
9	M7	Z	-1.231	-1.51	42.431	63.646
10	M7	Z	-1.51	-2.067	63.646	84.862
11	M14	Z	-1.09	-3.02	0	38.4
12	M15	Z	-1.09	-3.02	9.6	48
13	H3	Z	-.085	-1.221	0	28
14	H3	Z	-1.221	-1.733	28	56
15	H3	Z	-1.733	-1.912	56	84
16	H3	Z	-1.912	-2.027	84	112
17	H3	Z	-2.027	-1.221	112	140
18	H3	Z	-1.221	-.085	140	168
19	M8	Z	-2.067	-1.51	0	21.215
20	M8	Z	-1.51	-1.231	21.215	42.431
21	M8	Z	-1.231	-1.51	42.431	63.646
22	M8	Z	-1.51	-2.067	63.646	84.862
23	M13	Z	-1.09	-3.02	0	38.4
24	H2	Z	-.085	-1.221	0	28
25	H2	Z	-1.221	-1.733	28	56
26	H2	Z	-1.733	-1.912	56	84
27	H2	Z	-1.912	-2.027	84	112
28	H2	Z	-2.027	-1.221	112	140
29	H2	Z	-1.221	-.085	140	168
30	M9	Z	-2.067	-1.51	0	21.215
31	M9	Z	-1.51	-1.231	21.215	42.431
32	M9	Z	-1.231	-1.51	42.431	63.646
33	M9	Z	-1.51	-2.067	63.646	84.862

Member Distributed Loads (BLC 47 : BLC 12 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
1	H1	Z	-.788	-11.349	0	28
2	H1	Z	-11.349	-16.111	28	56
3	H1	Z	-16.111	-17.778	56	84
4	H1	Z	-17.778	-18.85	84	112
5	H1	Z	-18.85	-11.348	112	140
6	H1	Z	-11.348	-.788	140	168
7	M7	Z	-19.215	-14.039	0	21.215

Member Distributed Loads (BLC 47 : BLC 12 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
8	M7	Z	-14.039	-11.449	21.215	42.431
9	M7	Z	-11.449	-14.036	42.431	63.646
10	M7	Z	-14.036	-19.213	63.646	84.862
11	M14	Z	-10.133	-28.078	0	38.4
12	M15	Z	-10.133	-28.078	9.6	48
13	H3	Z	-.788	-11.349	0	28
14	H3	Z	-11.349	-16.111	28	56
15	H3	Z	-16.111	-17.778	56	84
16	H3	Z	-17.778	-18.85	84	112
17	H3	Z	-18.85	-11.348	112	140
18	H3	Z	-11.348	-.788	140	168
19	M8	Z	-19.215	-14.039	0	21.215
20	M8	Z	-14.039	-11.449	21.215	42.431
21	M8	Z	-11.449	-14.036	42.431	63.646
22	M8	Z	-14.036	-19.213	63.646	84.862
23	M13	Z	-10.133	-28.078	0	38.4
24	H2	Z	-.788	-11.349	0	28
25	H2	Z	-11.349	-16.111	28	56
26	H2	Z	-16.111	-17.778	56	84
27	H2	Z	-17.778	-18.85	84	112
28	H2	Z	-18.85	-11.348	112	140
29	H2	Z	-11.348	-.788	140	168
30	M9	Z	-19.215	-14.039	0	21.215
31	M9	Z	-14.039	-11.449	21.215	42.431
32	M9	Z	-11.449	-14.036	42.431	63.646
33	M9	Z	-14.036	-19.213	63.646	84.862

Member Area Loads (BLC 1 : Self Weight)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N952	N956	N957	N953	Z	Two Way	-1.75
2	N953	N957	N955	N951	Z	Two Way	-1.75
3	N951	N955	N956	N952	Z	Two Way	-1.75

Member Area Loads (BLC 12 : Ice Weight)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N952	N956	N957	N953	Z	Two Way	-16.27
2	N953	N957	N955	N951	Z	Two Way	-16.27
3	N951	N955	N956	N952	Z	Two Way	-16.27

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
1	Self Weight	DL			-1		24		3	
2	Structure Wind X	WLX						83		
3	Structure Wind Y	WLY						83		
4	Wind Load 0 AZI	WLX					48			
5	Wind Load 30 AZI	None					48			
6	Wind Load 45 AZI	None					48			
7	Wind Load 60 AZI	None					48			

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
8	Wind Load 90 AZI	WLY					48			
9	Wind Load 120 AZI	None					48			
10	Wind Load 135 AZI	None					48			
11	Wind Load 150 AZI	None					48			
12	Ice Weight	OL1					24	83	3	
13	Ice Structure Wind X	OL2						83		
14	Ice Structure Wind Y	OL3						83		
15	Ice Wind Load 0 AZI	OL2					48			
16	Ice Wind Load 30 AZI	None					48			
17	Ice Wind Load 45 AZI	None					48			
18	Ice Wind Load 60 AZI	None					48			
19	Ice Wind Load 90 AZI	OL3					48			
20	Ice Wind Load 120 AZI	None					48			
21	Ice Wind Load 135 AZI	None					48			
22	Ice Wind Load 150 AZI	None					48			
23	Seismic Load X	ELX	-.116				24			
24	Seismic Load Y	ELY		-.116			24			
25	Live Load 1 (Lv)	None					1			
26	Live Load 2 (Lv)	None					1			
27	Live Load 3 (Lv)	None					1			
28	Live Load 4 (Lv)	None					1			
29	Live Load 5 (Lv)	None					1			
30	Live Load 6 (Lv)	None					1			
31	Live Load 7 (Lv)	None					1			
32	Live Load 8 (Lv)	None					1			
33	Live Load 9 (Lv)	None					1			
34	Maintenance Load 1 (Lm)	None					1			
35	Maintenance Load 2 (Lm)	None					1			
36	Maintenance Load 3 (Lm)	None					1			
37	Maintenance Load 4 (Lm)	None					1			
38	Maintenance Load 5 (Lm)	None					1			
39	Maintenance Load 6 (Lm)	None					1			
40	Maintenance Load 7 (Lm)	None					1			
41	Maintenance Load 8 (Lm)	None					1			
42	Maintenance Load 9 (Lm)	None					1			
43	Maintenance Load 10 (Lm)	None					1			
44	Maintenance Load 11 (Lm)	None					1			
45	Maintenance Load 12 (Lm)	None					1			
46	BLC 1 Transient Area Loads	None						33		
47	BLC 12 Transient Area Loads	None						33		

Load Combinations

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
1	1.4DL	Yes	Y		DL	1.4																		
2	1.2DL + 1WL 0 AZI	Yes	Y		DL	1.2	2	1	3		4	1												
3	1.2DL + 1WL 30 AZI	Yes	Y		DL	1.2	2	.866	3	.5	5	1												
4	1.2DL + 1WL 45 AZI	Yes	Y		DL	1.2	2	.707	3	.707	6	1												
5	1.2DL + 1WL 60 AZI	Yes	Y		DL	1.2	2	.5	3	.866	7	1												
6	1.2DL + 1WL 90 AZI	Yes	Y		DL	1.2	2		3	1	8	1												
7	1.2DL + 1WL 120 AZI	Yes	Y		DL	1.2	2	-.5	3	.866	9	1												

Load Combinations (Continued)

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
8	1.2DL + 1WL 135 AZI	Yes	Y		DL	1.2	2	-.707	3	.707	10	1														
9	1.2DL + 1WL 150 AZI	Yes	Y		DL	1.2	2	-.866	3	.5	11	1														
10	1.2DL + 1WL 180 AZI	Yes	Y		DL	1.2	2	-1	3		4	-1														
11	1.2DL + 1WL 210 AZI	Yes	Y		DL	1.2	2	-.866	3	-.5	5	-1														
12	1.2DL + 1WL 225 AZI	Yes	Y		DL	1.2	2	-.707	3	-.707	6	-1														
13	1.2DL + 1WL 240 AZI	Yes	Y		DL	1.2	2	-.5	3	-.866	7	-1														
14	1.2DL + 1WL 270 AZI	Yes	Y		DL	1.2	2		3	-1	8	-1														
15	1.2DL + 1WL 300 AZI	Yes	Y		DL	1.2	2	.5	3	-.866	9	-1														
16	1.2DL + 1WL 315 AZI	Yes	Y		DL	1.2	2	.707	3	-.707	10	-1														
17	1.2DL + 1WL 330 AZI	Yes	Y		DL	1.2	2	.866	3	-.5	11	-1														
18	0.9DL + 1WL 0 AZI	Yes	Y		DL	.9	2	1	3		4	1														
19	0.9DL + 1WL 30 AZI	Yes	Y		DL	.9	2	.866	3	.5	5	1														
20	0.9DL + 1WL 45 AZI	Yes	Y		DL	.9	2	.707	3	.707	6	1														
21	0.9DL + 1WL 60 AZI	Yes	Y		DL	.9	2	.5	3	.866	7	1														
22	0.9DL + 1WL 90 AZI	Yes	Y		DL	.9	2		3	1	8	1														
23	0.9DL + 1WL 120 AZI	Yes	Y		DL	.9	2	-.5	3	.866	9	1														
24	0.9DL + 1WL 135 AZI	Yes	Y		DL	.9	2	-.707	3	.707	10	1														
25	0.9DL + 1WL 150 AZI	Yes	Y		DL	.9	2	-.866	3	.5	11	1														
26	0.9DL + 1WL 180 AZI	Yes	Y		DL	.9	2	-1	3		4	-1														
27	0.9DL + 1WL 210 AZI	Yes	Y		DL	.9	2	-.866	3	-.5	5	-1														
28	0.9DL + 1WL 225 AZI	Yes	Y		DL	.9	2	-.707	3	-.707	6	-1														
29	0.9DL + 1WL 240 AZI	Yes	Y		DL	.9	2	-.5	3	-.866	7	-1														
30	0.9DL + 1WL 270 AZI	Yes	Y		DL	.9	2		3	-1	8	-1														
31	0.9DL + 1WL 300 AZI	Yes	Y		DL	.9	2	.5	3	-.866	9	-1														
32	0.9DL + 1WL 315 AZI	Yes	Y		DL	.9	2	.707	3	-.707	10	-1														
33	0.9DL + 1WL 330 AZI	Yes	Y		DL	.9	2	.866	3	-.5	11	-1														
34	1.2DL + 1DLi + 1WLi 0 ...	Yes	Y		DL	1.2	OL1	1	13	1	14		15	1												
35	1.2DL + 1DLi + 1WLi 30...	Yes	Y		DL	1.2	OL1	1	13	.866	14	.5	16	1												
36	1.2DL + 1DLi + 1WLi 45...	Yes	Y		DL	1.2	OL1	1	13	.707	14	.707	17	1												
37	1.2DL + 1DLi + 1WLi 60...	Yes	Y		DL	1.2	OL1	1	13	.5	14	.866	18	1												
38	1.2DL + 1DLi + 1WLi 90...	Yes	Y		DL	1.2	OL1	1	13		14	1	19	1												
39	1.2DL + 1DLi + 1WLi 12...	Yes	Y		DL	1.2	OL1	1	13	-.5	14	.866	20	1												
40	1.2DL + 1DLi + 1WLi 13...	Yes	Y		DL	1.2	OL1	1	13	-.707	14	.707	21	1												
41	1.2DL + 1DLi + 1WLi 15...	Yes	Y		DL	1.2	OL1	1	13	-.866	14	.5	22	1												
42	1.2DL + 1DLi + 1WLi 18...	Yes	Y		DL	1.2	OL1	1	13	-1	14		15	-1												
43	1.2DL + 1DLi + 1WLi 21...	Yes	Y		DL	1.2	OL1	1	13	-.866	14	-.5	16	-1												
44	1.2DL + 1DLi + 1WLi 22...	Yes	Y		DL	1.2	OL1	1	13	-.707	14	-.707	17	-1												
45	1.2DL + 1DLi + 1WLi 24...	Yes	Y		DL	1.2	OL1	1	13	-.5	14	-.866	18	-1												
46	1.2DL + 1DLi + 1WLi 27...	Yes	Y		DL	1.2	OL1	1	13		14	-1	19	-1												
47	1.2DL + 1DLi + 1WLi 30...	Yes	Y		DL	1.2	OL1	1	13	.5	14	-.866	20	-1												
48	1.2DL + 1DLi + 1WLi 31...	Yes	Y		DL	1.2	OL1	1	13	.707	14	-.707	21	-1												
49	1.2DL + 1DLi + 1WLi 33...	Yes	Y		DL	1.2	OL1	1	13	.866	14	-.5	22	-1												
50	(1.2+0.2Sds)DL + 1E 0 ...	Yes	Y		DL	1.2...	23	1	24																	
51	(1.2+0.2Sds)DL + 1E 3...	Yes	Y		DL	1.2...	23	.866	24	.5																
52	(1.2+0.2Sds)DL + 1E 4...	Yes	Y		DL	1.2...	23	.707	24	.707																
53	(1.2+0.2Sds)DL + 1E 6...	Yes	Y		DL	1.2...	23	.5	24	.866																
54	(1.2+0.2Sds)DL + 1E 9...	Yes	Y		DL	1.2...	23		24	1																
55	(1.2+0.2Sds)DL + 1E 1...	Yes	Y		DL	1.2...	23	-.5	24	.866																
56	(1.2+0.2Sds)DL + 1E 1...	Yes	Y		DL	1.2...	23	-.707	24	.707																
57	(1.2+0.2Sds)DL + 1E 1...	Yes	Y		DL	1.2...	23	-.866	24	.5																
58	(1.2+0.2Sds)DL + 1E 1...	Yes	Y		DL	1.2...	23	-1	24																	
59	(1.2+0.2Sds)DL + 1E 2...	Yes	Y		DL	1.2...	23	-.866	24	-.5																

Load Combinations (Continued)

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
60	(1.2+0.2Sds)DL + 1E 2...	Yes	Y		DL	1.2...	23	-.707	24	-.707																
61	(1.2+0.2Sds)DL + 1E 2...	Yes	Y		DL	1.2...	23	-.5	24	-.866																
62	(1.2+0.2Sds)DL + 1E 2...	Yes	Y		DL	1.2...	23		24	-1																
63	(1.2+0.2Sds)DL + 1E 3...	Yes	Y		DL	1.2...	23	.5	24	-.866																
64	(1.2+0.2Sds)DL + 1E 3...	Yes	Y		DL	1.2...	23	.707	24	-.707																
65	(1.2+0.2Sds)DL + 1E 3...	Yes	Y		DL	1.2...	23	.866	24	-.5																
66	(0.9-0.2Sds)DL + 1E 0 ...	Yes	Y		DL	.861	23	1	24																	
67	(0.9-0.2Sds)DL + 1E 30...	Yes	Y		DL	.861	23	.866	24	.5																
68	(0.9-0.2Sds)DL + 1E 45...	Yes	Y		DL	.861	23	.707	24	.707																
69	(0.9-0.2Sds)DL + 1E 60...	Yes	Y		DL	.861	23	.5	24	.866																
70	(0.9-0.2Sds)DL + 1E 90...	Yes	Y		DL	.861	23		24	1																
71	(0.9-0.2Sds)DL + 1E 12...	Yes	Y		DL	.861	23	-.5	24	.866																
72	(0.9-0.2Sds)DL + 1E 13...	Yes	Y		DL	.861	23	-.707	24	.707																
73	(0.9-0.2Sds)DL + 1E 15...	Yes	Y		DL	.861	23	-.866	24	.5																
74	(0.9-0.2Sds)DL + 1E 18...	Yes	Y		DL	.861	23	-1	24																	
75	(0.9-0.2Sds)DL + 1E 21...	Yes	Y		DL	.861	23	-.866	24	-.5																
76	(0.9-0.2Sds)DL + 1E 22...	Yes	Y		DL	.861	23	-.707	24	-.707																
77	(0.9-0.2Sds)DL + 1E 24...	Yes	Y		DL	.861	23	-.5	24	-.866																
78	(0.9-0.2Sds)DL + 1E 27...	Yes	Y		DL	.861	23		24	-1																
79	(0.9-0.2Sds)DL + 1E 30...	Yes	Y		DL	.861	23	.5	24	-.866																
80	(0.9-0.2Sds)DL + 1E 31...	Yes	Y		DL	.861	23	.707	24	-.707																
81	(0.9-0.2Sds)DL + 1E 33...	Yes	Y		DL	.861	23	.866	24	-.5																
82	1.2DL + 1Lv1	Yes	Y		DL	1.2	25	1.5																		
83	1.2DL + 1Lv2	Yes	Y		DL	1.2	26	1.5																		
84	1.2DL + 1Lv3	Yes	Y		DL	1.2	27	1.5																		
85	1.2DL + 1Lv4	Yes	Y		DL	1.2	28	1.5																		
86	1.2DL + 1Lv5	Yes	Y		DL	1.2	29	1.5																		
87	1.2DL + 1Lv6	Yes	Y		DL	1.2	30	1.5																		
88	1.2DL + 1Lv7	Yes	Y		DL	1.2	31	1.5																		
89	1.2DL + 1Lv8	Yes	Y		DL	1.2	32	1.5																		
90	1.2DL + 1Lv9	Yes	Y		DL	1.2	33	1.5																		
91	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	.066	3		4	.066												
92	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	.057	3	.033	5	.066												
93	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	.046	3	.046	6	.066												
94	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	.033	3	.057	7	.066												
95	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2		3	.066	8	.066												
96	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	-.033	3	.057	9	.066												
97	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	-.046	3	.046	10	.066												
98	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	-.057	3	.033	11	.066												
99	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	-.066	3		4	-.066												
100	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	-.057	3	-.033	5	-.066												
101	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	-.046	3	-.046	6	-.066												
102	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	-.033	3	-.057	7	-.066												
103	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2		3	-.066	8	-.066												
104	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	.033	3	-.057	9	-.066												
105	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	.046	3	-.046	10	-.066												
106	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	.057	3	-.033	11	-.066												
107	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	.066	3		4	.066												
108	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	.057	3	.033	5	.066												
109	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	.046	3	.046	6	.066												
110	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	.033	3	.057	7	.066												
111	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2		3	.066	8	.066												

Load Combinations (Continued)

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
112	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	-.033	3	.057	9	.066										
113	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	-.046	3	.046	10	.066										
114	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	-.057	3	.033	11	.066										
115	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	-.066	3		4	-.066										
116	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	-.057	3	-.033	5	-.066										
117	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	-.046	3	-.046	6	-.066										
118	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	-.033	3	-.057	7	-.066										
119	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2		3	-.066	8	-.066										
120	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	.033	3	-.057	9	-.066										
121	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	.046	3	-.046	10	-.066										
122	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	.057	3	-.033	11	-.066										
123	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	.066	3		4	.066										
124	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	.057	3	.033	5	.066										
125	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	.046	3	.046	6	.066										
126	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	.033	3	.057	7	.066										
127	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2		3	.066	8	.066										
128	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	-.033	3	.057	9	.066										
129	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	-.046	3	.046	10	.066										
130	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	-.057	3	.033	11	.066										
131	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	-.066	3		4	-.066										
132	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	-.057	3	-.033	5	-.066										
133	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	-.046	3	-.046	6	-.066										
134	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	-.033	3	-.057	7	-.066										
135	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2		3	-.066	8	-.066										
136	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	.033	3	-.057	9	-.066										
137	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	.046	3	-.046	10	-.066										
138	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	.057	3	-.033	11	-.066										
139	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	.066	3		4	.066										
140	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	.057	3	.033	5	.066										
141	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	.046	3	.046	6	.066										
142	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	.033	3	.057	7	.066										
143	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2		3	.066	8	.066										
144	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.033	3	.057	9	.066										
145	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.046	3	.046	10	.066										
146	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.057	3	.033	11	.066										
147	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.066	3		4	-.066										
148	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.057	3	-.033	5	-.066										
149	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.046	3	-.046	6	-.066										
150	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.033	3	-.057	7	-.066										
151	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2		3	-.066	8	-.066										
152	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	.033	3	-.057	9	-.066										
153	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	.046	3	-.046	10	-.066										
154	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	.057	3	-.033	11	-.066										
155	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.066	3		4	.066										
156	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.057	3	.033	5	.066										
157	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.046	3	.046	6	.066										
158	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.033	3	.057	7	.066										
159	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2		3	.066	8	.066										
160	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.033	3	.057	9	.066										
161	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.046	3	.046	10	.066										
162	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.057	3	.033	11	.066										
163	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.066	3		4	-.066										

Load Combinations (Continued)

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
164	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.057	3	-.033	5	-.066										
165	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.046	3	-.046	6	-.066										
166	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.033	3	-.057	7	-.066										
167	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2		3	-.066	8	-.066										
168	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.033	3	-.057	9	-.066										
169	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.046	3	-.046	10	-.066										
170	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.057	3	-.033	11	-.066										
171	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.066	3		4	.066										
172	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.057	3	.033	5	.066										
173	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.046	3	.046	6	.066										
174	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.033	3	.057	7	.066										
175	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2		3	.066	8	.066										
176	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.033	3	.057	9	.066										
177	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.046	3	.046	10	.066										
178	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.057	3	.033	11	.066										
179	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.066	3		4	-.066										
180	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.057	3	-.033	5	-.066										
181	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.046	3	-.046	6	-.066										
182	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.033	3	-.057	7	-.066										
183	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2		3	-.066	8	-.066										
184	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.033	3	-.057	9	-.066										
185	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.046	3	-.046	10	-.066										
186	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.057	3	-.033	11	-.066										
187	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	.066	3		4	.066										
188	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	.057	3	.033	5	.066										
189	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	.046	3	.046	6	.066										
190	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	.033	3	.057	7	.066										
191	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2		3	.066	8	.066										
192	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	-.033	3	.057	9	.066										
193	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	-.046	3	.046	10	.066										
194	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	-.057	3	.033	11	.066										
195	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	-.066	3		4	-.066										
196	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	-.057	3	-.033	5	-.066										
197	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	-.046	3	-.046	6	-.066										
198	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	-.033	3	-.057	7	-.066										
199	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2		3	-.066	8	-.066										
200	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	.033	3	-.057	9	-.066										
201	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	.046	3	-.046	10	-.066										
202	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	.057	3	-.033	11	-.066										
203	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	.066	3		4	.066										
204	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	.057	3	.033	5	.066										
205	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	.046	3	.046	6	.066										
206	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	.033	3	.057	7	.066										
207	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2		3	.066	8	.066										
208	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	-.033	3	.057	9	.066										
209	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	-.046	3	.046	10	.066										
210	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	-.057	3	.033	11	.066										
211	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	-.066	3		4	-.066										
212	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	-.057	3	-.033	5	-.066										
213	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	-.046	3	-.046	6	-.066										
214	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	-.033	3	-.057	7	-.066										
215	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2		3	-.066	8	-.066										

Load Combinations (Continued)

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
216	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	.033	3	-.057	9	-.066												
217	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	.046	3	-.046	10	-.066												
218	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	.057	3	-.033	11	-.066												
219	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	.066	3		4	.066												
220	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	.057	3	.033	5	.066												
221	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	.046	3	.046	6	.066												
222	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	.033	3	.057	7	.066												
223	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2		3	.066	8	.066												
224	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	-.033	3	.057	9	.066												
225	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	-.046	3	.046	10	.066												
226	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	-.057	3	.033	11	.066												
227	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	-.066	3		4	-.066												
228	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	-.057	3	-.033	5	-.066												
229	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	-.046	3	-.046	6	-.066												
230	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	-.033	3	-.057	7	-.066												
231	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2		3	-.066	8	-.066												
232	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	.033	3	-.057	9	-.066												
233	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	.046	3	-.046	10	-.066												
234	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	.057	3	-.033	11	-.066												
235	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	.066	3		4	.066												
236	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	.057	3	.033	5	.066												
237	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	.046	3	.046	6	.066												
238	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	.033	3	.057	7	.066												
239	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2		3	.066	8	.066												
240	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	-.033	3	.057	9	.066												
241	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	-.046	3	.046	10	.066												
242	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	-.057	3	.033	11	.066												
243	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	-.066	3		4	-.066												
244	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	-.057	3	-.033	5	-.066												
245	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	-.046	3	-.046	6	-.066												
246	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	-.033	3	-.057	7	-.066												
247	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2		3	-.066	8	-.066												
248	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	.033	3	-.057	9	-.066												
249	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	.046	3	-.046	10	-.066												
250	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	.057	3	-.033	11	-.066												
251	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	.066	3		4	.066												
252	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	.057	3	.033	5	.066												
253	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	.046	3	.046	6	.066												
254	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	.033	3	.057	7	.066												
255	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2		3	.066	8	.066												
256	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	-.033	3	.057	9	.066												
257	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	-.046	3	.046	10	.066												
258	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	-.057	3	.033	11	.066												
259	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	-.066	3		4	-.066												
260	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	-.057	3	-.033	5	-.066												
261	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	-.046	3	-.046	6	-.066												
262	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	-.033	3	-.057	7	-.066												
263	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2		3	-.066	8	-.066												
264	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	.033	3	-.057	9	-.066												
265	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	.046	3	-.046	10	-.066												
266	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	.057	3	-.033	11	-.066												
267	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	.066	3		4	.066												

Load Combinations (Continued)

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
268	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	.057	3	.033	5	.066												
269	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	.046	3	.046	6	.066												
270	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	.033	3	.057	7	.066												
271	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2		3	.066	8	.066												
272	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	-.033	3	.057	9	.066												
273	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	-.046	3	.046	10	.066												
274	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	-.057	3	.033	11	.066												
275	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	-.066	3		4	-.066												
276	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	-.057	3	-.033	5	-.066												
277	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	-.046	3	-.046	6	-.066												
278	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	-.033	3	-.057	7	-.066												
279	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2		3	-.066	8	-.066												
280	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	.033	3	-.057	9	-.066												
281	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	.046	3	-.046	10	-.066												
282	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	.057	3	-.033	11	-.066												

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	N183	max	971.143	18	1683.077	5	1647.86	42	317.857	5	-317.892	18	1571.209	4
2		min	-1079.318	10	-1674.549	13	72.804	18	-315.171	29	-3718.259	42	-1567.02	12
3	N486	max	1884.054	2	1387.607	22	1641.265	47	3211.182	48	1903.279	46	2102.277	13
4		min	-1834.519	26	-1487.362	14	85.107	23	284.714	25	-24.809	22	-2098.168	5
5	N768	max	1787.984	2	1492.224	6	1643.719	37	-259.328	27	1888.885	38	2261.814	15
6		min	-1721.675	26	-1401.473	30	85.267	29	-3223.61	36	-21.489	31	-2258.336	7
7	N127	max	2177.418	34	423.738	142	1577.498	34	27.857	140	-.631	26	13.158	143
8		min	-108.764	26	-437.305	102	1.36	26	-28.664	100	-197.148	34	-13.537	103
9	N131	max	83.423	32	1877.703	39	1574.818	39	170.26	39	98.937	40	13.232	212
10		min	-1096.074	40	-55.009	31	13.637	31	2.706	31	-.917	32	-13.632	156
11	N135	max	32.671	19	86.785	21	1573.375	45	-.653	21	98.159	44	13.228	281
12		min	-1085.131	43	-1882.008	45	13.464	21	-170.512	45	2.472	20	-13.646	226
13	Totals:	max	5630.573	18	5530.281	22	9161.208	37						
14		min	-5630.584	10	-5530.289	14	2022.752	77						

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

	Member	Shape	Code Check	Loc[in]	LC	She...	Loc[in]	Dir	L...	phi*Pn...	phi*Pn...	phi*M...	phi*M...	...	Eqn
1	H1	L3X3X4	.584	108.5	10	.469	84	y	10	15745...	46656	1688.1...	2160.6...	1	H2-1
2	H3	L3X3X4	.576	108.5	15	.454	84	y	15	15745...	46656	1688.1...	2160.6...	1	H2-1
3	H2	L3X3X4	.573	108.5	5	.455	84	y	5	15745...	46656	1688.1...	2160.6...	1	H2-1
4	MP6	PIPE_2.0	.540	24	5	.094	24		5	30625...	32130	1871.6...	1871.6...	2...	H1-1b
5	MP2	PIPE_2.0	.523	24	10	.095	24		10	30625...	32130	1871.6...	1871.6...	2...	H1-1b
6	MP10	PIPE_2.0	.520	24	15	.092	24		15	30625...	32130	1871.6...	1871.6...	1...	H1-1b
7	MP11	PIPE_2.0	.352	24	15	.072	24		15	30625...	32130	1871.6...	1871.6...	1...	H1-1b
8	M47	PIPE_2.0	.346	35	38	.186	26.25		42	12143...	32130	1871.6...	1871.6...	1	H1-1b
9	M48A	PIPE_2.0	.345	35	44	.185	26.25		47	12143...	32130	1871.6...	1871.6...	1	H1-1b
10	M46A	PIPE_2.0	.345	35	34	.185	26.25		36	12143...	32130	1871.6...	1871.6...	1	H1-1b
11	MP3	PIPE_2.0	.341	24	10	.073	24		10	30625...	32130	1871.6...	1871.6...	4...	H1-1b
12	MP7	PIPE_2.0	.338	24	4	.070	24		5	30625...	32130	1871.6...	1871.6...	2...	H1-1b
13	M3	C5.25"X4"X0....	.324	35.836	38	.099	35.836	y	8	14884...	151875	12325...	24869...	2...	H1-1b
14	M2	C5.25"X4"X0....	.324	35.836	46	.098	35.836	y	3	14884...	151875	12325...	24869...	2...	H1-1b

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

	Member	Shape	Code Check	Loc[in]	LC	She...	Loc[in]	Dir	L...	phi*Pn...	phi*Pn...	phi*M...	phi*M...	...	Eqn
15	M1	C5.25"X4"X0....	.320	35.836	44	.085	35.836	y	14	14884...	151875	12325...	24869...	3...	H1-1b
16	M9	L3X3X4	.276	42.431	34	.023	42.431	z	36	35369...	46656	1688.1...	3588.9...	2...	H2-1
17	M8	L3X3X4	.276	42.431	45	.023	42.431	z	46	35369...	46656	1688.1...	3561.96	2...	H2-1
18	M7	L3X3X4	.274	42.431	39	.023	42.431	z	41	35369...	46656	1688.1...	3560.7...	2...	H2-1
19	MP9	PIPE_2.0	.268	24	222	.078	24		38	30625...	32130	1871.6...	1871.6...	4...	H1-1b
20	MP1	PIPE_2.0	.268	24	169	.078	24		34	30625...	32130	1871.6...	1871.6...	2...	H1-1b
21	MP5	PIPE_2.0	.267	24	99	.078	24		44	30625...	32130	1871.6...	1871.6...	4...	H1-1b
22	MP8	PIPE_2.0	.257	24	216	.077	24		46	30625...	32130	1871.6...	1871.6...	2...	H1-1b
23	MP12	PIPE_2.0	.257	24	147	.077	24		41	30625...	32130	1871.6...	1871.6...	2...	H1-1b
24	MP4	PIPE_2.0	.256	24	270	.077	24		35	30625...	32130	1871.6...	1871.6...	4...	H1-1b
25	M77	L2.5x2.5x3	.208	31.381	45	.007	61.482	z	10	12395...	29192.4	872.574	1606.2...	1...	H2-1
26	M74	L2.5x2.5x3	.208	31.381	39	.009	61.482	y	17	12395...	29192.4	872.574	1606.2...	1...	H2-1
27	M75	L2.5x2.5x3	.206	31.381	41	.008	0	z	14	12395...	29192.4	872.574	1606.2...	1...	H2-1
28	M73A	L2.5x2.5x3	.206	31.381	34	.007	61.482	z	9	12395...	29192.4	872.574	1606.2...	1...	H2-1
29	M76	L2.5x2.5x3	.205	31.381	43	.010	61.482	y	6	12395...	29192.4	872.574	1606.2...	1...	H2-1
30	M72A	L2.5x2.5x3	.205	31.381	34	.008	61.482	y	11	12395...	29192.4	872.574	1606.2...	1...	H2-1
31	M15	LL3x3x4x0	.163	0	12	.015	48	z	3	76288...	93312	6480	4357.09	1...	H1-1b
32	M13	LL3x3x4x0	.162	48	7	.017	0	z	14	76288...	93312	6480	4357.09	1...	H1-1b
33	M14	LL3x3x4x0	.162	48	2	.015	0	z	9	76288...	93312	6480	4357.09	1...	H1-1b
34	M56A	PIPE_2.0	.024	15	42	.063	30		6	29810...	32130	1871.6...	1871.6...	1...	H1-1b
35	M57	PIPE_2.0	.024	15	37	.061	30		17	29810...	32130	1871.6...	1871.6...	1...	H1-1b
36	M55	PIPE_2.0	.024	15	47	.062	30		12	29810...	32130	1871.6...	1871.6...	1...	H1-1b

Envelope AISI S100-16: LRFD Cold Formed Steel Code Checks

Member	Shape	Code ...	Loc[in]	LC	Shear ...	Loc[in]	Dir	LC	phi*Pn[lb]	phi*Tn[lb]	phi*Mny...	phi*Mnz...	phi*V...	phi*V...	Cb	Eqn
No Data to Print ...																

APPENDIX D

ADDITIONAL CALCULATIONS

Trylon

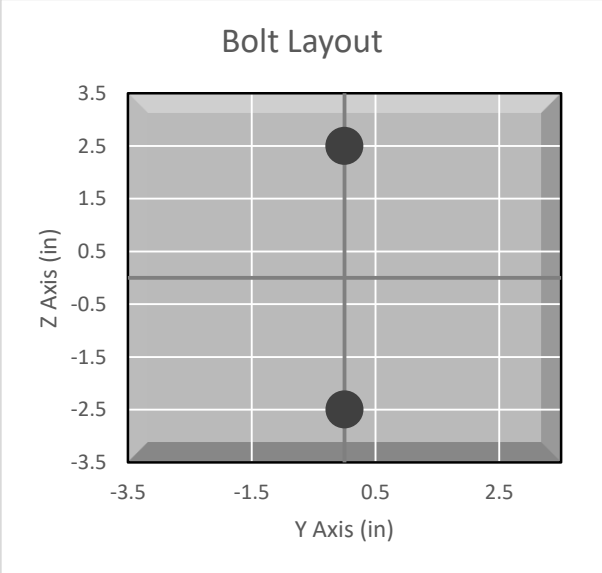
Analysis date: 5/24/2022

BOLT TOOL 1.5.2

Project Data	
Job Code:	209426
Carrier Site ID:	CT5138
Carrier Site Name:	Windsor Central

Code	
Design Standard:	TIA-222-H
Slip Check:	No
Pretension Standard:	AISC

Bolt Properties		
Connection Type:	Bolt	
Diameter:	1	in
Grade:	A325	--
Yield Strength (Fy):	92	ksi
Ultimate Strength (Fu):	120	ksi
Number of Bolts:	2	--
Threads Included:	Yes	--
Double Shear:	No	--
Connection Pipe Size:	-	in



Connection Description
Mount to Tower Plate

Bolt Check		
Tensile Capacity (ϕT_n):	54517.0	lbs
Shear Capacity (ϕV_n):	35342.9	lbs
Tension Force (T_u):	9747.8	lbs
Shear Force (V_u):	225.3	lbs
Tension Usage:	17.9%	--
Shear Usage:	0.6%	--
Interaction:	17.9%	Pass
Controlling Member:	M38	--
Controlling LC:	42	--

1825 W. Walnut Hill Lane, Suite 120
Irving, Texas 75038

Trylon

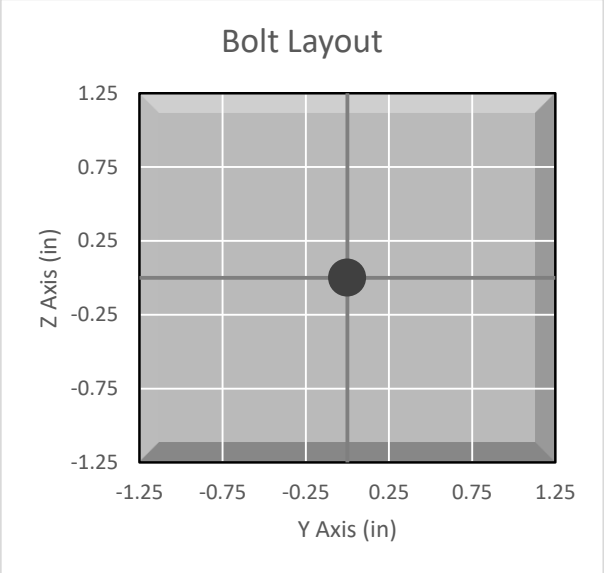
Analysis date: 5/24/2022

BOLT TOOL 1.5.2

Project Data	
Job Code:	209426
Carrier Site ID:	CT5138
Carrier Site Name:	Windsor Central

Code	
Design Standard:	TIA-222-H
Slip Check:	No
Pretension Standard:	AISC

Bolt Properties		
Connection Type:	Bolt	
Diameter:	0.5	in
Grade:	A325	--
Yield Strength (Fy):	92	ksi
Ultimate Strength (Fu):	120	ksi
Number of Bolts:	1	--
Threads Included:	Yes	--
Double Shear:	Yes	--
Connection Pipe Size:	0	in



Connection Description
Stabilizer 1 Bolt

Bolt Check		
Tensile Capacity (ϕT_n):	12770.9	lbs
Shear Capacity (ϕV_n):	8835.7	lbs
Tension Force (T_u):	0.0	lbs
Shear Force (V_u):	1344.4	lbs
Tension Usage:	0.0%	--
Shear Usage:	15.2%	--
Interaction:	15.2%	Pass
Controlling Member:	M79	--
Controlling LC:	34	--

1825 W. Walnut Hill Lane, Suite 120
Irving, Texas 75038

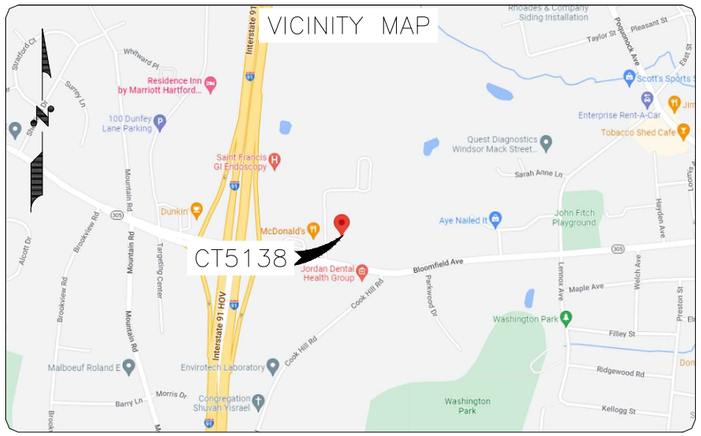
APPENDIX E

MOUNT MODIFICATION DESIGN DRAWINGS (MDD)

AT&T

UPGRADE:

MOUNT REINFORCEMENT



SITE NAME:
WINDSORCENTRAL

SITE NUMBER:
CT5138

FA NUMBER:
10092835

CROWN CASTLE BU#:
855662

SITE ADDRESS:
340 BLOOMFIELD AVENUE,
WINDSOR, CT 06095

GENERAL NOTES

PRIOR TO ACCESSING/ ENTERING THE SITE, YOU MUST CONTACT THE CROWN NOC AT 800-788-7011 AND CROWN CM CHAD STEINHOFF- 214-287-3756, CHAD.STEINHOFF@CROWNCASTLE.COM

THE HEIGHT OF THE TOWER WILL NOT BE INCREASED, NOR AN EXPANSION OF THE GROUND/ LEASE AREA WHEN AND WHERE APPLICABLE

BUILDING CODES

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL AUTHORITIES HAVING JURISDICTION

1. 2018 INTERNATIONAL BUILDING CODE
2. UNIFORM BUILDING CODE
3. CITY/COUNTY ORDINANCES
4. TIA-222-H

IF YOU DIG IN ANY STATE DIAL 811
FOR THE LOCAL "ONE CALL CENTER"
IT'S THE LAW

THE UTILITIES SHOWN HEREIN ARE FOR THE CONTRACTORS CONVENIENCE ONLY. THERE MAY BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER/SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS SHOWN AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL THE UTILITIES WITHIN THE LIMITS OF THE WORK. ALL DAMAGE MADE TO THE EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

APPROVALS

AT&T CONSTRUCTION MANAGER	AT&T RF ENGINEER
LAND USE PLANNER	NETWORK OPERATION
PROPERTY OWNER	CONTRACTOR

DRIVING DIRECTION

FROM BRADLEY INTERNATIONAL AIRPORT:
HEAD NORTH TOWARD BRADLEY INTERNATIONAL AIRPORT (351 FT). SLIGHT LEFT ONTO BRADLEY INTERNATIONAL AIRPORT (0.4 MI). CONTINUE STRAIGHT (0.3 MI). KEEP RIGHT TO CONTINUE TOWARD BRADLEY INTERNATIONAL AIRPORT CON (0.1 MI). CONTINUE ONTO BRADLEY INTERNATIONAL AIRPORT CON (1.2 MI). CONTINUE ONTO CT-20 E/BRADLEY INTERNATIONAL AIRPORT CON (2.6 MI). USE THE RIGHT 2 LANES TO MERGE WITH I-91 S TOWARD HARTFORD (3.5 MI). TAKE EXIT 37 FOR CT-305/BLOOMFIELD AVE TOWARD WINDSOR CTR (0.3 MI). TURN LEFT ONTO CT-305 E/BLOOMFIELD AVE (0.2 MI). TURN LEFT ONTO WILLIAM ST (272 FT). TURN RIGHT (95 FT).

PROJECT INFORMATION

SCOPE OF WORK:	REINFORCE AS FOLLOWS: • INSTALL NEW SITE PRO 1, PRK-SFS-L STABILIZER KIT CONNECTED TO THE HANDRAIL. THE COLLAR STABILIZER MUST BE INSTALLED AT APPROX. 60" BELOW THE PLATFORM CONNECTION. FIELD CUT THE STABILIZER MEMBERS IF IT'S NEEDED.
JURISDICTION:	HARTFORD COUNTY
SITE NAME:	WINDSORCENTRAL
SITE ADDRESS:	340 BLOOMFIELD AVENUE, WINDSOR, CT 06095
LATITUDE:	41° 51' 09.34"
LONGITUDE:	-72° 39' 37.79"
TOWER TYPE:	MONOPOLE
OVERALL TOWER HEIGHT:	148'
ELEVATION OF WORK ON TOWER:	148'

SHEET INDEX

SHEET #	DESCRIPTION	REVISION #
T-1.	TITLE SHEET	0
S-1	MOUNT REINFORCEMENT	0
S-2	MOUNT REINFORCEMENT DETAIL	0

CROWN CASTLE
1220 AUGUSTA DRIVE SUIT 500
HOUSTON, TX 77057

AT&T

Trylon
1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038
1-855-669-5421

STATE OF CONNECTICUT
JOHN ABERNATHY
No. 31022
5-25-22
LICENSED PROFESSIONAL ENGINEER

DRAWING SCALES ARE INTENDED FOR 24"x36" SIZE PRINTED MEDIA ONLY. ALL OTHER PRINTED SIZES ARE DEEMED "NOT TO SCALE".

SUBMITTALS

REV	DATE	DESCRIPTION	BY
0	05/25/22	FOR REVIEW	RC

SITE INFORMATION

SITE NAME:
WINDSORCENTRAL

SITE NUMBER:
CT5138

FA NUMBER:
10092835

SITE ADDRESS:
340 BLOOMFIELD AVENUE,
WINDSOR, CT 06095

SHEET DESCRIPTION

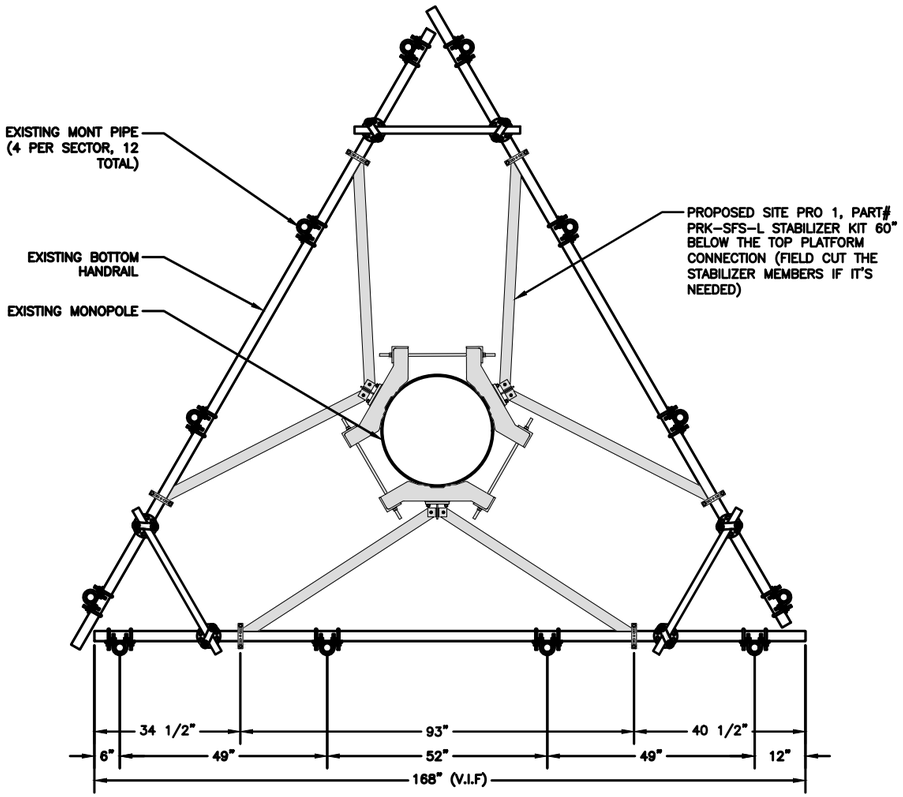
TITLE SHEET

SHEET No.

T-1

INSTALLATION NOTES:

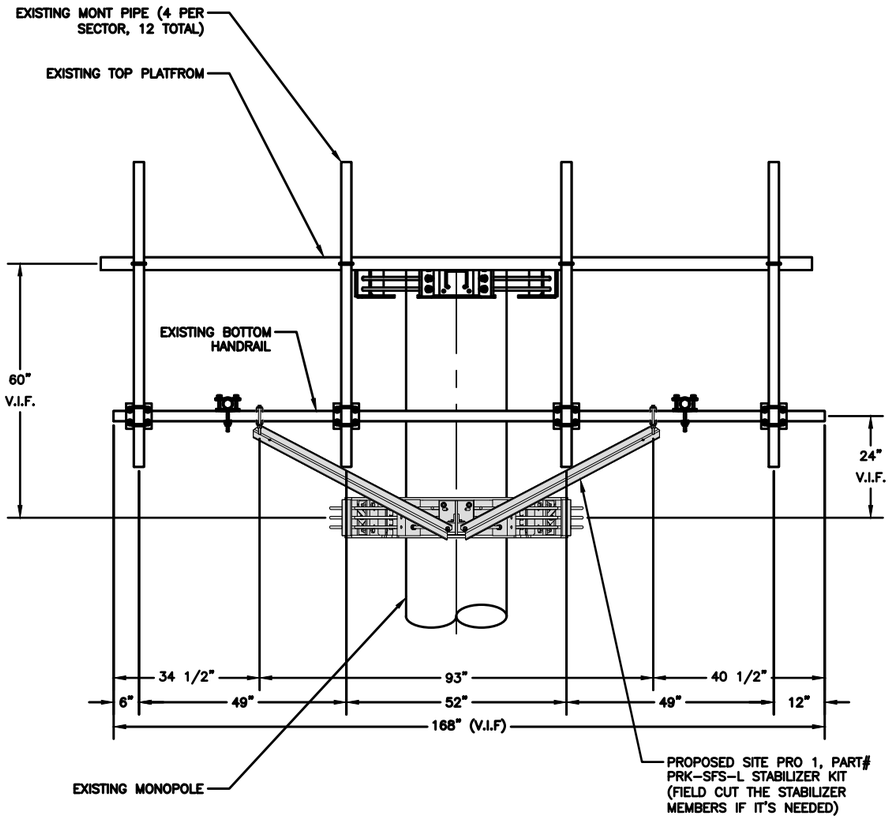
- INSTALL NEW SITE PRO 1, PRK–SFS–L STABILIZER KIT CONNECTED TO THE HANDRAIL. THE COLLAR STABILIZER MUST BE INSTALLED AT APPROX. 60" BELOW THE PLATFORM CONNECTION. FIELD CUT THE STABILIZER MEMBERS IF IT'S NEEDED.



EQUIPMENT NOT SHOWN FOR CLARITY.

2 / S–1 1 / S–1 PROPOSED BOTTOM PLAN VIEW (ALL SECTORS)
SCALE: 3/4" = 1'–0"
0 0'–8" 1'–4" 2'–8" 4'–0"

BILL OF MATERIALS		
QTY.	KIT NO./PART NO.	DESCRIPTION
1 TOTAL	PRK–SFS–L	STABILIZER KIT



EQUIPMENT NOT SHOWN FOR CLARITY.

2 / S–1 PROPOSED ELEVATION VIEW (ALL SECTORS)
SCALE: 3/4" = 1'–0"
0 0'–8" 1'–4" 2'–8" 4'–0"

GENERAL NOTES:

1. ALL STEEL ANGLE TO BE ASTM A36 (GR 36) OR BETTER.
2. ALL STEEL PLATE TO BE ASTM A36 (GR 36) OR BETTER.
3. ALL PIPES TO BE ASTM A53 (GR 35) OR BETTER.
4. HOT DIP GALVANIZE LEVEL 3 PARTS.
5. APPLY TWO COATS OF GALVICON TO ALL FIELD CUT OR DRILL EDGES.
6. ALL BOLTS TO MAINTAIN 1" EDGE DISTANCE.

CROWN CASTLE
1220 AUGUSTA DRIVE SUIT 500
HOUSTON, TX 77057

AT&T

Trylon
1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038
1–855–669–5421

STATE OF CONNECTICUT
CHRISTOPHER ABERNATHY
No. 31022
5-25-22
LICENSED PROFESSIONAL ENGINEER

DRAWING SCALES ARE INTENDED FOR 24"x36" SIZE PRINTED MEDIA ONLY. ALL OTHER PRINTED SIZES ARE DEEMED "NOT TO SCALE".

SUBMITTALS

REV	DATE	DESCRIPTION	BY
0	05/25/22	FOR REVIEW	RC

SITE INFORMATION

SITE NAME:
WINDSORCENTRAL

SITE NUMBER:
CT5138

FA NUMBER:
10092835

SITE ADDRESS:
340 BLOOMFIELD AVENUE,
WINDSOR, CT 06095

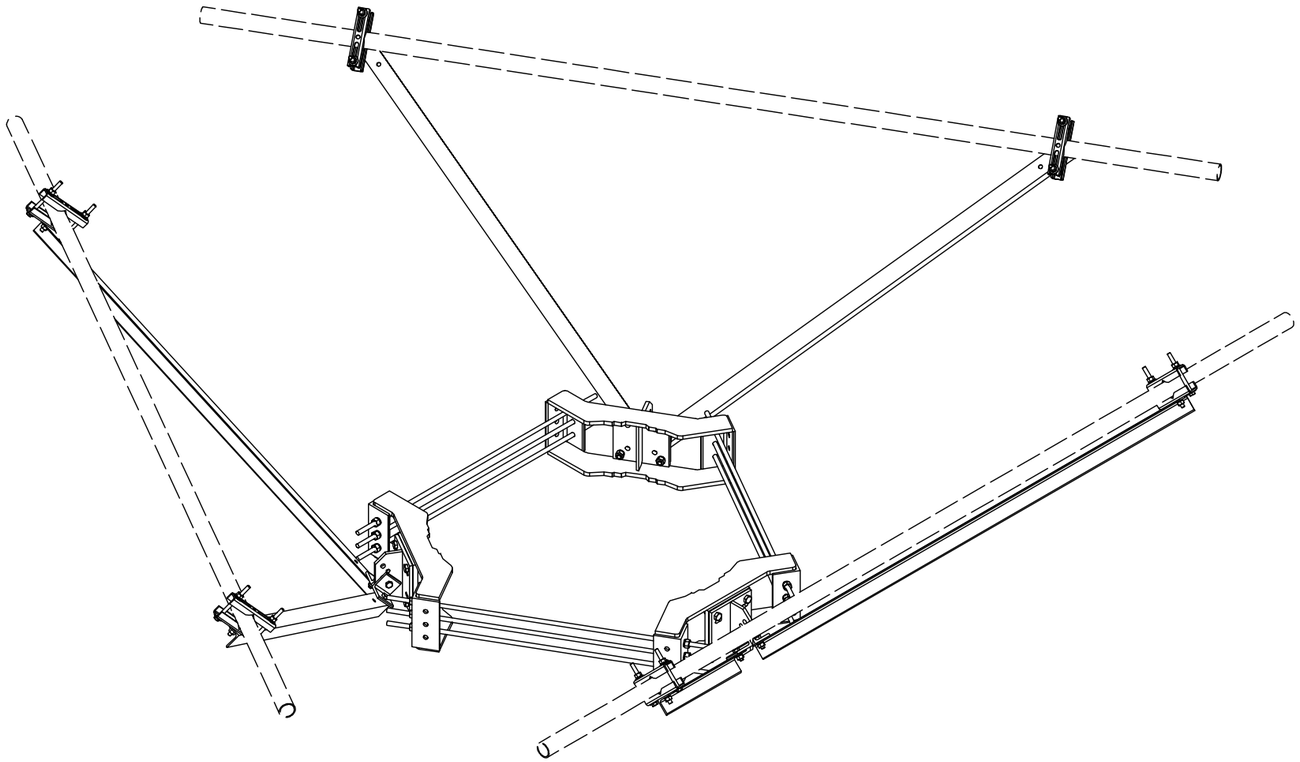
SHEET DESCRIPTION

MOUNT REINFORCEMENT

SHEET No.

S–1

MOUNT KIT	
PART NUMBER	DESCRIPTION
PRK-SFS-L	REINFORCEMENT ASSEMBLY KIT



CROWN CASTLE

1220 AUGUSTA DRIVE SUIT 500
HOUSTON, TX 77057

AT&T

Trylon

1825 W. WALNUT HILL LANE, SUITE 120
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SUBMITTALS

REV	DATE	DESCRIPTION	BY
0	05/25/22	FOR REVIEW	RC

SITE INFORMATION

SITE NAME:
WINDSORCENTRAL

SITE NUMBER:
CT5138

FA NUMBER:
10092835

SITE ADDRESS:
340 BLOOMFIELD AVENUE,
WINDSOR, CT 06095

SHEET DESCRIPTION

MOUNT REINFORCEMENT DETAIL

SHEET No.

S-2

Date: **May 31, 2022**

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

Subject:	**Structural Analysis Report**	
Carrier Designation:	***AT&T Mobility* Co-Locate**	
	Site Number:	CT5138
	Site Name:	Windsor Central
	FA Number:	10092835
Crown Castle Designation:	**BU Number:**	855662
	Site Name:	WINDSORCENTRAL
	JDE Job Number:	709486
	Work Order Number:	2111883
	Order Number:	608801 Rev. 0
Engineering Firm Designation:	**Crown Castle Project Number:**	2111883
Site Data:	**340 BLOOMFIELD AVENUE, WINDSOR, HARTFORD County, CT**	
	Latitude *41° 51' 9.34"*, Longitude *-72° 39' 37.79"*	
	148 Foot - Monopole Tower	

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

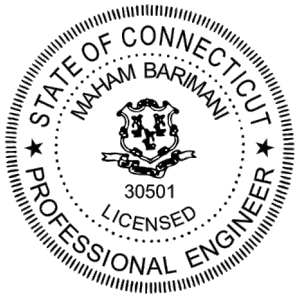
The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration **Sufficient Capacity – 99.6%**

This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2018 Connecticut State Building Code (2015 IBC). Applicable Standard references and design criteria are listed in Section 2 - "Analysis Criteria".

Structural analysis prepared by: Patrick Himes

Respectfully submitted by:



Maham Barimani, P.E.
Senior Project Engineer

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 148 ft Monopole tower designed by Summit. The tower has been modified in the past to accommodate additional loading.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	125 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	2 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)
148.0	148.0	3	cci antennas	OPA65R-BU8D w/ Mount Pipe	6 4 2 3 1	1-5/8 7/8 13/16 3/8 Conduit
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS 4478 B14_CCIV2		
		3	ericsson	RRUS 8843 B2/B66A		
		3	kathrein	800482001 w/ Mount Pipe		
		3	raycap	DC6-48-60-18-8F		
		1	tower mounts	Mount Modifications		
		1	tower mounts	Platform Mount [LP 1201-1_HR-1]		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
148.0	148.0	1	rfs celwave	PD320-2	-	-
142.0	142.0	3	commscope	HBXX-6516DS-A2M_T-MOBILE w/ Mount Pipe	3	1-5/8
		3	ericsson	AIR6449 B41_T-MOBILE w/ Mount Pipe		
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	ericsson	RADIO 4480 B71_TMO		
		3	rfs celwave	APXVAALL24_43-U-NA20_TMO w/ Mount Pipe		
		1	tower mounts	Platform Mount [LP 1201-1_HR-1]		
126.0	128.0	3	antel	BXA-70063-4CF-EDIN-X w/ Mount Pipe	8	1-5/8
		6	commscope	SBNHH-1D65B w/ Mount Pipe		
		1	raycap	RHSDC-6627-PF-48		
		3	samsung	MT6407-77A 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)
			telecommunications			
		3	samsung telecommunications	RFV01U-D1A		
		3	samsung telecommunications	RFV01U-D2A		
		3	samsung telecommunications	TME-RT4401-48A w/ Mount Pipe		
	126.0	1	tower mounts	Miscellaneous [NA 509-3]		
		1	tower mounts	Platform Mount [LP 404-1_KCKR]		
111.0	111.0	3	alcatel lucent	PCS 1900MHz 4x45W-65MHz	-	-
		3	alcatel lucent	TME-800MHz 2X50W RRH W/FILTER		
		1	tower mounts	Pipe Mount [PM 601-3]		
109.0	116.0	1	decibel	DB205-L	3 1 3	1-1/4 5/8 5/16
		1	kathrein	K732267		
	113.0	1	sinclair	SD212-SF3P2SNM W/Mount Piipe		
	110.0	3	alcatel lucent	TD-RRH8X20-25		
		4	rfs celwave	APXVSPP18-C-A20 w/ Mount Pipe		
		3	rfs celwave	APXVTM14-C-120 w/ Mount Pipe		
	109.0	1	tower mounts	Platform Mount [LP 1201-1]		
99.0	99.0	3	fujitsu	TA08025-B604	1	1-1/2
		3	fujitsu	TA08025-B605		
		3	jma wireless	MX08FRO665-21 w/ Mount Pipe		
		1	raycap	RDIDC-9181-PF-48		
		1	tower mounts	Commscope MC-PK8-DSH		
79.0	79.0	1	tower mounts	Side Arm Mount [SO 702-3]	2	7/8
	75.0	1	sinclair	SRL-227		
50.0	51.0	1	pctel	GPS-TMG-HR-26N	1	1/2
	50.0	1	tower mounts	Side Arm Mount [SO 701-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	5269642	CCISITES
4-POST-MODIFICATION INSPECTION	5649676	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	4864324	CCISITES
4-TOWER MANUFACTURER DRAWINGS	5338627	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5373232	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 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. Crown Castle 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	148 - 143	Pole	TP24.975x24x0.2188	Pole	7.0%	Pass
L2	143 - 138	Pole	TP25.95x24.975x0.2188	Pole	16.2%	Pass
L3	138 - 133	Pole	TP26.925x25.95x0.2188	Pole	24.8%	Pass
L4	133 - 128	Pole	TP27.901x26.925x0.2188	Pole	32.7%	Pass
L5	128 - 123	Pole	TP28.876x27.901x0.2188	Pole	43.0%	Pass
L6	123 - 119.75	Pole	TP30.241x28.876x0.2188	Pole	49.4%	Pass
L7	119.75 - 114.75	Pole	TP30.047x29.072x0.25	Pole	50.4%	Pass
L8	114.75 - 109.75	Pole	TP31.022x30.047x0.25	Pole	57.7%	Pass
L9	109.75 - 104.75	Pole	TP31.997x31.022x0.25	Pole	67.1%	Pass
L10	104.75 - 99.75	Pole	TP32.972x31.997x0.25	Pole	75.1%	Pass
L11	99.75 - 94.75	Pole	TP33.947x32.972x0.25	Pole	83.9%	Pass
L12	94.75 - 93.5	Pole	TP34.191x33.947x0.25	Pole	86.0%	Pass
L13	93.5 - 93.25	Pole + Reinf.	TP34.24x34.191x0.4375	Reinf. 4 Tension Rupture	71.0%	Pass
L14	93.25 - 88.25	Pole + Reinf.	TP35.215x34.24x0.4313	Reinf. 4 Tension Rupture	77.6%	Pass
L15	88.25 - 83.25	Pole + Reinf.	TP36.19x35.215x0.425	Reinf. 4 Tension Rupture	83.8%	Pass
L16	83.25 - 79.5	Pole + Reinf.	TP37.847x36.19x0.425	Reinf. 4 Tension Rupture	88.1%	Pass
L17	79.5 - 74.5	Pole + Reinf.	TP37.396x36.421x0.4875	Reinf. 4 Tension Rupture	83.3%	Pass
L18	74.5 - 69.5	Pole + Reinf.	TP38.371x37.396x0.475	Reinf. 4 Tension Rupture	87.7%	Pass
L19	69.5 - 64.5	Pole + Reinf.	TP39.346x38.371x0.475	Reinf. 4 Tension Rupture	91.7%	Pass
L20	64.5 - 62.5	Pole + Reinf.	TP39.736x39.346x0.475	Reinf. 4 Tension Rupture	93.3%	Pass
L21	62.5 - 62.25	Pole	TP39.785x39.736x0.3125	Pole	96.2%	Pass
L22	62.25 - 57.75	Pole	TP40.663x39.785x0.3125	Pole	99.6%	Pass
L23	57.75 - 57.5	Pole + Reinf.	TP40.711x40.663x0.525	Reinf. 2 Tension Rupture	85.3%	Pass
L24	57.5 - 52.5	Pole + Reinf.	TP41.687x40.711x0.525	Reinf. 2 Tension Rupture	88.4%	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L25	52.5 - 47.5	Pole + Reinf.	TP42.662x41.687x0.5125	Reinf. 2 Tension Rupture	91.4%	Pass
L26	47.5 - 45	Pole + Reinf.	TP44.222x42.662x0.5125	Reinf. 2 Tension Rupture	92.8%	Pass
L27	45 - 38.5	Pole + Reinf.	TP43.792x42.524x0.575	Reinf. 2 Tension Rupture	87.8%	Pass
L28	38.5 - 38.25	Pole + Reinf.	TP43.841x43.792x0.575	Reinf. 2 Tension Rupture	87.9%	Pass
L29	38.25 - 38	Pole + Reinf.	TP43.889x43.841x0.5063	Reinf. 2 Tension Rupture	89.3%	Pass
L30	38 - 33	Pole + Reinf.	TP44.865x43.889x0.5	Reinf. 2 Tension Rupture	91.3%	Pass
L31	33 - 31.75	Pole + Reinf.	TP45.108x44.865x0.5	Reinf. 2 Tension Rupture	91.8%	Pass
L32	31.75 - 31.5	Pole + Reinf.	TP45.157x45.108x0.725	Reinf. 1 Bolt Shear	75.5%	Pass
L33	31.5 - 28.25	Pole + Reinf.	TP45.791x45.157x0.725	Reinf. 1 Compression	73.7%	Pass
L34	28.25 - 28	Pole + Reinf.	TP45.84x45.791x0.5375	Reinf. 1 Compression	83.2%	Pass
L35	28 - 23	Pole + Reinf.	TP46.815x45.84x0.5375	Reinf. 1 Compression	84.8%	Pass
L36	23 - 18	Pole + Reinf.	TP47.79x46.815x0.525	Reinf. 1 Compression	86.4%	Pass
L37	18 - 13	Pole + Reinf.	TP48.765x47.79x0.525	Reinf. 1 Compression	87.9%	Pass
L38	13 - 8	Pole + Reinf.	TP49.74x48.765x0.525	Reinf. 1 Compression	89.2%	Pass
L39	8 - 3	Pole + Reinf.	TP50.715x49.74x0.525	Reinf. 1 Compression	90.5%	Pass
L40	3 - 0	Pole + Reinf.	TP51.3x50.715x0.5188	Reinf. 1 Bolt Shear	94.8%	Pass
					Summary	
				Pole	99.6%	Pass
				Reinforcement	94.8%	Pass
				Overall	99.6%	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	90.1	Pass
1	Base Plate	0	83.5	Pass
1	Base Foundation (Structure)	0	92.2	Pass
1	Base Foundation (Soil Interaction)	0	80.3	Pass

Structure Rating (max from all components) =	99.6%

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

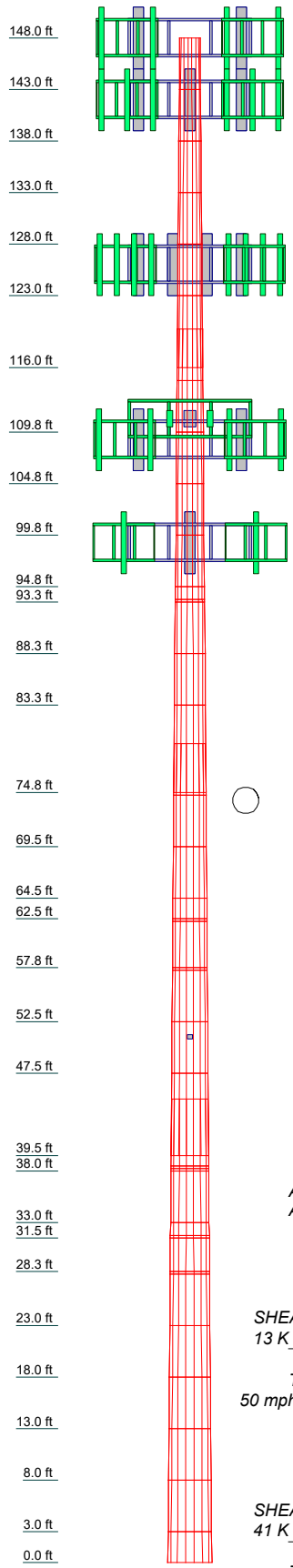
4.1) Recommendations

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

APPENDIX A

TNXTOWER OUTPUT

Section		Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1		5.00	18	0.2188		24.0000	24.9752		0.3
2		5.00	18	0.2188		24.9752	25.9503		0.3
3		5.00	18	0.2188		25.9503	26.9255		0.3
4		5.00	18	0.2188		26.9255	27.9006		0.3
5		5.00	18	0.2188		27.9006	28.8758		0.3
6		5.00	18	0.2188	3.75	28.8758	30.0729		0.5
7		7.00	18	0.2500		30.0729	31.0220		0.4
8		5.00	18	0.2500		31.0220	31.9971		0.4
9		5.00	18	0.2500		31.9971	32.9721		0.4
10		5.00	18	0.2500		32.9721	33.9471		0.4
11		5.00	18	0.2500		33.9471	34.9221		0.4
12		2.25	18	0.2500		34.9221	35.2145		0.1
14		5.000	18	0.4375		34.2393	35.2145		0.8
15		5.00	18	0.4250		35.2145	36.1895		0.8
16		5.00	18	0.4250	4.75	36.1895	37.1645		1.4
17		5.00	18	0.4375		37.1645	38.1396		0.9
18		5.00	18	0.4750		38.1396	39.1146		0.9
19		5.00	18	0.4750		39.1146	40.0896		1.0
20		2.50	18	0.4750		40.0896	40.4646		0.4
22		4.500	18	0.5000		40.4646	41.3146		0.6
23		5.000	18	0.5250		41.3146	42.1646		1.1
24		5.000	18	0.5250		42.1646	43.0146		1.1
25		5.00	18	0.5125		43.0146	43.8646		1.1
26		6.50	18	0.5125	5.50	43.8646	44.9146		1.8
27		0.25	18	0.5250		44.9146	45.0396		0.1
28		5.000	18	0.5250		45.0396	45.8896		1.2
30		5.000	18	0.5000		45.8896	46.7396		1.2
31		2.25	18	0.5000		46.7396	46.8521		0.3
33		11.25	18	0.5000		46.8521	47.7896		1.1
34		5.000	18	0.5000		47.7896	48.6396		1.5
35		5.000	18	0.5000		48.6396	49.4896		1.5
36		5.00	18	0.5250		49.4896	50.3396		1.5
37		5.00	18	0.5250		50.3396	51.1896		1.5
38		5.00	18	0.5250		51.1896	52.0396		1.5
39		5.00	18	0.5250		52.0396	52.8896		1.5
40		3.00	18	0.5188		52.8896	53.4396	A607-65	0.9



ALL REACTIONS ARE FACTORED

AXIAL 117 K

SHEAR 13 K

MOMENT 1543 kip-ft

TORQUE 1 kip-ft
50 mph WIND - 2.0000 in ICE

AXIAL 62 K

SHEAR 41 K

MOMENT 4538 kip-ft

TORQUE 4 kip-ft
REACTIONS - 125 mph WIND

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-H Standard.
2. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
3. Tower is also designed for a 50 mph basic wind with 2.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 99.6%

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

Job: **BU 855662**			
Project:			
Client: Crown Castle	Drawn by: phimes	App'd:	
Code: TIA-222-H	Date: 05/31/22	Scale: NTS	
Path: C:\Users\phimes\Desktop\Work Area\855662\WO 2111883 - SA\Prod\855662 - Reinforced.er		Dwg No. E-1	

Tower Input Data

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

- Tower base elevation above sea level: 115.00 ft.
- Basic wind speed of 125 mph.
- Risk Category II.
- Exposure Category C.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.00 ft.
- Nominal ice thickness of 2.0000 in.
- Ice thickness is considered to increase with height.
- Ice density of 56.00 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.
- TOWER RATING: 99.6%.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.
- Tower analysis based on target reliabilities in accordance with Annex S.
- Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
- Maximum demand-capacity ratio is: 1.05.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	148.00-143.00	5.00	0.00	18	24.0000	24.9752	0.2188	0.8750	A607-65 (65 ksi)
L2	143.00-138.00	5.00	0.00	18	24.9752	25.9503	0.2188	0.8750	A607-65 (65 ksi)
L3	138.00-133.00	5.00	0.00	18	25.9503	26.9255	0.2188	0.8750	A607-65 (65 ksi)
L4	133.00-128.00	5.00	0.00	18	26.9255	27.9006	0.2188	0.8750	A607-65 (65 ksi)
L5	128.00-123.00	5.00	0.00	18	27.9006	28.8758	0.2188	0.8750	A607-65 (65 ksi)
L6	123.00-116.00	7.00	3.75	18	28.8758	30.2410	0.2188	0.8750	A607-65 (65 ksi)
L7	116.00-114.75	5.00	0.00	18	29.0721	30.0471	0.2500	1.0000	A607-65 (65 ksi)
L8	114.75-109.75	5.00	0.00	18	30.0471	31.0221	0.2500	1.0000	A607-65 (65 ksi)
L9	109.75-104.75	5.00	0.00	18	31.0221	31.9971	0.2500	1.0000	A607-65 (65 ksi)
L10	104.75-99.75	5.00	0.00	18	31.9971	32.9721	0.2500	1.0000	A607-65 (65 ksi)
L11	99.75-94.75	5.00	0.00	18	32.9721	33.9471	0.2500	1.0000	A607-65 (65 ksi)
L12	94.75-93.50	1.25	0.00	18	33.9471	34.1908	0.2500	1.0000	A607-65 (65 ksi)
L13	93.50-93.25	0.25	0.00	18	34.1908	34.2396	0.4375	1.7500	A607-65 (65 ksi)
L14	93.25-88.25	5.00	0.00	18	34.2396	35.2145	0.4313	1.7250	A607-65 (65 ksi)
L15	88.25-83.25	5.00	0.00	18	35.2145	36.1895	0.4250	1.7000	A607-65 (65 ksi)
L16	83.25-74.75	8.50	4.75	18	36.1895	37.8470	0.4250	1.7000	A607-65 (65 ksi)
L17	74.75-74.50	5.00	0.00	18	36.4208	37.3959	0.4875	1.9500	A607-65 (65 ksi)
L18	74.50-69.50	5.00	0.00	18	37.3959	38.3711	0.4750	1.9000	A607-65 (65 ksi)
L19	69.50-64.50	5.00	0.00	18	38.3711	39.3462	0.4750	1.9000	A607-65 (65 ksi)
L20	64.50-62.50	2.00	0.00	18	39.3462	39.7363	0.4750	1.9000	A607-65 (65 ksi)
L21	62.50-62.25	0.25	0.00	18	39.7363	39.7850	0.3125	1.2500	A607-65 (65 ksi)
L22	62.25-57.75	4.50	0.00	18	39.7850	40.6627	0.3125	1.2500	A607-65 (65 ksi)
L23	57.75-57.50	0.25	0.00	18	40.6627	40.7114	0.5250	2.1000	A607-65 (65 ksi)
L24	57.50-52.50	5.00	0.00	18	40.7114	41.6866	0.5250	2.1000	A607-65 (65 ksi)
L25	52.50-47.50	5.00	0.00	18	41.6866	42.6618	0.5125	2.0500	A607-65 (65 ksi)
L26	47.50-39.50	8.00	5.50	18	42.6618	44.2220	0.5125	2.0500	A607-65 (65 ksi)
L27	39.50-38.50	6.50	0.00	18	42.5243	43.7919	0.5750	2.3000	A607-65 (65 ksi)
L28	38.50-38.25	0.25	0.00	18	43.7919	43.8407	0.5750	2.3000	A607-65 (65 ksi)
L29	38.25-38.00	0.25	0.00	18	43.8407	43.8894	0.5062	2.0250	A607-65 (65 ksi)
L30	38.00-33.00	5.00	0.00	18	43.8894	44.8645	0.5000	2.0000	A607-65 (65 ksi)
L31	33.00-31.75	1.25	0.00	18	44.8645	45.1083	0.5000	2.0000	A607-65 (65 ksi)
L32	31.75-31.50	0.25	0.00	18	45.1083	45.1570	0.7250	2.9000	A607-65 (65 ksi)
L33	31.50-28.25	3.25	0.00	18	45.1570	45.7908	0.7250	2.9000	A607-65 (65 ksi)
L34	28.25-28.00	0.25	0.00	18	45.7908	45.8396	0.5375	2.1500	A607-65 (65 ksi)
L35	28.00-23.00	5.00	0.00	18	45.8396	46.8147	0.5375	2.1500	A607-65

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L36	23.00-18.00	5.00	0.00	18	46.8147	47.7897	0.5250	2.1000	(65 ksi) A607-65 (65 ksi)
L37	18.00-13.00	5.00	0.00	18	47.7897	48.7648	0.5250	2.1000	A607-65 (65 ksi)
L38	13.00-8.00	5.00	0.00	18	48.7648	49.7399	0.5250	2.1000	A607-65 (65 ksi)
L39	8.00-3.00	5.00	0.00	18	49.7399	50.7150	0.5250	2.1000	A607-65 (65 ksi)
L40	3.00-0.00	3.00		18	50.7150	51.3000	0.5188	2.0750	A607-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	24.3365	16.5116	1179.7676	8.4423	12.1920	96.7657	2361.0876	8.2574	3.8390	17.55
	25.3267	17.1887	1330.9301	8.7885	12.6874	104.9019	2663.6114	8.5960	4.0106	18.334
L2	25.3267	17.1887	1330.9301	8.7885	12.6874	104.9019	2663.6114	8.5960	4.0106	18.334
	26.3169	17.8657	1494.4828	9.1347	13.1828	113.3665	2990.9320	8.9346	4.1823	19.119
L3	26.3169	17.8657	1494.4828	9.1347	13.1828	113.3665	2990.9320	8.9346	4.1823	19.119
	27.3071	18.5428	1670.9138	9.4809	13.6781	122.1594	3344.0261	9.2732	4.3539	19.903
L4	27.3071	18.5428	1670.9138	9.4809	13.6781	122.1594	3344.0261	9.2732	4.3539	19.903
	28.2973	19.2199	1860.7111	9.8271	14.1735	131.2808	3723.8705	9.6118	4.5255	20.688
L5	28.2973	19.2199	1860.7111	9.8271	14.1735	131.2808	3723.8705	9.6118	4.5255	20.688
	29.2875	19.8969	2064.3628	10.1732	14.6689	140.7306	4131.4420	9.9504	4.6971	21.473
L6	29.2875	19.8969	2064.3628	10.1732	14.6689	140.7306	4131.4420	9.9504	4.6971	21.473
	30.6738	20.8448	2373.6799	10.6579	15.3624	154.5120	4750.4831	10.4244	4.9374	22.571
L7	30.2246	22.8704	2400.2845	10.2319	14.7686	162.5257	4803.7274	11.4374	4.6767	18.707
	30.4721	23.6440	2652.2055	10.5780	15.2639	173.7563	5307.9008	11.8243	4.8483	19.393
L8	30.4721	23.6440	2652.2055	10.5780	15.2639	173.7563	5307.9008	11.8243	4.8483	19.393
	31.4621	24.4177	2921.1639	10.9241	15.7592	185.3621	5846.1716	12.2112	5.0199	20.08
L9	31.4621	24.4177	2921.1639	10.9241	15.7592	185.3621	5846.1716	12.2112	5.0199	20.08
	32.4521	25.1913	3207.7173	11.2702	16.2545	197.3431	6419.6555	12.5981	5.1915	20.766
L10	32.4521	25.1913	3207.7173	11.2702	16.2545	197.3431	6419.6555	12.5981	5.1915	20.766
	33.4422	25.9650	3512.4232	11.6163	16.7498	209.6992	7029.4682	12.9849	5.3631	21.452
L11	33.4422	25.9650	3512.4232	11.6163	16.7498	209.6992	7029.4682	12.9849	5.3631	21.452
	34.4322	26.7386	3835.8391	11.9625	17.2451	222.4306	7676.7254	13.3718	5.5347	22.139
L12	34.4322	26.7386	3835.8391	11.9625	17.2451	222.4306	7676.7254	13.3718	5.5347	22.139
	34.6797	26.9320	3919.6818	12.0490	17.3689	225.6720	7844.5212	13.4686	5.5776	22.31
L13	34.6508	46.8707	6746.3886	11.9824	17.3689	388.4171	13501.6543	23.4398	5.2476	11.994
	34.7003	46.9384	6775.6619	11.9997	17.3937	389.5470	13560.2394	23.4736	5.2562	12.014
L14	34.7012	46.2764	6682.5722	12.0019	17.3937	384.1951	13373.9375	23.1426	5.2672	12.214
	35.6913	47.6109	7277.5542	12.3481	17.8890	406.8176	14564.6844	23.8100	5.4388	12.612
L15	35.6922	46.9293	7175.9492	12.3503	17.8890	401.1378	14361.3407	23.4691	5.4498	12.823
	36.6822	48.2446	7796.3386	12.6964	18.3843	424.0764	15602.9357	24.1269	5.6214	13.227
L16	36.6822	48.2446	7796.3386	12.6964	18.3843	424.0764	15602.9357	24.1269	5.6214	13.227
	38.3653	50.4804	8931.2919	13.2848	19.2263	464.5357	17874.3359	25.2450	5.9131	13.913
L17	37.8481	55.6004	9070.0357	12.7563	18.5017	490.2259	18152.0060	27.8055	5.5521	11.389
	37.8976	57.1093	9828.6824	13.1025	18.9971	517.3773	19670.2977	28.5601	5.7237	11.741
L18	37.8995	55.6638	9586.3984	13.1069	18.9971	504.6236	19185.4108	27.8372	5.7457	12.096
	38.8897	57.1340	10366.2244	13.4531	19.4925	531.8057	20746.0890	28.5724	5.9173	12.457
L19	38.8897	57.1340	10366.224	13.4531	19.4925	531.8057	20746.089	28.5724	5.9173	12.457

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
	39.8799	58.6042	11187.2344	13.7993	19.9879	559.7008	22389.1890	29.3077	6.0889	12.819
L20	39.8799	58.6042	11187.2347	13.7993	19.9879	559.7008	22389.1898	29.3077	6.0889	12.819
	40.2760	59.1923	11527.4077	13.9378	20.1860	571.0585	23069.9835	29.6018	6.1576	12.963
L21	40.3011	39.1035	7678.3780	13.9954	20.1860	380.3807	15366.8595	19.5555	6.4436	20.619
	40.3506	39.1518	7706.9022	14.0128	20.2108	381.3259	15423.9453	19.5796	6.4522	20.647
L22	40.3506	39.1518	7706.9022	14.0128	20.2108	381.3259	15423.9453	19.5796	6.4522	20.647
	41.2418	40.0223	8232.4864	14.3243	20.6566	398.5394	16475.8052	20.0150	6.6066	21.141
L23	41.2090	66.8834	13613.2140	14.2489	20.6566	659.0235	27244.3406	33.4481	6.2326	11.872
	41.2585	66.9647	13662.8847	14.2662	20.6814	660.6359	27343.7474	33.4887	6.2412	11.888
L24	41.2585	66.9647	13662.8847	14.2662	20.6814	660.6359	27343.7474	33.4887	6.2412	11.888
	42.2487	68.5896	14681.8359	14.6124	21.1768	693.2984	29382.9906	34.3013	6.4128	12.215
L25	42.2506	66.9769	14345.3297	14.6168	21.1768	677.4081	28709.5353	33.4948	6.4348	12.556
	43.2408	68.5631	15388.9108	14.9630	21.6722	710.0770	30798.0708	34.2881	6.6065	12.891
L26	43.2408	68.5631	15388.9108	14.9630	21.6722	710.0770	30798.0708	34.2881	6.6065	12.891
	44.8251	71.1012	17161.9154	15.5169	22.4648	763.9478	34346.4130	35.5573	6.8811	13.426
L27	44.1808	76.5596	17021.0875	14.8920	21.6024	787.9272	34064.5719	38.2871	6.4723	11.256
	44.3788	78.8731	18611.1779	15.3420	22.2463	836.5966	37246.8448	39.4440	6.6954	11.644
L28	44.3788	78.8731	18611.1779	15.3420	22.2463	836.5966	37246.8448	39.4440	6.6954	11.644
	44.4283	78.9620	18674.2357	15.3593	22.2711	838.4976	37373.0434	39.4885	6.7040	11.659
L29	44.4389	69.6314	16519.9486	15.3837	22.2711	741.7673	33061.6345	34.8223	6.8250	13.481
	44.4884	69.7097	16575.7690	15.4010	22.2958	743.4470	33173.3488	34.8615	6.8335	13.498
L30	44.4894	68.8590	16378.2064	15.4032	22.2958	734.5860	32777.9637	34.4361	6.8445	13.689
	45.4795	70.4065	17507.3900	15.7494	22.7912	768.1655	35037.8167	35.2099	7.0162	14.032
L31	45.4795	70.4065	17507.3900	15.7494	22.7912	768.1655	35037.8167	35.2099	7.0162	14.032
	45.7270	70.7933	17797.5709	15.8359	22.9150	776.6776	35618.5604	35.4034	7.0591	14.118
L32	45.6923	102.1326	25417.9478	15.7561	22.9150	1109.2272	50869.3411	51.0760	6.6631	9.19
	45.7418	102.2448	25501.8024	15.7734	22.9398	1111.6851	51037.1608	51.1321	6.6716	9.202
L33	45.7418	102.2448	25501.8024	15.7734	22.9398	1111.6851	51037.1608	51.1321	6.6716	9.202
	46.3854	103.7032	26608.7507	15.9984	23.2617	1143.8847	53252.5139	51.8615	6.7832	9.356
L34	46.4143	77.2033	19974.4326	16.0649	23.2617	858.6817	39975.1482	38.6090	7.1132	13.234
	46.4638	77.2865	20039.0606	16.0822	23.2865	860.5438	40104.4892	38.6506	7.1218	13.25
L35	46.4638	77.2865	20039.0606	16.0822	23.2865	860.5438	40104.4892	38.6506	7.1218	13.25
	47.4539	78.9500	21361.0634	16.4284	23.7818	898.2088	42750.2343	39.4825	7.2934	13.569
L36	47.4559	77.1348	20881.2061	16.4328	23.7818	878.0313	41789.8883	38.5747	7.3154	13.934
	48.4460	78.7596	22228.762	16.7790	24.2772	915.6236	44486.773	39.3873	7.4870	14.261

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
			0				2			
L37	48.4460	78.7596	22228.762	16.7790	24.2772	915.6236	44486.773	39.3873	7.4870	14.261
			0				2			
	49.4361	80.3844	23633.081	17.1251	24.7725	954.0039	47297.259	40.1998	7.6586	14.588
			1				3			
L38	49.4361	80.3844	23633.081	17.1251	24.7725	954.0039	47297.259	40.1998	7.6586	14.588
			1				3			
	50.4262	82.0092	25095.334	17.4713	25.2679	993.1722	50223.690	41.0124	7.8302	14.915
			6				4			
L39	50.4262	82.0092	25095.334	17.4713	25.2679	993.1722	50223.690	41.0124	7.8302	14.915
			6				4			
	51.4163	83.6340	26616.693	17.8174	25.7632	1033.1285	53268.409	41.8250	8.0018	15.242
			5				9			
L40	51.4173	82.6487	26309.654	17.8197	25.7632	1021.2108	52653.927	41.3322	8.0128	15.446
			4				8			
	52.0114	83.6120	27240.347	18.0273	26.0604	1045.2774	54516.538	41.8139	8.1158	15.645
			5				5			

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 148.00-143.00				1	1	1			
L2 143.00-138.00				1	1	1			
L3 138.00-133.00				1	1	1			
L4 133.00-128.00				1	1	1			
L5 128.00-123.00				1	1	1			
L6 123.00-116.00				1	1	1			
L7 116.00-114.75				1	1	1			
L8 114.75-109.75				1	1	1			
L9 109.75-104.75				1	1	1			
L10 104.75-99.75				1	1	1			
L11 99.75-94.75				1	1	1			
L12 94.75-93.50				1	1	1			
L13 93.50-93.25				1	1	0.958094			
L14 93.25-88.25				1	1	0.960809			
L15 88.25-83.25				1	1	0.964226			
L16 83.25-74.75				1	1	0.956693			
L17 74.75-74.50				1	1	0.959261			
L18 74.50-69.50				1	1	0.975776			
L19 69.50-64.50				1	1	0.967801			
L20 64.50-62.50				1	1	0.964722			
L21 62.50-62.25				1	1	1			
L22 62.25-57.75				1	1	1			
L23 57.75-57.50				1	1	0.962397			

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L24 57.50-52.50				1	1	0.953698			
L25 52.50-47.50				1	1	0.968174			
L26 47.50-39.50				1	1	0.964075			
L27 39.50-38.50				1	1	0.964244			
L28 38.50-38.25				1	1	0.963892			
L29 38.25-38.00				1	1	0.9761			
L30 38.00-33.00				1	1	0.982924			
L31 33.00-31.75				1	1	0.981651			
L32 31.75-31.50				1	1	0.992017			
L33 31.50-28.25				1	1	0.98534			
L34 28.25-28.00				1	1	1.11262			
L35 28.00-23.00				1	1	1.10388			
L36 23.00-18.00				1	1	1.12128			
L37 18.00-13.00				1	1	1.11305			
L38 13.00-8.00				1	1	1.10515			
L39 8.00-3.00				1	1	1.09756			
L40 3.00-0.00				1	1	1.10618			

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 klf
***										
LDF4-50A(1/2")	C	No	Surface Ar (CaAa)	50.00 - 0.00	1	1	0.000 0.000	0.6300		0.00
***										
MOD										
(Area) CCI-65FP-085125 (H)	A	No	Surface Af (CaAa)	35.50 - 0.00	1	1	-0.250 -0.250	8.5000	19.5000	0.00
(Area) CCI-65FP-085125 (H)	A	No	Surface Af (CaAa)	35.50 - 0.00	1	1	0.500 0.500	8.5000	19.5000	0.00
(Area) CCI-65FP-085125 (H)	B	No	Surface Af (CaAa)	35.50 - 0.00	1	1	0.250 0.250	8.5000	19.5000	0.00
***										
(Area) CCI-65FP-065125 (H)	B	No	Surface Af (CaAa)	60.50 - 25.50	1	1	-0.250 -0.250	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	C	No	Surface Af (CaAa)	60.50 - 25.50	1	1	-0.250 -0.250	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	A	No	Surface Af (CaAa)	60.50 - 35.50	1	1	-0.250 -0.250	6.5000	15.5000	0.00
***										
(Area) CCI-65FP-060100 (H)	A	No	Surface Af (CaAa)	95.50 - 60.50	1	1	-0.250 -0.250	6.0000	14.0000	0.00
(Area) CCI-65FP-060100 (H)	B	No	Surface Af (CaAa)	95.50 - 60.50	1	1	-0.250 -0.250	6.0000	14.0000	0.00
(Area) CCI-65FP-	C	No	Surface Af	95.50 -	1	1	-0.250	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 in	Perimeter in	Weight klf
060100 (H)			(CaAa)	60.50			-0.250			
***										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#		C_AA_A ft^2/ft	Weight klf
***											
LDF5-50A(7/8")	B	No	No	Inside Pole	148.00 - 0.00	0.0000	0	6	No Ice	0.00	0.00
									1/2" Ice	0.00	0.00
									1" Ice	0.00	0.00
									2" Ice	0.00	0.00
2" Flexible Conduit	B	No	No	Inside Pole	148.00 - 0.00	0.0000	0	1	No Ice	0.00	0.00
									1/2" Ice	0.00	0.00
									1" Ice	0.00	0.00
									2" Ice	0.00	0.00
LDF7-50A(1-5/8")	B	No	No	Inside Pole	148.00 - 0.00	0.0000	0	6	No Ice	0.00	0.00
									1/2" Ice	0.00	0.00
									1" Ice	0.00	0.00
									2" Ice	0.00	0.00
FB-L98B-002-75000(3/8)	B	No	No	Inside Pole	148.00 - 0.00	0.0000	0	3	No Ice	0.00	0.00
									1/2" Ice	0.00	0.00
									1" Ice	0.00	0.00
									2" Ice	0.00	0.00
***											
MLE Hybrid 9Power/18Fiber RL 2(1-5/8")	A	No	No	Inside Pole	142.00 - 0.00	0.0000	0	3	No Ice	0.00	0.00
									1/2" Ice	0.00	0.00
									1" Ice	0.00	0.00
									2" Ice	0.00	0.00
***											
HJ7-50A(1-5/8")	C	No	No	Inside Pole	126.00 - 0.00	0.0000	0	8	No Ice	0.00	0.00
									1/2" Ice	0.00	0.00
									1" Ice	0.00	0.00
									2" Ice	0.00	0.00
***											
LDF5-50A(7/8")	A	No	No	Inside Pole	109.00 - 0.00	0.0000	0	5	No Ice	0.00	0.00
									1/2" Ice	0.00	0.00
										0.00	0.00

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#		C_AA_A ft^2/ft	Weight klf
									1" Ice		
									2" Ice		
ATCB-B01-006(5/16")	A	No	No	Inside Pole	109.00 - 0.00	0.0000	0	3	No Ice	0.00	0.00
									1/2" Ice	0.00	0.00
									1" Ice	0.00	0.00
									2" Ice	0.00	0.00
									1" Ice		
									2" Ice		
MLE Hybrid 3Power/6Fiber RL 2(1-1/4")	A	No	No	Inside Pole	109.00 - 0.00	0.0000	0	3	No Ice	0.00	0.00
									1/2" Ice	0.00	0.00
									1" Ice	0.00	0.00
									2" Ice	0.00	0.00
									1" Ice		
									2" Ice		
HB058-M12-XXXF(5/8")	A	No	No	Inside Pole	109.00 - 0.00	0.0000	0	1	No Ice	0.00	0.00
									1/2" Ice	0.00	0.00
									1" Ice	0.00	0.00
									2" Ice	0.00	0.00
									1" Ice		
									2" Ice		
***											
CU12PSM9P6XXX(1-1/2)	C	No	No	Inside Pole	99.00 - 0.00	0.0000	0	1	No Ice	0.00	0.00
									1/2" Ice	0.00	0.00
									1" Ice	0.00	0.00
									2" Ice	0.00	0.00
									1" Ice		
									2" Ice		
***											
***											
LDF5-50A(7/8")	A	No	No	Inside Pole	79.00 - 0.00	0.0000	0	2	No Ice	0.00	0.00
									1/2" Ice	0.00	0.00
									1" Ice	0.00	0.00
									2" Ice	0.00	0.00
									1" Ice		
									2" Ice		
**											
***											
3/8-in Detuner Wire	A	No	No	CaAa (Out Of Face)	147.00 - 15.00	36.0000	0	1	No Ice	0.02	0.00
									1/2" Ice	0.12	0.00
									1" Ice	0.22	0.00
									2" Ice	0.42	0.01
									1" Ice		
									2" Ice		
3/8-in Detuner Wire	B	No	No	CaAa (Out Of Face)	147.00 - 15.00	36.0000	0	1	No Ice	0.02	0.00
									1/2" Ice	0.12	0.00
									1" Ice	0.22	0.00
									2" Ice	0.42	0.01
									1" Ice		
									2" Ice		
3/8-in Detuner Wire	C	No	No	CaAa (Out Of Face)	147.00 - 15.00	36.0000	0	1	No Ice	0.02	0.00
									1/2" Ice	0.12	0.00
									1" Ice	0.22	0.00

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#		C_AA_A ft^2/ft	Weight klf
									Ice 1" Ice 2" Ice	0.42	0.01
***											

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	148.00-143.00	A	0.000	0.000	0.000	0.075	0
		B	0.000	0.000	0.000	0.075	0
		C	0.000	0.000	0.000	0.075	0
L2	143.00-138.00	A	0.000	0.000	0.000	0.094	0
		B	0.000	0.000	0.000	0.094	0
		C	0.000	0.000	0.000	0.094	0
L3	138.00-133.00	A	0.000	0.000	0.000	0.094	0
		B	0.000	0.000	0.000	0.094	0
		C	0.000	0.000	0.000	0.094	0
L4	133.00-128.00	A	0.000	0.000	0.000	0.094	0
		B	0.000	0.000	0.000	0.094	0
		C	0.000	0.000	0.000	0.094	0
L5	128.00-123.00	A	0.000	0.000	0.000	0.094	0
		B	0.000	0.000	0.000	0.094	0
		C	0.000	0.000	0.000	0.094	0
L6	123.00-116.00	A	0.000	0.000	0.000	0.131	0
		B	0.000	0.000	0.000	0.131	0
		C	0.000	0.000	0.000	0.131	0
L7	116.00-114.75	A	0.000	0.000	0.000	0.023	0
		B	0.000	0.000	0.000	0.023	0
		C	0.000	0.000	0.000	0.023	0
L8	114.75-109.75	A	0.000	0.000	0.000	0.094	0
		B	0.000	0.000	0.000	0.094	0
		C	0.000	0.000	0.000	0.094	0
L9	109.75-104.75	A	0.000	0.000	0.000	0.094	0
		B	0.000	0.000	0.000	0.094	0
		C	0.000	0.000	0.000	0.094	0
L10	104.75-99.75	A	0.000	0.000	0.000	0.094	0
		B	0.000	0.000	0.000	0.094	0
		C	0.000	0.000	0.000	0.094	0
L11	99.75-94.75	A	0.000	0.000	0.750	0.094	0
		B	0.000	0.000	0.750	0.094	0
		C	0.000	0.000	0.750	0.094	0
L12	94.75-93.50	A	0.000	0.000	1.250	0.023	0
		B	0.000	0.000	1.250	0.023	0
		C	0.000	0.000	1.250	0.023	0
L13	93.50-93.25	A	0.000	0.000	0.250	0.005	0
		B	0.000	0.000	0.250	0.005	0
		C	0.000	0.000	0.250	0.005	0
L14	93.25-88.25	A	0.000	0.000	5.000	0.094	0
		B	0.000	0.000	5.000	0.094	0
		C	0.000	0.000	5.000	0.094	0
L15	88.25-83.25	A	0.000	0.000	5.000	0.094	0
		B	0.000	0.000	5.000	0.094	0
		C	0.000	0.000	5.000	0.094	0
L16	83.25-74.75	A	0.000	0.000	8.500	0.159	0
		B	0.000	0.000	8.500	0.159	0
		C	0.000	0.000	8.500	0.159	0
L17	74.75-74.50	A	0.000	0.000	0.250	0.005	0
		B	0.000	0.000	0.250	0.005	0
		C	0.000	0.000	0.250	0.005	0
L18	74.50-69.50	A	0.000	0.000	5.000	0.094	0
		B	0.000	0.000	5.000	0.094	0

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C	0.000	0.000	5.000	0.094	0
L19	69.50-64.50	A	0.000	0.000	5.000	0.094	0
		B	0.000	0.000	5.000	0.094	0
		C	0.000	0.000	5.000	0.094	0
L20	64.50-62.50	A	0.000	0.000	2.000	0.037	0
		B	0.000	0.000	2.000	0.037	0
		C	0.000	0.000	2.000	0.037	0
L21	62.50-62.25	A	0.000	0.000	0.250	0.005	0
		B	0.000	0.000	0.250	0.005	0
		C	0.000	0.000	0.250	0.005	0
L22	62.25-57.75	A	0.000	0.000	4.729	0.084	0
		B	0.000	0.000	4.729	0.084	0
		C	0.000	0.000	4.729	0.084	0
L23	57.75-57.50	A	0.000	0.000	0.271	0.005	0
		B	0.000	0.000	0.271	0.005	0
		C	0.000	0.000	0.271	0.005	0
L24	57.50-52.50	A	0.000	0.000	5.417	0.094	0
		B	0.000	0.000	5.417	0.094	0
		C	0.000	0.000	5.417	0.094	0
L25	52.50-47.50	A	0.000	0.000	5.417	0.094	0
		B	0.000	0.000	5.417	0.094	0
		C	0.000	0.000	5.574	0.094	0
L26	47.50-39.50	A	0.000	0.000	8.667	0.150	0
		B	0.000	0.000	8.667	0.150	0
		C	0.000	0.000	9.171	0.150	0
L27	39.50-38.50	A	0.000	0.000	1.083	0.019	0
		B	0.000	0.000	1.083	0.019	0
		C	0.000	0.000	1.146	0.019	0
L28	38.50-38.25	A	0.000	0.000	0.271	0.005	0
		B	0.000	0.000	0.271	0.005	0
		C	0.000	0.000	0.287	0.005	0
L29	38.25-38.00	A	0.000	0.000	0.271	0.005	0
		B	0.000	0.000	0.271	0.005	0
		C	0.000	0.000	0.287	0.005	0
L30	38.00-33.00	A	0.000	0.000	9.792	0.094	0
		B	0.000	0.000	8.958	0.094	0
		C	0.000	0.000	5.732	0.094	0
L31	33.00-31.75	A	0.000	0.000	3.542	0.023	0
		B	0.000	0.000	3.125	0.023	0
		C	0.000	0.000	1.433	0.023	0
L32	31.75-31.50	A	0.000	0.000	0.708	0.005	0
		B	0.000	0.000	0.625	0.005	0
		C	0.000	0.000	0.287	0.005	0
L33	31.50-28.25	A	0.000	0.000	9.208	0.061	0
		B	0.000	0.000	8.125	0.061	0
		C	0.000	0.000	3.726	0.061	0
L34	28.25-28.00	A	0.000	0.000	0.708	0.005	0
		B	0.000	0.000	0.625	0.005	0
		C	0.000	0.000	0.287	0.005	0
L35	28.00-23.00	A	0.000	0.000	14.167	0.094	0
		B	0.000	0.000	9.792	0.094	0
		C	0.000	0.000	3.023	0.094	0
L36	23.00-18.00	A	0.000	0.000	14.167	0.094	0
		B	0.000	0.000	7.083	0.094	0
		C	0.000	0.000	0.315	0.094	0
L37	18.00-13.00	A	0.000	0.000	14.167	0.056	0
		B	0.000	0.000	7.083	0.056	0
		C	0.000	0.000	0.315	0.056	0
L38	13.00-8.00	A	0.000	0.000	14.167	0.000	0
		B	0.000	0.000	7.083	0.000	0
		C	0.000	0.000	0.315	0.000	0
L39	8.00-3.00	A	0.000	0.000	14.167	0.000	0
		B	0.000	0.000	7.083	0.000	0
		C	0.000	0.000	0.315	0.000	0
L40	3.00-0.00	A	0.000	0.000	8.500	0.000	0
		B	0.000	0.000	4.250	0.000	0
		C	0.000	0.000	0.189	0.000	0

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	148.00-143.00	A	1.972	0.000	0.000	0.000	1.653	0
		B		0.000	0.000	0.000	1.653	0
		C		0.000	0.000	0.000	1.653	0
L2	143.00-138.00	A	1.965	0.000	0.000	0.000	2.059	0
		B		0.000	0.000	0.000	2.059	0
		C		0.000	0.000	0.000	2.059	0
L3	138.00-133.00	A	1.958	0.000	0.000	0.000	2.052	0
		B		0.000	0.000	0.000	2.052	0
		C		0.000	0.000	0.000	2.052	0
L4	133.00-128.00	A	1.951	0.000	0.000	0.000	2.044	0
		B		0.000	0.000	0.000	2.044	0
		C		0.000	0.000	0.000	2.044	0
L5	128.00-123.00	A	1.943	0.000	0.000	0.000	2.037	0
		B		0.000	0.000	0.000	2.037	0
		C		0.000	0.000	0.000	2.037	0
L6	123.00-116.00	A	1.933	0.000	0.000	0.000	2.838	0
		B		0.000	0.000	0.000	2.838	0
		C		0.000	0.000	0.000	2.838	0
L7	116.00-114.75	A	1.927	0.000	0.000	0.000	0.507	0
		B		0.000	0.000	0.000	0.507	0
		C		0.000	0.000	0.000	0.507	0
L8	114.75-109.75	A	1.921	0.000	0.000	0.000	2.015	0
		B		0.000	0.000	0.000	2.015	0
		C		0.000	0.000	0.000	2.015	0
L9	109.75-104.75	A	1.913	0.000	0.000	0.000	2.006	0
		B		0.000	0.000	0.000	2.006	0
		C		0.000	0.000	0.000	2.006	0
L10	104.75-99.75	A	1.904	0.000	0.000	0.000	1.997	0
		B		0.000	0.000	0.000	1.997	0
		C		0.000	0.000	0.000	1.997	0
L11	99.75-94.75	A	1.894	0.000	0.000	1.034	1.988	0
		B		0.000	0.000	1.034	1.988	0
		C		0.000	0.000	1.034	1.988	0
L12	94.75-93.50	A	1.888	0.000	0.000	1.722	0.495	0
		B		0.000	0.000	1.722	0.495	0
		C		0.000	0.000	1.722	0.495	0
L13	93.50-93.25	A	1.886	0.000	0.000	0.344	0.099	0
		B		0.000	0.000	0.344	0.099	0
		C		0.000	0.000	0.344	0.099	0
L14	93.25-88.25	A	1.881	0.000	0.000	6.881	1.975	0
		B		0.000	0.000	6.881	1.975	0
		C		0.000	0.000	6.881	1.975	0
L15	88.25-83.25	A	1.870	0.000	0.000	6.870	1.964	0
		B		0.000	0.000	6.870	1.964	0
		C		0.000	0.000	6.870	1.964	0
L16	83.25-74.75	A	1.855	0.000	0.000	11.653	3.313	0
		B		0.000	0.000	11.653	3.313	0
		C		0.000	0.000	11.653	3.313	0
L17	74.75-74.50	A	1.845	0.000	0.000	0.343	0.097	0
		B		0.000	0.000	0.343	0.097	0
		C		0.000	0.000	0.343	0.097	0
L18	74.50-69.50	A	1.838	0.000	0.000	6.838	1.932	0
		B		0.000	0.000	6.838	1.932	0
		C		0.000	0.000	6.838	1.932	0
L19	69.50-64.50	A	1.825	0.000	0.000	6.825	1.918	0
		B		0.000	0.000	6.825	1.918	0
		C		0.000	0.000	6.825	1.918	0
L20	64.50-62.50	A	1.815	0.000	0.000	2.726	0.763	0
		B		0.000	0.000	2.726	0.763	0
		C		0.000	0.000	2.726	0.763	0
L21	62.50-62.25	A	1.812	0.000	0.000	0.341	0.095	0
		B		0.000	0.000	0.341	0.095	0
		C		0.000	0.000	0.341	0.095	0
L22	62.25-57.75	A	1.805	0.000	0.000	6.353	1.709	0
		B		0.000	0.000	6.353	1.709	0

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C		0.000	0.000	6.353	1.709	0
L23	57.75-57.50	A	1.797	0.000	0.000	0.361	0.095	0
		B		0.000	0.000	0.361	0.095	0
		C		0.000	0.000	0.361	0.095	0
L24	57.50-52.50	A	1.789	0.000	0.000	7.206	1.883	0
		B		0.000	0.000	7.206	1.883	0
		C		0.000	0.000	7.206	1.883	0
L25	52.50-47.50	A	1.772	0.000	0.000	7.189	1.866	0
		B		0.000	0.000	7.189	1.866	0
		C		0.000	0.000	8.232	1.866	0
L26	47.50-39.50	A	1.748	0.000	0.000	11.463	2.946	0
		B		0.000	0.000	11.463	2.946	0
		C		0.000	0.000	14.763	2.946	0
L27	39.50-38.50	A	1.729	0.000	0.000	1.433	0.368	0
		B		0.000	0.000	1.433	0.368	0
		C		0.000	0.000	1.845	0.368	0
L28	38.50-38.25	A	1.726	0.000	0.000	0.357	0.091	0
		B		0.000	0.000	0.357	0.091	0
		C		0.000	0.000	0.459	0.091	0
L29	38.25-38.00	A	1.725	0.000	0.000	0.357	0.091	0
		B		0.000	0.000	0.357	0.091	0
		C		0.000	0.000	0.459	0.091	0
L30	38.00-33.00	A	1.712	0.000	0.000	12.360	1.806	0
		B		0.000	0.000	11.527	1.806	0
		C		0.000	0.000	9.156	1.806	0
L31	33.00-31.75	A	1.697	0.000	0.000	4.390	0.448	0
		B		0.000	0.000	3.973	0.448	0
		C		0.000	0.000	2.281	0.448	0
L32	31.75-31.50	A	1.693	0.000	0.000	0.878	0.089	0
		B		0.000	0.000	0.794	0.089	0
		C		0.000	0.000	0.456	0.089	0
L33	31.50-28.25	A	1.683	0.000	0.000	11.396	1.155	0
		B		0.000	0.000	10.313	1.155	0
		C		0.000	0.000	5.914	1.155	0
L34	28.25-28.00	A	1.673	0.000	0.000	0.876	0.088	0
		B		0.000	0.000	0.792	0.088	0
		C		0.000	0.000	0.454	0.088	0
L35	28.00-23.00	A	1.657	0.000	0.000	17.480	1.750	0
		B		0.000	0.000	12.277	1.750	0
		C		0.000	0.000	5.508	1.750	0
L36	23.00-18.00	A	1.621	0.000	0.000	17.408	1.715	0
		B		0.000	0.000	8.704	1.715	0
		C		0.000	0.000	1.936	1.715	0
L37	18.00-13.00	A	1.576	0.000	0.000	17.319	1.002	0
		B		0.000	0.000	8.660	1.002	0
		C		0.000	0.000	1.891	1.002	0
L38	13.00-8.00	A	1.516	0.000	0.000	17.199	0.000	0
		B		0.000	0.000	8.599	0.000	0
		C		0.000	0.000	1.831	0.000	0
L39	8.00-3.00	A	1.421	0.000	0.000	17.009	0.000	0
		B		0.000	0.000	8.504	0.000	0
		C		0.000	0.000	1.736	0.000	0
L40	3.00-0.00	A	1.248	0.000	0.000	9.997	0.000	0
		B		0.000	0.000	4.999	0.000	0
		C		0.000	0.000	0.938	0.000	0

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	148.00-143.00	0.0000	0.0000	0.0000	0.0000
L2	143.00-138.00	0.0000	0.0000	0.0000	0.0000
L3	138.00-133.00	0.0000	0.0000	0.0000	0.0000
L4	133.00-128.00	0.0000	0.0000	0.0000	0.0000

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L5	128.00-123.00	0.0000	0.0000	0.0000	0.0000
L6	123.00-116.00	0.0000	0.0000	0.0000	0.0000
L7	116.00-114.75	0.0000	0.0000	0.0000	0.0000
L8	114.75-109.75	0.0000	0.0000	0.0000	0.0000
L9	109.75-104.75	0.0000	0.0000	0.0000	0.0000
L10	104.75-99.75	0.0000	0.0000	0.0000	0.0000
L11	99.75-94.75	0.0000	0.0000	0.0000	0.0000
L12	94.75-93.50	0.0000	0.0000	0.0000	0.0000
L13	93.50-93.25	0.0000	0.0000	0.0000	0.0000
L14	93.25-88.25	0.0000	0.0000	0.0000	0.0000
L15	88.25-83.25	0.0000	0.0000	0.0000	0.0000
L16	83.25-74.75	0.0000	0.0000	0.0000	0.0000
L17	74.75-74.50	0.0000	0.0000	0.0000	0.0000
L18	74.50-69.50	0.0000	0.0000	0.0000	0.0000
L19	69.50-64.50	0.0000	0.0000	0.0000	0.0000
L20	64.50-62.50	0.0000	0.0000	0.0000	0.0000
L21	62.50-62.25	0.0000	0.0000	0.0000	0.0000
L22	62.25-57.75	0.0000	0.0000	0.0000	0.0000
L23	57.75-57.50	0.0000	0.0000	0.0000	0.0000
L24	57.50-52.50	0.0000	0.0000	0.0000	0.0000
L25	52.50-47.50	0.0000	0.1142	0.0000	0.4374
L26	47.50-39.50	0.0000	0.2295	0.0000	0.8601
L27	39.50-38.50	0.0000	0.2303	0.0000	0.8633
L28	38.50-38.25	0.0000	0.2306	0.0000	0.8581
L29	38.25-38.00	0.0000	0.2307	0.0000	0.8582
L30	38.00-33.00	3.6710	-0.6590	2.8703	0.0497
L31	33.00-31.75	6.1127	-1.2494	4.9958	-0.5467
L32	31.75-31.50	6.1278	-1.2523	5.0082	-0.5487
L33	31.50-28.25	6.1596	-1.2582	5.0341	-0.5532
L34	28.25-28.00	6.1902	-1.2638	5.0589	-0.5578
L35	28.00-23.00	5.4920	-0.6796	4.3586	0.0013
L36	23.00-18.00	4.5985	0.0857	3.5018	0.6967
L37	18.00-13.00	4.6691	0.0895	3.6722	0.7174
L38	13.00-8.00	4.7462	0.0933	3.9136	0.7446
L39	8.00-3.00	4.8009	0.0967	3.9455	0.7173
L40	3.00-0.00	4.8439	0.0994	3.9596	0.6549

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
L11	42	(Area) CCI-65FP-060100 (H)	94.75 - 95.50	1.0000	1.0000
L11	43	(Area) CCI-65FP-060100 (H)	94.75 - 95.50	1.0000	1.0000
L11	44	(Area) CCI-65FP-060100 (H)	94.75 - 95.50	1.0000	1.0000
L12	42	(Area) CCI-65FP-060100 (H)	93.50 - 94.75	1.0000	1.0000
L12	43	(Area) CCI-65FP-060100 (H)	93.50 - 94.75	1.0000	1.0000
L12	44	(Area) CCI-65FP-060100 (H)	93.50 - 94.75	1.0000	1.0000
L13	42	(Area) CCI-65FP-060100 (H)	93.25 - 93.50	1.0000	1.0000
L13	43	(Area) CCI-65FP-060100 (H)	93.25 - 93.50	1.0000	1.0000
L13	44	(Area) CCI-65FP-060100 (H)	93.25 - 93.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L14	42	(Area) CCI-65FP-060100 (H)	88.25 - 93.25	1.0000	1.0000
L14	43	(Area) CCI-65FP-060100 (H)	88.25 - 93.25	1.0000	1.0000
L14	44	(Area) CCI-65FP-060100 (H)	88.25 - 93.25	1.0000	1.0000
L15	42	(Area) CCI-65FP-060100 (H)	83.25 - 88.25	1.0000	1.0000
L15	43	(Area) CCI-65FP-060100 (H)	83.25 - 88.25	1.0000	1.0000
L15	44	(Area) CCI-65FP-060100 (H)	83.25 - 88.25	1.0000	1.0000
L16	42	(Area) CCI-65FP-060100 (H)	74.75 - 83.25	1.0000	1.0000
L16	43	(Area) CCI-65FP-060100 (H)	74.75 - 83.25	1.0000	1.0000
L16	44	(Area) CCI-65FP-060100 (H)	74.75 - 83.25	1.0000	1.0000
L17	42	(Area) CCI-65FP-060100 (H)	74.50 - 74.75	1.0000	1.0000
L17	43	(Area) CCI-65FP-060100 (H)	74.50 - 74.75	1.0000	1.0000
L17	44	(Area) CCI-65FP-060100 (H)	74.50 - 74.75	1.0000	1.0000
L18	42	(Area) CCI-65FP-060100 (H)	69.50 - 74.50	1.0000	1.0000
L18	43	(Area) CCI-65FP-060100 (H)	69.50 - 74.50	1.0000	1.0000
L18	44	(Area) CCI-65FP-060100 (H)	69.50 - 74.50	1.0000	1.0000
L19	42	(Area) CCI-65FP-060100 (H)	64.50 - 69.50	1.0000	1.0000
L19	43	(Area) CCI-65FP-060100 (H)	64.50 - 69.50	1.0000	1.0000
L19	44	(Area) CCI-65FP-060100 (H)	64.50 - 69.50	1.0000	1.0000
L20	42	(Area) CCI-65FP-060100 (H)	62.50 - 64.50	1.0000	1.0000
L20	43	(Area) CCI-65FP-060100 (H)	62.50 - 64.50	1.0000	1.0000
L20	44	(Area) CCI-65FP-060100 (H)	62.50 - 64.50	1.0000	1.0000
L21	42	(Area) CCI-65FP-060100 (H)	62.25 - 62.50	1.0000	1.0000
L21	43	(Area) CCI-65FP-060100 (H)	62.25 - 62.50	1.0000	1.0000
L21	44	(Area) CCI-65FP-060100 (H)	62.25 - 62.50	1.0000	1.0000
L22	38	(Area) CCI-65FP-065125 (H)	57.75 - 60.50	1.0000	1.0000
L22	39	(Area) CCI-65FP-065125 (H)	57.75 - 60.50	1.0000	1.0000
L22	40	(Area) CCI-65FP-065125 (H)	57.75 - 60.50	1.0000	1.0000
L22	42	(Area) CCI-65FP-060100 (H)	60.50 - 62.25	1.0000	1.0000
L22	43	(Area) CCI-65FP-060100 (H)	60.50 - 62.25	1.0000	1.0000
L22	44	(Area) CCI-65FP-060100 (H)	60.50 - 62.25	1.0000	1.0000
L23	38	(Area) CCI-65FP-065125 (H)	57.50 - 57.75	1.0000	1.0000
L23	39	(Area) CCI-65FP-065125 (H)	57.50 - 57.75	1.0000	1.0000
L23	40	(Area) CCI-65FP-065125 (H)	57.50 - 57.75	1.0000	1.0000
L24	38	(Area) CCI-65FP-065125 (H)	52.50 - 57.50	1.0000	1.0000
L24	39	(Area) CCI-65FP-065125	52.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		(H)	57.50		
L24	40	(Area) CCI-65FP-065125	52.50 -	1.0000	1.0000
		(H)	57.50		
L25	26	LDF4-50A(1/2")	47.50 - 50.00	1.0000	1.0000
L25	38	(Area) CCI-65FP-065125	47.50 -	1.0000	1.0000
		(H)	52.50		
L25	39	(Area) CCI-65FP-065125	47.50 -	1.0000	1.0000
		(H)	52.50		
L25	40	(Area) CCI-65FP-065125	47.50 -	1.0000	1.0000
		(H)	52.50		
L26	26	LDF4-50A(1/2")	39.50 - 47.50	1.0000	1.0000
L26	38	(Area) CCI-65FP-065125	39.50 -	1.0000	1.0000
		(H)	47.50		
L26	39	(Area) CCI-65FP-065125	39.50 -	1.0000	1.0000
		(H)	47.50		
L26	40	(Area) CCI-65FP-065125	39.50 -	1.0000	1.0000
		(H)	47.50		
L27	26	LDF4-50A(1/2")	38.50 - 39.50	1.0000	1.0000
L27	38	(Area) CCI-65FP-065125	38.50 -	1.0000	1.0000
		(H)	39.50		
L27	39	(Area) CCI-65FP-065125	38.50 -	1.0000	1.0000
		(H)	39.50		
L27	40	(Area) CCI-65FP-065125	38.50 -	1.0000	1.0000
		(H)	39.50		
L28	26	LDF4-50A(1/2")	38.25 - 38.50	1.0000	1.0000
L28	38	(Area) CCI-65FP-065125	38.25 -	1.0000	1.0000
		(H)	38.50		
L28	39	(Area) CCI-65FP-065125	38.25 -	1.0000	1.0000
		(H)	38.50		
L28	40	(Area) CCI-65FP-065125	38.25 -	1.0000	1.0000
		(H)	38.50		
L29	26	LDF4-50A(1/2")	38.00 - 38.25	1.0000	1.0000
L29	38	(Area) CCI-65FP-065125	38.00 -	1.0000	1.0000
		(H)	38.25		
L29	39	(Area) CCI-65FP-065125	38.00 -	1.0000	1.0000
		(H)	38.25		
L29	40	(Area) CCI-65FP-065125	38.00 -	1.0000	1.0000
		(H)	38.25		
L30	26	LDF4-50A(1/2")	33.00 - 38.00	1.0000	1.0000
L30	34	(Area) CCI-65FP-085125	33.00 -	1.0000	1.0000
		(H)	35.50		
L30	35	(Area) CCI-65FP-085125	33.00 -	1.0000	1.0000
		(H)	35.50		
L30	36	(Area) CCI-65FP-085125	33.00 -	1.0000	1.0000
		(H)	35.50		
L30	38	(Area) CCI-65FP-065125	33.00 -	1.0000	1.0000
		(H)	38.00		
L30	39	(Area) CCI-65FP-065125	33.00 -	1.0000	1.0000
		(H)	38.00		
L30	40	(Area) CCI-65FP-065125	35.50 -	1.0000	1.0000
		(H)	38.00		
L31	26	LDF4-50A(1/2")	31.75 - 33.00	1.0000	1.0000
L31	34	(Area) CCI-65FP-085125	31.75 -	1.0000	1.0000
		(H)	33.00		
L31	35	(Area) CCI-65FP-085125	31.75 -	1.0000	1.0000
		(H)	33.00		
L31	36	(Area) CCI-65FP-085125	31.75 -	1.0000	1.0000
		(H)	33.00		
L31	38	(Area) CCI-65FP-065125	31.75 -	1.0000	1.0000
		(H)	33.00		
L31	39	(Area) CCI-65FP-065125	31.75 -	1.0000	1.0000
		(H)	33.00		

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L32	26	LDF4-50A(1/2")	31.50 - 31.75	1.0000	1.0000
L32	34	(Area) CCI-65FP-085125 (H)	31.50 - 31.75	1.0000	1.0000
L32	35	(Area) CCI-65FP-085125 (H)	31.50 - 31.75	1.0000	1.0000
L32	36	(Area) CCI-65FP-085125 (H)	31.50 - 31.75	1.0000	1.0000
L32	38	(Area) CCI-65FP-065125 (H)	31.50 - 31.75	1.0000	1.0000
L32	39	(Area) CCI-65FP-065125 (H)	31.50 - 31.75	1.0000	1.0000
L33	26	LDF4-50A(1/2")	28.25 - 31.50	1.0000	1.0000
L33	34	(Area) CCI-65FP-085125 (H)	28.25 - 31.50	1.0000	1.0000
L33	35	(Area) CCI-65FP-085125 (H)	28.25 - 31.50	1.0000	1.0000
L33	36	(Area) CCI-65FP-085125 (H)	28.25 - 31.50	1.0000	1.0000
L33	38	(Area) CCI-65FP-065125 (H)	28.25 - 31.50	1.0000	1.0000
L33	39	(Area) CCI-65FP-065125 (H)	28.25 - 31.50	1.0000	1.0000
L34	26	LDF4-50A(1/2")	28.00 - 28.25	1.0000	1.0000
L34	34	(Area) CCI-65FP-085125 (H)	28.00 - 28.25	1.0000	1.0000
L34	35	(Area) CCI-65FP-085125 (H)	28.00 - 28.25	1.0000	1.0000
L34	36	(Area) CCI-65FP-085125 (H)	28.00 - 28.25	1.0000	1.0000
L34	38	(Area) CCI-65FP-065125 (H)	28.00 - 28.25	1.0000	1.0000
L34	39	(Area) CCI-65FP-065125 (H)	28.00 - 28.25	1.0000	1.0000
L35	26	LDF4-50A(1/2")	23.00 - 28.00	1.0000	1.0000
L35	34	(Area) CCI-65FP-085125 (H)	23.00 - 28.00	1.0000	1.0000
L35	35	(Area) CCI-65FP-085125 (H)	23.00 - 28.00	1.0000	1.0000
L35	36	(Area) CCI-65FP-085125 (H)	23.00 - 28.00	1.0000	1.0000
L35	38	(Area) CCI-65FP-065125 (H)	25.50 - 28.00	1.0000	1.0000
L35	39	(Area) CCI-65FP-065125 (H)	25.50 - 28.00	1.0000	1.0000
L36	26	LDF4-50A(1/2")	18.00 - 23.00	1.0000	1.0000
L36	34	(Area) CCI-65FP-085125 (H)	18.00 - 23.00	1.0000	1.0000
L36	35	(Area) CCI-65FP-085125 (H)	18.00 - 23.00	1.0000	1.0000
L36	36	(Area) CCI-65FP-085125 (H)	18.00 - 23.00	1.0000	1.0000
L37	26	LDF4-50A(1/2")	13.00 - 18.00	1.0000	1.0000
L37	34	(Area) CCI-65FP-085125 (H)	13.00 - 18.00	1.0000	1.0000
L37	35	(Area) CCI-65FP-085125 (H)	13.00 - 18.00	1.0000	1.0000
L37	36	(Area) CCI-65FP-085125 (H)	13.00 - 18.00	1.0000	1.0000
L38	26	LDF4-50A(1/2")	8.00 - 13.00	1.0000	1.0000
L38	34	(Area) CCI-65FP-085125 (H)	8.00 - 13.00	1.0000	1.0000
L38	35	(Area) CCI-65FP-085125 (H)	8.00 - 13.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L38	36	(Area) CCI-65FP-085125 (H)	8.00 - 13.00	1.0000	1.0000
L39	26	LDF4-50A(1/2")	3.00 - 8.00	1.0000	1.0000
L39	34	(Area) CCI-65FP-085125 (H)	3.00 - 8.00	1.0000	1.0000
L39	35	(Area) CCI-65FP-085125 (H)	3.00 - 8.00	1.0000	1.0000
L39	36	(Area) CCI-65FP-085125 (H)	3.00 - 8.00	1.0000	1.0000
L40	26	LDF4-50A(1/2")	0.00 - 3.00	1.0000	1.0000
L40	34	(Area) CCI-65FP-085125 (H)	0.00 - 3.00	1.0000	1.0000
L40	35	(Area) CCI-65FP-085125 (H)	0.00 - 3.00	1.0000	1.0000
L40	36	(Area) CCI-65FP-085125 (H)	0.00 - 3.00	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
L11	42	(Area) CCI-65FP-060100 (H)	94.75 - 95.50	Auto	0.0797
L11	43	(Area) CCI-65FP-060100 (H)	94.75 - 95.50	Auto	0.0797
L11	44	(Area) CCI-65FP-060100 (H)	94.75 - 95.50	Auto	0.0797
L12	42	(Area) CCI-65FP-060100 (H)	93.50 - 94.75	Auto	0.0740
L12	43	(Area) CCI-65FP-060100 (H)	93.50 - 94.75	Auto	0.0740
L12	44	(Area) CCI-65FP-060100 (H)	93.50 - 94.75	Auto	0.0740
L13	42	(Area) CCI-65FP-060100 (H)	93.25 - 93.50	Auto	0.1247
L13	43	(Area) CCI-65FP-060100 (H)	93.25 - 93.50	Auto	0.1247
L13	44	(Area) CCI-65FP-060100 (H)	93.25 - 93.50	Auto	0.1247
L14	42	(Area) CCI-65FP-060100 (H)	88.25 - 93.25	Auto	0.1078
L14	43	(Area) CCI-65FP-060100 (H)	88.25 - 93.25	Auto	0.1078
L14	44	(Area) CCI-65FP-060100 (H)	88.25 - 93.25	Auto	0.1078
L15	42	(Area) CCI-65FP-060100 (H)	83.25 - 88.25	Auto	0.0774
L15	43	(Area) CCI-65FP-060100 (H)	83.25 - 88.25	Auto	0.0774
L15	44	(Area) CCI-65FP-060100 (H)	83.25 - 88.25	Auto	0.0774
L16	42	(Area) CCI-65FP-060100 (H)	74.75 - 83.25	Auto	0.0388
L16	43	(Area) CCI-65FP-060100 (H)	74.75 - 83.25	Auto	0.0388
L16	44	(Area) CCI-65FP-060100 (H)	74.75 - 83.25	Auto	0.0388
L17	42	(Area) CCI-65FP-060100 (H)	74.50 - 74.75	Auto	0.0468

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L17	43	(Area) CCI-65FP-060100 (H)	74.50 - 74.75	Auto	0.0468
L17	44	(Area) CCI-65FP-060100 (H)	74.50 - 74.75	Auto	0.0468
L18	42	(Area) CCI-65FP-060100 (H)	69.50 - 74.50	Auto	0.0281
L18	43	(Area) CCI-65FP-060100 (H)	69.50 - 74.50	Auto	0.0281
L18	44	(Area) CCI-65FP-060100 (H)	69.50 - 74.50	Auto	0.0281
L19	42	(Area) CCI-65FP-060100 (H)	64.50 - 69.50	Auto	0.0033
L19	43	(Area) CCI-65FP-060100 (H)	64.50 - 69.50	Auto	0.0033
L19	44	(Area) CCI-65FP-060100 (H)	64.50 - 69.50	Auto	0.0033
L20	42	(Area) CCI-65FP-060100 (H)	62.50 - 64.50	Auto	0.0000
L20	43	(Area) CCI-65FP-060100 (H)	62.50 - 64.50	Auto	0.0000
L20	44	(Area) CCI-65FP-060100 (H)	62.50 - 64.50	Auto	0.0000
L21	42	(Area) CCI-65FP-060100 (H)	62.25 - 62.50	Auto	0.0000
L21	43	(Area) CCI-65FP-060100 (H)	62.25 - 62.50	Auto	0.0000
L21	44	(Area) CCI-65FP-060100 (H)	62.25 - 62.50	Auto	0.0000
L22	38	(Area) CCI-65FP-065125 (H)	57.75 - 60.50	Auto	0.0000
L22	39	(Area) CCI-65FP-065125 (H)	57.75 - 60.50	Auto	0.0000
L22	40	(Area) CCI-65FP-065125 (H)	57.75 - 60.50	Auto	0.0000
L22	42	(Area) CCI-65FP-060100 (H)	60.50 - 62.25	Auto	0.0000
L22	43	(Area) CCI-65FP-060100 (H)	60.50 - 62.25	Auto	0.0000
L22	44	(Area) CCI-65FP-060100 (H)	60.50 - 62.25	Auto	0.0000
L23	38	(Area) CCI-65FP-065125 (H)	57.50 - 57.75	Auto	0.0405
L23	39	(Area) CCI-65FP-065125 (H)	57.50 - 57.75	Auto	0.0405
L23	40	(Area) CCI-65FP-065125 (H)	57.50 - 57.75	Auto	0.0405
L24	38	(Area) CCI-65FP-065125 (H)	52.50 - 57.50	Auto	0.0266
L24	39	(Area) CCI-65FP-065125 (H)	52.50 - 57.50	Auto	0.0266
L24	40	(Area) CCI-65FP-065125 (H)	52.50 - 57.50	Auto	0.0266
L25	38	(Area) CCI-65FP-065125 (H)	47.50 - 52.50	Auto	0.0019
L25	39	(Area) CCI-65FP-065125 (H)	47.50 - 52.50	Auto	0.0019
L25	40	(Area) CCI-65FP-065125 (H)	47.50 - 52.50	Auto	0.0019
L26	38	(Area) CCI-65FP-065125 (H)	39.50 - 47.50	Auto	0.0000
L26	39	(Area) CCI-65FP-065125 (H)	39.50 - 47.50	Auto	0.0000
L26	40	(Area) CCI-65FP-065125 (H)	39.50 - 47.50	Auto	0.0000
L27	38	(Area) CCI-65FP-065125 (H)	38.50 - 39.50	Auto	0.0000
L27	39	(Area) CCI-65FP-065125 (H)	38.50 - 39.50	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L27	40	(Area) CCI-65FP-065125 (H)	38.50 - 39.50	Auto	0.0000
L28	38	(Area) CCI-65FP-065125 (H)	38.25 - 38.50	Auto	0.0000
L28	39	(Area) CCI-65FP-065125 (H)	38.25 - 38.50	Auto	0.0000
L28	40	(Area) CCI-65FP-065125 (H)	38.25 - 38.50	Auto	0.0000
L29	38	(Area) CCI-65FP-065125 (H)	38.00 - 38.25	Auto	0.0000
L29	39	(Area) CCI-65FP-065125 (H)	38.00 - 38.25	Auto	0.0000
L29	40	(Area) CCI-65FP-065125 (H)	38.00 - 38.25	Auto	0.0000
L30	34	(Area) CCI-65FP-085125 (H)	33.00 - 35.50	Auto	0.1796
L30	35	(Area) CCI-65FP-085125 (H)	33.00 - 35.50	Auto	0.1796
L30	36	(Area) CCI-65FP-085125 (H)	33.00 - 35.50	Auto	0.1796
L30	38	(Area) CCI-65FP-065125 (H)	33.00 - 38.00	Auto	0.0000
L30	39	(Area) CCI-65FP-065125 (H)	33.00 - 38.00	Auto	0.0000
L30	40	(Area) CCI-65FP-065125 (H)	35.50 - 38.00	Auto	0.0000
L31	34	(Area) CCI-65FP-085125 (H)	31.75 - 33.00	Auto	0.1720
L31	35	(Area) CCI-65FP-085125 (H)	31.75 - 33.00	Auto	0.1720
L31	36	(Area) CCI-65FP-085125 (H)	31.75 - 33.00	Auto	0.1720
L31	38	(Area) CCI-65FP-065125 (H)	31.75 - 33.00	Auto	0.0000
L31	39	(Area) CCI-65FP-065125 (H)	31.75 - 33.00	Auto	0.0000
L32	34	(Area) CCI-65FP-085125 (H)	31.50 - 31.75	Auto	0.2156
L32	35	(Area) CCI-65FP-085125 (H)	31.50 - 31.75	Auto	0.2156
L32	36	(Area) CCI-65FP-085125 (H)	31.50 - 31.75	Auto	0.2156
L32	38	(Area) CCI-65FP-065125 (H)	31.50 - 31.75	Auto	0.0000
L32	39	(Area) CCI-65FP-065125 (H)	31.50 - 31.75	Auto	0.0000
L33	34	(Area) CCI-65FP-085125 (H)	28.25 - 31.50	Auto	0.2085
L33	35	(Area) CCI-65FP-085125 (H)	28.25 - 31.50	Auto	0.2085
L33	36	(Area) CCI-65FP-085125 (H)	28.25 - 31.50	Auto	0.2085
L33	38	(Area) CCI-65FP-065125 (H)	28.25 - 31.50	Auto	0.0000
L33	39	(Area) CCI-65FP-065125 (H)	28.25 - 31.50	Auto	0.0000
L34	34	(Area) CCI-65FP-085125 (H)	28.00 - 28.25	Auto	0.1626
L34	35	(Area) CCI-65FP-085125 (H)	28.00 - 28.25	Auto	0.1626
L34	36	(Area) CCI-65FP-085125 (H)	28.00 - 28.25	Auto	0.1626
L34	38	(Area) CCI-65FP-065125 (H)	28.00 - 28.25	Auto	0.0000
L34	39	(Area) CCI-65FP-065125 (H)	28.00 - 28.25	Auto	0.0000
L35	34	(Area) CCI-65FP-085125 (H)	23.00 - 28.00	Auto	0.1521

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L35	35	(Area) CCI-65FP-085125 (H)	23.00 - 28.00	Auto	0.1521
L35	36	(Area) CCI-65FP-085125 (H)	23.00 - 28.00	Auto	0.1521
L35	38	(Area) CCI-65FP-065125 (H)	25.50 - 28.00	Auto	0.0000
L35	39	(Area) CCI-65FP-065125 (H)	25.50 - 28.00	Auto	0.0000
L36	34	(Area) CCI-65FP-085125 (H)	18.00 - 23.00	Auto	0.1293
L36	35	(Area) CCI-65FP-085125 (H)	18.00 - 23.00	Auto	0.1293
L36	36	(Area) CCI-65FP-085125 (H)	18.00 - 23.00	Auto	0.1293
L37	34	(Area) CCI-65FP-085125 (H)	13.00 - 18.00	Auto	0.1091
L37	35	(Area) CCI-65FP-085125 (H)	13.00 - 18.00	Auto	0.1091
L37	36	(Area) CCI-65FP-085125 (H)	13.00 - 18.00	Auto	0.1091
L38	34	(Area) CCI-65FP-085125 (H)	8.00 - 13.00	Auto	0.0889
L38	35	(Area) CCI-65FP-085125 (H)	8.00 - 13.00	Auto	0.0889
L38	36	(Area) CCI-65FP-085125 (H)	8.00 - 13.00	Auto	0.0889
L39	34	(Area) CCI-65FP-085125 (H)	3.00 - 8.00	Auto	0.0687
L39	35	(Area) CCI-65FP-085125 (H)	3.00 - 8.00	Auto	0.0687
L39	36	(Area) CCI-65FP-085125 (H)	3.00 - 8.00	Auto	0.0687
L40	34	(Area) CCI-65FP-085125 (H)	0.00 - 3.00	Auto	0.0513
L40	35	(Area) CCI-65FP-085125 (H)	0.00 - 3.00	Auto	0.0513
L40	36	(Area) CCI-65FP-085125 (H)	0.00 - 3.00	Auto	0.0513

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
148					
PD320-2	B	From Leg	4.00 0.00 0.00	0.0000	148.00
DC6-48-60-18-8F	A	From Leg	4.00 0.00 0.00	0.0000	148.00
OPA65R-BU8D w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	148.00
OPA65R-BU8D w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	148.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft
OPA65R-BU8D w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	148.00
800482001 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	148.00
800482001 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	148.00
800482001 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	148.00
RRUS 4449 B5/B12	A	From Leg	4.00 0.00 0.00	0.0000	148.00
RRUS 4449 B5/B12	B	From Leg	4.00 0.00 0.00	0.0000	148.00
RRUS 4449 B5/B12	C	From Leg	4.00 0.00 0.00	0.0000	148.00
RRUS 4478 B14_CCIV2	A	From Leg	4.00 0.00 0.00	0.0000	148.00
RRUS 4478 B14_CCIV2	B	From Leg	4.00 0.00 0.00	0.0000	148.00
RRUS 4478 B14_CCIV2	C	From Leg	4.00 0.00 0.00	0.0000	148.00
RRUS 8843 B2/B66A	A	From Leg	4.00 0.00 0.00	0.0000	148.00
RRUS 8843 B2/B66A	B	From Leg	4.00 0.00 0.00	0.0000	148.00
RRUS 8843 B2/B66A	C	From Leg	4.00 0.00 0.00	0.0000	148.00
DC6-48-60-18-8F	A	From Leg	4.00 0.00 0.00	0.0000	148.00
DC6-48-60-18-8F	B	From Leg	4.00 0.00 0.00	0.0000	148.00
(2) 2.4" Dia. x 6-ft	A	From Leg	4.00 0.00 0.00	0.0000	148.00
(2) 2.4" Dia. x 6-ft	B	From Leg	4.00 0.00 0.00	0.0000	148.00
(2) 2.4" Dia. x 6-ft	C	From Leg	4.00 0.00 0.00	0.0000	148.00
Platform Mount [LP 1201-1_HR-1]	C	None		0.0000	148.00
(2) Miscellaneous [NA 509-3] **139**	C	None		0.0000	148.00
HBXX-6516DS-A2M_T-MOBILE w/ Mount Pipe	A	From Centroid-Face	4.00 0.00 0.00	0.0000	142.00
HBXX-6516DS-A2M_T-MOBILE w/ Mount Pipe	B	From Centroid-Face	4.00 0.00 0.00	0.0000	142.00
HBXX-6516DS-A2M_T-MOBILE w/ Mount Pipe	C	From Centroid-Face	4.00 0.00	0.0000	142.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	A	From Centroid-Face	0.00 4.00 0.00	0.0000	142.00
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	B	From Centroid-Face	0.00 4.00 0.00	0.0000	142.00
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	C	From Centroid-Face	0.00 4.00 0.00	0.0000	142.00
AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Centroid-Face	0.00 4.00 0.00	0.0000	142.00
AIR6449 B41_T-MOBILE w/ Mount Pipe	B	From Centroid-Face	0.00 4.00 0.00	0.0000	142.00
AIR6449 B41_T-MOBILE w/ Mount Pipe	C	From Centroid-Face	0.00 4.00 0.00	0.0000	142.00
RADIO 4460 B2/B25 B66_TMO	A	From Centroid-Face	0.00 4.00 0.00	0.0000	142.00
RADIO 4460 B2/B25 B66_TMO	B	From Centroid-Face	0.00 4.00 0.00	0.0000	142.00
RADIO 4460 B2/B25 B66_TMO	C	From Centroid-Face	0.00 4.00 0.00	0.0000	142.00
RADIO 4480 B71_TMO	A	From Centroid-Face	0.00 4.00 0.00	0.0000	142.00
RADIO 4480 B71_TMO	B	From Centroid-Face	0.00 4.00 0.00	0.0000	142.00
RADIO 4480 B71_TMO	C	From Centroid-Face	0.00 4.00 0.00	0.0000	142.00
(2) 2.4" Dia. x 4-ft	A	From Centroid-Face	0.00 4.00 0.00	0.0000	142.00
(2) 2.4" Dia. x 4-ft	B	From Centroid-Face	0.00 4.00 0.00	0.0000	142.00
(2) 2.4" Dia. x 4-ft	C	From Centroid-Face	0.00 4.00 0.00	0.0000	142.00
Platform Mount [LP 1201-1_HR-1]	C	None	0.00	0.0000	142.00
126					
BXA-70063-4CF-EDIN-X w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 2.00	0.0000	126.00
BXA-70063-4CF-EDIN-X w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 2.00	0.0000	126.00
BXA-70063-4CF-EDIN-X w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00 2.00	0.0000	126.00
MT6407-77A w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 2.00	0.0000	126.00
MT6407-77A w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 2.00	0.0000	126.00
MT6407-77A w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00	0.0000	126.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
(2) SBNHH-1D65B w/ Mount Pipe	A	From Centroid-Leg	2.00 4.00 0.00	0.0000	126.00
(2) SBNHH-1D65B w/ Mount Pipe	B	From Centroid-Leg	2.00 4.00 0.00	0.0000	126.00
(2) SBNHH-1D65B w/ Mount Pipe	C	From Centroid-Leg	2.00 4.00 0.00	0.0000	126.00
TME-RT4401-48A w/ Mount Pipe	A	From Centroid-Leg	2.00 4.00 0.00	0.0000	126.00
TME-RT4401-48A w/ Mount Pipe	B	From Centroid-Leg	2.00 4.00 0.00	0.0000	126.00
TME-RT4401-48A w/ Mount Pipe	C	From Centroid-Leg	2.00 4.00 0.00	0.0000	126.00
RFV01U-D1A	A	From Centroid-Leg	2.00 4.00 0.00	0.0000	126.00
RFV01U-D1A	B	From Centroid-Leg	2.00 4.00 0.00	0.0000	126.00
RFV01U-D1A	C	From Centroid-Leg	2.00 4.00 0.00	0.0000	126.00
RFV01U-D2A	A	From Centroid-Leg	2.00 4.00 0.00	0.0000	126.00
RFV01U-D2A	B	From Centroid-Leg	2.00 4.00 0.00	0.0000	126.00
RFV01U-D2A	C	From Centroid-Leg	2.00 4.00 0.00	0.0000	126.00
RHSDC-6627-PF-48	C	From Centroid-Leg	2.00 4.00 0.00	0.0000	126.00
Miscellaneous [NA 509-3]	C	None	2.00	0.0000	126.00
Platform Mount [LP 404-1_KCKR]	C	None		0.0000	126.00
111					
TME-800MHz 2X50W RRH W/FILTER	A	From Leg	1.00 0.00 0.00	0.0000	111.00
TME-800MHz 2X50W RRH W/FILTER	B	From Leg	1.00 0.00 0.00	0.0000	111.00
TME-800MHz 2X50W RRH W/FILTER	C	From Leg	1.00 0.00 0.00	0.0000	111.00
PCS 1900MHz 4x45W-65MHz	A	From Leg	1.00 0.00 0.00	0.0000	111.00
PCS 1900MHz 4x45W-65MHz	B	From Leg	1.00 0.00 0.00	0.0000	111.00
PCS 1900MHz 4x45W-65MHz	C	From Leg	1.00 0.00 0.00	0.0000	111.00
Pipe Mount [PM 601-3]	C	None		0.0000	111.00
109					
APXVTM14-C-120 w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00	0.0000	109.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft
APXVTM14-C-120 w/ Mount Pipe	B	From Centroid-Leg	1.00 4.00 0.00	0.0000	109.00
APXVTM14-C-120 w/ Mount Pipe	C	From Centroid-Leg	1.00 4.00 0.00	0.0000	109.00
APXVSPP18-C-A20 w/ Mount Pipe	A	From Centroid-Leg	1.00 4.00 0.00	0.0000	109.00
APXVSPP18-C-A20 w/ Mount Pipe	B	From Centroid-Leg	1.00 4.00 0.00	0.0000	109.00
(2) APXVSPP18-C-A20 w/ Mount Pipe	C	From Centroid-Leg	1.00 4.00 0.00	0.0000	109.00
SD212-SF3P2SNM W/Mount Piipe	B	From Centroid-Leg	1.00 4.00 0.00	0.0000	109.00
TD-RRH8X20-25	A	From Centroid-Leg	4.00 4.00 0.00	0.0000	109.00
TD-RRH8X20-25	B	From Centroid-Leg	1.00 4.00 0.00	0.0000	109.00
TD-RRH8X20-25	C	From Centroid-Leg	1.00 4.00 0.00	0.0000	109.00
DB205-L	B	From Centroid-Leg	1.00 4.00 0.00	0.0000	109.00
K732267	A	From Centroid-Leg	7.00 4.00 0.00	0.0000	109.00
(2) 2.4" Dia. x 6-ft	A	From Centroid-Leg	7.00 4.00 0.00	0.0000	109.00
(2) 2.4" Dia. x 6-ft	B	From Centroid-Leg	0.00 4.00 0.00	0.0000	109.00
(2) 2.4" Dia. x 6-ft	C	From Centroid-Leg	0.00 4.00 0.00	0.0000	109.00
Platform Mount [LP 1201-1] ***99***	C	None	0.00	0.0000	109.00
MX08FRO665-21 w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00	0.0000	99.00
MX08FRO665-21 w/ Mount Pipe	B	From Centroid-Leg	0.00 4.00 0.00	0.0000	99.00
MX08FRO665-21 w/ Mount Pipe	C	From Centroid-Leg	0.00 4.00 0.00	0.0000	99.00
TA08025-B604	A	From Centroid-Leg	0.00 4.00 0.00	0.0000	99.00
TA08025-B605	A	From Centroid-Leg	0.00 4.00 0.00	0.0000	99.00
TA08025-B604	B	From Centroid-Leg	0.00 4.00 0.00	0.0000	99.00
TA08025-B605	B	From Centroid-Leg	0.00 4.00 0.00	0.0000	99.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft
TA08025-B604	C	From Centroid-Leg	0.00 4.00 0.00	0.0000	99.00
TA08025-B605	C	From Centroid-Leg	0.00 4.00 0.00	0.0000	99.00
RDIDC-9181-PF-48	A	From Centroid-Leg	0.00 4.00 0.00	0.0000	99.00
(2) 8' x 2" Mount Pipe	A	From Centroid-Leg	0.00 4.00 0.00	0.0000	99.00
(2) 8' x 2" Mount Pipe	B	From Centroid-Leg	0.00 4.00 0.00	0.0000	99.00
(2) 8' x 2" Mount Pipe	C	From Centroid-Leg	0.00 4.00 0.00	0.0000	99.00
Commscope MC-PK8-DSH	C	None	0.00	0.0000	99.00
80					
79					
SRL-227	A	From Leg	6.00 0.00 -4.00	0.0000	79.00
Side Arm Mount [SO 702-3]	C	None		0.0000	79.00
74					
50					
GPS-TMG-HR-26N	A	From Leg	3.00 0.00 1.00	0.0000	50.00
2.4" Dia. x 2-ft	A	From Leg	3.00 0.00 0.00	0.0000	50.00
Side Arm Mount [SO 701-1]	A	From Leg	1.50 0.00 0.00	0.0000	50.00
**					
***					
Side Arm Mount [SO 601-3]	C	None		0.0000	147.00
Side Arm Mount [SO 601-3]	C	None		0.0000	15.00
***					
***					

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft
**								
***								

Load Combinations

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	148 - 143	Pole	Max Tension	26	0	0	0
			Max. Compression	26	-15	-1	1
			Max. Mx	8	-5	-42	0
			Max. My	2	-5	0	42
			Max. Vy	8	9	-42	0
			Max. Vx	2	-9	0	42
			Max. Torque	24			-1
L2	143 - 138	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-28	-1	1
			Max. Mx	8	-10	-105	0
			Max. My	2	-10	0	105

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	8	14	-105	0
			Max. Vx	2	-14	0	105
			Max. Torque	12			1
L3	138 - 133	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-29	-1	1
			Max. Mx	8	-10	-176	0
			Max. My	2	-10	0	175
			Max. Vy	8	14	-176	0
			Max. Vx	2	-14	0	175
			Max. Torque	12			1
L4	133 - 128	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-30	-1	1
			Max. Mx	8	-11	-248	0
			Max. My	2	-11	0	248
			Max. Vy	20	-15	248	0
			Max. Vx	2	-15	0	248
			Max. Torque	12			1
L5	128 - 123	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-43	0	0
			Max. Mx	8	-16	-345	0
			Max. My	2	-16	0	344
			Max. Vy	20	-21	345	0
			Max. Vx	2	-21	0	344
			Max. Torque	12			1
L6	123 - 116	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-44	0	0
			Max. Mx	8	-16	-413	0
			Max. My	2	-16	0	412
			Max. Vy	20	-21	413	0
			Max. Vx	2	-21	0	412
			Max. Torque	27			0
L7	116 - 114.75	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-45	0	0
			Max. Mx	8	-17	-519	0
			Max. My	2	-17	0	519
			Max. Vy	20	-22	519	0
			Max. Vx	2	-22	0	519
			Max. Torque	27			0
L8	114.75 - 109.75	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-48	0	0
			Max. Mx	8	-18	-629	0
			Max. My	2	-18	0	629
			Max. Vy	20	-23	629	0
			Max. Vx	14	23	0	-629
			Max. Torque	27			0
L9	109.75 - 104.75	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-59	-2	-2
			Max. Mx	20	-22	766	-4
			Max. My	14	-22	4	-767
			Max. Vy	8	27	-765	3
			Max. Vx	14	27	4	-767
			Max. Torque	17			4
L10	104.75 - 99.75	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-60	-2	-2
			Max. Mx	20	-23	902	-6
			Max. My	14	-23	6	-905
			Max. Vy	20	-28	902	-6
			Max. Vx	14	28	6	-905
			Max. Torque	17			4
L11	99.75 - 94.75	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-68	-2	-1
			Max. Mx	20	-27	1055	-8
			Max. My	14	-27	8	-1060
			Max. Vy	8	31	-1054	8
			Max. Vx	2	-32	-8	1059

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	17			4
L12	94.75 - 93.5	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-68	-1	-1
			Max. Mx	20	-27	1094	-8
			Max. My	14	-27	8	-1099
			Max. Vy	20	-31	1094	-8
			Max. Vx	2	-32	-8	1099
			Max. Torque	17			4
L13	93.5 - 93.25	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-68	-2	-1
			Max. Mx	20	-27	1101	-8
			Max. My	14	-27	9	-1107
			Max. Vy	8	31	-1101	8
			Max. Vx	14	32	9	-1107
			Max. Torque	17			4
L14	93.25 - 88.25	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-70	-1	-1
			Max. Mx	20	-28	1260	-11
			Max. My	14	-28	11	-1267
			Max. Vy	8	32	-1259	10
			Max. Vx	2	-32	-10	1267
			Max. Torque	17			4
L15	88.25 - 83.25	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-72	-1	-1
			Max. Mx	20	-29	1420	-13
			Max. My	14	-29	13	-1429
			Max. Vy	8	32	-1420	13
			Max. Vx	2	-33	-12	1429
			Max. Torque	17			4
L16	83.25 - 74.75	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-73	-1	-1
			Max. Mx	20	-30	1542	-14
			Max. My	14	-30	14	-1553
			Max. Vy	20	-33	1542	-14
			Max. Vx	2	-33	-14	1552
			Max. Torque	17			4
L17	74.75 - 74.5	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-77	-1	0
			Max. Mx	20	-33	1708	-16
			Max. My	2	-33	-16	1720
			Max. Vy	8	34	-1708	16
			Max. Vx	14	34	16	-1720
			Max. Torque	5			-4
L18	74.5 - 69.5	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-79	-1	0
			Max. Mx	20	-34	1877	-18
			Max. My	2	-34	-18	1892
			Max. Vy	8	34	-1877	19
			Max. Vx	2	-35	-18	1892
			Max. Torque	5			-4
L19	69.5 - 64.5	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-81	-1	0
			Max. Mx	20	-36	2048	-20
			Max. My	2	-36	-20	2065
			Max. Vy	8	35	-2048	21
			Max. Vx	2	-35	-20	2065
			Max. Torque	5			-4
L20	64.5 - 62.5	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-82	-1	0
			Max. Mx	20	-36	2117	-21
			Max. My	2	-36	-21	2135
			Max. Vy	8	35	-2117	22
			Max. Vx	2	-35	-21	2135
			Max. Torque	5			-4
L21	62.5 - 62.25	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-82	-1	0

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	20	-36	2126	-21
			Max. My	2	-36	-21	2144
			Max. Vy	8	35	-2126	22
			Max. Vx	14	35	22	-2144
			Max. Torque	5			-4
L22	62.25 - 57.75	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-84	-1	0
			Max. Mx	20	-37	2283	-23
			Max. My	2	-37	-23	2303
			Max. Vy	20	-35	2283	-23
			Max. Vx	2	-36	-23	2303
			Max. Torque	5			-4
L23	57.75 - 57.5	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-84	-1	0
			Max. Mx	20	-37	2292	-23
			Max. My	2	-37	-23	2312
			Max. Vy	8	35	-2292	24
			Max. Vx	14	36	24	-2312
			Max. Torque	5			-4
L24	57.5 - 52.5	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-86	-1	0
			Max. Mx	20	-39	2468	-25
			Max. My	2	-39	-25	2491
			Max. Vy	20	-36	2468	-25
			Max. Vx	2	-36	-25	2491
			Max. Torque	5			-4
L25	52.5 - 47.5	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-89	-1	1
			Max. Mx	20	-41	2647	-27
			Max. My	2	-41	-28	2673
			Max. Vy	20	-36	2647	-27
			Max. Vx	2	-37	-28	2673
			Max. Torque	5			-4
L26	47.5 - 39.5	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-90	-1	1
			Max. Mx	20	-41	2738	-28
			Max. My	2	-41	-29	2764
			Max. Vy	20	-36	2738	-28
			Max. Vx	2	-37	-29	2764
			Max. Torque	5			-4
L27	39.5 - 38.5	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-95	-1	1
			Max. Mx	20	-45	2976	-31
			Max. My	2	-45	-31	3006
			Max. Vy	20	-37	2976	-31
			Max. Vx	2	-38	-31	3006
			Max. Torque	5			-4
L28	38.5 - 38.25	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-95	-1	1
			Max. Mx	20	-45	2986	-31
			Max. My	2	-45	-31	3015
			Max. Vy	8	37	-2986	32
			Max. Vx	14	38	32	-3014
			Max. Torque	5			-4
L29	38.25 - 38	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-95	-1	1
			Max. Mx	20	-45	2995	-31
			Max. My	2	-45	-32	3025
			Max. Vy	8	37	-2995	32
			Max. Vx	14	38	32	-3024
			Max. Torque	5			-4
L30	38 - 33	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-98	-2	1
			Max. Mx	20	-47	3181	-33
			Max. My	2	-47	-34	3213
			Max. Vy	20	-38	3181	-33
			Max. Vx	2	-38	-34	3213
			Max. Torque	5			-4

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L31	33 - 31.75	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-98	-2	1
			Max. Mx	20	-48	3228	-34
			Max. My	2	-48	-34	3261
			Max. Vy	20	-38	3228	-34
			Max. Vx	2	-38	-34	3261
			Max. Torque	5			-4
L32	31.75 - 31.5	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-99	-2	1
			Max. Mx	20	-48	3238	-34
			Max. My	2	-48	-34	3270
			Max. Vy	8	38	-3238	35
			Max. Vx	14	38	34	-3269
			Max. Torque	5			-4
L33	31.5 - 28.25	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-101	-2	1
			Max. Mx	20	-49	3361	-35
			Max. My	2	-49	-36	3394
			Max. Vy	20	-38	3361	-35
			Max. Vx	2	-38	-36	3394
			Max. Torque	5			-4
L34	28.25 - 28	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-101	-2	1
			Max. Mx	20	-49	3370	-35
			Max. My	2	-49	-36	3404
			Max. Vy	8	38	-3370	36
			Max. Vx	14	38	36	-3403
			Max. Torque	5			-4
L35	28 - 23	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-104	-2	1
			Max. Mx	20	-51	3561	-37
			Max. My	2	-51	-38	3597
			Max. Vy	20	-38	3561	-37
			Max. Vx	2	-39	-38	3597
			Max. Torque	5			-4
L36	23 - 18	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-106	-2	1
			Max. Mx	20	-53	3753	-39
			Max. My	2	-53	-40	3791
			Max. Vy	20	-39	3753	-39
			Max. Vx	2	-39	-40	3791
			Max. Torque	5			-4
L37	18 - 13	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-110	-1	2
			Max. Mx	20	-56	3948	-42
			Max. My	2	-56	-42	3988
			Max. Vy	20	-39	3948	-42
			Max. Vx	2	-40	-42	3988
			Max. Torque	5			-4
L38	13 - 8	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-113	-1	2
			Max. Mx	20	-58	4145	-44
			Max. My	2	-58	-44	4187
			Max. Vy	20	-40	4145	-44
			Max. Vx	2	-40	-44	4187
			Max. Torque	5			-4
L39	8 - 3	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-115	-1	2
			Max. Mx	20	-61	4343	-46
			Max. My	2	-61	-46	4388
			Max. Vy	20	-40	4343	-46
			Max. Vx	2	-40	-46	4388
			Max. Torque	5			-4
L40	3 - 0	Pole	Max Tension	1	0	0	0
			Max. Compression	26	-117	-1	2
			Max. Mx	20	-62	4463	-47
			Max. My	2	-62	-47	4509
			Max. Vy	20	-40	4463	-47
			Max. Vx	2	-40	-47	4509

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	5			-4

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	117	0	0
	Max. H_x	20	62	40	0
	Max. H_z	2	62	0	40
	Max. M_x	2	4509	0	40
	Max. M_z	8	4463	-40	0
	Max. Torsion	17	4	20	-35
	Min. Vert	9	46	-40	0
	Min. H_x	9	46	-40	0
	Min. H_z	14	62	0	-40
	Min. M_x	14	-4508	0	-40
	Min. M_z	20	-4463	40	0
	Min. Torsion	5	-4	-20	35

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	52	0	0	0	0	0
1.2 Dead+1.0 Wind 0 deg - No Ice	62	0	-40	-4509	-47	4
0.9 Dead+1.0 Wind 0 deg - No Ice	46	0	-40	-4448	-47	4
1.2 Dead+1.0 Wind 30 deg - No Ice	62	20	-35	-3928	-2272	4
0.9 Dead+1.0 Wind 30 deg - No Ice	46	20	-35	-3875	-2241	4
1.2 Dead+1.0 Wind 60 deg - No Ice	62	35	-21	-2296	-3888	3
0.9 Dead+1.0 Wind 60 deg - No Ice	46	35	-21	-2264	-3835	3
1.2 Dead+1.0 Wind 90 deg - No Ice	62	40	0	-48	-4463	1
0.9 Dead+1.0 Wind 90 deg - No Ice	46	40	0	-47	-4402	1
1.2 Dead+1.0 Wind 120 deg - No Ice	62	34	20	2213	-3841	-1
0.9 Dead+1.0 Wind 120 deg - No Ice	46	34	20	2183	-3789	-1
1.2 Dead+1.0 Wind 150 deg - No Ice	62	20	35	3881	-2190	-3
0.9 Dead+1.0 Wind 150 deg - No Ice	46	20	35	3828	-2161	-3
1.2 Dead+1.0 Wind 180 deg - No Ice	62	0	40	4508	47	-4
0.9 Dead+1.0 Wind 180 deg - No Ice	46	0	40	4447	47	-4
1.2 Dead+1.0 Wind 210 deg - No Ice	62	-20	35	3928	2272	-4
0.9 Dead+1.0 Wind 210 deg - No Ice	46	-20	35	3874	2241	-4
1.2 Dead+1.0 Wind 240 deg - No Ice	62	-35	21	2295	3888	-3
0.9 Dead+1.0 Wind 240 deg	46	-35	21	2264	3836	-3

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
- No Ice 1.2 Dead+1.0 Wind 270 deg	62	-40	0	47	4463	-1
- No Ice 0.9 Dead+1.0 Wind 270 deg	46	-40	0	46	4402	-1
- No Ice 1.2 Dead+1.0 Wind 300 deg	62	-34	-20	-2214	3841	1
- No Ice 0.9 Dead+1.0 Wind 300 deg	46	-34	-20	-2184	3789	1
- No Ice 1.2 Dead+1.0 Wind 330 deg	62	-20	-35	-3881	2191	3
- No Ice 0.9 Dead+1.0 Wind 330 deg	46	-20	-35	-3829	2161	3
- No Ice 1.2 Dead+1.0 Ice+1.0 Temp	117	0	0	-2	-1	0
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	117	0	-13	-1539	-9	1
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	117	7	-11	-1337	-771	1
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	117	11	-7	-777	-1327	0
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	117	13	0	-10	-1528	0
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	117	11	6	760	-1320	-1
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	117	6	11	1325	-758	-1
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	117	0	13	1535	6	-1
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	117	-7	11	1333	768	-1
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	117	-11	7	773	1324	0
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	117	-13	0	5	1525	0
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	117	-11	-6	-764	1316	1
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	117	-6	-11	-1329	755	1
Dead+Wind 0 deg - Service	52	0	-9	-972	-10	1
Dead+Wind 30 deg - Service	52	4	-8	-847	-490	1
Dead+Wind 60 deg - Service	52	8	-4	-495	-838	1
Dead+Wind 90 deg - Service	52	9	0	-11	-962	0
Dead+Wind 120 deg - Service	52	7	4	477	-828	0
Dead+Wind 150 deg - Service	52	4	8	836	-472	-1
Dead+Wind 180 deg - Service	52	0	9	971	10	-1
Dead+Wind 210 deg - Service	52	-4	8	846	490	-1
Dead+Wind 240 deg - Service	52	-8	4	494	838	-1
Dead+Wind 270 deg - Service	52	-9	0	10	962	0
Dead+Wind 300 deg - Service	52	-7	-4	-477	828	0
Dead+Wind 330 deg - Service	52	-4	-8	-837	472	1

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0	-52	0	0	52	0	0.000%
2	0	-62	-40	0	62	40	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
3	0	-46	-40	0	46	40	0.000%
4	20	-62	-35	-20	62	35	0.000%
5	20	-46	-35	-20	46	35	0.000%
6	35	-62	-21	-35	62	21	0.000%
7	35	-46	-21	-35	46	21	0.000%
8	40	-62	0	-40	62	0	0.002%
9	40	-46	0	-40	46	0	0.002%
10	34	-62	20	-34	62	-20	0.000%
11	34	-46	20	-34	46	-20	0.000%
12	20	-62	35	-20	62	-35	0.000%
13	20	-46	35	-20	46	-35	0.000%
14	0	-62	40	0	62	-40	0.000%
15	0	-46	40	0	46	-40	0.001%
16	-20	-62	35	20	62	-35	0.000%
17	-20	-46	35	20	46	-35	0.000%
18	-35	-62	21	35	62	-21	0.000%
19	-35	-46	21	35	46	-21	0.000%
20	-40	-62	0	40	62	0	0.000%
21	-40	-46	0	40	46	0	0.001%
22	-34	-62	-20	34	62	20	0.000%
23	-34	-46	-20	34	46	20	0.000%
24	-20	-62	-35	20	62	35	0.000%
25	-20	-46	-35	20	46	35	0.000%
26	0	-117	0	0	117	0	0.000%
27	0	-117	-13	0	117	13	0.000%
28	7	-117	-11	-7	117	11	0.000%
29	11	-117	-7	-11	117	7	0.000%
30	13	-117	0	-13	117	0	0.000%
31	11	-117	6	-11	117	-6	0.000%
32	6	-117	11	-6	117	-11	0.000%
33	0	-117	13	0	117	-13	0.000%
34	-7	-117	11	7	117	-11	0.000%
35	-11	-117	7	11	117	-7	0.000%
36	-13	-117	0	13	117	0	0.000%
37	-11	-117	-6	11	117	6	0.000%
38	-6	-117	-11	6	117	11	0.000%
39	0	-52	-9	0	52	9	0.001%
40	4	-52	-8	-4	52	8	0.000%
41	8	-52	-4	-8	52	4	0.000%
42	9	-52	0	-9	52	0	0.002%
43	7	-52	4	-7	52	-4	0.000%
44	4	-52	8	-4	52	-8	0.000%
45	0	-52	9	0	52	-9	0.001%
46	-4	-52	8	4	52	-8	0.000%
47	-8	-52	4	8	52	-4	0.000%
48	-9	-52	0	9	52	0	0.002%
49	-7	-52	-4	7	52	4	0.000%
50	-4	-52	-8	4	52	8	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	20	0.00000001	0.00007139
3	Yes	19	0.00000001	0.00011322
4	Yes	23	0.00000001	0.00007270
5	Yes	22	0.00000001	0.00010832
6	Yes	23	0.00000001	0.00006817
7	Yes	22	0.00000001	0.00010135
8	Yes	17	0.00002313	0.00012623
9	Yes	17	0.00000001	0.00007348
10	Yes	23	0.00000001	0.00006621
11	Yes	22	0.00000001	0.00009878
12	Yes	23	0.00000001	0.00006829

13	Yes	22	0.00000001	0.00010194
14	Yes	19	0.00000001	0.00007698
15	Yes	18	0.00000001	0.00012355
16	Yes	23	0.00000001	0.00006771
17	Yes	22	0.00000001	0.00010058
18	Yes	23	0.00000001	0.00007199
19	Yes	22	0.00000001	0.00010731
20	Yes	19	0.00000001	0.00008942
21	Yes	18	0.00000001	0.00014042
22	Yes	23	0.00000001	0.00006697
23	Yes	22	0.00000001	0.00009994
24	Yes	22	0.00000001	0.00014766
25	Yes	22	0.00000001	0.00009700
26	Yes	6	0.00000001	0.00005433
27	Yes	21	0.00000001	0.00014278
28	Yes	22	0.00000001	0.00009548
29	Yes	22	0.00000001	0.00009443
30	Yes	21	0.00000001	0.00014215
31	Yes	22	0.00000001	0.00009307
32	Yes	22	0.00000001	0.00009419
33	Yes	21	0.00000001	0.00014264
34	Yes	22	0.00000001	0.00009382
35	Yes	22	0.00000001	0.00009451
36	Yes	21	0.00000001	0.00014147
37	Yes	22	0.00000001	0.00009337
38	Yes	22	0.00000001	0.00009262
39	Yes	16	0.00000001	0.00009050
40	Yes	17	0.00000001	0.00013908
41	Yes	17	0.00000001	0.00011412
42	Yes	15	0.00008921	0.00012306
43	Yes	17	0.00000001	0.00011331
44	Yes	17	0.00000001	0.00012572
45	Yes	16	0.00000001	0.00008321
46	Yes	17	0.00000001	0.00011272
47	Yes	17	0.00000001	0.00013427
48	Yes	15	0.00008921	0.00013058
49	Yes	17	0.00000001	0.00011769
50	Yes	17	0.00000001	0.00010868

Maximum Tower Deflections - Service Wind

Section No.	*Elevation*	*Horz. Deflection*	*Gov. Load*	*Tilt*	*Twist*
	ft	*in*	*Comb.*	*°*	*°*
L1	148 - 143	24.252	40	1.4831	0.0041
L2	143 - 138	22.701	40	1.4780	0.0039
L3	138 - 133	21.161	40	1.4625	0.0039
L4	133 - 128	19.643	40	1.4354	0.0038
L5	128 - 123	18.158	40	1.3987	0.0037
L6	123 - 116	16.717	40	1.3530	0.0037
L7	119.75 - 114.75	15.808	40	1.3178	0.0037
L8	114.75 - 109.75	14.444	40	1.2814	0.0037
L9	109.75 - 104.75	13.135	40	1.2185	0.0037
L10	104.75 - 99.75	11.895	40	1.1487	0.0033
L11	99.75 - 94.75	10.731	40	1.0724	0.0027
L12	94.75 - 93.5	9.651	40	0.9905	0.0023
L13	93.5 - 93.25	9.394	40	0.9693	0.0022
L14	93.25 - 88.25	9.344	40	0.9668	0.0022
L15	88.25 - 83.25	8.358	40	0.9146	0.0019
L16	83.25 - 74.75	7.430	40	0.8593	0.0017
L17	79.5 - 74.5	6.771	40	0.8165	0.0015
L18	74.5 - 69.5	5.931	40	0.7874	0.0014
L19	69.5 - 64.5	5.135	40	0.7316	0.0013
L20	64.5 - 62.5	4.399	40	0.6751	0.0011
L21	62.5 - 62.25	4.121	40	0.6523	0.0011
L22	62.25 - 57.75	4.087	40	0.6481	0.0011
L23	57.75 - 57.5	3.512	40	0.5707	0.0009
L24	57.5 - 52.5	3.483	40	0.5681	0.0009

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L25	52.5 - 47.5	2.915	40	0.5159	0.0008
L26	47.5 - 39.5	2.403	40	0.4624	0.0007
L27	45 - 38.5	2.168	40	0.4357	0.0006
L28	38.5 - 38.25	1.598	40	0.3973	0.0005
L29	38.25 - 38	1.577	40	0.3949	0.0005
L30	38 - 33	1.556	40	0.3921	0.0005
L31	33 - 31.75	1.176	40	0.3353	0.0004
L32	31.75 - 31.5	1.090	40	0.3213	0.0004
L33	31.5 - 28.25	1.073	40	0.3193	0.0004
L34	28.25 - 28	0.864	40	0.2937	0.0004
L35	28 - 23	0.849	40	0.2911	0.0004
L36	23 - 18	0.571	40	0.2389	0.0003
L37	18 - 13	0.349	40	0.1861	0.0002
L38	13 - 8	0.182	40	0.1337	0.0002
L39	8 - 3	0.069	40	0.0820	0.0001
L40	3 - 0	0.010	40	0.0308	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
148.00	PD320-2	40	24.252	1.4831	0.0041	28393
147.00	Side Arm Mount [SO 601-3]	40	23.941	1.4825	0.0040	28393
142.00	HBXX-6516DS-A2M_T-MOBILE w/ Mount Pipe	40	22.392	1.4759	0.0039	23330
126.00	BXA-70063-4CF-EDIN-X w/ Mount Pipe	40	17.576	1.3821	0.0037	6251
111.00	TME-800MHz 2X50W RRH W/FILTER	40	13.456	1.2360	0.0038	4518
109.00	APXVTM14-C-120 w/ Mount Pipe	40	12.944	1.2081	0.0037	4239
99.00	MX08FRO665-21 w/ Mount Pipe	40	10.564	1.0610	0.0027	3578
79.00	SRL-227	40	6.686	0.8126	0.0015	7006
50.00	GPS-TMG-HR-26N	40	2.652	0.4898	0.0007	5330
15.00	Side Arm Mount [SO 601-3]	40	0.242	0.1546	0.0002	5453

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	148 - 143	112.444	4	6.8927	0.0195
L2	143 - 138	105.264	4	6.8697	0.0188
L3	138 - 133	98.132	4	6.7983	0.0181
L4	133 - 128	91.103	4	6.6729	0.0174
L5	128 - 123	84.227	4	6.5028	0.0170
L6	123 - 116	77.549	4	6.2906	0.0169
L7	119.75 - 114.75	73.336	4	6.1268	0.0169
L8	114.75 - 109.75	67.014	4	5.9575	0.0170
L9	109.75 - 104.75	60.945	4	5.6649	0.0170
L10	104.75 - 99.75	55.195	4	5.3400	0.0148
L11	99.75 - 94.75	49.800	4	4.9849	0.0124
L12	94.75 - 93.5	44.787	4	4.6034	0.0103
L13	93.5 - 93.25	43.597	4	4.5050	0.0098
L14	93.25 - 88.25	43.362	4	4.4933	0.0098
L15	88.25 - 83.25	38.791	4	4.2502	0.0087
L16	83.25 - 74.75	34.480	4	3.9926	0.0077
L17	79.5 - 74.5	31.427	4	3.7936	0.0069
L18	74.5 - 69.5	27.526	4	3.6581	0.0065
L19	69.5 - 64.5	23.834	4	3.3989	0.0058

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L20	64.5 - 62.5	20.416	4	3.1360	0.0051
L21	62.5 - 62.25	19.125	4	3.0301	0.0049
L22	62.25 - 57.75	18.967	4	3.0102	0.0048
L23	57.75 - 57.5	16.301	4	2.6506	0.0040
L24	57.5 - 52.5	16.163	4	2.6385	0.0040
L25	52.5 - 47.5	13.529	4	2.3958	0.0035
L26	47.5 - 39.5	11.151	4	2.1471	0.0030
L27	45 - 38.5	10.060	4	2.0228	0.0027
L28	38.5 - 38.25	7.414	4	1.8447	0.0024
L29	38.25 - 38	7.318	4	1.8332	0.0024
L30	38 - 33	7.222	4	1.8201	0.0024
L31	33 - 31.75	5.455	4	1.5565	0.0020
L32	31.75 - 31.5	5.056	4	1.4914	0.0019
L33	31.5 - 28.25	4.978	4	1.4822	0.0019
L34	28.25 - 28	4.010	4	1.3632	0.0017
L35	28 - 23	3.939	4	1.3510	0.0017
L36	23 - 18	2.651	4	1.1089	0.0013
L37	18 - 13	1.619	4	0.8634	0.0010
L38	13 - 8	0.842	4	0.6205	0.0007
L39	8 - 3	0.318	4	0.3802	0.0004
L40	3 - 0	0.045	4	0.1427	0.0002

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
148.00	PD320-2	4	112.444	6.8927	0.0195	6373
147.00	Side Arm Mount [SO 601-3]	4	111.007	6.8900	0.0193	6373
142.00	HBXX-6516DS-A2M_T-MOBILE w/ Mount Pipe	4	103.832	6.8600	0.0186	5223
126.00	BXA-70063-4CF-EDIN-X w/ Mount Pipe	4	81.529	6.4258	0.0170	1377
111.00	TME-800MHz 2X50W RRH W/FILTER	4	62.434	5.7464	0.0172	990
109.00	APXVTM14-C-120 w/ Mount Pipe	4	60.061	5.6165	0.0169	929
99.00	MX08FRO665-21 w/ Mount Pipe	4	49.023	4.9317	0.0122	782
79.00	SRL-227	4	31.028	3.7755	0.0069	1521
50.00	GPS-TMG-HR-26N	4	12.306	2.2744	0.0032	1151
15.00	Side Arm Mount [SO 601-3]	4	1.122	0.7172	0.0008	1175

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	148 - 143 (1)	TP24.9752x24x0.2188	5.00	0.00	0.0	17.1887	-5	1006	0.005
L2	143 - 138 (2)	TP25.9503x24.9752x0.2188	5.00	0.00	0.0	17.8657	-10	1045	0.010
L3	138 - 133 (3)	TP26.9255x25.9503x0.2188	5.00	0.00	0.0	18.5428	-10	1085	0.010
L4	133 - 128 (4)	TP27.9006x26.9255x0.2188	5.00	0.00	0.0	19.2199	-11	1124	0.010
L5	128 - 123 (5)	TP28.8758x27.9006x0.21	5.00	0.00	0.0	19.896	-16	1164	0.013

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
		88				9			
L6	123 - 116 (6)	TP30.241x28.8758x0.218	7.00	0.00	0.0	20.337	-16	1190	0.013
		8				0			
L7	116 - 114.75	TP30.0471x29.0721x0.25	5.00	0.00	0.0	23.644	-17	1383	0.012
	(7)					0			
L8	114.75 -	TP31.0221x30.0471x0.25	5.00	0.00	0.0	24.417	-18	1428	0.013
	109.75 (8)					7			
L9	109.75 -	TP31.9971x31.0221x0.25	5.00	0.00	0.0	25.191	-22	1474	0.015
	104.75 (9)					3			
L10	104.75 -	TP32.9721x31.9971x0.25	5.00	0.00	0.0	25.965	-23	1519	0.015
	99.75 (10)					0			
L11	99.75 - 94.75	TP33.9471x32.9721x0.25	5.00	0.00	0.0	26.738	-27	1564	0.017
	(11)					6			
L12	94.75 - 93.5	TP34.1908x33.9471x0.25	1.25	0.00	0.0	26.932	-27	1576	0.017
	(12)					0			
L13	93.5 - 93.25	TP34.2396x34.1908x0.43	0.25	0.00	0.0	46.938	-27	2746	0.010
	(13)	75				4			
L14	93.25 - 88.25	TP35.2145x34.2396x0.43	5.00	0.00	0.0	47.610	-28	2785	0.010
	(14)	13				9			
L15	88.25 - 83.25	TP36.1895x35.2145x0.42	5.00	0.00	0.0	48.244	-29	2822	0.010
	(15)	5				6			
L16	83.25 - 74.75	TP37.847x36.1895x0.425	8.50	0.00	0.0	49.231	-30	2880	0.011
	(16)					0			
L17	74.75 - 74.5	TP37.3959x36.4208x0.48	5.00	0.00	0.0	57.109	-33	3341	0.010
	(17)	75				3			
L18	74.5 - 69.5	TP38.3711x37.3959x0.47	5.00	0.00	0.0	57.134	-34	3342	0.010
	(18)	5				0			
L19	69.5 - 64.5	TP39.3462x38.3711x0.47	5.00	0.00	0.0	58.604	-35	3428	0.010
	(19)	5				2			
L20	64.5 - 62.5	TP39.7363x39.3462x0.47	2.00	0.00	0.0	59.192	-36	3463	0.010
	(20)	5				3			
L21	62.5 - 62.25	TP39.785x39.7363x0.312	0.25	0.00	0.0	39.151	-36	2290	0.016
	(21)	5				8			
L22	62.25 - 57.75	TP40.6627x39.785x0.312	4.50	0.00	0.0	40.022	-37	2341	0.016
	(22)	5				3			
L23	57.75 - 57.5	TP40.7114x40.6627x0.52	0.25	0.00	0.0	66.964	-37	3917	0.010
	(23)	5				7			
L24	57.5 - 52.5	TP41.6866x40.7114x0.52	5.00	0.00	0.0	68.589	-39	4012	0.010
	(24)	5				6			
L25	52.5 - 47.5	TP42.6618x41.6866x0.51	5.00	0.00	0.0	68.563	-41	4011	0.010
	(25)	25				1			
L26	47.5 - 39.5	TP44.222x42.6618x0.512	8.00	0.00	0.0	69.356	-41	4057	0.010
	(26)	5				3			
L27	39.5 - 38.5	TP43.7919x42.5243x0.57	6.50	0.00	0.0	78.873	-45	4614	0.010
	(27)	5				1			
L28	38.5 - 38.25	TP43.8407x43.7919x0.57	0.25	0.00	0.0	78.962	-45	4619	0.010
	(28)	5				0			
L29	38.25 - 38	TP43.8894x43.8407x0.50	0.25	0.00	0.0	69.709	-45	4078	0.011
	(29)	63				7			
L30	38 - 33 (30)	TP44.8645x43.8894x0.5	5.00	0.00	0.0	70.406	-47	4119	0.011
						5			
L31	33 - 31.75	TP45.1083x44.8645x0.5	1.25	0.00	0.0	70.793	-48	4141	0.011
	(31)					3			
L32	31.75 - 31.5	TP45.157x45.1083x0.725	0.25	0.00	0.0	102.24	-48	5981	0.008
	(32)					50			
L33	31.5 - 28.25	TP45.7908x45.157x0.725	3.25	0.00	0.0	103.70	-49	6067	0.008
	(33)					30			
L34	28.25 - 28	TP45.8396x45.7908x0.53	0.25	0.00	0.0	77.286	-49	4521	0.011
	(34)	75				5			
L35	28 - 23 (35)	TP46.8147x45.8396x0.53	5.00	0.00	0.0	78.950	-51	4619	0.011
		75				0			
L36	23 - 18 (36)	TP47.7897x46.8147x0.52	5.00	0.00	0.0	78.759	-53	4607	0.012
		5				6			
L37	18 - 13 (37)	TP48.7648x47.7897x0.52	5.00	0.00	0.0	80.384	-56	4702	0.012
		5				4			
L38	13 - 8 (38)	TP49.7399x48.7648x0.52	5.00	0.00	0.0	82.009	-58	4798	0.012
		5				2			
L39	8 - 3 (39)	TP50.715x49.7399x0.525	5.00	0.00	0.0	83.634	-61	4893	0.012
						0			

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
L40	3 - 0 (40)	TP51.3x50.715x0.5188	3.00	0.00	0.0	83.6120	-62	4891	0.013

Pole Bending Design Data

Section No.	Elevation	Size	M_{ux}	ϕM_{nx}	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy}	ϕM_{ny}	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	ft		kip-ft	kip-ft		kip-ft	kip-ft	
L1	148 - 143 (1)	TP24.9752x24x0.2188	42	620	0.068	0	620	0.000
L2	143 - 138 (2)	TP25.9503x24.9752x0.2188	105	662	0.159	0	662	0.000
L3	138 - 133 (3)	TP26.9255x25.9503x0.2188	176	705	0.249	0	705	0.000
L4	133 - 128 (4)	TP27.9006x26.9255x0.2188	248	749	0.332	0	749	0.000
L5	128 - 123 (5)	TP28.8758x27.9006x0.2188	345	793	0.435	0	793	0.000
L6	123 - 116 (6)	TP30.241x28.8758x0.2188	413	822	0.502	0	822	0.000
L7	116 - 114.75 (7)	TP30.0471x29.0721x0.25	519	1011	0.514	0	1011	0.000
L8	114.75 - 109.75 (8)	TP31.0221x30.0471x0.25	629	1067	0.590	0	1067	0.000
L9	109.75 - 104.75 (9)	TP31.9971x31.0221x0.25	770	1124	0.685	0	1124	0.000
L10	104.75 - 99.75 (10)	TP32.9721x31.9971x0.25	909	1182	0.769	0	1182	0.000
L11	99.75 - 94.75 (11)	TP33.9471x32.9721x0.25	1065	1240	0.859	0	1240	0.000
L12	94.75 - 93.5 (12)	TP34.1908x33.9471x0.25	1105	1255	0.881	0	1255	0.000
L13	93.5 - 93.25 (13)	TP34.2396x34.1908x0.4375	1113	2412	0.461	0	2412	0.000
L14	93.25 - 88.25 (14)	TP35.2145x34.2396x0.4313	1274	2519	0.506	0	2519	0.000
L15	88.25 - 83.25 (15)	TP36.1895x35.2145x0.425	1438	2626	0.548	0	2626	0.000
L16	83.25 - 74.75 (16)	TP37.847x36.1895x0.425	1562	2735	0.571	0	2735	0.000
L17	74.75 - 74.5 (17)	TP37.3959x36.4208x0.4875	1731	3203	0.540	0	3203	0.000
L18	74.5 - 69.5 (18)	TP38.3711x37.3959x0.475	1904	3293	0.578	0	3293	0.000
L19	69.5 - 64.5 (19)	TP39.3462x38.3711x0.475	2079	3465	0.600	0	3465	0.000
L20	64.5 - 62.5 (20)	TP39.7363x39.3462x0.475	2149	3536	0.608	0	3536	0.000
L21	62.5 - 62.25 (21)	TP39.785x39.7363x0.3125	2158	2176	0.992	0	2176	0.000
L22	62.25 - 57.75 (22)	TP40.6627x39.785x0.3125	2318	2257	1.027	0	2257	0.000
L23	57.75 - 57.5 (23)	TP40.7114x40.6627x0.525	2327	4090	0.569	0	4090	0.000
L24	57.5 - 52.5 (24)	TP41.6866x40.7114x0.525	2507	4292	0.584	0	4292	0.000
L25	52.5 - 47.5 (25)	TP42.6618x41.6866x0.5125	2690	4396	0.612	0	4396	0.000
L26	47.5 - 39.5 (26)	TP44.222x42.6618x0.5125	2782	4499	0.618	0	4499	0.000
L27	39.5 - 38.5 (27)	TP43.7919x42.5243x0.575	3026	5180	0.584	0	5180	0.000
L28	38.5 - 38.25 (28)	TP43.8407x43.7919x0.575	3035	5191	0.585	0	5191	0.000
L29	38.25 - 38 (29)	TP43.8894x43.8407x0.5063	3044	4603	0.661	0	4603	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 $\frac{M_{uy}}{\phi M_{ny}}$
L30	38 - 33 (30)	TP44.8645x43.8894x0.5	3234	4756	0.680	0	4756	0.000
L31	33 - 31.75 (31)	TP45.1083x44.8645x0.5	3282	4809	0.683	0	4809	0.000
L32	31.75 - 31.5 (32)	TP45.157x45.1083x0.725	3292	6883	0.478	0	6883	0.000
L33	31.5 - 28.25 (33)	TP45.7908x45.157x0.725	3417	7082	0.482	0	7082	0.000
L34	28.25 - 28 (34)	TP45.8396x45.7908x0.5375	3426	5328	0.643	0	5328	0.000
L35	28 - 23 (35)	TP46.8147x45.8396x0.5375	3620	5561	0.651	0	5561	0.000
L36	23 - 18 (36)	TP47.7897x46.8147x0.525	3816	5669	0.673	0	5669	0.000
L37	18 - 13 (37)	TP48.7648x47.7897x0.525	4014	5906	0.680	0	5906	0.000
L38	13 - 8 (38)	TP49.7399x48.7648x0.525	4215	6149	0.685	0	6149	0.000
L39	8 - 3 (39)	TP50.715x49.7399x0.525	4416	6388	0.691	0	6388	0.000
L40	3 - 0 (40)	TP51.3x50.715x0.5188	4538	6426	0.706	0	6426	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	148 - 143 (1)	TP24.9752x24x0.2188	9	302	0.029	0	654	0.001
L2	143 - 138 (2)	TP25.9503x24.9752x0.2188	14	314	0.044	0	707	0.000
L3	138 - 133 (3)	TP26.9255x25.9503x0.2188	14	325	0.044	1	761	0.001
L4	133 - 128 (4)	TP27.9006x26.9255x0.2188	15	337	0.044	1	818	0.001
L5	128 - 123 (5)	TP28.8758x27.9006x0.2188	21	349	0.059	0	876	0.000
L6	123 - 116 (6)	TP30.241x28.8758x0.2188	21	357	0.059	0	916	0.000
L7	116 - 114.75 (7)	TP30.0471x29.0721x0.25	22	415	0.052	0	1083	0.000
L8	114.75 - 109.75 (8)	TP31.0221x30.0471x0.25	23	429	0.053	0	1155	0.000
L9	109.75 - 104.75 (9)	TP31.9971x31.0221x0.25	28	442	0.063	4	1229	0.004
L10	104.75 - 99.75 (10)	TP32.9721x31.9971x0.25	28	456	0.062	4	1306	0.003
L11	99.75 - 94.75 (11)	TP33.9471x32.9721x0.25	32	469	0.068	4	1385	0.003
L12	94.75 - 93.5 (12)	TP34.1908x33.9471x0.25	32	473	0.068	4	1405	0.003
L13	93.5 - 93.25 (13)	TP34.2396x34.1908x0.4375	32	824	0.039	4	2439	0.002
L14	93.25 - 88.25 (14)	TP35.2145x34.2396x0.4313	33	836	0.039	4	2545	0.002
L15	88.25 - 83.25 (15)	TP36.1895x35.2145x0.425	33	847	0.039	4	2652	0.002
L16	83.25 - 74.75 (16)	TP37.847x36.1895x0.425	33	864	0.039	4	2761	0.002
L17	74.75 - 74.5 (17)	TP37.3959x36.4208x0.4875	34	1002	0.034	4	3240	0.001
L18	74.5 - 69.5 (18)	TP38.3711x37.3959x0.475	35	1003	0.035	4	3328	0.001
L19	69.5 - 64.5 (19)	TP39.3462x38.3711x0.475	35	1029	0.034	4	3501	0.001
L20	64.5 - 62.5 (20)	TP39.7363x39.3462x0.475	35	1039	0.034	4	3572	0.001
L21	62.5 - 62.25	TP39.785x39.7363x0.312	35	687	0.052	4	2375	0.002

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 $\frac{T_u}{\phi T_n}$
	(21)	5						
L22	62.25 - 57.75 (22)	TP40.6627x39.785x0.312 5	36	702	0.051	4	2482	0.002
L23	57.75 - 57.5 (23)	TP40.7114x40.6627x0.52 5	36	1175	0.030	4	4136	0.001
L24	57.5 - 52.5 (24)	TP41.6866x40.7114x0.52 5	36	1204	0.030	4	4339	0.001
L25	52.5 - 47.5 (25)	TP42.6618x41.6866x0.51 25	37	1203	0.031	4	4442	0.001
L26	47.5 - 39.5 (26)	TP44.222x42.6618x0.512 5	37	1217	0.030	4	4545	0.001
L27	39.5 - 38.5 (27)	TP43.7919x42.5243x0.57 5	38	1384	0.027	4	5239	0.001
L28	38.5 - 38.25 (28)	TP43.8407x43.7919x0.57 5	38	1386	0.027	4	5251	0.001
L29	38.25 - 38 (29)	TP43.8894x43.8407x0.50 63	38	1223	0.031	4	4648	0.001
L30	38 - 33 (30)	TP44.8645x43.8894x0.5	38	1236	0.031	4	4801	0.001
L31	33 - 31.75 (31)	TP45.1083x44.8645x0.5	38	1242	0.031	4	4854	0.001
L32	31.75 - 31.5 (32)	TP45.157x45.1083x0.725	38	1794	0.021	4	6982	0.001
L33	31.5 - 28.25 (33)	TP45.7908x45.157x0.725	39	1820	0.021	4	7183	0.001
L34	28.25 - 28 (34)	TP45.8396x45.7908x0.53 75	39	1356	0.028	4	5381	0.001
L35	28 - 23 (35)	TP46.8147x45.8396x0.53 75	39	1386	0.028	4	5615	0.001
L36	23 - 18 (36)	TP47.7897x46.8147x0.52 5	39	1382	0.028	4	5721	0.001
L37	18 - 13 (37)	TP48.7648x47.7897x0.52 5	40	1411	0.028	4	5960	0.001
L38	13 - 8 (38)	TP49.7399x48.7648x0.52 5	40	1439	0.028	4	6203	0.001
L39	8 - 3 (39)	TP50.715x49.7399x0.525	41	1468	0.028	4	6451	0.001
L40	3 - 0 (40)	TP51.3x50.715x0.5188	41	1467	0.028	4	6526	0.001

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	148 - 143 (1)	0.005	0.068	0.000	0.029	0.001	0.074	1.050	4.8.2
L2	143 - 138 (2)	0.010	0.159	0.000	0.044	0.000	0.170	1.050	4.8.2
L3	138 - 133 (3)	0.010	0.249	0.000	0.044	0.001	0.261	1.050	4.8.2
L4	133 - 128 (4)	0.010	0.332	0.000	0.044	0.001	0.343	1.050	4.8.2
L5	128 - 123 (5)	0.013	0.435	0.000	0.059	0.000	0.452	1.050	4.8.2
L6	123 - 116 (6)	0.013	0.502	0.000	0.059	0.000	0.519	1.050	4.8.2
L7	116 - 114.75 (7)	0.012	0.514	0.000	0.052	0.000	0.529	1.050	4.8.2
L8	114.75 - 109.75 (8)	0.013	0.590	0.000	0.053	0.000	0.605	1.050	4.8.2
L9	109.75 - 104.75 (9)	0.015	0.685	0.000	0.063	0.004	0.704	1.050	4.8.2
L10	104.75 - 99.75 (10)	0.015	0.769	0.000	0.062	0.003	0.789	1.050	4.8.2
L11	99.75 - 94.75 (11)	0.017	0.859	0.000	0.068	0.003	0.881	1.050	4.8.2
L12	94.75 - 93.5 (12)	0.017	0.881	0.000	0.068	0.003	0.903	1.050	4.8.2
L13	93.5 - 93.25 (13)	0.010	0.461	0.000	0.039	0.002	0.473	1.050	4.8.2
L14	93.25 - 88.25	0.010	0.506	0.000	0.039	0.002	0.518	1.050	4.8.2

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
	(14)								
L15	88.25 - 83.25	0.010	0.548	0.000	0.039	0.002	0.560	1.050	4.8.2
	(15)								
L16	83.25 - 74.75	0.011	0.571	0.000	0.039	0.002	0.583	1.050	4.8.2
	(16)								
L17	74.75 - 74.5	0.010	0.540	0.000	0.034	0.001	0.552	1.050	4.8.2
	(17)								
L18	74.5 - 69.5	0.010	0.578	0.000	0.035	0.001	0.590	1.050	4.8.2
	(18)								
L19	69.5 - 64.5	0.010	0.600	0.000	0.034	0.001	0.611	1.050	4.8.2
	(19)								
L20	64.5 - 62.5	0.010	0.608	0.000	0.034	0.001	0.620	1.050	4.8.2
	(20)								
L21	62.5 - 62.25	0.016	0.992	0.000	0.052	0.002	1.010	1.050	4.8.2
	(21)								
L22	62.25 - 57.75	0.016	1.027	0.000	0.051	0.002	1.046	1.050	4.8.2
	(22)								
L23	57.75 - 57.5	0.010	0.569	0.000	0.030	0.001	0.580	1.050	4.8.2
	(23)								
L24	57.5 - 52.5	0.010	0.584	0.000	0.030	0.001	0.595	1.050	4.8.2
	(24)								
L25	52.5 - 47.5	0.010	0.612	0.000	0.031	0.001	0.623	1.050	4.8.2
	(25)								
L26	47.5 - 39.5	0.010	0.618	0.000	0.030	0.001	0.630	1.050	4.8.2
	(26)								
L27	39.5 - 38.5	0.010	0.584	0.000	0.027	0.001	0.595	1.050	4.8.2
	(27)								
L28	38.5 - 38.25	0.010	0.585	0.000	0.027	0.001	0.595	1.050	4.8.2
	(28)								
L29	38.25 - 38	0.011	0.661	0.000	0.031	0.001	0.674	1.050	4.8.2
	(29)								
L30	38 - 33 (30)	0.011	0.680	0.000	0.031	0.001	0.693	1.050	4.8.2
L31	33 - 31.75	0.011	0.683	0.000	0.031	0.001	0.695	1.050	4.8.2
	(31)								
L32	31.75 - 31.5	0.008	0.478	0.000	0.021	0.001	0.487	1.050	4.8.2
	(32)								
L33	31.5 - 28.25	0.008	0.482	0.000	0.021	0.001	0.491	1.050	4.8.2
	(33)								
L34	28.25 - 28	0.011	0.643	0.000	0.028	0.001	0.655	1.050	4.8.2
	(34)								
L35	28 - 23 (35)	0.011	0.651	0.000	0.028	0.001	0.663	1.050	4.8.2
L36	23 - 18 (36)	0.012	0.673	0.000	0.028	0.001	0.686	1.050	4.8.2
L37	18 - 13 (37)	0.012	0.680	0.000	0.028	0.001	0.692	1.050	4.8.2
L38	13 - 8 (38)	0.012	0.685	0.000	0.028	0.001	0.698	1.050	4.8.2
L39	8 - 3 (39)	0.012	0.691	0.000	0.028	0.001	0.705	1.050	4.8.2
L40	3 - 0 (40)	0.013	0.706	0.000	0.028	0.001	0.720	1.050	4.8.2

Section Capacity Table

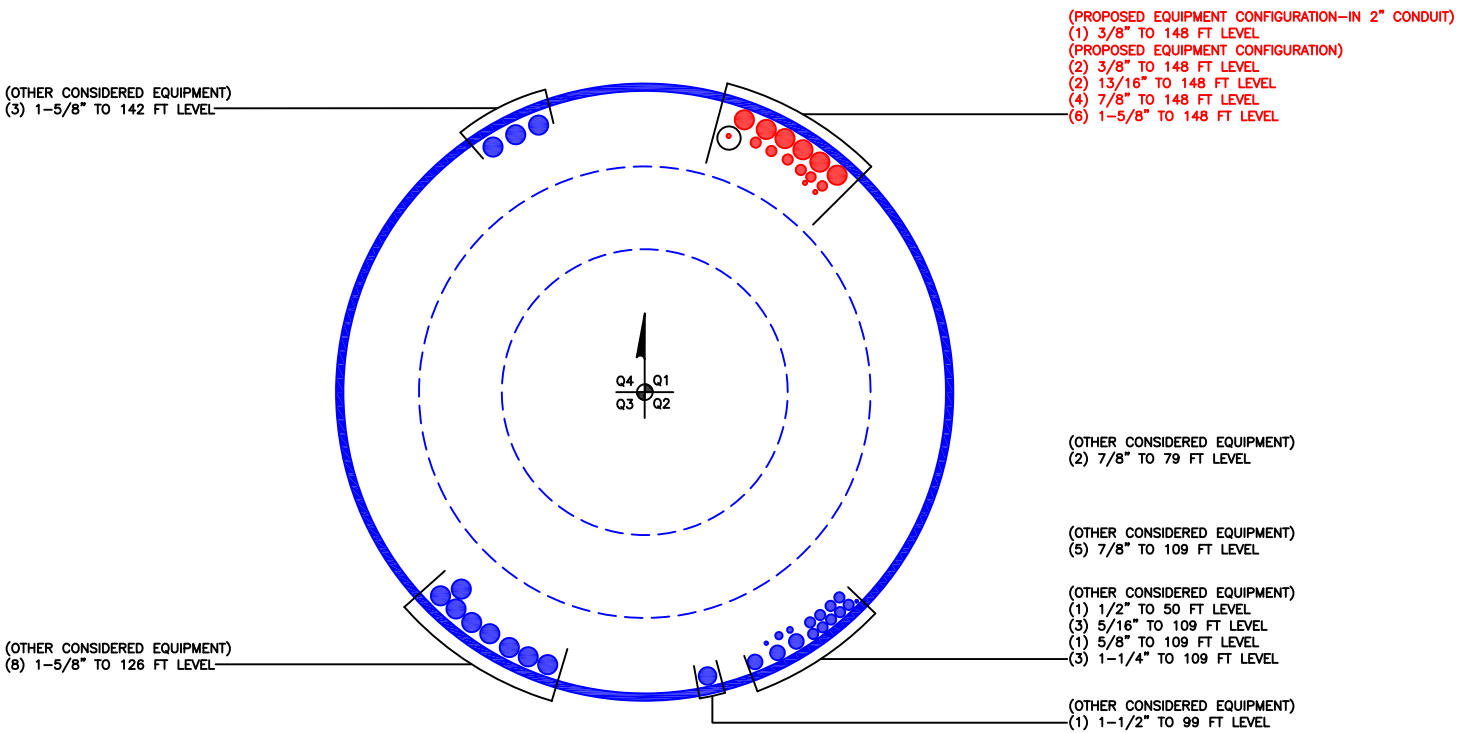
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	148 - 143	Pole	TP24.9752x24x0.2188	1	-5	1056	7.0	Pass
L2	143 - 138	Pole	TP25.9503x24.9752x0.2188	2	-10	1097	16.2	Pass
L3	138 - 133	Pole	TP26.9255x25.9503x0.2188	3	-10	1139	24.8	Pass
L4	133 - 128	Pole	TP27.9006x26.9255x0.2188	4	-11	1181	32.7	Pass
L5	128 - 123	Pole	TP28.8758x27.9006x0.2188	5	-16	1222	43.0	Pass
L6	123 - 116	Pole	TP30.241x28.8758x0.2188	6	-16	1249	49.4	Pass
L7	116 - 114.75	Pole	TP30.0471x29.0721x0.25	7	-17	1452	50.4	Pass
L8	114.75 - 109.75	Pole	TP31.0221x30.0471x0.25	8	-18	1500	57.7	Pass
L9	109.75 - 104.75	Pole	TP31.9971x31.0221x0.25	9	-22	1547	67.1	Pass
L10	104.75 - 99.75	Pole	TP32.9721x31.9971x0.25	10	-23	1595	75.1	Pass
L11	99.75 - 94.75	Pole	TP33.9471x32.9721x0.25	11	-27	1642	83.9	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L12	94.75 - 93.5	Pole	TP34.1908x33.9471x0.25	12	-27	1654	86.0	Pass
L13	93.5 - 93.25	Pole	TP34.2396x34.1908x0.4375	13	-27	2883	45.0	Pass
L14	93.25 - 88.25	Pole	TP35.2145x34.2396x0.4313	14	-28	2925	49.3	Pass
L15	88.25 - 83.25	Pole	TP36.1895x35.2145x0.425	15	-29	2963	53.3	Pass
L16	83.25 - 74.75	Pole	TP37.847x36.1895x0.425	16	-30	3024	55.6	Pass
L17	74.75 - 74.5	Pole	TP37.3959x36.4208x0.4875	17	-33	3508	52.5	Pass
L18	74.5 - 69.5	Pole	TP38.3711x37.3959x0.475	18	-34	3509	56.2	Pass
L19	69.5 - 64.5	Pole	TP39.3462x38.3711x0.475	19	-35	3600	58.2	Pass
L20	64.5 - 62.5	Pole	TP39.7363x39.3462x0.475	20	-36	3636	59.0	Pass
L21	62.5 - 62.25	Pole	TP39.785x39.7363x0.3125	21	-36	2405	96.2	Pass
L22	62.25 - 57.75	Pole	TP40.6627x39.785x0.3125	22	-37	2458	99.6	Pass
L23	57.75 - 57.5	Pole	TP40.7114x40.6627x0.525	23	-37	4113	55.2	Pass
L24	57.5 - 52.5	Pole	TP41.6866x40.7114x0.525	24	-39	4213	56.6	Pass
L25	52.5 - 47.5	Pole	TP42.6618x41.6866x0.5125	25	-41	4211	59.3	Pass
L26	47.5 - 39.5	Pole	TP44.222x42.6618x0.5125	26	-41	4260	60.0	Pass
L27	39.5 - 38.5	Pole	TP43.7919x42.5243x0.575	27	-45	4845	56.6	Pass
L28	38.5 - 38.25	Pole	TP43.8407x43.7919x0.575	28	-45	4850	56.7	Pass
L29	38.25 - 38	Pole	TP43.8894x43.8407x0.5063	29	-45	4282	64.1	Pass
L30	38 - 33	Pole	TP44.8645x43.8894x0.5	30	-47	4325	66.0	Pass
L31	33 - 31.75	Pole	TP45.1083x44.8645x0.5	31	-48	4348	66.2	Pass
L32	31.75 - 31.5	Pole	TP45.157x45.1083x0.725	32	-48	6280	46.4	Pass
L33	31.5 - 28.25	Pole	TP45.7908x45.157x0.725	33	-49	6370	46.8	Pass
L34	28.25 - 28	Pole	TP45.8396x45.7908x0.5375	34	-49	4747	62.4	Pass
L35	28 - 23	Pole	TP46.8147x45.8396x0.5375	35	-51	4849	63.1	Pass
L36	23 - 18	Pole	TP47.7897x46.8147x0.525	36	-53	4838	65.3	Pass
L37	18 - 13	Pole	TP48.7648x47.7897x0.525	37	-56	4938	65.9	Pass
L38	13 - 8	Pole	TP49.7399x48.7648x0.525	38	-58	5037	66.5	Pass
L39	8 - 3	Pole	TP50.715x49.7399x0.525	39	-61	5137	67.1	Pass
L40	3 - 0	Pole	TP51.3x50.715x0.5188	40	-62	5136	68.5	Pass
							Summary	
						Pole (L22)	99.6	Pass
						RATING =	**99.6**	**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–IN 2" CONDUIT)
(1) 3/8" TO 148 FT LEVEL
(PROPOSED EQUIPMENT CONFIGURATION)
(2) 3/8" TO 148 FT LEVEL
(2) 13/16" TO 148 FT LEVEL
(4) 7/8" TO 148 FT LEVEL
(6) 1–5/8" TO 148 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(3) 1–5/8" TO 142 FT LEVEL
Q4
Q1
Q3
Q2
(OTHER CONSIDERED EQUIPMENT)
(2) 7/8" TO 79 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(5) 7/8" TO 109 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 1/2" TO 50 FT LEVEL
(3) 5/16" TO 109 FT LEVEL
(1) 5/8" TO 109 FT LEVEL
(3) 1–1/4" TO 109 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(8) 1–5/8" TO 126 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 1–1/2" TO 99 FT LEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- H

Site BU: 855662

Work Order: 2111883

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	148	32	3.75	18	24	30.241	0.21875	Auto	A607-65
2	119.75	45	4.75	18	29.07	37.847	0.25	Auto	A607-65
3	79.5	40	5.5	18	36.42	44.222	0.3125	Auto	A607-65
4	45	45	0	18	42.52	51.3	0.375	Auto	A607-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	0	31.75	plate	CCI-SFP-085125	3								x					x					x
2	28.25	57.75	plate	CCI-SFP-065125	2						x						x						
3	38.25	57.75	plate	CCI-SFP-065125	1																		x
4	62.5	93.5	plate	CCI-SFP-060100	3						x						x						x
5																							
6																							
7																							
8																							
9																							
10																							

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Type	Bottom Termination Length (in)	Top Termination Type	Top Termination Length (in)	Lu (in)	Net Area (in2)	Bolt Hole Size (in)	Reinforcement Material
1	8.5	1.25	10.625	0.625	PC 8.8 - M20 (100)	45	PC 8.8 - M20 (100)	45.000	17.000	9.063	1.1875	A572-65
2	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	33	PC 8.8 - M20 (100)	33.000	19.000	6.563	1.1875	A572-65
3	6.5	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

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	148 - 143	5		18	24.000	24.975	0.21875	A607-65	1.000
2	143 - 138	5		18	24.975	25.950	0.21875	A607-65	1.000
3	138 - 133	5		18	25.950	26.925	0.21875	A607-65	1.000
4	133 - 128	5		18	26.925	27.901	0.21875	A607-65	1.000
5	128 - 123	5		18	27.901	28.876	0.21875	A607-65	1.000
6	123 - 119.75	7	3.75	18	28.876	30.241	0.21875	A607-65	1.000
7	119.75 - 114.75	5		18	29.072	30.047	0.25	A607-65	1.000
8	114.75 - 109.75	5		18	30.047	31.022	0.25	A607-65	1.000
9	109.75 - 104.75	5		18	31.022	31.997	0.25	A607-65	1.000
10	104.75 - 99.75	5		18	31.997	32.972	0.25	A607-65	1.000
11	99.75 - 94.75	5		18	32.972	33.947	0.25	A607-65	1.000
12	94.75 - 93.5	1.25		18	33.947	34.191	0.25	A607-65	1.000
13	93.5 - 93.25	0.25		18	34.191	34.240	0.4375	A607-65	0.958
14	93.25 - 88.25	5		18	34.240	35.215	0.43125	A607-65	0.961
15	88.25 - 83.25	5		18	35.215	36.190	0.425	A607-65	0.964
16	83.25 - 79.5	8.5	4.75	18	36.190	37.847	0.425	A607-65	0.957
17	79.5 - 74.5	5		18	36.421	37.396	0.4875	A607-65	0.959
18	74.5 - 69.5	5		18	37.396	38.371	0.475	A607-65	0.976
19	69.5 - 64.5	5		18	38.371	39.346	0.475	A607-65	0.968
20	64.5 - 62.5	2		18	39.346	39.736	0.475	A607-65	0.965
21	62.5 - 62.25	0.25		18	39.736	39.785	0.3125	A607-65	1.000
22	62.25 - 57.75	4.5		18	39.785	40.663	0.3125	A607-65	1.000
23	57.75 - 57.5	0.25		18	40.663	40.711	0.525	A607-65	0.962
24	57.5 - 52.5	5		18	40.711	41.687	0.525	A607-65	0.954
25	52.5 - 47.5	5		18	41.687	42.662	0.5125	A607-65	0.968
26	47.5 - 45	8	5.5	18	42.662	44.222	0.5125	A607-65	0.964
27	45 - 38.5	6.5		18	42.524	43.792	0.575	A607-65	0.964
28	38.5 - 38.25	0.25		18	43.792	43.841	0.575	A607-65	0.964
29	38.25 - 38	0.25		18	43.841	43.889	0.50625	A607-65	0.976
30	38 - 33	5		18	43.889	44.865	0.5	A607-65	0.983
31	33 - 31.75	1.25		18	44.865	45.108	0.5	A607-65	0.982
32	31.75 - 31.5	0.25		18	45.108	45.157	0.725	A607-65	0.992
33	31.5 - 28.25	3.25		18	45.157	45.791	0.725	A607-65	0.985
34	28.25 - 28	0.25		18	45.791	45.840	0.5375	A607-65	1.113
35	28 - 23	5		18	45.840	46.815	0.5375	A607-65	1.104
36	23 - 18	5		18	46.815	47.790	0.525	A607-65	1.121
37	18 - 13	5		18	47.790	48.765	0.525	A607-65	1.113
38	13 - 8	5		18	48.765	49.740	0.525	A607-65	1.105
39	8 - 3	5		18	49.740	50.715	0.525	A607-65	1.098
40	3 - 0	3		18	50.715	51.300	0.51875	A607-65	1.106

TNX Section Forces

Increment (ft):	5	TNX Output		
	Section Height (ft)	P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	148 - 143	5.21	41.93	8.69
2	143 - 138	10.03	105.22	13.83
3	138 - 133	10.44	175.55	14.31
4	133 - 128	10.89	248.26	14.79
5	128 - 123	15.56	344.71	20.76
6	123 - 119.75	15.93	412.66	21.07
7	119.75 - 114.75	16.84	519.32	21.60
8	114.75 - 109.75	18.11	629.39	22.82
9	109.75 - 104.75	22.18	769.92	27.67
10	104.75 - 99.75	22.97	909.27	28.10
11	99.75 - 94.75	26.76	1065.00	31.89
12	94.75 - 93.5	26.97	1104.90	32.00
13	93.5 - 93.25	27.05	1112.90	32.02
14	93.25 - 88.25	28.21	1274.14	32.51
15	88.25 - 83.25	29.41	1437.87	33.01
16	83.25 - 79.5	30.32	1562.28	33.38
17	79.5 - 74.5	32.68	1731.25	34.28
18	74.5 - 69.5	34.07	1903.76	34.76
19	69.5 - 64.5	35.50	2078.68	35.24
20	64.5 - 62.5	36.08	2149.32	35.43
21	62.5 - 62.25	36.15	2158.17	35.44
22	62.25 - 57.75	37.19	2318.34	35.78
23	57.75 - 57.5	37.29	2327.28	35.79
24	57.5 - 52.5	38.89	2507.37	36.27
25	52.5 - 47.5	40.60	2690.24	36.81
26	47.5 - 45	41.43	2782.49	37.03
27	45 - 38.5	45.24	3025.55	37.77
28	38.5 - 38.25	45.34	3034.99	37.78
29	38.25 - 38	45.43	3044.43	37.80
30	38 - 33	47.13	3234.37	38.21
31	33 - 31.75	47.56	3282.16	38.31
32	31.75 - 31.5	47.69	3291.74	38.31
33	31.5 - 28.25	49.20	3416.71	38.62
34	28.25 - 28	49.31	3426.36	38.63
35	28 - 23	51.37	3620.40	39.02
36	23 - 18	53.47	3816.23	39.36
37	18 - 13	56.17	4014.25	39.95
38	13 - 8	58.32	4214.62	40.24
39	8 - 3	60.50	4416.42	40.53
40	3 - 0	61.82	4538.17	40.69

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
148 - 143	Pole	TP24.975x24x0.2188	Pole	7.0%	Pass
143 - 138	Pole	TP25.95x24.975x0.2188	Pole	16.2%	Pass
138 - 133	Pole	TP26.925x25.95x0.2188	Pole	24.8%	Pass
133 - 128	Pole	TP27.901x26.925x0.2188	Pole	32.7%	Pass
128 - 123	Pole	TP28.876x27.901x0.2188	Pole	43.0%	Pass
123 - 119.75	Pole	TP30.241x28.876x0.2188	Pole	49.4%	Pass
119.75 - 114.75	Pole	TP30.047x29.072x0.25	Pole	50.4%	Pass
114.75 - 109.75	Pole	TP31.022x30.047x0.25	Pole	57.7%	Pass
109.75 - 104.75	Pole	TP31.997x31.022x0.25	Pole	67.1%	Pass
104.75 - 99.75	Pole	TP32.972x31.997x0.25	Pole	75.1%	Pass
99.75 - 94.75	Pole	TP33.947x32.972x0.25	Pole	83.9%	Pass
94.75 - 93.5	Pole	TP34.191x33.947x0.25	Pole	86.0%	Pass
93.5 - 93.25	Pole + Reinf.	TP34.24x34.191x0.4375	Reinf. 4 Tension Rupture	71.0%	Pass
93.25 - 88.25	Pole + Reinf.	TP35.215x34.24x0.4313	Reinf. 4 Tension Rupture	77.6%	Pass
88.25 - 83.25	Pole + Reinf.	TP36.19x35.215x0.425	Reinf. 4 Tension Rupture	83.8%	Pass
83.25 - 79.5	Pole + Reinf.	TP37.847x36.19x0.425	Reinf. 4 Tension Rupture	88.1%	Pass
79.5 - 74.5	Pole + Reinf.	TP37.396x36.421x0.4875	Reinf. 4 Tension Rupture	83.3%	Pass
74.5 - 69.5	Pole + Reinf.	TP38.371x37.396x0.475	Reinf. 4 Tension Rupture	87.7%	Pass
69.5 - 64.5	Pole + Reinf.	TP39.346x38.371x0.475	Reinf. 4 Tension Rupture	91.7%	Pass
64.5 - 62.5	Pole + Reinf.	TP39.736x39.346x0.475	Reinf. 4 Tension Rupture	93.3%	Pass
62.5 - 62.25	Pole	TP39.785x39.736x0.3125	Pole	96.2%	Pass
62.25 - 57.75	Pole	TP40.663x39.785x0.3125	Pole	99.6%	Pass
57.75 - 57.5	Pole + Reinf.	TP40.711x40.663x0.525	Reinf. 2 Tension Rupture	85.3%	Pass
57.5 - 52.5	Pole + Reinf.	TP41.687x40.711x0.525	Reinf. 2 Tension Rupture	88.4%	Pass
52.5 - 47.5	Pole + Reinf.	TP42.662x41.687x0.5125	Reinf. 2 Tension Rupture	91.4%	Pass
47.5 - 45	Pole + Reinf.	TP44.222x42.662x0.5125	Reinf. 2 Tension Rupture	92.8%	Pass
45 - 38.5	Pole + Reinf.	TP43.792x42.524x0.575	Reinf. 2 Tension Rupture	87.8%	Pass
38.5 - 38.25	Pole + Reinf.	TP43.841x43.792x0.575	Reinf. 2 Tension Rupture	87.9%	Pass
38.25 - 38	Pole + Reinf.	TP43.889x43.841x0.5063	Reinf. 2 Tension Rupture	89.3%	Pass
38 - 33	Pole + Reinf.	TP44.865x43.889x0.5	Reinf. 2 Tension Rupture	91.3%	Pass
33 - 31.75	Pole + Reinf.	TP45.108x44.865x0.5	Reinf. 2 Tension Rupture	91.8%	Pass
31.75 - 31.5	Pole + Reinf.	TP45.157x45.108x0.725	Reinf. 1 Bolt Shear	75.5%	Pass
31.5 - 28.25	Pole + Reinf.	TP45.791x45.157x0.725	Reinf. 1 Compression	73.7%	Pass
28.25 - 28	Pole + Reinf.	TP45.84x45.791x0.5375	Reinf. 1 Compression	83.2%	Pass
28 - 23	Pole + Reinf.	TP46.815x45.84x0.5375	Reinf. 1 Compression	84.8%	Pass
23 - 18	Pole + Reinf.	TP47.79x46.815x0.525	Reinf. 1 Compression	86.4%	Pass
18 - 13	Pole + Reinf.	TP48.765x47.79x0.525	Reinf. 1 Compression	87.9%	Pass
13 - 8	Pole + Reinf.	TP49.74x48.765x0.525	Reinf. 1 Compression	89.2%	Pass
8 - 3	Pole + Reinf.	TP50.715x49.74x0.525	Reinf. 1 Compression	90.5%	Pass
3 - 0	Pole + Reinf.	TP51.3x50.715x0.5188	Reinf. 1 Bolt Shear	94.8%	Pass
				Summary	
			Pole	99.6%	Pass
			Reinforcement	94.8%	Pass
			Overall	99.6%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity* (100% Max. Allowable)				
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4
148 - 143	1330	n/a	1330	17.19	n/a	17.19	7.0%				
143 - 138	1494	n/a	1494	17.87	n/a	17.87	16.2%				
138 - 133	1670	n/a	1670	18.54	n/a	18.54	24.8%				
133 - 128	1860	n/a	1860	19.22	n/a	19.22	32.7%				
128 - 123	2064	n/a	2064	19.90	n/a	19.90	43.0%				
123 - 119.75	2204	n/a	2204	20.34	n/a	20.34	49.4%				
119.75 - 114.75	2651	n/a	2651	23.64	n/a	23.64	50.4%				
114.75 - 109.75	2920	n/a	2920	24.42	n/a	24.42	57.7%				
109.75 - 104.75	3207	n/a	3207	25.19	n/a	25.19	67.1%				
104.75 - 99.75	3511	n/a	3511	25.96	n/a	25.96	75.1%				
99.75 - 94.75	3834	n/a	3834	26.74	n/a	26.74	83.9%				
94.75 - 93.5	3918	n/a	3918	26.93	n/a	26.93	86.0%				
93.5 - 93.25	3935	2822	6757	26.97	18.00	44.97	49.5%				71.0%
93.25 - 88.25	4284	2979	7262	27.74	18.00	45.74	54.7%				77.6%
88.25 - 83.25	4652	3140	7792	28.52	18.00	46.52	59.8%				83.8%
83.25 - 79.5	4942	3263	8205	29.10	18.00	47.10	63.4%				88.1%
79.5 - 74.5	6388	3345	9733	36.78	18.00	54.78	55.5%				83.3%
74.5 - 69.5	6906	3515	10421	37.75	18.00	55.75	59.0%				87.7%
69.5 - 64.5	7450	3690	11140	38.72	18.00	56.72	62.2%				91.7%
64.5 - 62.5	7676	3762	11437	39.10	18.00	57.10	63.5%				93.3%
62.5 - 62.25	7704	n/a	7704	39.15	n/a	39.15	96.2%				
62.25 - 57.75	8230	n/a	8230	40.02	n/a	40.02	99.6%				
57.75 - 57.5	8259	5409	13669	40.07	24.38	64.44	59.4%		85.3%	85.3%	
57.5 - 52.5	8872	5662	14534	41.04	24.38	65.41	62.2%		88.4%	88.4%	
52.5 - 47.5	9514	5920	15434	42.00	24.38	66.38	64.8%		91.4%	91.4%	
47.5 - 45	9847	6051	15897	42.49	24.38	66.86	66.1%		92.8%	92.8%	
45 - 38.5	12303	6226	18529	51.68	24.38	76.05	59.1%		87.8%	87.8%	
38.5 - 38.25	12344	6239	18583	51.73	24.38	76.11	59.2%		87.9%	87.9%	
38.25 - 38	12541	4166	16707	51.79	16.25	68.04	72.3%		89.3%		
38 - 33	13397	4352	17749	52.95	16.25	69.20	74.3%		91.3%		
33 - 31.75	13617	4399	18017	53.24	16.25	69.49	74.8%		91.8%		
31.75 - 31.5	13800	12075	25875	53.30	48.13	101.42	53.6%	75.5%	68.8%		
31.5 - 28.25	14389	12408	26798	54.05	48.13	102.18	54.7%	73.7%	69.9%		
28.25 - 28	14322	5866	20187	54.11	31.88	85.99	70.4%	83.2%			
28 - 23	15257	6111	21369	55.27	31.88	87.15	72.2%	84.8%			
23 - 18	16233	6362	22595	56.43	31.88	88.31	73.9%	86.4%			
18 - 13	17249	6618	23867	57.59	31.88	89.47	75.6%	87.9%			
13 - 8	18307	6880	25186	58.75	31.88	90.63	77.2%	89.2%			
8 - 3	19407	7146	26553	59.91	31.88	91.79	78.7%	90.5%			
3 - 0	20088	7309	27396	60.61	31.88	92.49	79.6%	94.8%			

Note: Section capacity checked using 5 degree increments.

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

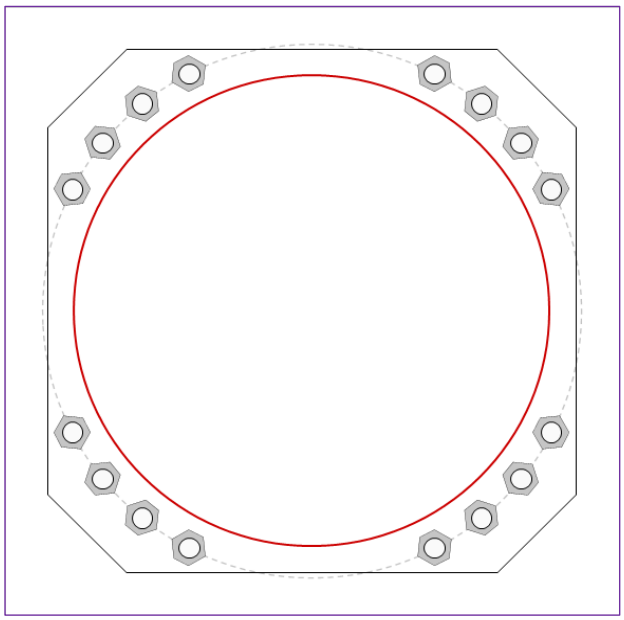
Monopole Base Plate Connection

Site Info	
BU #	855662
Site Name	WINDSORCENTRAL
Order #	608801, Rev. 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	2

Applied Loads	
Moment (kip-ft)	4538.17
Axial Force (kips)	61.82
Shear Force (kips)	40.69

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

(16) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 58" BC

Anchor Spacing: 6 in

Base Plate Data

57" W x 2.75" Plate (A572-55; Fy=55 ksi, Fu=70 ksi); Clip: 8.5 in

Stiffener Data

N/A

Pole Data

51.3" x 0.375" 18-sided pole (A607-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

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

Pu_t = 230.72	ϕPn_t = 243.75	**Stress Rating**
Vu = 2.54	ϕVn = 149.1	**90.1%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	43.42	(Flexural)
Allowable Stress (ksi):	49.5	
Stress Rating:	**83.5%**	**Pass**

Drilled Pier Foundation

BU # :	855662
Site Name:	WINDSORCENTRAL
Order Number:	608801, Rev. 0
TIA-222 Revison:	H
Tower Type:	Monopole

Applied Loads	Comp.	Uplift
Moment (kip-ft)	4537.75	
Axial Force (kips)	62	
Shear Force (kips)	40.31	

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

Pier Design Data		
Depth	32.5	ft
Ext. Above Grade	0.5	ft
Pier Section 1		
From 0.5' above grade to 32.5' below grade		
Pier Diameter	7	ft
Rebar Quantity	20	
Rebar Size	11	
Clear Cover to Ties	4	in
Tie Size	5	
Tie Spacing	18	in

Rebar & Pier Options

Embedded Pole Inputs

Belled Pier Inputs

Analysis Results		
Soil Lateral Check	*Compression*	*Uplift*
$D_{v=0}$ (ft from TOC)	7.44	-
Soil Safety Factor	1.58	-
Max Moment (kip-ft)	4847.11	-
Rating*	*80.3%*	-
Soil Vertical Check	*Compression*	*Uplift*
Skin Friction (kips)	150.09	-
End Bearing (kips)	138.54	-
Weight of Concrete (kips)	140.68	-
Total Capacity (kips)	288.63	-
Axial (kips)	202.68	-
Rating*	*66.9%*	-
Reinforced Concrete Flexure	*Compression*	*Uplift*
Critical Depth (ft from TOC)	7.54	-
Critical Moment (kip-ft)	4846.98	-
Critical Moment Capacity	5006.38	-
Rating*	*92.2%*	-
Reinforced Concrete Shear	*Compression*	*Uplift*
Critical Depth (ft from TOC)	19.55	-
Critical Shear (kip)	382.06	-
Critical Shear Capacity	1965.60	-
Rating*	*18.5%*	-

Shear-Friction Methodology is Applied

Structural Foundation Rating*	**92.2%**
Soil Interaction Rating*	**80.3%**

*Rating per TIA-222-H Section 15.5

Check Limitation	
Apply TIA-222-H Section 15.5:	☑
N/A	☐
Additional Longitudinal Rebar	
Input Effective Depths (else Actual):	☐
Shear Design Options	
Check Shear along Depth of Pier:	☑
Utilize Shear-Friction Methodology:	☑
Override Critical Depth:	☐

Go to Soil Calculations

Soil Profile

Groundwater Depth	2	# of Layers	5

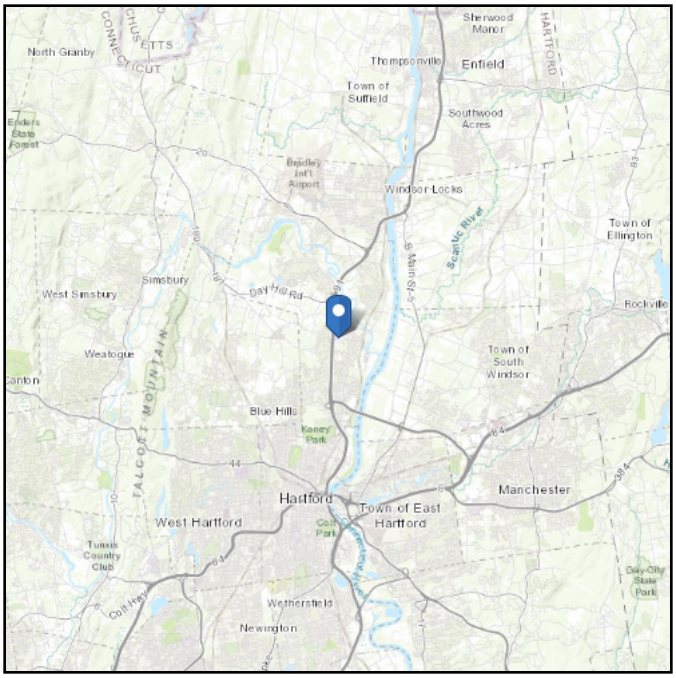
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ_{soil} (pcf)	$\gamma_{concrete}$ (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	2	2	110	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	2	5	3	50	87.6	0	0	0.000	0.000	0.00	0.00			Cohesionless
3	5	12	7	55	87.6		35	0.000	0.000	0.36	0.36			Cohesionless
4	12	16	4	50	87.6		31	0.000	0.000	0.49	0.49			Cohesionless
5	16	32.5	16.5	50	87.6	0.8		0.440	0.440	0.28	0.28	4.8		Cohesive

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 115.16 ft (NAVD 88)
Latitude: 41.852594
Longitude: -72.660497



Wind

Results:

Wind Speed:	121 Vmph	125 mph ultimate 3s gust wind speed required for municipality of Windsor per 2018 Connecticut State Building Code.
10-year MRI	76 Vmph	
25-year MRI	86 Vmph	
50-year MRI	92 Vmph	
100-year MRI	99 Vmph	

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

Date Accessed: Thu Apr 29 2021

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

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

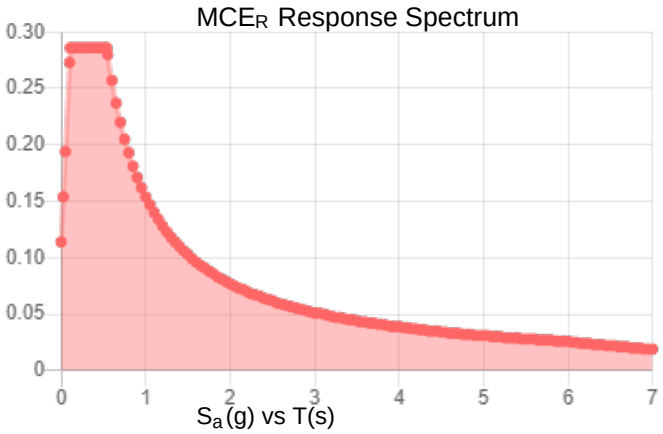
Seismic

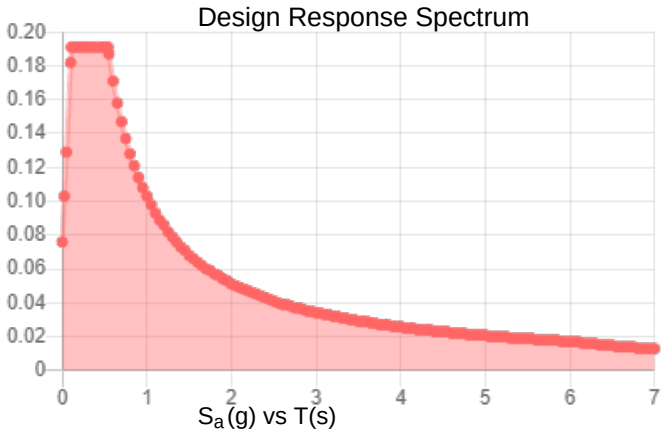
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.179	S_{DS} :	0.191
S_1 :	0.064	S_{D1} :	0.103
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.089
S_{MS} :	0.286	PGA_M :	0.142
S_{M1} :	0.154	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Thu Apr 29 2021

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

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	5 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Thu Apr 29 2021

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

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

AT&T

AT&T SITE NUMBER: CTL05138
AT&T SITE NAME: WINDSORCENTRAL
AT&T FA CODE: 10092835
AT&T PACE NUMBER: MRCTB061103, MRCTB061167, MRCTB061131, MRCTB061102, MRCTB061116, MRCTB061099, MRCTB061105, MRCTB061156
AT&T PROJECT: 5G NR 1DR-1, BBU ADD, 4TX4RX SOFTWARE RETROFIT, 5G NR 1SR CBAND, LTE 3C, 5G NR 1DR-1, 5G NR 1DR-2

BUSINESS UNIT #: 855662
SITE ADDRESS: 340 BLOOMFIELD AVENUE WINDSOR, CT 06095
COUNTY: HARTFORD
SITE TYPE: MONOPOLE
TOWER HEIGHT: 148'-0"

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	WINDSORCENTRAL
SITE ADDRESS:	340 BLOOMFIELD AVENUE WINDSOR, CT 06095
COUNTY:	HARTFORD
MAP/PARCEL #:	3788
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41° 51' 8.97"
LONGITUDE:	-72° 39' 38.16"
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	117'
CURRENT ZONING:	NZ
JURISDICTION:	CT - TOWN OF WINDSOR
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	TOWN OF WINDSOR 275 BROAD STREET WINDSOR, CT 06095
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:	AT&T 800.331.0500

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 VERONICA CHAPMAN - PROJECT MANAGER VERONICA.CHAPMAN@CROWNCASTLE.COM JASON D'AMICO - CONSTRUCTION MANAGER JASON.DAMICO@CROWNCASTLE.COM HEATHER MILLER - AES HEATHER.MILLER@CROWNCASTLE.COM

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

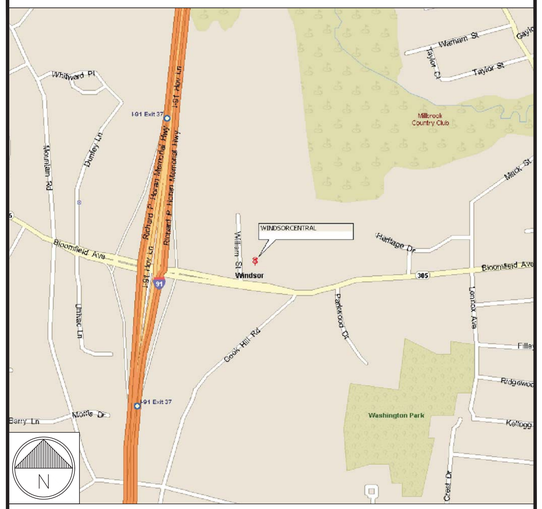
DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1.1	SITE PLAN
C-1.2	EQUIPMENT PLANS
C-2	TOWER ELEVATION & ANTENNA PLANS
C-3	ANTENNA SCHEDULE
C-4	EQUIPMENT DETAILS
C-5	EQUIPMENT SPECS.
G-1	GROUNDING DETAILS
G-2	GROUNDING DETAILS
ATTACHED	PLUMBING DIAGRAM
ATTACHED	MOUNT MODIFICATION DRAWINGS

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.

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

LOCATION MAP



NO SCALE

SITE PHOTO

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) KATHREIN - 800-10121 ANTENNAS
- REMOVE (1) QUINTEL - QS86512-2 ANTENNAS
- REMOVE (2) QUILTEN - QS66512-2 ANTENNAS
- REMOVE (3) ERICSSON - RRUS-11 B12 RRHs
- REMOVE (3) ERICSSON - RRUS-12 B2+A2 RRHs
- REMOVE (1) RAYCAP - DC6-48-60-18-8F SQUID
- ROTATE PLATFORM MOUNT ±30 DEGREES COUNTER CLOCKWISE TO REDUCE ANTENNA SKEWING
- INSTALL (1) CCI - TPA65R-BU8DA-K ANTENNA
- INSTALL (1) COMMSCOPE - NNHHS4-65C-R5 ANTENNA
- INSTALL (2) CCI - TPA65R-BU6DA-K ANTENNA
- INSTALL (2) COMMSCOPE - NNHHS4-65B-R5 ANTENNA
- INSTALL (12) COMMSCOPE - TMAT192123B68-31 AMPLIFIER
- INSTALL (6) COMMSCOPE - STX61742Q-43 COMBINER
- INSTALL (18) COAX CABLES 1-5/8"
- INSTALL MOUNT MODIFICATION PER MOUNT MODIFICATION DRAWING BY TRYLON DATED MAY, 25 2022

GROUND SCOPE OF WORK:
- DECOMM (1) UMTS CABINET
- INSTALL (2) 23" RACKS W/ UNISTRUT
- INSTALL (6) COMMSCOPE - STX61742Q-43 COMBINER
- INSTALL (72) POLYPHASER - TSXDC-4310FM SURGE PROTECTOR
- INSTALL (12) KATHREIN - 782-11055 BTS
- INSTALL (3) ERICSSON - 4449 B5/B12
- INSTALL (3) ERICSSON - 8843 B2/B66A
- INSTALL (3) ERICSSON - 4478 B14
- INSTALL (3) ERICSSON - 8863 N77
- INSTALL (1) 6630 W/IDLE
- INSTALL (1) 6648 W/XCEDE CABLE
- INSTALL (4) RECTIFIERS

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	2018 CONNECTICUT SBC/2015 IBC
MECHANICAL	2018 CONNECTICUT SBC/2015 IMC
ELECTRICAL	2018 CONNECTICUT SBC/2017 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	CROWN CASTLE
DATED:	5/31/22
MOUNT ANALYSIS:	TRYLON
DATED:	5/25/22
RFDS REVISION:	PRELIMINARY
DATED:	4/13/22
ORDER ID:	608801
REVISION:	0
AC ELECTRICAL POWER DESIGN:	BY OTHERS
DATED:	

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

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

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

AT&T SITE NUMBER: **CTL05138**

BU #: **855662**
WINDSORCENTRAL

340 BLOOMFIELD AVENUE
WINDSOR, CT 06095

EXISTING
148'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	6/15/22	YX	PRELIMINARY REVIEW	KT
0	9/21/22	YX	CONSTRUCTION	ANP

STATE OF CONNECTICUT
No. 23824
LICENSED
PROFESSIONAL ENGINEER
9/21/22

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: T-1
REVISION: 0

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

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

GENERAL NOTES:

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

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

ELECTRICAL INSTALLATION NOTES:

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

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

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

APWA UNIFORM COLOR CODE:

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

ABBREVIATIONS:

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

GREENFIELD GROUNDING NOTES:

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

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

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

B+T GRP
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1717 S. BOULDER,
SUITE 300
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AT&T SITE NUMBER: **CTL05138**

BU #: **855662**
WINDSORCENTRAL

340 BLOOMFIELD AVENUE
WINDSOR, CT 06095

EXISTING
148'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	6/15/22	YX	PRELIMINARY REVIEW	KT
0	9/21/22	YX	CONSTRUCTION	ANP

No. 23924
9/21/22

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

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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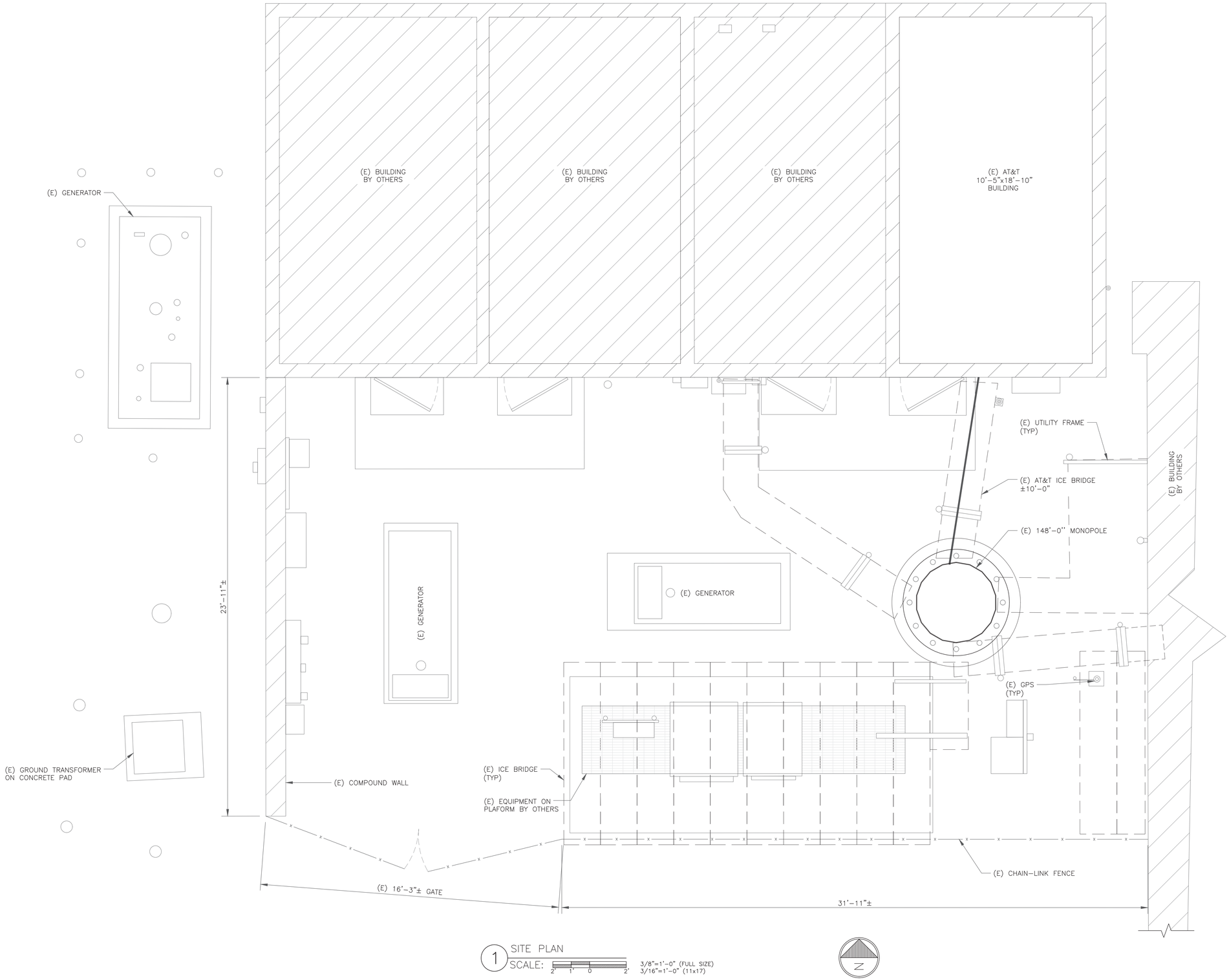

1 SITE PLAN
SCALE: 2' 1' 0 2'
3/8"=1'-0" (FULL SIZE)
3/16"=1'-0" (11x17)

N

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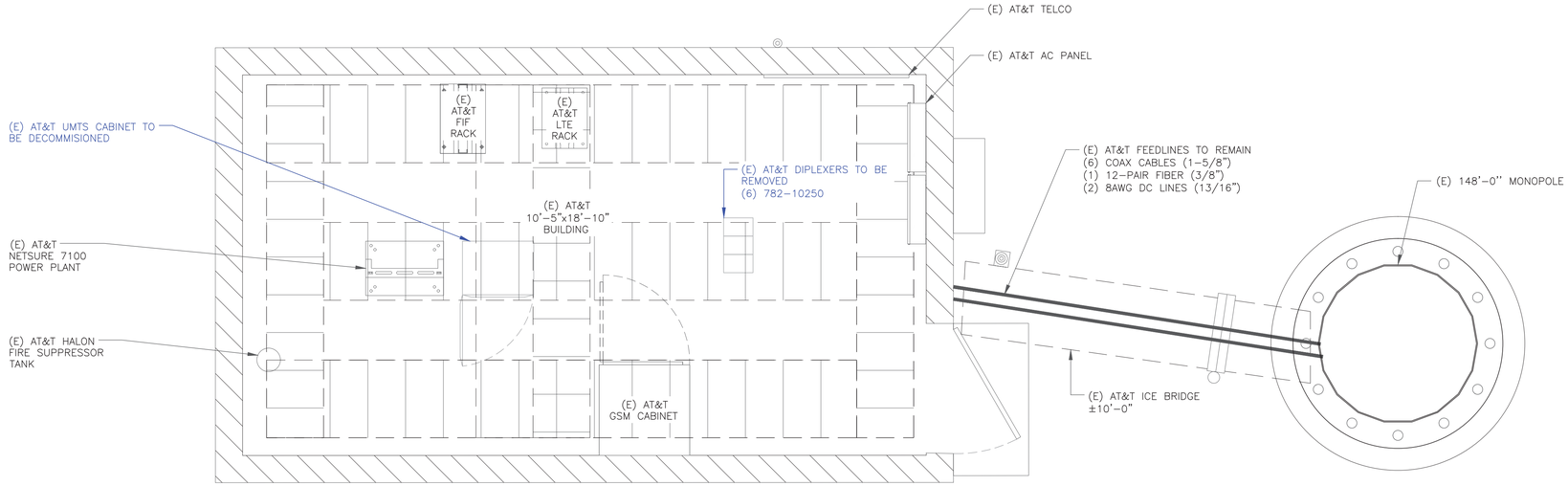
STATE OF CONNECTICUT
CHRISTOPHER
No. 23924
LICENSED
PROFESSIONAL ENGINEER
9/21/22

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

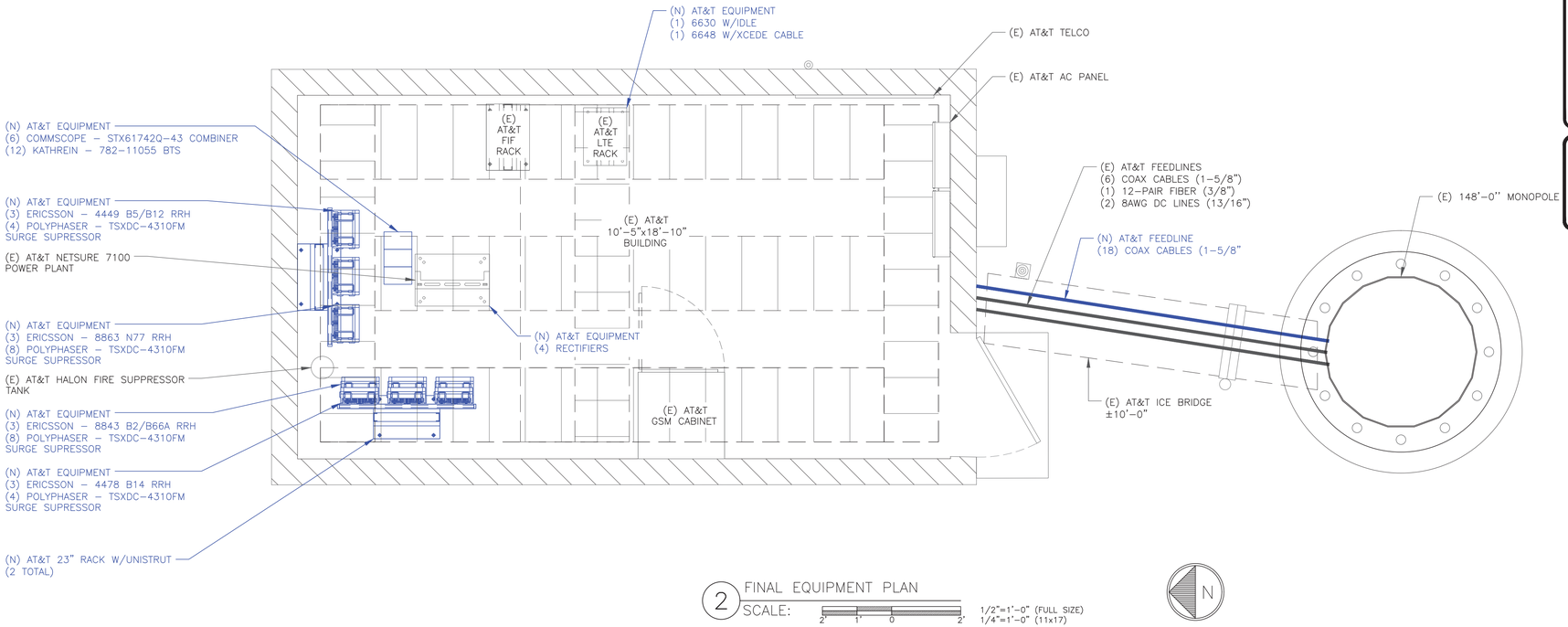
SHEET NUMBER: C-1.1
REVISION: 0



1 EXISTING EQUIPMENT PLAN

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

N



2 FINAL EQUIPMENT PLAN

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

N

GROUND SCOPE OF WORK:

- DECOMM (1) UMTS CABINET
- INSTALL (2) 23" RACKS W/ UNISTRUT
- INSTALL (6) COMMSCOPE - STX61742Q-43 COMBINER
- INSTALL (72) POLYPHASER - TSXDC-4310FM SURGE PROTECTOR
- INSTALL (12) KATHREIN - 782-11055 BTS
- INSTALL (3) ERICSSON - 4449 B5/B12
- INSTALL (3) ERICSSON - 8843 B2/B66A
- INSTALL (3) ERICSSON - 4478 B14
- INSTALL (3) ERICSSON - 8863 N77
- INSTALL (1) 6630 W/IDLE
- INSTALL (1) 6648 W/XCEDE CABLE
- INSTALL (4) RECTIFIERS

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.

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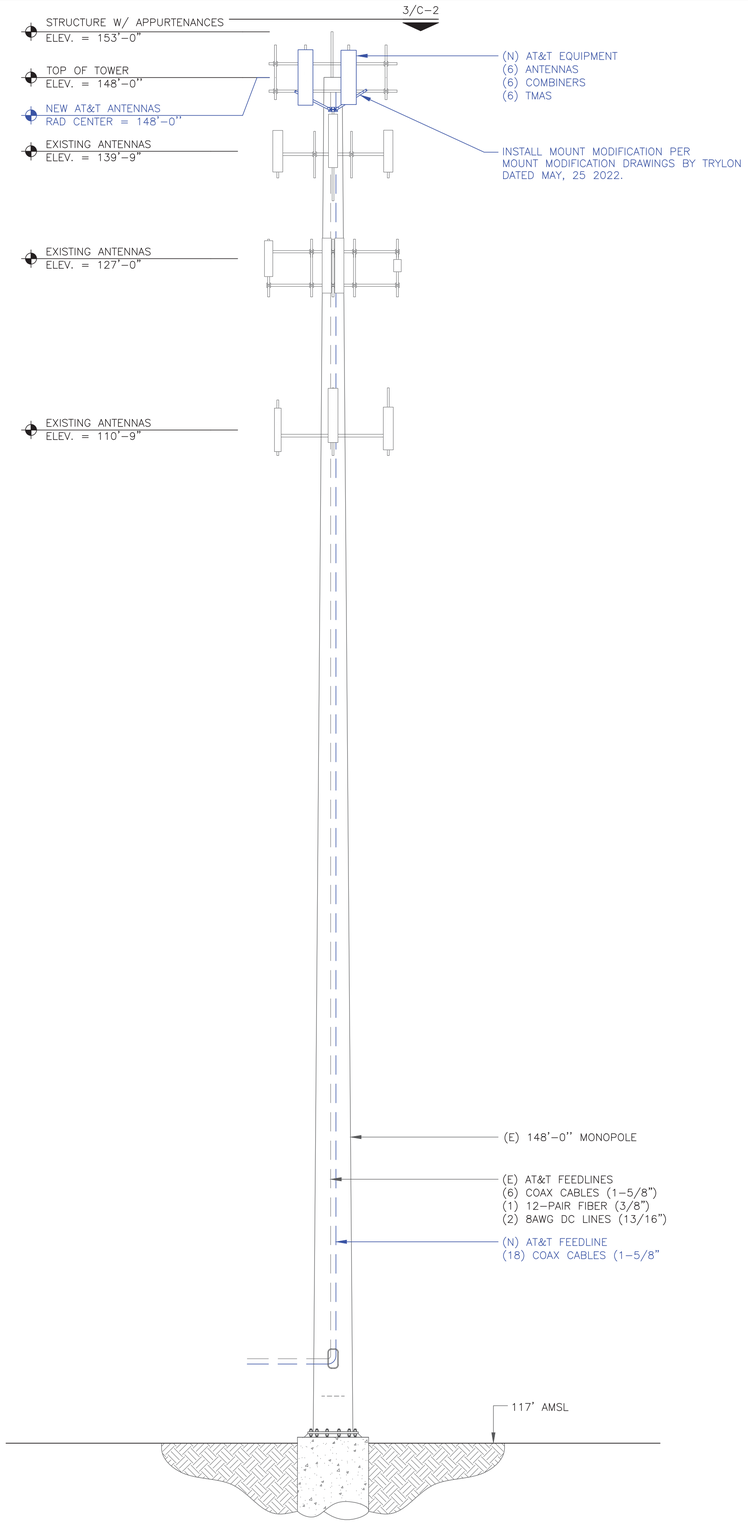
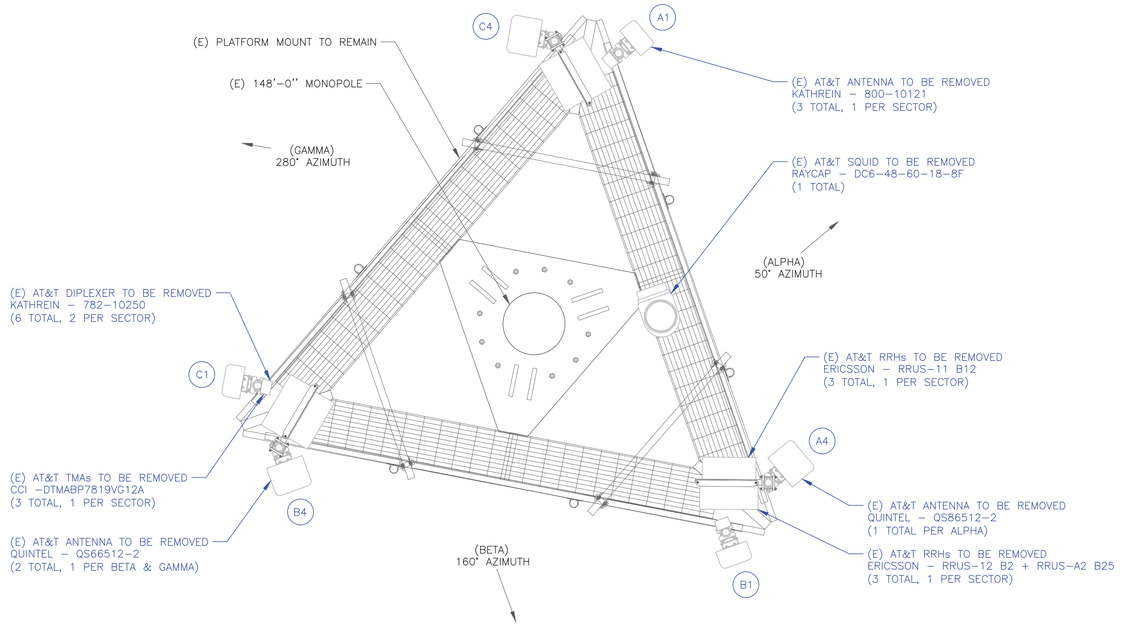
MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: C-1.2

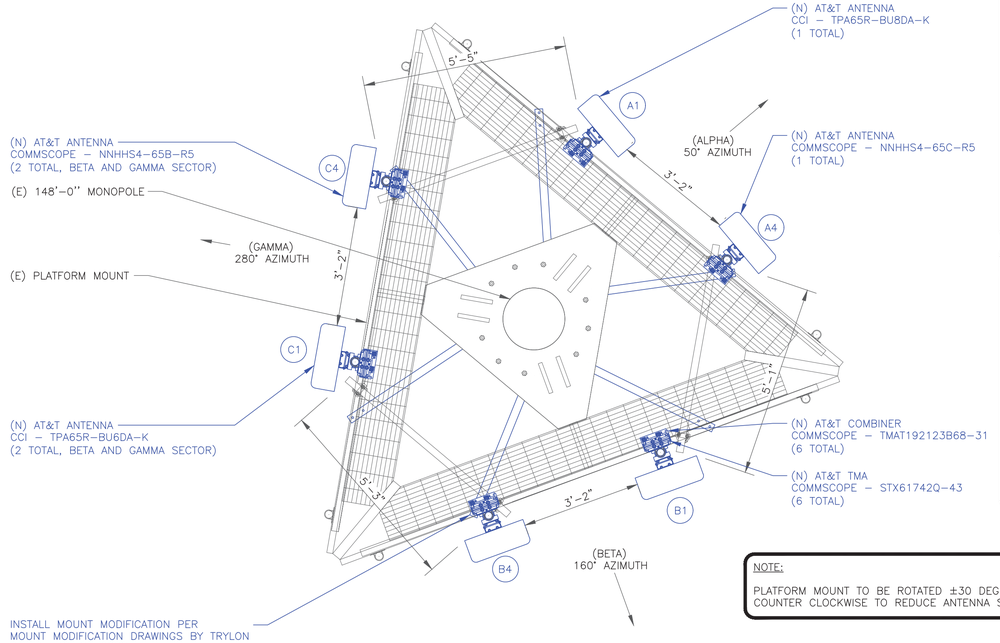
REVISION: 0



1 FINAL ELEVATION
SCALE: NOT TO SCALE



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



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

N

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

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

INSTALLER NOTES:

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

NOTE:

PLATFORM MOUNT TO BE ROTATED ±30 DEGREES COUNTER CLOCKWISE TO REDUCE ANTENNA SKEWING

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

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1717 S. BOULDER,
SUITE 300
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btwo@btgrp.com

AT&T SITE NUMBER: **CTL05138**

BU #: **855662**
WINDSORCENTRAL

340 BLOOMFIELD AVENUE
WINDSOR, CT 06095

EXISTING
148'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	6/15/22	YX	PRELIMINARY REVIEW	KT
0	9/21/22	YX	CONSTRUCTION	ANP

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: C-2

REVISION: 0

FINAL EQUIPMENT SCHEDULE
(VERIFY WITH CURRENT RFDS)

POSITION	ANTENNA				RADIO			DIPLEXER			TMA			SURGE PROTECTION		CABLES			
	TECH.	STATUS/MANUFACTURER MODEL	AZIMUTH	RAD CENTER	QTY.	STATUS/MODEL	LOCATION	QTY.	STATUS	LOCATION	QTY.	STATUS/MANUFACTURER MODEL	QTY.	STATUS/MODEL	QTY.	STATUS/TYPE	SIZE	LENGTH
ALPHA																		
A1	LTE/5G	(N) CCI – TPA65R–BU8DA–K	50°	148'–0"	1	(N) ERICSSON – 4449 B5/B12	GROUND	–	–	–	1	COMMSCOPE – TMAT192123B68–31	12	(N) TSXDC–4310FM	2	(N) COX	1–5/8	210'–0"
					1	(N) 8843 B2/B66A	GROUND								3	(N) COX	1–5/8	210'–0"
A4	5G CBAND/ LTE/5G	(N) COMMSCOPE – NNHHS4–65C–R5	50°	148'–0"	1	(N) 4478 B14	GROUND	–	–	–	1	COMMSCOPE – TMAT192123B68–31	12	(N) TSXDC–4310FM	4	(N) COX	1–5/8	210'–0"
					1	(N) 8863 N77	GROUND											
BETA																		
B1	LTE/5G	(N) CCI – TPA65R–BU6DA–K	160°	148'–0"	1	(N) ERICSSON – 4449 B5/B12	GROUND	–	–	–	1	COMMSCOPE – TMAT192123B68–31	12	(N) TSXDC–4310FM	2	(N) COX	1–5/8	210'–0"
					1	(N) 8843 B2/B66A	GROUND								3	(N) COX	1–5/8	210'–0"
B4	5G CBAND/ LTE/5G	(N) COMMSCOPE – NNHHS4–65B–R5	160°	148'–0"	1	(N) 4478 B14	GROUND	–	–	–	1	COMMSCOPE – TMAT192123B68–31	12	(N) TSXDC–4310FM	4	(N) COX	1–5/8	210'–0"
					1	(N) 8863 N77	GROUND											
GAMMA																		
B1	LTE/5G	(N) CCI – TPA65R–BU6DA–K	280°	148'–0"	1	(N) ERICSSON – 4449 B5/B12	GROUND	–	–	–	1	COMMSCOPE – TMAT192123B68–31	12	(N) TSXDC–4310FM	2	(N) COX	1–5/8	210'–0"
					1	(N) 8843 B2/B66A	GROUND								3	(N) COX	1–5/8	210'–0"
B4	5G CBAND/ LTE/5G	(N) COMMSCOPE – NNHHS4–65B–R5	280°	148'–0"	1	(N) 4478 B14	GROUND	–	–	–	1	COMMSCOPE – TMAT192123B68–31	12	(N) TSXDC–4310FM	4	(N) COX	1–5/8	210'–0"
					1	(N) 8863 N77	GROUND											
															1	12 PAIR FIBER	3/8"	210'–0"
														UNUSED FEEDLINES:	2	8 AWG	13/16"	210'–0"

NOTE:
(E) – EXISTING
(N) – NEW

1 FINAL ANTENNA AND FEEDLINE SCHEDULE
SCALE: NOT TO SCALE

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

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AT&T SITE NUMBER: **CTL05138**

BU #: **855662**
WINDSORCENTRAL

340 BLOOMFIELD AVENUE
WINDSOR, CT 06095

EXISTING
148'-0" MONOPOLE

ISSUED FOR:

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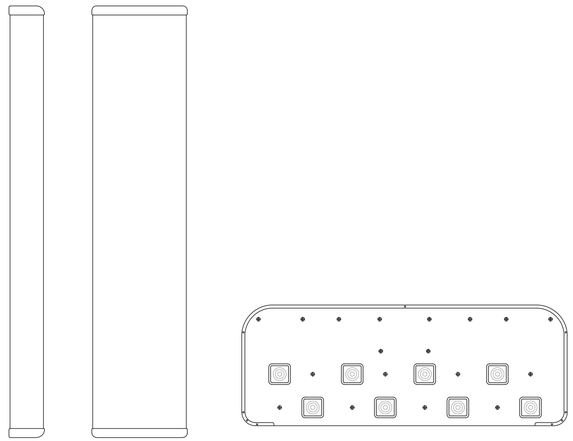
0	9/21/22	YX	CONSTRUCTION	ANP

STATE OF CONNECTICUT
No. 23824
LICENSED
PROFESSIONAL ENGINEER
9/21/22

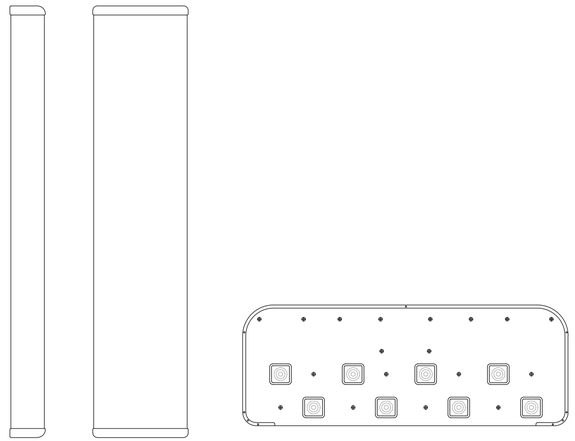
MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: C-3
REVISION: 0



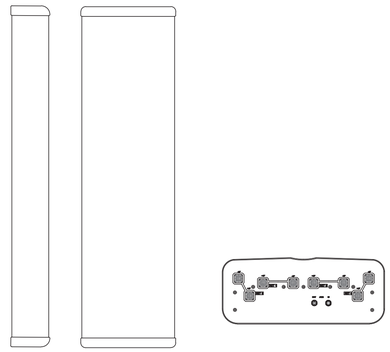
CCI ANTENNAS – TPA65R–BU8DA–K
WEIGHT (WITHOUT MOUNTING HARDWARE): 87.1 LBS
SIZE (HxWxD): 96.0x20.7x7.7 IN.
MOUNTING HARDWARE P/N: MBK–01
RATED WIND VELOCITY: 150.0 MPH

1 CCI ANTENNAS – TPA65R–BU8DA–K
SCALE: NOT TO SCALE



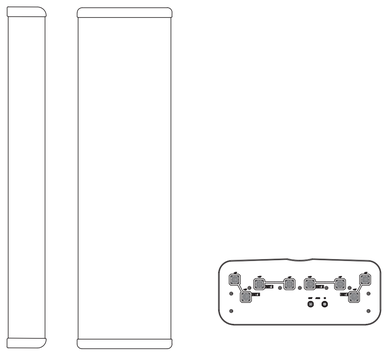
CCI ANTENNAS – TPA65R–BU6DA–K
WEIGHT (WITHOUT MOUNTING HARDWARE): 68.3 LBS
SIZE (HxWxD): 71.2X20.7X7.7 IN.
MOUNTING HARDWARE P/N: MBK–01
RATED WIND VELOCITY: 150.0 MPH

2 CCI ANTENNAS – TPA65R–BU6DA–K
SCALE: NOT TO SCALE



COMMSCOPE – NNHHS4–65C–R5
WEIGHT (FULLY EQUIPPED): 107.8 LBS
SIZE (HxWxD): 96X19.6X7.8 IN.
CONNECTOR TYPE: 4.3–10 FEMALE (16 TOTAL PORTS)

3 COMMSCOPE – NNHH–65B–R4
SCALE: NOT TO SCALE

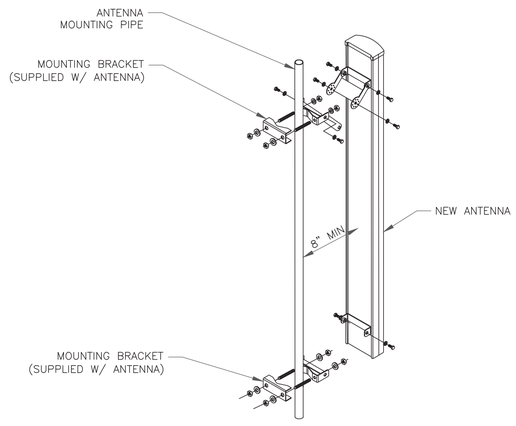


COMMSCOPE – NNHHS4–65B–R5
WEIGHT (FULLY EQUIPPED): 83.555 LBS
SIZE (HxWxD): 72.8X19.6X7.8
CONNECTOR TYPE: 4.3–10 FEMALE (16 TOTAL PORTS)

4 COMMSCOPE – NNHH–65B–R4
SCALE: NOT TO SCALE

INSTALLER NOTE:

1. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.
2. 8" MINIMUM DISTANCE REQUIRED BETWEEN ANTENNA & RADIO.



5 ANTENNA MOUNTING DETAIL
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

AT&T
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ATLANTA, GA 30324-3300

CROWN CASTLE
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btwo@btgrp.com

AT&T SITE NUMBER: **CTL05138**

BU #: **855662**
WINDSORCENTRAL

340 BLOOMFIELD AVENUE
WINDSOR, CT 06095

EXISTING
148'-0" MONOPOLE

ISSUED FOR:

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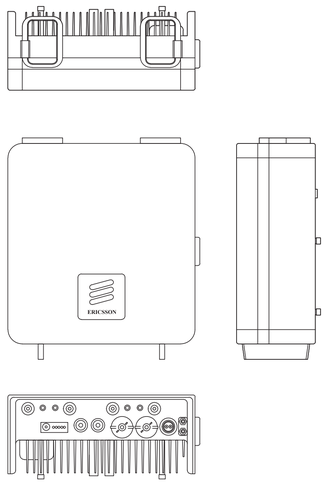
STATE OF CONNECTICUT
No. 23924
LICENSED
PROFESSIONAL ENGINEER
9/21/22

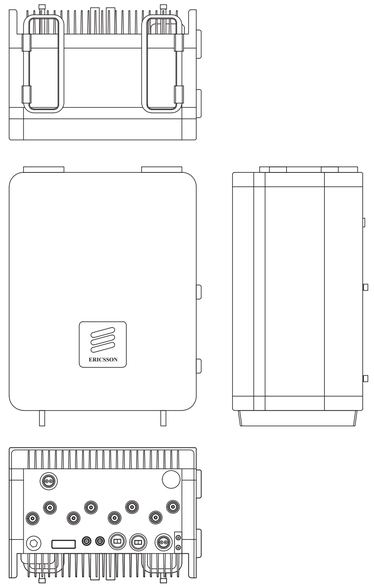
MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: C-4
REVISION: 0



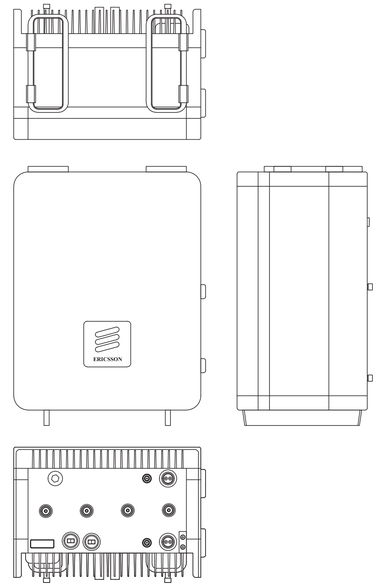
ERICSSON – RRUS 4478 B14
WEIGHT: 60.0 LBS
SIZE (HxWxD): 15.0x13.0x8.0 IN.

1 ERICSSON – RRUS 4478 B14
SCALE: NOT TO SCALE



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

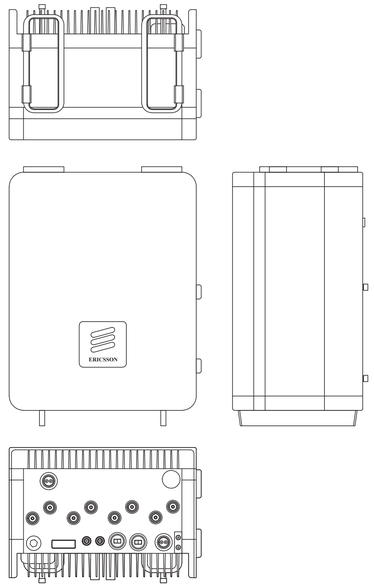
2 ERICSSON – RADIO 8843 B2/B66A
SCALE: NOT TO SCALE



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

3 ERICSSON – RADIO 4449 B5/B12
SCALE: NOT TO SCALE

4 NOT USED
SCALE: NOT TO SCALE



ERICSSON – RADIO 8863 N77
WEIGHT: 75.0 LBS
SIZE (HxWxD): 18.0x13.2x11.3 IN.

5 ERICSSON – RADIO 8863 N77
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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PROFESSIONAL ENGINEER
9/21/22

MTS ENGINEERING P.L.L.C.
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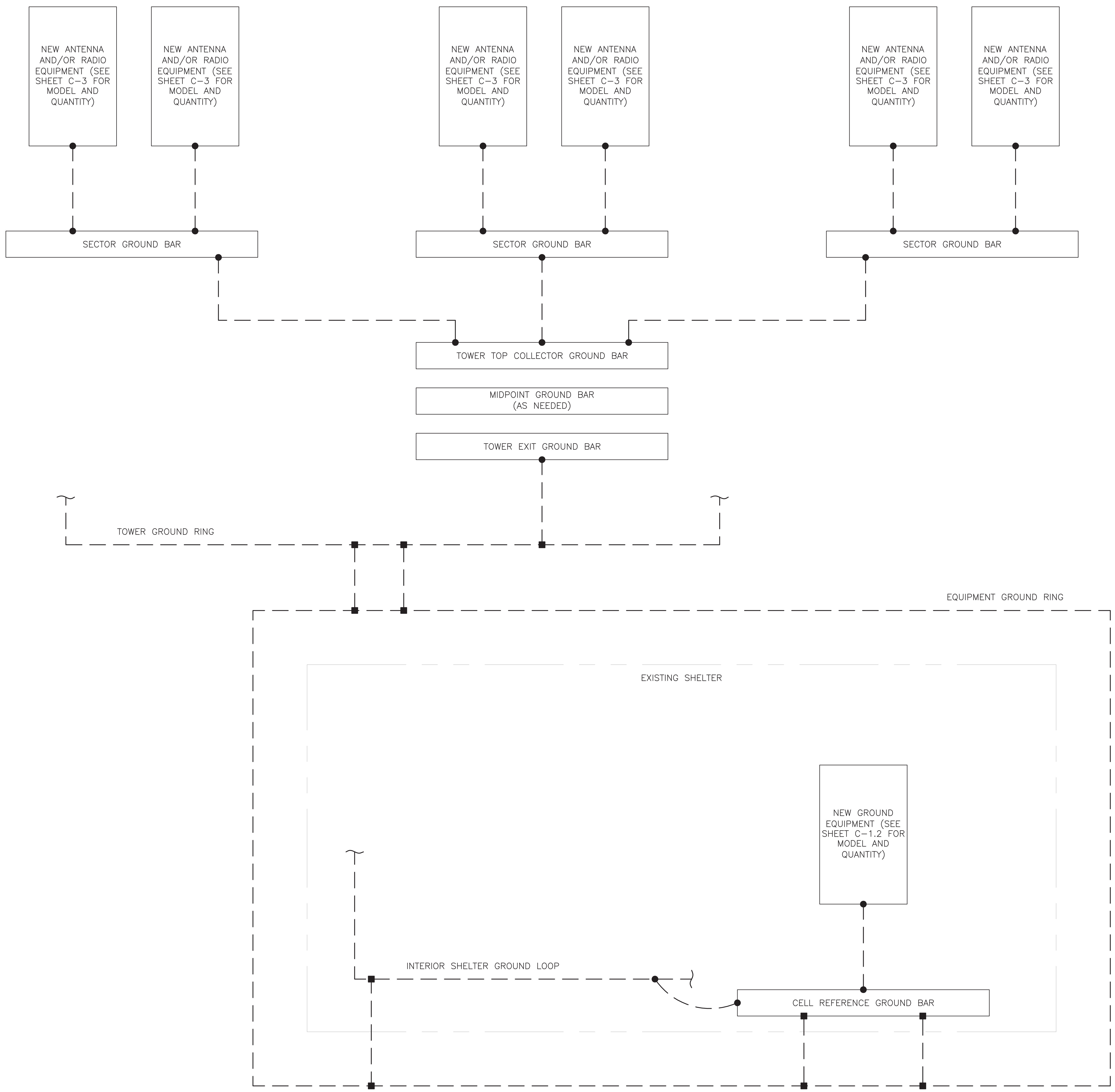
Expires 3/31/23

SHEET NUMBER: C-5
REVISION: 0



1 GROUNDING SCHEMATIC
SCALE: NOT TO SCALE

GROUNDING PLAN LEGEND:

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

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

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

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

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

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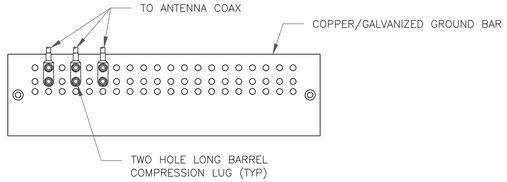
No. 23924
9/21/22

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: G-1
REVISION: 0

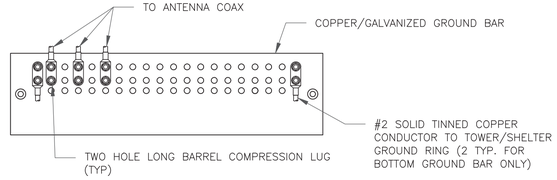
91728.016.01_855662_WINDSORCENTRALl.dwg – Sheet:G-1 – User: ashley.pope – Sep 21, 2022 – 12:21pm



NOTES:

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

1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE

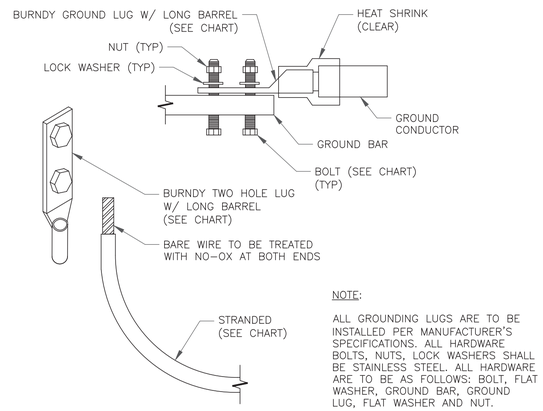


NOTES:

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

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

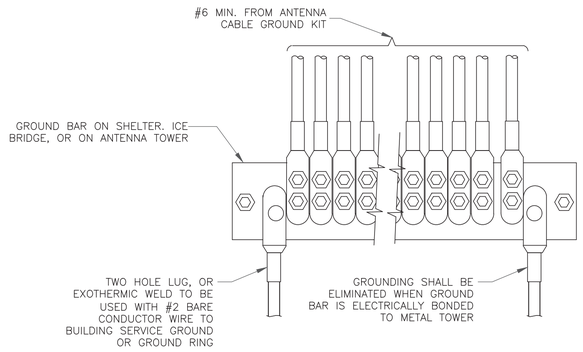
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 STRANDED	YA2C-2TC38	3/8" - 16 NC SS 2 BOLT
#2/0 STRANDED	YA26-2TC38	3/8" - 16 NC SS 2 BOLT
#4/0 STRANDED	YA28-2N	1/2" - 16 NC SS 2 BOLT



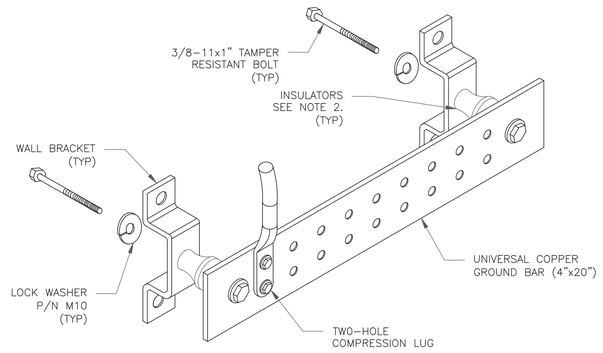
NOTE:

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

3 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



4 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE

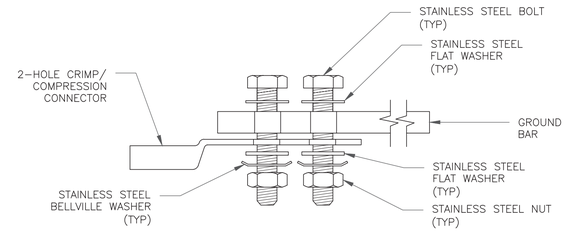


NOTES:

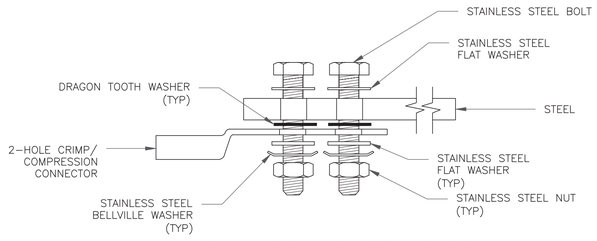
1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.

2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

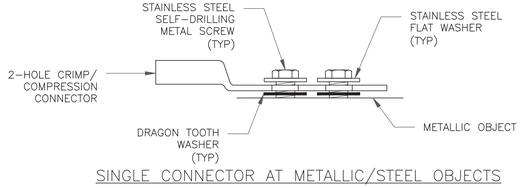
5 GROUND BAR DETAIL
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

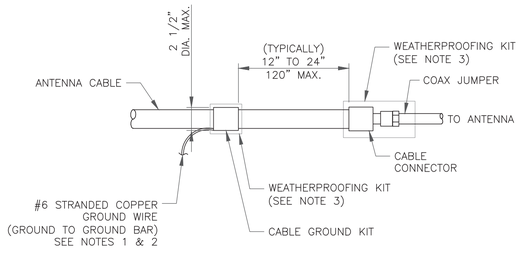


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

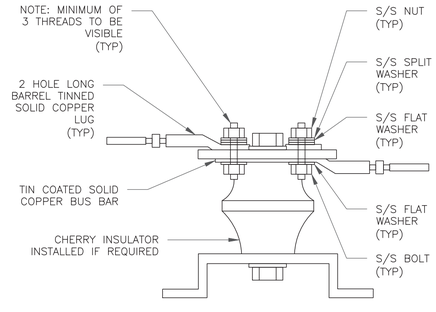
8 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

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

6 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE

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

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

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

AT&T SITE NUMBER: **CTL05138**

BU #: **855662**
WINDSORCENTRAL

340 BLOOMFIELD AVENUE
WINDSOR, CT 06095

EXISTING
148'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	6/15/22	YX	PRELIMINARY REVIEW	KT
0	9/21/22	YX	CONSTRUCTION	ANP

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: G-2

REVISION: 0

Diagram - Sector	A	Diagram File Name - CT5138_ABC_CBAND_Rev1.vsd					
Atoll Site Name -	CT5138	Location Name -	WINDSORCENTRAL	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND
Comments:							

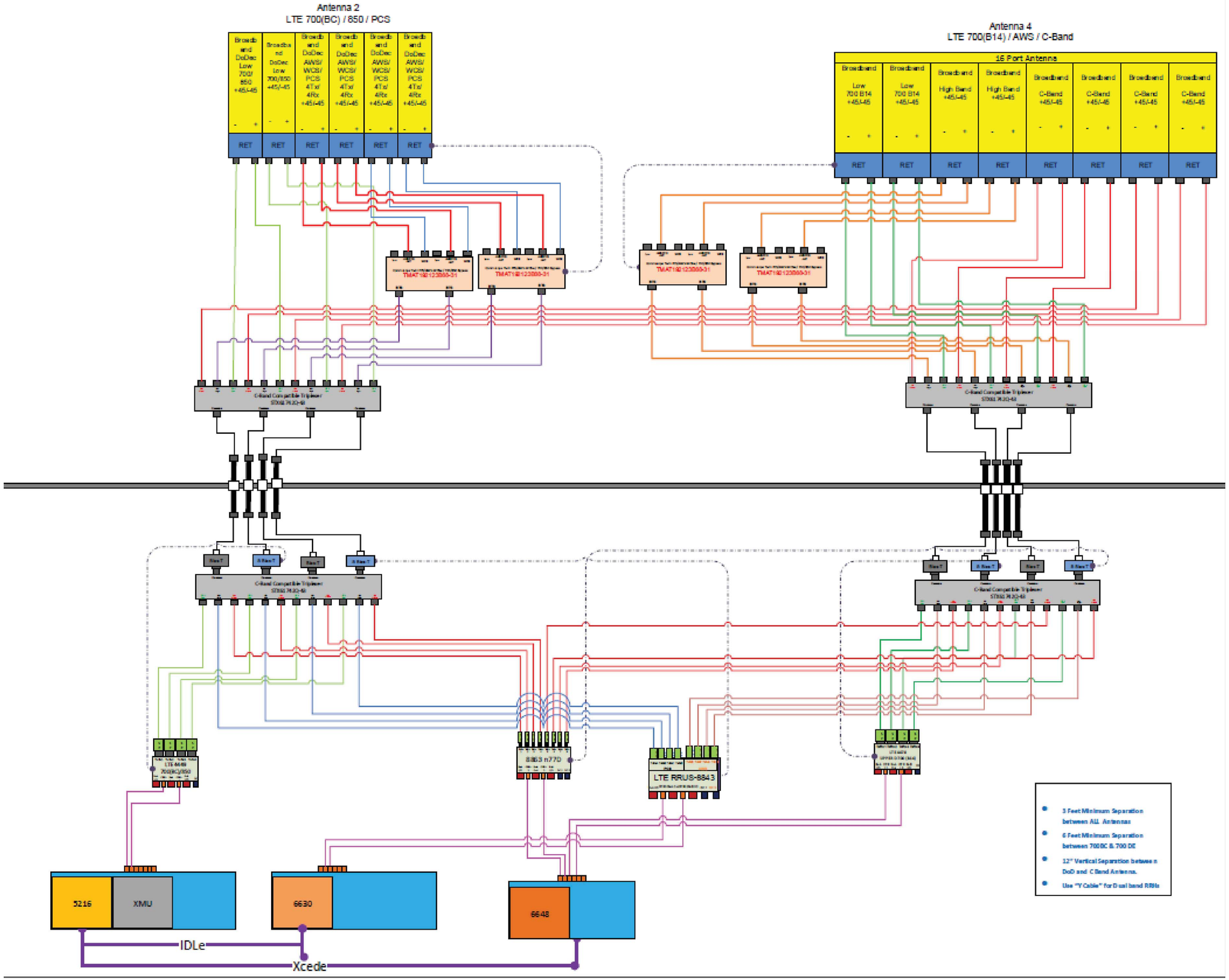


Diagram - Sector	B	Diagram File Name - CT5138_ABC_CBAND_Rev1.vsd							
Atoll Site Name -	CT5138	Location Name -	WINDSORCENTRAL		Market -	CONNECTICUT		Market Cluster -	NEW ENGLAND
Comments:									

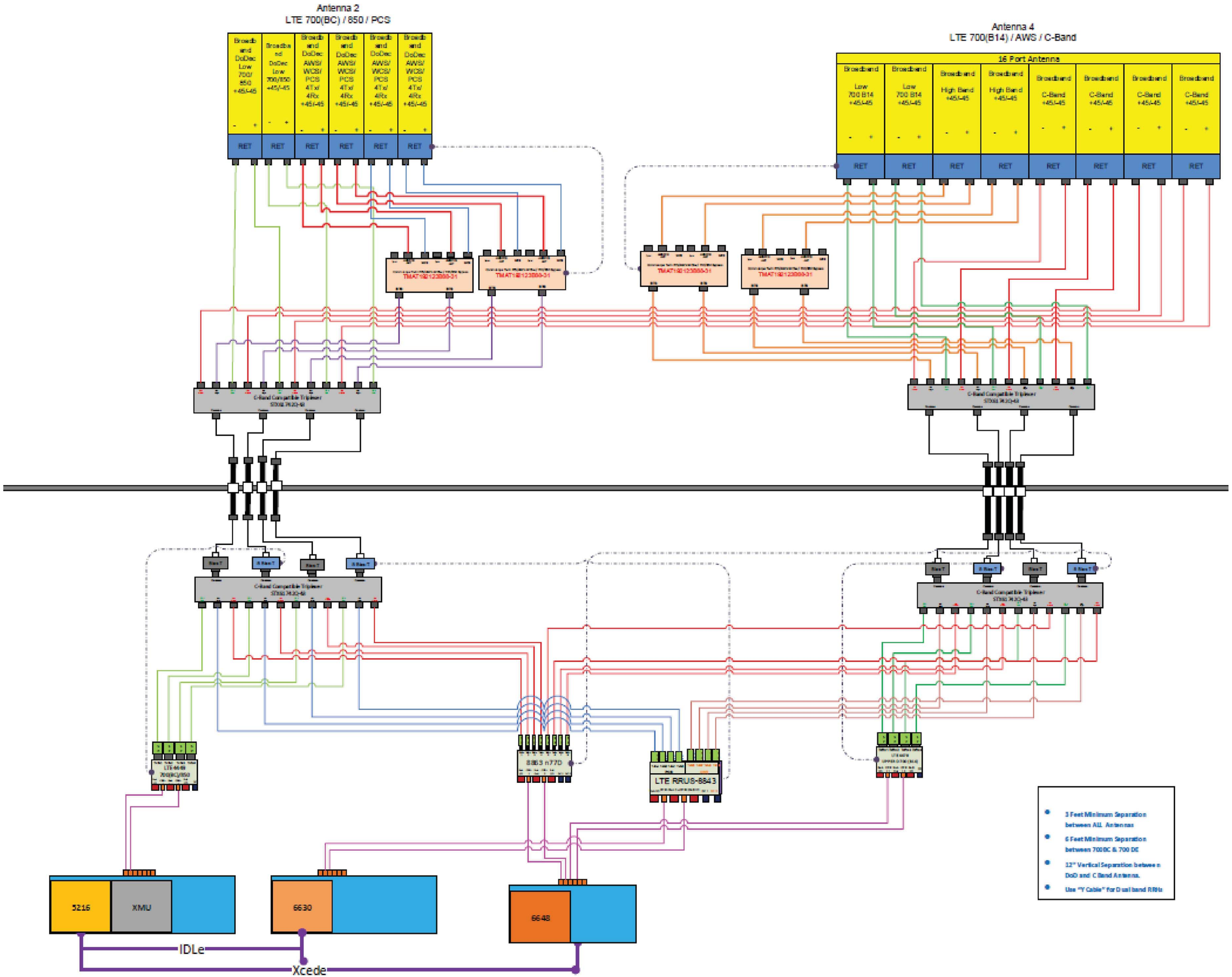
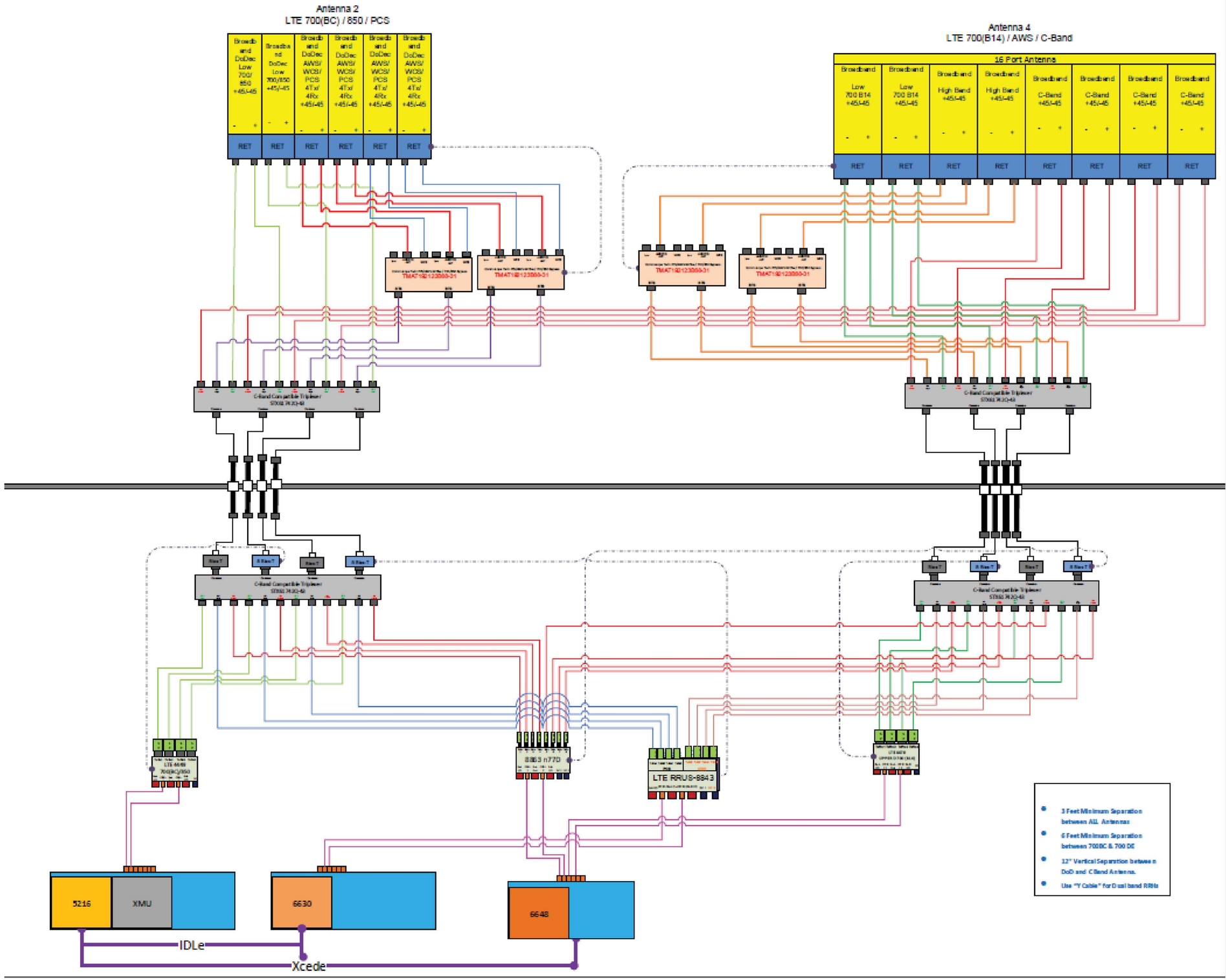


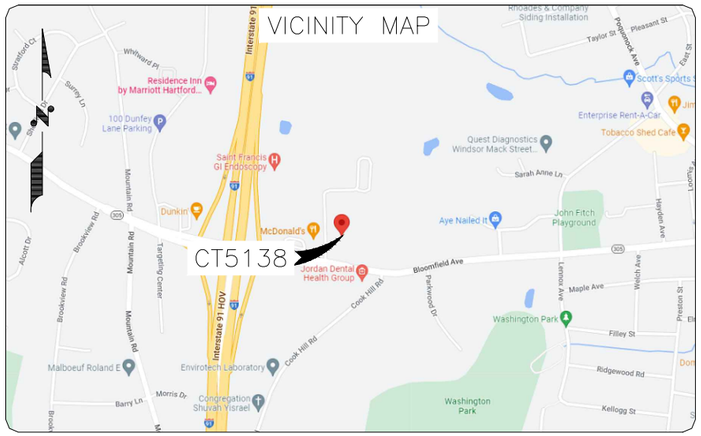
Diagram - Sector	C	Diagram File Name - CT5138_ABC_CBAND_Rev1.vsd					
Atoll Site Name -	CT5138	Location Name -	WINDSORCENTRAL	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND
Comments:							



AT&T

UPGRADE:

MOUNT REINFORCEMENT



SITE NAME:
WINDSORCENTRAL

SITE NUMBER:
CT5138

FA NUMBER:
10092835

CROWN CASTLE BU#:
855662

SITE ADDRESS:
340 BLOOMFIELD AVENUE,
WINDSOR, CT 06095

GENERAL NOTES

PRIOR TO ACCESSING/ ENTERING THE SITE, YOU MUST CONTACT THE CROWN NOC AT 800-788-7011 AND CROWN CM CHAD STEINHOFF- 214-287-3756, CHAD.STEINHOFF@CROWNCASTLE.COM

THE HEIGHT OF THE TOWER WILL NOT BE INCREASED, NOR AN EXPANSION OF THE GROUND/ LEASE AREA WHEN AND WHERE APPLICABLE

BUILDING CODES

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL AUTHORITIES HAVING JURISDICTION

1. 2018 INTERNATIONAL BUILDING CODE
2. UNIFORM BUILDING CODE
3. CITY/COUNTY ORDINANCES
4. TIA-222-H

IF YOU DIG IN ANY STATE DIAL 811
FOR THE LOCAL "ONE CALL CENTER"
IT'S THE LAW

THE UTILITIES SHOWN HEREIN ARE FOR THE CONTRACTORS CONVENIENCE ONLY. THERE MAY BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER/SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS SHOWN AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL THE UTILITIES WITHIN THE LIMITS OF THE WORK. ALL DAMAGE MADE TO THE EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

APPROVALS

AT&T CONSTRUCTION MANAGER	AT&T RF ENGINEER
LAND USE PLANNER	NETWORK OPERATION
PROPERTY OWNER	CONTRACTOR

DRIVING DIRECTION

FROM BRADLEY INTERNATIONAL AIRPORT:
HEAD NORTH TOWARD BRADLEY INTERNATIONAL AIRPORT (351 FT). SLIGHT LEFT ONTO BRADLEY INTERNATIONAL AIRPORT (0.4 MI). CONTINUE STRAIGHT (0.3 MI). KEEP RIGHT TO CONTINUE TOWARD BRADLEY INTERNATIONAL AIRPORT CON (0.1 MI). CONTINUE ONTO BRADLEY INTERNATIONAL AIRPORT CON (1.2 MI). CONTINUE ONTO CT-20 E/BRADLEY INTERNATIONAL AIRPORT CON (2.6 MI). USE THE RIGHT 2 LANES TO MERGE WITH I-91 S TOWARD HARTFORD (3.5 MI). TAKE EXIT 37 FOR CT-305/BLOOMFIELD AVE TOWARD WINDSOR CTR (0.3 MI). TURN LEFT ONTO CT-305 E/BLOOMFIELD AVE (0.2 MI). TURN LEFT ONTO WILLIAM ST (272 FT). TURN RIGHT (95 FT).

PROJECT INFORMATION

SCOPE OF WORK:	REINFORCE AS FOLLOWS: • INSTALL NEW SITE PRO 1, PRK-SFS-L STABILIZER KIT CONNECTED TO THE HANDRAIL. THE COLLAR STABILIZER MUST BE INSTALLED AT APPROX. 60" BELOW THE PLATFORM CONNECTION. FIELD CUT THE STABILIZER MEMBERS IF IT'S NEEDED.
JURISDICTION:	HARTFORD COUNTY
SITE NAME:	WINDSORCENTRAL
SITE ADDRESS:	340 BLOOMFIELD AVENUE, WINDSOR, CT 06095
LATITUDE:	41° 51' 09.34"
LONGITUDE:	-72° 39' 37.79"
TOWER TYPE:	MONOPOLE
OVERALL TOWER HEIGHT:	148'
ELEVATION OF WORK ON TOWER:	148'

SHEET INDEX

SHEET #	DESCRIPTION	REVISION #
T-1.	TITLE SHEET	0
S-1	MOUNT REINFORCEMENT	0
S-2	MOUNT REINFORCEMENT DETAIL	0

CROWN CASTLE
1220 AUGUSTA DRIVE SUIT 500
HOUSTON, TX 77057

AT&T

Trylon
1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038
1-855-669-5421

STATE OF CONNECTICUT
JOHN ABERNATHY
No. 31022
5-25-22
LICENSED PROFESSIONAL ENGINEER

DRAWING SCALES ARE INTENDED FOR 24"x36" SIZE PRINTED MEDIA ONLY. ALL OTHER PRINTED SIZES ARE DEEMED "NOT TO SCALE".

SUBMITTALS

REV	DATE	DESCRIPTION	BY
0	05/25/22	FOR REVIEW	RC

SITE INFORMATION

SITE NAME:
WINDSORCENTRAL

SITE NUMBER:
CT5138

FA NUMBER:
10092835

SITE ADDRESS:
340 BLOOMFIELD AVENUE,
WINDSOR, CT 06095

SHEET DESCRIPTION

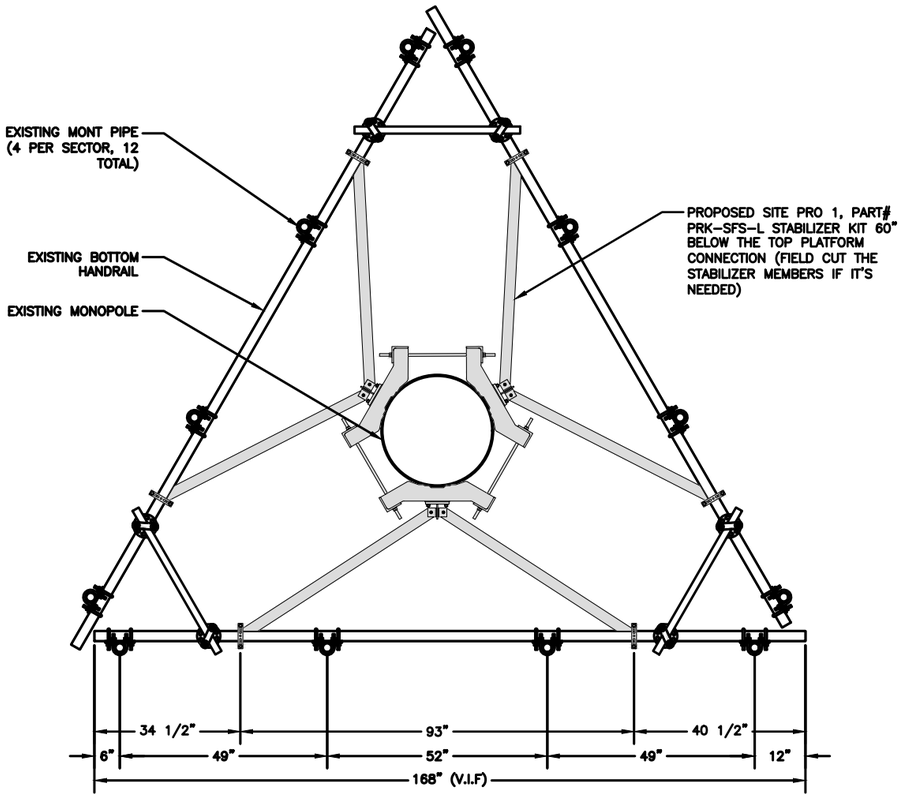
TITLE SHEET

SHEET No.

T-1

INSTALLATION NOTES:

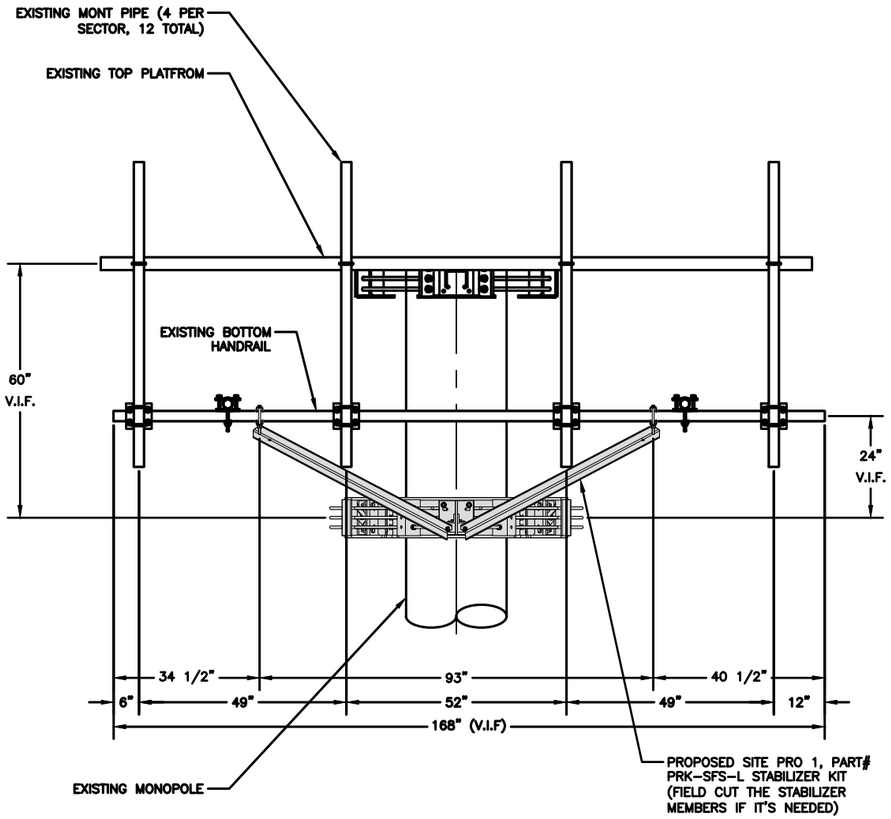
- INSTALL NEW SITE PRO 1, PRK–SFS–L STABILIZER KIT CONNECTED TO THE HANDRAIL. THE COLLAR STABILIZER MUST BE INSTALLED AT APPROX. 60" BELOW THE PLATFORM CONNECTION. FIELD CUT THE STABILIZER MEMBERS IF IT'S NEEDED.



EQUIPMENT NOT SHOWN FOR CLARITY.

2 / S–1 1 / S–1 PROPOSED BOTTOM PLAN VIEW (ALL SECTORS)
SCALE: 3/4" = 1'–0"
0 0'–8" 1'–4" 2'–8" 4'–0"

BILL OF MATERIALS		
QTY.	KIT NO./PART NO.	DESCRIPTION
1 TOTAL	PRK–SFS–L	STABILIZER KIT



EQUIPMENT NOT SHOWN FOR CLARITY.

2 / S–1 PROPOSED ELEVATION VIEW (ALL SECTORS)
SCALE: 3/4" = 1'–0"
0 0'–8" 1'–4" 2'–8" 4'–0"

GENERAL NOTES:

1. ALL STEEL ANGLE TO BE ASTM A36 (GR 36) OR BETTER.
2. ALL STEEL PLATE TO BE ASTM A36 (GR 36) OR BETTER.
3. ALL PIPES TO BE ASTM A53 (GR 35) OR BETTER.
4. HOT DIP GALVANIZE LEVEL 3 PARTS.
5. APPLY TWO COATS OF GALVICON TO ALL FIELD CUT OR DRILL EDGES.
6. ALL BOLTS TO MAINTAIN 1" EDGE DISTANCE.

CROWN CASTLE
1220 AUGUSTA DRIVE SUIT 500
HOUSTON, TX 77057

AT&T

Trylon
1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038
1–855–669–5421

STATE OF CONNECTICUT
CHRISTOPHER ABERNATHY
No. 31022
5-25-22
LICENSED PROFESSIONAL ENGINEER

DRAWING SCALES ARE INTENDED FOR 24"x36" SIZE PRINTED MEDIA ONLY. ALL OTHER PRINTED SIZES ARE DEEMED "NOT TO SCALE".

SUBMITTALS

REV	DATE	DESCRIPTION	BY
0	05/25/22	FOR REVIEW	RC

SITE INFORMATION

SITE NAME:
WINDSORCENTRAL

SITE NUMBER:
CT5138

FA NUMBER:
10092835

SITE ADDRESS:
340 BLOOMFIELD AVENUE,
WINDSOR, CT 06095

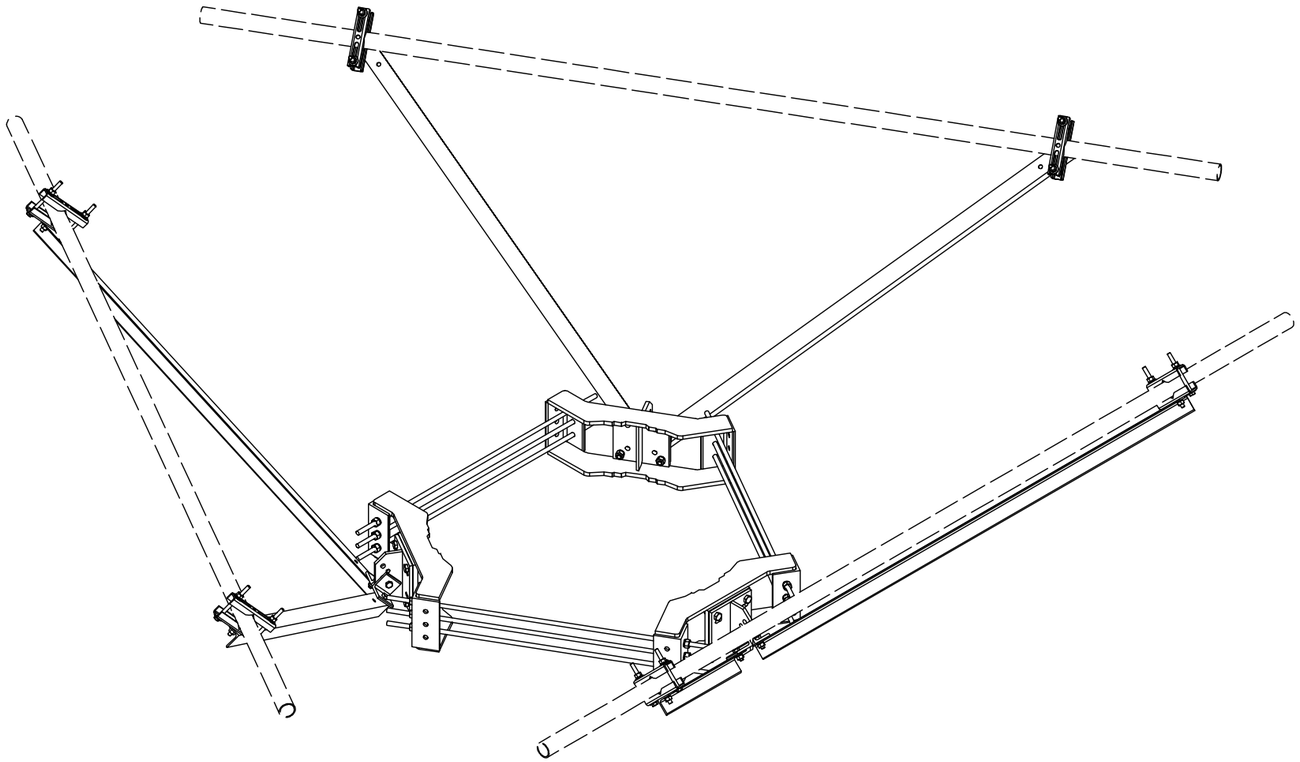
SHEET DESCRIPTION

MOUNT REINFORCEMENT

SHEET No.

S–1

MOUNT KIT	
PART NUMBER	DESCRIPTION
PRK-SFS-L	REINFORCEMENT ASSEMBLY KIT



CROWN CASTLE

1220 AUGUSTA DRIVE SUIT 500
HOUSTON, TX 77057

AT&T

Trylon

1825 W. WALNUT HILL LANE, SUITE 120
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STATE OF CONNECTICUT
JOHN ABERNATHY
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SITE ADDRESS:
340 BLOOMFIELD AVENUE,
WINDSOR, CT 06095

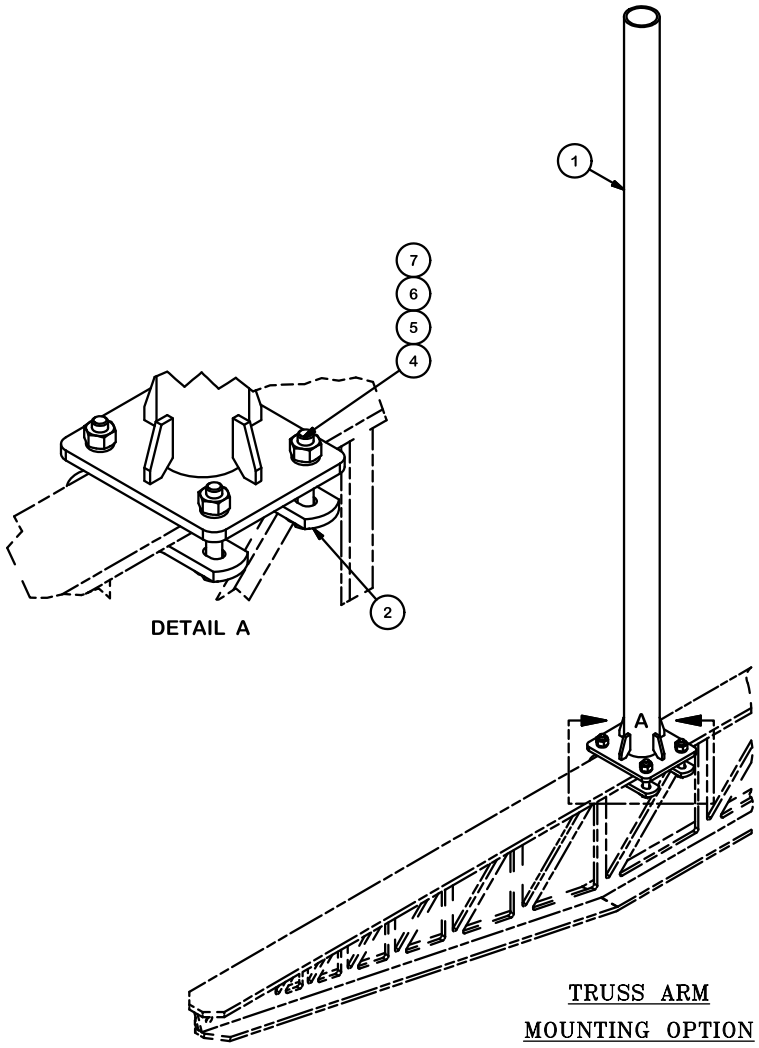
SHEET DESCRIPTION

MOUNT REINFORCEMENT DETAIL

SHEET No.

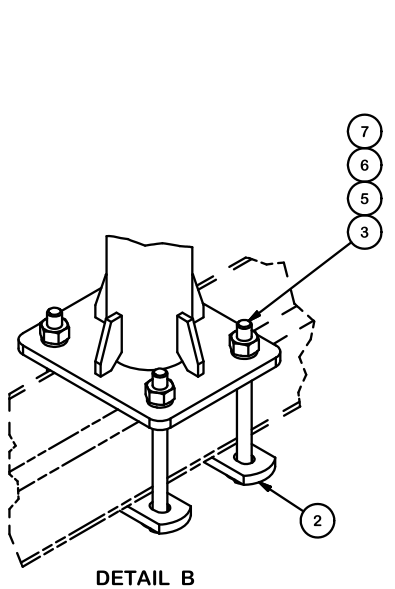
S-2

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	X-SAMAST-6	6' STANDOFF ARM MAST WELDMENT		23.19	23.19
2	2	X-115765	5" V-CLAMP	7 1/16 in	1.03	2.05
3	4	G1206	1/2" x 6" HDG HEX BOLT GR5 FULL THREAD	2 in	0.38	1.53
4	4	G1203	1/2" x 3" HDG HEX BOLT GR5 FULL THREAD	3 in	0.22	0.87
5	4	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	0.14
6	4	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.06
7	4	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.29
					TOTAL WT. #	28.11

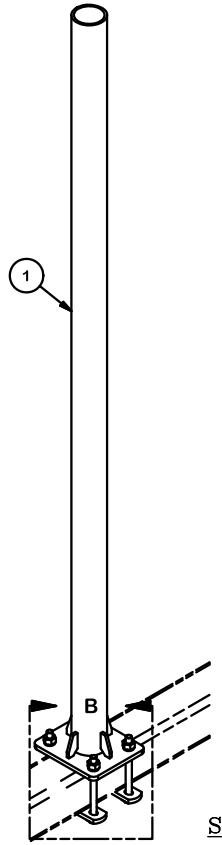


DETAIL A

TRUSS ARM
MOUNTING OPTION



DETAIL B



*FITS UP TO
4" SQUARE TUBES

SQUARE TUBE
MOUNTING OPTION

TOLERANCE NOTES

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

DESCRIPTION: 6' STANDOFF ARM MAST

SITE PRO 1 — A valmont COMPANY

Engineering Support Team: 1-888-753-7446

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

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.	PAGE
	CEK 6/19/2019		SAMAST-6	1 OF 1

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	CUSTOMER	BMC 6/19/2019	SAMAST-6