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

May 17, 2024

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

RE: **Notice of Exempt Modification for Verizon Wireless: 5000245865**
Crown Site ID# 876375
53 Westminster Road, Canterbury, CT 06331
Latitude: 41° 42′ 6.84 / Longitude: -71° 58′ 49.8″

Dear Ms. Bachman:

Verizon Wireless currently maintains twelve (12) antennas at the 170-foot mount on the existing 180-foot monopole tower located at 53 Westminster Road, Canterbury, CT. The property is owned John Lemire and the tower is owned by Crown Castle. Verizon now intends to replace nine (9) antennas, and ancillary antenna equipment at the 170 ft level. This modification/proposal includes hardware that is both 4G (LTE) and 5G capable through remote software configuration and either or both services may be turned on or off at various times.

Panned Modification:

Tower:
Install New:
(6) CommScope NHH-65B-R2B Antennas
(3) Samsung-MT6413-77A Antennas
(3) Samsung- B2/B66A RRH
(3) Samsung- RF4461D-13A Radios
(1) Raycap RVZDC-6627-PF-48
Mount Modification

Remove:
(3) AMPHENOL – BXA-171063-12BP-EDIN Antennas
(6) AMPHENOL– BSA70063-6CF Antennas
(3) Nokia UHBA B13 RRH Radios
(3) Nokia UHID B4 RRH Radios
(2) Raycap – 6 OVP

The facility was originally approved by the Town of Canterbury Planning & Zoning Commission by way of Site Plan and Special Exception, No. 99-8-SE on April 18, 2000

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 Christopher Lippke, First Selectman, Town of Canterbury and Melissa Gil, ZEO/WEO, Town of Canterbury. John Lemire is the Property Owner. Crown Castle is the tower owner.

1. The proposed modifications will not result in an increase in the height of the existing tower.

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communication Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading.

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

Sincerely,

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

Attachments
cc:

Christopher Lippke, First Selectman
Town of Canterbury
1 Municipal Drive
Canterbury, CT 06331
860-546-9693

Melissa Gil, ZEO/WEO
Town of Canterbury
1 Municipal Drive
Canterbury, CT 06331
860-546-6857

John Lemire, Property Owner
14 Debbie CT
Norwich, CT 0360

Crown Castle, Tower Owner

Town of Canterbury
Notice of Action

Appeal: ☐ Site Plan: ☒ Special Exception: ☒ Special Use Permit: ☐
Subdivision: ☐ Variance: ☐ Wetlands: ☐ Zone Change: ☐
Zoning Regulation: _____ Section: _____

Applicant: Sprint Spectrum
Name of Record Owner (If different): _____
Street Address of Property: 53 Westminster Road Map#: 41e Lot(s)#: 32
Deed Reference: Volume: 85 Page: 331
Description of Property: (Should be attached)
Description of Action: Approved Application #99-8-SE, Special Exception with stipulations, submitted by Sprint Spectrum for a Telecommunications Tower, on 53 Westminster Road, Map 41e Lot 32

Date Approved: 4/18/00 Effective Date: 4/26/00
Legal Notice Posted/Published Date: 4/20/00

Conditions, if any: 1) An 8 foot fence shall be substituted for the proposed 6 foot fence; 2) Proper signage shall be posted as per plans and shall include "No Trespassing" signs; 3) emergency access keys shall be given to the Town Fire Company; and 4) a $30,000 bond shall be posted to ensure proper removal of the tower due to abandonment.

Patricia J. Grassi
Town Clerk

4/26/00
Date

4:00 pm
Time

Lee A. Wrigley (reg)
Chairman
Planning - Zoning Commission
Commission/Board
4/18/00
Date

This Notice of Action must be recorded with the Canterbury Town Clerk by the applicant within 90 days of the effective date.

RECEIVED FOR RECORD
THIS 26th DAY OF April 2000 AT 4:00 P.M.
Patricia J. Grassi
TOWN CLERK OF CANTERBURY

53 WESTMINSTER RD

Location	53 WESTMINSTER RD	**Mblu**	46/ 32/ / /
Acct#	00144000	**Owner**	LEMIRE JOHN R
Assessment	$290,500	**Appraisal**	$467,700
PID	1715	**Building Count**	2
Dev Lot	EASEMENT	**Survey Map**	910 & 642
Census Tract 9061	9061		

Current Value

Appraisal

Valuation Year	Improvements	Land	Total
2023	$106,400	$361,300	$467,700

Assessment

Valuation Year	Improvements	Land	Total
2023	$74,600	$215,900	$290,500

Owner of Record

Owner	LEMIRE JOHN R
Co-Owner	
Address	14 DEBBIE CT NORWICH, CT 06360

Sale Price	$0
Certificate	
Book & Page	85/331
Sale Date	07/27/1988
Instrument	

Ownership History

Ownership History

Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
LEMIRE JOHN R	$0		85/331		07/27/1988

Building Information

Building 1 : Section 1

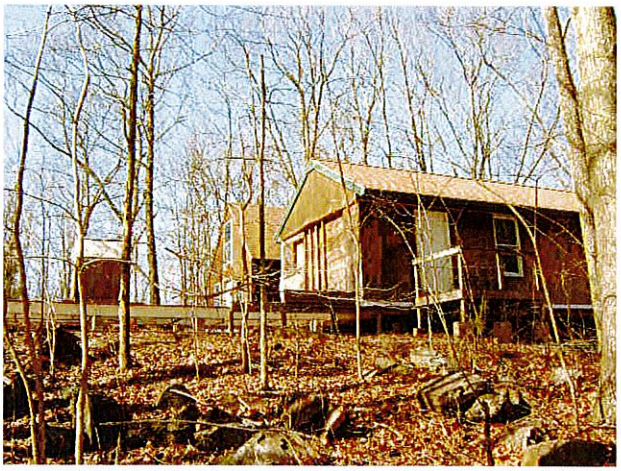
Year Built:	1971
Living Area:	544

Building Percent Good: 44

Replacement Cost Less Depreciation: $19,800

Building Attributes	
Field	**Description**
Style	Manufactured Home
Model	Mobile Homes
Grade:	D
Stories	1 Story
Occupancy	1
Exterior Wall 1	Pre-Fab Wood
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Asphalt
Interior Wall 1	Drywall
Interior Wall 2	Panelling
Interior Flr 1	Carpet
Interior Flr 2	Linoleum
Heat Fuel	Oil
Heat Type:	Forced Hot Air
AC Type:	None
Total Bedrooms:	1 Bedroom
Total Bthrms:	1
Total Half Baths:	0
Extra Fixtures	
Total Rooms:	2 Rooms
Bath Style:	Average
Kitchen Style:	Average
Fireplaces	0
Xtra Openings	0
Gas Fireplaces	0
Woodstove	
SF Fin Bsmt	
Fin Bsmt Qual	
Bsmt Gar	
Num Park	
Fireplace- not used	
Blocked FPL	0
Fndtn Cndtn	
Basement	
Usrfld 706	

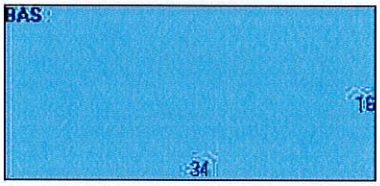
Building Photo



(https://images.vgsi.com/photos/CanterburyCTPhotos/\00\00\42\67.jpg)

Building Layout

SHP



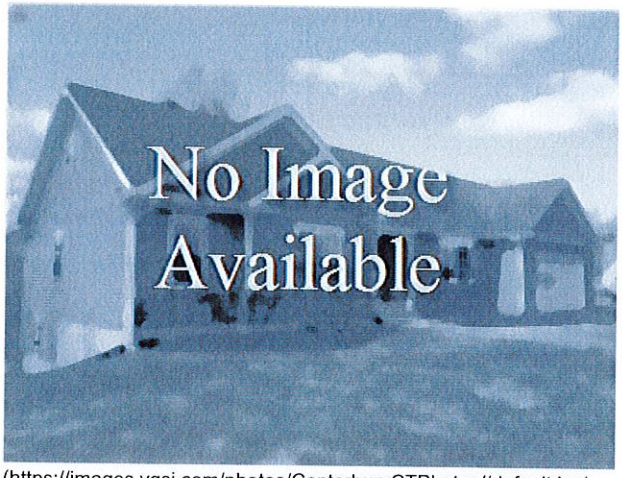
(https://images.vgsi.com/photos/CanterburyCTPhotos//Sketches/1715_207

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	544	544
		544	544

Year Built:
Living Area: 0
Replacement Cost: $0
Building Percent Good:
Replacement Cost Less Depreciation: $0

Building Attributes : Bldg 2 of 2	
Field	**Description**
Style	Outbuildings
Model	
Grade:	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Extra Fixtures	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Fireplaces	
Xtra Openings	
Gas Fireplaces	
Woodstove	
SF Fin Bsmt	
Fin Bsmt Qual	
Bsmt Gar	
Num Park	
Fireplace- not used	

Building Photo



(https://images.vgsi.com/photos/CanterburyCTPhotos//default.jpg)

Building Layout

Building Layout
(https://images.vgsi.com/photos/CanterburyCTPhotos//Sketches/1715_330

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Fndtn Cndtn

Basement

Usrfld 706

Extra Features

Extra Features — Legend

No Data for Extra Features

Land

Land Use

Use Code	1030
Description	Manufactured Home
Zone	RD
Category	

Land Line Valuation

Size (Acres)	35.43
Assessed Value	$215,900
Appraised Value	$361,300

Special Land

Land Use Code	Land Use Description	Units	Unit Type
8100	Open Space	32.00	AC

Outbuildings

Outbuildings — Legend

Code	Description	Size	Value	Assessed Value	Bldg #
SHD6	Cell Equipment Bldg	320.00 S.F.	$80,000	$56,000	2
SHP2	Work Shop - Good	384.00 S.F	$5,800	$4,100	1
FN4	FENCE-8' CHAIN	240.00 L.F.	$800	$600	2

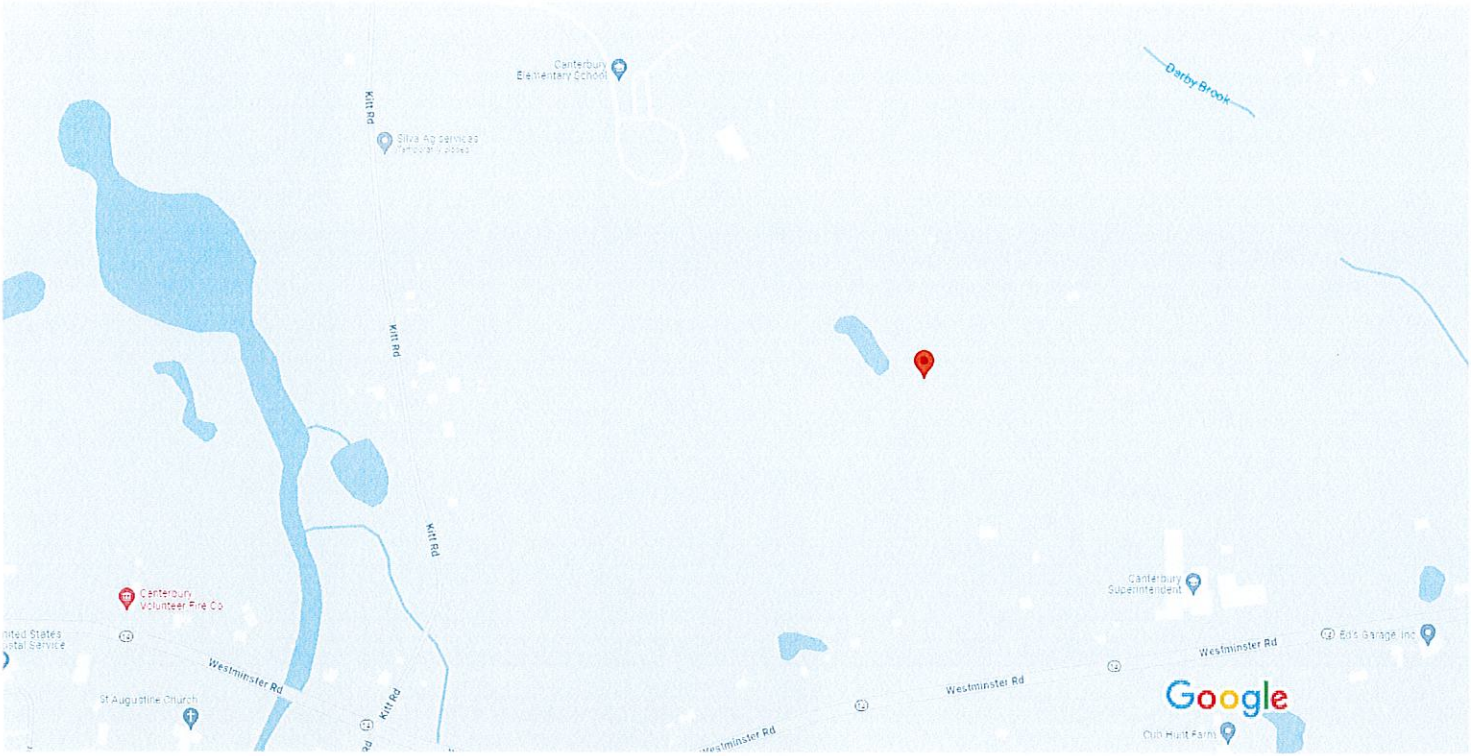
Valuation History

Appraisal

Valuation Year	Improvements	Land	Total
2022	$106,400	$361,300	$467,700
2021	$106,400	$361,300	$467,700
2020	$106,400	$361,250	$467,650

Assessment

Valuation Year	Improvements	Land	Total
2022	$74,600	$215,900	$290,500
2021	$74,600	$215,900	$290,500
2020	$74,600	$215,900	$290,500



Map data ©2024 Google 200 ft

53 Westminster Rd

Directions Save Nearby Send to phone Share

53 Westminster Rd, Canterbury, CT 06331

P229+6P Canterbury, Connecticut

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Monday, May 20, 2024 2:45 PM
To: Barbadora, Jeff
Subject: FedEx Shipment 776439008186: Your package has been delivered

Hi. Your package was delivered Mon, 05/20/2024 at 2:38pm.

Delivered to 1 MUNICIPAL DR, CANTERBURY, CT 06331
Received by A.Clerk

OBTAIN PROOF OF DELIVERY

How was your delivery ?

TRACKING NUMBER	776439008186
FROM	Crown Castle 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of Canterbury Christopher Lippke, First Selectman 1 Municipal Drive CANTERBURY, CT, US, 06331
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Fri 5/17/2024 06:08 PM
DELIVERED TO	Shipping/Receiving
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	CANTERBURY, CT, US, 06331
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Monday, May 20, 2024 2:45 PM
To: Barbadora, Jeff
Subject: FedEx Shipment 776439051061: Your package has been delivered

Hi. Your package was delivered Mon, 05/20/2024 at 2:38pm.

Delivered to 1 MUNICIPAL DR, CANTERBURY, CT 06331
Received by A.Clerk

OBTAIN PROOF OF DELIVERY

How was your delivery ?

TRACKING NUMBER	776439051061
FROM	Crown Castle 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of Canterbury Melissa Gil, ZEO/WEO 1 Municipal Drive CANTERBURY, CT, US, 06331
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Fri 5/17/2024 06:08 PM
DELIVERED TO	Shipping/Receiving
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	CANTERBURY, CT, US, 06331
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Monday, May 20, 2024 11:33 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 776439142920: Your package has been delivered
Attachments: DeliveryPicture.jpeg

FedEx

Hi. Your package was delivered Mon, 05/20/2024 at 11:26am.

Delivered to 14 DEBBIE CT, NORWICH, CT 06360

OBTAIN PROOF OF DELIVERY

Delivery picture not showing? View in browser.

How was your delivery ?

☆ ☆ ☆ ☆ ☆

TRACKING NUMBER	776439142920
FROM	Crown Castle 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Property Owner John Lemire 14 Debbie Ct NORWICH, CT, US, 06360
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680

FOX HILL TELECOM

Radio Frequency Emissions Analysis Report

Prepared for:

CROWN CASTLE

verizon

Crown Site ID: 876375_Canterbury / Lemire
Verizon Wireless Site Name: Canterbury CT
Verizon Wireless FUZE ID: 16272087

Site Address:
53 Westminster Road
Canterbury, CT 06331

April 23, 2024

Fox Hill Telecom Project Number: 240107

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	20.12 %

FOX HILL TELECOM

April 23, 2024

Crown Castle
1800 W. Park Drive
Westborough, MA 01581

Emissions Analysis for:

Crown Castle Site: **876375 – Canterbury / Lemire**

Verizon Wireless Site: **Canterbury CT**

Fox Hill Telecom, Inc ("Fox Hill") was directed to analyze the proposed upgrades for Verizon Wireless to the Crown Castle facility located at **53 Westminster Road, Canterbury, CT**, for the purpose of determining whether the emissions from the Proposed Verizon Wireless Antenna Installation, in addition to all existing radio systems 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 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

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

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

General population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 700 MHz band & the 850 MHz cellular band are approximately 497 $\mu W/cm^2$ and 586 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 3700 MHz CBRS bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report the percentage of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were performed for the proposed upgrades to the Crown Castle facility for Verizon Wireless located at **53 Westminster Road, Canterbury, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65 for far field modeling calculations.

In OET-65, plane wave power densities in the far field of an antenna are calculated by considering antenna gain and reflective waves that would contribute to exposure.

Since the radiation pattern of an antenna has developed in the **far field** region the power gain in specific directions needs to be considered in exposure predictions to yield an Effective Radiated Power (ERP) in each specific direction from the antenna. Also, since the vertical radiation pattern of the antenna is considered, the exposure calculations would most likely be reduced significantly at ground level, resulting in a more realistic estimate of the actual exposure levels. To determine a worst-case scenario at each point along the calculation radials, each point was calculated using the antenna gain value at each angle of incident and compared against the result using an isotropic radiator at the antenna height with the greater of the two used to yield the more pessimistic far field value for each point along the calculation radial.

Additionally, to model a truly "worst case" prediction of exposure levels at or near a surface, such as at ground-level or on a rooftop, reflection off the surface of antenna radiation power can be assumed, resulting in a potential 1.6 times increase in power density in calculating far field power density values.

With these factors considered, the worst case **far field prediction model** utilized in this analysis is determined by the following equation:

Equation 9 per FCC OET65 for Far Field Modeling

$$S = \frac{33.4\ ERP}{R^2}$$

S = Power Density (in μw/cm^2)
ERP = Effective Radiated Power from antenna (watts)
R = Distance from the antenna (meters)

Predicted far field power density values for all carriers identified in this report were calculated 6 feet above the ground level and are displayed as a percentage of the applicable FCC standards. All emissions values for other carriers were calculated using the same Far Field model outlined above, using industry standard radio configurations and frequency band selection based upon available licenses in this geographic area for emissions contribution estimates.

For each Verizon Wireless sector, the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
LTE	700 MHz	4	40
LTE / 5G	850 MHz	4	40
LTE	1900 MHz (PCS)	4	40
LTE	2100 MHz (AWS)	4	40
5G	3700 MHz (C Band)	8	20

Table 1: Channel Data Table

The following **Verizon Wireless** antennas listed in *Table 2 – Antenna Data* were used in the modeling for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS), 2100 MHz (AWS) and 3700 MHz (C Band) frequency bands. This is based on feedback from Verizon Wireless regarding anticipated antenna selection. Maximum gain values for all antennas are listed in *Table 3 – Verizon Wireless Inventory and Power Data* below.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Commscope NHH-65B-R2B	170
A	2	Commscope NHH-65B-R2B	170
A	3	Samsung MT6413-77A	170
A	4	Amphenol BXA-171063-12BF-EDIN	170
B	1	Commscope NHH-65B-R2B	170
B	2	Commscope NHH-65B-R2B	170
B	3	Samsung MT6413-77A	170
B	4	Amphenol BXA-171063-12BF-EDIN	170
C	1	Commscope NHH-65B-R2B	170
C	2	Commscope NHH-65B-R2B	170
C	3	Samsung MT6413-77A	170
C	4	Amphenol BXA-171063-12BF-EDIN	170

Table 2: Antenna Data

All calculations were done with respect to uncontrolled / general population threshold limits.

RESULTS

Per the calculations completed for the proposed Verizon Wireless configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Commscope NHH-65B-R2B	700 MHz / 850 MHz	12.75 / 12.85	8	320	6,097.88	1.66
Antenna A2	Commscope NHH-65B-R2B	1900 MHz (PCS) / 2100 MHz (AWS)	15.75 / 16.25	8	320	12,760.54	0.86
Antenna A3	Samsung MT6413-77A	3700 MHz (C Band)	23.15	8	160	33,046.08	3.49
Antenna A4	Amphenol BXA-171063-12BF-EDIN (Dormant)	NA	NA	0	0	0.00	0.00
						Sector A Composite MPE%	**6.01**
Antenna B1	Commscope NHH-65B-R2B	700 MHz / 850 MHz	12.75 / 12.85	8	320	6,097.88	1.66
Antenna B2	Commscope NHH-65B-R2B	1900 MHz (PCS) / 2100 MHz (AWS)	15.75 / 16.25	8	320	12,760.54	0.86
Antenna B3	Samsung MT6413-77A	3700 MHz (C Band)	23.15	8	160	33,046.08	3.49
Antenna B4	Amphenol BXA-171063-12BF-EDIN (Dormant)	NA	NA	0	0	0.00	0.00
						Sector B Composite MPE%	**6.01**
Antenna C1	Commscope NHH-65B-R2B	700 MHz / 850 MHz	12.75 / 12.85	8	320	6,097.88	1.66
Antenna C2	Commscope NHH-65B-R2B	1900 MHz (PCS) / 2100 MHz (AWS)	15.75 / 16.25	8	320	12,760.54	0.86
Antenna C3	Samsung MT6413-77A	3700 MHz (C Band)	23.15	8	160	33,046.08	3.49
Antenna C4	Amphenol BXA-171063-12BF-EDIN (Dormant)	NA	NA	0	0	0.00	0.00
						Sector C Composite MPE%	**6.01**

Table 3: Verizon Wireless Inventory and Power Data table

Table 4: All Carrier MPE Contributions shows all additional identified carriers on site and their emissions contribution estimates, along with the newly calculated maximum Verizon Wireless far field emissions contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas the highest recorded sector value be used for composite site emissions values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three Verizon Wireless sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each Verizon Wireless Sector as well as the composite estimated emissions value for the site.

Site Composite MPE%	
Carrier	**MPE%**
Verizon Wireless – Max Per Sector Value	**6.01 %**
Dish Wireless	3.72 %
AT&T	7.51 %
T-Mobile	2.88 %
Site Total MPE %:	**20.12 %**

Table 4: All Carrier MPE Contributions

Verizon Wireless Sector A Total:	6.01 %
Verizon Wireless Sector B Total:	6.01 %
Verizon Wireless Sector C Total:	6.01 %
Site Total:	20.12 %

Table 5: Site MPE Summary

Table 6 below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated Verizon sector(s). For this site, all three Verizon Wireless sectors have the same configuration yielding the same results for all three sectors.

Verizon Wireless _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
Verizon Wireless 700 MHz LTE	4	753.46	170	4.52	700 MHz	497	0.91%
Verizon Wireless 850 MHz LTE / 5G	4	771.01	170	4.40	850 MHz	586	0.75%
Verizon Wireless 1900 MHz (PCS) LTE	4	1,503.35	170	4.30	1900 MHz (PCS)	1000	0.43%
Verizon Wireless 2100 MHz (AWS) LTE	4	1,686.79	170	4.30	2100 MHz (AWS)	1000	0.43%
Verizon Wireless 3700 MHz (C Band) 5G	8	4,130.76	170	34.90	3700 MHz (C Band)	1000	3.49%
						Total:	**6.01 %**

Table 6: Verizon Wireless Maximum Sector MPE Power Values

Summary

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

The anticipated maximum composite contributions from the Verizon Wireless facility as well as the site composite emissions estimates value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

Verizon Wireless Sector	Power Density Value (%)
Sector A:	6.01 %
Sector B:	6.01 %
Sector C:	6.01 %
Verizon Wireless Maximum Total (per sector):	6.01 %
Site Total:	20.12 %
Site Compliance Status:	**COMPLIANT**

The estimated composite emissions value for this site, assuming all carriers present, is **20.12 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon the far field calculations performed for all carriers identified in this report.

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 estimated values calculated were well within the allowable 100% threshold standard per the federal government.

Scott Heffernan
Principal RF Engineer
Fox Hill Telecom, Inc
Worcester, MA 01609
(978)660-3998

verizon

MOUNT MODIFICATION DRAWINGS
EXISTING 12.58' PLATFORM

TOWER OWNER: CROWN CASTLE
TOWER OWNER SITE NUMBER: 876375

CARRIER SITE NAME: CANTERBURY CT
CARRIER SITE NUMBER: 5000245865
FUZE ID: 16272087

53 WESTMINSTER RD
CANTERBURY, CT 06331
WINDHAM COUNTY

LATITUDE: 41.701986° N
LONGITUDE: 71.980586° W

DESIGN CRITERIA

WIND LOADS

BASIC WIND SPEED (3 SECOND GUST), V = 125 MPH
EXPOSURE CATEGORY B
TOPOGRAPHIC CATEGORY: I
TOPOGRAPHy CONSIDERED: NO
MEAN BASE ELEVATION (AMSL) = 338.74'

ICE LOADS

ICE WIND SPEED (3 SECOND GUST), V = 50 MPH
ICE THICKNESS = 1.00 IN

SEISMIC LOADS

SEISMIC DESIGN CATEGORY B
SHORT TERM MCER GROUND MOTION, S_S = .187
LONG TERM MCER GROUND MOTION, S_1 = .054

PROJECT INFORMATION

APPLICANT/LESSEE

COMPANY: VERIZON WIRELESS

CLIENT REPRESENTATIVE

COMPANY: VERIZON WIRELESS

PROJECT MANAGER

COMPANY: COLLIERS ENGINEERING & DESIGN
CONTACT: PETER ALBANO
PHONE: 856-797-0412
E-MAIL: PETER.ALBANO@COLLIERSENG.COM

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION:	HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #:	10219427
VZW MDG #:	5000245865
ANALYSIS DATE:	1/18/2024

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX

SHEET	DESCRIPTION
ST-1	TITLE SHEET
SBOM-1	BILL OF MATERIALS
SGN-1	GENERAL NOTES
SCF-1	CLIMBING FACILITY DETAIL
SS-1	MODIFICATION DETAILS
SS-2	MOUNT PHOTOS
	SPECIFICATION SHEETS

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0	8/13/2021	ISSUED FOR CONSTRUCTION	AJH	DH

STATE OF CONNECTICUT DEJIAN XU No. 33733 LICENSED PROFESSIONAL ENGINEER
01/19/2024
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Colliers Engineering & Design

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1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
COLLIERS ENGINEERING & DESIGN CT, P.C.
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SHEET TITLE :
TITLE SHEET

SHEET NUMBER :
ST-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	VZWSMART	VZWSMART-PLK1	SUPPORT RAIL KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	504	504
1		VZWSMART-MSK6	BACK TO BACK CROSSOVER PLATE		34	34
3		VZWSMART-MSK13	UNIVERSAL CHANNEL CROSSOVER PLATE		30	90

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
3	-	-	PROPOSED 84" LONG, PIPE 2 1/2 SCH40	GALVANIZED	41	122
1	-	-	PROPOSED 36" LONG, PIPE 2 SCH40	GALVANIZED	11	11

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
					TOTAL:	761

NOTES:

1. THE MANUFACTURERS LISTED ARE THE APPROVED VENDORS FOR THE VZW MOUNT KITS. EACH MANUFACTURER WILL BE AWARE OF WHICH KITS HAVE BEEN THROUGH THE VZW APPROVAL PROCESS AND THEY ARE IN TURN APPROVED TO SELL. PLEASE NOTE THAT THE MATERIAL UTILIZED ON THE MOUNT MODIFICATIONS WILL BE REVIEWED AS A PART OF THE DESKTOP PMI COMPLETED BY THE SMART TOOL VENDOR. IT WILL BE REQUIRED THAT THE VZW KITS SPECIFIED ARE UTILIZED IN THE MODIFICATIONS.
2. ALL MATERIALS REQUIRED FOR THE DESIGNED MODIFICATIONS BUT NOT LISTED IN THIS SHEET ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.

VZWSMART KITS - APPROVED VENDORS

COMMSCOPE	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 304-7492
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM
WEBSITE	WWW.COMMSCOPE.COM

METROSITE FABRICATORS, LLC	
CONTACT	KENT RAMEY
PHONE	(706) 335-7045 (O), (706) 982-9788 (M)
EMAIL	KENT@METROSITELLC.COM
WEBSITE	METROSITEFABRICATORS.COM

PERFECTVISION	
CONTACT	WIRELESS SALES
PHONE	(844) 887-6723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESSSALES@PERFECT-VISION.COM

SABRE INDUSTRIES, INC.	
CONTACT	ANGIE WELCH
PHONE	(866) 428-6937
EMAIL	AKWELCH@SABREINDUSTRIES.COM
WEBSITE	WWW.SABRESITESOLUTIONS.COM

SITE PRO 1	
CONTACT	PAULA BOSWELL
PHONE	(972) 236-9843
EMAIL	PAULA.BOSWELL@VALMONT.COM
WEBSITE	WWW.SITEPRO1.COM

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SHEET TITLE: BILL OF MATERIALS

SHEET NUMBER: SBOM-1

GENERAL NOTES

1. THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE TELECOMMUNICATIONS INDUSTRY STANDARD TIA-222-H. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES.
2. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE TO EXISTING STRUCTURES. ANY DAMAGE TO EXISTING STRUCTURES AS A RESULT OF THE CONTRACTOR'S WORK OR FROM DAMAGE DUE TO OTHER CAUSES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE BEGINNING WORK, ORDERING MATERIAL, AND PREPARING OF SHOP DRAWINGS. ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE MODIFICATIONS, NOTIFY THE ENGINEER IMMEDIATELY.
4. IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
5. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
6. 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/TIA-322 (LATEST EDITION), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANSI/TIA-322 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION.
7. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
8. WORK SHALL ONLY BE PERFORMED DURING CALM DRY DAYS (WINDS LESS THAN 30-MPH). THE STRUCTURE SHOWN ON THE DRAWINGS IS STRUCTURALLY SOUND ONLY IN THE COMPLETED FORM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING ERECTION. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT, SHORING, BRACING AND ANY OTHER STRUCTURAL SYSTEMS AS REQUIRED TO RESIST ALL FORCES THAT MAY OCCUR DURING HANDLING AND ERECTION UNTIL THE STRUCTURE IS FULLY COMPLETED. TEMPORARY SUPPORTS, BRACING AND OTHER STRUCTURAL SYSTEMS REQUIRED DURING CONSTRUCTION SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THEIR USE.
9. ALL INSTALLATIONS PERFORMED ON THIS STRUCTURE SHALL BE COMPLETED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE STANDARD FOR INSTALLATION, ALTERATION AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS, ANSI/TIA-322.
10. CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GEOFABRIC, GROUNDING, AND SURROUNDING GRADE SHALL BE REPLACED AND REPAIRED AS REQUIRED TO ACHIEVE OWNER APPROVAL. POSITIVE DRAINAGE AWAY FROM TOWER SITE SHALL BE MAINTAINED.
11. CONNECTIONS BETWEEN ITEMS SUPPORTED BY THE STRUCTURE AND THE STRUCTURE NOT SPECIFICALLY DETAILED IN THE CONTRACT DOCUMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. SUCH CONNECTIONS SHALL BE DESIGNED, COORDINATED AND INSPECTED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. SUBMIT SIGNED AND SEALED CALCULATIONS DURING SHOP DRAWING REVIEW.
12. DO NOT SCALE DRAWINGS.
13. DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
14. ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDING BUT NOT LIMITED TO ALTERED SIZE AND/OR STRENGTHS, MUST BE APPROVED BY THE OWNER AND ENGINEER IN WRITING.
15. THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

STRUCTURAL STEEL

1. DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
   a. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
   b. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
   c. AISC CODE OF STANDARD PRACTICE
2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE SHOWN:

CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE

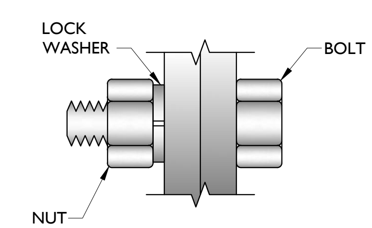
3. ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
4. PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
   a. SUBMIT SHOP DRAWINGS TO
      PETER.ALBANO@COLLIERSENG.COM
   b. PROVIDE COLLIERS ENGINEERING & DESIGN PROJECT # AND COLLIERS ENGINEERING & DESIGN PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
5. DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
6. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
7. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
8. ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
9. WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
10. FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
11. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
12. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
13. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
14. ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINC COTE, OR EOR APPROVED EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
15. ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

BOLT SCHEDULE (IN.)

BOLT DIAMETER	STANDARD HOLE	SHORT SLOT	MIN. EDGE DISTANCE	SPACING
1/2	9/16	9/16 x 11/16	7/8	1 1/2
5/8	11/16	11/16 x 7/8	1 1/8	1 7/8
3/4	13/16	13/16 x 1	1 1/4	2 1/4
7/8	15/16	15/16 x 1 1/8	1 1/2	2 5/8
1	1 1/16	1 1/16 x 1 5/16	1 3/4	3

WORKABLE GAGES (IN.)

LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8

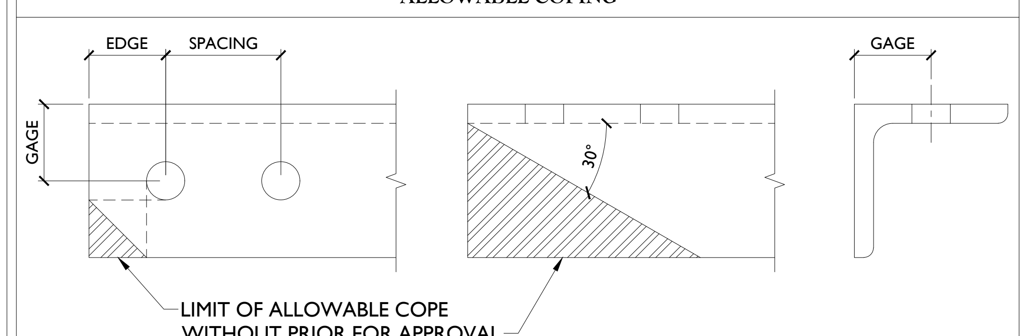


TYP. BOLT ASSEMBLY

NOTES:

1. ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
2. THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.
3. SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED IN THE DRAWINGS
4. MATCH EXISTING GAGES WHEN APPLICABLE, UNLESS MINIMUM EDGE DISTANCES ARE COMPROMISED.

ALLOWABLE COPING



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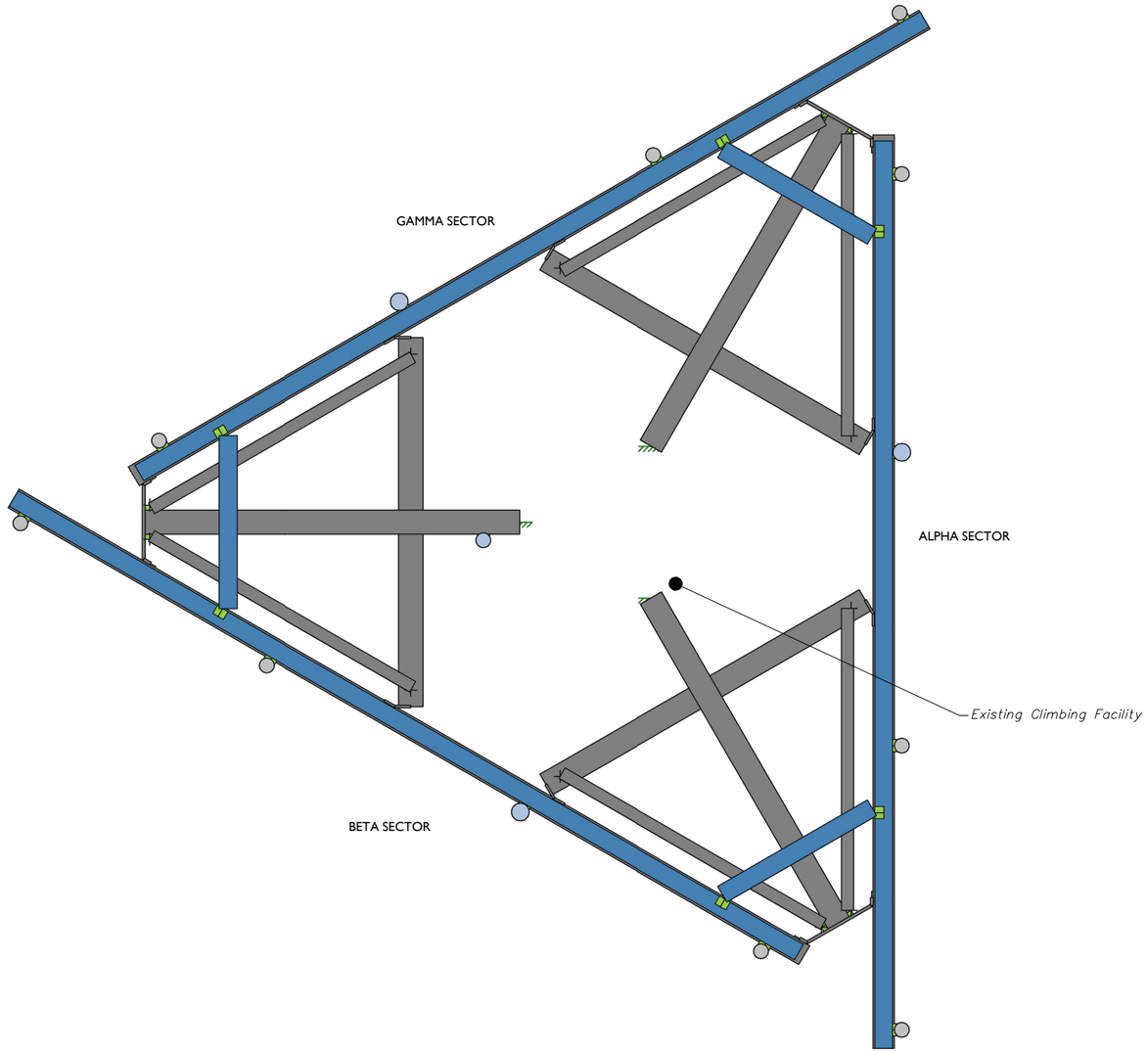
SHEET TITLE : GENERAL NOTES

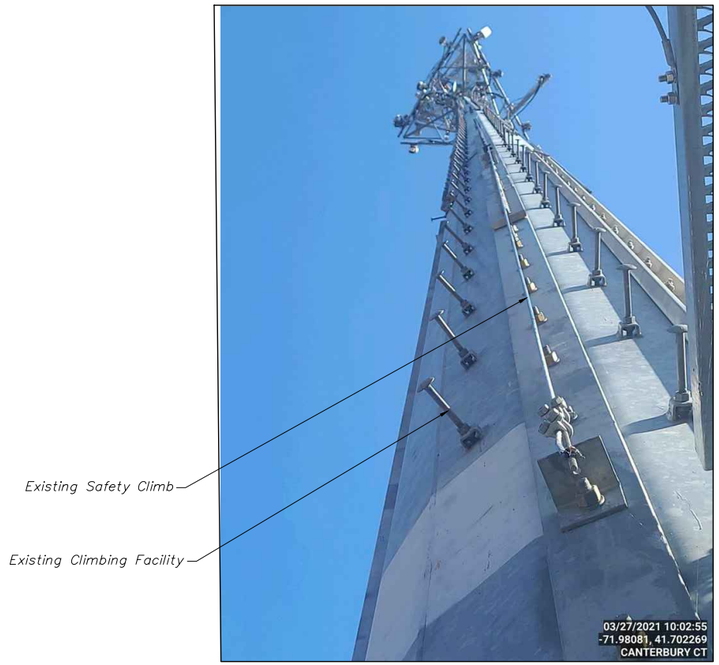
SHEET NUMBER : SGN-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



1 CLIMBING FACILITY LOCATION

SCALE : N.T.S.



CLIMBING FACILITY PHOTO

STRUCTURAL NOTES:

1. PER THE MOUNT MAPPING COMPLETED BY ROAMING NETWORKS INC ON 3/27/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (169'-0") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.

2. INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.

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SHEET TITLE :

CLIMBING FACILITY DETAIL

SHEET NUMBER :

SCF-1

LEGEND:

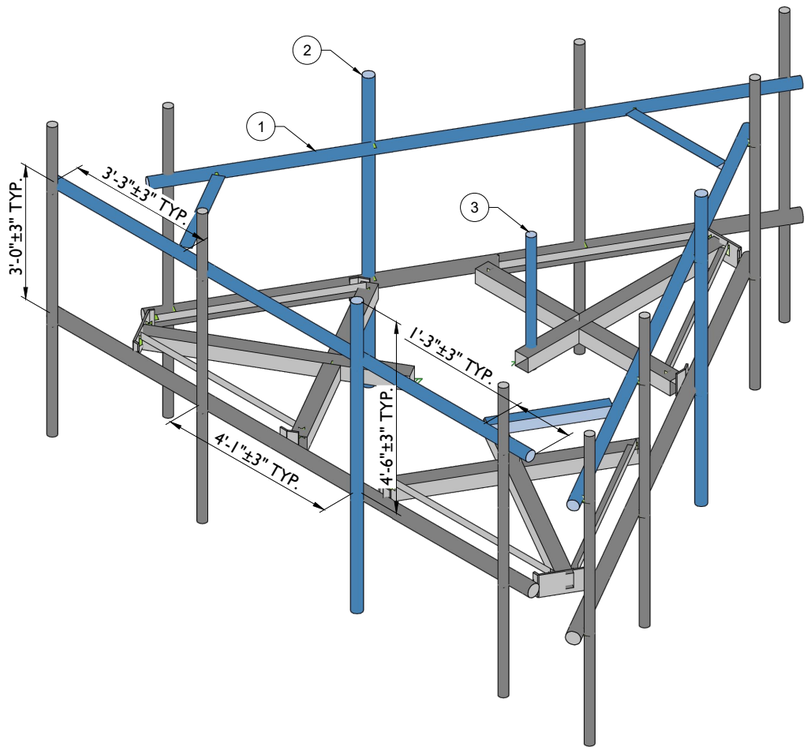
- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE

NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	169'-0"	1	PROPOSED SUPPORT RAIL KIT (PART #: VZWSMART-PLK1)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. RADIO AND/OR TME POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN.
2		3	PROPOSED 84" LONG, PIPE 2 1/2 SCH40 MOUNT PIPE	CONTRACTOR TO REPLACE EXISTING POSITION 3 PIPE IN ALL SECTORS. CONNECT NEW MOUNT PIPE TO EXISTING HORIZONTAL WITH CROSSOVER PLATES (PART #: VZWSMART-MSK13).
3		1	PROPOSED 36" LONG, PIPE 2 SCH40 MOUNT PIPE	CONNECT NEW OVP PIPE TO EXISTING STANDOFF HORIZONTAL WITH BACK TO BACK CROSSOVER PLATE (VZWSMART-MSK6).

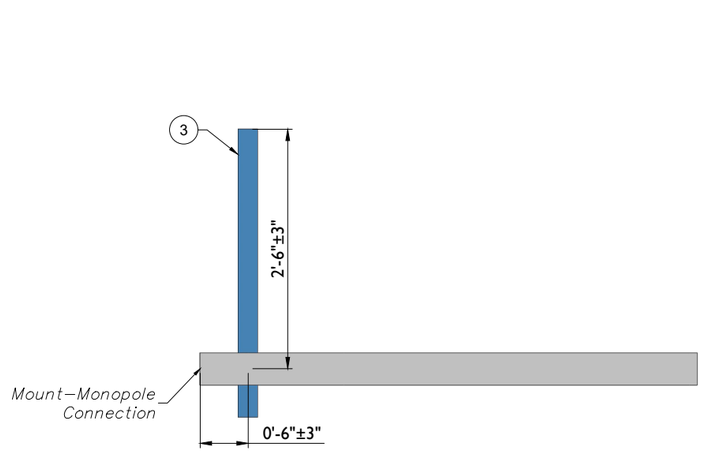
GENERAL NOTES:

A. CONTRACTOR SHALL VERIFY THAT NEW & EXISTING STEEL IS FREE OF CORROSION. VISIBLE MINOR CORROSION SHALL BE WIRE BRUSHED CLEAN AND TREATED WITH COLD GALVANIZATION. REPORT ANY SIGNIFICANT CORROSION TO EOR
B. THREADED ROD FROM PROPOSED KITS SHALL BE TRIMMED TO EXTEND NO MORE THAN 3" BEYOND THE LOCK NUT. TREAT ALL CUT ENDS WITH (2) COATS OF COLD GALVANIZATION (ZINC KOTE, OR EOR APPROVED EQUAL).
C. MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.



1 PROPOSED ISOMETRIC VIEW

SCALE : N.T.S.



2 PROPOSED SIDE ELEVATION VIEW (BETA/GAMMA SECTOR ONLY)

SCALE : N.T.S.

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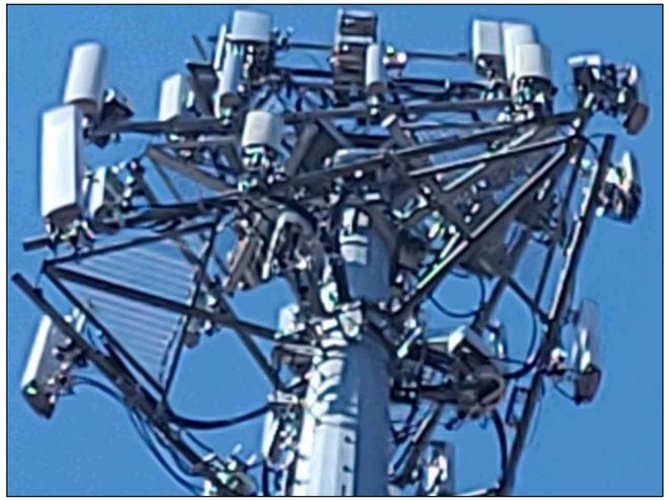
SHEET TITLE :

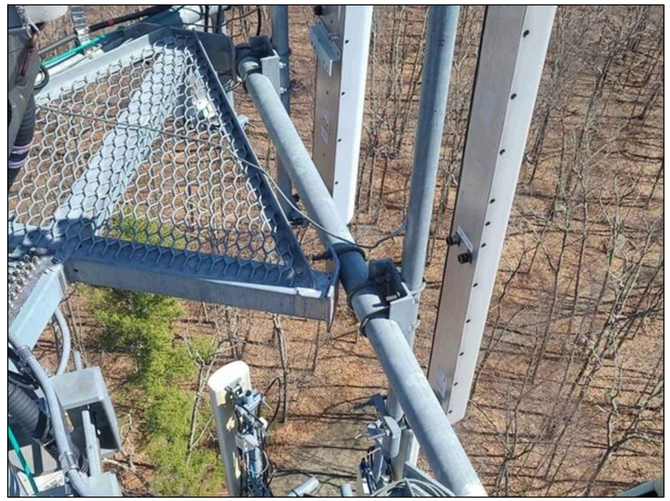
MODIFICATION DETAILS

SHEET NUMBER :

SS-1



MOUNT PHOTO 1



MOUNT PHOTO 2

MOUNT PHOTO 3

MOUNT PHOTO 4

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SCALE : AS SHOWN

JOB NUMBER : 21777308

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	1/18/2024	ISSUED FOR CONSTRUCTION	DA	DX
0	8/13/2021	ISSUED FOR CONSTRUCTION	AJH	DH

STATE OF CONNECTICUT
DEJIAN XU
No. 33733
LICENSED PROFESSIONAL ENGINEER

01/19/2024

COLLIERS ENGINEERING & DESIGN CT, P.C.

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

SITE NAME:

CANTERBURY CT
5000245865

53 WESTMINSTER RD
CANTERBURY, CT 06331
WINDHAM COUNTY

Colliers Engineering & Design

STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
COLLIERS ENGINEERING & DESIGN CT, P.C.
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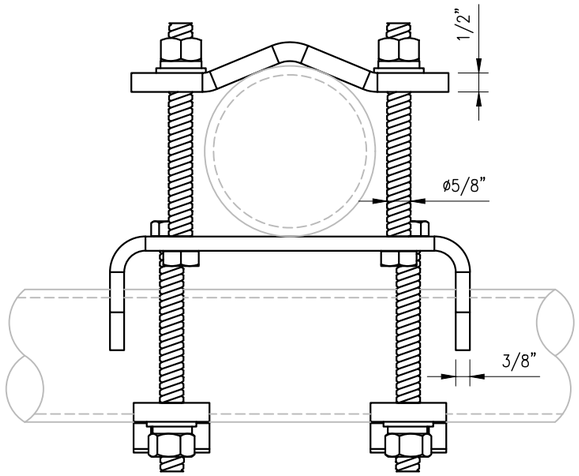
SHEET TITLE :

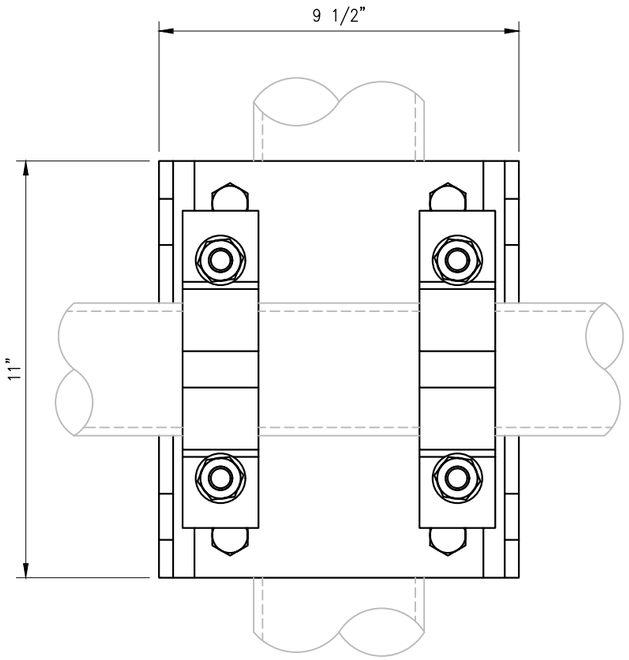
MOUNT PHOTOS

SHEET NUMBER :

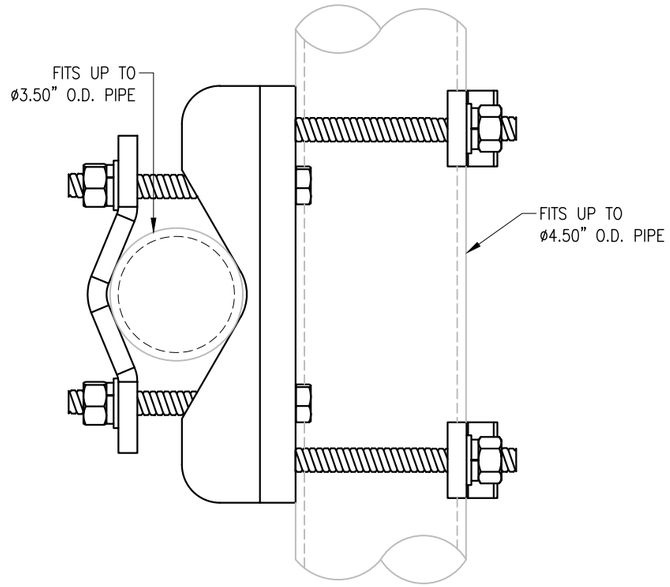
SS-2



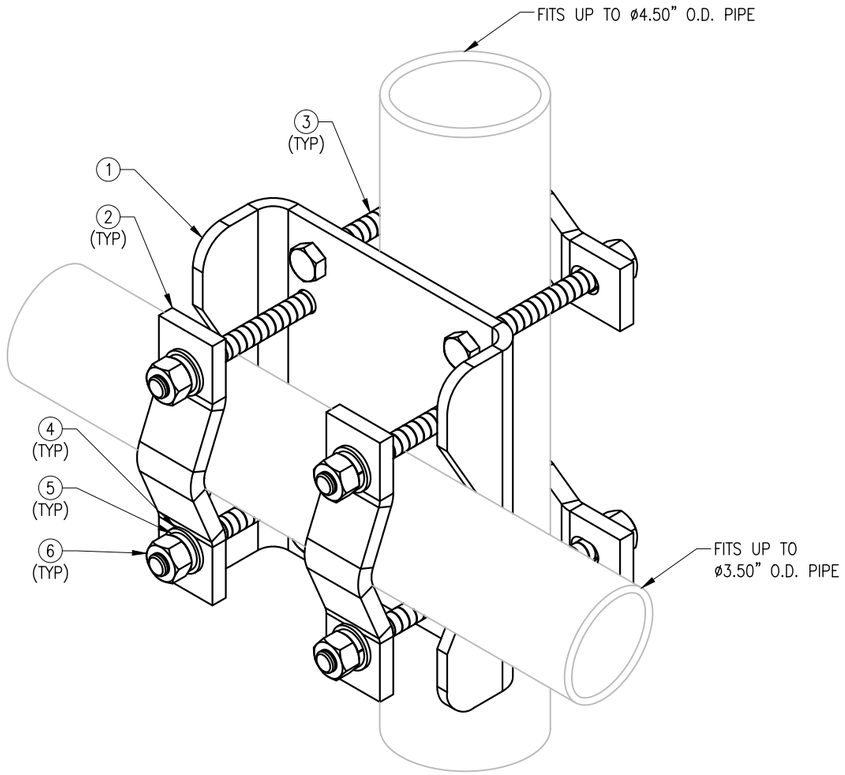
TOP VIEW



FRONT VIEW



SIDE VIEW



NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.

VZWSMART-MSK13 (UNIVERSAL CHANNEL CROSSOVER)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	P574-029-01	PL 3/8" X 11" X 14 1/8" A36 BENT PLATE	MSK13-F1	14.73
2	4	VCP	PL 1/2" X 2" X 8 5/8" A36 BENT PLATE	MSK3-F1	10
3	8	---	BOLT 5/8" X 6" FULL THREAD SAE GR-5	---	--
4	8	FW-625	5/8" HDG USS FLAT WASHER	---	1
5	8	LW-625	5/8" HDG LOCK WASHER	---	0
6	8	NUT-625	5/8" HDG HEX NUT	---	1
				GALVANIZED WT	29.91

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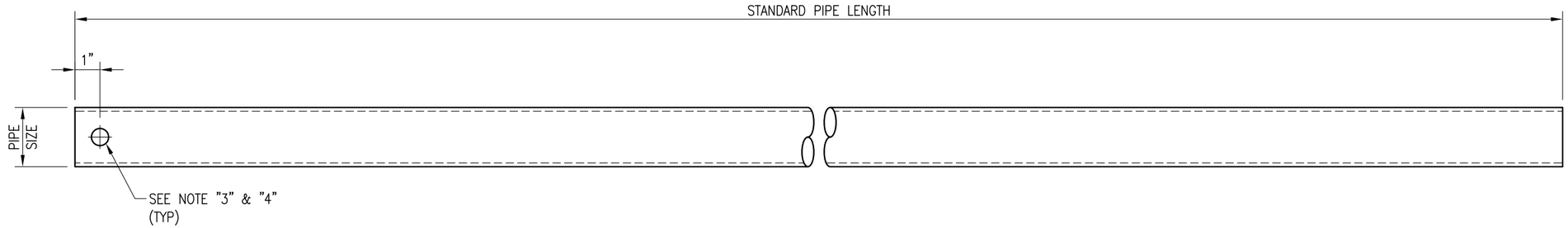
DRAWN BY: JBM | CHECKED BY: HMA/KW

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	JBM	10/08/21

SHEET TITLE:
VZWSMART-MSK13
UNIVERSAL CHANNEL
CROSSOVER

SHEET NUMBER: VZWSMART-MSK13

REV #: 0



VZWSMART Standard Pipe		
VZWSMART Number	Size	Length
P40-238X048	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	48"
P40-238X072	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	72"
P40-238X096	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	96"
P40-238X120	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	120"
P40-238X126	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	126"
P40-238X150	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	150"
P40-238X174	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	174"
P40-278X048	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	48"
P40-278X072	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	72"
P40-278X096	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	96"
P40-278X120	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	120"
P40-278X126	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	126"
P40-278X150	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	150"
P40-278X174	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	174"
P40-312X048	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	48"
P40-312X072	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	72"
P40-312X126	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	126"
P40-312X150	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	150"
P40-312X174	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	174"

NOTE:
APPROVED SMART KIT VENDORS ARE ALLOWED TO SUBSTITUTE AT THEIR DISCRETION PIPES LISTED ON THIS PAGE FOR CUSTOM LENGTH COMPONENTS OF MATCHING SIZE. SUBSTITUTIONS SHALL MEET THE ORIGINAL STRUCTURAL INTENT.

NOTES:
1. ALL PIPE GRADE A53-B OR BETTER.
2. HOT-DIPPED GALVANIZED PER ASTM A123.
3. ALL HOLES ARE 11/16" DIA. U.N.O
4. HOLES MAY OR MAY NOT BE PRESENT, DEPEND UPON MANUFACTURE DISCRETION.
5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA OR ZINC COTE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

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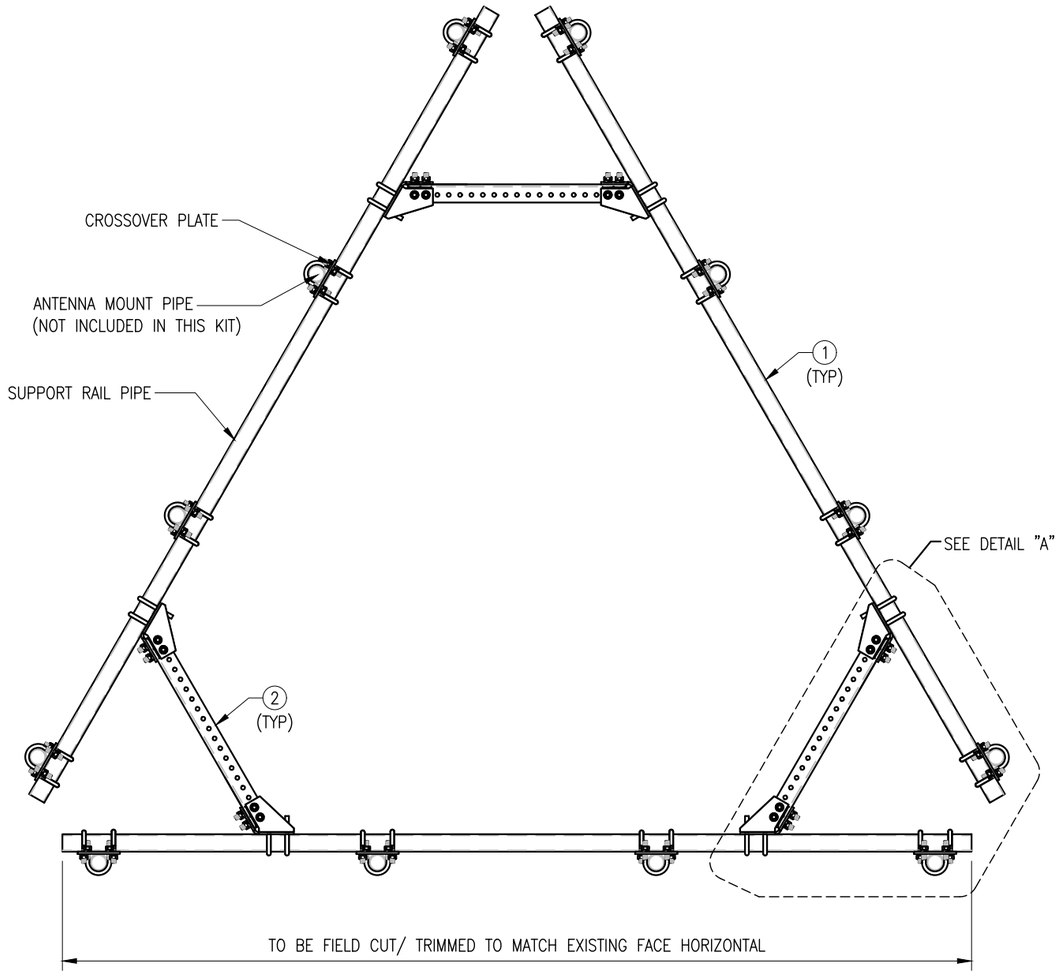
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BT	08/04/21

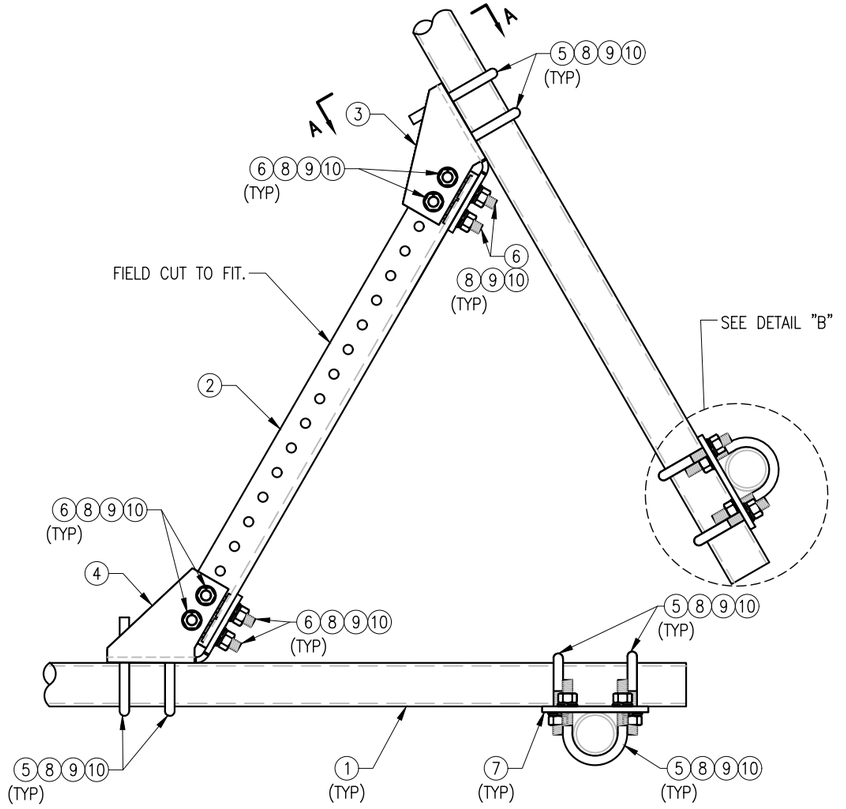
SHEET TITLE:
VZWSMART STANDARD PIPE

SHEET NUMBER: VZWSMART-PIPE

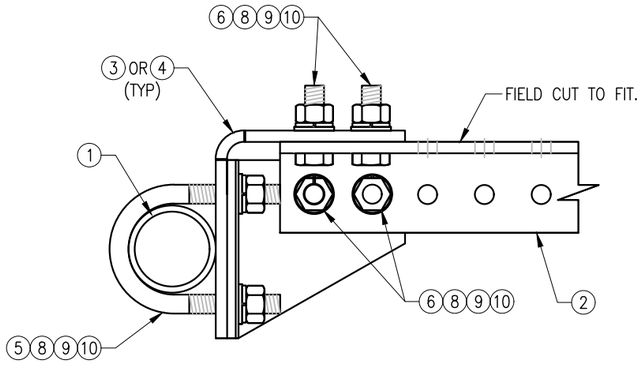
REV #: 0



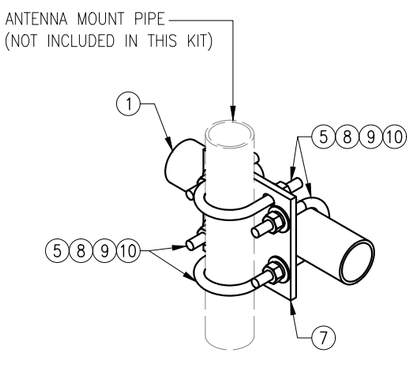
PLAN VIEW



DETAIL "A"



SECTION "A–A"



DETAIL "B"

NOTES:
1. HOT–DIPPED GALVANIZED PER ASTM A123.

VZW SMART–PLK1 (SUPPORT RAIL KIT)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	PST2875–12.5	2.5" PST (2.875" O.D. X 0.203" THK.) X 12'–6" A53 GR–B	PLK1–F1	292
2	3	L33375–3	L 3" X 3" X 3/8" X 3'–0" A36	PLK1–F1	66
3	3	CBP–L	CORNER BENT PLATE BRACKET	PLK1–F2	28
4	3	CBP–R	CORNER BENT PLATE BRACKET	PLK1–F2	28
5	60	MS02–625–300–500	RU–BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC–1	82
6	24	---	BOLT 5/8" X 2" A325	---	9
7	12	PL375–857	PL 3/8" X 8 1/2" X 7'–0" A36	PLK1–F3	77
8	144	FW–625	5/8" HDG USS FLAT WASHER	---	12
9	144	LW–625	5/8" HDG LOCK WASHER	---	3
10	144	NUT–625	5/8" HDG HEX NUT	---	17
				GALVANIZED WT	504

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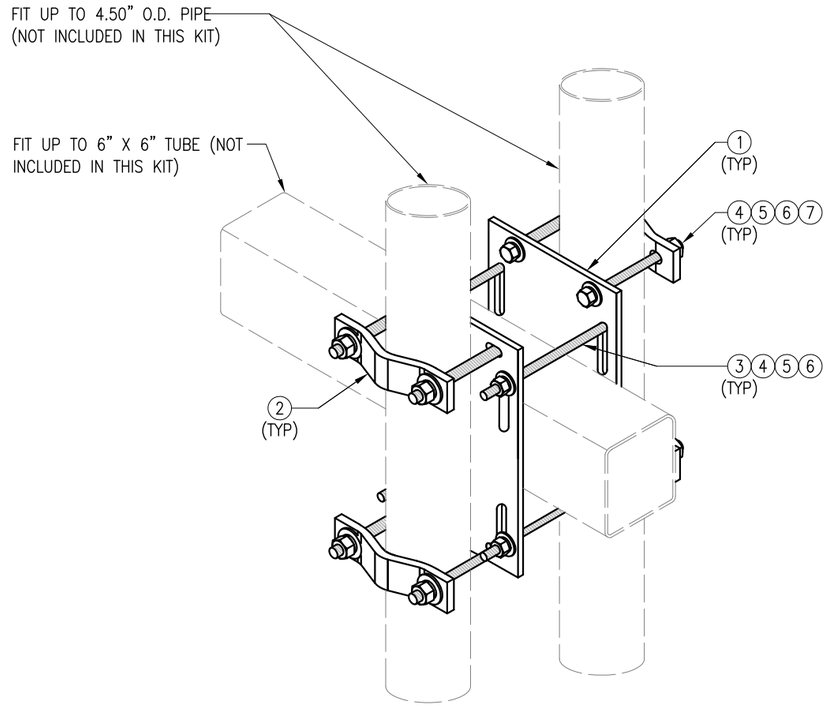
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	H.R	05/08/20

SHEET TITLE:
VZWSMART–PLK1
SUPPORT RAIL KIT

SHEET NUMBER: VZWSMART–PLK1

REV #: 0



ISOMETRIC VIEW
BACK TO BACK CROSSOVER

VZWSMART–MSK6 (VZWSMART–MSK6 – BACK TO BACK CROSSOVER)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	2	PL375–8512	PL 3/8" X 8 1/2" X 1'–0" A36	MSK6–F2	20.7
2	4	VCP	PL 1/2" X 2" X 8 5/8" A36 BENT PLATE	MSK6–F1	9.6
3	4	---	THREADED ROD 5/8" DIA. X 10" F1554–36 HDG	---	---
4	16	NUT–625	5/8" HDG HEX NUT	---	2
5	16	FW–625	5/8" HDG USS FLAT WASHER	---	1
6	16	LW–625	5/8" HDG LOCK WASHER	---	0
7	8	---	BOLT 5/8" X 6" SAE GRADE 5 ALL THREAD	---	1
				GALVANIZED WT	34

NOTES:
1. HOT–DIPPED GALVANIZED PER ASTM A123.

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DRAWN BY: SK | CHECKED BY: BT/KW

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	SK	05/08/20

SHEET TITLE:
VZWSMART–MSK6
BACK TO BACK
CROSSOVER

SHEET NUMBER: VZWSMART–MSK6

REV #: 0

Colliers Engineering & Design,
Architecture, Landscape Architecture,
Surveying, CT P.C.
1055 Washington Boulevard
Stamford, CT 06901
203.324.0800
peter.albano@collierseng.com

Post-Modification Antenna Mount Analysis Report and PMI Requirements

Mount Fix

SMART Tool Project #: 10219427
Colliers Engineering & Design Project #: 21777308 (Rev. 1)

January 18, 2024

Site Information	*Site ID:*	*5000245865-VZW / CANTERBURY CT*
	Site Name:	*CANTERBURY CT*
	Carrier Name:	*Verizon Wireless*
	Address:	*53 Westminster Rd* *Canterbury, Connecticut 06331* *Windham County*
	Latitude:	*41.70199°*
	Longitude:	*-71.98059°*
Structure Information	*Tower Type:*	*Monopole*
	Mount Type:	*12.58-Ft Platform*

FUZE ID # 16272087

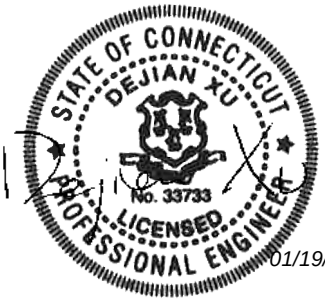
Analysis Results

Platform: **52.6% Pass w/ Modifications***

***Antennas and equipment to be installed in compliance with PMI Requirements of this mount analysis.**

******Contractor PMI Requirements*:**
Included at the end of this MA report
Available & Submitted via portal at https://pmi.vzwsmart.com
For additional questions and support, please reach out to:
pmisupport@colliersengineering.com

Report Prepared By: David Anuka



01/19/2024

Executive Summary:

The objective of this report is to summarize the analysis results of the antenna support mount including the proposed modifications at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards.

This analysis is inclusive of the mount structure only and does not address the structural capacity of the supporting structure. This mounting frame was not analyzed as an anchor attachment point for fall protection. All climbing activities are required to have a fall protection plan completed by a competent person.

Sources of Information:

Document Type	Remarks
Radio Frequency Data Sheet (RFDS)	*Verizon RFDS, Site ID: 1315031, dated August 10, 2023*
Mount Mapping Report	*Roaming Networks Inc., Site ID: PSLC: 468760, dated March 27, 2021*
Previous Mount Analysis	*Colliers Engineering & Design, Project #: 21777308 (Rev. 1), dated January 3, 2024*
Mount Modification Drawings	*Colliers Engineering & Design, Project #: 22776159A, dated January 18, 2024*

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H 2022 Connecticut State Building Code (CSBC), Effective October 1, 2022	
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT}:	125 mph
	Ice Wind Speed (3-sec. Gust):	50 mph
	Design Ice Thickness:	1.00 in
	Risk Category:	II
	Exposure Category:	B
	Topographic Category:	1
	Topographic Feature Considered:	N/A
	Topographic Method:	N/A
	Ground Elevation Factor, K_e:	0.988
Seismic Parameters:	S_S:	0.187 g
	S_1:	0.054 g
Maintenance Parameters:	Wind Speed (3-sec. Gust):	30 mph
	Maintenance Load, Lv:	250 lbs.
	Maintenance Load, Lm:	500 lbs.
Analysis Software:	RISA-3D (V17)	

Final Loading Configuration:

The following equipment has been considered for the analysis of the mount:

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
169.00	170.00	6	Commscope	NHH-65B-R2B	Added
		3	Samsung	MT6413-77A	
		1	Raycap	RVZDC-6627-PF-48	
		3	Samsung	RF4439d-25A	
		3	Samsung	RF4461d-13A	
		3	Amphenol Antel	BXA-171063-12BF-EDIN	Retained

It is acceptable to install up to any three (3) of the OVP model numbers listed below as required at any location other than the mount face without affecting the structural capacity of the mount. If OVP units are installed on the mount face, a mount re-analysis may be required unless replacing an existing OVP.

Model Number	Ports	AKA
DB-B1-6C-12AB-0Z	6	OVP-6
RVZDC-6627-PF-48	12	OVP-12

Standard Conditions:

1. All engineering services are performed on the basis that the information provided to Colliers Engineering & Design and used in this analysis is current and correct. The existing equipment loading has been applied at locations determined from the supplied documentation. Any deviation from the loading locations specified in this report shall be communicated to Colliers Engineering & Design to verify deviation will not adversely impact the analysis.

2. Mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.

   Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping and reported in the Mount Mapping Report are assumed to be corrected and documented as part of the PMI process and are not considered in the mount analysis.

   The mount analysis and the mount mapping are not a condition assessment of the mount. Proper maintenance and condition assessments are still required post analysis.

3. For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped in accordance with the NSTD-446 Standard, the mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.

4. 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.

5. The mount was checked up to, and including, the bolts that fasten it to the mount collar/attachment and threaded rod connections in collar members if applicable. Local deformation and interaction between the mount collar/attachment and the supporting tower structure are outside the scope of this analysis.

6. All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Colliers Engineering & Design is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.

7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
   - Channel, Solid Round, Angle, Plate — ASTM A36 (Gr. 36)
   - HSS (Rectangular) — ASTM 500 (Gr. B-46)
   - Pipe — ASTM A53 (Gr. B-35)
   - Threaded Rod — F1554 (Gr. 36)
   - Bolts — ASTM A325

8. Any mount modifications listed under Sources of Information are assumed to have been installed per the design specifications.

Discrepancies between in-field conditions and the assumptions listed above may render this analysis invalid unless explicitly approved by Colliers Engineering & Design.

Analysis Results:

Component	Utilization %	Pass/Fail
Standoff Horizontal	33.5 %	Pass
Platform Cross Member	15.8 %	Pass
Prop Mount Pipe	20.3 %	Pass
Mount Pipe	28.7 %	Pass
Grating Support	12.8 %	Pass
Face Horizontal	12.5 %	Pass
Cross Arm Plate	31.3 %	Pass
Corner Plate	17.8 %	Pass
Mod Support Rail	15.7 %	Pass
Mod Support Rail Corner Angle	22.1 %	Pass
Connection Check	52.6 %	Pass

Structure Rating – *(Controlling Utilization of all Components)*	**52.6%**

Mount Connection Envelope Reactions:

Connection Description	Elev. AGL (Ft)	Node Label	Envelope Wind Reactions				Envelope Wind + Ice Reactions			
			Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)	Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)
Sector C Standoff	169	N3	1515	1993	3.781	1.443	2316	685	4.604	0.364
Sector B Standoff	169	N87D	1470	1850	3.551	1.341	2164	650	4.405	0.339
Sector A Standoff	169	N115	1470	1849	3.549	1.335	2161	650	4.401	0.338

Notes:
- Axial loads act along the axis of the tower
- Lateral reactions act perpendicular to the tower
- Moment loads introduce bending moment to the tower
- Torsion loads introduce twisting moment to the tower
- Batch solutions by individual load cases are included at the end of this document

Mount Steel (EPA)a per ANSI/TIA-222-H Section 2.6.11.2:

Ice Thickness (In)	Mount Pipes Excluded		Mount Pipes Included	
	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)
0	24.8	24.8	41.6	41.6
0.5	32.2	32.2	55.7	55.7
1	39.0	39.0	69.3	69.2

Notes:
- (EPA)a values listed above may be used in the absence of more precise information
- (EPA)a values in the table above include 3 sector(s).
- Ka factors included in (EPA)a calculations

Requirements:

The existing mount will be **SUFFICIENT** for the final loading configuration (Attachment 2) after the modifications detailed in Attachment 3 are successfully completed.

ANSI/ASSP rigging plan review services compliant with the requirements of ANSI/TIA 322 are available for a Construction Class IV site or other, if required. Separate review fees will apply.

Attachments:

1. **Contractor Required PMI Report Deliverables**
2. Antenna Placement Diagrams
3. Mount Modification Drawings
4. Mount Photos
5. Mount Mapping Report (for reference only)
6. Analysis Calculations

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Mount Modification

Electronic pdf version of this can be downloaded at https://pmi.vzwsmart.com
For additional questions and support, please reach out to pmisupport@colliersengineering.com

---

MDG #: 5000245865 SMART Project #: 10219427 Fuze Project ID: 16272087

Purpose – to upload the proper documentation to the SMART Tool in order to allow the SMART Tool engineering vendor to complete the required Mount Desktop review of the Post Modification Inspection Report.

- Contractor is responsible for making certain the photos provided as noted below provide confirmation that the modification was completed in accordance with the modification drawings.
- Contractor shall relay any data that can impact the performance of the mount or the mount modification, this includes safety issues.

Base Requirements:

- If installation of the modification will cause damage to the structure, the climbing facility, or safety climb if present or any installed system, SMART Tool vendor to be notified prior to install. Any special photos outside of the standard requirements will be indicated on the drawings.
- Provide "as built drawings" showing contractor's name, preparer's signature, and date. Any deviations from the drawings (proposed modification) shall be shown. NOTE: If loading is different than what is conveyed in the post-modification passing mount analysis (MA) contact the SMART Tool vendor immediately.
- Each photo shall be time and date stamped.
- Photos should be high resolution.
- Contractor shall ensure that the safety climb wire rope is not adversely impacted by the install of the modification components. This may involve the install of wire rope guides, or other items to protect the wire rope. If there is conflict, contact the SMART Tool engineer for recommendations.
- The PMI can be accessed at the following portal: **https://pmi.vzwsmart.com**

Photo Requirements:

- *Photos taken at ground level*
  - Photo of Gate Signs showing the tower owner, site name, and number.
  - Overall tower structure after installation of the modifications.
  - Photos of the mount after installation of the modifications; if the mounts are at different rad elevations, pictures must be provided for all elevations that the modifications were installed

- *Photos taken at Mount Elevation*
  - Photos showing the safety climb wire rope above and below the mount prior to modification.
  - Photos showing the climbing facility and safety climb if present.

- Photos showing each individual sector after installation of modifications. Each entire sector must be in one photo to show the interconnection of members.
    - These photos shall also certify that the placement and geometry of the equipment on the mount is as depicted in the antenna placement diagram in this form.
- Photos that show the model number of each antenna and piece of equipment installed per sector.
- Photos of each installed modification per the modification drawings; pictures shall also include connection hardware (U-bolts, bolts, nuts, all-threaded rods, etc.)
- Photos showing the distances (relative distance between collars) of the installed modifications from the appropriate reference locations shown in the modification drawings.
- Photos showing the installed modifications onto the tower (i.e. ring/collar mounts, tie-backs, V-bracing kits, etc.); if the existing mount elevation needs to be changed according to the modification drawings, an elevation measurement shall be provided before the elevation change.

Material Certification:

- Materials utilized must be as per specification on the drawings or the equivalent as validated by the SMART Tool vendor.
    - If the materials are as specified on the drawings
        - The contractor shall provide the packing list, or the materials certifications for the materials utilized to perform the mount modification
        - Commscope, Metrosite, Perfect Vision, Sabre, and Site Pro have all agreed to support Verizon vendors with the necessary material certifications
    - If seeking permission to use an equivalent
        - It is required that the SMART Tool engineering vendor approval of such is included in the contractor submission package. There may be an additional charge for approval if the equivalent submission doesn't meet specifications as prescribed in the drawings.

☐ All hardware has been properly installed, and the existing hardware was inspected.

☐ The material utilized was as specified on the SMART Tool engineering vendor Mount Modification Drawings and included in the material certification folder is a packing list or invoice for these materials.

OR

☐ The material utilized was approved by a SMART Tool engineering vendor as an "equivalent" and this approval is included as part of the contractor submission.

Antenna & Equipment Placement and Geometry Confirmation:

☐ The contractor certifies that the photos support and the equipment on the mount is as depicted on the sketch and table included in this form and with the mount analysis provided.

OR

☐ The contractor notes that the equipment on the mount is not in accordance with the sketch and has noted the differences below and provided photo documentation of any alterations.

Comments:

Was the mount modification completed in conjunction with the equipment change / installation?

☐ Yes ☐ No

Special Instructions / Validation as required from the MA or Mod Drawings:

Issue:

Contractor to install proposed OVP onto proposed OVP pipe

Response:

Special Instruction Confirmation:

☐ The contractor has read and acknowledges the above special instructions.

Comments:

Contractor certifies that the climbing facility / safety climb was not damaged prior to starting work:

☐ Yes ☐ No

Contractor certifies no new damage created during the current installation:

☐ Yes ☐ No

Contractor to certify the condition of the safety climb and verify no damage when leaving the site:

☐ Safety Climb in Good Condition ☐ Safety Climb Damaged

Comments:

Certifying Individual:

Company:	
Employee Name:	
Contact Phone:	
Email:	
Date:	

Structure: 50002 5865-VZW - CANTERBURY CT

S r **A** 1 1 2 2

S r r T M 1 21 2

M E 1 . P 1

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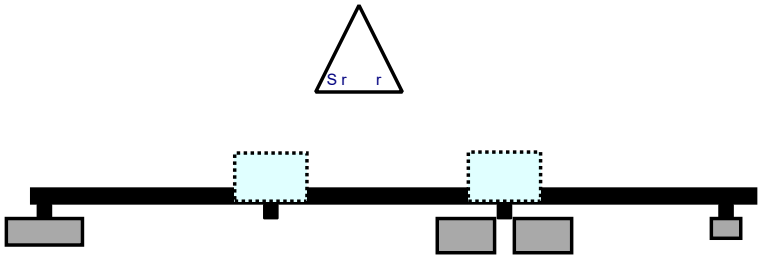
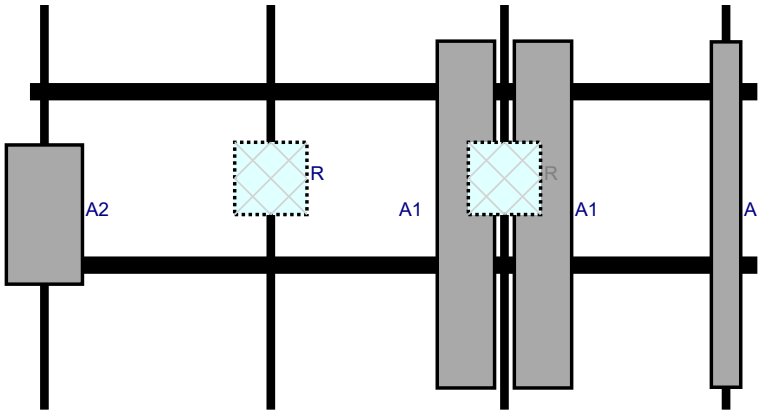
Plan View



Front View - L S r r



R	M d	d r L.	D P	P P	A r T.	.A O	A S	d
A	B A 1 1 3 12B ED	1. .1	1 .	1	r	3.	R d	3 2 2 21
A1	B R2B	2 11.	.	2	r	3.	Add d	
A1	B R2B	2 11.	.	2	r	3.	Add d	
R	R 1d 13A	1 1	.	2	B d 3		Add d	
R	R 3 d 2 A	1 1		3	B d 3		Add d	
A2	MT 13 A	2 . 1 .	3		r	3.	Add d	
O P1	R D 2 P	2 . 1 .		M r			Add d	

S r **B** 1 1 2 2

S r r T M 1 21 2

M E 1 . P 2

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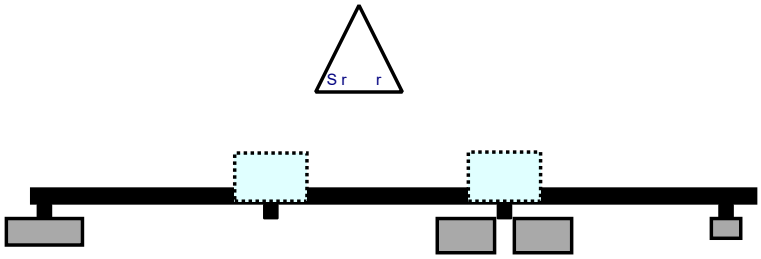
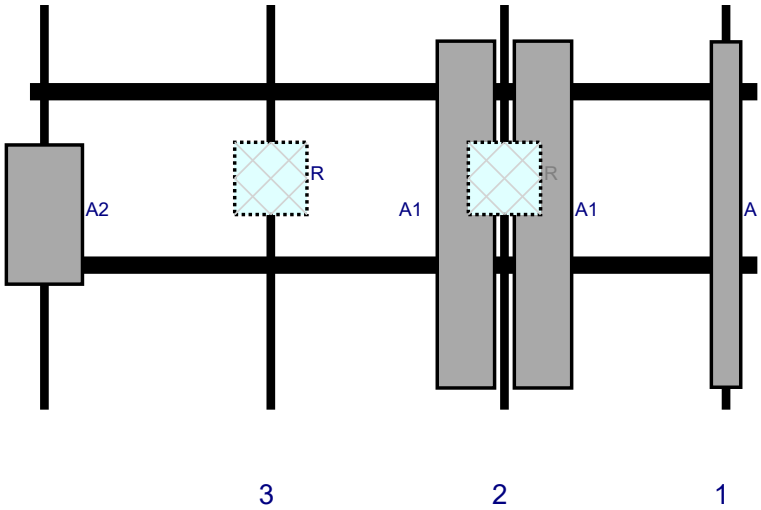
Plan View

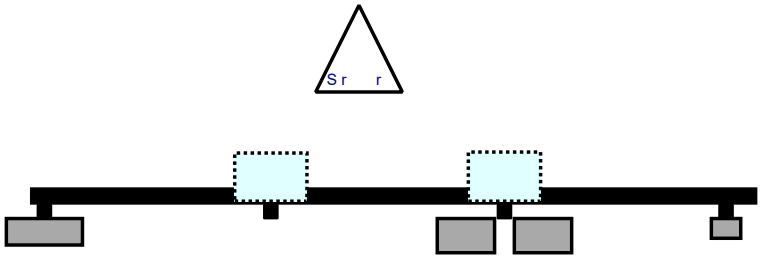


Front View - L S r r

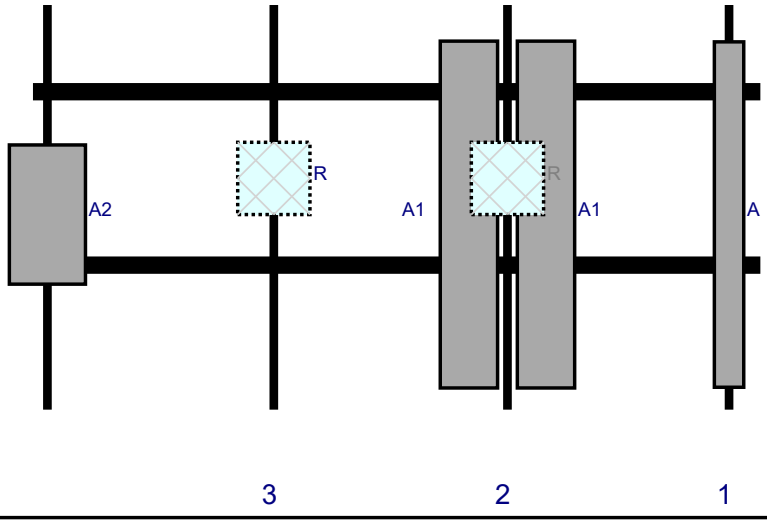


R	M d	d	D r L.	P P	A P	. A r T.	A O	S	d
A	B A 1 1 3 12B ED	1.	.1	1 .	1	r	3.	R d	3 2 2 21
A1	B R2B	2	11.	.	2	r	3.	Add d	
A1	B R2B	2	11.	.	2	r	3.	Add d	
R	R 1d 13A	1	1	.	2	B d	3	Add d	
R	R 3 d 2 A	1	1		3	B d	3	Add d	
A2	MT 13 A	2 .	1 .	3		r	3.	Add d	

Plan View



Front View - L S r r



R	M d	d	D r L.	P P	A P	. A r T.	A O	S	d
A	B A 1 1 3 12B ED	1.	.1	1 . 1		r	3.	R d	3 2 2 21
A1	B R2B	2	11.	. 2		r	3.	Add d	
A1	B R2B	2	11.	. 2		r	3.	Add d	
R	R 1d 13A	1	1	. 2		B d 3		Add d	
R	R 3 d 2 A	1	1	3		B d 3		Add d	
A2	MT 13 A	2 .	1 .	3		r	3.	Add d	

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MOUNT MODIFICATION DRAWINGS
EXISTING 12.58' PLATFORM

TOWER OWNER: CROWN CASTLE
TOWER OWNER SITE NUMBER: 876375

CARRIER SITE NAME: CANTERBURY CT
CARRIER SITE NUMBER: 5000245865
FUZE ID: 16272087

53 WESTMINSTER RD
CANTERBURY, CT 06331
WINDHAM COUNTY

LATITUDE: 41.701986° N
LONGITUDE: 71.980586° W

\AcPublish_28432\Template.Mount MOD.dwg\ST-1 By: DAVID.ANUKA

DESIGN CRITERIA

WIND LOADS

BASIC WIND SPEED (3 SECOND GUST), V = 125 MPH
EXPOSURE CATEGORY B
TOPOGRAPHIC CATEGORY: 1
TOPOGRAPHy CONSIDERED: NO
MEAN BASE ELEVATION (AMSL) = 338.74'

ICE LOADS

ICE WIND SPEED (3 SECOND GUST), V = 50 MPH
ICE THICKNESS = 1.00 IN

SEISMIC LOADS

SEISMIC DESIGN CATEGORY B
SHORT TERM MCER GROUND MOTION, S_S = .187
LONG TERM MCER GROUND MOTION, S_1 = .054

PROJECT INFORMATION

APPLICANT/LESSEE

COMPANY: VERIZON WIRELESS

CLIENT REPRESENTATIVE

COMPANY: VERIZON WIRELESS

PROJECT MANAGER

COMPANY: COLLIERS ENGINEERING & DESIGN
CONTACT: PETER ALBANO
PHONE: 856-797-0412
E-MAIL: PETER.ALBANO@COLLIERSENG.COM

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION: HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #: 10219427
VZW MDG #: 5000245865
ANALYSIS DATE: 1/18/2024

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX

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www.colliersengineering.com

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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE :	JOB NUMBER :
AS SHOWN	21777308

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
.	.	.	.	.
.	.	.	.	.
1	1/18/2024	ISSUED FOR CONSTRUCTION	DA	DX
0	8/13/2021	ISSUED FOR CONSTRUCTION	AJH	DH

COLLIERS ENGINEERING & DESIGN CT, P.C.
C.T. JPC.0000131

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SITE NAME:

CANTERBURY CT
5000245865

53 WESTMINSTER RD
CANTERBURY, CT 06331
WINDHAM COUNTY

Colliers Engineering & Design

STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
COLLIERS ENGINEERING & DESIGN CT, P.C.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE :
TITLE SHEET

SHEET NUMBER :
ST-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	VZWSMART	VZWSMART-PLK1	SUPPORT RAIL KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	504	504
1		VZWSMART-MSK6	BACK TO BACK CROSSOVER PLATE		34	34
3		VZWSMART-MSK13	UNIVERSAL CHANNEL CROSSOVER PLATE		30	90

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
3	-	-	PROPOSED 84" LONG, PIPE 2 1/2 SCH40	GALVANIZED	41	122
1	-	-	PROPOSED 36" LONG, PIPE 2 SCH40	GALVANIZED	11	11

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
					TOTAL:	761

NOTES:

1. THE MANUFACTURERS LISTED ARE THE APPROVED VENDORS FOR THE VZW MOUNT KITS. EACH MANUFACTURER WILL BE AWARE OF WHICH KITS HAVE BEEN THROUGH THE VZW APPROVAL PROCESS AND THEY ARE IN TURN APPROVED TO SELL. PLEASE NOTE THAT THE MATERIAL UTILIZED ON THE MOUNT MODIFICATIONS WILL BE REVIEWED AS A PART OF THE DESKTOP PMI COMPLETED BY THE SMART TOOL VENDOR. IT WILL BE REQUIRED THAT THE VZW KITS SPECIFIED ARE UTILIZED IN THE MODIFICATIONS.
2. ALL MATERIALS REQUIRED FOR THE DESIGNED MODIFICATIONS BUT NOT LISTED IN THIS SHEET ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.

VZWSMART KITS - APPROVED VENDORS

COMMSCOPE	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 304-7492
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM
WEBSITE	WWW.COMMSCOPE.COM

METROSITE FABRICATORS, LLC	
CONTACT	KENT RAMEY
PHONE	(706) 335-7045 (O), (706) 982-9788 (M)
EMAIL	KENT@METROSITELLC.COM
WEBSITE	METROSITEFABRICATORS.COM

PERFECTVISION	
CONTACT	WIRELESS SALES
PHONE	(844) 887-6723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESSSALES@PERFECT-VISION.COM

SABRE INDUSTRIES, INC.	
CONTACT	ANGIE WELCH
PHONE	(866) 428-6937
EMAIL	AKWELCH@SABREINDUSTRIES.COM
WEBSITE	WWW.SABRESITESOLUTIONS.COM

SITE PRO 1	
CONTACT	PAULA BOSWELL
PHONE	(972) 236-9843
EMAIL	PAULA.BOSWELL@VALMONT.COM
WEBSITE	WWW.SITEPRO1.COM

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SHEET TITLE: BILL OF MATERIALS

SHEET NUMBER: SBOM-1

GENERAL NOTES

1. THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE TELECOMMUNICATIONS INDUSTRY STANDARD TIA-222-H. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES.
2. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE TO EXISTING STRUCTURES. ANY DAMAGE TO EXISTING STRUCTURES AS A RESULT OF THE CONTRACTOR'S WORK OR FROM DAMAGE DUE TO OTHER CAUSES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE BEGINNING WORK, ORDERING MATERIAL, AND PREPARING OF SHOP DRAWINGS. ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE MODIFICATIONS, NOTIFY THE ENGINEER IMMEDIATELY.
4. IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
5. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
6. 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/TIA-322 (LATEST EDITION), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANSI/TIA-322 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION.
7. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
8. WORK SHALL ONLY BE PERFORMED DURING CALM DRY DAYS (WINDS LESS THAN 30-MPH). THE STRUCTURE SHOWN ON THE DRAWINGS IS STRUCTURALLY SOUND ONLY IN THE COMPLETED FORM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING ERECTION. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT, SHORING, BRACING AND ANY OTHER STRUCTURAL SYSTEMS AS REQUIRED TO RESIST ALL FORCES THAT MAY OCCUR DURING HANDLING AND ERECTION UNTIL THE STRUCTURE IS FULLY COMPLETED. TEMPORARY SUPPORTS, BRACING AND OTHER STRUCTURAL SYSTEMS REQUIRED DURING CONSTRUCTION SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THEIR USE.
9. ALL INSTALLATIONS PERFORMED ON THIS STRUCTURE SHALL BE COMPLETED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE STANDARD FOR INSTALLATION, ALTERATION AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS, ANSI/TIA-322.
10. CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GEOFABRIC, GROUNDING, AND SURROUNDING GRADE SHALL BE REPLACED AND REPAIRED AS REQUIRED TO ACHIEVE OWNER APPROVAL. POSITIVE DRAINAGE AWAY FROM TOWER SITE SHALL BE MAINTAINED.
11. CONNECTIONS BETWEEN ITEMS SUPPORTED BY THE STRUCTURE AND THE STRUCTURE NOT SPECIFICALLY DETAILED IN THE CONTRACT DOCUMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. SUCH CONNECTIONS SHALL BE DESIGNED, COORDINATED AND INSPECTED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. SUBMIT SIGNED AND SEALED CALCULATIONS DURING SHOP DRAWING REVIEW.
12. DO NOT SCALE DRAWINGS.
13. DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
14. ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDING BUT NOT LIMITED TO ALTERED SIZE AND/OR STRENGTHS, MUST BE APPROVED BY THE OWNER AND ENGINEER IN WRITING.
15. THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

STRUCTURAL STEEL

1. DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
   a. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
   b. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
   c. AISC CODE OF STANDARD PRACTICE
2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE SHOWN:

CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE

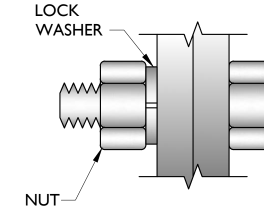
3. ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
4. PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
   a. SUBMIT SHOP DRAWINGS TO
      PETER.ALBANO@COLLIERSENG.COM
   b. PROVIDE COLLIERS ENGINEERING & DESIGN PROJECT # AND COLLIERS ENGINEERING & DESIGN PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
5. DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
6. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
7. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
8. ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
9. WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
10. FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
11. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
12. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
13. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
14. ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINC COTE, OR EOR APPROVED EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
15. ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

BOLT SCHEDULE (IN.)

BOLT DIAMETER	STANDARD HOLE	SHORT SLOT	MIN. EDGE DISTANCE	SPACING
1/2	9/16	9/16 x 11/16	7/8	1 1/2
5/8	11/16	11/16 x 7/8	1 1/8	1 7/8
3/4	13/16	13/16 x 1	1 1/4	2 1/4
7/8	15/16	15/16 x 1 1/8	1 1/2	2 5/8
1	1 1/16	1 1/16 x 1 5/16	1 3/4	3

WORKABLE GAGES (IN.)

LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8

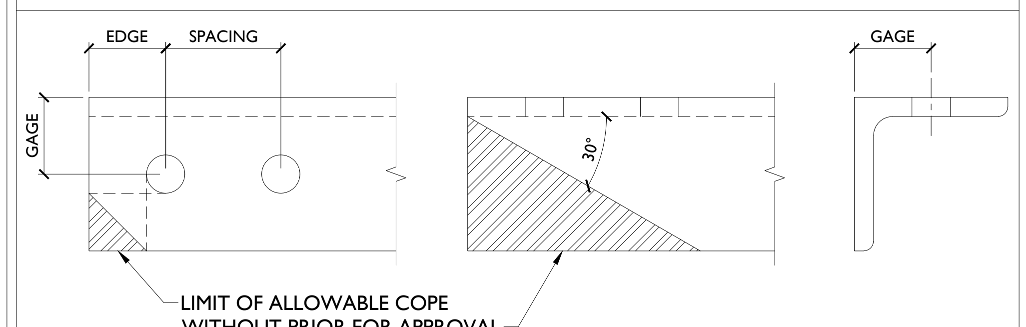


TYP. BOLT ASSEMBLY

NOTES:

1. ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
2. THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.
3. SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED IN THE DRAWINGS
4. MATCH EXISTING GAGES WHEN APPLICABLE, UNLESS MINIMUM EDGE DISTANCES ARE COMPROMISED.

ALLOWABLE COPING



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SITE NAME:

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5000245865

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CANTERBURY, CT 06331
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STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
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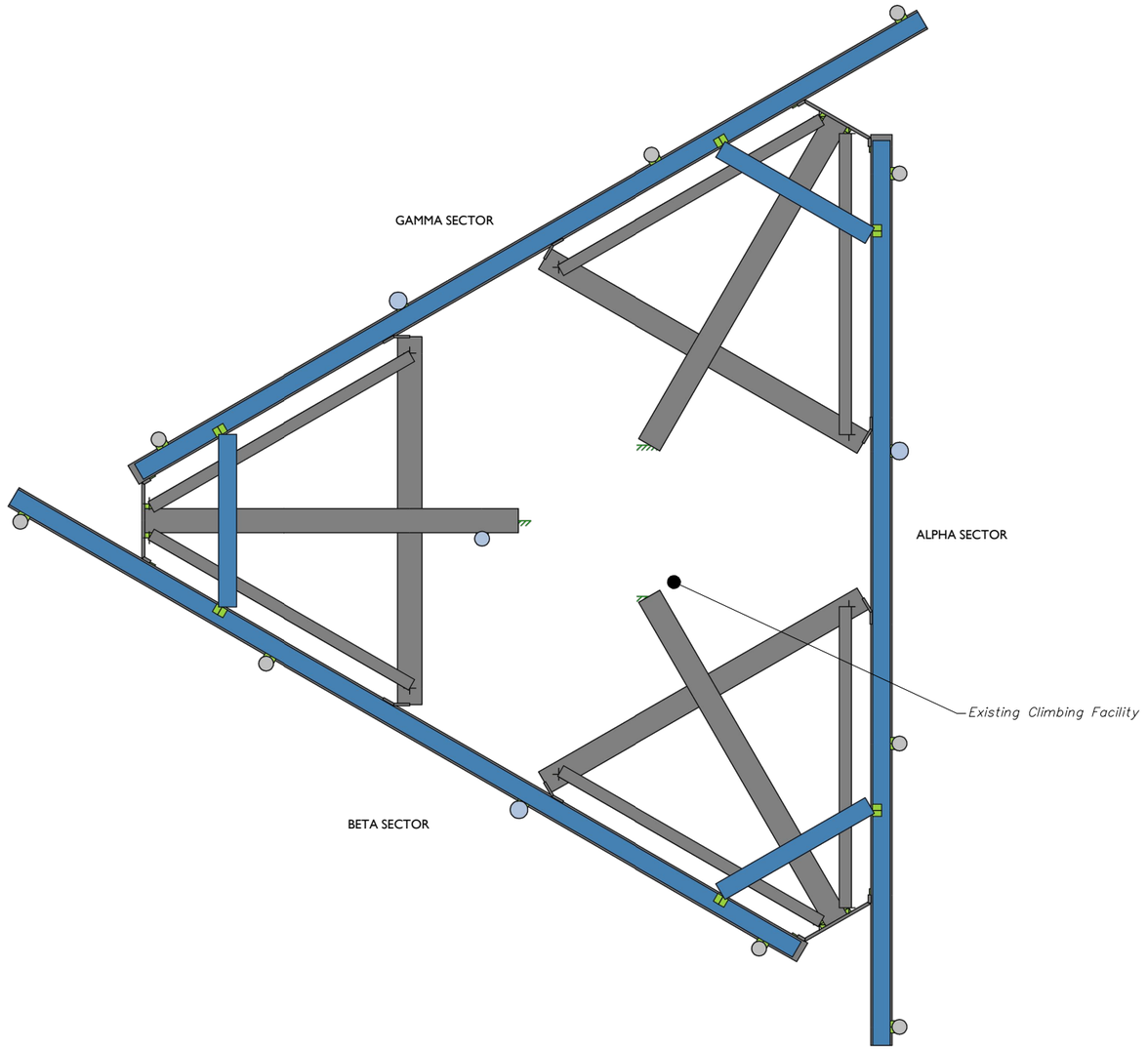
SHEET TITLE : GENERAL NOTES

SHEET NUMBER : SGN-1

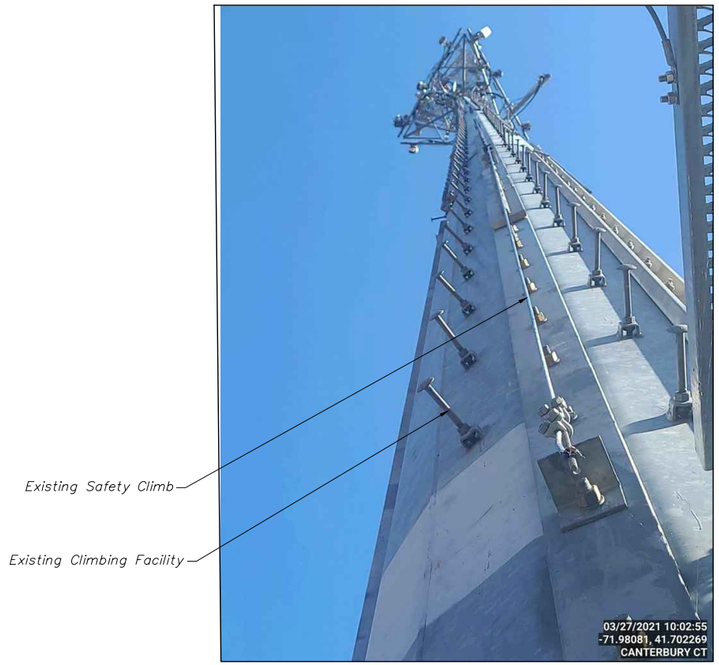
NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

\AcPublish_28432\Template.Mount MOD.dwg\SGN-1 By: DAVID.ANUKA



1 CLIMBING FACILITY LOCATION

SCALE : N.T.S.



CLIMBING FACILITY PHOTO

STRUCTURAL NOTES:

1. PER THE MOUNT MAPPING COMPLETED BY ROAMING NETWORKS INC ON 3/27/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (169'-0") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.

2. INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.

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PROTECT YOURSELF

ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE : AS SHOWN

JOB NUMBER : 21777308

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	1/18/2024	ISSUED FOR CONSTRUCTION	DA	DX
0	8/13/2021	ISSUED FOR CONSTRUCTION	AJH	DH

COLLIERS ENGINEERING & DESIGN CT, P.C.
C.T. JPC.0000131

SITE NAME:

CANTERBURY CT
5000245865

53 WESTMINSTER RD
CANTERBURY, CT 06331
WINDHAM COUNTY

Colliers Engineering & Design
STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
COLLIERS ENGINEERING & DESIGN CT, P.C.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE : CLIMBING FACILITY DETAIL

SHEET NUMBER : SCF-1

LEGEND:

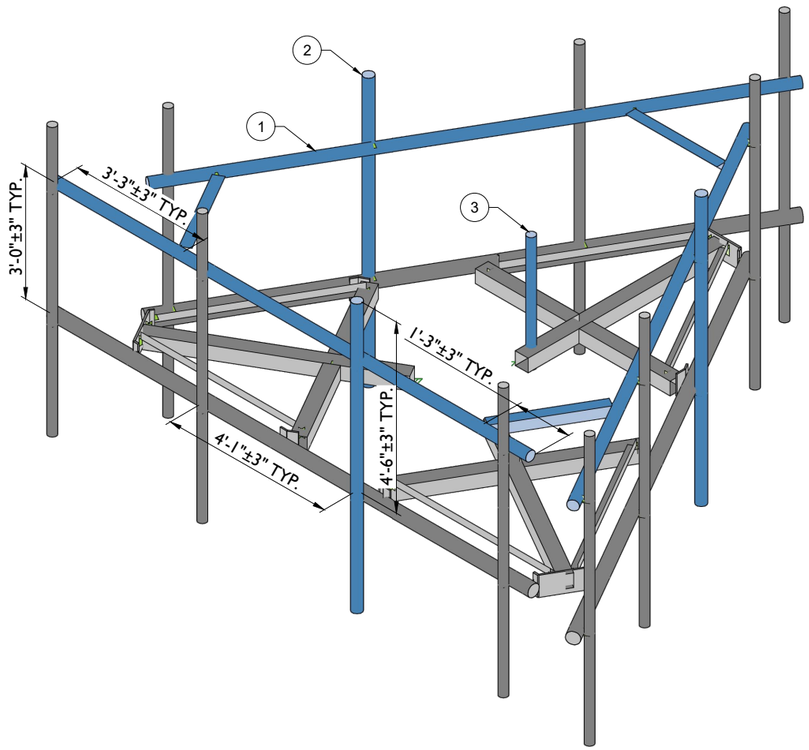
- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE

NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	169'-0"	1	PROPOSED SUPPORT RAIL KIT (PART #: VZWSMART-PLK1)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. RADIO AND/OR TME POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN.
2		3	PROPOSED 84" LONG, PIPE 2 1/2 SCH40 MOUNT PIPE	CONTRACTOR TO REPLACE EXISTING POSITION 3 PIPE IN ALL SECTORS. CONNECT NEW MOUNT PIPE TO EXISTING HORIZONTAL WITH CROSSOVER PLATES (PART #: VZWSMART-MSK13).
3		1	PROPOSED 36" LONG, PIPE 2 SCH40 MOUNT PIPE	CONNECT NEW OVP PIPE TO EXISTING STANDOFF HORIZONTAL WITH BACK TO BACK CROSSOVER PLATE (VZWSMART-MSK6).

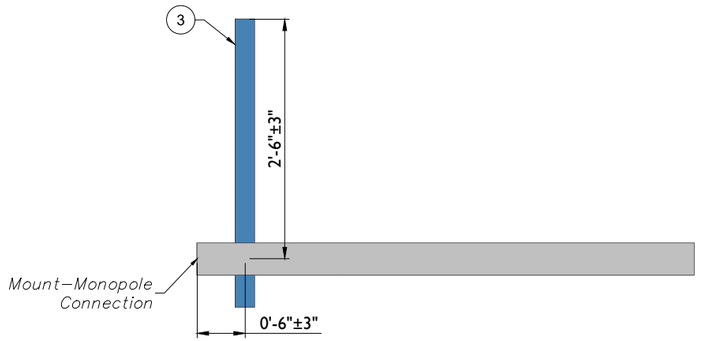
GENERAL NOTES:

A. CONTRACTOR SHALL VERIFY THAT NEW & EXISTING STEEL IS FREE OF CORROSION. VISIBLE MINOR CORROSION SHALL BE WIRE BRUSHED CLEAN AND TREATED WITH COLD GALVANIZATION. REPORT ANY SIGNIFICANT CORROSION TO EOR
B. THREADED ROD FROM PROPOSED KITS SHALL BE TRIMMED TO EXTEND NO MORE THAN 3" BEYOND THE LOCK NUT. TREAT ALL CUT ENDS WITH (2) COATS OF COLD GALVANIZATION (ZINC KOTE, OR EOR APPROVED EQUAL).
C. MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.



1 PROPOSED ISOMETRIC VIEW

SCALE : N.T.S.



2 PROPOSED SIDE ELEVATION VIEW (BETA/GAMMA SECTOR ONLY)

SCALE : N.T.S.

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SCALE :	JOB NUMBER :
AS SHOWN	21777308

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	1/18/2024	ISSUED FOR CONSTRUCTION	DA	DX
0	8/13/2021	ISSUED FOR CONSTRUCTION	AJH	DH

COLLIERS ENGINEERING & DESIGN CT, P.C.
C.T. JPC.0000131

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

SITE NAME:

CANTERBURY CT
5000245865

53 WESTMINSTER RD
CANTERBURY, CT 06331
WINDHAM COUNTY

Colliers Engineering & Design

STAMFORD
1055 Washington Boulevard

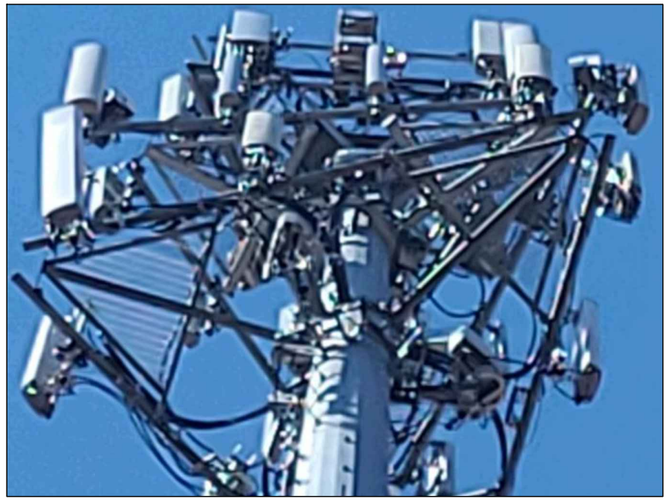
Stamford, CT 06901
Phone: 203.324.0800
COLLIERS ENGINEERING & DESIGN CT, P.C.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE :

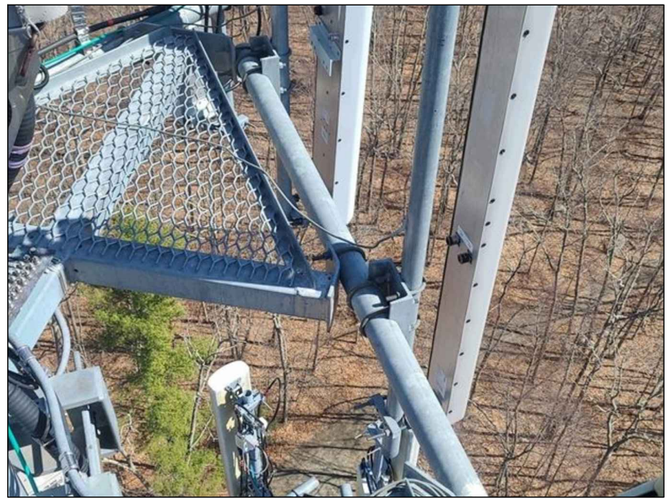
MODIFICATION DETAILS

SHEET NUMBER :

SS-1



MOUNT PHOTO 1



MOUNT PHOTO 2

MOUNT PHOTO 3

MOUNT PHOTO 4

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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE : AS SHOWN

JOB NUMBER : 21777308

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	1/18/2024	ISSUED FOR CONSTRUCTION	DA	DX
0	8/13/2021	ISSUED FOR CONSTRUCTION	AJH	DH

COLLIERS ENGINEERING & DESIGN CT, P.C.
C.T. JPC.0000131

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1055 Washington Boulevard

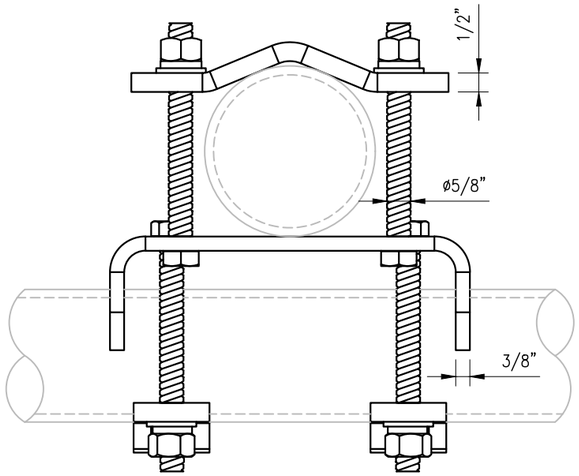
Stamford, CT 06901
Phone: 203.324.0800
COLLIERS ENGINEERING & DESIGN CT, P.C.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE :

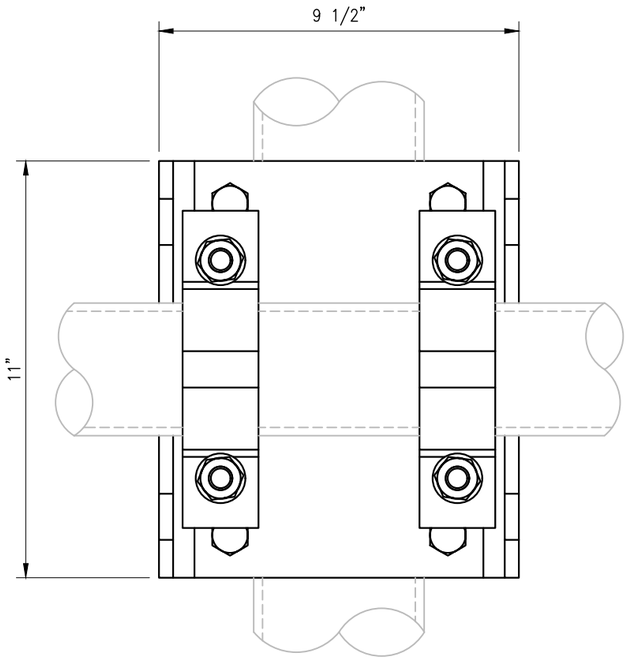
MOUNT PHOTOS

SHEET NUMBER :

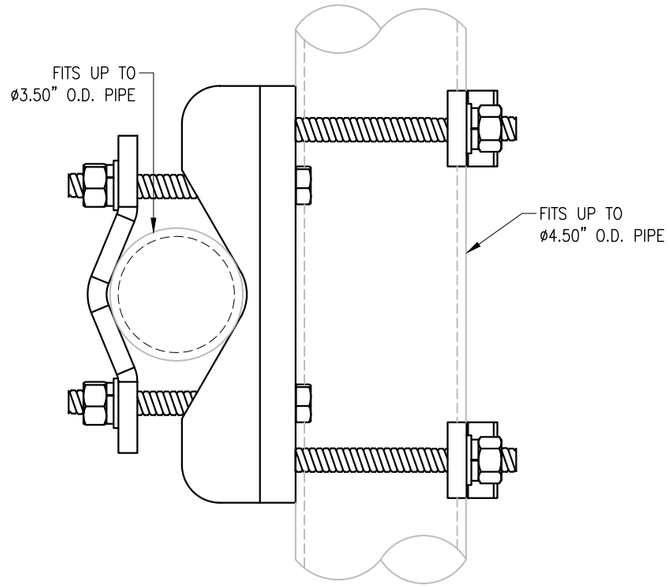
SS-2



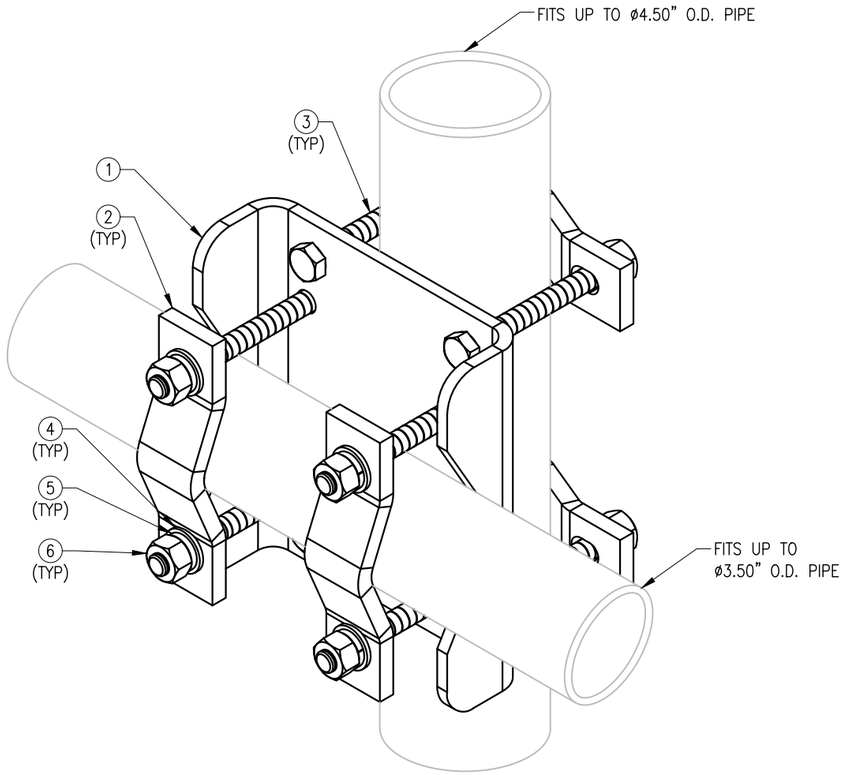
TOP VIEW



FRONT VIEW



SIDE VIEW



NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.

VZWSMART-MSK13 (UNIVERSAL CHANNEL CROSSOVER)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	P574-029-01	PL 3/8" X 11" X 14 1/8" A36 BENT PLATE	MSK13-F1	14.73
2	4	VCP	PL 1/2" X 2" X 8 5/8" A36 BENT PLATE	MSK3-F1	10
3	8	---	BOLT 5/8" X 6" FULL THREAD SAE GR-5	---	--
4	8	FW-625	5/8" HDG USS FLAT WASHER	---	1
5	8	LW-625	5/8" HDG LOCK WASHER	---	0
6	8	NUT-625	5/8" HDG HEX NUT	---	1
				GALVANIZED WT	29.91

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verizon

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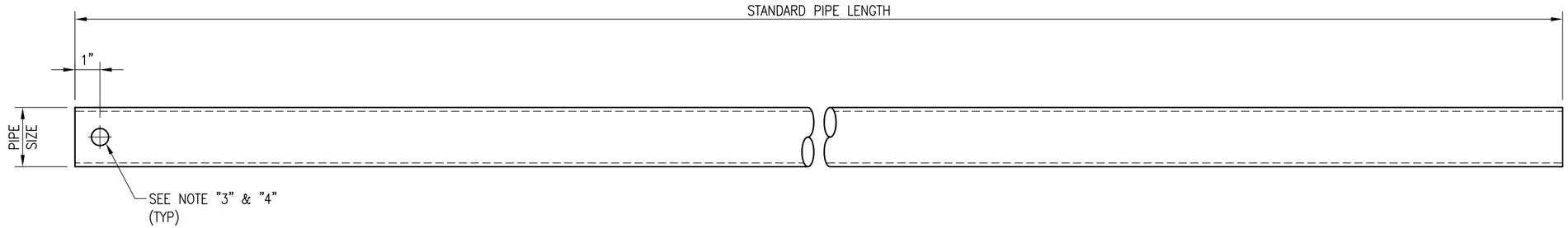
DRAWN BY: JBM | CHECKED BY: HMA/KW

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	JBM	10/08/21

SHEET TITLE:
VZWSMART-MSK13
UNIVERSAL CHANNEL
CROSSOVER

SHEET NUMBER: VZWSMART-MSK13

REV #: 0



VZWSMART Standard Pipe		
VZWSMART Number	Size	Length
P40-238X048	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	48"
P40-238X072	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	72"
P40-238X096	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	96"
P40-238X120	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	120"
P40-238X126	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	126"
P40-238X150	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	150"
P40-238X174	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	174"
P40-278X048	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	48"
P40-278X072	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	72"
P40-278X096	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	96"
P40-278X120	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	120"
P40-278X126	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	126"
P40-278X150	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	150"
P40-278X174	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	174"
P40-312X048	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	48"
P40-312X072	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	72"
P40-312X126	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	126"
P40-312X150	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	150"
P40-312X174	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	174"

NOTE:
APPROVED SMART KIT VENDORS ARE ALLOWED TO SUBSTITUTE AT THEIR DISCRETION PIPES LISTED ON THIS PAGE FOR CUSTOM LENGTH COMPONENTS OF MATCHING SIZE. SUBSTITUTIONS SHALL MEET THE ORIGINAL STRUCTURAL INTENT.

NOTES:
1. ALL PIPE GRADE A53-B OR BETTER.
2. HOT-DIPPED GALVANIZED PER ASTM A123.
3. ALL HOLES ARE 11/16" DIA. U.N.O
4. HOLES MAY OR MAY NOT BE PRESENT, DEPEND UPON MANUFACTURE DISCRETION.
5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA OR ZINC COTE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

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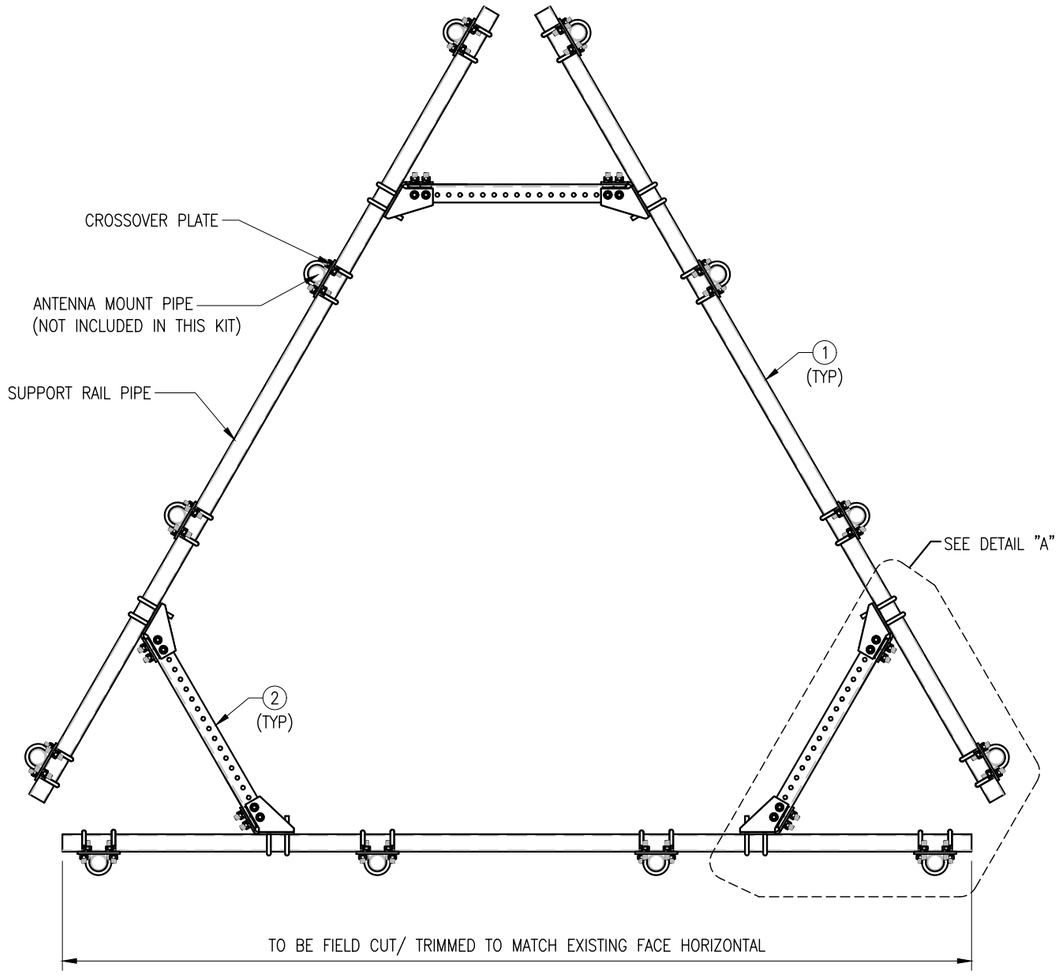
DRAWN BY: BT | CHECKED BY: HMA/KW

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BT	08/04/21

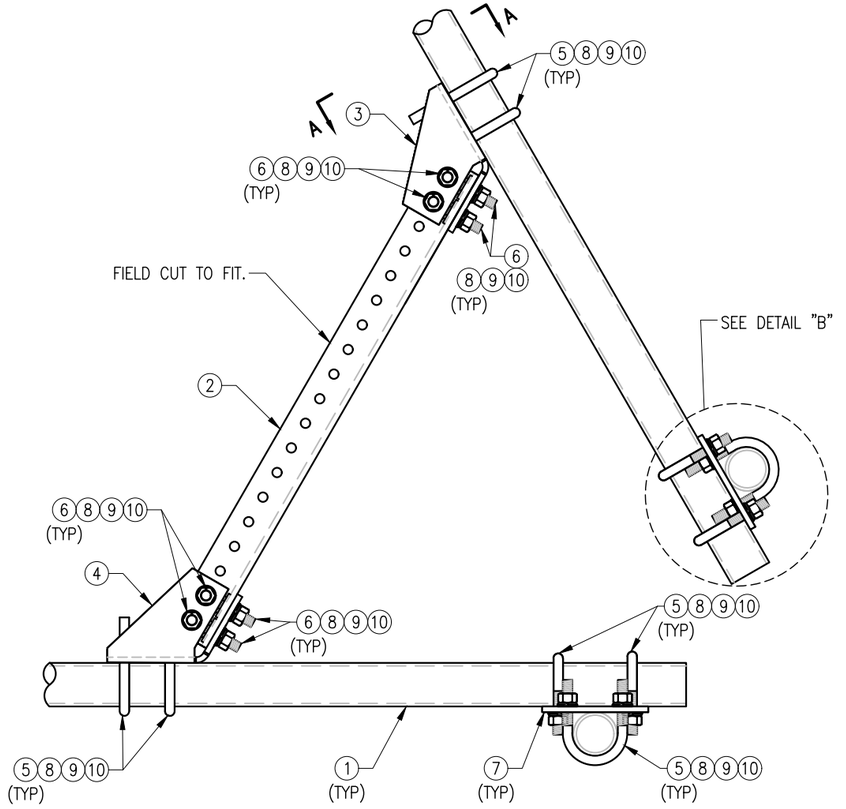
SHEET TITLE:
VZWSMART STANDARD PIPE

SHEET NUMBER: VZWSMART-PIPE

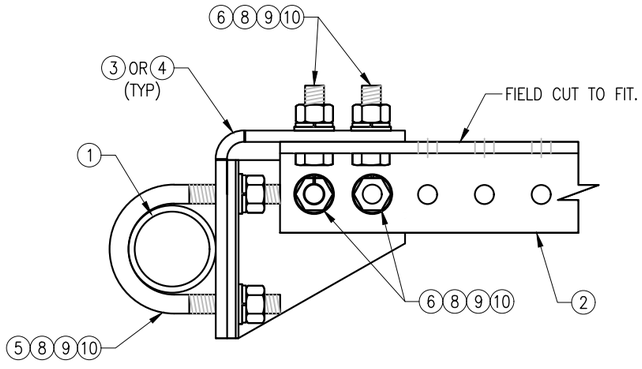
REV #: 0



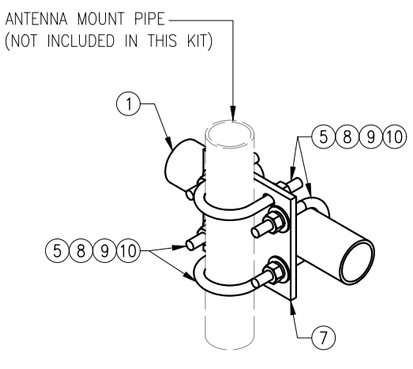
PLAN VIEW



DETAIL "A"



SECTION "A–A"



DETAIL "B"

NOTES:
1. HOT–DIPPED GALVANIZED PER ASTM A123.

VZW SMART–PLK1 (SUPPORT RAIL KIT)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	PST2875–12.5	2.5" PST (2.875" O.D. X 0.203" THK.) X 12'–6" A53 GR–B	PLK1–F1	292
2	3	L33375–3	L 3" X 3" X 3/8" X 3'–0" A36	PLK1–F1	66
3	3	CBP–L	CORNER BENT PLATE BRACKET	PLK1–F2	28
4	3	CBP–R	CORNER BENT PLATE BRACKET	PLK1–F2	28
5	60	MS02–625–300–500	RU–BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC–1	82
6	24	---	BOLT 5/8" X 2" A325	---	9
7	12	PL375–857	PL 3/8" X 8 1/2" X 7'–0" A36	PLK1–F3	77
8	144	FW–625	5/8" HDG USS FLAT WASHER	---	12
9	144	LW–625	5/8" HDG LOCK WASHER	---	3
10	144	NUT–625	5/8" HDG HEX NUT	---	17
				GALVANIZED WT	504

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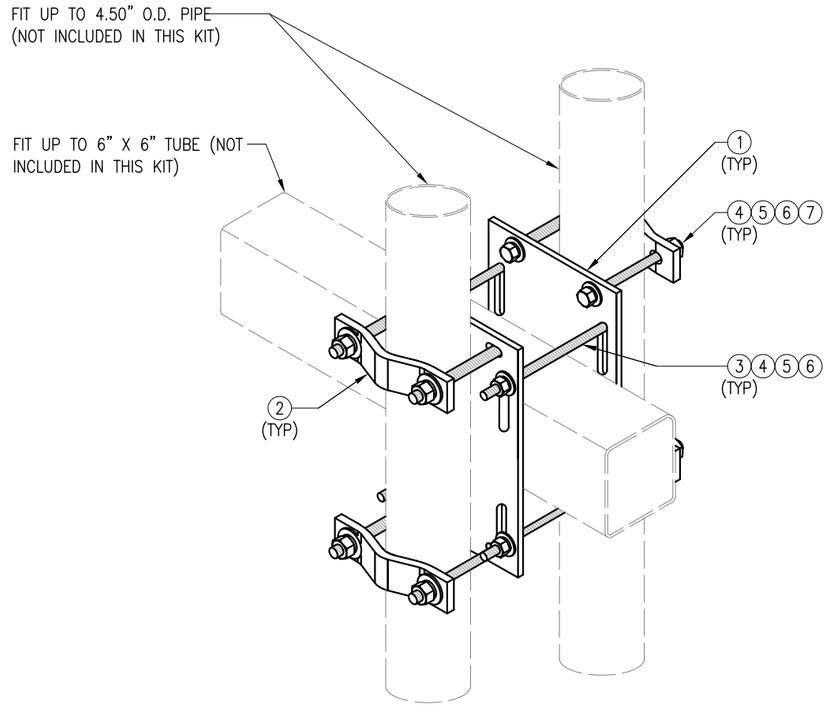
DRAWN BY: H.R | CHECKED BY: HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	H.R	05/08/20

SHEET TITLE:
VZWSMART–PLK1
SUPPORT RAIL KIT

SHEET NUMBER: VZWSMART–PLK1

REV #: 0



ISOMETRIC VIEW
BACK TO BACK CROSSOVER

VZWSMART–MSK6 (VZWSMART–MSK6 – BACK TO BACK CROSSOVER)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	2	PL375–8512	PL 3/8" X 8 1/2" X 1'–0" A36	MSK6–F2	20.7
2	4	VCP	PL 1/2" X 2" X 8 5/8" A36 BENT PLATE	MSK6–F1	9.6
3	4	---	THREADED ROD 5/8" DIA. X 10" F1554–36 HDG	---	---
4	16	NUT–625	5/8" HDG HEX NUT	---	2
5	16	FW–625	5/8" HDG USS FLAT WASHER	---	1
6	16	LW–625	5/8" HDG LOCK WASHER	---	0
7	8	---	BOLT 5/8" X 6" SAE GRADE 5 ALL THREAD	---	1
				GALVANIZED WT	34

NOTES:
1. HOT–DIPPED GALVANIZED PER ASTM A123.

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DRAWN BY: SK | CHECKED BY: BT/KW

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	SK	05/08/20

SHEET TITLE:
VZWSMART–MSK6
BACK TO BACK
CROSSOVER

SHEET NUMBER: VZWSMART–MSK6

REV #: 0


03/27/2021 13:20:27
-71.96847497222223, 41.69637097222222
CANTERBURY CT


03/27/2021 11:35:38
-71.98681, 41.702269
CANTERBURY CT

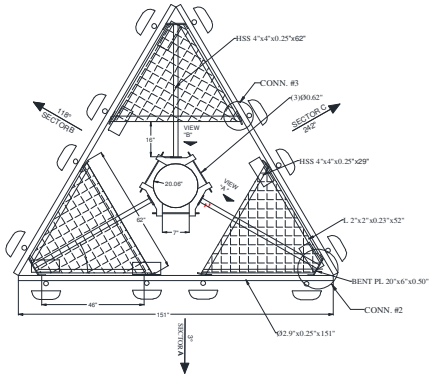
V3.0 Updated on 8-31-2020

PAUL J. FORD & COMPANY

Antenna Mount Mapping Form (PATENT PENDING)

FCC #
N/A

Tower Owner:	CCI	**Mapping Date:**	03/27/2021
Site Name:	CCI: Canterbury/Lemire, VZW: CANTERBURY CT	**Tower Type:**	Monopole
Site Number or ID:	PSLC: 468760	**Tower Height (Ft.):**	N/A
Mapping Contractor:	Roaming Networks Inc.	**Mount Elevation (Ft.):**	171.7



Overall Mount Schematic

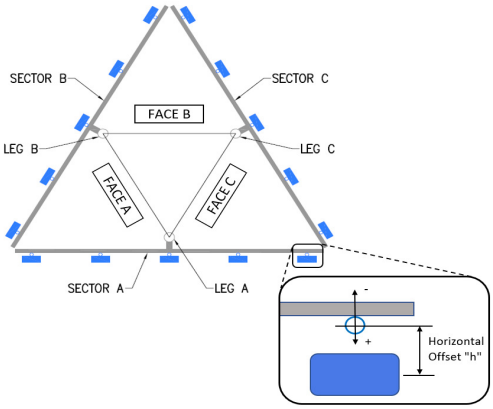
Mount Pipe Configuration and Geometries [Unit = Inches]

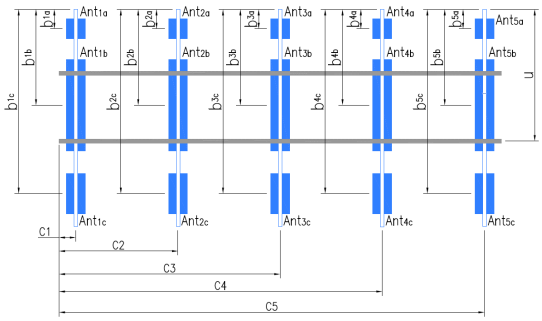
Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."
A1	PIPE Ø 2.39"x0.16"x84"	54.00	6.50	C1	PIPE Ø 2.39"x0.16"x84"	54.00	6.50
A2	PIPE Ø 2.39"x0.16"x84"	54.00	52.50	C2	PIPE Ø 2.39"x0.16"x84"	54.00	52.50
A3	PIPE Ø 2.39"x0.16"x84"	55.00	101.00	C3	PIPE Ø 2.39"x0.16"x84"	55.00	101.00
A4	PIPE Ø 2.39"x0.16"x84"	54.00	148.00	C4	PIPE Ø 2.39"x0.16"x84"	54.00	148.00
A5				C5			
A6				C6			
B1	PIPE Ø 2.39"x0.16"x84"	54.00	6.50	D1			
B2	PIPE Ø 2.39"x0.16"x84"	54.00	52.50	D2			
B3	PIPE Ø 2.39"x0.16"x84"	55.00	101.00	D3			
B4	PIPE Ø 2.39"x0.16"x84"	54.00	148.00	D4			
B5				D5			
B6				D6			

Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details. :	0.00
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :	6
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :	9.75

Please enter additional infomation or comments below.

Tower Face Width at Mount Elev. (ft.):		Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):	20.06



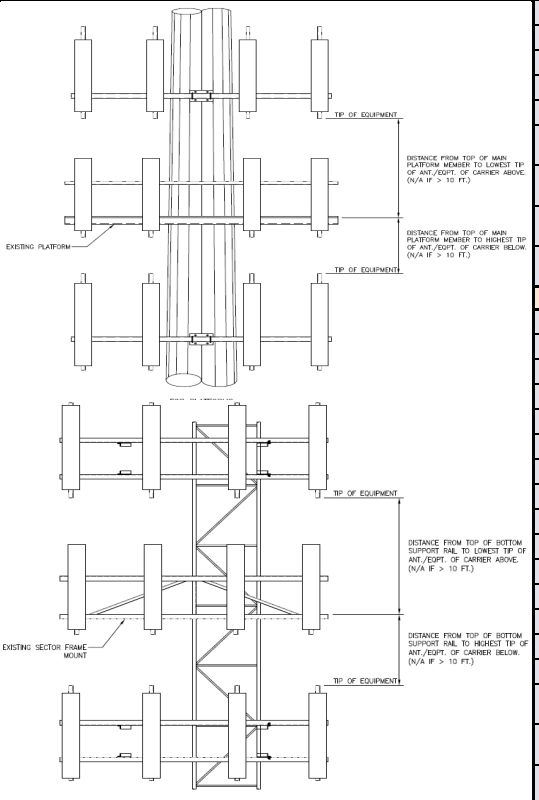


Antenna Layout (Looking Out From Tower)

Ants. Items	Enter antenna model. If not labeled, enter "Unknown". Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Antenna Center-line (Ft.)	Mounting Locations [Units are inches and degrees] Vertical Distances"b_{1a}, b_{2a}, b_{3a}, b_{1b}...." (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	Photos of antennas Photo Numbers
Sector A										
Ant_{1a}										
Ant_{1b}	BXA700636CFEDIN4	11.30	6.00	71.00		172.283	47.00	8.50	3.00	11,12
Ant_{1c}										
Ant_{2a}	BXA17106312CFEDIN	6.10	4.10	72.50		172.492	44.50	7.50	3.00	13,14
Ant_{2b}										
Ant_{2c}										
Ant_{3a}	BXA17106312CFEDIN	6.10	4.10	72.50		172.408	46.50	7.50	3.00	5,6
Ant_{3b}	9442 RRH2x40-AWS	10.63	6.70	24.40		174.075	26.50	6.50		7
Ant_{3c}										
Ant_{4a}										
Ant_{4b}	BXA700636CFEDIN4	11.30	6.00	71.00		172.033	50.00	9.00	3.00	8,9
Ant_{4c}	700MRRH	10.00	8.00	25.00		173.617	31.00	8.00		10
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower	RRFDC-3315-PF-48	15.73	10.30	28.93						229
Ant on Tower										

Mount Azimuth (Degree) for Each Sector			Tower Leg Azimuth (Degree) for Each Sector		
Sector A:	3.00	Deg	Leg A:		Deg
Sector B:	118.00	Deg	Leg B:		Deg
Sector C:	242.00	Deg	Leg C:		Deg
Sector D:		Deg	Leg D:		Deg

Climbing Facility Information		
Location:	63.00 Deg	Other
Climbing Facility	Corrosion Type:	Good condition.
	Access:	Climbing path was unobstructed.
	Condition:	Good condition.



Sector B										
Ant_{1a}										
Ant_{1b}	BXA700636CFEDIN4	11.30	6.00	71.00		172.283	47.00	8.50	118.00	11,12
Ant_{1c}										
Ant_{2a}	BXA17106312CFEDIN	6.10	4.10	72.50		172.492	44.50	7.50	118.00	13,14
Ant_{2b}										
Ant_{2c}										
Ant_{3a}	BXA17106312CFEDIN	6.10	4.10	72.50		172.408	46.50	7.50	118.00	5,6
Ant_{3b}	9442 RRH2x40-AWS	10.63	6.70	24.40		174.075	26.50	6.50		7
Ant_{3c}										
Ant_{4a}										
Ant_{4b}	BXA700636CFEDIN4	11.30	6.00	71.00		172.033	50.00	9.00	118.00	8,9
Ant_{4c}	700MRRH	10.00	8.00	25.00		173.617	31.00	8.00		10
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower	RRFDC-3315-PF-48	15.73	10.30	28.93						230
Ant on Tower										
Sector C										
Ant_{1a}										
Ant_{1b}	BXA700636CFEDIN4	11.30	6.00	71.00		172.283	47.00	8.50	242.00	11,12
Ant_{1c}										
Ant_{2a}	BXA17106312CFEDIN	6.10	4.10	72.50		172.492	44.50	7.50	242.00	13,14
Ant_{2b}										
Ant_{2c}										
Ant_{3a}	BXA17106312CFEDIN	6.10	4.10	72.50		172.408	46.50	7.50	242.00	5,6
Ant_{3b}	9442 RRH2x40-AWS	10.63	6.70	24.40		174.075	26.50	6.50		7
Ant_{3c}										
Ant_{4a}										
Ant_{4b}	BXA700636CFEDIN4	11.30	6.00	71.00		172.033	50.00	9.00	242.00	8,9
Ant_{4c}	700MRRH	10.00	8.00	25.00		173.617	31.00	8.00		10
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										
Sector D										
Ant_{1a}										
Ant_{1b}										
Ant_{1c}										
Ant_{2a}										
Ant_{2b}										
Ant_{2c}										
Ant_{3a}										
Ant_{3b}										
Ant_{3c}										
Ant_{4a}										
Ant_{4b}										
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										

Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #

1		
2		
3		
4		
5		
6		
7		
8		

Mapping Notes
1. Please report any visible structural or safety issues observed on the antenna mounts (Damaged members, loose connections, tilting mounts, safety climb issues, etc.)
2. If the thickness of the existing pipes or tubing can't be obtained from a general tool (such as Caliper), please use an ultrasonic measurement tool (thickness gauge) to measure the thickness.
3. Please create all required detail sketches of the mounts and insert them into the "Sketches" tab.
4. Please measure and enter the bolt sizes and types under the Members Box in the spreadsheet of the mount type.
5. Take and label the photos of the tower, mounts, connections, antennas and all measurements. Minimum 50 photos are required.
6. Please measure and report the size and length of all existing antenna mounting pipes.
7. Please measure and report the antenna information for all sectors.
8. Don't delete or rearrange any sheet or contents of any sheet from this mapping form.

Standard Conditions
1. Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping are to be reported in this mapping. However, this mount mapping is not a condition assessment of the mount.

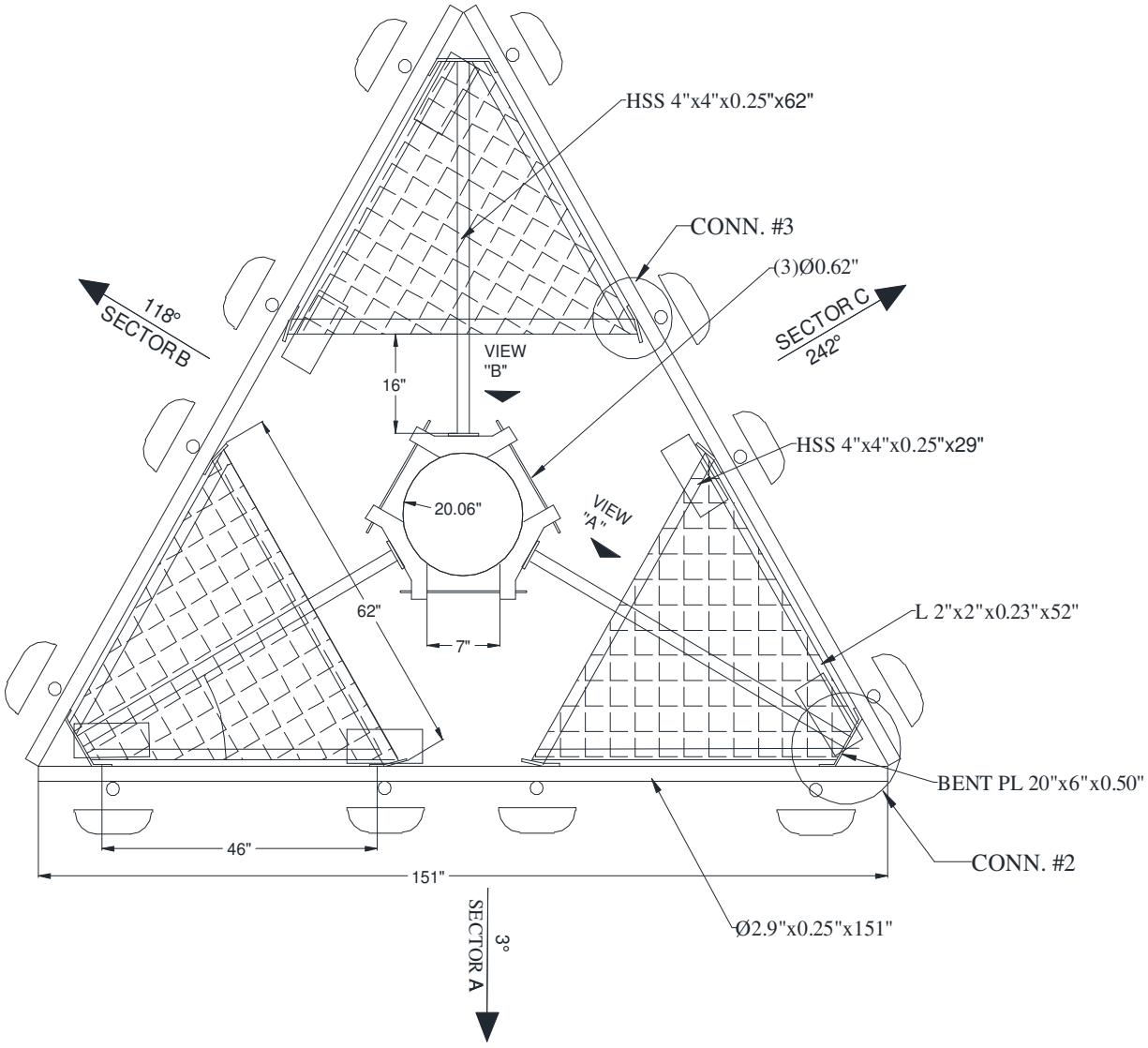
PAUL J. FORD & COMPANY

Antenna Mount Mapping Form (PATENT PENDING)

FCC #
N/A

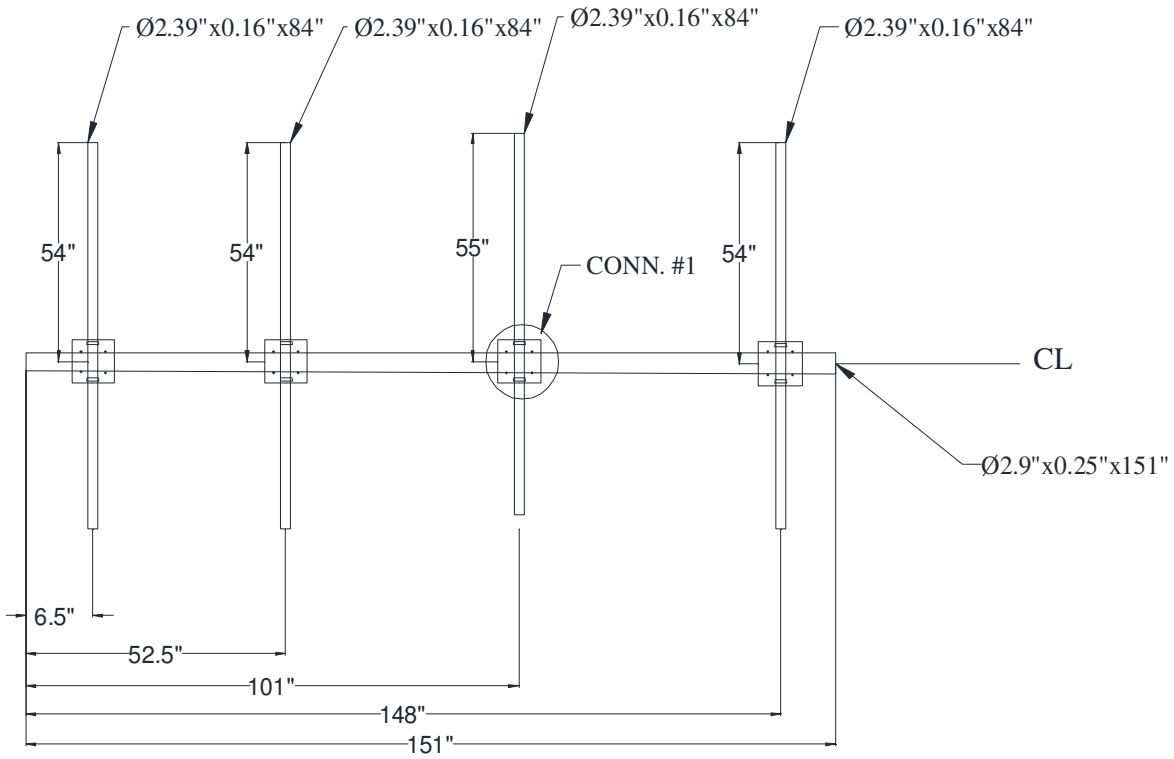
Tower Owner:	CCI	**Mapping Date:**	03/27/2021
Site Name:	CCI: Canterbury/Lemire, VZW: CANTERBURY CT	**Tower Type:**	Monopole
Site Number or ID:	PSLC: 468760	**Tower Height (Ft.):**	N/A
Mapping Contractor:	Roaming Networks Inc.	**Mount Elevation (Ft.):**	171.7

Please Insert Sketches of the Antenna Mount



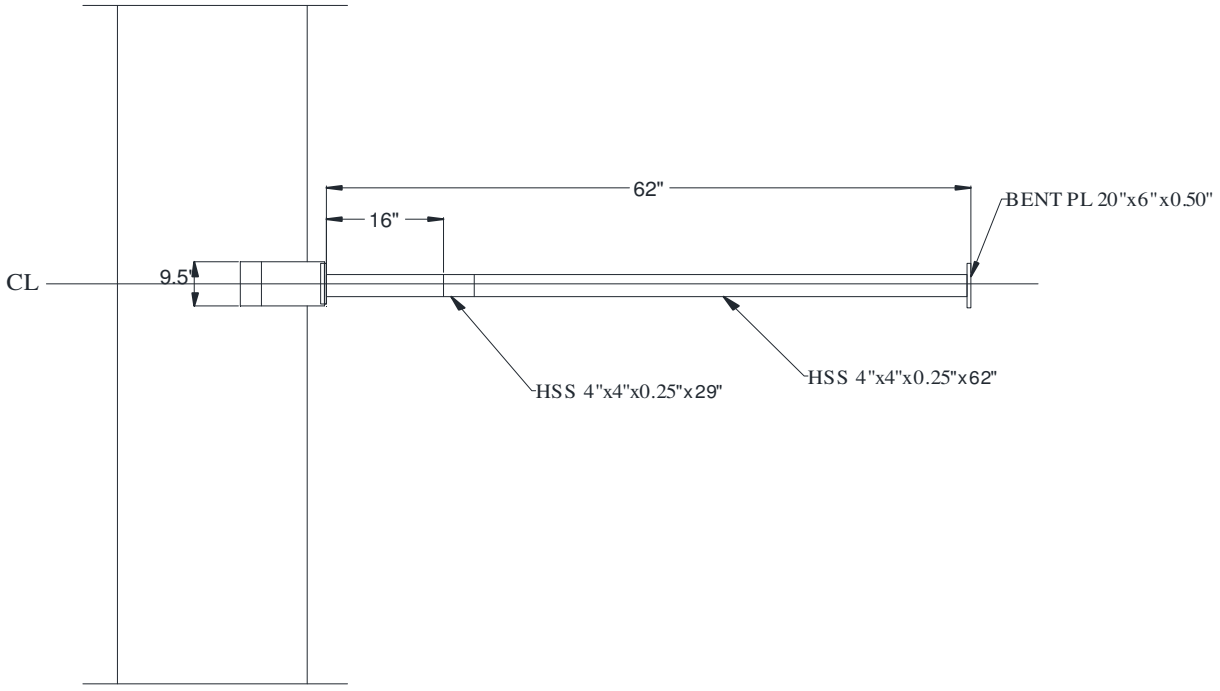
Overall Mount Schematic

Please Insert Sketches of the Antenna Mount, cont'd

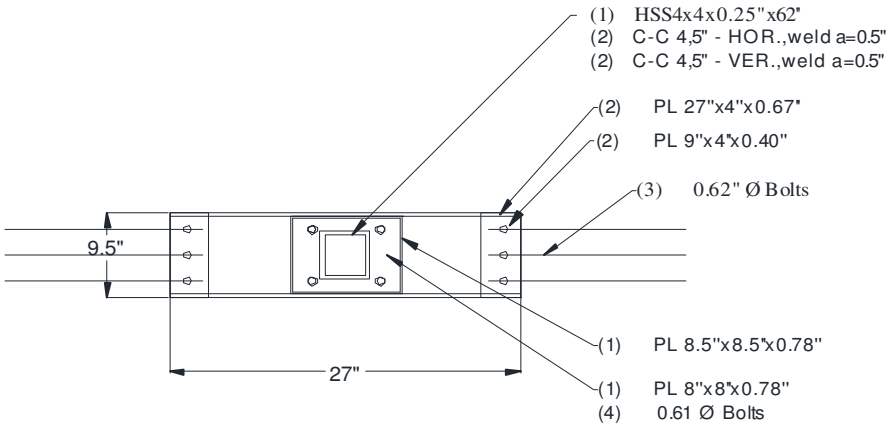


SECTOR A, B, C

Please Insert Sketches of the Antenna Mount, cont'd

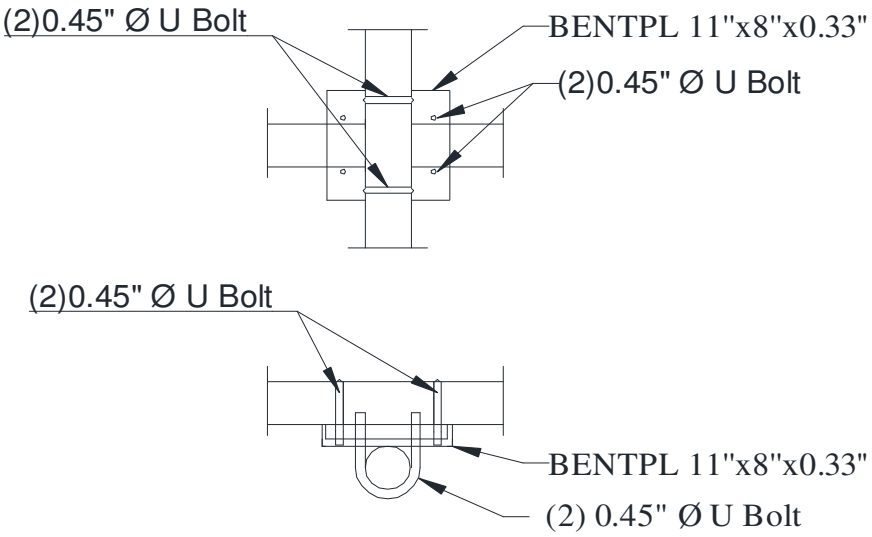


VIEW "A"

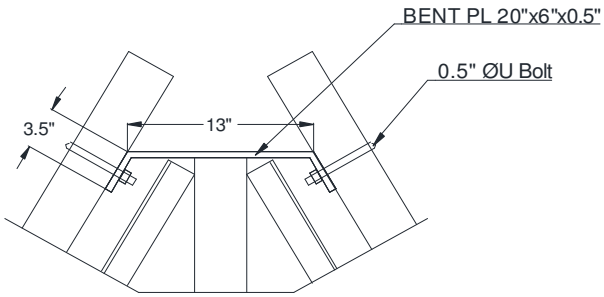


VIEW "B"

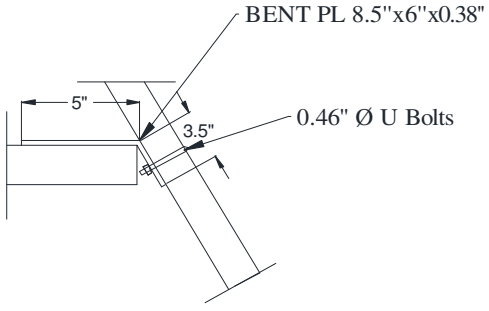
Please Insert Sketches of the Antenna Mount, cont'd



CONN. #1

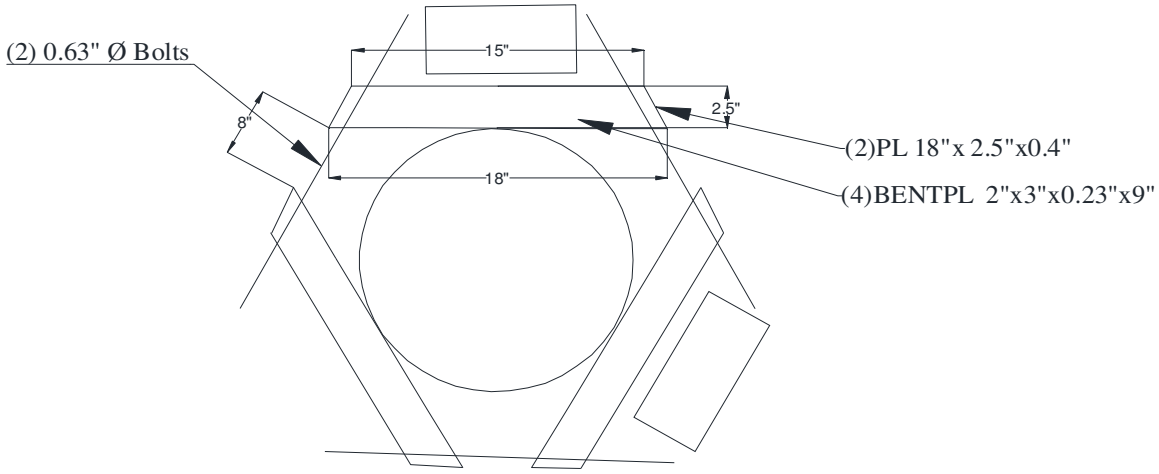


CONN. #2

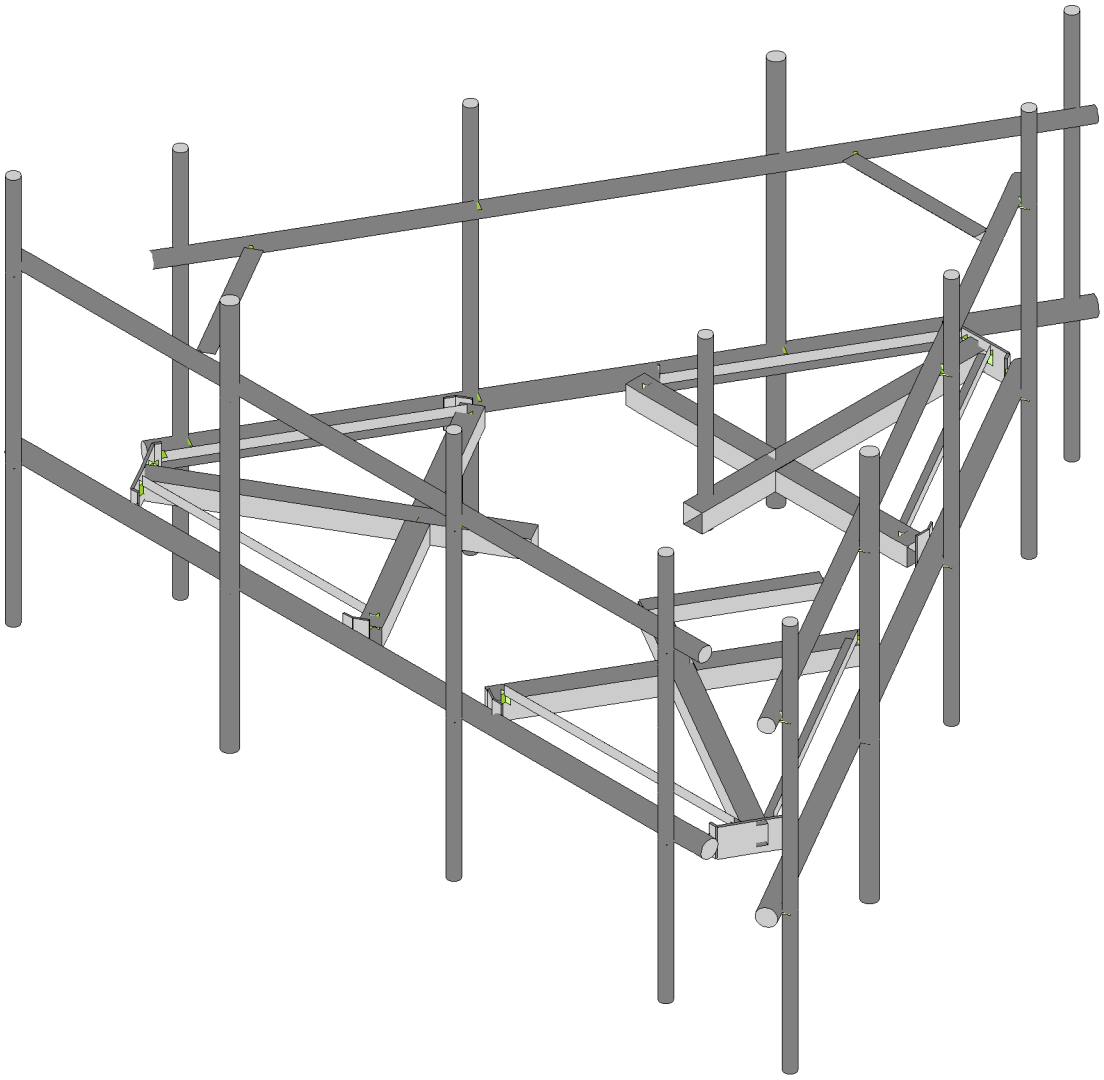


CONN. #3

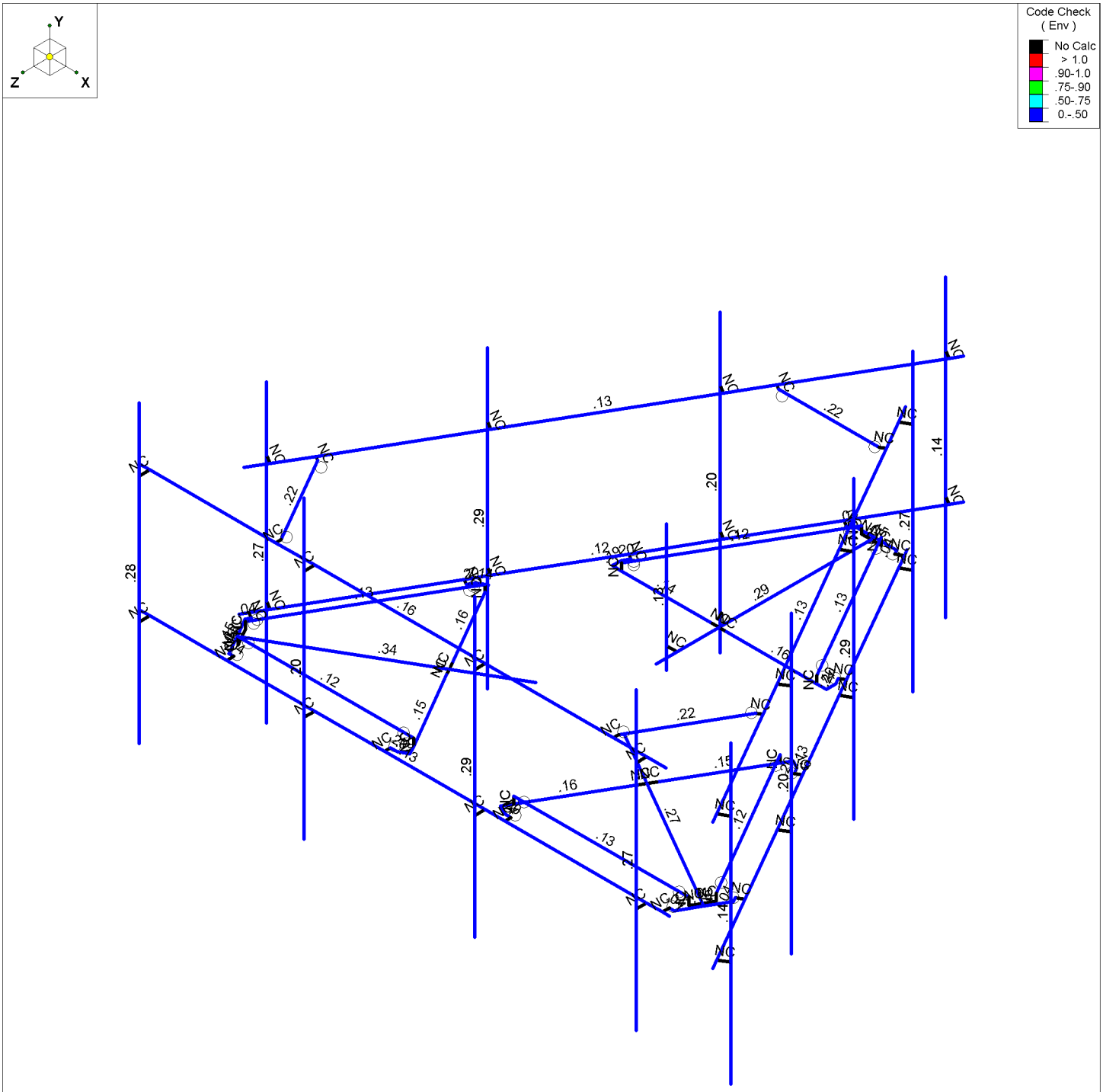
Please Insert Sketches of the Antenna Mount, cont'd



SQUID PLAN VIEW

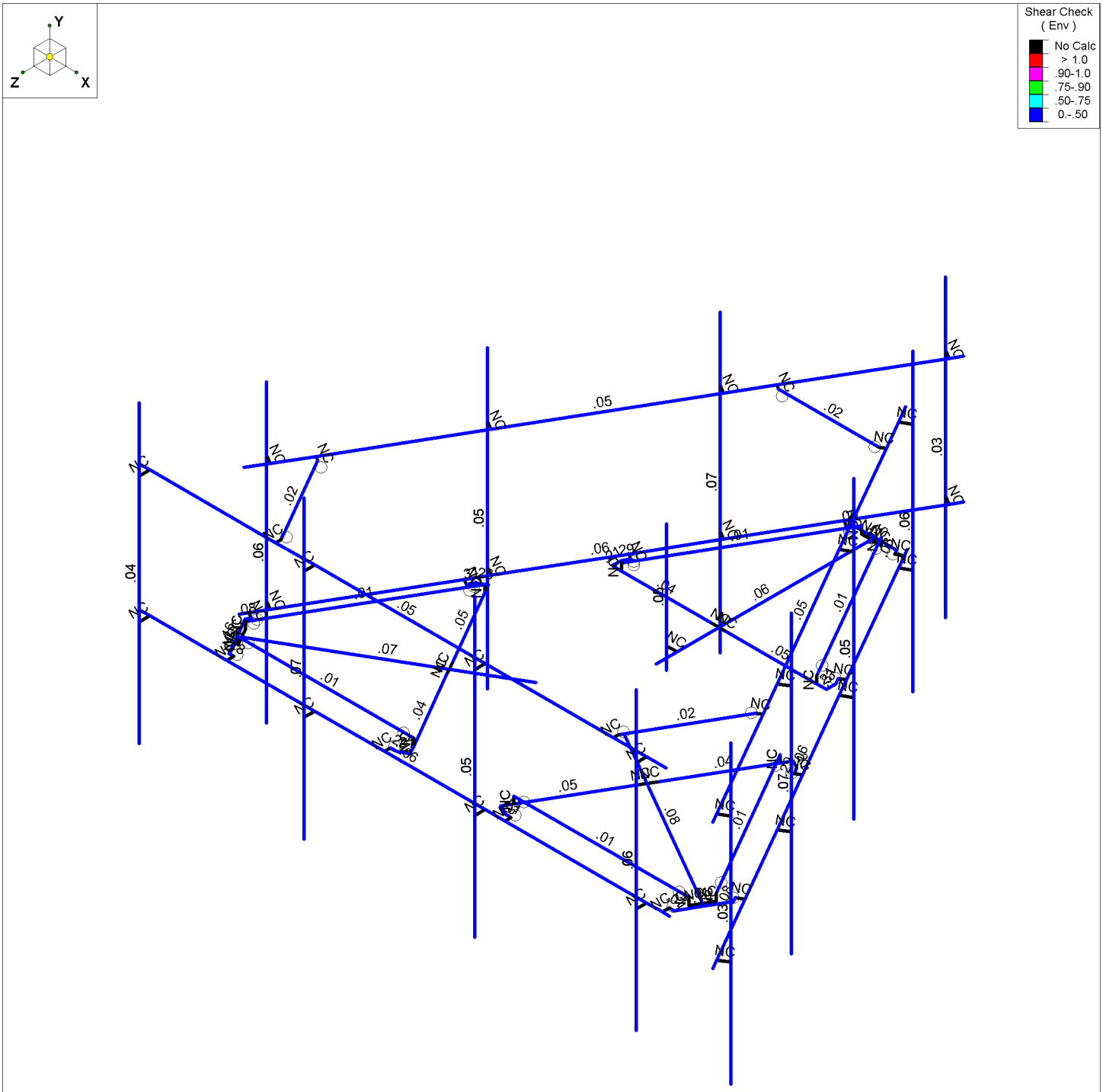


Colliers Engineering & Des...	5000245865-VZW_MT_LO_H	SK - 1
		Jan 16, 2024 at 2:03 PM
		5000245865-VZW_MT_LO_H.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & Des...	5000245865-VZW_MT_LO_H	SK - 2
		Jan 16, 2024 at 2:04 PM
		5000245865-VZW_MT_LO_H.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & Des...	5000245865-VZW_MT_LO_H	SK - 3
		Jan 16, 2024 at 2:04 PM
		5000245865-VZW_MT_LO_H.r3d

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Antenna D	None					93			
2	Antenna Di	None					93			
3	Antenna Wo (0 Deg)	None					93			
4	Antenna Wo (30 Deg)	None					93			
5	Antenna Wo (60 Deg)	None					93			
6	Antenna Wo (90 Deg)	None					93			
7	Antenna Wo (120 Deg)	None					93			
8	Antenna Wo (150 Deg)	None					93			
9	Antenna Wo (180 Deg)	None					93			
10	Antenna Wo (210 Deg)	None					93			
11	Antenna Wo (240 Deg)	None					93			
12	Antenna Wo (270 Deg)	None					93			
13	Antenna Wo (300 Deg)	None					93			
14	Antenna Wo (330 Deg)	None					93			
15	Antenna Wi (0 Deg)	None					93			
16	Antenna Wi (30 Deg)	None					93			
17	Antenna Wi (60 Deg)	None					93			
18	Antenna Wi (90 Deg)	None					93			
19	Antenna Wi (120 Deg)	None					93			
20	Antenna Wi (150 Deg)	None					93			
21	Antenna Wi (180 Deg)	None					93			
22	Antenna Wi (210 Deg)	None					93			
23	Antenna Wi (240 Deg)	None					93			
24	Antenna Wi (270 Deg)	None					93			
25	Antenna Wi (300 Deg)	None					93			
26	Antenna Wi (330 Deg)	None					93			
27	Antenna Wm (0 Deg)	None					93			
28	Antenna Wm (30 Deg)	None					93			
29	Antenna Wm (60 Deg)	None					93			
30	Antenna Wm (90 Deg)	None					93			
31	Antenna Wm (120 De...	None					93			
32	Antenna Wm (150 De...	None					93			
33	Antenna Wm (180 De...	None					93			
34	Antenna Wm (210 De...	None					93			
35	Antenna Wm (240 De...	None					93			
36	Antenna Wm (270 De...	None					93			
37	Antenna Wm (300 De...	None					93			
38	Antenna Wm (330 De...	None					93			
39	Structure D	None		-1					3	
40	Structure Di	None						58	3	
41	Structure Wo (0 Deg)	None						116		
42	Structure Wo (30 Deg)	None						116		
43	Structure Wo (60 Deg)	None						116		
44	Structure Wo (90 Deg)	None						116		
45	Structure Wo (120 D...	None						116		
46	Structure Wo (150 D...	None						116		
47	Structure Wo (180 D...	None						116		
48	Structure Wo (210 D...	None						116		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
49	Structure Wo (240 D...	None						116		
50	Structure Wo (270 D...	None						116		
51	Structure Wo (300 D...	None						116		
52	Structure Wo (330 D...	None						116		
53	Structure Wi (0 Deg)	None						116		
54	Structure Wi (30 Deg)	None						116		
55	Structure Wi (60 Deg)	None						116		
56	Structure Wi (90 Deg)	None						116		
57	Structure Wi (120 De...	None						116		
58	Structure Wi (150 De...	None						116		
59	Structure Wi (180 De...	None						116		
60	Structure Wi (210 De...	None						116		
61	Structure Wi (240 De...	None						116		
62	Structure Wi (270 De...	None						116		
63	Structure Wi (300 De...	None						116		
64	Structure Wi (330 De...	None						116		
65	Structure Wm (0 Deg)	None						116		
66	Structure Wm (30 D...	None						116		
67	Structure Wm (60 D...	None						116		
68	Structure Wm (90 D...	None						116		
69	Structure Wm (120 ...	None						116		
70	Structure Wm (150 ...	None						116		
71	Structure Wm (180 ...	None						116		
72	Structure Wm (210 ...	None						116		
73	Structure Wm (240 ...	None						116		
74	Structure Wm (270 ...	None						116		
75	Structure Wm (300 ...	None						116		
76	Structure Wm (330 ...	None						116		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			
81	Antenna Ev	None					93			
82	Antenna Eh (0 Deg)	None					62			
83	Antenna Eh (90 Deg)	None					62			
84	Structure Ev	ELY		-.04					3	
85	Structure Eh (0 Deg)	ELZ			-.1				3	
86	Structure Eh (90 Deg)	ELX	.1						3	
87	BLC 39 Transient Are...	None						30		
88	BLC 40 Transient Are...	None						30		
89	BLC 84 Transient Are...	None						30		
90	BLC 85 Transient Are...	None						30		
91	BLC 86 Transient Are...	None						30		

Load Combinations

	Description	So...	PDelta	S...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
1	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	3	1	41	1												
2	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	4	1	42	1												
3	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	5	1	43	1												
4	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	6	1	44	1												

Load Combinations (Continued)

	Description	So...	PDelta	S...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
5	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	7	1	45	1												
6	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	8	1	46	1												
7	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	9	1	47	1												
8	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	10	1	48	1												
9	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	11	1	49	1												
10	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	12	1	50	1												
11	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	13	1	51	1												
12	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	14	1	52	1												
13	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	15	1	53	1								
14	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1	54	1								
15	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1								
16	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1								
17	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1								
18	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1								
19	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1								
20	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1								
21	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1								
22	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1								
23	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1								
24	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1								
25	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1										
26	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1										
27	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1										
28	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1										
29	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1										
30	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1										
31	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1										
32	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1										
33	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	35	1	73	1										
34	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	36	1	74	1										
35	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	37	1	75	1										
36	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	38	1	76	1										
37	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	27	1	65	1										
38	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	28	1	66	1										
39	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	29	1	67	1										
40	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	30	1	68	1										
41	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	31	1	69	1										
42	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	32	1	70	1										
43	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	33	1	71	1										
44	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	34	1	72	1										
45	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	35	1	73	1										
46	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	36	1	74	1										
47	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	37	1	75	1										
48	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	38	1	76	1										
49	1.2D + 1....	Yes	Y		1	1.2	39	1.2	79	1.5														
50	1.2D + 1....	Yes	Y		1	1.2	39	1.2	80	1.5														
51	1.4D	Yes	Y		1	1.4	39	1.4																
52	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	1	83		ELZ	1	ELX					
53	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.866	83	.5	ELZ	.866	ELX	.5				
54	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.5	83	.866	ELZ	.5	ELX	.866				
55	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82		83	1	ELZ		ELX	1				
56	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.5	83	.866	ELZ	-.5	ELX	.866				

Load Combinations (Continued)

	Description	So...	PDelta	S...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
57	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.866	83	.5	ELZ	-.866	ELX	.5				
58	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-1	83		ELZ	-1	ELX					
59	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.866	83	-.5	ELZ	-.866	ELX	-.5				
60	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.5	83	-.866	ELZ	-.5	ELX	-.866				
61	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82		83	-1	ELZ		ELX	-1				
62	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.5	83	-.866	ELZ	.5	ELX	-.866				
63	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.866	83	-.5	ELZ	.866	ELX	-.5				
64	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	1	83		ELZ	1	ELX					
65	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.866	83	.5	ELZ	.866	ELX	.5				
66	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.5	83	.866	ELZ	.5	ELX	.866				
67	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82		83	1	ELZ		ELX	1				
68	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.5	83	.866	ELZ	-.5	ELX	.866				
69	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.866	83	.5	ELZ	-.866	ELX	.5				
70	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-1	83		ELZ	-1	ELX					
71	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.866	83	-.5	ELZ	-.866	ELX	-.5				
72	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.5	83	-.866	ELZ	-.5	ELX	-.866				
73	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82		83	-1	ELZ		ELX	-1				
74	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.5	83	-.866	ELZ	.5	ELX	-.866				
75	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.866	83	-.5	ELZ	.866	ELX	-.5				

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Face Horizo...	PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2	Standoff Hor...	HSS4X4X4	Beam	SquareTube	A500 Gr.B ...	Typical	3.37	7.8	7.8	12.8
3	Corner Plate	PL1/2x6	Beam	BAR	A36 Gr.36	Typical	3	.063	9	.237
4	Platform Cro...	HSS4X4X4	Beam	SquareTube	A500 Gr.B ...	Typical	3.37	7.8	7.8	12.8
5	Grating Sup...	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical	.722	.271	.271	.009
6	Mount Pipe	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
7	Cross Arm ...	PL3/8X6	Column	RECT	A36 Gr.36	Typical	2.25	.026	6.75	.101
8	Prop Mount ...	PIPE 2.5	Column	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
9	Mod Suppor...	PIPE 2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
10	Mod Suppor...	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E...	Density[k/ft...	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
8	Q235	29000	11154	.3	.65	.49	35	1.5	58	1.2

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M4	N3	N27			Standoff Horiz...	Beam	SquareTube	A500 Gr.B...	Typical
2	M52A	N87D	N92			Standoff Horiz...	Beam	SquareTube	A500 Gr.B...	Typical
3	M76A	N115	N120			Standoff Horiz...	Beam	SquareTube	A500 Gr.B...	Typical
4	M19	N8	N9			RIGID	None	None	RIGID	Typical
5	M20	N10	N11			RIGID	None	None	RIGID	Typical
6	M21	N12	N13			RIGID	None	None	RIGID	Typical
7	M22	N14	N15			RIGID	None	None	RIGID	Typical
8	M35A	N7	N30			RIGID	None	None	RIGID	Typical
9	M36A	N6	N29			RIGID	None	None	RIGID	Typical
10	M52	N87B	N88C			RIGID	None	None	RIGID	Typical
11	M58	N102	N24			RIGID	None	None	RIGID	Typical
12	M59	N24	N103A			RIGID	None	None	RIGID	Typical
13	M79	N131	N86A			RIGID	None	None	RIGID	Typical
14	M83	N135	N86D			RIGID	None	None	RIGID	Typical
15	M88	N144	N86B			RIGID	None	None	RIGID	Typical
16	M92	N148	N86E			RIGID	None	None	RIGID	Typical
17	M50	N88C	N88A			RIGID	None	None	RIGID	Typical
18	M51	N88A	N86G			RIGID	None	None	RIGID	Typical
19	M51A	N87C	N86G			RIGID	None	None	RIGID	Typical
20	M56	N90	N94			RIGID	None	None	RIGID	Typical
21	M57	N89	N93			RIGID	None	None	RIGID	Typical
22	M60	N113	N114			RIGID	None	None	RIGID	Typical
23	M61	N96	N91			RIGID	None	None	RIGID	Typical
24	M62	N91	N97			RIGID	None	None	RIGID	Typical
25	M65	N100	N104			RIGID	None	None	RIGID	Typical
26	M67	N101A	N108			RIGID	None	None	RIGID	Typical
27	M70	N102A	N105A			RIGID	None	None	RIGID	Typical
28	M72	N103	N109			RIGID	None	None	RIGID	Typical
29	M73	N114	N110			RIGID	None	None	RIGID	Typical
30	M74	N110	N112			RIGID	None	None	RIGID	Typical
31	M75	N111	N112			RIGID	None	None	RIGID	Typical
32	M80A	N118	N122			RIGID	None	None	RIGID	Typical
33	M81	N117	N121			RIGID	None	None	RIGID	Typical
34	M84A	N141	N142			RIGID	None	None	RIGID	Typical
35	M85A	N124	N119			RIGID	None	None	RIGID	Typical
36	M86	N119	N125			RIGID	None	None	RIGID	Typical
37	M89	N128	N132			RIGID	None	None	RIGID	Typical
38	M91A	N129	N136			RIGID	None	None	RIGID	Typical
39	M94	N130	N133			RIGID	None	None	RIGID	Typical
40	M96	N131A	N137			RIGID	None	None	RIGID	Typical
41	M97	N142	N138			RIGID	None	None	RIGID	Typical
42	M98	N138	N140			RIGID	None	None	RIGID	Typical
43	M99	N139	N140			RIGID	None	None	RIGID	Typical
44	M83B	N106A	N107A			RIGID	None	None	RIGID	Typical
45	M84B	N108A	N109A			RIGID	None	None	RIGID	Typical
46	M85B	N110A	N111A			RIGID	None	None	RIGID	Typical
47	M86A	N112A	N113A			RIGID	None	None	RIGID	Typical
48	M101	N142A	N143			RIGID	None	None	RIGID	Typical
49	M102	N144A	N145			RIGID	None	None	RIGID	Typical
50	M103	N146	N147			RIGID	None	None	RIGID	Typical
51	M104	N148A	N149			RIGID	None	None	RIGID	Typical
52	M100A	N140B	N141B			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
53	M10	N101	N103A			Platform Cross...	Beam	SquareTube	A500 Gr.B...	Typical
54	M43	N102	N5			Platform Cross...	Beam	SquareTube	A500 Gr.B...	Typical
55	M53	N95	N97			Platform Cross...	Beam	SquareTube	A500 Gr.B...	Typical
56	M54	N96	N88B			Platform Cross...	Beam	SquareTube	A500 Gr.B...	Typical
57	M77A	N123	N125			Platform Cross...	Beam	SquareTube	A500 Gr.B...	Typical
58	M78	N124	N116			Platform Cross...	Beam	SquareTube	A500 Gr.B...	Typical
59	MP3A	N17	N16			Prop Mount Pipe	Column	Pipe	A53 Gr.B	Typical
60	MP4A	N19	N18			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
61	MP2A	N21	N20			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
62	MP1A	N23	N22			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
63	MP3C	N115A	N114A			Prop Mount Pipe	Column	Pipe	A53 Gr.B	Typical
64	MP4C	N117A	N116A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
65	MP2C	N119A	N118A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
66	MP1C	N121A	N120A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
67	MP3B	N151	N150			Prop Mount Pipe	Column	Pipe	A53 Gr.B	Typical
68	MP4B	N153	N152			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
69	MP2B	N155	N154			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
70	MP1B	N157	N156			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
71	OVP1	N142B	N143A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
72	M51B	N87C	N6			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
73	M52B	N7	N87B			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
74	M58A	N111	N89			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
75	M59A	N90	N113			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
76	M82	N139	N117			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
77	M83A	N118	N141			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
78	M1	N1	N2			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
79	M82A	N104B	N105B			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
80	M100	N140A	N141A			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
81	M76	N101	N105			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
82	M77	N105	N131			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
83	M84	N5	N104A			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
84	M85	N104A	N144			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
85	M63	N95	N99			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
86	M64	N99	N100			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
87	M68	N88B	N98			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
88	M69	N98	N102A			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
89	M87	N123	N127			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
90	M88A	N127	N128			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
91	M92A	N116	N126			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
92	M93	N126	N130			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
93	M46	N86C	N87A			Corner Plate	Beam	BAR	A36 Gr.36	Typical
94	M80	N87A	N135			Corner Plate	Beam	BAR	A36 Gr.36	Typical
95	M91	N86C	N148			Corner Plate	Beam	BAR	A36 Gr.36	Typical
96	M55	N106	N107			Corner Plate	Beam	BAR	A36 Gr.36	Typical
97	M66	N107	N101A			Corner Plate	Beam	BAR	A36 Gr.36	Typical
98	M71	N106	N103			Corner Plate	Beam	BAR	A36 Gr.36	Typical
99	M79A	N134	N135A			Corner Plate	Beam	BAR	A36 Gr.36	Typical
100	M90	N135A	N129			Corner Plate	Beam	BAR	A36 Gr.36	Typical
101	M95	N134	N131A			Corner Plate	Beam	BAR	A36 Gr.36	Typical
102	M102A	N149A	N150A			RIGID	None	None	RIGID	Typical
103	M103A	N151A	N152A			RIGID	None	None	RIGID	Typical
104	M104A	N153A	N154A			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
105	M105	N155A	N156A			RIGID	None	None	RIGID	Typical
106	M106	N147A	N148B			Mod Support ...	Beam	Pipe	A53 Gr.B	Typical
107	M107	N160	N161			RIGID	None	None	RIGID	Typical
108	M108	N162	N163			RIGID	None	None	RIGID	Typical
109	M109	N164	N165			RIGID	None	None	RIGID	Typical
110	M110	N166	N167			RIGID	None	None	RIGID	Typical
111	M111	N158	N159			Mod Support ...	Beam	Pipe	A53 Gr.B	Typical
112	M112	N171	N172			RIGID	None	None	RIGID	Typical
113	M113	N173	N174			RIGID	None	None	RIGID	Typical
114	M114	N175	N176			RIGID	None	None	RIGID	Typical
115	M115	N177	N178			RIGID	None	None	RIGID	Typical
116	M116	N169	N170			Mod Support ...	Beam	Pipe	A53 Gr.B	Typical
117	M117	N177A	N178A			RIGID	None	None	RIGID	Typical
118	M118	N179	N180			RIGID	None	None	RIGID	Typical
119	M119	N181	N182			RIGID	None	None	RIGID	Typical
120	M120	N183	N184			RIGID	None	None	RIGID	Typical
121	M121	N185	N186			RIGID	None	None	RIGID	Typical
122	M122	N187	N188			RIGID	None	None	RIGID	Typical
123	M123	N178A	N184		180	Mod Support ...	Beam	Single Angle	A36 Gr.36	Typical
124	M124	N182	N188		180	Mod Support ...	Beam	Single Angle	A36 Gr.36	Typical
125	M125	N186	N180		180	Mod Support ...	Beam	Single Angle	A36 Gr.36	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	M4						Yes				None
2	M52A						Yes				None
3	M76A						Yes				None
4	M19						Yes	** NA **			None
5	M20						Yes	** NA **			None
6	M21						Yes	** NA **			None
7	M22						Yes	** NA **			None
8	M35A						Yes	** NA **			None
9	M36A						Yes	** NA **			None
10	M52						Yes	** NA **			None
11	M58						Yes	** NA **			None
12	M59						Yes	** NA **			None
13	M79		BenPIN				Yes	** NA **			None
14	M83		BenPIN				Yes	** NA **			None
15	M88		BenPIN				Yes	** NA **			None
16	M92		BenPIN				Yes	** NA **			None
17	M50						Yes	** NA **			None
18	M51						Yes	** NA **			None
19	M51A						Yes	** NA **			None
20	M56						Yes	** NA **			None
21	M57						Yes	** NA **			None
22	M60						Yes	** NA **			None
23	M61						Yes	** NA **			None
24	M62						Yes	** NA **			None
25	M65		BenPIN				Yes	** NA **			None
26	M67		BenPIN				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...
27	M70		BenPIN				Yes	** NA **			None
28	M72		BenPIN				Yes	** NA **			None
29	M73						Yes	** NA **			None
30	M74						Yes	** NA **			None
31	M75						Yes	** NA **			None
32	M80A						Yes	** NA **			None
33	M81						Yes	** NA **			None
34	M84A						Yes	** NA **			None
35	M85A						Yes	** NA **			None
36	M86						Yes	** NA **			None
37	M89		BenPIN				Yes	** NA **			None
38	M91A		BenPIN				Yes	** NA **			None
39	M94		BenPIN				Yes	** NA **			None
40	M96		BenPIN				Yes	** NA **			None
41	M97						Yes	** NA **			None
42	M98						Yes	** NA **			None
43	M99						Yes	** NA **			None
44	M83B						Yes	** NA **			None
45	M84B						Yes	** NA **			None
46	M85B						Yes	** NA **			None
47	M86A						Yes	** NA **			None
48	M101						Yes	** NA **			None
49	M102						Yes	** NA **			None
50	M103						Yes	** NA **			None
51	M104						Yes	** NA **			None
52	M100A						Yes	** NA **			None
53	M10						Yes	Default			None
54	M43						Yes	Default			None
55	M53						Yes	Default			None
56	M54						Yes	Default			None
57	M77A						Yes	Default			None
58	M78						Yes	Default			None
59	MP3A						Yes	** NA **			None
60	MP4A						Yes	** NA **			None
61	MP2A						Yes	** NA **			None
62	MP1A						Yes	** NA **			None
63	MP3C						Yes	** NA **			None
64	MP4C						Yes	** NA **			None
65	MP2C						Yes	** NA **			None
66	MP1C						Yes	** NA **			None
67	MP3B						Yes	** NA **			None
68	MP4B						Yes	** NA **			None
69	MP2B						Yes	** NA **			None
70	MP1B						Yes	** NA **			None
71	OVP1						Yes	** NA **			None
72	M51B	OOOOOX	OOOOOX				Yes	Default			None
73	M52B	OOOOOX	OOOOOX				Yes	Default			None
74	M58A	OOOOOX	OOOOOX				Yes	Default			None
75	M59A	OOOOOX	OOOOOX				Yes	Default			None
76	M82	OOOOOX	OOOOOX				Yes	Default			None
77	M83A	OOOOOX	OOOOOX				Yes	Default			None
78	M1						Yes	Default			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...
79	M82A						Yes	Default			None
80	M100						Yes	Default			None
81	M76						Yes	** NA **			None
82	M77						Yes	** NA **			None
83	M84						Yes	** NA **			None
84	M85						Yes	** NA **			None
85	M63						Yes	** NA **			None
86	M64						Yes	** NA **			None
87	M68						Yes	** NA **			None
88	M69						Yes	** NA **			None
89	M87						Yes	** NA **			None
90	M88A						Yes	** NA **			None
91	M92A						Yes	** NA **			None
92	M93						Yes	** NA **			None
93	M46						Yes	Default			None
94	M80						Yes				None
95	M91						Yes				None
96	M55						Yes	Default			None
97	M66						Yes				None
98	M71						Yes				None
99	M79A						Yes	Default			None
100	M90						Yes				None
101	M95						Yes				None
102	M102A						Yes	** NA **			None
103	M103A						Yes	** NA **			None
104	M104A						Yes	** NA **			None
105	M105						Yes	** NA **			None
106	M106						Yes	Default			None
107	M107						Yes	** NA **			None
108	M108						Yes	** NA **			None
109	M109						Yes	** NA **			None
110	M110						Yes	** NA **			None
111	M111						Yes	Default			None
112	M112						Yes	** NA **			None
113	M113						Yes	** NA **			None
114	M114						Yes	** NA **			None
115	M115						Yes	** NA **			None
116	M116						Yes	Default			None
117	M117	OOOOOX					Yes	** NA **			None
118	M118	OOOOOX					Yes	** NA **			None
119	M119	OOOOOX					Yes	** NA **			None
120	M120	OOOOOX					Yes	** NA **			None
121	M121	OOOOOX					Yes	** NA **			None
122	M122	OOOOOX					Yes	** NA **			None
123	M123						Yes	Default			None
124	M124						Yes	Default			None
125	M125						Yes	Default			None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-7.5	.75
2	MP1A	My	-.003	.75
3	MP1A	Mz	0	.75
4	MP1A	Y	-7.5	6.5
5	MP1A	My	-.003	6.5
6	MP1A	Mz	0	6.5
7	MP1B	Y	-7.5	.75
8	MP1B	My	.001	.75
9	MP1B	Mz	-.002	.75
10	MP1B	Y	-7.5	6.5
11	MP1B	My	.001	6.5
12	MP1B	Mz	-.002	6.5
13	MP1C	Y	-7.5	.75
14	MP1C	My	.001	.75
15	MP1C	Mz	.002	.75
16	MP1C	Y	-7.5	6.5
17	MP1C	My	.001	6.5
18	MP1C	Mz	.002	6.5
19	MP2A	Y	-21.85	1.5
20	MP2A	My	-.011	1.5
21	MP2A	Mz	.015	1.5
22	MP2A	Y	-21.85	5.75
23	MP2A	My	-.011	5.75
24	MP2A	Mz	.015	5.75
25	MP2B	Y	-21.85	1.5
26	MP2B	My	-.007	1.5
27	MP2B	Mz	-.017	1.5
28	MP2B	Y	-21.85	5.75
29	MP2B	My	-.007	5.75
30	MP2B	Mz	-.017	5.75
31	MP2C	Y	-21.85	1.5
32	MP2C	My	.018	1.5
33	MP2C	Mz	.002	1.5
34	MP2C	Y	-21.85	5.75
35	MP2C	My	.018	5.75
36	MP2C	Mz	.002	5.75
37	MP2A	Y	-21.85	1.5
38	MP2A	My	-.011	1.5
39	MP2A	Mz	-.015	1.5
40	MP2A	Y	-21.85	5.75
41	MP2A	My	-.011	5.75
42	MP2A	Mz	-.015	5.75
43	MP2B	Y	-21.85	1.5
44	MP2B	My	.018	1.5
45	MP2B	Mz	-.002	1.5
46	MP2B	Y	-21.85	5.75
47	MP2B	My	.018	5.75
48	MP2B	Mz	-.002	5.75
49	MP2C	Y	-21.85	1.5
50	MP2C	My	-.007	1.5
51	MP2C	Mz	.017	1.5

Member Point Loads (BLC 1 : Antenna D) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
52	MP2C	Y	-21.85	5.75
53	MP2C	My	-.007	5.75
54	MP2C	Mz	.017	5.75
55	MP4A	Y	-28.65	2.75
56	MP4A	My	-.014	2.75
57	MP4A	Mz	0	2.75
58	MP4A	Y	-28.65	4.5
59	MP4A	My	-.014	4.5
60	MP4A	Mz	0	4.5
61	MP4B	Y	-28.65	2.75
62	MP4B	My	.007	2.75
63	MP4B	Mz	-.012	2.75
64	MP4B	Y	-28.65	4.5
65	MP4B	My	.007	4.5
66	MP4B	Mz	-.012	4.5
67	MP4C	Y	-28.65	2.75
68	MP4C	My	.007	2.75
69	MP4C	Mz	.012	2.75
70	MP4C	Y	-28.65	4.5
71	MP4C	My	.007	4.5
72	MP4C	Mz	.012	4.5
73	OVP1	Y	-32	1
74	OVP1	My	.021	1
75	OVP1	Mz	0	1
76	MP3A	Y	-74.7	3
77	MP3A	My	.037	3
78	MP3A	Mz	0	3
79	MP3B	Y	-74.7	3
80	MP3B	My	-.019	3
81	MP3B	Mz	.032	3
82	MP3C	Y	-74.7	3
83	MP3C	My	-.019	3
84	MP3C	Mz	-.032	3
85	MP2A	Y	-79.1	3
86	MP2A	My	.04	3
87	MP2A	Mz	0	3
88	MP2B	Y	-79.1	3
89	MP2B	My	-.02	3
90	MP2B	Mz	.034	3
91	MP2C	Y	-79.1	3
92	MP2C	My	-.02	3
93	MP2C	Mz	-.034	3

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-34.751	.75
2	MP1A	My	-.012	.75
3	MP1A	Mz	0	.75
4	MP1A	Y	-34.751	6.5
5	MP1A	My	-.012	6.5
6	MP1A	Mz	0	6.5

Member Point Loads (BLC 2 : Antenna Di) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
7	MP1B	Y	-34.751	.75
8	MP1B	My	.006	.75
9	MP1B	Mz	-.01	.75
10	MP1B	Y	-34.751	6.5
11	MP1B	My	.006	6.5
12	MP1B	Mz	-.01	6.5
13	MP1C	Y	-34.751	.75
14	MP1C	My	.006	.75
15	MP1C	Mz	.01	.75
16	MP1C	Y	-34.751	6.5
17	MP1C	My	.006	6.5
18	MP1C	Mz	.01	6.5
19	MP2A	Y	-61.957	1.5
20	MP2A	My	-.031	1.5
21	MP2A	Mz	.041	1.5
22	MP2A	Y	-61.957	5.75
23	MP2A	My	-.031	5.75
24	MP2A	Mz	.041	5.75
25	MP2B	Y	-61.957	1.5
26	MP2B	My	-.02	1.5
27	MP2B	Mz	-.047	1.5
28	MP2B	Y	-61.957	5.75
29	MP2B	My	-.02	5.75
30	MP2B	Mz	-.047	5.75
31	MP2C	Y	-61.957	1.5
32	MP2C	My	.051	1.5
33	MP2C	Mz	.006	1.5
34	MP2C	Y	-61.957	5.75
35	MP2C	My	.051	5.75
36	MP2C	Mz	.006	5.75
37	MP2A	Y	-61.957	1.5
38	MP2A	My	-.031	1.5
39	MP2A	Mz	-.041	1.5
40	MP2A	Y	-61.957	5.75
41	MP2A	My	-.031	5.75
42	MP2A	Mz	-.041	5.75
43	MP2B	Y	-61.957	1.5
44	MP2B	My	.051	1.5
45	MP2B	Mz	-.006	1.5
46	MP2B	Y	-61.957	5.75
47	MP2B	My	.051	5.75
48	MP2B	Mz	-.006	5.75
49	MP2C	Y	-61.957	1.5
50	MP2C	My	-.02	1.5
51	MP2C	Mz	.047	1.5
52	MP2C	Y	-61.957	5.75
53	MP2C	My	-.02	5.75
54	MP2C	Mz	.047	5.75
55	MP4A	Y	-30.458	2.75
56	MP4A	My	-.015	2.75
57	MP4A	Mz	0	2.75
58	MP4A	Y	-30.458	4.5

Member Point Loads (BLC 2 : Antenna Di) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
59	MP4A	My	-.015	4.5
60	MP4A	Mz	0	4.5
61	MP4B	Y	-30.458	2.75
62	MP4B	My	.008	2.75
63	MP4B	Mz	-.013	2.75
64	MP4B	Y	-30.458	4.5
65	MP4B	My	.008	4.5
66	MP4B	Mz	-.013	4.5
67	MP4C	Y	-30.458	2.75
68	MP4C	My	.008	2.75
69	MP4C	Mz	.013	2.75
70	MP4C	Y	-30.458	4.5
71	MP4C	My	.008	4.5
72	MP4C	Mz	.013	4.5
73	OVP1	Y	-89.872	1
74	OVP1	My	.06	1
75	OVP1	Mz	0	1
76	MP3A	Y	-45.933	3
77	MP3A	My	.023	3
78	MP3A	Mz	0	3
79	MP3B	Y	-45.933	3
80	MP3B	My	-.011	3
81	MP3B	Mz	.02	3
82	MP3C	Y	-45.933	3
83	MP3C	My	-.011	3
84	MP3C	Mz	-.02	3
85	MP2A	Y	-46.419	3
86	MP2A	My	.023	3
87	MP2A	Mz	0	3
88	MP2B	Y	-46.419	3
89	MP2B	My	-.012	3
90	MP2B	Mz	.02	3
91	MP2C	Y	-46.419	3
92	MP2C	My	-.012	3
93	MP2C	Mz	-.02	3

Member Point Loads (BLC 3 : Antenna Wo (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	.75
2	MP1A	Z	-91.922	.75
3	MP1A	Mx	0	.75
4	MP1A	X	0	6.5
5	MP1A	Z	-91.922	6.5
6	MP1A	Mx	0	6.5
7	MP1B	X	0	.75
8	MP1B	Z	-74.93	.75
9	MP1B	Mx	.022	.75
10	MP1B	X	0	6.5
11	MP1B	Z	-74.93	6.5
12	MP1B	Mx	.022	6.5
13	MP1C	X	0	.75

Member Point Loads (BLC 3 : Antenna Wo (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
14	MP1C	Z	-74.93	.75
15	MP1C	Mx	-.022	.75
16	MP1C	X	0	6.5
17	MP1C	Z	-74.93	6.5
18	MP1C	Mx	-.022	6.5
19	MP2A	X	0	1.5
20	MP2A	Z	-105.303	1.5
21	MP2A	Mx	-.07	1.5
22	MP2A	X	0	5.75
23	MP2A	Z	-105.303	5.75
24	MP2A	Mx	-.07	5.75
25	MP2B	X	0	1.5
26	MP2B	Z	-60.215	1.5
27	MP2B	Mx	.046	1.5
28	MP2B	X	0	5.75
29	MP2B	Z	-60.215	5.75
30	MP2B	Mx	.046	5.75
31	MP2C	X	0	1.5
32	MP2C	Z	-60.215	1.5
33	MP2C	Mx	-.006	1.5
34	MP2C	X	0	5.75
35	MP2C	Z	-60.215	5.75
36	MP2C	Mx	-.006	5.75
37	MP2A	X	0	1.5
38	MP2A	Z	-105.303	1.5
39	MP2A	Mx	.07	1.5
40	MP2A	X	0	5.75
41	MP2A	Z	-105.303	5.75
42	MP2A	Mx	.07	5.75
43	MP2B	X	0	1.5
44	MP2B	Z	-60.215	1.5
45	MP2B	Mx	.006	1.5
46	MP2B	X	0	5.75
47	MP2B	Z	-60.215	5.75
48	MP2B	Mx	.006	5.75
49	MP2C	X	0	1.5
50	MP2C	Z	-60.215	1.5
51	MP2C	Mx	-.046	1.5
52	MP2C	X	0	5.75
53	MP2C	Z	-60.215	5.75
54	MP2C	Mx	-.046	5.75
55	MP4A	X	0	2.75
56	MP4A	Z	-61.281	2.75
57	MP4A	Mx	0	2.75
58	MP4A	X	0	4.5
59	MP4A	Z	-61.281	4.5
60	MP4A	Mx	0	4.5
61	MP4B	X	0	2.75
62	MP4B	Z	-31.465	2.75
63	MP4B	Mx	.014	2.75
64	MP4B	X	0	4.5
65	MP4B	Z	-31.465	4.5

Member Point Loads (BLC 3 : Antenna Wo (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
66	MP4B	Mx	.014	4.5
67	MP4C	X	0	2.75
68	MP4C	Z	-31.465	2.75
69	MP4C	Mx	-.014	2.75
70	MP4C	X	0	4.5
71	MP4C	Z	-31.465	4.5
72	MP4C	Mx	-.014	4.5
73	OVP1	X	0	1
74	OVP1	Z	-122.95	1
75	OVP1	Mx	0	1
76	MP3A	X	0	3
77	MP3A	Z	-60.118	3
78	MP3A	Mx	0	3
79	MP3B	X	0	3
80	MP3B	Z	-45.282	3
81	MP3B	Mx	-.02	3
82	MP3C	X	0	3
83	MP3C	Z	-45.282	3
84	MP3C	Mx	.02	3
85	MP2A	X	0	3
86	MP2A	Z	-72.529	3
87	MP2A	Mx	0	3
88	MP2B	X	0	3
89	MP2B	Z	-55.221	3
90	MP2B	Mx	-.024	3
91	MP2C	X	0	3
92	MP2C	Z	-55.221	3
93	MP2C	Mx	.024	3

Member Point Loads (BLC 4 : Antenna Wo (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	43.129	.75
2	MP1A	Z	-74.701	.75
3	MP1A	Mx	-.014	.75
4	MP1A	X	43.129	6.5
5	MP1A	Z	-74.701	6.5
6	MP1A	Mx	-.014	6.5
7	MP1B	X	34.633	.75
8	MP1B	Z	-59.986	.75
9	MP1B	Mx	.023	.75
10	MP1B	X	34.633	6.5
11	MP1B	Z	-59.986	6.5
12	MP1B	Mx	.023	6.5
13	MP1C	X	43.129	.75
14	MP1C	Z	-74.701	.75
15	MP1C	Mx	-.014	.75
16	MP1C	X	43.129	6.5
17	MP1C	Z	-74.701	6.5
18	MP1C	Mx	-.014	6.5
19	MP2A	X	45.137	1.5
20	MP2A	Z	-78.179	1.5

Member Point Loads (BLC 4 : Antenna Wo (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
21	MP2A	Mx	-.075	1.5
22	MP2A	X	45.137	5.75
23	MP2A	Z	-78.179	5.75
24	MP2A	Mx	-.075	5.75
25	MP2B	X	22.593	1.5
26	MP2B	Z	-39.131	1.5
27	MP2B	Mx	.023	1.5
28	MP2B	X	22.593	5.75
29	MP2B	Z	-39.131	5.75
30	MP2B	Mx	.023	5.75
31	MP2C	X	45.137	1.5
32	MP2C	Z	-78.179	1.5
33	MP2C	Mx	.03	1.5
34	MP2C	X	45.137	5.75
35	MP2C	Z	-78.179	5.75
36	MP2C	Mx	.03	5.75
37	MP2A	X	45.137	1.5
38	MP2A	Z	-78.179	1.5
39	MP2A	Mx	.03	1.5
40	MP2A	X	45.137	5.75
41	MP2A	Z	-78.179	5.75
42	MP2A	Mx	.03	5.75
43	MP2B	X	22.593	1.5
44	MP2B	Z	-39.131	1.5
45	MP2B	Mx	.023	1.5
46	MP2B	X	22.593	5.75
47	MP2B	Z	-39.131	5.75
48	MP2B	Mx	.023	5.75
49	MP2C	X	45.137	1.5
50	MP2C	Z	-78.179	1.5
51	MP2C	Mx	-.075	1.5
52	MP2C	X	45.137	5.75
53	MP2C	Z	-78.179	5.75
54	MP2C	Mx	-.075	5.75
55	MP4A	X	25.671	2.75
56	MP4A	Z	-44.464	2.75
57	MP4A	Mx	-.013	2.75
58	MP4A	X	25.671	4.5
59	MP4A	Z	-44.464	4.5
60	MP4A	Mx	-.013	4.5
61	MP4B	X	10.763	2.75
62	MP4B	Z	-18.642	2.75
63	MP4B	Mx	.011	2.75
64	MP4B	X	10.763	4.5
65	MP4B	Z	-18.642	4.5
66	MP4B	Mx	.011	4.5
67	MP4C	X	25.671	2.75
68	MP4C	Z	-44.464	2.75
69	MP4C	Mx	-.013	2.75
70	MP4C	X	25.671	4.5
71	MP4C	Z	-44.464	4.5
72	MP4C	Mx	-.013	4.5

Member Point Loads (BLC 4 : Antenna Wo (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
73	OVP1	X	57.79	1
74	OVP1	Z	-100.096	1
75	OVP1	Mx	.039	1
76	MP3A	X	27.586	3
77	MP3A	Z	-47.781	3
78	MP3A	Mx	.014	3
79	MP3B	X	20.168	3
80	MP3B	Z	-34.933	3
81	MP3B	Mx	-.02	3
82	MP3C	X	27.586	3
83	MP3C	Z	-47.781	3
84	MP3C	Mx	.014	3
85	MP2A	X	33.38	3
86	MP2A	Z	-57.815	3
87	MP2A	Mx	.017	3
88	MP2B	X	24.726	3
89	MP2B	Z	-42.826	3
90	MP2B	Mx	-.025	3
91	MP2C	X	33.38	3
92	MP2C	Z	-57.815	3
93	MP2C	Mx	.017	3

Member Point Loads (BLC 5 : Antenna Wo (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	64.891	.75
2	MP1A	Z	-37.465	.75
3	MP1A	Mx	-.022	.75
4	MP1A	X	64.891	6.5
5	MP1A	Z	-37.465	6.5
6	MP1A	Mx	-.022	6.5
7	MP1B	X	64.891	.75
8	MP1B	Z	-37.465	.75
9	MP1B	Mx	.022	.75
10	MP1B	X	64.891	6.5
11	MP1B	Z	-37.465	6.5
12	MP1B	Mx	.022	6.5
13	MP1C	X	79.607	.75
14	MP1C	Z	-45.961	.75
15	MP1C	Mx	0	.75
16	MP1C	X	79.607	6.5
17	MP1C	Z	-45.961	6.5
18	MP1C	Mx	0	6.5
19	MP2A	X	52.147	1.5
20	MP2A	Z	-30.107	1.5
21	MP2A	Mx	-.046	1.5
22	MP2A	X	52.147	5.75
23	MP2A	Z	-30.107	5.75
24	MP2A	Mx	-.046	5.75
25	MP2B	X	52.147	1.5
26	MP2B	Z	-30.107	1.5
27	MP2B	Mx	.006	1.5

Member Point Loads (BLC 5 : Antenna Wo (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
28	MP2B	X	52.147	5.75
29	MP2B	Z	-30.107	5.75
30	MP2B	Mx	.006	5.75
31	MP2C	X	91.195	1.5
32	MP2C	Z	-52.651	1.5
33	MP2C	Mx	.07	1.5
34	MP2C	X	91.195	5.75
35	MP2C	Z	-52.651	5.75
36	MP2C	Mx	.07	5.75
37	MP2A	X	52.147	1.5
38	MP2A	Z	-30.107	1.5
39	MP2A	Mx	-.006	1.5
40	MP2A	X	52.147	5.75
41	MP2A	Z	-30.107	5.75
42	MP2A	Mx	-.006	5.75
43	MP2B	X	52.147	1.5
44	MP2B	Z	-30.107	1.5
45	MP2B	Mx	.046	1.5
46	MP2B	X	52.147	5.75
47	MP2B	Z	-30.107	5.75
48	MP2B	Mx	.046	5.75
49	MP2C	X	91.195	1.5
50	MP2C	Z	-52.651	1.5
51	MP2C	Mx	-.07	1.5
52	MP2C	X	91.195	5.75
53	MP2C	Z	-52.651	5.75
54	MP2C	Mx	-.07	5.75
55	MP4A	X	27.249	2.75
56	MP4A	Z	-15.732	2.75
57	MP4A	Mx	-.014	2.75
58	MP4A	X	27.249	4.5
59	MP4A	Z	-15.732	4.5
60	MP4A	Mx	-.014	4.5
61	MP4B	X	27.249	2.75
62	MP4B	Z	-15.732	2.75
63	MP4B	Mx	.014	2.75
64	MP4B	X	27.249	4.5
65	MP4B	Z	-15.732	4.5
66	MP4B	Mx	.014	4.5
67	MP4C	X	53.071	2.75
68	MP4C	Z	-30.641	2.75
69	MP4C	Mx	0	2.75
70	MP4C	X	53.071	4.5
71	MP4C	Z	-30.641	4.5
72	MP4C	Mx	0	4.5
73	OVP1	X	87.332	1
74	OVP1	Z	-50.421	1
75	OVP1	Mx	.058	1
76	MP3A	X	39.215	3
77	MP3A	Z	-22.641	3
78	MP3A	Mx	.02	3
79	MP3B	X	39.215	3

Member Point Loads (BLC 5 : Antenna Wo (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
80	MP3B	Z	-22.641	3
81	MP3B	Mx	-.02	3
82	MP3C	X	52.063	3
83	MP3C	Z	-30.059	3
84	MP3C	Mx	0	3
85	MP2A	X	47.823	3
86	MP2A	Z	-27.61	3
87	MP2A	Mx	.024	3
88	MP2B	X	47.823	3
89	MP2B	Z	-27.61	3
90	MP2B	Mx	-.024	3
91	MP2C	X	62.812	3
92	MP2C	Z	-36.264	3
93	MP2C	Mx	0	3

Member Point Loads (BLC 6 : Antenna Wo (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	69.266	.75
2	MP1A	Z	0	.75
3	MP1A	Mx	-.023	.75
4	MP1A	X	69.266	6.5
5	MP1A	Z	0	6.5
6	MP1A	Mx	-.023	6.5
7	MP1B	X	86.258	.75
8	MP1B	Z	0	.75
9	MP1B	Mx	.014	.75
10	MP1B	X	86.258	6.5
11	MP1B	Z	0	6.5
12	MP1B	Mx	.014	6.5
13	MP1C	X	86.258	.75
14	MP1C	Z	0	.75
15	MP1C	Mx	.014	.75
16	MP1C	X	86.258	6.5
17	MP1C	Z	0	6.5
18	MP1C	Mx	.014	6.5
19	MP2A	X	45.185	1.5
20	MP2A	Z	0	1.5
21	MP2A	Mx	-.023	1.5
22	MP2A	X	45.185	5.75
23	MP2A	Z	0	5.75
24	MP2A	Mx	-.023	5.75
25	MP2B	X	90.273	1.5
26	MP2B	Z	0	1.5
27	MP2B	Mx	-.03	1.5
28	MP2B	X	90.273	5.75
29	MP2B	Z	0	5.75
30	MP2B	Mx	-.03	5.75
31	MP2C	X	90.273	1.5
32	MP2C	Z	0	1.5
33	MP2C	Mx	.075	1.5
34	MP2C	X	90.273	5.75

Member Point Loads (BLC 6 : Antenna Wo (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
35	MP2C	Z	0	5.75
36	MP2C	Mx	.075	5.75
37	MP2A	X	45.185	1.5
38	MP2A	Z	0	1.5
39	MP2A	Mx	-.023	1.5
40	MP2A	X	45.185	5.75
41	MP2A	Z	0	5.75
42	MP2A	Mx	-.023	5.75
43	MP2B	X	90.273	1.5
44	MP2B	Z	0	1.5
45	MP2B	Mx	.075	1.5
46	MP2B	X	90.273	5.75
47	MP2B	Z	0	5.75
48	MP2B	Mx	.075	5.75
49	MP2C	X	90.273	1.5
50	MP2C	Z	0	1.5
51	MP2C	Mx	-.03	1.5
52	MP2C	X	90.273	5.75
53	MP2C	Z	0	5.75
54	MP2C	Mx	-.03	5.75
55	MP4A	X	21.526	2.75
56	MP4A	Z	0	2.75
57	MP4A	Mx	-.011	2.75
58	MP4A	X	21.526	4.5
59	MP4A	Z	0	4.5
60	MP4A	Mx	-.011	4.5
61	MP4B	X	51.342	2.75
62	MP4B	Z	0	2.75
63	MP4B	Mx	.013	2.75
64	MP4B	X	51.342	4.5
65	MP4B	Z	0	4.5
66	MP4B	Mx	.013	4.5
67	MP4C	X	51.342	2.75
68	MP4C	Z	0	2.75
69	MP4C	Mx	.013	2.75
70	MP4C	X	51.342	4.5
71	MP4C	Z	0	4.5
72	MP4C	Mx	.013	4.5
73	OVP1	X	93.473	1
74	OVP1	Z	0	1
75	OVP1	Mx	.062	1
76	MP3A	X	40.337	3
77	MP3A	Z	0	3
78	MP3A	Mx	.02	3
79	MP3B	X	55.172	3
80	MP3B	Z	0	3
81	MP3B	Mx	-.014	3
82	MP3C	X	55.172	3
83	MP3C	Z	0	3
84	MP3C	Mx	-.014	3
85	MP2A	X	49.452	3
86	MP2A	Z	0	3

Member Point Loads (BLC 6 : Antenna Wo (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
87	MP2A	Mx	.025	3
88	MP2B	X	66.76	3
89	MP2B	Z	0	3
90	MP2B	Mx	-.017	3
91	MP2C	X	66.76	3
92	MP2C	Z	0	3
93	MP2C	Mx	-.017	3

Member Point Loads (BLC 7 : Antenna Wo (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	64.891	.75
2	MP1A	Z	37.465	.75
3	MP1A	Mx	-.022	.75
4	MP1A	X	64.891	6.5
5	MP1A	Z	37.465	6.5
6	MP1A	Mx	-.022	6.5
7	MP1B	X	79.607	.75
8	MP1B	Z	45.961	.75
9	MP1B	Mx	0	.75
10	MP1B	X	79.607	6.5
11	MP1B	Z	45.961	6.5
12	MP1B	Mx	0	6.5
13	MP1C	X	64.891	.75
14	MP1C	Z	37.465	.75
15	MP1C	Mx	.022	.75
16	MP1C	X	64.891	6.5
17	MP1C	Z	37.465	6.5
18	MP1C	Mx	.022	6.5
19	MP2A	X	52.147	1.5
20	MP2A	Z	30.107	1.5
21	MP2A	Mx	-.006	1.5
22	MP2A	X	52.147	5.75
23	MP2A	Z	30.107	5.75
24	MP2A	Mx	-.006	5.75
25	MP2B	X	91.195	1.5
26	MP2B	Z	52.651	1.5
27	MP2B	Mx	-.07	1.5
28	MP2B	X	91.195	5.75
29	MP2B	Z	52.651	5.75
30	MP2B	Mx	-.07	5.75
31	MP2C	X	52.147	1.5
32	MP2C	Z	30.107	1.5
33	MP2C	Mx	.046	1.5
34	MP2C	X	52.147	5.75
35	MP2C	Z	30.107	5.75
36	MP2C	Mx	.046	5.75
37	MP2A	X	52.147	1.5
38	MP2A	Z	30.107	1.5
39	MP2A	Mx	-.046	1.5
40	MP2A	X	52.147	5.75
41	MP2A	Z	30.107	5.75

Member Point Loads (BLC 7 : Antenna Wo (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
42	MP2A	Mx	-.046	5.75
43	MP2B	X	91.195	1.5
44	MP2B	Z	52.651	1.5
45	MP2B	Mx	.07	1.5
46	MP2B	X	91.195	5.75
47	MP2B	Z	52.651	5.75
48	MP2B	Mx	.07	5.75
49	MP2C	X	52.147	1.5
50	MP2C	Z	30.107	1.5
51	MP2C	Mx	.006	1.5
52	MP2C	X	52.147	5.75
53	MP2C	Z	30.107	5.75
54	MP2C	Mx	.006	5.75
55	MP4A	X	27.249	2.75
56	MP4A	Z	15.732	2.75
57	MP4A	Mx	-.014	2.75
58	MP4A	X	27.249	4.5
59	MP4A	Z	15.732	4.5
60	MP4A	Mx	-.014	4.5
61	MP4B	X	53.071	2.75
62	MP4B	Z	30.641	2.75
63	MP4B	Mx	0	2.75
64	MP4B	X	53.071	4.5
65	MP4B	Z	30.641	4.5
66	MP4B	Mx	0	4.5
67	MP4C	X	27.249	2.75
68	MP4C	Z	15.732	2.75
69	MP4C	Mx	.014	2.75
70	MP4C	X	27.249	4.5
71	MP4C	Z	15.732	4.5
72	MP4C	Mx	.014	4.5
73	OVP1	X	87.332	1
74	OVP1	Z	50.421	1
75	OVP1	Mx	.058	1
76	MP3A	X	39.215	3
77	MP3A	Z	22.641	3
78	MP3A	Mx	.02	3
79	MP3B	X	52.063	3
80	MP3B	Z	30.059	3
81	MP3B	Mx	0	3
82	MP3C	X	39.215	3
83	MP3C	Z	22.641	3
84	MP3C	Mx	-.02	3
85	MP2A	X	47.823	3
86	MP2A	Z	27.61	3
87	MP2A	Mx	.024	3
88	MP2B	X	62.812	3
89	MP2B	Z	36.264	3
90	MP2B	Mx	0	3
91	MP2C	X	47.823	3
92	MP2C	Z	27.61	3
93	MP2C	Mx	-.024	3

Member Point Loads (BLC 8 : Antenna Wo (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	43.129	.75
2	MP1A	Z	74.701	.75
3	MP1A	Mx	-.014	.75
4	MP1A	X	43.129	6.5
5	MP1A	Z	74.701	6.5
6	MP1A	Mx	-.014	6.5
7	MP1B	X	43.129	.75
8	MP1B	Z	74.701	.75
9	MP1B	Mx	-.014	.75
10	MP1B	X	43.129	6.5
11	MP1B	Z	74.701	6.5
12	MP1B	Mx	-.014	6.5
13	MP1C	X	34.633	.75
14	MP1C	Z	59.986	.75
15	MP1C	Mx	.023	.75
16	MP1C	X	34.633	6.5
17	MP1C	Z	59.986	6.5
18	MP1C	Mx	.023	6.5
19	MP2A	X	45.137	1.5
20	MP2A	Z	78.179	1.5
21	MP2A	Mx	.03	1.5
22	MP2A	X	45.137	5.75
23	MP2A	Z	78.179	5.75
24	MP2A	Mx	.03	5.75
25	MP2B	X	45.137	1.5
26	MP2B	Z	78.179	1.5
27	MP2B	Mx	-.075	1.5
28	MP2B	X	45.137	5.75
29	MP2B	Z	78.179	5.75
30	MP2B	Mx	-.075	5.75
31	MP2C	X	22.593	1.5
32	MP2C	Z	39.131	1.5
33	MP2C	Mx	.023	1.5
34	MP2C	X	22.593	5.75
35	MP2C	Z	39.131	5.75
36	MP2C	Mx	.023	5.75
37	MP2A	X	45.137	1.5
38	MP2A	Z	78.179	1.5
39	MP2A	Mx	-.075	1.5
40	MP2A	X	45.137	5.75
41	MP2A	Z	78.179	5.75
42	MP2A	Mx	-.075	5.75
43	MP2B	X	45.137	1.5
44	MP2B	Z	78.179	1.5
45	MP2B	Mx	.03	1.5
46	MP2B	X	45.137	5.75
47	MP2B	Z	78.179	5.75
48	MP2B	Mx	.03	5.75
49	MP2C	X	22.593	1.5
50	MP2C	Z	39.131	1.5
51	MP2C	Mx	.023	1.5
52	MP2C	X	22.593	5.75

Member Point Loads (BLC 8 : Antenna Wo (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP2C	Z	39.131	5.75
54	MP2C	Mx	.023	5.75
55	MP4A	X	25.671	2.75
56	MP4A	Z	44.464	2.75
57	MP4A	Mx	-.013	2.75
58	MP4A	X	25.671	4.5
59	MP4A	Z	44.464	4.5
60	MP4A	Mx	-.013	4.5
61	MP4B	X	25.671	2.75
62	MP4B	Z	44.464	2.75
63	MP4B	Mx	-.013	2.75
64	MP4B	X	25.671	4.5
65	MP4B	Z	44.464	4.5
66	MP4B	Mx	-.013	4.5
67	MP4C	X	10.763	2.75
68	MP4C	Z	18.642	2.75
69	MP4C	Mx	.011	2.75
70	MP4C	X	10.763	4.5
71	MP4C	Z	18.642	4.5
72	MP4C	Mx	.011	4.5
73	OVP1	X	57.79	1
74	OVP1	Z	100.096	1
75	OVP1	Mx	.039	1
76	MP3A	X	27.586	3
77	MP3A	Z	47.781	3
78	MP3A	Mx	.014	3
79	MP3B	X	27.586	3
80	MP3B	Z	47.781	3
81	MP3B	Mx	.014	3
82	MP3C	X	20.168	3
83	MP3C	Z	34.933	3
84	MP3C	Mx	-.02	3
85	MP2A	X	33.38	3
86	MP2A	Z	57.815	3
87	MP2A	Mx	.017	3
88	MP2B	X	33.38	3
89	MP2B	Z	57.815	3
90	MP2B	Mx	.017	3
91	MP2C	X	24.726	3
92	MP2C	Z	42.826	3
93	MP2C	Mx	-.025	3

Member Point Loads (BLC 9 : Antenna Wo (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	.75
2	MP1A	Z	91.922	.75
3	MP1A	Mx	0	.75
4	MP1A	X	0	6.5
5	MP1A	Z	91.922	6.5
6	MP1A	Mx	0	6.5
7	MP1B	X	0	.75

Member Point Loads (BLC 9 : Antenna Wo (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
8	MP1B	Z	74.93	.75
9	MP1B	Mx	-.022	.75
10	MP1B	X	0	6.5
11	MP1B	Z	74.93	6.5
12	MP1B	Mx	-.022	6.5
13	MP1C	X	0	.75
14	MP1C	Z	74.93	.75
15	MP1C	Mx	.022	.75
16	MP1C	X	0	6.5
17	MP1C	Z	74.93	6.5
18	MP1C	Mx	.022	6.5
19	MP2A	X	0	1.5
20	MP2A	Z	105.303	1.5
21	MP2A	Mx	.07	1.5
22	MP2A	X	0	5.75
23	MP2A	Z	105.303	5.75
24	MP2A	Mx	.07	5.75
25	MP2B	X	0	1.5
26	MP2B	Z	60.215	1.5
27	MP2B	Mx	-.046	1.5
28	MP2B	X	0	5.75
29	MP2B	Z	60.215	5.75
30	MP2B	Mx	-.046	5.75
31	MP2C	X	0	1.5
32	MP2C	Z	60.215	1.5
33	MP2C	Mx	.006	1.5
34	MP2C	X	0	5.75
35	MP2C	Z	60.215	5.75
36	MP2C	Mx	.006	5.75
37	MP2A	X	0	1.5
38	MP2A	Z	105.303	1.5
39	MP2A	Mx	-.07	1.5
40	MP2A	X	0	5.75
41	MP2A	Z	105.303	5.75
42	MP2A	Mx	-.07	5.75
43	MP2B	X	0	1.5
44	MP2B	Z	60.215	1.5
45	MP2B	Mx	-.006	1.5
46	MP2B	X	0	5.75
47	MP2B	Z	60.215	5.75
48	MP2B	Mx	-.006	5.75
49	MP2C	X	0	1.5
50	MP2C	Z	60.215	1.5
51	MP2C	Mx	.046	1.5
52	MP2C	X	0	5.75
53	MP2C	Z	60.215	5.75
54	MP2C	Mx	.046	5.75
55	MP4A	X	0	2.75
56	MP4A	Z	61.281	2.75
57	MP4A	Mx	0	2.75
58	MP4A	X	0	4.5
59	MP4A	Z	61.281	4.5

Member Point Loads (BLC 9 : Antenna Wo (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
60	MP4A	Mx	0	4.5
61	MP4B	X	0	2.75
62	MP4B	Z	31.465	2.75
63	MP4B	Mx	-.014	2.75
64	MP4B	X	0	4.5
65	MP4B	Z	31.465	4.5
66	MP4B	Mx	-.014	4.5
67	MP4C	X	0	2.75
68	MP4C	Z	31.465	2.75
69	MP4C	Mx	.014	2.75
70	MP4C	X	0	4.5
71	MP4C	Z	31.465	4.5
72	MP4C	Mx	.014	4.5
73	OVP1	X	0	1
74	OVP1	Z	122.95	1
75	OVP1	Mx	0	1
76	MP3A	X	0	3
77	MP3A	Z	60.118	3
78	MP3A	Mx	0	3
79	MP3B	X	0	3
80	MP3B	Z	45.282	3
81	MP3B	Mx	.02	3
82	MP3C	X	0	3
83	MP3C	Z	45.282	3
84	MP3C	Mx	-.02	3
85	MP2A	X	0	3
86	MP2A	Z	72.529	3
87	MP2A	Mx	0	3
88	MP2B	X	0	3
89	MP2B	Z	55.221	3
90	MP2B	Mx	.024	3
91	MP2C	X	0	3
92	MP2C	Z	55.221	3
93	MP2C	Mx	-.024	3

Member Point Loads (BLC 10 : Antenna Wo (210 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-43.129	.75
2	MP1A	Z	74.701	.75
3	MP1A	Mx	.014	.75
4	MP1A	X	-43.129	6.5
5	MP1A	Z	74.701	6.5
6	MP1A	Mx	.014	6.5
7	MP1B	X	-34.633	.75
8	MP1B	Z	59.986	.75
9	MP1B	Mx	-.023	.75
10	MP1B	X	-34.633	6.5
11	MP1B	Z	59.986	6.5
12	MP1B	Mx	-.023	6.5
13	MP1C	X	-43.129	.75
14	MP1C	Z	74.701	.75

Member Point Loads (BLC 10 : Antenna Wo (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
15	MP1C	Mx	.014	.75
16	MP1C	X	-43.129	6.5
17	MP1C	Z	74.701	6.5
18	MP1C	Mx	.014	6.5
19	MP2A	X	-45.137	1.5
20	MP2A	Z	78.179	1.5
21	MP2A	Mx	.075	1.5
22	MP2A	X	-45.137	5.75
23	MP2A	Z	78.179	5.75
24	MP2A	Mx	.075	5.75
25	MP2B	X	-22.593	1.5
26	MP2B	Z	39.131	1.5
27	MP2B	Mx	-.023	1.5
28	MP2B	X	-22.593	5.75
29	MP2B	Z	39.131	5.75
30	MP2B	Mx	-.023	5.75
31	MP2C	X	-45.137	1.5
32	MP2C	Z	78.179	1.5
33	MP2C	Mx	-.03	1.5
34	MP2C	X	-45.137	5.75
35	MP2C	Z	78.179	5.75
36	MP2C	Mx	-.03	5.75
37	MP2A	X	-45.137	1.5
38	MP2A	Z	78.179	1.5
39	MP2A	Mx	-.03	1.5
40	MP2A	X	-45.137	5.75
41	MP2A	Z	78.179	5.75
42	MP2A	Mx	-.03	5.75
43	MP2B	X	-22.593	1.5
44	MP2B	Z	39.131	1.5
45	MP2B	Mx	-.023	1.5
46	MP2B	X	-22.593	5.75
47	MP2B	Z	39.131	5.75
48	MP2B	Mx	-.023	5.75
49	MP2C	X	-45.137	1.5
50	MP2C	Z	78.179	1.5
51	MP2C	Mx	.075	1.5
52	MP2C	X	-45.137	5.75
53	MP2C	Z	78.179	5.75
54	MP2C	Mx	.075	5.75
55	MP4A	X	-25.671	2.75
56	MP4A	Z	44.464	2.75
57	MP4A	Mx	.013	2.75
58	MP4A	X	-25.671	4.5
59	MP4A	Z	44.464	4.5
60	MP4A	Mx	.013	4.5
61	MP4B	X	-10.763	2.75
62	MP4B	Z	18.642	2.75
63	MP4B	Mx	-.011	2.75
64	MP4B	X	-10.763	4.5
65	MP4B	Z	18.642	4.5
66	MP4B	Mx	-.011	4.5

Member Point Loads (BLC 10 : Antenna Wo (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
67	MP4C	X	-25.671	2.75
68	MP4C	Z	44.464	2.75
69	MP4C	Mx	.013	2.75
70	MP4C	X	-25.671	4.5
71	MP4C	Z	44.464	4.5
72	MP4C	Mx	.013	4.5
73	OVP1	X	-57.79	1
74	OVP1	Z	100.096	1
75	OVP1	Mx	-.039	1
76	MP3A	X	-27.586	3
77	MP3A	Z	47.781	3
78	MP3A	Mx	-.014	3
79	MP3B	X	-20.168	3
80	MP3B	Z	34.933	3
81	MP3B	Mx	.02	3
82	MP3C	X	-27.586	3
83	MP3C	Z	47.781	3
84	MP3C	Mx	-.014	3
85	MP2A	X	-33.38	3
86	MP2A	Z	57.815	3
87	MP2A	Mx	-.017	3
88	MP2B	X	-24.726	3
89	MP2B	Z	42.826	3
90	MP2B	Mx	.025	3
91	MP2C	X	-33.38	3
92	MP2C	Z	57.815	3
93	MP2C	Mx	-.017	3

Member Point Loads (BLC 11 : Antenna Wo (240 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-64.891	.75
2	MP1A	Z	37.465	.75
3	MP1A	Mx	.022	.75
4	MP1A	X	-64.891	6.5
5	MP1A	Z	37.465	6.5
6	MP1A	Mx	.022	6.5
7	MP1B	X	-64.891	.75
8	MP1B	Z	37.465	.75
9	MP1B	Mx	-.022	.75
10	MP1B	X	-64.891	6.5
11	MP1B	Z	37.465	6.5
12	MP1B	Mx	-.022	6.5
13	MP1C	X	-79.607	.75
14	MP1C	Z	45.961	.75
15	MP1C	Mx	0	.75
16	MP1C	X	-79.607	6.5
17	MP1C	Z	45.961	6.5
18	MP1C	Mx	0	6.5
19	MP2A	X	-52.147	1.5
20	MP2A	Z	30.107	1.5
21	MP2A	Mx	.046	1.5

Member Point Loads (BLC 11 : Antenna Wo (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
22	MP2A	X	-52.147	5.75
23	MP2A	Z	30.107	5.75
24	MP2A	Mx	.046	5.75
25	MP2B	X	-52.147	1.5
26	MP2B	Z	30.107	1.5
27	MP2B	Mx	-.006	1.5
28	MP2B	X	-52.147	5.75
29	MP2B	Z	30.107	5.75
30	MP2B	Mx	-.006	5.75
31	MP2C	X	-91.195	1.5
32	MP2C	Z	52.651	1.5
33	MP2C	Mx	-.07	1.5
34	MP2C	X	-91.195	5.75
35	MP2C	Z	52.651	5.75
36	MP2C	Mx	-.07	5.75
37	MP2A	X	-52.147	1.5
38	MP2A	Z	30.107	1.5
39	MP2A	Mx	.006	1.5
40	MP2A	X	-52.147	5.75
41	MP2A	Z	30.107	5.75
42	MP2A	Mx	.006	5.75
43	MP2B	X	-52.147	1.5
44	MP2B	Z	30.107	1.5
45	MP2B	Mx	-.046	1.5
46	MP2B	X	-52.147	5.75
47	MP2B	Z	30.107	5.75
48	MP2B	Mx	-.046	5.75
49	MP2C	X	-91.195	1.5
50	MP2C	Z	52.651	1.5
51	MP2C	Mx	.07	1.5
52	MP2C	X	-91.195	5.75
53	MP2C	Z	52.651	5.75
54	MP2C	Mx	.07	5.75
55	MP4A	X	-27.249	2.75
56	MP4A	Z	15.732	2.75
57	MP4A	Mx	.014	2.75
58	MP4A	X	-27.249	4.5
59	MP4A	Z	15.732	4.5
60	MP4A	Mx	.014	4.5
61	MP4B	X	-27.249	2.75
62	MP4B	Z	15.732	2.75
63	MP4B	Mx	-.014	2.75
64	MP4B	X	-27.249	4.5
65	MP4B	Z	15.732	4.5
66	MP4B	Mx	-.014	4.5
67	MP4C	X	-53.071	2.75
68	MP4C	Z	30.641	2.75
69	MP4C	Mx	0	2.75
70	MP4C	X	-53.071	4.5
71	MP4C	Z	30.641	4.5
72	MP4C	Mx	0	4.5
73	OVP1	X	-87.332	1

Member Point Loads (BLC 11 : Antenna Wo (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
74	OVP1	Z	50.421	1
75	OVP1	Mx	-.058	1
76	MP3A	X	-39.215	3
77	MP3A	Z	22.641	3
78	MP3A	Mx	-.02	3
79	MP3B	X	-39.215	3
80	MP3B	Z	22.641	3
81	MP3B	Mx	.02	3
82	MP3C	X	-52.063	3
83	MP3C	Z	30.059	3
84	MP3C	Mx	0	3
85	MP2A	X	-47.823	3
86	MP2A	Z	27.61	3
87	MP2A	Mx	-.024	3
88	MP2B	X	-47.823	3
89	MP2B	Z	27.61	3
90	MP2B	Mx	.024	3
91	MP2C	X	-62.812	3
92	MP2C	Z	36.264	3
93	MP2C	Mx	0	3

Member Point Loads (BLC 12 : Antenna Wo (270 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-69.266	.75
2	MP1A	Z	0	.75
3	MP1A	Mx	.023	.75
4	MP1A	X	-69.266	6.5
5	MP1A	Z	0	6.5
6	MP1A	Mx	.023	6.5
7	MP1B	X	-86.258	.75
8	MP1B	Z	0	.75
9	MP1B	Mx	-.014	.75
10	MP1B	X	-86.258	6.5
11	MP1B	Z	0	6.5
12	MP1B	Mx	-.014	6.5
13	MP1C	X	-86.258	.75
14	MP1C	Z	0	.75
15	MP1C	Mx	-.014	.75
16	MP1C	X	-86.258	6.5
17	MP1C	Z	0	6.5
18	MP1C	Mx	-.014	6.5
19	MP2A	X	-45.185	1.5
20	MP2A	Z	0	1.5
21	MP2A	Mx	.023	1.5
22	MP2A	X	-45.185	5.75
23	MP2A	Z	0	5.75
24	MP2A	Mx	.023	5.75
25	MP2B	X	-90.273	1.5
26	MP2B	Z	0	1.5
27	MP2B	Mx	.03	1.5
28	MP2B	X	-90.273	5.75

Member Point Loads (BLC 12 : Antenna Wo (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP2B	Z	0	5.75
30	MP2B	Mx	.03	5.75
31	MP2C	X	-90.273	1.5
32	MP2C	Z	0	1.5
33	MP2C	Mx	-.075	1.5
34	MP2C	X	-90.273	5.75
35	MP2C	Z	0	5.75
36	MP2C	Mx	-.075	5.75
37	MP2A	X	-45.185	1.5
38	MP2A	Z	0	1.5
39	MP2A	Mx	.023	1.5
40	MP2A	X	-45.185	5.75
41	MP2A	Z	0	5.75
42	MP2A	Mx	.023	5.75
43	MP2B	X	-90.273	1.5
44	MP2B	Z	0	1.5
45	MP2B	Mx	-.075	1.5
46	MP2B	X	-90.273	5.75
47	MP2B	Z	0	5.75
48	MP2B	Mx	-.075	5.75
49	MP2C	X	-90.273	1.5
50	MP2C	Z	0	1.5
51	MP2C	Mx	.03	1.5
52	MP2C	X	-90.273	5.75
53	MP2C	Z	0	5.75
54	MP2C	Mx	.03	5.75
55	MP4A	X	-21.526	2.75
56	MP4A	Z	0	2.75
57	MP4A	Mx	.011	2.75
58	MP4A	X	-21.526	4.5
59	MP4A	Z	0	4.5
60	MP4A	Mx	.011	4.5
61	MP4B	X	-51.342	2.75
62	MP4B	Z	0	2.75
63	MP4B	Mx	-.013	2.75
64	MP4B	X	-51.342	4.5
65	MP4B	Z	0	4.5
66	MP4B	Mx	-.013	4.5
67	MP4C	X	-51.342	2.75
68	MP4C	Z	0	2.75
69	MP4C	Mx	-.013	2.75
70	MP4C	X	-51.342	4.5
71	MP4C	Z	0	4.5
72	MP4C	Mx	-.013	4.5
73	OVP1	X	-93.473	1
74	OVP1	Z	0	1
75	OVP1	Mx	-.062	1
76	MP3A	X	-40.337	3
77	MP3A	Z	0	3
78	MP3A	Mx	-.02	3
79	MP3B	X	-55.172	3
80	MP3B	Z	0	3

Member Point Loads (BLC 12 : Antenna Wo (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
81	MP3B	Mx	.014	3
82	MP3C	X	-55.172	3
83	MP3C	Z	0	3
84	MP3C	Mx	.014	3
85	MP2A	X	-49.452	3
86	MP2A	Z	0	3
87	MP2A	Mx	-.025	3
88	MP2B	X	-66.76	3
89	MP2B	Z	0	3
90	MP2B	Mx	.017	3
91	MP2C	X	-66.76	3
92	MP2C	Z	0	3
93	MP2C	Mx	.017	3

Member Point Loads (BLC 13 : Antenna Wo (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-64.891	.75
2	MP1A	Z	-37.465	.75
3	MP1A	Mx	.022	.75
4	MP1A	X	-64.891	6.5
5	MP1A	Z	-37.465	6.5
6	MP1A	Mx	.022	6.5
7	MP1B	X	-79.607	.75
8	MP1B	Z	-45.961	.75
9	MP1B	Mx	0	.75
10	MP1B	X	-79.607	6.5
11	MP1B	Z	-45.961	6.5
12	MP1B	Mx	0	6.5
13	MP1C	X	-64.891	.75
14	MP1C	Z	-37.465	.75
15	MP1C	Mx	-.022	.75
16	MP1C	X	-64.891	6.5
17	MP1C	Z	-37.465	6.5
18	MP1C	Mx	-.022	6.5
19	MP2A	X	-52.147	1.5
20	MP2A	Z	-30.107	1.5
21	MP2A	Mx	.006	1.5
22	MP2A	X	-52.147	5.75
23	MP2A	Z	-30.107	5.75
24	MP2A	Mx	.006	5.75
25	MP2B	X	-91.195	1.5
26	MP2B	Z	-52.651	1.5
27	MP2B	Mx	.07	1.5
28	MP2B	X	-91.195	5.75
29	MP2B	Z	-52.651	5.75
30	MP2B	Mx	.07	5.75
31	MP2C	X	-52.147	1.5
32	MP2C	Z	-30.107	1.5
33	MP2C	Mx	-.046	1.5
34	MP2C	X	-52.147	5.75
35	MP2C	Z	-30.107	5.75

Member Point Loads (BLC 13 : Antenna Wo (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
36	MP2C	Mx	-.046	5.75
37	MP2A	X	-52.147	1.5
38	MP2A	Z	-30.107	1.5
39	MP2A	Mx	.046	1.5
40	MP2A	X	-52.147	5.75
41	MP2A	Z	-30.107	5.75
42	MP2A	Mx	.046	5.75
43	MP2B	X	-91.195	1.5
44	MP2B	Z	-52.651	1.5
45	MP2B	Mx	-.07	1.5
46	MP2B	X	-91.195	5.75
47	MP2B	Z	-52.651	5.75
48	MP2B	Mx	-.07	5.75
49	MP2C	X	-52.147	1.5
50	MP2C	Z	-30.107	1.5
51	MP2C	Mx	-.006	1.5
52	MP2C	X	-52.147	5.75
53	MP2C	Z	-30.107	5.75
54	MP2C	Mx	-.006	5.75
55	MP4A	X	-27.249	2.75
56	MP4A	Z	-15.732	2.75
57	MP4A	Mx	.014	2.75
58	MP4A	X	-27.249	4.5
59	MP4A	Z	-15.732	4.5
60	MP4A	Mx	.014	4.5
61	MP4B	X	-53.071	2.75
62	MP4B	Z	-30.641	2.75
63	MP4B	Mx	0	2.75
64	MP4B	X	-53.071	4.5
65	MP4B	Z	-30.641	4.5
66	MP4B	Mx	0	4.5
67	MP4C	X	-27.249	2.75
68	MP4C	Z	-15.732	2.75
69	MP4C	Mx	-.014	2.75
70	MP4C	X	-27.249	4.5
71	MP4C	Z	-15.732	4.5
72	MP4C	Mx	-.014	4.5
73	OVP1	X	-87.332	1
74	OVP1	Z	-50.421	1
75	OVP1	Mx	-.058	1
76	MP3A	X	-39.215	3
77	MP3A	Z	-22.641	3
78	MP3A	Mx	-.02	3
79	MP3B	X	-52.063	3
80	MP3B	Z	-30.059	3
81	MP3B	Mx	0	3
82	MP3C	X	-39.215	3
83	MP3C	Z	-22.641	3
84	MP3C	Mx	.02	3
85	MP2A	X	-47.823	3
86	MP2A	Z	-27.61	3
87	MP2A	Mx	-.024	3

Member Point Loads (BLC 13 : Antenna Wo (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
88	MP2B	X	-62.812	3
89	MP2B	Z	-36.264	3
90	MP2B	Mx	0	3
91	MP2C	X	-47.823	3
92	MP2C	Z	-27.61	3
93	MP2C	Mx	.024	3

Member Point Loads (BLC 14 : Antenna Wo (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-43.129	.75
2	MP1A	Z	-74.701	.75
3	MP1A	Mx	.014	.75
4	MP1A	X	-43.129	6.5
5	MP1A	Z	-74.701	6.5
6	MP1A	Mx	.014	6.5
7	MP1B	X	-43.129	.75
8	MP1B	Z	-74.701	.75
9	MP1B	Mx	.014	.75
10	MP1B	X	-43.129	6.5
11	MP1B	Z	-74.701	6.5
12	MP1B	Mx	.014	6.5
13	MP1C	X	-34.633	.75
14	MP1C	Z	-59.986	.75
15	MP1C	Mx	-.023	.75
16	MP1C	X	-34.633	6.5
17	MP1C	Z	-59.986	6.5
18	MP1C	Mx	-.023	6.5
19	MP2A	X	-45.137	1.5
20	MP2A	Z	-78.179	1.5
21	MP2A	Mx	-.03	1.5
22	MP2A	X	-45.137	5.75
23	MP2A	Z	-78.179	5.75
24	MP2A	Mx	-.03	5.75
25	MP2B	X	-45.137	1.5
26	MP2B	Z	-78.179	1.5
27	MP2B	Mx	.075	1.5
28	MP2B	X	-45.137	5.75
29	MP2B	Z	-78.179	5.75
30	MP2B	Mx	.075	5.75
31	MP2C	X	-22.593	1.5
32	MP2C	Z	-39.131	1.5
33	MP2C	Mx	-.023	1.5
34	MP2C	X	-22.593	5.75
35	MP2C	Z	-39.131	5.75
36	MP2C	Mx	-.023	5.75
37	MP2A	X	-45.137	1.5
38	MP2A	Z	-78.179	1.5
39	MP2A	Mx	.075	1.5
40	MP2A	X	-45.137	5.75
41	MP2A	Z	-78.179	5.75
42	MP2A	Mx	.075	5.75

Member Point Loads (BLC 14 : Antenna Wo (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
43	MP2B	X	-45.137	1.5
44	MP2B	Z	-78.179	1.5
45	MP2B	Mx	-.03	1.5
46	MP2B	X	-45.137	5.75
47	MP2B	Z	-78.179	5.75
48	MP2B	Mx	-.03	5.75
49	MP2C	X	-22.593	1.5
50	MP2C	Z	-39.131	1.5
51	MP2C	Mx	-.023	1.5
52	MP2C	X	-22.593	5.75
53	MP2C	Z	-39.131	5.75
54	MP2C	Mx	-.023	5.75
55	MP4A	X	-25.671	2.75
56	MP4A	Z	-44.464	2.75
57	MP4A	Mx	.013	2.75
58	MP4A	X	-25.671	4.5
59	MP4A	Z	-44.464	4.5
60	MP4A	Mx	.013	4.5
61	MP4B	X	-25.671	2.75
62	MP4B	Z	-44.464	2.75
63	MP4B	Mx	.013	2.75
64	MP4B	X	-25.671	4.5
65	MP4B	Z	-44.464	4.5
66	MP4B	Mx	.013	4.5
67	MP4C	X	-10.763	2.75
68	MP4C	Z	-18.642	2.75
69	MP4C	Mx	-.011	2.75
70	MP4C	X	-10.763	4.5
71	MP4C	Z	-18.642	4.5
72	MP4C	Mx	-.011	4.5
73	OVP1	X	-57.79	1
74	OVP1	Z	-100.096	1
75	OVP1	Mx	-.039	1
76	MP3A	X	-27.586	3
77	MP3A	Z	-47.781	3
78	MP3A	Mx	-.014	3
79	MP3B	X	-27.586	3
80	MP3B	Z	-47.781	3
81	MP3B	Mx	-.014	3
82	MP3C	X	-20.168	3
83	MP3C	Z	-34.933	3
84	MP3C	Mx	.02	3
85	MP2A	X	-33.38	3
86	MP2A	Z	-57.815	3
87	MP2A	Mx	-.017	3
88	MP2B	X	-33.38	3
89	MP2B	Z	-57.815	3
90	MP2B	Mx	-.017	3
91	MP2C	X	-24.726	3
92	MP2C	Z	-42.826	3
93	MP2C	Mx	.025	3

Member Point Loads (BLC 15 : Antenna Wi (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	.75
2	MP1A	Z	-17.159	.75
3	MP1A	Mx	0	.75
4	MP1A	X	0	6.5
5	MP1A	Z	-17.159	6.5
6	MP1A	Mx	0	6.5
7	MP1B	X	0	.75
8	MP1B	Z	-14.324	.75
9	MP1B	Mx	.004	.75
10	MP1B	X	0	6.5
11	MP1B	Z	-14.324	6.5
12	MP1B	Mx	.004	6.5
13	MP1C	X	0	.75
14	MP1C	Z	-14.324	.75
15	MP1C	Mx	-.004	.75
16	MP1C	X	0	6.5
17	MP1C	Z	-14.324	6.5
18	MP1C	Mx	-.004	6.5
19	MP2A	X	0	1.5
20	MP2A	Z	-27.711	1.5
21	MP2A	Mx	-.018	1.5
22	MP2A	X	0	5.75
23	MP2A	Z	-27.711	5.75
24	MP2A	Mx	-.018	5.75
25	MP2B	X	0	1.5
26	MP2B	Z	-21.271	1.5
27	MP2B	Mx	.016	1.5
28	MP2B	X	0	5.75
29	MP2B	Z	-21.271	5.75
30	MP2B	Mx	.016	5.75
31	MP2C	X	0	1.5
32	MP2C	Z	-21.271	1.5
33	MP2C	Mx	-.002	1.5
34	MP2C	X	0	5.75
35	MP2C	Z	-21.271	5.75
36	MP2C	Mx	-.002	5.75
37	MP2A	X	0	1.5
38	MP2A	Z	-27.711	1.5
39	MP2A	Mx	.018	1.5
40	MP2A	X	0	5.75
41	MP2A	Z	-27.711	5.75
42	MP2A	Mx	.018	5.75
43	MP2B	X	0	1.5
44	MP2B	Z	-21.271	1.5
45	MP2B	Mx	.002	1.5
46	MP2B	X	0	5.75
47	MP2B	Z	-21.271	5.75
48	MP2B	Mx	.002	5.75
49	MP2C	X	0	1.5
50	MP2C	Z	-21.271	1.5
51	MP2C	Mx	-.016	1.5
52	MP2C	X	0	5.75

Member Point Loads (BLC 15 : Antenna Wi (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP2C	Z	-21.271	5.75
54	MP2C	Mx	-.016	5.75
55	MP4A	X	0	2.75
56	MP4A	Z	-13.478	2.75
57	MP4A	Mx	0	2.75
58	MP4A	X	0	4.5
59	MP4A	Z	-13.478	4.5
60	MP4A	Mx	0	4.5
61	MP4B	X	0	2.75
62	MP4B	Z	-7.646	2.75
63	MP4B	Mx	.003	2.75
64	MP4B	X	0	4.5
65	MP4B	Z	-7.646	4.5
66	MP4B	Mx	.003	4.5
67	MP4C	X	0	2.75
68	MP4C	Z	-7.646	2.75
69	MP4C	Mx	-.003	2.75
70	MP4C	X	0	4.5
71	MP4C	Z	-7.646	4.5
72	MP4C	Mx	-.003	4.5
73	OVP1	X	0	1
74	OVP1	Z	-28.607	1
75	OVP1	Mx	0	1
76	MP3A	X	0	3
77	MP3A	Z	-13.934	3
78	MP3A	Mx	0	3
79	MP3B	X	0	3
80	MP3B	Z	-10.759	3
81	MP3B	Mx	-.005	3
82	MP3C	X	0	3
83	MP3C	Z	-10.759	3
84	MP3C	Mx	.005	3
85	MP2A	X	0	3
86	MP2A	Z	-13.934	3
87	MP2A	Mx	0	3
88	MP2B	X	0	3
89	MP2B	Z	-10.886	3
90	MP2B	Mx	-.005	3
91	MP2C	X	0	3
92	MP2C	Z	-10.886	3
93	MP2C	Mx	.005	3

Member Point Loads (BLC 16 : Antenna Wi (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	8.107	.75
2	MP1A	Z	-14.042	.75
3	MP1A	Mx	-.003	.75
4	MP1A	X	8.107	6.5
5	MP1A	Z	-14.042	6.5
6	MP1A	Mx	-.003	6.5
7	MP1B	X	6.69	.75

Member Point Loads (BLC 16 : Antenna Wi (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
8	MP1B	Z	-11.587	.75
9	MP1B	Mx	.004	.75
10	MP1B	X	6.69	6.5
11	MP1B	Z	-11.587	6.5
12	MP1B	Mx	.004	6.5
13	MP1C	X	8.107	.75
14	MP1C	Z	-14.042	.75
15	MP1C	Mx	-.003	.75
16	MP1C	X	8.107	6.5
17	MP1C	Z	-14.042	6.5
18	MP1C	Mx	-.003	6.5
19	MP2A	X	12.782	1.5
20	MP2A	Z	-22.139	1.5
21	MP2A	Mx	-.021	1.5
22	MP2A	X	12.782	5.75
23	MP2A	Z	-22.139	5.75
24	MP2A	Mx	-.021	5.75
25	MP2B	X	9.562	1.5
26	MP2B	Z	-16.562	1.5
27	MP2B	Mx	.01	1.5
28	MP2B	X	9.562	5.75
29	MP2B	Z	-16.562	5.75
30	MP2B	Mx	.01	5.75
31	MP2C	X	12.782	1.5
32	MP2C	Z	-22.139	1.5
33	MP2C	Mx	.008	1.5
34	MP2C	X	12.782	5.75
35	MP2C	Z	-22.139	5.75
36	MP2C	Mx	.008	5.75
37	MP2A	X	12.782	1.5
38	MP2A	Z	-22.139	1.5
39	MP2A	Mx	.008	1.5
40	MP2A	X	12.782	5.75
41	MP2A	Z	-22.139	5.75
42	MP2A	Mx	.008	5.75
43	MP2B	X	9.562	1.5
44	MP2B	Z	-16.562	1.5
45	MP2B	Mx	.01	1.5
46	MP2B	X	9.562	5.75
47	MP2B	Z	-16.562	5.75
48	MP2B	Mx	.01	5.75
49	MP2C	X	12.782	1.5
50	MP2C	Z	-22.139	1.5
51	MP2C	Mx	-.021	1.5
52	MP2C	X	12.782	5.75
53	MP2C	Z	-22.139	5.75
54	MP2C	Mx	-.021	5.75
55	MP4A	X	5.767	2.75
56	MP4A	Z	-9.989	2.75
57	MP4A	Mx	-.003	2.75
58	MP4A	X	5.767	4.5
59	MP4A	Z	-9.989	4.5

Member Point Loads (BLC 16 : Antenna Wi (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
60	MP4A	Mx	-.003	4.5
61	MP4B	X	2.851	2.75
62	MP4B	Z	-4.938	2.75
63	MP4B	Mx	.003	2.75
64	MP4B	X	2.851	4.5
65	MP4B	Z	-4.938	4.5
66	MP4B	Mx	.003	4.5
67	MP4C	X	5.767	2.75
68	MP4C	Z	-9.989	2.75
69	MP4C	Mx	-.003	2.75
70	MP4C	X	5.767	4.5
71	MP4C	Z	-9.989	4.5
72	MP4C	Mx	-.003	4.5
73	OVP1	X	13.525	1
74	OVP1	Z	-23.426	1
75	OVP1	Mx	.009	1
76	MP3A	X	6.438	3
77	MP3A	Z	-11.151	3
78	MP3A	Mx	.003	3
79	MP3B	X	4.85	3
80	MP3B	Z	-8.401	3
81	MP3B	Mx	-.005	3
82	MP3C	X	6.438	3
83	MP3C	Z	-11.151	3
84	MP3C	Mx	.003	3
85	MP2A	X	6.459	3
86	MP2A	Z	-11.187	3
87	MP2A	Mx	.003	3
88	MP2B	X	4.935	3
89	MP2B	Z	-8.547	3
90	MP2B	Mx	-.005	3
91	MP2C	X	6.459	3
92	MP2C	Z	-11.187	3
93	MP2C	Mx	.003	3

Member Point Loads (BLC 17 : Antenna Wi (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	12.405	.75
2	MP1A	Z	-7.162	.75
3	MP1A	Mx	-.004	.75
4	MP1A	X	12.405	6.5
5	MP1A	Z	-7.162	6.5
6	MP1A	Mx	-.004	6.5
7	MP1B	X	12.405	.75
8	MP1B	Z	-7.162	.75
9	MP1B	Mx	.004	.75
10	MP1B	X	12.405	6.5
11	MP1B	Z	-7.162	6.5
12	MP1B	Mx	.004	6.5
13	MP1C	X	14.86	.75
14	MP1C	Z	-8.58	.75

Member Point Loads (BLC 17 : Antenna Wi (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
15	MP1C	Mx	0	.75
16	MP1C	X	14.86	6.5
17	MP1C	Z	-8.58	6.5
18	MP1C	Mx	0	6.5
19	MP2A	X	18.421	1.5
20	MP2A	Z	-10.635	1.5
21	MP2A	Mx	-.016	1.5
22	MP2A	X	18.421	5.75
23	MP2A	Z	-10.635	5.75
24	MP2A	Mx	-.016	5.75
25	MP2B	X	18.421	1.5
26	MP2B	Z	-10.635	1.5
27	MP2B	Mx	.002	1.5
28	MP2B	X	18.421	5.75
29	MP2B	Z	-10.635	5.75
30	MP2B	Mx	.002	5.75
31	MP2C	X	23.998	1.5
32	MP2C	Z	-13.855	1.5
33	MP2C	Mx	.018	1.5
34	MP2C	X	23.998	5.75
35	MP2C	Z	-13.855	5.75
36	MP2C	Mx	.018	5.75
37	MP2A	X	18.421	1.5
38	MP2A	Z	-10.635	1.5
39	MP2A	Mx	-.002	1.5
40	MP2A	X	18.421	5.75
41	MP2A	Z	-10.635	5.75
42	MP2A	Mx	-.002	5.75
43	MP2B	X	18.421	1.5
44	MP2B	Z	-10.635	1.5
45	MP2B	Mx	.016	1.5
46	MP2B	X	18.421	5.75
47	MP2B	Z	-10.635	5.75
48	MP2B	Mx	.016	5.75
49	MP2C	X	23.998	1.5
50	MP2C	Z	-13.855	1.5
51	MP2C	Mx	-.018	1.5
52	MP2C	X	23.998	5.75
53	MP2C	Z	-13.855	5.75
54	MP2C	Mx	-.018	5.75
55	MP4A	X	6.622	2.75
56	MP4A	Z	-3.823	2.75
57	MP4A	Mx	-.003	2.75
58	MP4A	X	6.622	4.5
59	MP4A	Z	-3.823	4.5
60	MP4A	Mx	-.003	4.5
61	MP4B	X	6.622	2.75
62	MP4B	Z	-3.823	2.75
63	MP4B	Mx	.003	2.75
64	MP4B	X	6.622	4.5
65	MP4B	Z	-3.823	4.5
66	MP4B	Mx	.003	4.5

Member Point Loads (BLC 17 : Antenna Wi (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
67	MP4C	X	11.672	2.75
68	MP4C	Z	-6.739	2.75
69	MP4C	Mx	0	2.75
70	MP4C	X	11.672	4.5
71	MP4C	Z	-6.739	4.5
72	MP4C	Mx	0	4.5
73	OVP1	X	20.73	1
74	OVP1	Z	-11.968	1
75	OVP1	Mx	.014	1
76	MP3A	X	9.317	3
77	MP3A	Z	-5.379	3
78	MP3A	Mx	.005	3
79	MP3B	X	9.317	3
80	MP3B	Z	-5.379	3
81	MP3B	Mx	-.005	3
82	MP3C	X	12.067	3
83	MP3C	Z	-6.967	3
84	MP3C	Mx	0	3
85	MP2A	X	9.427	3
86	MP2A	Z	-5.443	3
87	MP2A	Mx	.005	3
88	MP2B	X	9.427	3
89	MP2B	Z	-5.443	3
90	MP2B	Mx	-.005	3
91	MP2C	X	12.067	3
92	MP2C	Z	-6.967	3
93	MP2C	Mx	0	3

Member Point Loads (BLC 18 : Antenna Wi (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	13.379	.75
2	MP1A	Z	0	.75
3	MP1A	Mx	-.004	.75
4	MP1A	X	13.379	6.5
5	MP1A	Z	0	6.5
6	MP1A	Mx	-.004	6.5
7	MP1B	X	16.214	.75
8	MP1B	Z	0	.75
9	MP1B	Mx	.003	.75
10	MP1B	X	16.214	6.5
11	MP1B	Z	0	6.5
12	MP1B	Mx	.003	6.5
13	MP1C	X	16.214	.75
14	MP1C	Z	0	.75
15	MP1C	Mx	.003	.75
16	MP1C	X	16.214	6.5
17	MP1C	Z	0	6.5
18	MP1C	Mx	.003	6.5
19	MP2A	X	19.124	1.5
20	MP2A	Z	0	1.5
21	MP2A	Mx	-.01	1.5

Member Point Loads (BLC 18 : Antenna Wi (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
22	MP2A	X	19.124	5.75
23	MP2A	Z	0	5.75
24	MP2A	Mx	-.01	5.75
25	MP2B	X	25.564	1.5
26	MP2B	Z	0	1.5
27	MP2B	Mx	-.008	1.5
28	MP2B	X	25.564	5.75
29	MP2B	Z	0	5.75
30	MP2B	Mx	-.008	5.75
31	MP2C	X	25.564	1.5
32	MP2C	Z	0	1.5
33	MP2C	Mx	.021	1.5
34	MP2C	X	25.564	5.75
35	MP2C	Z	0	5.75
36	MP2C	Mx	.021	5.75
37	MP2A	X	19.124	1.5
38	MP2A	Z	0	1.5
39	MP2A	Mx	-.01	1.5
40	MP2A	X	19.124	5.75
41	MP2A	Z	0	5.75
42	MP2A	Mx	-.01	5.75
43	MP2B	X	25.564	1.5
44	MP2B	Z	0	1.5
45	MP2B	Mx	.021	1.5
46	MP2B	X	25.564	5.75
47	MP2B	Z	0	5.75
48	MP2B	Mx	.021	5.75
49	MP2C	X	25.564	1.5
50	MP2C	Z	0	1.5
51	MP2C	Mx	-.008	1.5
52	MP2C	X	25.564	5.75
53	MP2C	Z	0	5.75
54	MP2C	Mx	-.008	5.75
55	MP4A	X	5.702	2.75
56	MP4A	Z	0	2.75
57	MP4A	Mx	-.003	2.75
58	MP4A	X	5.702	4.5
59	MP4A	Z	0	4.5
60	MP4A	Mx	-.003	4.5
61	MP4B	X	11.534	2.75
62	MP4B	Z	0	2.75
63	MP4B	Mx	.003	2.75
64	MP4B	X	11.534	4.5
65	MP4B	Z	0	4.5
66	MP4B	Mx	.003	4.5
67	MP4C	X	11.534	2.75
68	MP4C	Z	0	2.75
69	MP4C	Mx	.003	2.75
70	MP4C	X	11.534	4.5
71	MP4C	Z	0	4.5
72	MP4C	Mx	.003	4.5
73	OVP1	X	22.38	1

Member Point Loads (BLC 18 : Antenna Wi (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
74	OVP1	Z	0	1
75	OVP1	Mx	.015	1
76	MP3A	X	9.7	3
77	MP3A	Z	0	3
78	MP3A	Mx	.005	3
79	MP3B	X	12.876	3
80	MP3B	Z	0	3
81	MP3B	Mx	-.003	3
82	MP3C	X	12.876	3
83	MP3C	Z	0	3
84	MP3C	Mx	-.003	3
85	MP2A	X	9.87	3
86	MP2A	Z	0	3
87	MP2A	Mx	.005	3
88	MP2B	X	12.918	3
89	MP2B	Z	0	3
90	MP2B	Mx	-.003	3
91	MP2C	X	12.918	3
92	MP2C	Z	0	3
93	MP2C	Mx	-.003	3

Member Point Loads (BLC 19 : Antenna Wi (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	12.405	.75
2	MP1A	Z	7.162	.75
3	MP1A	Mx	-.004	.75
4	MP1A	X	12.405	6.5
5	MP1A	Z	7.162	6.5
6	MP1A	Mx	-.004	6.5
7	MP1B	X	14.86	.75
8	MP1B	Z	8.58	.75
9	MP1B	Mx	0	.75
10	MP1B	X	14.86	6.5
11	MP1B	Z	8.58	6.5
12	MP1B	Mx	0	6.5
13	MP1C	X	12.405	.75
14	MP1C	Z	7.162	.75
15	MP1C	Mx	.004	.75
16	MP1C	X	12.405	6.5
17	MP1C	Z	7.162	6.5
18	MP1C	Mx	.004	6.5
19	MP2A	X	18.421	1.5
20	MP2A	Z	10.635	1.5
21	MP2A	Mx	-.002	1.5
22	MP2A	X	18.421	5.75
23	MP2A	Z	10.635	5.75
24	MP2A	Mx	-.002	5.75
25	MP2B	X	23.998	1.5
26	MP2B	Z	13.855	1.5
27	MP2B	Mx	-.018	1.5
28	MP2B	X	23.998	5.75

Member Point Loads (BLC 19 : Antenna Wi (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP2B	Z	13.855	5.75
30	MP2B	Mx	-.018	5.75
31	MP2C	X	18.421	1.5
32	MP2C	Z	10.635	1.5
33	MP2C	Mx	.016	1.5
34	MP2C	X	18.421	5.75
35	MP2C	Z	10.635	5.75
36	MP2C	Mx	.016	5.75
37	MP2A	X	18.421	1.5
38	MP2A	Z	10.635	1.5
39	MP2A	Mx	-.016	1.5
40	MP2A	X	18.421	5.75
41	MP2A	Z	10.635	5.75
42	MP2A	Mx	-.016	5.75
43	MP2B	X	23.998	1.5
44	MP2B	Z	13.855	1.5
45	MP2B	Mx	.018	1.5
46	MP2B	X	23.998	5.75
47	MP2B	Z	13.855	5.75
48	MP2B	Mx	.018	5.75
49	MP2C	X	18.421	1.5
50	MP2C	Z	10.635	1.5
51	MP2C	Mx	.002	1.5
52	MP2C	X	18.421	5.75
53	MP2C	Z	10.635	5.75
54	MP2C	Mx	.002	5.75
55	MP4A	X	6.622	2.75
56	MP4A	Z	3.823	2.75
57	MP4A	Mx	-.003	2.75
58	MP4A	X	6.622	4.5
59	MP4A	Z	3.823	4.5
60	MP4A	Mx	-.003	4.5
61	MP4B	X	11.672	2.75
62	MP4B	Z	6.739	2.75
63	MP4B	Mx	0	2.75
64	MP4B	X	11.672	4.5
65	MP4B	Z	6.739	4.5
66	MP4B	Mx	0	4.5
67	MP4C	X	6.622	2.75
68	MP4C	Z	3.823	2.75
69	MP4C	Mx	.003	2.75
70	MP4C	X	6.622	4.5
71	MP4C	Z	3.823	4.5
72	MP4C	Mx	.003	4.5
73	OVP1	X	20.73	1
74	OVP1	Z	11.968	1
75	OVP1	Mx	.014	1
76	MP3A	X	9.317	3
77	MP3A	Z	5.379	3
78	MP3A	Mx	.005	3
79	MP3B	X	12.067	3
80	MP3B	Z	6.967	3

Member Point Loads (BLC 19 : Antenna Wi (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
81	MP3B	Mx	0	3
82	MP3C	X	9.317	3
83	MP3C	Z	5.379	3
84	MP3C	Mx	-.005	3
85	MP2A	X	9.427	3
86	MP2A	Z	5.443	3
87	MP2A	Mx	.005	3
88	MP2B	X	12.067	3
89	MP2B	Z	6.967	3
90	MP2B	Mx	0	3
91	MP2C	X	9.427	3
92	MP2C	Z	5.443	3
93	MP2C	Mx	-.005	3

Member Point Loads (BLC 20 : Antenna Wi (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	8.107	.75
2	MP1A	Z	14.042	.75
3	MP1A	Mx	-.003	.75
4	MP1A	X	8.107	6.5
5	MP1A	Z	14.042	6.5
6	MP1A	Mx	-.003	6.5
7	MP1B	X	8.107	.75
8	MP1B	Z	14.042	.75
9	MP1B	Mx	-.003	.75
10	MP1B	X	8.107	6.5
11	MP1B	Z	14.042	6.5
12	MP1B	Mx	-.003	6.5
13	MP1C	X	6.69	.75
14	MP1C	Z	11.587	.75
15	MP1C	Mx	.004	.75
16	MP1C	X	6.69	6.5
17	MP1C	Z	11.587	6.5
18	MP1C	Mx	.004	6.5
19	MP2A	X	12.782	1.5
20	MP2A	Z	22.139	1.5
21	MP2A	Mx	.008	1.5
22	MP2A	X	12.782	5.75
23	MP2A	Z	22.139	5.75
24	MP2A	Mx	.008	5.75
25	MP2B	X	12.782	1.5
26	MP2B	Z	22.139	1.5
27	MP2B	Mx	-.021	1.5
28	MP2B	X	12.782	5.75
29	MP2B	Z	22.139	5.75
30	MP2B	Mx	-.021	5.75
31	MP2C	X	9.562	1.5
32	MP2C	Z	16.562	1.5
33	MP2C	Mx	.01	1.5
34	MP2C	X	9.562	5.75
35	MP2C	Z	16.562	5.75

Member Point Loads (BLC 20 : Antenna Wi (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
36	MP2C	Mx	.01	5.75
37	MP2A	X	12.782	1.5
38	MP2A	Z	22.139	1.5
39	MP2A	Mx	-.021	1.5
40	MP2A	X	12.782	5.75
41	MP2A	Z	22.139	5.75
42	MP2A	Mx	-.021	5.75
43	MP2B	X	12.782	1.5
44	MP2B	Z	22.139	1.5
45	MP2B	Mx	.008	1.5
46	MP2B	X	12.782	5.75
47	MP2B	Z	22.139	5.75
48	MP2B	Mx	.008	5.75
49	MP2C	X	9.562	1.5
50	MP2C	Z	16.562	1.5
51	MP2C	Mx	.01	1.5
52	MP2C	X	9.562	5.75
53	MP2C	Z	16.562	5.75
54	MP2C	Mx	.01	5.75
55	MP4A	X	5.767	2.75
56	MP4A	Z	9.989	2.75
57	MP4A	Mx	-.003	2.75
58	MP4A	X	5.767	4.5
59	MP4A	Z	9.989	4.5
60	MP4A	Mx	-.003	4.5
61	MP4B	X	5.767	2.75
62	MP4B	Z	9.989	2.75
63	MP4B	Mx	-.003	2.75
64	MP4B	X	5.767	4.5
65	MP4B	Z	9.989	4.5
66	MP4B	Mx	-.003	4.5
67	MP4C	X	2.851	2.75
68	MP4C	Z	4.938	2.75
69	MP4C	Mx	.003	2.75
70	MP4C	X	2.851	4.5
71	MP4C	Z	4.938	4.5
72	MP4C	Mx	.003	4.5
73	OVP1	X	13.525	1
74	OVP1	Z	23.426	1
75	OVP1	Mx	.009	1
76	MP3A	X	6.438	3
77	MP3A	Z	11.151	3
78	MP3A	Mx	.003	3
79	MP3B	X	6.438	3
80	MP3B	Z	11.151	3
81	MP3B	Mx	.003	3
82	MP3C	X	4.85	3
83	MP3C	Z	8.401	3
84	MP3C	Mx	-.005	3
85	MP2A	X	6.459	3
86	MP2A	Z	11.187	3
87	MP2A	Mx	.003	3

Member Point Loads (BLC 20 : Antenna Wi (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
88	MP2B	X	6.459	3
89	MP2B	Z	11.187	3
90	MP2B	Mx	.003	3
91	MP2C	X	4.935	3
92	MP2C	Z	8.547	3
93	MP2C	Mx	-.005	3

Member Point Loads (BLC 21 : Antenna Wi (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	.75
2	MP1A	Z	17.159	.75
3	MP1A	Mx	0	.75
4	MP1A	X	0	6.5
5	MP1A	Z	17.159	6.5
6	MP1A	Mx	0	6.5
7	MP1B	X	0	.75
8	MP1B	Z	14.324	.75
9	MP1B	Mx	-.004	.75
10	MP1B	X	0	6.5
11	MP1B	Z	14.324	6.5
12	MP1B	Mx	-.004	6.5
13	MP1C	X	0	.75
14	MP1C	Z	14.324	.75
15	MP1C	Mx	.004	.75
16	MP1C	X	0	6.5
17	MP1C	Z	14.324	6.5
18	MP1C	Mx	.004	6.5
19	MP2A	X	0	1.5
20	MP2A	Z	27.711	1.5
21	MP2A	Mx	.018	1.5
22	MP2A	X	0	5.75
23	MP2A	Z	27.711	5.75
24	MP2A	Mx	.018	5.75
25	MP2B	X	0	1.5
26	MP2B	Z	21.271	1.5
27	MP2B	Mx	-.016	1.5
28	MP2B	X	0	5.75
29	MP2B	Z	21.271	5.75
30	MP2B	Mx	-.016	5.75
31	MP2C	X	0	1.5
32	MP2C	Z	21.271	1.5
33	MP2C	Mx	.002	1.5
34	MP2C	X	0	5.75
35	MP2C	Z	21.271	5.75
36	MP2C	Mx	.002	5.75
37	MP2A	X	0	1.5
38	MP2A	Z	27.711	1.5
39	MP2A	Mx	-.018	1.5
40	MP2A	X	0	5.75
41	MP2A	Z	27.711	5.75
42	MP2A	Mx	-.018	5.75

Member Point Loads (BLC 21 : Antenna Wi (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
43	MP2B	X	0	1.5
44	MP2B	Z	21.271	1.5
45	MP2B	Mx	-.002	1.5
46	MP2B	X	0	5.75
47	MP2B	Z	21.271	5.75
48	MP2B	Mx	-.002	5.75
49	MP2C	X	0	1.5
50	MP2C	Z	21.271	1.5
51	MP2C	Mx	.016	1.5
52	MP2C	X	0	5.75
53	MP2C	Z	21.271	5.75
54	MP2C	Mx	.016	5.75
55	MP4A	X	0	2.75
56	MP4A	Z	13.478	2.75
57	MP4A	Mx	0	2.75
58	MP4A	X	0	4.5
59	MP4A	Z	13.478	4.5
60	MP4A	Mx	0	4.5
61	MP4B	X	0	2.75
62	MP4B	Z	7.646	2.75
63	MP4B	Mx	-.003	2.75
64	MP4B	X	0	4.5
65	MP4B	Z	7.646	4.5
66	MP4B	Mx	-.003	4.5
67	MP4C	X	0	2.75
68	MP4C	Z	7.646	2.75
69	MP4C	Mx	.003	2.75
70	MP4C	X	0	4.5
71	MP4C	Z	7.646	4.5
72	MP4C	Mx	.003	4.5
73	OVP1	X	0	1
74	OVP1	Z	28.607	1
75	OVP1	Mx	0	1
76	MP3A	X	0	3
77	MP3A	Z	13.934	3
78	MP3A	Mx	0	3
79	MP3B	X	0	3
80	MP3B	Z	10.759	3
81	MP3B	Mx	.005	3
82	MP3C	X	0	3
83	MP3C	Z	10.759	3
84	MP3C	Mx	-.005	3
85	MP2A	X	0	3
86	MP2A	Z	13.934	3
87	MP2A	Mx	0	3
88	MP2B	X	0	3
89	MP2B	Z	10.886	3
90	MP2B	Mx	.005	3
91	MP2C	X	0	3
92	MP2C	Z	10.886	3
93	MP2C	Mx	-.005	3

Member Point Loads (BLC 22 : Antenna Wi (210 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-8.107	.75
2	MP1A	Z	14.042	.75
3	MP1A	Mx	.003	.75
4	MP1A	X	-8.107	6.5
5	MP1A	Z	14.042	6.5
6	MP1A	Mx	.003	6.5
7	MP1B	X	-6.69	.75
8	MP1B	Z	11.587	.75
9	MP1B	Mx	-.004	.75
10	MP1B	X	-6.69	6.5
11	MP1B	Z	11.587	6.5
12	MP1B	Mx	-.004	6.5
13	MP1C	X	-8.107	.75
14	MP1C	Z	14.042	.75
15	MP1C	Mx	.003	.75
16	MP1C	X	-8.107	6.5
17	MP1C	Z	14.042	6.5
18	MP1C	Mx	.003	6.5
19	MP2A	X	-12.782	1.5
20	MP2A	Z	22.139	1.5
21	MP2A	Mx	.021	1.5
22	MP2A	X	-12.782	5.75
23	MP2A	Z	22.139	5.75
24	MP2A	Mx	.021	5.75
25	MP2B	X	-9.562	1.5
26	MP2B	Z	16.562	1.5
27	MP2B	Mx	-.01	1.5
28	MP2B	X	-9.562	5.75
29	MP2B	Z	16.562	5.75
30	MP2B	Mx	-.01	5.75
31	MP2C	X	-12.782	1.5
32	MP2C	Z	22.139	1.5
33	MP2C	Mx	-.008	1.5
34	MP2C	X	-12.782	5.75
35	MP2C	Z	22.139	5.75
36	MP2C	Mx	-.008	5.75
37	MP2A	X	-12.782	1.5
38	MP2A	Z	22.139	1.5
39	MP2A	Mx	-.008	1.5
40	MP2A	X	-12.782	5.75
41	MP2A	Z	22.139	5.75
42	MP2A	Mx	-.008	5.75
43	MP2B	X	-9.562	1.5
44	MP2B	Z	16.562	1.5
45	MP2B	Mx	-.01	1.5
46	MP2B	X	-9.562	5.75
47	MP2B	Z	16.562	5.75
48	MP2B	Mx	-.01	5.75
49	MP2C	X	-12.782	1.5
50	MP2C	Z	22.139	1.5
51	MP2C	Mx	.021	1.5
52	MP2C	X	-12.782	5.75

Member Point Loads (BLC 22 : Antenna Wi (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP2C	Z	22.139	5.75
54	MP2C	Mx	.021	5.75
55	MP4A	X	-5.767	2.75
56	MP4A	Z	9.989	2.75
57	MP4A	Mx	.003	2.75
58	MP4A	X	-5.767	4.5
59	MP4A	Z	9.989	4.5
60	MP4A	Mx	.003	4.5
61	MP4B	X	-2.851	2.75
62	MP4B	Z	4.938	2.75
63	MP4B	Mx	-.003	2.75
64	MP4B	X	-2.851	4.5
65	MP4B	Z	4.938	4.5
66	MP4B	Mx	-.003	4.5
67	MP4C	X	-5.767	2.75
68	MP4C	Z	9.989	2.75
69	MP4C	Mx	.003	2.75
70	MP4C	X	-5.767	4.5
71	MP4C	Z	9.989	4.5
72	MP4C	Mx	.003	4.5
73	OVP1	X	-13.525	1
74	OVP1	Z	23.426	1
75	OVP1	Mx	-.009	1
76	MP3A	X	-6.438	3
77	MP3A	Z	11.151	3
78	MP3A	Mx	-.003	3
79	MP3B	X	-4.85	3
80	MP3B	Z	8.401	3
81	MP3B	Mx	.005	3
82	MP3C	X	-6.438	3
83	MP3C	Z	11.151	3
84	MP3C	Mx	-.003	3
85	MP2A	X	-6.459	3
86	MP2A	Z	11.187	3
87	MP2A	Mx	-.003	3
88	MP2B	X	-4.935	3
89	MP2B	Z	8.547	3
90	MP2B	Mx	.005	3
91	MP2C	X	-6.459	3
92	MP2C	Z	11.187	3
93	MP2C	Mx	-.003	3

Member Point Loads (BLC 23 : Antenna Wi (240 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-12.405	.75
2	MP1A	Z	7.162	.75
3	MP1A	Mx	.004	.75
4	MP1A	X	-12.405	6.5
5	MP1A	Z	7.162	6.5
6	MP1A	Mx	.004	6.5
7	MP1B	X	-12.405	.75

Member Point Loads (BLC 23 : Antenna Wi (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
8	MP1B	Z	7.162	.75
9	MP1B	Mx	-.004	.75
10	MP1B	X	-12.405	6.5
11	MP1B	Z	7.162	6.5
12	MP1B	Mx	-.004	6.5
13	MP1C	X	-14.86	.75
14	MP1C	Z	8.58	.75
15	MP1C	Mx	0	.75
16	MP1C	X	-14.86	6.5
17	MP1C	Z	8.58	6.5
18	MP1C	Mx	0	6.5
19	MP2A	X	-18.421	1.5
20	MP2A	Z	10.635	1.5
21	MP2A	Mx	.016	1.5
22	MP2A	X	-18.421	5.75
23	MP2A	Z	10.635	5.75
24	MP2A	Mx	.016	5.75
25	MP2B	X	-18.421	1.5
26	MP2B	Z	10.635	1.5
27	MP2B	Mx	-.002	1.5
28	MP2B	X	-18.421	5.75
29	MP2B	Z	10.635	5.75
30	MP2B	Mx	-.002	5.75
31	MP2C	X	-23.998	1.5
32	MP2C	Z	13.855	1.5
33	MP2C	Mx	-.018	1.5
34	MP2C	X	-23.998	5.75
35	MP2C	Z	13.855	5.75
36	MP2C	Mx	-.018	5.75
37	MP2A	X	-18.421	1.5
38	MP2A	Z	10.635	1.5
39	MP2A	Mx	.002	1.5
40	MP2A	X	-18.421	5.75
41	MP2A	Z	10.635	5.75
42	MP2A	Mx	.002	5.75
43	MP2B	X	-18.421	1.5
44	MP2B	Z	10.635	1.5
45	MP2B	Mx	-.016	1.5
46	MP2B	X	-18.421	5.75
47	MP2B	Z	10.635	5.75
48	MP2B	Mx	-.016	5.75
49	MP2C	X	-23.998	1.5
50	MP2C	Z	13.855	1.5
51	MP2C	Mx	.018	1.5
52	MP2C	X	-23.998	5.75
53	MP2C	Z	13.855	5.75
54	MP2C	Mx	.018	5.75
55	MP4A	X	-6.622	2.75
56	MP4A	Z	3.823	2.75
57	MP4A	Mx	.003	2.75
58	MP4A	X	-6.622	4.5
59	MP4A	Z	3.823	4.5

Member Point Loads (BLC 23 : Antenna Wi (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
60	MP4A	Mx	.003	4.5
61	MP4B	X	-6.622	2.75
62	MP4B	Z	3.823	2.75
63	MP4B	Mx	-.003	2.75
64	MP4B	X	-6.622	4.5
65	MP4B	Z	3.823	4.5
66	MP4B	Mx	-.003	4.5
67	MP4C	X	-11.672	2.75
68	MP4C	Z	6.739	2.75
69	MP4C	Mx	0	2.75
70	MP4C	X	-11.672	4.5
71	MP4C	Z	6.739	4.5
72	MP4C	Mx	0	4.5
73	OVP1	X	-20.73	1
74	OVP1	Z	11.968	1
75	OVP1	Mx	-.014	1
76	MP3A	X	-9.317	3
77	MP3A	Z	5.379	3
78	MP3A	Mx	-.005	3
79	MP3B	X	-9.317	3
80	MP3B	Z	5.379	3
81	MP3B	Mx	.005	3
82	MP3C	X	-12.067	3
83	MP3C	Z	6.967	3
84	MP3C	Mx	0	3
85	MP2A	X	-9.427	3
86	MP2A	Z	5.443	3
87	MP2A	Mx	-.005	3
88	MP2B	X	-9.427	3
89	MP2B	Z	5.443	3
90	MP2B	Mx	.005	3
91	MP2C	X	-12.067	3
92	MP2C	Z	6.967	3
93	MP2C	Mx	0	3

Member Point Loads (BLC 24 : Antenna Wi (270 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-13.379	.75
2	MP1A	Z	0	.75
3	MP1A	Mx	.004	.75
4	MP1A	X	-13.379	6.5
5	MP1A	Z	0	6.5
6	MP1A	Mx	.004	6.5
7	MP1B	X	-16.214	.75
8	MP1B	Z	0	.75
9	MP1B	Mx	-.003	.75
10	MP1B	X	-16.214	6.5
11	MP1B	Z	0	6.5
12	MP1B	Mx	-.003	6.5
13	MP1C	X	-16.214	.75
14	MP1C	Z	0	.75

Member Point Loads (BLC 24 : Antenna Wi (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
15	MP1C	Mx	-.003	.75
16	MP1C	X	-16.214	6.5
17	MP1C	Z	0	6.5
18	MP1C	Mx	-.003	6.5
19	MP2A	X	-19.124	1.5
20	MP2A	Z	0	1.5
21	MP2A	Mx	.01	1.5
22	MP2A	X	-19.124	5.75
23	MP2A	Z	0	5.75
24	MP2A	Mx	.01	5.75
25	MP2B	X	-25.564	1.5
26	MP2B	Z	0	1.5
27	MP2B	Mx	.008	1.5
28	MP2B	X	-25.564	5.75
29	MP2B	Z	0	5.75
30	MP2B	Mx	.008	5.75
31	MP2C	X	-25.564	1.5
32	MP2C	Z	0	1.5
33	MP2C	Mx	-.021	1.5
34	MP2C	X	-25.564	5.75
35	MP2C	Z	0	5.75
36	MP2C	Mx	-.021	5.75
37	MP2A	X	-19.124	1.5
38	MP2A	Z	0	1.5
39	MP2A	Mx	.01	1.5
40	MP2A	X	-19.124	5.75
41	MP2A	Z	0	5.75
42	MP2A	Mx	.01	5.75
43	MP2B	X	-25.564	1.5
44	MP2B	Z	0	1.5
45	MP2B	Mx	-.021	1.5
46	MP2B	X	-25.564	5.75
47	MP2B	Z	0	5.75
48	MP2B	Mx	-.021	5.75
49	MP2C	X	-25.564	1.5
50	MP2C	Z	0	1.5
51	MP2C	Mx	.008	1.5
52	MP2C	X	-25.564	5.75
53	MP2C	Z	0	5.75
54	MP2C	Mx	.008	5.75
55	MP4A	X	-5.702	2.75
56	MP4A	Z	0	2.75
57	MP4A	Mx	.003	2.75
58	MP4A	X	-5.702	4.5
59	MP4A	Z	0	4.5
60	MP4A	Mx	.003	4.5
61	MP4B	X	-11.534	2.75
62	MP4B	Z	0	2.75
63	MP4B	Mx	-.003	2.75
64	MP4B	X	-11.534	4.5
65	MP4B	Z	0	4.5
66	MP4B	Mx	-.003	4.5

Member Point Loads (BLC 24 : Antenna Wi (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
67	MP4C	X	-11.534	2.75
68	MP4C	Z	0	2.75
69	MP4C	Mx	-.003	2.75
70	MP4C	X	-11.534	4.5
71	MP4C	Z	0	4.5
72	MP4C	Mx	-.003	4.5
73	OVP1	X	-22.38	1
74	OVP1	Z	0	1
75	OVP1	Mx	-.015	1
76	MP3A	X	-9.7	3
77	MP3A	Z	0	3
78	MP3A	Mx	-.005	3
79	MP3B	X	-12.876	3
80	MP3B	Z	0	3
81	MP3B	Mx	.003	3
82	MP3C	X	-12.876	3
83	MP3C	Z	0	3
84	MP3C	Mx	.003	3
85	MP2A	X	-9.87	3
86	MP2A	Z	0	3
87	MP2A	Mx	-.005	3
88	MP2B	X	-12.918	3
89	MP2B	Z	0	3
90	MP2B	Mx	.003	3
91	MP2C	X	-12.918	3
92	MP2C	Z	0	3
93	MP2C	Mx	.003	3

Member Point Loads (BLC 25 : Antenna Wi (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-12.405	.75
2	MP1A	Z	-7.162	.75
3	MP1A	Mx	.004	.75
4	MP1A	X	-12.405	6.5
5	MP1A	Z	-7.162	6.5
6	MP1A	Mx	.004	6.5
7	MP1B	X	-14.86	.75
8	MP1B	Z	-8.58	.75
9	MP1B	Mx	0	.75
10	MP1B	X	-14.86	6.5
11	MP1B	Z	-8.58	6.5
12	MP1B	Mx	0	6.5
13	MP1C	X	-12.405	.75
14	MP1C	Z	-7.162	.75
15	MP1C	Mx	-.004	.75
16	MP1C	X	-12.405	6.5
17	MP1C	Z	-7.162	6.5
18	MP1C	Mx	-.004	6.5
19	MP2A	X	-18.421	1.5
20	MP2A	Z	-10.635	1.5
21	MP2A	Mx	.002	1.5

Member Point Loads (BLC 25 : Antenna Wi (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
22	MP2A	X	-18.421	5.75
23	MP2A	Z	-10.635	5.75
24	MP2A	Mx	.002	5.75
25	MP2B	X	-23.998	1.5
26	MP2B	Z	-13.855	1.5
27	MP2B	Mx	.018	1.5
28	MP2B	X	-23.998	5.75
29	MP2B	Z	-13.855	5.75
30	MP2B	Mx	.018	5.75
31	MP2C	X	-18.421	1.5
32	MP2C	Z	-10.635	1.5
33	MP2C	Mx	-.016	1.5
34	MP2C	X	-18.421	5.75
35	MP2C	Z	-10.635	5.75
36	MP2C	Mx	-.016	5.75
37	MP2A	X	-18.421	1.5
38	MP2A	Z	-10.635	1.5
39	MP2A	Mx	.016	1.5
40	MP2A	X	-18.421	5.75
41	MP2A	Z	-10.635	5.75
42	MP2A	Mx	.016	5.75
43	MP2B	X	-23.998	1.5
44	MP2B	Z	-13.855	1.5
45	MP2B	Mx	-.018	1.5
46	MP2B	X	-23.998	5.75
47	MP2B	Z	-13.855	5.75
48	MP2B	Mx	-.018	5.75
49	MP2C	X	-18.421	1.5
50	MP2C	Z	-10.635	1.5
51	MP2C	Mx	-.002	1.5
52	MP2C	X	-18.421	5.75
53	MP2C	Z	-10.635	5.75
54	MP2C	Mx	-.002	5.75
55	MP4A	X	-6.622	2.75
56	MP4A	Z	-3.823	2.75
57	MP4A	Mx	.003	2.75
58	MP4A	X	-6.622	4.5
59	MP4A	Z	-3.823	4.5
60	MP4A	Mx	.003	4.5
61	MP4B	X	-11.672	2.75
62	MP4B	Z	-6.739	2.75
63	MP4B	Mx	0	2.75
64	MP4B	X	-11.672	4.5
65	MP4B	Z	-6.739	4.5
66	MP4B	Mx	0	4.5
67	MP4C	X	-6.622	2.75
68	MP4C	Z	-3.823	2.75
69	MP4C	Mx	-.003	2.75
70	MP4C	X	-6.622	4.5
71	MP4C	Z	-3.823	4.5
72	MP4C	Mx	-.003	4.5
73	OVP1	X	-20.73	1

Member Point Loads (BLC 25 : Antenna Wi (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
74	OVP1	Z	-11.968	1
75	OVP1	Mx	-.014	1
76	MP3A	X	-9.317	3
77	MP3A	Z	-5.379	3
78	MP3A	Mx	-.005	3
79	MP3B	X	-12.067	3
80	MP3B	Z	-6.967	3
81	MP3B	Mx	0	3
82	MP3C	X	-9.317	3
83	MP3C	Z	-5.379	3
84	MP3C	Mx	.005	3
85	MP2A	X	-9.427	3
86	MP2A	Z	-5.443	3
87	MP2A	Mx	-.005	3
88	MP2B	X	-12.067	3
89	MP2B	Z	-6.967	3
90	MP2B	Mx	0	3
91	MP2C	X	-9.427	3
92	MP2C	Z	-5.443	3
93	MP2C	Mx	.005	3

Member Point Loads (BLC 26 : Antenna Wi (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-8.107	.75
2	MP1A	Z	-14.042	.75
3	MP1A	Mx	.003	.75
4	MP1A	X	-8.107	6.5
5	MP1A	Z	-14.042	6.5
6	MP1A	Mx	.003	6.5
7	MP1B	X	-8.107	.75
8	MP1B	Z	-14.042	.75
9	MP1B	Mx	.003	.75
10	MP1B	X	-8.107	6.5
11	MP1B	Z	-14.042	6.5
12	MP1B	Mx	.003	6.5
13	MP1C	X	-6.69	.75
14	MP1C	Z	-11.587	.75
15	MP1C	Mx	-.004	.75
16	MP1C	X	-6.69	6.5
17	MP1C	Z	-11.587	6.5
18	MP1C	Mx	-.004	6.5
19	MP2A	X	-12.782	1.5
20	MP2A	Z	-22.139	1.5
21	MP2A	Mx	-.008	1.5
22	MP2A	X	-12.782	5.75
23	MP2A	Z	-22.139	5.75
24	MP2A	Mx	-.008	5.75
25	MP2B	X	-12.782	1.5
26	MP2B	Z	-22.139	1.5
27	MP2B	Mx	.021	1.5
28	MP2B	X	-12.782	5.75

Member Point Loads (BLC 26 : Antenna Wi (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP2B	Z	-22.139	5.75
30	MP2B	Mx	.021	5.75
31	MP2C	X	-9.562	1.5
32	MP2C	Z	-16.562	1.5
33	MP2C	Mx	-.01	1.5
34	MP2C	X	-9.562	5.75
35	MP2C	Z	-16.562	5.75
36	MP2C	Mx	-.01	5.75
37	MP2A	X	-12.782	1.5
38	MP2A	Z	-22.139	1.5
39	MP2A	Mx	.021	1.5
40	MP2A	X	-12.782	5.75
41	MP2A	Z	-22.139	5.75
42	MP2A	Mx	.021	5.75
43	MP2B	X	-12.782	1.5
44	MP2B	Z	-22.139	1.5
45	MP2B	Mx	-.008	1.5
46	MP2B	X	-12.782	5.75
47	MP2B	Z	-22.139	5.75
48	MP2B	Mx	-.008	5.75
49	MP2C	X	-9.562	1.5
50	MP2C	Z	-16.562	1.5
51	MP2C	Mx	-.01	1.5
52	MP2C	X	-9.562	5.75
53	MP2C	Z	-16.562	5.75
54	MP2C	Mx	-.01	5.75
55	MP4A	X	-5.767	2.75
56	MP4A	Z	-9.989	2.75
57	MP4A	Mx	.003	2.75
58	MP4A	X	-5.767	4.5
59	MP4A	Z	-9.989	4.5
60	MP4A	Mx	.003	4.5
61	MP4B	X	-5.767	2.75
62	MP4B	Z	-9.989	2.75
63	MP4B	Mx	.003	2.75
64	MP4B	X	-5.767	4.5
65	MP4B	Z	-9.989	4.5
66	MP4B	Mx	.003	4.5
67	MP4C	X	-2.851	2.75
68	MP4C	Z	-4.938	2.75
69	MP4C	Mx	-.003	2.75
70	MP4C	X	-2.851	4.5
71	MP4C	Z	-4.938	4.5
72	MP4C	Mx	-.003	4.5
73	OVP1	X	-13.525	1
74	OVP1	Z	-23.426	1
75	OVP1	Mx	-.009	1
76	MP3A	X	-6.438	3
77	MP3A	Z	-11.151	3
78	MP3A	Mx	-.003	3
79	MP3B	X	-6.438	3
80	MP3B	Z	-11.151	3

Member Point Loads (BLC 26 : Antenna Wi (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
81	MP3B	Mx	-.003	3
82	MP3C	X	-4.85	3
83	MP3C	Z	-8.401	3
84	MP3C	Mx	.005	3
85	MP2A	X	-6.459	3
86	MP2A	Z	-11.187	3
87	MP2A	Mx	-.003	3
88	MP2B	X	-6.459	3
89	MP2B	Z	-11.187	3
90	MP2B	Mx	-.003	3
91	MP2C	X	-4.935	3
92	MP2C	Z	-8.547	3
93	MP2C	Mx	.005	3

Member Point Loads (BLC 27 : Antenna Wm (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	.75
2	MP1A	Z	-5.295	.75
3	MP1A	Mx	0	.75
4	MP1A	X	0	6.5
5	MP1A	Z	-5.295	6.5
6	MP1A	Mx	0	6.5
7	MP1B	X	0	.75
8	MP1B	Z	-4.316	.75
9	MP1B	Mx	.001	.75
10	MP1B	X	0	6.5
11	MP1B	Z	-4.316	6.5
12	MP1B	Mx	.001	6.5
13	MP1C	X	0	.75
14	MP1C	Z	-4.316	.75
15	MP1C	Mx	-.001	.75
16	MP1C	X	0	6.5
17	MP1C	Z	-4.316	6.5
18	MP1C	Mx	-.001	6.5
19	MP2A	X	0	1.5
20	MP2A	Z	-6.065	1.5
21	MP2A	Mx	-.004	1.5
22	MP2A	X	0	5.75
23	MP2A	Z	-6.065	5.75
24	MP2A	Mx	-.004	5.75
25	MP2B	X	0	1.5
26	MP2B	Z	-3.468	1.5
27	MP2B	Mx	.003	1.5
28	MP2B	X	0	5.75
29	MP2B	Z	-3.468	5.75
30	MP2B	Mx	.003	5.75
31	MP2C	X	0	1.5
32	MP2C	Z	-3.468	1.5
33	MP2C	Mx	-.000346	1.5
34	MP2C	X	0	5.75
35	MP2C	Z	-3.468	5.75

Member Point Loads (BLC 27 : Antenna Wm (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
36	MP2C	Mx	-.000346	5.75
37	MP2A	X	0	1.5
38	MP2A	Z	-6.065	1.5
39	MP2A	Mx	.004	1.5
40	MP2A	X	0	5.75
41	MP2A	Z	-6.065	5.75
42	MP2A	Mx	.004	5.75
43	MP2B	X	0	1.5
44	MP2B	Z	-3.468	1.5
45	MP2B	Mx	.000346	1.5
46	MP2B	X	0	5.75
47	MP2B	Z	-3.468	5.75
48	MP2B	Mx	.000346	5.75
49	MP2C	X	0	1.5
50	MP2C	Z	-3.468	1.5
51	MP2C	Mx	-.003	1.5
52	MP2C	X	0	5.75
53	MP2C	Z	-3.468	5.75
54	MP2C	Mx	-.003	5.75
55	MP4A	X	0	2.75
56	MP4A	Z	-3.53	2.75
57	MP4A	Mx	0	2.75
58	MP4A	X	0	4.5
59	MP4A	Z	-3.53	4.5
60	MP4A	Mx	0	4.5
61	MP4B	X	0	2.75
62	MP4B	Z	-1.812	2.75
63	MP4B	Mx	.000785	2.75
64	MP4B	X	0	4.5
65	MP4B	Z	-1.812	4.5
66	MP4B	Mx	.000785	4.5
67	MP4C	X	0	2.75
68	MP4C	Z	-1.812	2.75
69	MP4C	Mx	-.000785	2.75
70	MP4C	X	0	4.5
71	MP4C	Z	-1.812	4.5
72	MP4C	Mx	-.000785	4.5
73	OVP1	X	0	1
74	OVP1	Z	-7.082	1
75	OVP1	Mx	0	1
76	MP3A	X	0	3
77	MP3A	Z	-3.463	3
78	MP3A	Mx	0	3
79	MP3B	X	0	3
80	MP3B	Z	-2.608	3
81	MP3B	Mx	-.001	3
82	MP3C	X	0	3
83	MP3C	Z	-2.608	3
84	MP3C	Mx	.001	3
85	MP2A	X	0	3
86	MP2A	Z	-4.178	3
87	MP2A	Mx	0	3

Member Point Loads (BLC 27 : Antenna Wm (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
88	MP2B	X	0	3
89	MP2B	Z	-3.181	3
90	MP2B	Mx	-.001	3
91	MP2C	X	0	3
92	MP2C	Z	-3.181	3
93	MP2C	Mx	.001	3

Member Point Loads (BLC 28 : Antenna Wm (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	2.484	.75
2	MP1A	Z	-4.303	.75
3	MP1A	Mx	-.000828	.75
4	MP1A	X	2.484	6.5
5	MP1A	Z	-4.303	6.5
6	MP1A	Mx	-.000828	6.5
7	MP1B	X	1.995	.75
8	MP1B	Z	-3.455	.75
9	MP1B	Mx	.001	.75
10	MP1B	X	1.995	6.5
11	MP1B	Z	-3.455	6.5
12	MP1B	Mx	.001	6.5
13	MP1C	X	2.484	.75
14	MP1C	Z	-4.303	.75
15	MP1C	Mx	-.000828	.75
16	MP1C	X	2.484	6.5
17	MP1C	Z	-4.303	6.5
18	MP1C	Mx	-.000828	6.5
19	MP2A	X	2.6	1.5
20	MP2A	Z	-4.503	1.5
21	MP2A	Mx	-.004	1.5
22	MP2A	X	2.6	5.75
23	MP2A	Z	-4.503	5.75
24	MP2A	Mx	-.004	5.75
25	MP2B	X	1.301	1.5
26	MP2B	Z	-2.254	1.5
27	MP2B	Mx	.001	1.5
28	MP2B	X	1.301	5.75
29	MP2B	Z	-2.254	5.75
30	MP2B	Mx	.001	5.75
31	MP2C	X	2.6	1.5
32	MP2C	Z	-4.503	1.5
33	MP2C	Mx	.002	1.5
34	MP2C	X	2.6	5.75
35	MP2C	Z	-4.503	5.75
36	MP2C	Mx	.002	5.75
37	MP2A	X	2.6	1.5
38	MP2A	Z	-4.503	1.5
39	MP2A	Mx	.002	1.5
40	MP2A	X	2.6	5.75
41	MP2A	Z	-4.503	5.75
42	MP2A	Mx	.002	5.75

Member Point Loads (BLC 28 : Antenna Wm (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
43	MP2B	X	1.301	1.5
44	MP2B	Z	-2.254	1.5
45	MP2B	Mx	.001	1.5
46	MP2B	X	1.301	5.75
47	MP2B	Z	-2.254	5.75
48	MP2B	Mx	.001	5.75
49	MP2C	X	2.6	1.5
50	MP2C	Z	-4.503	1.5
51	MP2C	Mx	-.004	1.5
52	MP2C	X	2.6	5.75
53	MP2C	Z	-4.503	5.75
54	MP2C	Mx	-.004	5.75
55	MP4A	X	1.479	2.75
56	MP4A	Z	-2.561	2.75
57	MP4A	Mx	-.00074	2.75
58	MP4A	X	1.479	4.5
59	MP4A	Z	-2.561	4.5
60	MP4A	Mx	-.00074	4.5
61	MP4B	X	.62	2.75
62	MP4B	Z	-1.074	2.75
63	MP4B	Mx	.00062	2.75
64	MP4B	X	.62	4.5
65	MP4B	Z	-1.074	4.5
66	MP4B	Mx	.00062	4.5
67	MP4C	X	1.479	2.75
68	MP4C	Z	-2.561	2.75
69	MP4C	Mx	-.000739	2.75
70	MP4C	X	1.479	4.5
71	MP4C	Z	-2.561	4.5
72	MP4C	Mx	-.000739	4.5
73	OVP1	X	3.329	1
74	OVP1	Z	-5.766	1
75	OVP1	Mx	.002	1
76	MP3A	X	1.589	3
77	MP3A	Z	-2.752	3
78	MP3A	Mx	.000794	3
79	MP3B	X	1.162	3
80	MP3B	Z	-2.012	3
81	MP3B	Mx	-.001	3
82	MP3C	X	1.589	3
83	MP3C	Z	-2.752	3
84	MP3C	Mx	.000794	3
85	MP2A	X	1.923	3
86	MP2A	Z	-3.33	3
87	MP2A	Mx	.000962	3
88	MP2B	X	1.424	3
89	MP2B	Z	-2.467	3
90	MP2B	Mx	-.001	3
91	MP2C	X	1.923	3
92	MP2C	Z	-3.33	3
93	MP2C	Mx	.000961	3

Member Point Loads (BLC 29 : Antenna Wm (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	3.738	.75
2	MP1A	Z	-2.158	.75
3	MP1A	Mx	-.001	.75
4	MP1A	X	3.738	6.5
5	MP1A	Z	-2.158	6.5
6	MP1A	Mx	-.001	6.5
7	MP1B	X	3.738	.75
8	MP1B	Z	-2.158	.75
9	MP1B	Mx	.001	.75
10	MP1B	X	3.738	6.5
11	MP1B	Z	-2.158	6.5
12	MP1B	Mx	.001	6.5
13	MP1C	X	4.585	.75
14	MP1C	Z	-2.647	.75
15	MP1C	Mx	0	.75
16	MP1C	X	4.585	6.5
17	MP1C	Z	-2.647	6.5
18	MP1C	Mx	0	6.5
19	MP2A	X	3.004	1.5
20	MP2A	Z	-1.734	1.5
21	MP2A	Mx	-.003	1.5
22	MP2A	X	3.004	5.75
23	MP2A	Z	-1.734	5.75
24	MP2A	Mx	-.003	5.75
25	MP2B	X	3.004	1.5
26	MP2B	Z	-1.734	1.5
27	MP2B	Mx	.000345	1.5
28	MP2B	X	3.004	5.75
29	MP2B	Z	-1.734	5.75
30	MP2B	Mx	.000345	5.75
31	MP2C	X	5.253	1.5
32	MP2C	Z	-3.033	1.5
33	MP2C	Mx	.004	1.5
34	MP2C	X	5.253	5.75
35	MP2C	Z	-3.033	5.75
36	MP2C	Mx	.004	5.75
37	MP2A	X	3.004	1.5
38	MP2A	Z	-1.734	1.5
39	MP2A	Mx	-.000346	1.5
40	MP2A	X	3.004	5.75
41	MP2A	Z	-1.734	5.75
42	MP2A	Mx	-.000346	5.75
43	MP2B	X	3.004	1.5
44	MP2B	Z	-1.734	1.5
45	MP2B	Mx	.003	1.5
46	MP2B	X	3.004	5.75
47	MP2B	Z	-1.734	5.75
48	MP2B	Mx	.003	5.75
49	MP2C	X	5.253	1.5
50	MP2C	Z	-3.033	1.5
51	MP2C	Mx	-.004	1.5
52	MP2C	X	5.253	5.75

Member Point Loads (BLC 29 : Antenna Wm (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP2C	Z	-3.033	5.75
54	MP2C	Mx	-.004	5.75
55	MP4A	X	1.57	2.75
56	MP4A	Z	-.906	2.75
57	MP4A	Mx	-.000785	2.75
58	MP4A	X	1.57	4.5
59	MP4A	Z	-.906	4.5
60	MP4A	Mx	-.000785	4.5
61	MP4B	X	1.57	2.75
62	MP4B	Z	-.906	2.75
63	MP4B	Mx	.000785	2.75
64	MP4B	X	1.57	4.5
65	MP4B	Z	-.906	4.5
66	MP4B	Mx	.000785	4.5
67	MP4C	X	3.057	2.75
68	MP4C	Z	-1.765	2.75
69	MP4C	Mx	0	2.75
70	MP4C	X	3.057	4.5
71	MP4C	Z	-1.765	4.5
72	MP4C	Mx	0	4.5
73	OVP1	X	5.03	1
74	OVP1	Z	-2.904	1
75	OVP1	Mx	.003	1
76	MP3A	X	2.259	3
77	MP3A	Z	-1.304	3
78	MP3A	Mx	.001	3
79	MP3B	X	2.259	3
80	MP3B	Z	-1.304	3
81	MP3B	Mx	-.001	3
82	MP3C	X	2.999	3
83	MP3C	Z	-1.731	3
84	MP3C	Mx	0	3
85	MP2A	X	2.755	3
86	MP2A	Z	-1.59	3
87	MP2A	Mx	.001	3
88	MP2B	X	2.755	3
89	MP2B	Z	-1.59	3
90	MP2B	Mx	-.001	3
91	MP2C	X	3.618	3
92	MP2C	Z	-2.089	3
93	MP2C	Mx	0	3

Member Point Loads (BLC 30 : Antenna Wm (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	3.99	.75
2	MP1A	Z	0	.75
3	MP1A	Mx	-.001	.75
4	MP1A	X	3.99	6.5
5	MP1A	Z	0	6.5
6	MP1A	Mx	-.001	6.5
7	MP1B	X	4.968	.75

Member Point Loads (BLC 30 : Antenna Wm (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
8	MP1B	Z	0	.75
9	MP1B	Mx	.000828	.75
10	MP1B	X	4.968	6.5
11	MP1B	Z	0	6.5
12	MP1B	Mx	.000828	6.5
13	MP1C	X	4.968	.75
14	MP1C	Z	0	.75
15	MP1C	Mx	.000828	.75
16	MP1C	X	4.968	6.5
17	MP1C	Z	0	6.5
18	MP1C	Mx	.000828	6.5
19	MP2A	X	2.603	1.5
20	MP2A	Z	0	1.5
21	MP2A	Mx	-.001	1.5
22	MP2A	X	2.603	5.75
23	MP2A	Z	0	5.75
24	MP2A	Mx	-.001	5.75
25	MP2B	X	5.2	1.5
26	MP2B	Z	0	1.5
27	MP2B	Mx	-.002	1.5
28	MP2B	X	5.2	5.75
29	MP2B	Z	0	5.75
30	MP2B	Mx	-.002	5.75
31	MP2C	X	5.2	1.5
32	MP2C	Z	0	1.5
33	MP2C	Mx	.004	1.5
34	MP2C	X	5.2	5.75
35	MP2C	Z	0	5.75
36	MP2C	Mx	.004	5.75
37	MP2A	X	2.603	1.5
38	MP2A	Z	0	1.5
39	MP2A	Mx	-.001	1.5
40	MP2A	X	2.603	5.75
41	MP2A	Z	0	5.75
42	MP2A	Mx	-.001	5.75
43	MP2B	X	5.2	1.5
44	MP2B	Z	0	1.5
45	MP2B	Mx	.004	1.5
46	MP2B	X	5.2	5.75
47	MP2B	Z	0	5.75
48	MP2B	Mx	.004	5.75
49	MP2C	X	5.2	1.5
50	MP2C	Z	0	1.5
51	MP2C	Mx	-.002	1.5
52	MP2C	X	5.2	5.75
53	MP2C	Z	0	5.75
54	MP2C	Mx	-.002	5.75
55	MP4A	X	1.24	2.75
56	MP4A	Z	0	2.75
57	MP4A	Mx	-.00062	2.75
58	MP4A	X	1.24	4.5
59	MP4A	Z	0	4.5

Member Point Loads (BLC 30 : Antenna Wm (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
60	MP4A	Mx	-.00062	4.5
61	MP4B	X	2.957	2.75
62	MP4B	Z	0	2.75
63	MP4B	Mx	.000739	2.75
64	MP4B	X	2.957	4.5
65	MP4B	Z	0	4.5
66	MP4B	Mx	.000739	4.5
67	MP4C	X	2.957	2.75
68	MP4C	Z	0	2.75
69	MP4C	Mx	.000739	2.75
70	MP4C	X	2.957	4.5
71	MP4C	Z	0	4.5
72	MP4C	Mx	.000739	4.5
73	OVP1	X	5.384	1
74	OVP1	Z	0	1
75	OVP1	Mx	.004	1
76	MP3A	X	2.323	3
77	MP3A	Z	0	3
78	MP3A	Mx	.001	3
79	MP3B	X	3.178	3
80	MP3B	Z	0	3
81	MP3B	Mx	-.000794	3
82	MP3C	X	3.178	3
83	MP3C	Z	0	3
84	MP3C	Mx	-.000794	3
85	MP2A	X	2.848	3
86	MP2A	Z	0	3
87	MP2A	Mx	.001	3
88	MP2B	X	3.845	3
89	MP2B	Z	0	3
90	MP2B	Mx	-.000961	3
91	MP2C	X	3.845	3
92	MP2C	Z	0	3
93	MP2C	Mx	-.000961	3

Member Point Loads (BLC 31 : Antenna Wm (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	3.738	.75
2	MP1A	Z	2.158	.75
3	MP1A	Mx	-.001	.75
4	MP1A	X	3.738	6.5
5	MP1A	Z	2.158	6.5
6	MP1A	Mx	-.001	6.5
7	MP1B	X	4.585	.75
8	MP1B	Z	2.647	.75
9	MP1B	Mx	0	.75
10	MP1B	X	4.585	6.5
11	MP1B	Z	2.647	6.5
12	MP1B	Mx	0	6.5
13	MP1C	X	3.738	.75
14	MP1C	Z	2.158	.75

Member Point Loads (BLC 31 : Antenna Wm (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
15	MP1C	Mx	.001	.75
16	MP1C	X	3.738	6.5
17	MP1C	Z	2.158	6.5
18	MP1C	Mx	.001	6.5
19	MP2A	X	3.004	1.5
20	MP2A	Z	1.734	1.5
21	MP2A	Mx	-.000346	1.5
22	MP2A	X	3.004	5.75
23	MP2A	Z	1.734	5.75
24	MP2A	Mx	-.000346	5.75
25	MP2B	X	5.253	1.5
26	MP2B	Z	3.033	1.5
27	MP2B	Mx	-.004	1.5
28	MP2B	X	5.253	5.75
29	MP2B	Z	3.033	5.75
30	MP2B	Mx	-.004	5.75
31	MP2C	X	3.004	1.5
32	MP2C	Z	1.734	1.5
33	MP2C	Mx	.003	1.5
34	MP2C	X	3.004	5.75
35	MP2C	Z	1.734	5.75
36	MP2C	Mx	.003	5.75
37	MP2A	X	3.004	1.5
38	MP2A	Z	1.734	1.5
39	MP2A	Mx	-.003	1.5
40	MP2A	X	3.004	5.75
41	MP2A	Z	1.734	5.75
42	MP2A	Mx	-.003	5.75
43	MP2B	X	5.253	1.5
44	MP2B	Z	3.033	1.5
45	MP2B	Mx	.004	1.5
46	MP2B	X	5.253	5.75
47	MP2B	Z	3.033	5.75
48	MP2B	Mx	.004	5.75
49	MP2C	X	3.004	1.5
50	MP2C	Z	1.734	1.5
51	MP2C	Mx	.000345	1.5
52	MP2C	X	3.004	5.75
53	MP2C	Z	1.734	5.75
54	MP2C	Mx	.000345	5.75
55	MP4A	X	1.57	2.75
56	MP4A	Z	.906	2.75
57	MP4A	Mx	-.000785	2.75
58	MP4A	X	1.57	4.5
59	MP4A	Z	.906	4.5
60	MP4A	Mx	-.000785	4.5
61	MP4B	X	3.057	2.75
62	MP4B	Z	1.765	2.75
63	MP4B	Mx	0	2.75
64	MP4B	X	3.057	4.5
65	MP4B	Z	1.765	4.5
66	MP4B	Mx	0	4.5

Member Point Loads (BLC 31 : Antenna Wm (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
67	MP4C	X	1.57	2.75
68	MP4C	Z	.906	2.75
69	MP4C	Mx	.000785	2.75
70	MP4C	X	1.57	4.5
71	MP4C	Z	.906	4.5
72	MP4C	Mx	.000785	4.5
73	OVP1	X	5.03	1
74	OVP1	Z	2.904	1
75	OVP1	Mx	.003	1
76	MP3A	X	2.259	3
77	MP3A	Z	1.304	3
78	MP3A	Mx	.001	3
79	MP3B	X	2.999	3
80	MP3B	Z	1.731	3
81	MP3B	Mx	0	3
82	MP3C	X	2.259	3
83	MP3C	Z	1.304	3
84	MP3C	Mx	-.001	3
85	MP2A	X	2.755	3
86	MP2A	Z	1.59	3
87	MP2A	Mx	.001	3
88	MP2B	X	3.618	3
89	MP2B	Z	2.089	3
90	MP2B	Mx	0	3
91	MP2C	X	2.755	3
92	MP2C	Z	1.59	3
93	MP2C	Mx	-.001	3

Member Point Loads (BLC 32 : Antenna Wm (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	2.484	.75
2	MP1A	Z	4.303	.75
3	MP1A	Mx	-.000828	.75
4	MP1A	X	2.484	6.5
5	MP1A	Z	4.303	6.5
6	MP1A	Mx	-.000828	6.5
7	MP1B	X	2.484	.75
8	MP1B	Z	4.303	.75
9	MP1B	Mx	-.000828	.75
10	MP1B	X	2.484	6.5
11	MP1B	Z	4.303	6.5
12	MP1B	Mx	-.000828	6.5
13	MP1C	X	1.995	.75
14	MP1C	Z	3.455	.75
15	MP1C	Mx	.001	.75
16	MP1C	X	1.995	6.5
17	MP1C	Z	3.455	6.5
18	MP1C	Mx	.001	6.5
19	MP2A	X	2.6	1.5
20	MP2A	Z	4.503	1.5
21	MP2A	Mx	.002	1.5

Member Point Loads (BLC 32 : Antenna Wm (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
22	MP2A	X	2.6	5.75
23	MP2A	Z	4.503	5.75
24	MP2A	Mx	.002	5.75
25	MP2B	X	2.6	1.5
26	MP2B	Z	4.503	1.5
27	MP2B	Mx	-.004	1.5
28	MP2B	X	2.6	5.75
29	MP2B	Z	4.503	5.75
30	MP2B	Mx	-.004	5.75
31	MP2C	X	1.301	1.5
32	MP2C	Z	2.254	1.5
33	MP2C	Mx	.001	1.5
34	MP2C	X	1.301	5.75
35	MP2C	Z	2.254	5.75
36	MP2C	Mx	.001	5.75
37	MP2A	X	2.6	1.5
38	MP2A	Z	4.503	1.5
39	MP2A	Mx	-.004	1.5
40	MP2A	X	2.6	5.75
41	MP2A	Z	4.503	5.75
42	MP2A	Mx	-.004	5.75
43	MP2B	X	2.6	1.5
44	MP2B	Z	4.503	1.5
45	MP2B	Mx	.002	1.5
46	MP2B	X	2.6	5.75
47	MP2B	Z	4.503	5.75
48	MP2B	Mx	.002	5.75
49	MP2C	X	1.301	1.5
50	MP2C	Z	2.254	1.5
51	MP2C	Mx	.001	1.5
52	MP2C	X	1.301	5.75
53	MP2C	Z	2.254	5.75
54	MP2C	Mx	.001	5.75
55	MP4A	X	1.479	2.75
56	MP4A	Z	2.561	2.75
57	MP4A	Mx	-.00074	2.75
58	MP4A	X	1.479	4.5
59	MP4A	Z	2.561	4.5
60	MP4A	Mx	-.00074	4.5
61	MP4B	X	1.479	2.75
62	MP4B	Z	2.561	2.75
63	MP4B	Mx	-.000739	2.75
64	MP4B	X	1.479	4.5
65	MP4B	Z	2.561	4.5
66	MP4B	Mx	-.000739	4.5
67	MP4C	X	.62	2.75
68	MP4C	Z	1.074	2.75
69	MP4C	Mx	.00062	2.75
70	MP4C	X	.62	4.5
71	MP4C	Z	1.074	4.5
72	MP4C	Mx	.00062	4.5
73	OVP1	X	3.329	1

Member Point Loads (BLC 32 : Antenna Wm (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
74	OVP1	Z	5.766	1
75	OVP1	Mx	.002	1
76	MP3A	X	1.589	3
77	MP3A	Z	2.752	3
78	MP3A	Mx	.000794	3
79	MP3B	X	1.589	3
80	MP3B	Z	2.752	3
81	MP3B	Mx	.000794	3
82	MP3C	X	1.162	3
83	MP3C	Z	2.012	3
84	MP3C	Mx	-.001	3
85	MP2A	X	1.923	3
86	MP2A	Z	3.33	3
87	MP2A	Mx	.000962	3
88	MP2B	X	1.923	3
89	MP2B	Z	3.33	3
90	MP2B	Mx	.000961	3
91	MP2C	X	1.424	3
92	MP2C	Z	2.467	3
93	MP2C	Mx	-.001	3

Member Point Loads (BLC 33 : Antenna Wm (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	.75
2	MP1A	Z	5.295	.75
3	MP1A	Mx	0	.75
4	MP1A	X	0	6.5
5	MP1A	Z	5.295	6.5
6	MP1A	Mx	0	6.5
7	MP1B	X	0	.75
8	MP1B	Z	4.316	.75
9	MP1B	Mx	-.001	.75
10	MP1B	X	0	6.5
11	MP1B	Z	4.316	6.5
12	MP1B	Mx	-.001	6.5
13	MP1C	X	0	.75
14	MP1C	Z	4.316	.75
15	MP1C	Mx	.001	.75
16	MP1C	X	0	6.5
17	MP1C	Z	4.316	6.5
18	MP1C	Mx	.001	6.5
19	MP2A	X	0	1.5
20	MP2A	Z	6.065	1.5
21	MP2A	Mx	.004	1.5
22	MP2A	X	0	5.75
23	MP2A	Z	6.065	5.75
24	MP2A	Mx	.004	5.75
25	MP2B	X	0	1.5
26	MP2B	Z	3.468	1.5
27	MP2B	Mx	-.003	1.5
28	MP2B	X	0	5.75

Member Point Loads (BLC 33 : Antenna Wm (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP2B	Z	3.468	5.75
30	MP2B	Mx	-.003	5.75
31	MP2C	X	0	1.5
32	MP2C	Z	3.468	1.5
33	MP2C	Mx	.000346	1.5
34	MP2C	X	0	5.75
35	MP2C	Z	3.468	5.75
36	MP2C	Mx	.000346	5.75
37	MP2A	X	0	1.5
38	MP2A	Z	6.065	1.5
39	MP2A	Mx	-.004	1.5
40	MP2A	X	0	5.75
41	MP2A	Z	6.065	5.75
42	MP2A	Mx	-.004	5.75
43	MP2B	X	0	1.5
44	MP2B	Z	3.468	1.5
45	MP2B	Mx	-.000346	1.5
46	MP2B	X	0	5.75
47	MP2B	Z	3.468	5.75
48	MP2B	Mx	-.000346	5.75
49	MP2C	X	0	1.5
50	MP2C	Z	3.468	1.5
51	MP2C	Mx	.003	1.5
52	MP2C	X	0	5.75
53	MP2C	Z	3.468	5.75
54	MP2C	Mx	.003	5.75
55	MP4A	X	0	2.75
56	MP4A	Z	3.53	2.75
57	MP4A	Mx	0	2.75
58	MP4A	X	0	4.5
59	MP4A	Z	3.53	4.5
60	MP4A	Mx	0	4.5
61	MP4B	X	0	2.75
62	MP4B	Z	1.812	2.75
63	MP4B	Mx	-.000785	2.75
64	MP4B	X	0	4.5
65	MP4B	Z	1.812	4.5
66	MP4B	Mx	-.000785	4.5
67	MP4C	X	0	2.75
68	MP4C	Z	1.812	2.75
69	MP4C	Mx	.000785	2.75
70	MP4C	X	0	4.5
71	MP4C	Z	1.812	4.5
72	MP4C	Mx	.000785	4.5
73	OVP1	X	0	1
74	OVP1	Z	7.082	1
75	OVP1	Mx	0	1
76	MP3A	X	0	3
77	MP3A	Z	3.463	3
78	MP3A	Mx	0	3
79	MP3B	X	0	3
80	MP3B	Z	2.608	3

Member Point Loads (BLC 33 : Antenna Wm (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
81	MP3B	Mx	.001	3
82	MP3C	X	0	3
83	MP3C	Z	2.608	3
84	MP3C	Mx	-.001	3
85	MP2A	X	0	3
86	MP2A	Z	4.178	3
87	MP2A	Mx	0	3
88	MP2B	X	0	3
89	MP2B	Z	3.181	3
90	MP2B	Mx	.001	3
91	MP2C	X	0	3
92	MP2C	Z	3.181	3
93	MP2C	Mx	-.001	3

Member Point Loads (BLC 34 : Antenna Wm (210 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-2.484	.75
2	MP1A	Z	4.303	.75
3	MP1A	Mx	.000828	.75
4	MP1A	X	-2.484	6.5
5	MP1A	Z	4.303	6.5
6	MP1A	Mx	.000828	6.5
7	MP1B	X	-1.995	.75
8	MP1B	Z	3.455	.75
9	MP1B	Mx	-.001	.75
10	MP1B	X	-1.995	6.5
11	MP1B	Z	3.455	6.5
12	MP1B	Mx	-.001	6.5
13	MP1C	X	-2.484	.75
14	MP1C	Z	4.303	.75
15	MP1C	Mx	.000828	.75
16	MP1C	X	-2.484	6.5
17	MP1C	Z	4.303	6.5
18	MP1C	Mx	.000828	6.5
19	MP2A	X	-2.6	1.5
20	MP2A	Z	4.503	1.5
21	MP2A	Mx	.004	1.5
22	MP2A	X	-2.6	5.75
23	MP2A	Z	4.503	5.75
24	MP2A	Mx	.004	5.75
25	MP2B	X	-1.301	1.5
26	MP2B	Z	2.254	1.5
27	MP2B	Mx	-.001	1.5
28	MP2B	X	-1.301	5.75
29	MP2B	Z	2.254	5.75
30	MP2B	Mx	-.001	5.75
31	MP2C	X	-2.6	1.5
32	MP2C	Z	4.503	1.5
33	MP2C	Mx	-.002	1.5
34	MP2C	X	-2.6	5.75
35	MP2C	Z	4.503	5.75

Member Point Loads (BLC 34 : Antenna Wm (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
36	MP2C	Mx	-.002	5.75
37	MP2A	X	-2.6	1.5
38	MP2A	Z	4.503	1.5
39	MP2A	Mx	-.002	1.5
40	MP2A	X	-2.6	5.75
41	MP2A	Z	4.503	5.75
42	MP2A	Mx	-.002	5.75
43	MP2B	X	-1.301	1.5
44	MP2B	Z	2.254	1.5
45	MP2B	Mx	-.001	1.5
46	MP2B	X	-1.301	5.75
47	MP2B	Z	2.254	5.75
48	MP2B	Mx	-.001	5.75
49	MP2C	X	-2.6	1.5
50	MP2C	Z	4.503	1.5
51	MP2C	Mx	.004	1.5
52	MP2C	X	-2.6	5.75
53	MP2C	Z	4.503	5.75
54	MP2C	Mx	.004	5.75
55	MP4A	X	-1.479	2.75
56	MP4A	Z	2.561	2.75
57	MP4A	Mx	.00074	2.75
58	MP4A	X	-1.479	4.5
59	MP4A	Z	2.561	4.5
60	MP4A	Mx	.00074	4.5
61	MP4B	X	-.62	2.75
62	MP4B	Z	1.074	2.75
63	MP4B	Mx	-.00062	2.75
64	MP4B	X	-.62	4.5
65	MP4B	Z	1.074	4.5
66	MP4B	Mx	-.00062	4.5
67	MP4C	X	-1.479	2.75
68	MP4C	Z	2.561	2.75
69	MP4C	Mx	.000739	2.75
70	MP4C	X	-1.479	4.5
71	MP4C	Z	2.561	4.5
72	MP4C	Mx	.000739	4.5
73	OVP1	X	-3.329	1
74	OVP1	Z	5.766	1
75	OVP1	Mx	-.002	1
76	MP3A	X	-1.589	3
77	MP3A	Z	2.752	3
78	MP3A	Mx	-.000794	3
79	MP3B	X	-1.162	3
80	MP3B	Z	2.012	3
81	MP3B	Mx	.001	3
82	MP3C	X	-1.589	3
83	MP3C	Z	2.752	3
84	MP3C	Mx	-.000794	3
85	MP2A	X	-1.923	3
86	MP2A	Z	3.33	3
87	MP2A	Mx	-.000962	3

Member Point Loads (BLC 34 : Antenna Wm (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
88	MP2B	X	-1.424	3
89	MP2B	Z	2.467	3
90	MP2B	Mx	.001	3
91	MP2C	X	-1.923	3
92	MP2C	Z	3.33	3
93	MP2C	Mx	-.000961	3

Member Point Loads (BLC 35 : Antenna Wm (240 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-3.738	.75
2	MP1A	Z	2.158	.75
3	MP1A	Mx	.001	.75
4	MP1A	X	-3.738	6.5
5	MP1A	Z	2.158	6.5
6	MP1A	Mx	.001	6.5
7	MP1B	X	-3.738	.75
8	MP1B	Z	2.158	.75
9	MP1B	Mx	-.001	.75
10	MP1B	X	-3.738	6.5
11	MP1B	Z	2.158	6.5
12	MP1B	Mx	-.001	6.5
13	MP1C	X	-4.585	.75
14	MP1C	Z	2.647	.75
15	MP1C	Mx	0	.75
16	MP1C	X	-4.585	6.5
17	MP1C	Z	2.647	6.5
18	MP1C	Mx	0	6.5
19	MP2A	X	-3.004	1.5
20	MP2A	Z	1.734	1.5
21	MP2A	Mx	.003	1.5
22	MP2A	X	-3.004	5.75
23	MP2A	Z	1.734	5.75
24	MP2A	Mx	.003	5.75
25	MP2B	X	-3.004	1.5
26	MP2B	Z	1.734	1.5
27	MP2B	Mx	-.000345	1.5
28	MP2B	X	-3.004	5.75
29	MP2B	Z	1.734	5.75
30	MP2B	Mx	-.000345	5.75
31	MP2C	X	-5.253	1.5
32	MP2C	Z	3.033	1.5
33	MP2C	Mx	-.004	1.5
34	MP2C	X	-5.253	5.75
35	MP2C	Z	3.033	5.75
36	MP2C	Mx	-.004	5.75
37	MP2A	X	-3.004	1.5
38	MP2A	Z	1.734	1.5
39	MP2A	Mx	.000346	1.5
40	MP2A	X	-3.004	5.75
41	MP2A	Z	1.734	5.75
42	MP2A	Mx	.000346	5.75

Member Point Loads (BLC 35 : Antenna Wm (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
43	MP2B	X	-3.004	1.5
44	MP2B	Z	1.734	1.5
45	MP2B	Mx	-.003	1.5
46	MP2B	X	-3.004	5.75
47	MP2B	Z	1.734	5.75
48	MP2B	Mx	-.003	5.75
49	MP2C	X	-5.253	1.5
50	MP2C	Z	3.033	1.5
51	MP2C	Mx	.004	1.5
52	MP2C	X	-5.253	5.75
53	MP2C	Z	3.033	5.75
54	MP2C	Mx	.004	5.75
55	MP4A	X	-1.57	2.75
56	MP4A	Z	.906	2.75
57	MP4A	Mx	.000785	2.75
58	MP4A	X	-1.57	4.5
59	MP4A	Z	.906	4.5
60	MP4A	Mx	.000785	4.5
61	MP4B	X	-1.57	2.75
62	MP4B	Z	.906	2.75
63	MP4B	Mx	-.000785	2.75
64	MP4B	X	-1.57	4.5
65	MP4B	Z	.906	4.5
66	MP4B	Mx	-.000785	4.5
67	MP4C	X	-3.057	2.75
68	MP4C	Z	1.765	2.75
69	MP4C	Mx	0	2.75
70	MP4C	X	-3.057	4.5
71	MP4C	Z	1.765	4.5
72	MP4C	Mx	0	4.5
73	OVP1	X	-5.03	1
74	OVP1	Z	2.904	1
75	OVP1	Mx	-.003	1
76	MP3A	X	-2.259	3
77	MP3A	Z	1.304	3
78	MP3A	Mx	-.001	3
79	MP3B	X	-2.259	3
80	MP3B	Z	1.304	3
81	MP3B	Mx	.001	3
82	MP3C	X	-2.999	3
83	MP3C	Z	1.731	3
84	MP3C	Mx	0	3
85	MP2A	X	-2.755	3
86	MP2A	Z	1.59	3
87	MP2A	Mx	-.001	3
88	MP2B	X	-2.755	3
89	MP2B	Z	1.59	3
90	MP2B	Mx	.001	3
91	MP2C	X	-3.618	3
92	MP2C	Z	2.089	3
93	MP2C	Mx	0	3

Member Point Loads (BLC 36 : Antenna Wm (270 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-3.99	.75
2	MP1A	Z	0	.75
3	MP1A	Mx	.001	.75
4	MP1A	X	-3.99	6.5
5	MP1A	Z	0	6.5
6	MP1A	Mx	.001	6.5
7	MP1B	X	-4.968	.75
8	MP1B	Z	0	.75
9	MP1B	Mx	-.000828	.75
10	MP1B	X	-4.968	6.5
11	MP1B	Z	0	6.5
12	MP1B	Mx	-.000828	6.5
13	MP1C	X	-4.968	.75
14	MP1C	Z	0	.75
15	MP1C	Mx	-.000828	.75
16	MP1C	X	-4.968	6.5
17	MP1C	Z	0	6.5
18	MP1C	Mx	-.000828	6.5
19	MP2A	X	-2.603	1.5
20	MP2A	Z	0	1.5
21	MP2A	Mx	.001	1.5
22	MP2A	X	-2.603	5.75
23	MP2A	Z	0	5.75
24	MP2A	Mx	.001	5.75
25	MP2B	X	-5.2	1.5
26	MP2B	Z	0	1.5
27	MP2B	Mx	.002	1.5
28	MP2B	X	-5.2	5.75
29	MP2B	Z	0	5.75
30	MP2B	Mx	.002	5.75
31	MP2C	X	-5.2	1.5
32	MP2C	Z	0	1.5
33	MP2C	Mx	-.004	1.5
34	MP2C	X	-5.2	5.75
35	MP2C	Z	0	5.75
36	MP2C	Mx	-.004	5.75
37	MP2A	X	-2.603	1.5
38	MP2A	Z	0	1.5
39	MP2A	Mx	.001	1.5
40	MP2A	X	-2.603	5.75
41	MP2A	Z	0	5.75
42	MP2A	Mx	.001	5.75
43	MP2B	X	-5.2	1.5
44	MP2B	Z	0	1.5
45	MP2B	Mx	-.004	1.5
46	MP2B	X	-5.2	5.75
47	MP2B	Z	0	5.75
48	MP2B	Mx	-.004	5.75
49	MP2C	X	-5.2	1.5
50	MP2C	Z	0	1.5
51	MP2C	Mx	.002	1.5
52	MP2C	X	-5.2	5.75

Member Point Loads (BLC 36 : Antenna Wm (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP2C	Z	0	5.75
54	MP2C	Mx	.002	5.75
55	MP4A	X	-1.24	2.75
56	MP4A	Z	0	2.75
57	MP4A	Mx	.00062	2.75
58	MP4A	X	-1.24	4.5
59	MP4A	Z	0	4.5
60	MP4A	Mx	.00062	4.5
61	MP4B	X	-2.957	2.75
62	MP4B	Z	0	2.75
63	MP4B	Mx	-.000739	2.75
64	MP4B	X	-2.957	4.5
65	MP4B	Z	0	4.5
66	MP4B	Mx	-.000739	4.5
67	MP4C	X	-2.957	2.75
68	MP4C	Z	0	2.75
69	MP4C	Mx	-.000739	2.75
70	MP4C	X	-2.957	4.5
71	MP4C	Z	0	4.5
72	MP4C	Mx	-.000739	4.5
73	OVP1	X	-5.384	1
74	OVP1	Z	0	1
75	OVP1	Mx	-.004	1
76	MP3A	X	-2.323	3
77	MP3A	Z	0	3
78	MP3A	Mx	-.001	3
79	MP3B	X	-3.178	3
80	MP3B	Z	0	3
81	MP3B	Mx	.000794	3
82	MP3C	X	-3.178	3
83	MP3C	Z	0	3
84	MP3C	Mx	.000794	3
85	MP2A	X	-2.848	3
86	MP2A	Z	0	3
87	MP2A	Mx	-.001	3
88	MP2B	X	-3.845	3
89	MP2B	Z	0	3
90	MP2B	Mx	.000961	3
91	MP2C	X	-3.845	3
92	MP2C	Z	0	3
93	MP2C	Mx	.000961	3

Member Point Loads (BLC 37 : Antenna Wm (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-3.738	.75
2	MP1A	Z	-2.158	.75
3	MP1A	Mx	.001	.75
4	MP1A	X	-3.738	6.5
5	MP1A	Z	-2.158	6.5
6	MP1A	Mx	.001	6.5
7	MP1B	X	-4.585	.75

Member Point Loads (BLC 37 : Antenna Wm (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
8	MP1B	Z	-2.647	.75
9	MP1B	Mx	0	.75
10	MP1B	X	-4.585	6.5
11	MP1B	Z	-2.647	6.5
12	MP1B	Mx	0	6.5
13	MP1C	X	-3.738	.75
14	MP1C	Z	-2.158	.75
15	MP1C	Mx	-.001	.75
16	MP1C	X	-3.738	6.5
17	MP1C	Z	-2.158	6.5
18	MP1C	Mx	-.001	6.5
19	MP2A	X	-3.004	1.5
20	MP2A	Z	-1.734	1.5
21	MP2A	Mx	.000346	1.5
22	MP2A	X	-3.004	5.75
23	MP2A	Z	-1.734	5.75
24	MP2A	Mx	.000346	5.75
25	MP2B	X	-5.253	1.5
26	MP2B	Z	-3.033	1.5
27	MP2B	Mx	.004	1.5
28	MP2B	X	-5.253	5.75
29	MP2B	Z	-3.033	5.75
30	MP2B	Mx	.004	5.75
31	MP2C	X	-3.004	1.5
32	MP2C	Z	-1.734	1.5
33	MP2C	Mx	-.003	1.5
34	MP2C	X	-3.004	5.75
35	MP2C	Z	-1.734	5.75
36	MP2C	Mx	-.003	5.75
37	MP2A	X	-3.004	1.5
38	MP2A	Z	-1.734	1.5
39	MP2A	Mx	.003	1.5
40	MP2A	X	-3.004	5.75
41	MP2A	Z	-1.734	5.75
42	MP2A	Mx	.003	5.75
43	MP2B	X	-5.253	1.5
44	MP2B	Z	-3.033	1.5
45	MP2B	Mx	-.004	1.5
46	MP2B	X	-5.253	5.75
47	MP2B	Z	-3.033	5.75
48	MP2B	Mx	-.004	5.75
49	MP2C	X	-3.004	1.5
50	MP2C	Z	-1.734	1.5
51	MP2C	Mx	-.000345	1.5
52	MP2C	X	-3.004	5.75
53	MP2C	Z	-1.734	5.75
54	MP2C	Mx	-.000345	5.75
55	MP4A	X	-1.57	2.75
56	MP4A	Z	-.906	2.75
57	MP4A	Mx	.000785	2.75
58	MP4A	X	-1.57	4.5
59	MP4A	Z	-.906	4.5

Member Point Loads (BLC 37 : Antenna Wm (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
60	MP4A	Mx	.000785	4.5
61	MP4B	X	-3.057	2.75
62	MP4B	Z	-1.765	2.75
63	MP4B	Mx	0	2.75
64	MP4B	X	-3.057	4.5
65	MP4B	Z	-1.765	4.5
66	MP4B	Mx	0	4.5
67	MP4C	X	-1.57	2.75
68	MP4C	Z	-.906	2.75
69	MP4C	Mx	-.000785	2.75
70	MP4C	X	-1.57	4.5
71	MP4C	Z	-.906	4.5
72	MP4C	Mx	-.000785	4.5
73	OVP1	X	-5.03	1
74	OVP1	Z	-2.904	1
75	OVP1	Mx	-.003	1
76	MP3A	X	-2.259	3
77	MP3A	Z	-1.304	3
78	MP3A	Mx	-.001	3
79	MP3B	X	-2.999	3
80	MP3B	Z	-1.731	3
81	MP3B	Mx	0	3
82	MP3C	X	-2.259	3
83	MP3C	Z	-1.304	3
84	MP3C	Mx	.001	3
85	MP2A	X	-2.755	3
86	MP2A	Z	-1.59	3
87	MP2A	Mx	-.001	3
88	MP2B	X	-3.618	3
89	MP2B	Z	-2.089	3
90	MP2B	Mx	0	3
91	MP2C	X	-2.755	3
92	MP2C	Z	-1.59	3
93	MP2C	Mx	.001	3

Member Point Loads (BLC 38 : Antenna Wm (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-2.484	.75
2	MP1A	Z	-4.303	.75
3	MP1A	Mx	.000828	.75
4	MP1A	X	-2.484	6.5
5	MP1A	Z	-4.303	6.5
6	MP1A	Mx	.000828	6.5
7	MP1B	X	-2.484	.75
8	MP1B	Z	-4.303	.75
9	MP1B	Mx	.000828	.75
10	MP1B	X	-2.484	6.5
11	MP1B	Z	-4.303	6.5
12	MP1B	Mx	.000828	6.5
13	MP1C	X	-1.995	.75
14	MP1C	Z	-3.455	.75

Member Point Loads (BLC 38 : Antenna Wm (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
15	MP1C	Mx	-.001	.75
16	MP1C	X	-1.995	6.5
17	MP1C	Z	-3.455	6.5
18	MP1C	Mx	-.001	6.5
19	MP2A	X	-2.6	1.5
20	MP2A	Z	-4.503	1.5
21	MP2A	Mx	-.002	1.5
22	MP2A	X	-2.6	5.75
23	MP2A	Z	-4.503	5.75
24	MP2A	Mx	-.002	5.75
25	MP2B	X	-2.6	1.5
26	MP2B	Z	-4.503	1.5
27	MP2B	Mx	.004	1.5
28	MP2B	X	-2.6	5.75
29	MP2B	Z	-4.503	5.75
30	MP2B	Mx	.004	5.75
31	MP2C	X	-1.301	1.5
32	MP2C	Z	-2.254	1.5
33	MP2C	Mx	-.001	1.5
34	MP2C	X	-1.301	5.75
35	MP2C	Z	-2.254	5.75
36	MP2C	Mx	-.001	5.75
37	MP2A	X	-2.6	1.5
38	MP2A	Z	-4.503	1.5
39	MP2A	Mx	.004	1.5
40	MP2A	X	-2.6	5.75
41	MP2A	Z	-4.503	5.75
42	MP2A	Mx	.004	5.75
43	MP2B	X	-2.6	1.5
44	MP2B	Z	-4.503	1.5
45	MP2B	Mx	-.002	1.5
46	MP2B	X	-2.6	5.75
47	MP2B	Z	-4.503	5.75
48	MP2B	Mx	-.002	5.75
49	MP2C	X	-1.301	1.5
50	MP2C	Z	-2.254	1.5
51	MP2C	Mx	-.001	1.5
52	MP2C	X	-1.301	5.75
53	MP2C	Z	-2.254	5.75
54	MP2C	Mx	-.001	5.75
55	MP4A	X	-1.479	2.75
56	MP4A	Z	-2.561	2.75
57	MP4A	Mx	.00074	2.75
58	MP4A	X	-1.479	4.5
59	MP4A	Z	-2.561	4.5
60	MP4A	Mx	.00074	4.5
61	MP4B	X	-1.479	2.75
62	MP4B	Z	-2.561	2.75
63	MP4B	Mx	.000739	2.75
64	MP4B	X	-1.479	4.5
65	MP4B	Z	-2.561	4.5
66	MP4B	Mx	.000739	4.5

Member Point Loads (BLC 38 : Antenna Wm (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
67	MP4C	X	-.62	2.75
68	MP4C	Z	-1.074	2.75
69	MP4C	Mx	-.00062	2.75
70	MP4C	X	-.62	4.5
71	MP4C	Z	-1.074	4.5
72	MP4C	Mx	-.00062	4.5
73	OVP1	X	-3.329	1
74	OVP1	Z	-5.766	1
75	OVP1	Mx	-.002	1
76	MP3A	X	-1.589	3
77	MP3A	Z	-2.752	3
78	MP3A	Mx	-.000794	3
79	MP3B	X	-1.589	3
80	MP3B	Z	-2.752	3
81	MP3B	Mx	-.000794	3
82	MP3C	X	-1.162	3
83	MP3C	Z	-2.012	3
84	MP3C	Mx	.001	3
85	MP2A	X	-1.923	3
86	MP2A	Z	-3.33	3
87	MP2A	Mx	-.000962	3
88	MP2B	X	-1.923	3
89	MP2B	Z	-3.33	3
90	MP2B	Mx	-.000961	3
91	MP2C	X	-1.424	3
92	MP2C	Z	-2.467	3
93	MP2C	Mx	.001	3

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M1	Y	-500	%35

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M1	Y	-500	%98

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M1	Y	-250	%50

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M1	Y	-250	0

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-.299	.75
2	MP1A	My	-.0001	.75
3	MP1A	Mz	0	.75

Member Point Loads (BLC 81 : Antenna Ev) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	MP1A	Y	-.299	6.5
5	MP1A	My	-.0001	6.5
6	MP1A	Mz	0	6.5
7	MP1B	Y	-.299	.75
8	MP1B	My	5e-5	.75
9	MP1B	Mz	-8.6e-5	.75
10	MP1B	Y	-.299	6.5
11	MP1B	My	5e-5	6.5
12	MP1B	Mz	-8.6e-5	6.5
13	MP1C	Y	-.299	.75
14	MP1C	My	5e-5	.75
15	MP1C	Mz	8.6e-5	.75
16	MP1C	Y	-.299	6.5
17	MP1C	My	5e-5	6.5
18	MP1C	Mz	8.6e-5	6.5
19	MP2A	Y	-.872	1.5
20	MP2A	My	-.000436	1.5
21	MP2A	Mz	.000581	1.5
22	MP2A	Y	-.872	5.75
23	MP2A	My	-.000436	5.75
24	MP2A	Mz	.000581	5.75
25	MP2B	Y	-.872	1.5
26	MP2B	My	-.000285	1.5
27	MP2B	Mz	-.000668	1.5
28	MP2B	Y	-.872	5.75
29	MP2B	My	-.000285	5.75
30	MP2B	Mz	-.000668	5.75
31	MP2C	Y	-.872	1.5
32	MP2C	My	.000721	1.5
33	MP2C	Mz	8.7e-5	1.5
34	MP2C	Y	-.872	5.75
35	MP2C	My	.000721	5.75
36	MP2C	Mz	8.7e-5	5.75
37	MP2A	Y	-.872	1.5
38	MP2A	My	-.000436	1.5
39	MP2A	Mz	-.000581	1.5
40	MP2A	Y	-.872	5.75
41	MP2A	My	-.000436	5.75
42	MP2A	Mz	-.000581	5.75
43	MP2B	Y	-.872	1.5
44	MP2B	My	.000721	1.5
45	MP2B	Mz	-8.7e-5	1.5
46	MP2B	Y	-.872	5.75
47	MP2B	My	.000721	5.75
48	MP2B	Mz	-8.7e-5	5.75
49	MP2C	Y	-.872	1.5
50	MP2C	My	-.000285	1.5
51	MP2C	Mz	.000668	1.5
52	MP2C	Y	-.872	5.75
53	MP2C	My	-.000285	5.75
54	MP2C	Mz	.000668	5.75
55	MP4A	Y	-1.143	2.75

Member Point Loads (BLC 81 : Antenna Ev) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
56	MP4A	My	-.000571	2.75
57	MP4A	Mz	0	2.75
58	MP4A	Y	-1.143	4.5
59	MP4A	My	-.000571	4.5
60	MP4A	Mz	0	4.5
61	MP4B	Y	-1.143	2.75
62	MP4B	My	.000286	2.75
63	MP4B	Mz	-.000495	2.75
64	MP4B	Y	-1.143	4.5
65	MP4B	My	.000286	4.5
66	MP4B	Mz	-.000495	4.5
67	MP4C	Y	-1.143	2.75
68	MP4C	My	.000286	2.75
69	MP4C	Mz	.000495	2.75
70	MP4C	Y	-1.143	4.5
71	MP4C	My	.000286	4.5
72	MP4C	Mz	.000495	4.5
73	OVP1	Y	-1.277	1
74	OVP1	My	.000851	1
75	OVP1	Mz	0	1
76	MP3A	Y	-2.98	3
77	MP3A	My	.001	3
78	MP3A	Mz	0	3
79	MP3B	Y	-2.98	3
80	MP3B	My	-.000745	3
81	MP3B	Mz	.001	3
82	MP3C	Y	-2.98	3
83	MP3C	My	-.000745	3
84	MP3C	Mz	-.001	3
85	MP2A	Y	-3.156	3
86	MP2A	My	.002	3
87	MP2A	Mz	0	3
88	MP2B	Y	-3.156	3
89	MP2B	My	-.000789	3
90	MP2B	Mz	.001	3
91	MP2C	Y	-3.156	3
92	MP2C	My	-.000789	3
93	MP2C	Mz	-.001	3

Member Point Loads (BLC 82 : Antenna Eh (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Z	-.748	.75
2	MP1A	Mx	0	.75
3	MP1A	Z	-.748	6.5
4	MP1A	Mx	0	6.5
5	MP1B	Z	-.748	.75
6	MP1B	Mx	.000216	.75
7	MP1B	Z	-.748	6.5
8	MP1B	Mx	.000216	6.5
9	MP1C	Z	-.748	.75
10	MP1C	Mx	-.000216	.75

Member Point Loads (BLC 82 : Antenna Eh (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
11	MP1C	Z	-.748	6.5
12	MP1C	Mx	-.000216	6.5
13	MP2A	Z	-2.179	1.5
14	MP2A	Mx	-.001	1.5
15	MP2A	Z	-2.179	5.75
16	MP2A	Mx	-.001	5.75
17	MP2B	Z	-2.179	1.5
18	MP2B	Mx	.002	1.5
19	MP2B	Z	-2.179	5.75
20	MP2B	Mx	.002	5.75
21	MP2C	Z	-2.179	1.5
22	MP2C	Mx	-.000217	1.5
23	MP2C	Z	-2.179	5.75
24	MP2C	Mx	-.000217	5.75
25	MP2A	Z	-2.179	1.5
26	MP2A	Mx	.001	1.5
27	MP2A	Z	-2.179	5.75
28	MP2A	Mx	.001	5.75
29	MP2B	Z	-2.179	1.5
30	MP2B	Mx	.000217	1.5
31	MP2B	Z	-2.179	5.75
32	MP2B	Mx	.000217	5.75
33	MP2C	Z	-2.179	1.5
34	MP2C	Mx	-.002	1.5
35	MP2C	Z	-2.179	5.75
36	MP2C	Mx	-.002	5.75
37	MP4A	Z	-2.857	2.75
38	MP4A	Mx	0	2.75
39	MP4A	Z	-2.857	4.5
40	MP4A	Mx	0	4.5
41	MP4B	Z	-2.857	2.75
42	MP4B	Mx	.001	2.75
43	MP4B	Z	-2.857	4.5
44	MP4B	Mx	.001	4.5
45	MP4C	Z	-2.857	2.75
46	MP4C	Mx	-.001	2.75
47	MP4C	Z	-2.857	4.5
48	MP4C	Mx	-.001	4.5
49	OVP1	Z	-3.191	1
50	OVP1	Mx	0	1
51	MP3A	Z	-7.45	3
52	MP3A	Mx	0	3
53	MP3B	Z	-7.45	3
54	MP3B	Mx	-.003	3
55	MP3C	Z	-7.45	3
56	MP3C	Mx	.003	3
57	MP2A	Z	-7.889	3
58	MP2A	Mx	0	3
59	MP2B	Z	-7.889	3
60	MP2B	Mx	-.003	3
61	MP2C	Z	-7.889	3
62	MP2C	Mx	.003	3

Member Point Loads (BLC 83 : Antenna Eh (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	.748	.75
2	MP1A	Mx	-.000249	.75
3	MP1A	X	.748	6.5
4	MP1A	Mx	-.000249	6.5
5	MP1B	X	.748	.75
6	MP1B	Mx	.000125	.75
7	MP1B	X	.748	6.5
8	MP1B	Mx	.000125	6.5
9	MP1C	X	.748	.75
10	MP1C	Mx	.000125	.75
11	MP1C	X	.748	6.5
12	MP1C	Mx	.000125	6.5
13	MP2A	X	2.179	1.5
14	MP2A	Mx	-.001	1.5
15	MP2A	X	2.179	5.75
16	MP2A	Mx	-.001	5.75
17	MP2B	X	2.179	1.5
18	MP2B	Mx	-.000713	1.5
19	MP2B	X	2.179	5.75
20	MP2B	Mx	-.000713	5.75
21	MP2C	X	2.179	1.5
22	MP2C	Mx	.002	1.5
23	MP2C	X	2.179	5.75
24	MP2C	Mx	.002	5.75
25	MP2A	X	2.179	1.5
26	MP2A	Mx	-.001	1.5
27	MP2A	X	2.179	5.75
28	MP2A	Mx	-.001	5.75
29	MP2B	X	2.179	1.5
30	MP2B	Mx	.002	1.5
31	MP2B	X	2.179	5.75
32	MP2B	Mx	.002	5.75
33	MP2C	X	2.179	1.5
34	MP2C	Mx	-.000713	1.5
35	MP2C	X	2.179	5.75
36	MP2C	Mx	-.000713	5.75
37	MP4A	X	2.857	2.75
38	MP4A	Mx	-.001	2.75
39	MP4A	X	2.857	4.5
40	MP4A	Mx	-.001	4.5
41	MP4B	X	2.857	2.75
42	MP4B	Mx	.000714	2.75
43	MP4B	X	2.857	4.5
44	MP4B	Mx	.000714	4.5
45	MP4C	X	2.857	2.75
46	MP4C	Mx	.000714	2.75
47	MP4C	X	2.857	4.5
48	MP4C	Mx	.000714	4.5
49	OVP1	X	3.191	1
50	OVP1	Mx	.002	1
51	MP3A	X	7.45	3
52	MP3A	Mx	.004	3

Member Point Loads (BLC 83 : Antenna Eh (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP3B	X	7.45	3
54	MP3B	Mx	-.002	3
55	MP3C	X	7.45	3
56	MP3C	Mx	-.002	3
57	MP2A	X	7.889	3
58	MP2A	Mx	.004	3
59	MP2B	X	7.889	3
60	MP2B	Mx	-.002	3
61	MP2C	X	7.889	3
62	MP2C	Mx	-.002	3

Member Area Loads (BLC 39 : Structure D)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N7	N87B	N87C	N6	Y	Two Way	-.005
2	N117	N118	N141	N139	Y	Two Way	-.005
3	N89	N90	N113	N111	Y	Two Way	-.005

Member Area Loads (BLC 40 : Structure Di)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N7	N87B	N87C	N6	Y	Two Way	-.011
2	N117	N118	N141	N139	Y	Two Way	-.011
3	N89	N90	N113	N111	Y	Two Way	-.011

Member Area Loads (BLC 84 : Structure Ev)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N7	N87B	N87C	N6	Y	Two Way	-.000207
2	N117	N118	N141	N139	Y	Two Way	-.000207
3	N89	N90	N113	N111	Y	Two Way	-.000207

Member Area Loads (BLC 85 : Structure Eh (0 Deg))

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N7	N87B	N87C	N6	Z	Two Way	-.000519
2	N117	N118	N141	N139	Z	Two Way	-.000519
3	N89	N90	N113	N111	Z	Two Way	-.000519

Member Area Loads (BLC 86 : Structure Eh (90 Deg))

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N7	N87B	N87C	N6	X	Two Way	.000519
2	N117	N118	N141	N139	X	Two Way	.000519
3	N89	N90	N113	N111	X	Two Way	.000519

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N3	max	897.768	10	2315.866	13	1876.877	1	4.603	13	1.42	4	.228	3
2		min	-916.116	4	515.219	7	-1991.807	7	.057	7	-1.442	10	-.288	9
3	N87D	max	1541.418	9	2163.569	21	978.862	1	-.194	3	1.318	12	-.108	3
4		min	-1631.878	3	459.732	3	-905.656	7	-2.887	45	-1.34	6	-4.567	45

Envelope Joint Reactions (Continued)

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
5	N115	max	1567.143	11	2161.448	17	1012.731	1	.003	11	1.313	8	3.792	17
6		min	-1458.487	5	459.095	11	-971.013	7	-2.233	17	-1.334	2	.221	11
7	Totals:	max	3839.131	10	6234.474	13	3868.47	1						
8		min	-3839.131	4	2108.522	71	-3868.476	7						

Joint Reactions

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N3	-81.866	1515.181	1876.877	3.78	.115	.064
2	1	N87D	-648.741	701.09	978.862	-.546	.736	-.994
3	1	N115	730.627	725.514	1012.731	-.328	-.59	.893
4	1	Totals:	.02	2941.785	3868.47			
5	1	COG (ft):	X: -.004	Y: .921	Z: -.029			
6	2	N3	-221.517	1440.658	1721.067	3.566	-.103	.181
7	2	N87D	-1408.248	520.763	894.188	-.276	-.197	-.378
8	2	N115	-300.842	980.364	728.537	-.764	-1.334	1.58
9	2	Totals:	-1930.607	2941.785	3343.792			
10	2	COG (ft):	X: -.004	Y: .921	Z: -.029			
11	3	N3	-634.034	1251.445	1090.134	2.927	.675	.228
12	3	N87D	-1631.878	459.732	871.105	-.194	-.099	-.108
13	3	N115	-1065.245	1230.597	-38.097	-1.249	-.743	2.291
14	3	Totals:	-3331.156	2941.774	1923.142			
15	3	COG (ft):	X: -.004	Y: .921	Z: -.029			
16	4	N3	-916.116	999.007	-2.885	2.041	1.42	.203
17	4	N87D	-1557.294	533.038	740.866	-.319	.172	-.245
18	4	N115	-1365.721	1409.71	-738.027	-1.645	.194	2.83
19	4	Totals:	-3839.131	2941.755	-.045			
20	4	COG (ft):	X: -.004	Y: .921	Z: -.029			
21	5	N3	-627.489	751.17	-1112.445	1.106	.813	.129
22	5	N87D	-1245.2	720.819	129.08	-.608	-.586	-.732
23	5	N115	-1458.487	1469.745	-939.845	-1.836	.094	3.037
24	5	Totals:	-3331.176	2941.734	-1923.21			
25	5	COG (ft):	X: -.004	Y: .921	Z: -.029			
26	6	N3	-136.157	574.317	-1784.355	.366	-.167	.016
27	6	N87D	-485.007	974.166	-624.286	-.985	-1.34	-1.452
28	6	N115	-1309.476	1393.231	-935.179	-1.782	-.184	2.861
29	6	Totals:	-1930.641	2941.715	-3343.819			
30	6	COG (ft):	X: -.004	Y: .921	Z: -.029			
31	7	N3	63.677	515.219	-1991.807	.057	-.136	-.124
32	7	N87D	561.308	1225.952	-905.656	-1.358	-.755	-2.229
33	7	N115	-625.005	1200.532	-971.013	-1.506	.567	2.366
34	7	Totals:	-.02	2941.703	-3868.476			
35	7	COG (ft):	X: -.004	Y: .921	Z: -.029			
36	8	N3	206.799	588.917	-1836.185	.271	.08	-.241
37	8	N87D	1318.88	1408.037	-817.951	-1.626	.177	-2.843
38	8	N115	404.927	944.749	-689.662	-1.071	1.313	1.681
39	8	Totals:	1930.606	2941.703	-3343.798			
40	8	COG (ft):	X: -.004	Y: .921	Z: -.029			
41	9	N3	617.367	776.163	-1202.348	.912	-.697	-.288
42	9	N87D	1541.418	1470.454	-797.944	-1.709	.078	-3.112
43	9	N115	1172.371	695.097	77.143	-.585	.723	.969

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
44	9	Totals:	3331.156	2941.715	-1923.149			
45	9	COG (ft):	X: -.004	Y: .921	Z: -.029			
46	10	N3	897.768	1027.675	-106.601	1.799	-1.442	-.263
47	10	N87D	1464.894	1396.321	-670.585	-1.583	-.195	-2.976
48	10	N115	1476.469	517.737	777.224	-.189	-.213	.428
49	10	Totals:	3839.131	2941.733	.039			
50	10	COG (ft):	X: -.004	Y: .921	Z: -.029			
51	11	N3	607.779	1276.088	1000.217	2.733	-.833	-.189
52	11	N87D	1156.253	1206.572	-58.518	-1.295	.564	-2.489
53	11	N115	1567.143	459.095	981.505	.003	-.115	.221
54	11	Totals:	3331.175	2941.755	1923.203			
55	11	COG (ft):	X: -.004	Y: .921	Z: -.029			
56	12	N3	114.785	1454.692	1668.869	3.471	.148	-.076
57	12	N87D	399.253	952.294	694.944	-.919	1.318	-1.771
58	12	N115	1416.602	534.788	980.001	-.051	.161	.397
59	12	Totals:	1930.641	2941.774	3343.813			
60	12	COG (ft):	X: -.004	Y: .921	Z: -.029			
61	13	N3	-33.082	2315.866	367.497	4.603	.016	.009
62	13	N87D	-290.262	1956.986	343.609	-1.846	.181	-3.266
63	13	N115	323.349	1961.622	327.394	-1.824	-.167	3.214
64	13	Totals:	.005	6234.474	1038.5			
65	13	COG (ft):	X: -.006	Y: .9	Z: -.042			
66	14	N3	-77.757	2295.886	318.073	4.548	-.017	.041
67	14	N87D	-495.599	1908.391	333.273	-1.774	-.038	-3.1
68	14	N115	54.867	2030.197	246.667	-1.942	-.338	3.401
69	14	Totals:	-518.489	6234.474	898.014			
70	14	COG (ft):	X: -.006	Y: .9	Z: -.042			
71	15	N3	-175.452	2245.162	141.359	4.377	.159	.053
72	15	N87D	-566.42	1891.874	320.574	-1.753	-.041	-3.026
73	15	N115	-153.484	2097.435	54.964	-2.072	-.212	3.592
74	15	Totals:	-895.355	6234.471	516.897			
75	15	COG (ft):	X: -.006	Y: .9	Z: -.042			
76	16	N3	-242.904	2177.335	-146.594	4.138	.33	.047
77	16	N87D	-542.999	1911.683	274.582	-1.788	.005	-3.061
78	16	N115	-246.413	2145.447	-128.006	-2.179	.008	3.737
79	16	Totals:	-1032.316	6234.465	-.018			
80	16	COG (ft):	X: -.006	Y: .9	Z: -.042			
81	17	N3	-178.78	2110.605	-438.566	3.888	.2	.027
82	17	N87D	-445.935	1962.407	116.92	-1.867	-.166	-3.193
83	17	N115	-270.646	2161.448	-195.283	-2.233	.01	3.792
84	17	Totals:	-895.361	6234.459	-516.928			
85	17	COG (ft):	X: -.006	Y: .9	Z: -.042			
86	18	N3	-57.223	2062.852	-624.971	3.691	-.031	-.004
87	18	N87D	-242.171	2030.635	-75.764	-1.969	-.339	-3.389
88	18	N115	-219.105	2140.967	-197.3	-2.22	-.036	3.745
89	18	Totals:	-518.499	6234.454	-898.035			
90	18	COG (ft):	X: -.006	Y: .9	Z: -.042			
91	19	N3	6.072	2046.821	-685.956	3.609	-.05	-.041
92	19	N87D	28.058	2098.232	-160.996	-2.07	-.215	-3.598
93	19	N115	-34.136	2089.399	-191.563	-2.145	.133	3.61
94	19	Totals:	-.006	6234.451	-1038.514			
95	19	COG (ft):	X: -.006	Y: .9	Z: -.042			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
96	20	N3	50.973	2066.742	-636.525	3.664	-.018	-.073
97	20	N87D	233.26	2146.953	-150.473	-2.141	.004	-3.763
98	20	N115	234.255	2020.756	-111.03	-2.027	.304	3.424
99	20	Totals:	518.489	6234.451	-898.028			
100	20	COG (ft):	X: -.006	Y: .9	Z: -.042			
101	21	N3	148.56	2117.324	-459.62	3.836	-.193	-.085
102	21	N87D	303.991	2163.569	-137.958	-2.162	.006	-3.837
103	21	N115	442.803	1953.562	80.666	-1.897	.178	3.232
104	21	Totals:	895.355	6234.454	-516.911			
105	21	COG (ft):	X: -.006	Y: .9	Z: -.042			
106	22	N3	215.89	2185.083	-171.493	4.075	-.364	-.079
107	22	N87D	280.462	2143.7	-92.163	-2.128	-.039	-3.802
108	22	N115	535.963	1905.676	263.66	-1.79	-.042	3.088
109	22	Totals:	1032.315	6234.459	.004			
110	22	COG (ft):	X: -.006	Y: .9	Z: -.042			
111	23	N3	151.662	2251.858	120.31	4.325	-.234	-.059
112	23	N87D	183.614	2092.835	65.499	-2.049	.132	-3.67
113	23	N115	560.084	1889.773	331.105	-1.736	-.044	3.032
114	23	Totals:	895.36	6234.465	516.914			
115	23	COG (ft):	X: -.006	Y: .9	Z: -.042			
116	24	N3	30.011	2299.735	306.5	4.521	-.003	-.028
117	24	N87D	-19.939	2024.539	258.203	-1.947	.305	-3.475
118	24	N115	508.426	1910.196	333.317	-1.749	.002	3.08
119	24	Totals:	518.498	6234.471	898.02			
120	24	COG (ft):	X: -.006	Y: .9	Z: -.042			
121	25	N3	-14.082	864.222	53.917	1.645	-.002	-.031
122	25	N87D	-83.277	1289.844	90.394	-1.554	.029	-1.797
123	25	N115	97.356	1537.662	78.511	-1.957	-.044	2.256
124	25	Totals:	-.003	3691.728	222.821			
125	25	COG (ft):	X: .186	Y: .734	Z: .751			
126	26	N3	-22.216	859.954	44.95	1.632	-.015	-.024
127	26	N87D	-126.975	1279.405	85.435	-1.539	-.025	-1.762
128	26	N115	37.983	1552.369	62.219	-1.982	-.087	2.295
129	26	Totals:	-111.208	3691.728	192.604			
130	26	COG (ft):	X: .186	Y: .734	Z: .751			
131	27	N3	-45.921	849.12	8.533	1.596	.03	-.021
132	27	N87D	-139.828	1275.832	84.187	-1.534	-.019	-1.746
133	27	N115	-6.136	1566.775	18.052	-2.01	-.053	2.336
134	27	Totals:	-191.885	3691.727	110.772			
135	27	COG (ft):	X: .186	Y: .734	Z: .751			
136	28	N3	-62.123	834.615	-54.49	1.545	.073	-.023
137	28	N87D	-135.471	1280.059	76.76	-1.541	-.003	-1.754
138	28	N115	-23.544	1577.053	-22.271	-2.033	.001	2.367
139	28	Totals:	-221.138	3691.726	0			
140	28	COG (ft):	X: .186	Y: .734	Z: .751			
141	29	N3	-45.46	820.332	-118.317	1.491	.038	-.027
142	29	N87D	-117.586	1290.92	41.515	-1.558	-.047	-1.782
143	29	N115	-28.841	1580.473	-33.97	-2.044	-.004	2.379
144	29	Totals:	-191.887	3691.725	-110.772			
145	29	COG (ft):	X: .186	Y: .734	Z: .751			
146	30	N3	-17.115	810.111	-156.924	1.448	-.019	-.033
147	30	N87D	-73.879	1305.534	-1.883	-1.58	-.091	-1.823

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
148	30	N115	-20.216	1576.079	-33.794	-2.04	-.02	2.369
149	30	Totals:	-111.21	3691.724	-192.602			
150	30	COG (ft):	X: .186	Y: .734	Z: .751			
151	31	N3	-5.693	806.682	-168.881	1.43	-.017	-.041
152	31	N87D	-13.563	1320.014	-18.162	-1.601	-.057	-1.868
153	31	N115	19.25	1565.028	-35.774	-2.025	.023	2.34
154	31	Totals:	-.005	3691.723	-222.818			
155	31	COG (ft):	X: .186	Y: .734	Z: .751			
156	32	N3	2.452	810.947	-159.914	1.443	-.004	-.048
157	32	N87D	30.129	1330.458	-13.193	-1.617	-.003	-1.903
158	32	N115	78.619	1550.318	-19.493	-2	.066	2.301
159	32	Totals:	111.2	3691.723	-192.6			
160	32	COG (ft):	X: .186	Y: .734	Z: .751			
161	33	N3	26.152	821.774	-123.488	1.48	-.049	-.051
162	33	N87D	42.979	1334.036	-11.955	-1.621	-.009	-1.919
163	33	N115	122.747	1535.914	24.675	-1.972	.032	2.26
164	33	Totals:	191.877	3691.724	-110.769			
165	33	COG (ft):	X: .186	Y: .734	Z: .751			
166	34	N3	42.347	836.276	-60.456	1.531	-.092	-.049
167	34	N87D	38.615	1329.807	-4.539	-1.614	-.025	-1.911
168	34	N115	140.168	1525.642	64.998	-1.949	-.022	2.229
169	34	Totals:	221.13	3691.725	.004			
170	34	COG (ft):	X: .186	Y: .734	Z: .751			
171	35	N3	25.68	850.561	3.362	1.584	-.057	-.045
172	35	N87D	20.741	1318.939	30.708	-1.598	.019	-1.883
173	35	N115	145.457	1522.227	76.706	-1.938	-.016	2.217
174	35	Totals:	191.879	3691.726	110.776			
175	35	COG (ft):	X: .186	Y: .734	Z: .751			
176	36	N3	-2.67	860.788	41.959	1.627	0	-.039
177	36	N87D	-22.955	1304.322	74.106	-1.576	.063	-1.842
178	36	N115	136.828	1526.618	76.54	-1.941	0	2.227
179	36	Totals:	111.202	3691.727	192.605			
180	36	COG (ft):	X: .186	Y: .734	Z: .751			
181	37	N3	-4.199	919.098	17.766	1.496	-.054	-.232
182	37	N87D	-128.46	2023.421	132.623	-2.821	.02	-4.445
183	37	N115	132.67	749.176	72.454	-.643	-.018	.743
184	37	Totals:	.011	3691.695	222.843			
185	37	COG (ft):	X: -1.425	Y: .734	Z: .751			
186	38	N3	-12.339	914.871	8.8	1.484	-.066	-.225
187	38	N87D	-172.128	2012.968	127.674	-2.805	-.034	-4.41
188	38	N115	73.273	763.856	56.152	-.668	-.06	.783
189	38	Totals:	-111.194	3691.695	192.626			
190	38	COG (ft):	X: -1.425	Y: .734	Z: .751			
191	39	N3	-36.041	904.063	-27.636	1.447	-.021	-.222
192	39	N87D	-184.972	2009.403	126.438	-2.801	-.028	-4.395
193	39	N115	29.141	778.229	11.992	-.696	-.026	.824
194	39	Totals:	-191.871	3691.694	110.794			
195	39	COG (ft):	X: -1.425	Y: .734	Z: .751			
196	40	N3	-52.237	889.571	-90.69	1.396	.021	-.224
197	40	N87D	-180.618	2013.662	119.028	-2.808	-.012	-4.402
198	40	N115	11.731	788.461	-28.317	-.718	.027	.855
199	40	Totals:	-221.124	3691.693	.021			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
200	40	COG (ft):	X: -1.425	Y: .734	Z: .751			
201	41	N3	-35.573	875.296	-154.555	1.342	-.014	-.228
202	41	N87D	-162.743	2024.564	83.807	-2.824	-.056	-4.43
203	41	N115	6.443	791.832	-40.002	-.729	.022	.867
204	41	Totals:	-191.873	3691.692	-110.75			
205	41	COG (ft):	X: -1.425	Y: .734	Z: .751			
206	42	N3	-7.223	865.067	-193.202	1.3	-.07	-.235
207	42	N87D	-119.061	2039.212	40.43	-2.846	-.099	-4.472
208	42	N115	15.088	787.412	-39.808	-.726	.006	.856
209	42	Totals:	-111.196	3691.691	-192.58			
210	42	COG (ft):	X: -1.425	Y: .734	Z: .751			
211	43	N3	4.21	861.604	-205.183	1.282	-.068	-.243
212	43	N87D	-58.783	2053.718	24.155	-2.867	-.066	-4.516
213	43	N115	54.581	776.368	-41.767	-.71	.049	.828
214	43	Totals:	.009	3691.69	-222.796			
215	43	COG (ft):	X: -1.425	Y: .734	Z: .751			
216	44	N3	12.361	865.828	-196.218	1.294	-.056	-.249
217	44	N87D	-15.121	2064.177	29.114	-2.883	-.012	-4.551
218	44	N115	113.974	761.685	-25.475	-.685	.092	.788
219	44	Totals:	111.214	3691.69	-192.579			
220	44	COG (ft):	X: -1.425	Y: .734	Z: .751			
221	45	N3	36.057	876.63	-159.772	1.331	-.101	-.252
222	45	N87D	-2.281	2067.746	30.339	-2.887	-.018	-4.567
223	45	N115	158.116	747.314	18.686	-.657	.058	.747
224	45	Totals:	191.892	3691.691	-110.747			
225	45	COG (ft):	X: -1.425	Y: .734	Z: .751			
226	46	N3	52.247	891.119	-96.709	1.382	-.143	-.251
227	46	N87D	-6.641	2063.485	37.739	-2.88	-.033	-4.559
228	46	N115	175.538	737.088	58.996	-.634	.004	.716
229	46	Totals:	221.144	3691.692	.026			
230	46	COG (ft):	X: -1.425	Y: .734	Z: .751			
231	47	N3	35.579	905.396	-32.853	1.436	-.108	-.246
232	47	N87D	-24.504	2052.576	72.962	-2.864	.01	-4.531
233	47	N115	180.818	733.722	70.689	-.623	.01	.704
234	47	Totals:	191.893	3691.693	110.798			
235	47	COG (ft):	X: -1.425	Y: .734	Z: .751			
236	48	N3	7.223	915.631	5.783	1.478	-.052	-.24
237	48	N87D	-68.175	2037.925	116.339	-2.842	.054	-4.49
238	48	N115	172.169	738.139	70.505	-.627	.026	.714
239	48	Totals:	111.216	3691.694	192.627			
240	48	COG (ft):	X: -1.425	Y: .734	Z: .751			
241	49	N3	-8.812	925.395	-58.499	1.73	-.011	-.027
242	49	N87D	-47.971	1258.589	36.861	-1.493	-.011	-1.95
243	49	N115	56.783	1132.75	21.638	-1.227	-.01	1.739
244	49	Totals:	0	3316.734	0			
245	49	COG (ft):	X: -.112	Y: .817	Z: .405			
246	50	N3	-15.275	944.064	-71.462	1.67	0	.045
247	50	N87D	-60.042	939.17	38.911	-.95	-.026	-1.36
248	50	N115	75.309	1433.497	32.552	-1.746	-.01	2.79
249	50	Totals:	-.008	3316.73	.001			
250	50	COG (ft):	X: .6	Y: .817	Z: .405			
251	51	N3	-10.303	1183.24	-68.486	2.242	-.013	-.035

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
252	51	N87D	-54.182	1124.791	43.165	-1.111	-.013	-1.882
253	51	N115	64.485	1124.004	25.318	-1.071	-.013	1.904
254	51	Totals:	0	3432.035	-.004			
255	51	COG (ft):	X: -.004	Y: .921	Z: -.029			
256	52	N3	-7.685	1078.654	67.896	2.093	-.012	-.026
257	52	N87D	-86.988	980.08	97.476	-.958	.031	-1.628
258	52	N115	94.674	980.797	79.123	-.913	-.051	1.641
259	52	Totals:	0	3039.531	244.496			
260	52	COG (ft):	X: -.004	Y: .921	Z: -.029			
261	53	N3	-27.881	1074.126	49.96	2.082	.013	-.021
262	53	N87D	-132.27	969.031	109.11	-.942	.014	-1.592
263	53	N115	37.899	996.373	52.662	-.94	-.058	1.685
264	53	Totals:	-122.253	3039.531	211.732			
265	53	COG (ft):	X: -.004	Y: .921	Z: -.029			
266	54	N3	-43.055	1062.577	2.392	2.044	.032	-.019
267	54	N87D	-154.966	965.249	101.751	-.937	-.009	-1.575
268	54	N115	-13.722	1011.704	18.102	-.969	-.053	1.728
269	54	Totals:	-211.743	3039.53	122.244			
270	54	COG (ft):	X: -.004	Y: .921	Z: -.029			
271	55	N3	-49.142	1047.1	-62.073	1.991	.039	-.02
272	55	N87D	-148.997	969.744	77.371	-.945	-.033	-1.583
273	55	N115	-46.369	1022.685	-15.304	-.992	-.036	1.76
274	55	Totals:	-244.507	3039.529	-.005			
275	55	COG (ft):	X: -.004	Y: .921	Z: -.029			
276	56	N3	-44.506	1031.844	-126.158	1.936	.033	-.024
277	56	N87D	-115.953	981.316	42.503	-.963	-.051	-1.614
278	56	N115	-51.285	1026.367	-38.599	-1.004	-.013	1.773
279	56	Totals:	-211.744	3039.527	-122.255			
280	56	COG (ft):	X: -.004	Y: .921	Z: -.029			
281	57	N3	-30.39	1020.898	-172.689	1.895	.015	-.029
282	57	N87D	-64.702	996.863	6.495	-.987	-.058	-1.658
283	57	N115	-27.163	1021.765	-45.546	-1.001	.011	1.762
284	57	Totals:	-122.255	3039.526	-211.74			
285	57	COG (ft):	X: -.004	Y: .921	Z: -.029			
286	58	N3	-10.575	1017.189	-189.204	1.878	-.01	-.036
287	58	N87D	-8.967	1012.224	-21.011	-1.011	-.053	-1.705
288	58	N115	19.541	1010.113	-34.287	-.984	.029	1.731
289	58	Totals:	-.002	3039.526	-244.502			
290	58	COG (ft):	X: -.004	Y: .921	Z: -.029			
291	59	N3	9.627	1021.713	-171.264	1.889	-.036	-.041
292	59	N87D	36.31	1023.279	-32.641	-1.027	-.036	-1.742
293	59	N115	76.316	994.534	-7.833	-.957	.036	1.687
294	59	Totals:	122.252	3039.526	-211.738			
295	59	COG (ft):	X: -.004	Y: .921	Z: -.029			
296	60	N3	24.8	1033.256	-123.69	1.927	-.055	-.043
297	60	N87D	59.001	1027.064	-25.285	-1.032	-.013	-1.758
298	60	N115	127.942	979.206	26.725	-.928	.03	1.644
299	60	Totals:	211.742	3039.526	-122.251			
300	60	COG (ft):	X: -.004	Y: .921	Z: -.029			
301	61	N3	30.882	1048.73	-59.223	1.98	-.062	-.043
302	61	N87D	53.031	1022.565	-.912	-1.024	.011	-1.75
303	61	N115	160.594	968.232	60.133	-.905	.014	1.612

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
304	61	Totals:	244.507	3039.527	-.001			
305	61	COG (ft):	X: -.004	Y: .921	Z: -.029			
306	62	N3	26.24	1063.989	4.86	2.035	-.055	-.039
307	62	N87D	19.993	1010.987	33.954	-1.005	.028	-1.72
308	62	N115	165.51	964.552	83.434	-.893	-.01	1.599
309	62	Totals:	211.744	3039.529	122.248			
310	62	COG (ft):	X: -.004	Y: .921	Z: -.029			
311	63	N3	12.125	1074.942	51.385	2.076	-.037	-.033
312	63	N87D	-31.254	995.437	69.964	-.981	.036	-1.675
313	63	N115	141.383	969.151	90.385	-.896	-.033	1.61
314	63	Totals:	122.254	3039.53	211.734			
315	63	COG (ft):	X: -.004	Y: .921	Z: -.029			
316	64	N3	-4.899	757.648	86.447	1.485	-.009	-.017
317	64	N87D	-72.271	674.975	85.783	-.656	.034	-1.118
318	64	N115	77.171	675.903	72.266	-.623	-.048	1.125
319	64	Totals:	.001	2108.527	244.497			
320	64	COG (ft):	X: -.004	Y: .921	Z: -.029			
321	65	N3	-25.106	753.125	68.515	1.474	.017	-.012
322	65	N87D	-117.552	663.937	97.405	-.64	.018	-1.081
323	65	N115	20.406	691.465	45.812	-.649	-.055	1.168
324	65	Totals:	-122.253	2108.527	211.733			
325	65	COG (ft):	X: -.004	Y: .921	Z: -.029			
326	66	N3	-40.286	741.586	20.957	1.436	.036	-.009
327	66	N87D	-140.253	660.157	90.036	-.635	-.006	-1.065
328	66	N115	-31.204	706.782	11.253	-.678	-.049	1.212
329	66	Totals:	-211.743	2108.526	122.245			
330	66	COG (ft):	X: -.004	Y: .921	Z: -.029			
331	67	N3	-46.374	726.124	-43.497	1.383	.043	-.01
332	67	N87D	-134.293	664.648	65.649	-.643	-.029	-1.073
333	67	N115	-63.84	717.753	-22.157	-.702	-.033	1.244
334	67	Totals:	-244.507	2108.525	-.004			
335	67	COG (ft):	X: -.004	Y: .921	Z: -.029			
336	68	N3	-41.734	710.883	-107.572	1.328	.037	-.014
337	68	N87D	-101.26	676.209	30.78	-.662	-.047	-1.103
338	68	N115	-68.75	721.432	-45.461	-.713	-.009	1.256
339	68	Totals:	-211.744	2108.524	-122.254			
340	68	COG (ft):	X: -.004	Y: .921	Z: -.029			
341	69	N3	-27.609	699.946	-154.096	1.287	.018	-.02
342	69	N87D	-50.019	691.742	-5.223	-.686	-.055	-1.148
343	69	N115	-44.627	716.834	-52.42	-.71	.014	1.245
344	69	Totals:	-122.255	2108.522	-211.739			
345	69	COG (ft):	X: -.004	Y: .921	Z: -.029			
346	70	N3	-7.783	696.24	-170.61	1.269	-.007	-.026
347	70	N87D	5.709	707.089	-32.72	-.709	-.049	-1.195
348	70	N115	2.073	705.193	-41.172	-.693	.032	1.214
349	70	Totals:	-.001	2108.522	-244.501			
350	70	COG (ft):	X: -.004	Y: .921	Z: -.029			
351	71	N3	12.43	700.76	-152.675	1.281	-.032	-.031
352	71	N87D	50.984	718.134	-44.339	-.725	-.033	-1.231
353	71	N115	58.838	689.628	-14.724	-.667	.039	1.171
354	71	Totals:	122.252	2108.522	-211.737			
355	71	COG (ft):	X: -.004	Y: .921	Z: -.029			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
356	72	N3	27.61	712.292	-105.11	1.318	-.051	-.034
357	72	N87D	73.68	721.916	-36.973	-.73	-.01	-1.248
358	72	N115	110.453	674.314	19.832	-.638	.034	1.127
359	72	Totals:	211.742	2108.522	-122.25			
360	72	COG (ft):	X: -.004	Y: .921	Z: -.029			
361	73	N3	33.693	727.752	-40.653	1.372	-.058	-.033
362	73	N87D	67.72	717.422	-12.592	-.722	.014	-1.239
363	73	N115	143.095	663.35	53.245	-.614	.017	1.095
364	73	Totals:	244.507	2108.524	0			
365	73	COG (ft):	X: -.004	Y: .921	Z: -.029			
366	74	N3	29.046	742.997	23.419	1.426	-.052	-.029
367	74	N87D	34.693	705.854	22.274	-.704	.032	-1.209
368	74	N115	148.005	659.674	76.556	-.603	-.006	1.083
369	74	Totals:	211.744	2108.525	122.249			
370	74	COG (ft):	X: -.004	Y: .921	Z: -.029			
371	75	N3	14.922	753.939	69.937	1.468	-.034	-.023
372	75	N87D	-16.543	690.319	58.28	-.68	.039	-1.165
373	75	N115	123.876	664.268	83.518	-.606	-.03	1.094
374	75	Totals:	122.254	2108.526	211.735			
375	75	COG (ft):	X: -.004	Y: .921	Z: -.029			

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

	Member	Shape	Code Check	Loc[..	LC	Shear..	Loc[..	Dir	LC	phi*Pn...	phi*Pnt...	phi*Mn...	phi*Mn...	Cb	Eqn
1	M4	HSS4X4X4	.287	0	13	.063	0	y	23	12465...	139518	16.181	16.181	3.163	H1-1b
2	M52A	HSS4X4X4	.335	0	46	.070	0	y	43	12465...	139518	16.181	16.181	2.436	H1-1b
3	M76A	HSS4X4X4	.274	0	17	.084	0	y	30	12465...	139518	16.181	16.181	3.1	H1-1b
4	M10	HSS4X4X4	.158	2.375	14	.047	2.375	y	13	13626...	139518	16.181	16.181	1.646	H1-1b
5	M43	HSS4X4X4	.145	0	24	.044	0	y	13	13626...	139518	16.181	16.181	1.649	H1-1b
6	M53	HSS4X4X4	.158	2.375	22	.047	2.375	y	21	13626...	139518	16.181	16.181	1.646	H1-1b
7	M54	HSS4X4X4	.145	0	20	.044	0	y	20	13626...	139518	16.181	16.181	1.649	H1-1b
8	M77A	HSS4X4X4	.157	2.375	18	.046	2.375	y	17	13626...	139518	16.181	16.181	1.646	H1-1b
9	M78	HSS4X4X4	.145	0	16	.044	0	y	16	13626...	139518	16.181	16.181	1.649	H1-1b
10	MP3A	PIPE_2.5	.202	4.448	5	.065	4.448		6	33961....	50715	3.596	3.596	2.058	H1-1b
11	MP4A	PIPE_2.0	.275	4.448	41	.043	2.698		42	17855....	32130	1.872	1.872	2.027	H1-1b
12	MP2A	PIPE_2.0	.287	4.448	9	.054	2.917		11	17855....	32130	1.872	1.872	1.943	H1-1b
13	MP1A	PIPE_2.0	.268	4.448	9	.064	4.448		8	17855....	32130	1.872	1.872	1.874	H1-1b
14	MP3C	PIPE_2.5	.203	4.448	1	.065	4.448		2	33961....	50715	3.596	3.596	1.966	H1-1b
15	MP4C	PIPE_2.0	.139	4.448	13	.029	1.531		2	17855....	32130	1.872	1.872	2.135	H1-1b
16	MP2C	PIPE_2.0	.287	4.448	5	.054	2.917		7	17855....	32130	1.872	1.872	2.073	H1-1b
17	MP1C	PIPE_2.0	.267	4.448	5	.064	4.448		4	17855....	32130	1.872	1.872	1.906	H1-1b
18	MP3B	PIPE_2.5	.201	4.448	9	.065	4.448		10	33961....	50715	3.596	3.596	2.131	H1-1b
19	MP4B	PIPE_2.0	.138	4.448	21	.029	1.531		10	17855....	32130	1.872	1.872	2.114	H1-1b
20	MP2B	PIPE_2.0	.287	4.448	1	.054	2.917		3	17855....	32130	1.872	1.872	1.741	H1-1b
21	MP1B	PIPE_2.0	.269	4.448	1	.064	4.448		12	17855....	32130	1.872	1.872	2.085	H1-1b
22	OVP1	PIPE_2.0	.126	2.5	1	.049	2.5		10	28843....	32130	1.872	1.872	1	H1-1b
23	M51B	L2x2x3	.128	0	3	.013	0	y	17	9823.1...	23392.8	.558	1.071	1.123	H2-1
24	M52B	L2x2x3	.123	0	12	.011	0	y	21	9823.1...	23392.8	.558	1.091	1.214	H2-1
25	M58A	L2x2x3	.128	0	11	.012	4.162	y	24	9823.1...	23392.8	.558	1.071	1.126	H2-1
26	M59A	L2x2x3	.123	0	8	.011	0	y	17	9823.1...	23392.8	.558	1.089	1.208	H2-1
27	M82	L2x2x3	.128	0	7	.013	0	y	21	9823.1...	23392.8	.558	1.071	1.123	H2-1

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

	Member	Shape	Code Check	Loc[..	LC	Shear..	Loc[..	Dir	LC	phi*Pn...	phi*Pnt..	phi*Mn...	phi*Mn...	Cb	Eqn
28	M83A	L2x2x3	.123	0	4	.011	0	y	13	9823.1...	23392.8	.558	1.091	1.214	H2-1
29	M1	PIPE_3.0	.125	6.685	20	.064	3.932		6	27936....	65205	5.749	5.749	1.688	H1-1b
30	M82A	PIPE_3.0	.125	6.685	16	.064	3.932		2	27936....	65205	5.749	5.749	1.687	H1-1b
31	M100	PIPE_3.0	.125	6.685	24	.064	3.932		10	27936....	65205	5.749	5.749	1.684	H1-1b
32	M76	PL3/8X6	.136	0	4	.234	0	y	18	70677....	72900	.57	9.113	1.44	H1-1b
33	M77	PL3/8X6	.200	.167	8	.312	0	y	13	71601....	72900	.57	9.113	1.154	H1-1b
34	M84	PL3/8X6	.190	0	6	.211	0	y	21	70677....	72900	.57	9.113	1.645	H1-1b
35	M85	PL3/8X6	.204	.167	6	.292	0	y	24	71601....	72900	.57	9.113	1.373	H1-1b
36	M63	PL3/8X6	.136	0	12	.235	0	y	14	70677....	72900	.57	9.113	1.445	H1-1b
37	M64	PL3/8X6	.200	.167	4	.313	0	y	21	71601....	72900	.57	9.113	1.15	H1-1b
38	M68	PL3/8X6	.189	0	2	.211	0	y	17	70677....	72900	.57	9.113	1.668	H1-1b
39	M69	PL3/8X6	.204	.167	2	.292	0	y	20	71601....	72900	.57	9.113	1.362	H1-1b
40	M87	PL3/8X6	.136	0	8	.233	0	y	22	70677....	72900	.57	9.113	1.44	H1-1b
41	M88A	PL3/8X6	.200	.167	12	.311	0	y	17	71601....	72900	.57	9.113	1.15	H1-1b
42	M92A	PL3/8X6	.191	0	10	.212	0	y	13	70677....	72900	.57	9.113	1.667	H1-1b
43	M93	PL3/8X6	.205	.167	10	.293	0	y	16	71601....	72900	.57	9.113	1.362	H1-1b
44	M46	PL1/2x6	.153	.516	6	.097	.516	y	3	66009....	97200	1.012	12.15	1.445	H1-1b
45	M80	PL1/2x6	.044	.112	1	.065	.112	y	5	96757....	97200	1.012	12.15	1.015	H1-1b
46	M91	PL1/2x6	.043	.112	1	.076	0	y	3	96757....	97200	1.012	12.15	1.421	H1-1b
47	M55	PL1/2x6	.153	.516	2	.164	.516	y	47	66009....	97200	1.012	12.15	1.446	H1-1b
48	M66	PL1/2x6	.044	.112	9	.083	.112	y	37	96757....	97200	1.012	12.15	1.012	H1-1b
49	M71	PL1/2x6	.043	.112	9	.178	0	y	47	96757....	97200	1.012	12.15	1.418	H1-1b
50	M79A	PL1/2x6	.154	.516	10	.098	.516	y	7	66009....	97200	1.012	12.15	1.448	H1-1b
51	M90	PL1/2x6	.044	.112	5	.074	.112	y	45	96757....	97200	1.012	12.15	1.013	H1-1b
52	M95	PL1/2x6	.043	.112	5	.077	0	y	7	96757....	97200	1.012	12.15	1.422	H1-1b
53	M106	PIPE_2.5	.157	8.333	41	.047	8.333		8	14558....	50715	3.596	3.596	2.16	H1-1b
54	M111	PIPE_2.5	.125	.521	5	.047	8.333		4	14558....	50715	3.596	3.596	2.73	H1-1b
55	M116	PIPE_2.5	.126	.521	1	.047	8.333		12	14558....	50715	3.596	3.596	2.724	H1-1b
56	M123	L3X3X4	.221	2.381	1	.023	0	z	2	41149....	46656	1.688	3.756	2.193	H2-1
57	M124	L3X3X4	.221	2.381	9	.023	0	z	10	41149....	46656	1.688	3.756	2.193	H2-1
58	M125	L3X3X4	.221	2.381	5	.023	.025	z	6	41149....	46656	1.688	3.756	2.193	H2-1

VzW SMART Tool© Vendor

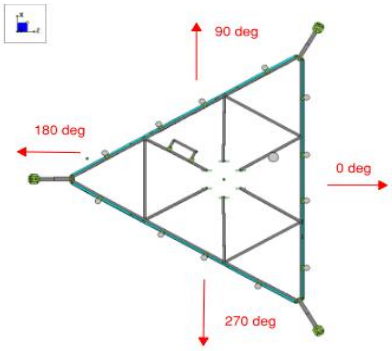
Client:	VERIZON WIRELESS	Date:	1/16/2024
Site Name:	CANTERBURY CT		
MDG #:	5000245865		
Fuze ID #:	16272087	Page:	1

Version 2.00

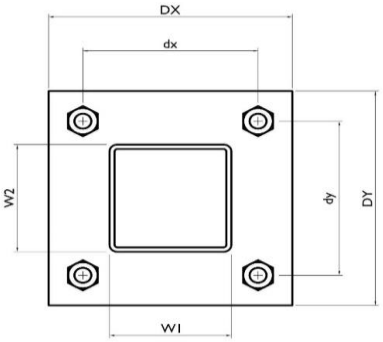
I. Mount-to-Tower Connection Check

Custom Orientation Required	Yes

Nodes (labeled per Risa)	Orientation (per graphic of typical platform)
N3	180
N87D	300
N115	60

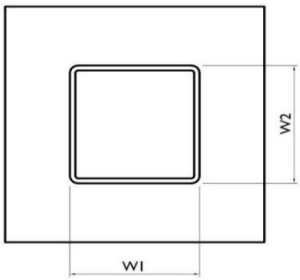


Tower Connection Bolt Checks	Yes
Bolt Orientation	Parallel



Bolt Quantity per Reaction:	4
d_x (in) *(Delta X of typ. bolt config. sketch)* :	6
d_y (in) *(Delta Y of typ. bolt config. sketch)* :	6
Bolt Type:	A325N
Bolt Diameter (in):	0.625
Required Tensile Strength / bolt (kips):	7.7
Required Shear Strength / bolt (kips):	1.5
Tensile Capacity / bolt (kips):	20.7
Shear Capacity / bolt (kips):	12.4
Bolt Overall Utilization:	**37.0%**

Tower Connection Baseplate Checks	Yes



Connecting Standoff Member Shape:	Rect Tube
Weld Stiffener Configuration:	No Stiffeners
Plate Width, D_x (in):	8
Plate Height, D_y (in):	8
W1(in):	4
W2 (in):	4
Member Thickness (in):	0.25
Stiffener location a_1 (in):	
Stiffener location b_1 (in):	
Stiffener location a_2 (in):	
Stiffener location b_2 (in):	
F_y (ksi, plate):	36
Plate Thickness (in):	0.75
Length of Yield Line, L_y (in):	5.85
Bolt Eccentricity, e (in):	1.65
M_u (kip-in):	12.62
Phi*M_n (kip-in):	26.65
Plate Bending Utilization:	**47.3%**

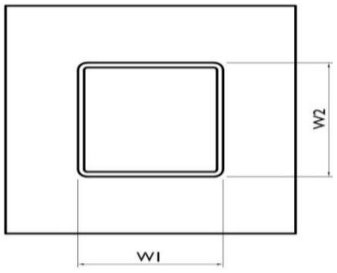
VzW SMART Tool© Vendor

Client:	VERIZON WIRELESS	Date:	1/16/2024
Site Name:	CANTERBURY CT		
PSLC #:	5000245865		
Fuze ID #:	16272087	Page:	2

Version 2.00

Tower Connection Weld Checks	Yes

Weld Shape:	Rectangle
Weld Stiffener Configuration:	None
Weld Size (1/16 in):	4
W1 (in):	4
W2 (in):	4
Weld Total Length (in):	16.00
Z_x (in^3/in):	21.33
Z_y (in^3/in):	21.33
J_p (in^4/in):	85.33
c_x (in)	2.25
c_y (in)	2.25
Required combined strength (kip/in):	2.93
Weld Capacity (kip/in):	5.57
Weld Utilization:	**52.6%**



Date: **February 19, 2024**

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

Subject:	**Structural Analysis Report**	
Carrier Designation:	***Verizon Wireless* Co-Locate**	
	Site Number:	5000245865
	Site Name:	Canterbury CT
Crown Castle Designation:	**BU Number:**	876375
	Site Name:	Canterbury / Lemire
	JDE Job Number:	2107979
	Work Order Number:	2283804
	Order Number:	662899 Rev. 0
Engineering Firm Designation:	**B+T Group Project Number:**	147461.012.01.0001
Site Data:	**53 Westminster Rd., Canterbury, Windham County, CT** **Latitude *41° 42' 7.15"*, Longitude *-71° 58' 50.11"*** **180.5 Foot - Monopole**	

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

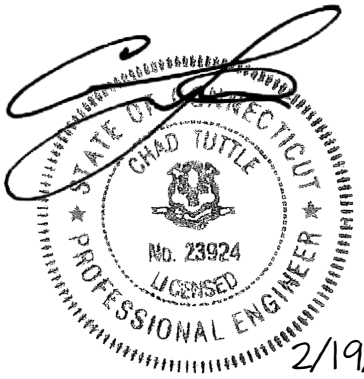
The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration **Sufficient Capacity - 98.1%**

This analysis utilizes an ultimate 3-second gust wind speed of 123 mph as required by the 2022 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Jennifer Tillson, E.I.

Respectfully submitted by: B+T Engineering, Inc.
COA: PEC.0001564; Expires: 02/01/2024



Chad E. Tuttle, P.E.

tnxTower Report - version 8.2.2.0

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 180.5 ft. Monopole mapped by FDH Engineering, Inc.

The tower has been modified multiple times to accommodate additional loading.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	123 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
169.0	170.0	3	Amphenol	BXA-171063-12BF-EDIN-2	14	1-5/8
		6	Commscope	NHH-65B-R2B		
		1	Raycap	RVZDC-6627-PF-48_CCIV2		
		3	Samsung Telecom.	MT6413-77A		
		3	Samsung Telecom.	RF4439D-25A		
		3	Samsung Telecom.	RF4461D-13A		
	169.0	1	--	36” 2 SCH 40 Mount Pipe		
		3	--	84” 2 1/2 SCH 40 Mount Pipe		
		1	VZWSMART	PLK1 Support Rail Kit		
		1	--	Platform Mount [LP 303-1]		

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)
183.0	183.0	3	Ericsson	AIR6449 B41_T-MOBILE	4	1-5/8
		3	Ericsson	RADIO 4415 B66A		
		3	Ericsson	RADIO 4424 B25_TMO		
		3	Ericsson	Radio 4449 B71 B85A_T-Mobile		
		3	RFS Celwave	APX16DWV-16DWV-S-E-A20		
		3	RFS Celwave	APXVAALL24_43-U-NA20_TMO		
		1	Site Pro 1	HRK12 Handrail Kit		
		1	Site Pro 1	SFS-V Stabilizer Kit		
		1	--	Platform Mount [LP 602-1]		
155.0	161.0	3	CCI Antennas	OPA65R-BU6D	12	1-1/4
		3	CCI Antennas	TPA65R-BU6DA-K		
		3	Ericsson	RRUS 4415 B25_CCIV2		
		3	Ericsson	RRUS 4426 B66		
		3	Ericsson	RRUS 4449 B5/B12		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		3	Ericsson	RRUS 4478 B14_CCIV2		
		3	KMW Comm.	AM-X-CD-17-65-00T-RET		
		1	Raycap	DC6-48-60-18-8F		
	155.0	6	--	2.0'' STD x 6'-0'' Mount Pipe		
		1	Perfect Vision	PV-LPPGS-14M-HR2-H5H10 Platform Mount		
153.0	161.0	1	Raycap	DC6-48-60-18-8F	2	7/8
	153.0	1	--	Side Arm Mount [SO 104-3]	2 2	13/16 3/8
139.0	142.0	1	Raycap	RDIDC-9181-PF-48	1	1-1/2
		3	Samsung Telecom.	RF4450t-71A		
		3	Samsung Telecom.	RF4451d-70A		
	140.0	3	Commscope	FFVV-65B-R2		
	139.0	1	--	Commscope MC-PK8-DSH		
76.0	78.0	1	Spectracom	8225	1	1/2
	76.0	1	--	Side Arm Mount [SO 701-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
Tower Mapping	2428368	CCI Sites
Tower Modification Drawing	2435769	CCI Sites
Post Modification Inspection	2464622	CCI Sites
Tower Modification Drawing	3364133	CCI Sites
Post Modification Inspection	3841077	CCI Sites
Tower Modification Drawing	7738171	CCI Sites
Post Modification Inspection	8246170	CCI Sites
Foundation Mapping	1615408	CCI Sites
Geotech Report	1615348	CCI Sites
Crown CAD Package	Date: 02/13/2024	CCI Sites

3.1) Analysis Method

tnxTower (version 8.2.2.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

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

3.2) Assumptions

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

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	180.5 - 175.5	Pole	TP18.569x17.62x0.25	1	-4.101	--	11.7	Pass
L2	175.5 - 170.5	Pole	TP19.518x18.569x0.25	2	-4.426	--	18.1	Pass
L3	170.5 - 165.5	Pole	TP20.467x19.518x0.25	3	-7.617	--	26.8	Pass
L4	165.5 - 160.5	Pole	TP21.416x20.467x0.25	4	-8.060	--	34.5	Pass
L5	160.5 - 155.5	Pole	TP22.365x21.416x0.25	5	-8.530	--	41.1	Pass
L6	155.5 - 150.5	Pole	TP23.313x22.365x0.25	6	-12.773	--	53.7	Pass
L7	150.5 - 145.5	Pole	TP24.262x23.313x0.25	7	-13.428	--	62.2	Pass
L8	145.5 - 140.5	Pole	TP25.211x24.262x0.25	8	-14.117	--	70.0	Pass
L9	140.5 - 137.79	Pole	TP26.35x25.211x0.25	9	-17.343	--	74.8	Pass
L10	137.79 - 132.79	Pole	TP26.174x25.225x0.3125	10	-18.402	--	67.7	Pass
L11	132.79 - 127.79	Pole	TP27.123x26.174x0.3125	11	-19.295	--	73.0	Pass
L12	127.79 - 122.79	Pole	TP28.072x27.123x0.3125	12	-20.206	--	77.5	Pass
L13	122.79 - 120.58	Pole	TP28.491x28.072x0.3125	13	-20.615	--	79.3	Pass
L14	120.58 - 120.33	Pole	TP28.539x28.491x0.3125	14	-20.679	--	79.5	Pass
L15	120.33 - 115.33	Pole	TP29.488x28.539x0.3125	15	-21.614	--	83.2	Pass
L16	115.33 - 112.5	Pole	TP30.025x29.488x0.3125	16	-22.156	--	85.0	Pass
L17	112.5 - 112.25	Pole + Reinf.	TP30.073x30.025x0.6375	17	-22.254	--	67.7	Pass
L18	112.25 - 107.92	Pole + Reinf.	TP30.895x30.073x0.6375	18	-23.476	--	70.7	Pass
L19	107.92 - 107.67	Pole + Reinf.	TP30.942x30.895x0.675	19	-23.559	--	66.4	Pass
L20	107.67 - 107.42	Pole + Reinf.	TP30.99x30.942x0.675	20	-23.633	--	66.6	Pass
L21	107.42 - 102.42	Pole + Reinf.	TP31.939x30.99x0.6625	21	-25.139	--	69.7	Pass
L22	102.42 - 97.42	Pole + Reinf.	TP32.888x31.939x0.65	22	-26.679	--	72.6	Pass
L23	97.42 - 93.31	Pole + Reinf.	TP34.485x32.888x0.6375	23	-27.965	--	74.9	Pass
L24	93.31 - 88.31	Pole + Reinf.	TP33.991x33.042x0.7	24	-30.748	--	72.6	Pass
L25	88.31 - 87.5	Pole + Reinf.	TP34.145x33.991x0.7	25	-31.027	--	72.9	Pass
L26	87.5 - 87.25	Pole	TP34.192x34.145x0.375	26	-31.091	--	84.3	Pass
L27	87.25 - 82.25	Pole	TP35.141x34.192x0.375	27	-32.292	--	85.6	Pass
L28	82.25 - 80.83	Pole	TP35.41x35.141x0.375	28	-32.633	--	85.9	Pass
L29	80.83 - 80.58	Pole	TP35.457x35.41x0.375	29	-32.718	--	86.0	Pass
L30	80.58 - 75.58	Pole	TP36.406x35.457x0.375	30	-34.029	--	87.3	Pass
L31	75.58 - 70.58	Pole	TP37.355x36.406x0.375	31	-35.310	--	88.7	Pass
L32	70.58 - 65.58	Pole	TP38.304x37.355x0.375	32	-36.617	--	90.1	Pass
L33	65.58 - 60.58	Pole	TP39.253x38.304x0.375	33	-37.948	--	91.3	Pass
L34	60.58 - 55.58	Pole	TP40.202x39.253x0.375	34	-39.304	--	92.3	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L35	55.58 - 53.67	Pole	TP40.565x40.202x0.375	35	-39.810	--	92.7	Pass
L36	53.67 - 53.42	Pole	TP40.613x40.565x0.375	36	-39.911	--	92.8	Pass
L37	53.42 - 53.17	Pole	TP40.66x40.613x0.375	37	-39.980	--	92.8	Pass
L38	53.17 - 49.11	Pole	TP42.438x40.66x0.375	38	-41.093	--	93.6	Pass
L39	49.11 - 42.8	Pole + Reinf.	TP41.878x40.681x0.7	39	-44.833	--	77.7	Pass
L40	42.8 - 38.42	Pole + Reinf.	TP42.71x41.878x0.6875	40	-46.739	--	78.6	Pass
L41	38.42 - 38.17	Pole + Reinf.	TP42.757x42.71x0.5375	41	-46.842	--	98.1	Pass
L42	38.17 - 37.92	Pole + Reinf.	TP42.804x42.757x0.6875	42	-46.952	--	78.6	Pass
L43	37.92 - 37.67	Pole + Reinf.	TP42.852x42.804x0.6875	43	-47.062	--	78.7	Pass
L44	37.67 - 32.67	Pole + Reinf.	TP43.801x42.852x0.675	44	-49.257	--	79.6	Pass
L45	32.67 - 27.67	Pole + Reinf.	TP44.75x43.801x0.675	45	-51.485	--	80.4	Pass
L46	27.67 - 23.5	Pole + Reinf.	TP45.54x44.75x0.6625	46	-51.508	--	81.1	Pass
L47	23.5 - 23.25	Pole + Reinf.	TP45.588x45.54x0.6625	47	-53.376	--	81.1	Pass
L48	23.25 - 18.25	Pole + Reinf.	TP46.537x45.588x0.6625	48	-53.498	--	81.9	Pass
L49	18.25 - 13.25	Pole + Reinf.	TP47.486x46.537x0.65	49	-55.772	--	82.5	Pass
L50	13.25 - 8.25	Pole + Reinf.	TP48.434x47.486x0.65	50	-58.071	--	83.1	Pass
L51	8.25 - 7.92	Pole + Reinf.	TP48.498x48.434x0.65	51	-60.386	--	83.2	Pass
L52	7.92 - 7.67	Pole + Reinf.	TP48.545x48.498x0.7	52	-60.541	--	78.6	Pass
L53	7.67 - 5.5	Pole + Reinf.	TP48.956x48.545x0.7	53	-60.673	--	78.8	Pass
L54	5.5 - 5.25	Pole + Reinf.	TP49.004x48.956x0.4125	54	-61.812	--	97.0	Pass
L55	5.25 - 3	Pole + Reinf.	TP49.431x49.004x0.425	55	-62.610	--	97.2	Pass
L56	3 - 2.75	Pole + Reinf.	TP49.478x49.431x0.625	56	-62.632	--	79.9	Pass
L57	2.75 - 0	Pole + Reinf.	TP50x49.478x0.625	57	-62.758	--	80.1	Pass
							Summary	
						Pole (L38)	97.2	Pass
						Reinforcement	98.1	Pass
						Rating =	98.1	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1,2	Anchor Rods	Base	83.0	Pass
1,2	Base Plate	Base	79.1	Pass
1,2	Base Foundation (Structure)	Base	90.1	Pass
1,2	Base Foundation (Soil Interaction)	Base	88.0	Pass

Structure Rating (max from all components) =	98.1%

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

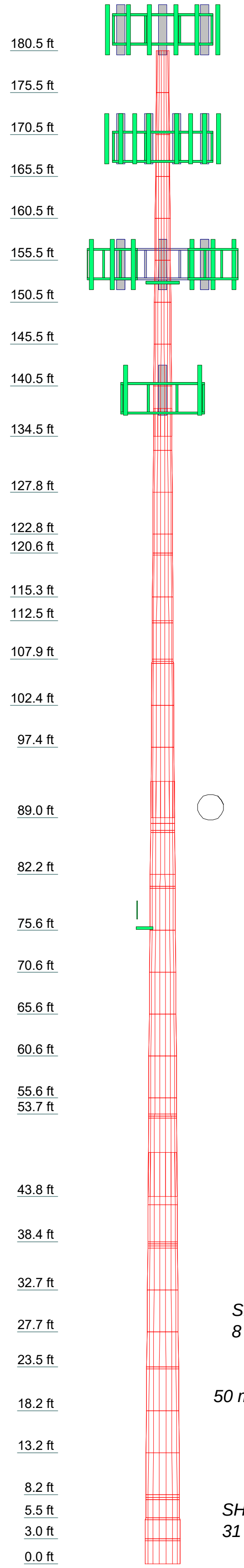
4.1) Recommendations

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

APPENDIX A

TNXTOWER OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.000	18	0.250		17.620	18.569	A572-65	0.2
2	5.000	18	0.250		18.569	19.518		0.3
3	5.000	18	0.250		19.518	20.467		0.3
4	5.000	18	0.250		20.467	21.416		0.3
5	5.000	18	0.250		21.416	22.365		0.3
6	5.000	18	0.250		22.365	23.313		0.3
7	5.000	18	0.250		23.313	24.262		0.3
8	5.000	18	0.250		24.262	25.211		0.3
9	[illegible]	18	[illegible]	3.294	[illegible]	[illegible]		0.4
10	[illegible]	18	[illegible]		[illegible]	[illegible]		0.4
11	5.000	18	0.312		[illegible]	[illegible]		0.4
12	5.000	18	[illegible]		[illegible]	[illegible]		0.5
13–20	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
21	5.000	18	[illegible]		[illegible]	[illegible]		1.0
22	5.000	18	0.650		31.939	32.888		1.1
23	[illegible]	18	0.637	4.311	32.888	34.485		1.8
24–29	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
30	5.000	18	0.375		[illegible]	[illegible]		0.7
31	5.000	18	0.375		36.406	37.355		0.7
32	5.000	18	0.375		37.355	38.304		0.8
33	5.000	18	0.375		38.304	39.253		0.8
34	5.000	18	0.375		39.253	[illegible]		0.8
35–37	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
38	[illegible]	18	0.375	5.305	40.660	42.438		1.6
39–44	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
45	5.000	18	0.675		43.801	44.750		1.6
46–48	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
49	5.000	18	0.650		46.537	47.486		1.6
50	[illegible]	18	[illegible]		[illegible]	[illegible]		1.7
51–57	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
								33.5



MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in Windham County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 123 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. TIA-222-H Annex S
9. TOWER RATING: 98.1%

ALL REACTIONS ARE FACTORED

AXIAL 90 K
SHEAR 8 K
MOMENT 1107 kip-ft
TORQUE 1 kip-ft
50 mph WIND - 1.000 in ICE

AXIAL 64 K
SHEAR 31 K
MOMENT 4331 kip-ft
TORQUE 7 kip-ft
REACTIONS - 123 mph WIND

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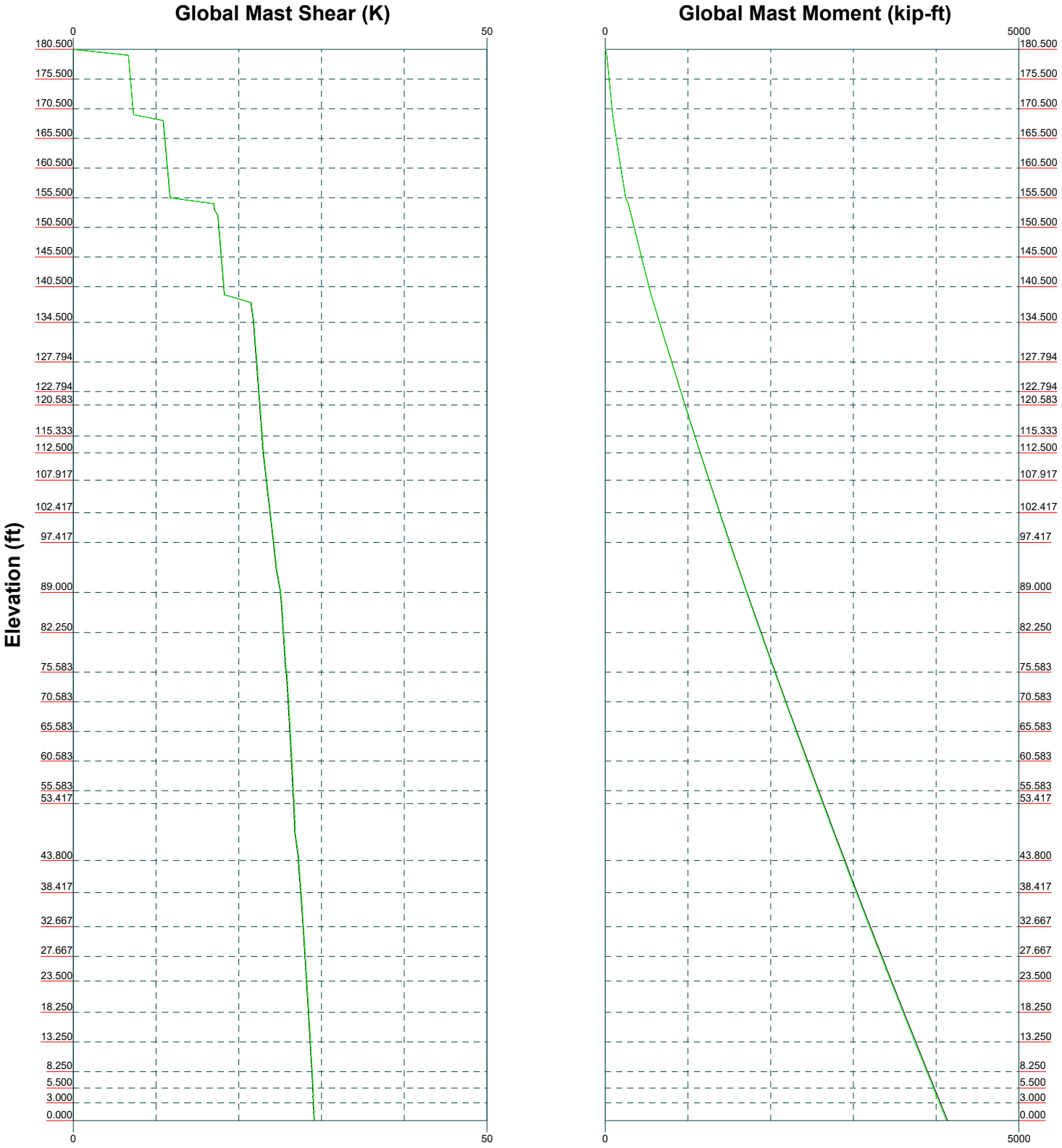
Phone: (918) 587-4630
FAX: (918) 295-0265

Job:	*147461.012.01.0001 - CANTERBURY / LEMIRE, CT (BU# 87637*
Project:	
Client: Crown Castle	Drawn by: JD Prabhu · App'd:
Code: TIA-222-H	Date: 02/15/24 · Scale: NTS
Path:	Dwg No. E-1

TIA-222-H - 123 mph/50 mph 1.000 in Ice Exposure B

Maximum Values

Vx Vz Mx Mz



B+T GRP

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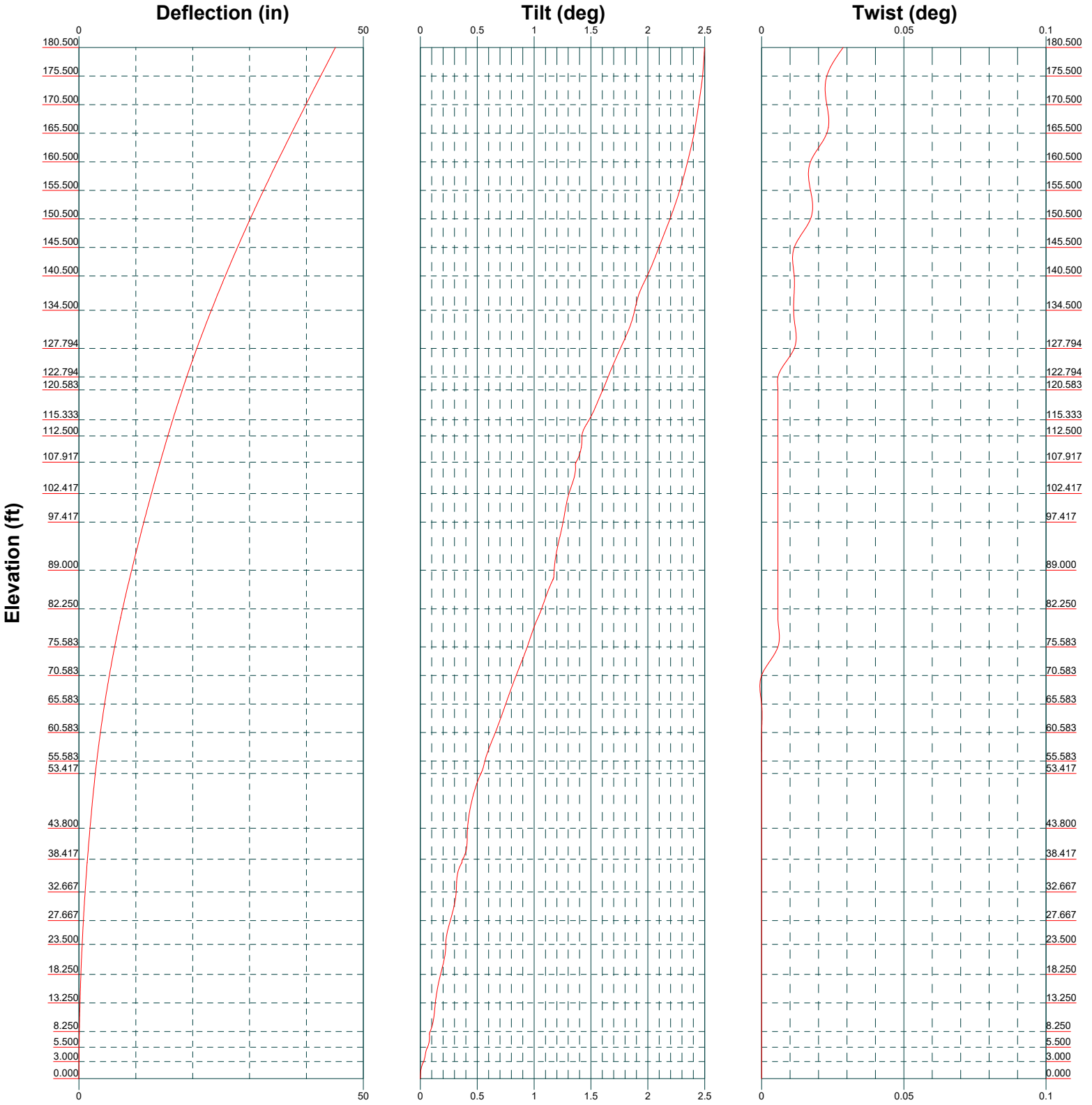
Job: *147461.012.01.0001 - CANTERBURY / LEMIRE, CT (BU# 87637*		
Project:		
Client: Crown Castle	Drawn by: JD Prabhu	App'd:
Code: TIA-222-H	Date: 02/15/24	Scale: NTS
Path:		Dwg No. E-4

TIA-222-H - Service - 60 mph

Maximum Values



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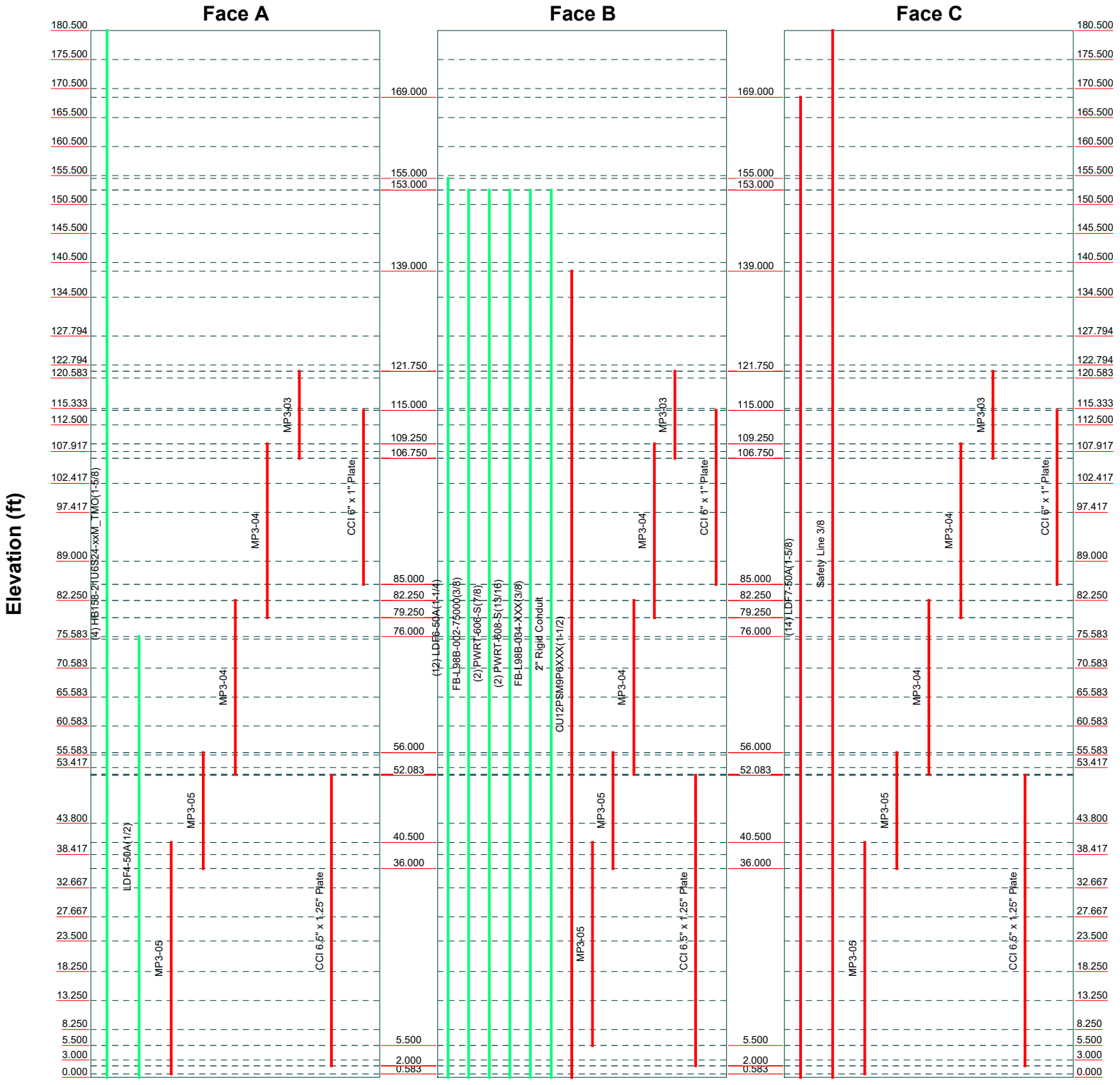
Job:	***147461.012.01.0001 - CANTERBURY / LEMIRE, CT (BU# 87637***		
Project:			
Client: Crown Castle	Drawn by: JD Prabhu	App'd:	
Code: TIA-222-H	Date: 02/15/24	Scale: NTS	
Path:		Dwg No. E-5	

Feed Line Distribution Chart
0' - 180'6"

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



B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job: ***147461.012.01.0001 - CANTERBURY / LEMIRE, CT (BU# 87637*** Project:		
	Client: Crown Castle	Drawn by: JD Prabhu	App'd:
	Code: TIA-222-H	Date: 02/15/24	Scale: NTS
	Path:		Dwg No. E-7

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Tower Input Data

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

Tower is located in Windham County, Connecticut.
Tower base elevation above sea level: 350.000 ft.
Basic wind speed of 123 mph.
Risk Category II.
Exposure Category B.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.000 ft.
Nominal ice thickness of 1.000 in.
Ice thickness is considered to increase with height.
Ice density of 56.000 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50.000 °F.
Deflections calculated using a wind speed of 60 mph.
TIA-222-H Annex S.
TOWER RATING: 98.1%.
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	4_	Use TIA-222-H Tension Splice Exemption
				—	
				—	

	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination
	Secondary Horizontal Braces Leg		Sort Capacity Reports By Component
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs

	Poles
	Include Shear-Torsion Interaction
	Always Use Sub-Critical Flow
	Use Top Mounted Sockets
	Pole Without Linear Attachments
	Pole With Shroud Or No Appurtenances

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	180.500-175.500	5.000	0.000	18	17.620	18.569	0.250	1.000	A572-65 (65 ksi)
L2	175.500-170.500	5.000	0.000	18	18.569	19.518	0.250	1.000	A572-65 (65 ksi)
L3	170.500-165.500	5.000	0.000	18	19.518	20.467	0.250	1.000	A572-65 (65 ksi)
L4	165.500-160.500	5.000	0.000	18	20.467	21.416	0.250	1.000	A572-65 (65 ksi)
L5	160.500-155.500	5.000	0.000	18	21.416	22.365	0.250	1.000	A572-65 (65 ksi)
L6	155.500-150.500	5.000	0.000	18	22.365	23.313	0.250	1.000	A572-65 (65 ksi)
L7	150.500-145.500	5.000	0.000	18	23.313	24.262	0.250	1.000	A572-65 (65 ksi)
L8	145.500-140.500	5.000	0.000	18	24.262	25.211	0.250	1.000	A572-65 (65 ksi)
L9	140.500-134.500	6.000	3.294	18	25.211	26.350	0.250	1.000	A572-65 (65 ksi)
L10	134.500-132.794	5.000	0.000	18	25.225	26.174	0.312	1.250	A572-65 (65 ksi)
L11	132.794-127.794	5.000	0.000	18	26.174	27.123	0.312	1.250	A572-65 (65 ksi)
L12	127.794-122.794	5.000	0.000	18	27.123	28.072	0.312	1.250	A572-65 (65 ksi)
L13	122.794-120.583	2.211	0.000	18	28.072	28.491	0.312	1.250	A572-65 (65 ksi)
L14	120.583-120.333	0.250	0.000	18	28.491	28.539	0.312	1.250	A572-65 (65 ksi)
L15	120.333-115.333	5.000	0.000	18	28.539	29.488	0.312	1.250	A572-65 (65 ksi)
L16	115.333-112.500	2.833	0.000	18	29.488	30.025	0.312	1.250	A572-65 (65 ksi)
L17	112.500-112.250	0.250	0.000	18	30.025	30.073	0.637	2.550	A572-65 (65 ksi)
L18	112.250-107.917	4.333	0.000	18	30.073	30.895	0.637	2.550	A572-65 (65 ksi)
L19	107.917-107.667	0.250	0.000	18	30.895	30.942	0.675	2.700	A572-65 (65 ksi)
L20	107.667-107.417	0.250	0.000	18	30.942	30.990	0.675	2.700	A572-65 (65 ksi)
L21	107.417-102.417	5.000	0.000	18	30.990	31.939	0.662	2.650	A572-65 (65 ksi)
L22	102.417-97.417	5.000	0.000	18	31.939	32.888	0.650	2.600	A572-65 (65 ksi)
L23	97.417-89.000	8.417	4.311	18	32.888	34.485	0.637	2.550	A572-65 (65 ksi)
L24	89.000-88.311	5.000	0.000	18	33.042	33.991	0.700	2.800	A572-65 (65 ksi)
L25	88.311-87.500	0.811	0.000	18	33.991	34.145	0.700	2.800	A572-65 (65 ksi)
L26	87.500-87.250	0.250	0.000	18	34.145	34.192	0.375	1.500	A572-65 (65 ksi)
L27	87.250-82.250	5.000	0.000	18	34.192	35.141	0.375	1.500	A572-65 (65 ksi)
L28	82.250-80.833	1.417	0.000	18	35.141	35.410	0.375	1.500	A572-65 (65 ksi)
L29	80.833-80.583	0.250	0.000	18	35.410	35.457	0.375	1.500	A572-65 (65 ksi)

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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
L30	80.583-75.583	5.000	0.000	18	35.457	36.406	0.375	1.500	A572-65 (65 ksi)
L31	75.583-70.583	5.000	0.000	18	36.406	37.355	0.375	1.500	A572-65 (65 ksi)
L32	70.583-65.583	5.000	0.000	18	37.355	38.304	0.375	1.500	A572-65 (65 ksi)
L33	65.583-60.583	5.000	0.000	18	38.304	39.253	0.375	1.500	A572-65 (65 ksi)
L34	60.583-55.583	5.000	0.000	18	39.253	40.202	0.375	1.500	A572-65 (65 ksi)
L35	55.583-53.667	1.916	0.000	18	40.202	40.565	0.375	1.500	A572-65 (65 ksi)
L36	53.667-53.417	0.250	0.000	18	40.565	40.613	0.375	1.500	A572-65 (65 ksi)
L37	53.417-53.167	0.250	0.000	18	40.613	40.660	0.375	1.500	A572-65 (65 ksi)
L38	53.167-43.800	9.367	5.305	18	40.660	42.438	0.375	1.500	A572-65 (65 ksi)
L39	43.800-42.800	6.305	0.000	18	40.681	41.878	0.700	2.800	A572-65 (65 ksi)
L40	42.800-38.417	4.383	0.000	18	41.878	42.710	0.688	2.750	A572-65 (65 ksi)
L41	38.417-38.167	0.250	0.000	18	42.710	42.757	0.537	2.150	A572-65 (65 ksi)
L42	38.167-37.917	0.250	0.000	18	42.757	42.804	0.688	2.750	A572-65 (65 ksi)
L43	37.917-37.667	0.250	0.000	18	42.804	42.852	0.688	2.750	A572-65 (65 ksi)
L44	37.667-32.667	5.000	0.000	18	42.852	43.801	0.675	2.700	A572-65 (65 ksi)
L45	32.667-27.667	5.000	0.000	18	43.801	44.750	0.675	2.700	A572-65 (65 ksi)
L46	27.667-23.500	4.167	0.000	18	44.750	45.540	0.662	2.650	A572-65 (65 ksi)
L47	23.500-23.250	0.250	0.000	18	45.540	45.588	0.662	2.650	A572-65 (65 ksi)
L48	23.250-18.250	5.000	0.000	18	45.588	46.537	0.662	2.650	A572-65 (65 ksi)
L49	18.250-13.250	5.000	0.000	18	46.537	47.486	0.650	2.600	A572-65 (65 ksi)
L50	13.250-8.250	5.000	0.000	18	47.486	48.434	0.650	2.600	A572-65 (65 ksi)
L51	8.250-7.917	0.333	0.000	18	48.434	48.498	0.650	2.600	A572-65 (65 ksi)
L52	7.917-7.667	0.250	0.000	18	48.498	48.545	0.700	2.800	A572-65 (65 ksi)
L53	7.667-5.500	2.167	0.000	18	48.545	48.956	0.700	2.800	A572-65 (65 ksi)
L54	5.500-5.250	0.250	0.000	18	48.956	49.004	0.412	1.650	A572-65 (65 ksi)
L55	5.250-3.000	2.250	0.000	18	49.004	49.431	0.425	1.700	A572-65 (65 ksi)
L56	3.000-2.750	0.250	0.000	18	49.431	49.478	0.625	2.500	A572-65 (65 ksi)
L57	2.750-0.000	2.750		18	49.478	50.000	0.625	2.500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	17.853	13.783	525.392	6.166	8.951	58.697	1051.476	6.893	2.661	10.644
	18.817	14.536	616.288	6.503	9.433	65.333	1233.386	7.269	2.828	11.313
L2	18.817	14.536	616.288	6.503	9.433	65.333	1233.386	7.269	2.828	11.313
	19.780	15.289	717.105	6.840	9.915	72.325	1435.153	7.646	2.995	11.981
L3	19.780	15.289	717.105	6.840	9.915	72.325	1435.153	7.646	2.995	11.981
	20.744	16.042	828.357	7.177	10.397	79.672	1657.805	8.023	3.162	12.649
L4	20.744	16.042	828.357	7.177	10.397	79.672	1657.805	8.023	3.162	12.649
	21.707	16.795	950.560	7.514	10.879	87.374	1902.370	8.399	3.329	13.317
L5	21.707	16.795	950.560	7.514	10.879	87.374	1902.370	8.399	3.329	13.317
	22.671	17.548	1084.225	7.851	11.361	95.432	2169.878	8.776	3.496	13.985
L6	22.671	17.548	1084.225	7.851	11.361	95.432	2169.878	8.776	3.496	13.985
	23.635	18.301	1229.869	8.188	11.843	103.846	2461.356	9.152	3.663	14.653
L7	23.635	18.301	1229.869	8.188	11.843	103.846	2461.356	9.152	3.663	14.653
	24.598	19.054	1388.004	8.524	12.325	112.614	2777.834	9.529	3.830	15.321
L8	24.598	19.054	1388.004	8.524	12.325	112.614	2777.834	9.529	3.830	15.321
	25.562	19.807	1559.144	8.861	12.807	121.738	3120.339	9.905	3.997	15.989
L9	25.562	19.807	1559.144	8.861	12.807	121.738	3120.339	9.905	3.997	15.989
	26.718	20.710	1782.403	9.265	13.386	133.156	3567.151	10.357	4.198	16.79
L10	26.201	24.710	1937.487	8.844	12.814	151.198	3877.523	12.357	3.890	12.447
	26.529	25.651	2167.421	9.181	13.296	163.010	4337.695	12.828	4.057	12.981
L11	26.529	25.651	2167.421	9.181	13.296	163.010	4337.695	12.828	4.057	12.981
	27.493	26.592	2414.864	9.518	13.778	175.266	4832.905	13.299	4.224	13.515
L12	27.493	26.592	2414.864	9.518	13.778	175.266	4832.905	13.299	4.224	13.515
	28.456	27.534	2680.456	9.854	14.260	187.966	5364.440	13.769	4.391	14.05
L13	28.456	27.534	2680.456	9.854	14.260	187.966	5364.440	13.769	4.391	14.05
	28.882	27.950	2803.856	10.003	14.474	193.723	5611.401	13.978	4.464	14.286
L14	28.882	27.950	2803.856	10.003	14.474	193.723	5611.401	13.978	4.464	14.286
	28.931	27.997	2818.043	10.020	14.498	194.380	5639.793	14.001	4.473	14.313
L15	28.931	27.997	2818.043	10.020	14.498	194.380	5639.793	14.001	4.473	14.313
	29.894	28.938	3111.914	10.357	14.980	207.743	6227.923	14.472	4.640	14.847
L16	29.894	28.938	3111.914	10.357	14.980	207.743	6227.923	14.472	4.640	14.847
	30.440	29.471	3287.146	10.548	15.253	215.511	6578.618	14.738	4.734	15.15
L17	30.390	59.464	6488.131	10.433	15.253	425.374	12984.800	29.738	4.162	6.529
	30.438	59.560	6519.606	10.449	15.277	426.763	13047.792	29.786	4.171	6.542
L18	30.438	59.560	6519.606	10.449	15.277	426.763	13047.792	29.786	4.171	6.542
	31.273	61.224	7081.421	10.741	15.695	451.201	14172.161	30.618	4.316	6.769
L19	31.267	64.745	7470.132	10.728	15.695	475.968	14950.093	32.378	4.250	6.296
	31.316	64.846	7505.371	10.745	15.719	477.480	15020.619	32.429	4.258	6.308
L20	31.316	64.846	7505.371	10.745	15.719	477.480	15020.619	32.429	4.258	6.308
	31.364	64.948	7540.721	10.762	15.743	478.994	15091.365	32.480	4.266	6.32
L21	31.366	63.772	7410.238	10.766	15.743	470.706	14830.226	31.892	4.288	6.473
	32.329	65.767	8127.798	11.103	16.225	500.947	16266.290	32.890	4.455	6.725
L22	32.331	64.552	7984.008	11.107	16.225	492.085	15978.522	32.282	4.477	6.888
	33.295	66.509	8732.661	11.444	16.707	522.698	17476.812	33.261	4.644	7.145
L23	33.297	65.256	8574.692	11.449	16.707	513.242	17160.666	32.634	4.666	7.32
	34.919	68.488	9912.983	12.016	17.518	565.862	19839.009	34.250	4.947	7.761
L24	34.274	71.857	9495.925	11.481	16.785	565.730	19004.344	35.935	4.583	6.548
	34.407	73.965	10356.505	11.818	17.267	599.776	20726.636	36.990	4.750	6.786
L25	34.407	73.965	10356.505	11.818	17.267	599.776	20726.636	36.990	4.750	6.786
	34.563	74.307	10500.811	11.873	17.345	605.391	21015.439	37.161	4.777	6.825
L26	34.614	40.194	5791.030	11.988	17.345	333.864	11589.679	20.101	5.349	14.265
	34.662	40.251	5815.472	12.005	17.370	334.808	11638.597	20.129	5.358	14.287
L27	34.662	40.251	5815.472	12.005	17.370	334.808	11638.597	20.129	5.358	14.287
	35.625	41.380	6318.876	12.342	17.852	353.966	12646.067	20.694	5.525	14.733
L28	35.625	41.380	6318.876	12.342	17.852	353.966	12646.067	20.694	5.525	14.733
	35.898	41.700	6466.644	12.437	17.988	359.493	12941.797	20.854	5.572	14.859
L29	35.898	41.700	6466.644	12.437	17.988	359.493	12941.797	20.854	5.572	14.859
	35.946	41.757	6492.951	12.454	18.012	360.472	12994.446	20.882	5.580	14.881
L30	35.946	41.757	6492.951	12.454	18.012	360.472	12994.446	20.882	5.580	14.881

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
	36.910	42.886	7034.187	12.791	18.494	380.342	14077.629	21.447	5.748	15.327
L31	36.910	42.886	7034.187	12.791	18.494	380.342	14077.629	21.447	5.748	15.327
	37.874	44.016	7604.693	13.128	18.976	400.744	15219.393	22.012	5.915	15.772
L32	37.874	44.016	7604.693	13.128	18.976	400.744	15219.393	22.012	5.915	15.772
	38.837	45.145	8205.242	13.465	19.458	421.680	16421.281	22.577	6.082	16.217
L33	38.837	45.145	8205.242	13.465	19.458	421.680	16421.281	22.577	6.082	16.217
	39.801	46.274	8836.604	13.802	19.940	443.149	17684.836	23.142	6.249	16.663
L34	39.801	46.274	8836.604	13.802	19.940	443.149	17684.836	23.142	6.249	16.663
	40.764	47.404	9499.550	14.139	20.423	465.150	19011.600	23.706	6.416	17.108
L35	40.764	47.404	9499.550	14.139	20.423	465.150	19011.600	23.706	6.416	17.108
	41.133	47.837	9762.124	14.268	20.607	473.723	19537.092	23.923	6.480	17.279
L36	41.133	47.837	9762.124	14.268	20.607	473.723	19537.092	23.923	6.480	17.279
	41.182	47.893	9796.737	14.284	20.631	474.847	19606.364	23.951	6.488	17.301
L37	41.182	47.893	9796.737	14.284	20.631	474.847	19606.364	23.951	6.488	17.301
	41.230	47.950	9831.432	14.301	20.655	475.973	19675.800	23.979	6.496	17.323
L38	41.230	47.950	9831.432	14.301	20.655	475.973	19675.800	23.979	6.496	17.323
	43.035	50.065	11191.193	14.932	21.559	519.108	22397.111	25.038	6.809	18.158
L39	42.223	88.830	17939.512	14.193	20.666	868.066	35902.630	44.424	5.928	8.468
	42.416	91.489	19598.818	14.618	21.274	921.262	39223.425	45.753	6.138	8.769
L40	42.418	89.882	19266.374	14.623	21.274	905.635	38558.099	44.950	6.160	8.961
	43.262	91.697	20457.265	14.918	21.696	942.886	40941.448	45.857	6.307	9.174
L41	43.285	71.947	16165.747	14.971	21.696	745.088	32352.765	35.980	6.571	12.225
	43.334	72.027	16220.367	14.988	21.721	746.776	32462.078	36.021	6.579	12.24
L42	43.310	91.801	20526.633	14.935	21.721	945.034	41080.275	45.909	6.315	9.186
	43.359	91.904	20596.157	14.951	21.745	947.183	41219.414	45.961	6.324	9.198
L43	43.359	91.904	20596.157	14.951	21.745	947.183	41219.414	45.961	6.324	9.198
	43.407	92.008	20665.837	14.968	21.769	949.336	41358.867	46.013	6.332	9.21
L44	43.409	90.362	20308.146	14.973	21.769	932.904	40643.014	45.189	6.354	9.413
	44.372	92.395	21709.844	15.310	22.251	975.690	43448.254	46.206	6.521	9.661
L45	44.372	92.395	21709.844	15.310	22.251	975.690	43448.254	46.206	6.521	9.661
	45.336	94.428	23174.600	15.646	22.733	1019.435	46379.694	47.223	6.688	9.908
L46	45.338	92.705	22764.799	15.651	22.733	1001.409	45559.553	46.361	6.710	10.128
	46.141	94.368	24011.887	15.932	23.134	1037.926	48055.370	47.193	6.849	10.338
L47	46.141	94.368	24011.887	15.932	23.134	1037.926	48055.370	47.193	6.849	10.338
	46.189	94.468	24088.121	15.948	23.159	1040.137	48207.938	47.243	6.857	10.351
L48	46.189	94.468	24088.121	15.948	23.159	1040.137	48207.938	47.243	6.857	10.351
	47.152	96.463	25646.873	16.285	23.641	1084.865	51327.492	48.241	7.024	10.603
L49	47.154	94.669	25183.545	16.290	23.641	1065.266	50400.226	47.343	7.046	10.841
	48.118	96.626	26778.338	16.627	24.123	1110.091	53591.912	48.322	7.213	11.098
L50	48.118	96.626	26778.338	16.627	24.123	1110.091	53591.912	48.322	7.213	11.098
	49.081	98.584	28439.078	16.963	24.605	1155.841	56915.578	49.301	7.380	11.355
L51	49.081	98.584	28439.078	16.963	24.605	1155.841	56915.578	49.301	7.380	11.355
	49.145	98.714	28552.059	16.986	24.637	1158.921	57141.687	49.367	7.392	11.372
L52	49.138	106.197	30652.077	16.968	24.637	1244.160	61344.486	53.108	7.304	10.434
	49.186	106.302	30743.442	16.985	24.661	1246.649	61527.336	53.161	7.312	10.446
L53	49.186	106.302	30743.442	16.985	24.661	1246.649	61527.336	53.161	7.312	10.446
	49.603	107.216	31543.012	17.131	24.870	1268.327	63127.529	53.618	7.384	10.549
L54	49.648	63.557	18922.056	17.233	24.870	760.845	37869.011	31.785	7.890	19.128
	49.696	63.619	18977.590	17.250	24.894	762.340	37980.151	31.816	7.899	19.148
L55	49.694	65.530	19537.582	17.245	24.894	784.835	39100.873	32.771	7.877	18.533
	50.128	66.106	20057.307	17.397	25.111	798.753	40141.007	33.059	7.952	18.71
L56	50.097	96.818	29136.378	17.326	25.111	1160.313	58311.094	48.418	7.600	12.16
	50.145	96.912	29221.430	17.343	25.135	1162.584	58481.309	48.465	7.608	12.173
L57	50.145	96.912	29221.430	17.343	25.135	1162.584	58481.309	48.465	7.608	12.173
	50.675	97.948	30167.944	17.528	25.400	1187.714	60375.584	48.983	7.700	12.32

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

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 180.500-175.500				1	1	1			
L2 175.500-170.500				1	1	1			
L3 170.500-165.500				1	1	1			
L4 165.500-160.500				1	1	1			
L5 160.500-155.500				1	1	1			
L6 155.500-150.500				1	1	1			
L7 150.500-145.500				1	1	1			
L8 145.500-140.500				1	1	1			
L9 140.500-134.500				1	1	1			
L10 134.500-132.794				1	1	1			
L11 132.794-127.794				1	1	1			
L12 127.794-122.794				1	1	1			
L13 122.794-120.583				1	1	1			
L14 120.583-120.333				1	1	1			
L15 120.333-115.333				1	1	1			
L16 115.333-112.500				1	1	1			
L17 112.500-112.250				1	1	0.944922			
L18 112.250-107.917				1	1	0.932563			
L19 107.917-107.667				1	1	0.937171			
L20 107.667-107.4				1	1	0.936429			

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
17 L21 107.417-102.4				1	1	0.93908			
17 L22 102.417-97.41				1	1	0.942747			
7 L23 97.417-89.000				1	1	0.949755			
L24 89.000-88.311				1	1	0.951827			
L25 88.311-87.500				1	1	0.949912			
L26 87.500-87.250				1	1	1			
L27 87.250-82.250				1	1	1			
L28 82.250-80.833				1	1	1			
L29 80.833-80.583				1	1	1			
L30 80.583-75.583				1	1	1			
L31 75.583-70.583				1	1	1			
L32 70.583-65.583				1	1	1			
L33 65.583-60.583				1	1	1			
L34 60.583-55.583				1	1	1			
L35 55.583-53.667				1	1	1			
L36 53.667-53.417				1	1	1			
L37 53.417-53.167				1	1	1			
L38 53.167-43.800				1	1	1			
L39 43.800-42.800				1	1	0.991654			
L40 42.800-38.417				1	1	1.00019			
L41 38.417-38.167				1	1	1.03878			
L42 38.167-37.917				1	1	0.99917			
L43 37.917-37.667				1	1	0.99866			
L44 37.667-32.667				1	1	1.0067			
L45 32.667-27.667				1	1	0.99699			
L46 27.667-23.500				1	1	1.00759			
L47 23.500-23.250				1	1	1.00713			
L48 23.250-18.250				1	1	0.998003			

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
L49 18.250-13.250				1	1	1.008			
L50 13.250-8.250				1	1	0.999444			
L51 8.250-7.917				1	1	0.998886			
L52 7.917-7.667				1	1	0.98227			
L53 7.667-5.500				1	1	0.978464			
L54 5.500-5.250				1	1	1.08909			
L55 5.250-3.000				1	1	1.0558			
L56 3.000-2.750				1	1	0.978745			
L57 2.750-0.000				1	1	0.974742			

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
*										
LDF7-50A(1-5/8)	C	No	Surface Ar (CaAa)	169.000 - 0.000	14	7	-0.500 -0.250	1.980		0.001
*										
CU12PSM9P6XXX(1-1/2)	B	No	Surface Ar (CaAa)	139.000 - 0.000	1	1	-0.040 0.000	1.600		0.002
*										
Safety Line 3/8	C	No	Surface Ar (CaAa)	180.500 - 0.000	1	1	0.200 0.210	0.375		0.000
*										
MP3-05	A	No	Surface Af (CaAa)	40.500 - 0.583	1	1	0.100 0.150	5.330	14.840	0.000
MP3-05	B	No	Surface Af (CaAa)	40.500 - 5.500	1	1	0.100 0.150	5.330	14.840	0.000
MP3-05	C	No	Surface Af (CaAa)	40.500 - 0.583	1	1	0.100 0.150	5.330	14.840	0.000
*										
MP3-05	A	No	Surface Af (CaAa)	56.000 - 36.000	1	1	-0.150 -0.100	5.330	14.840	0.000
MP3-05	B	No	Surface Af (CaAa)	56.000 - 36.000	1	1	-0.150 -0.100	5.330	14.840	0.000
MP3-05	C	No	Surface Af (CaAa)	56.000 - 36.000	1	1	-0.150 -0.100	5.330	14.840	0.000
*										
MP3-04	A	No	Surface Af (CaAa)	82.250 - 52.250	1	1	0.100 0.150	4.780	12.780	0.000
MP3-04	B	No	Surface Af (CaAa)	82.250 - 52.250	1	1	0.100 0.150	4.780	12.780	0.000
MP3-04	C	No	Surface Af (CaAa)	82.250 - 52.250	1	1	0.100 0.150	4.780	12.780	0.000

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
*										
MP3-04	A	No	Surface Af (CaAa)	109.250 - 79.250	1	1	-0.150 -0.100	4.780	12.780	0.000
MP3-04	B	No	Surface Af (CaAa)	109.250 - 79.250	1	1	-0.150 -0.100	4.780	12.780	0.000
MP3-04	C	No	Surface Af (CaAa)	109.250 - 79.250	1	1	-0.150 -0.100	4.780	12.780	0.000
*										
MP3-03	A	No	Surface Af (CaAa)	121.750 - 106.750	1	1	0.100 0.150	4.060	11.260	0.000
MP3-03	B	No	Surface Af (CaAa)	121.750 - 106.750	1	1	0.100 0.150	4.060	11.260	0.000
MP3-03	C	No	Surface Af (CaAa)	121.750 - 106.750	1	1	0.100 0.150	4.060	11.260	0.000
*										
CCI 6.5" x 1.25" Plate	A	No	Surface Af (CaAa)	52.083 - 2.000	1	1	0.450 0.500	6.500	15.500	0.000
CCI 6.5" x 1.25" Plate	B	No	Surface Af (CaAa)	52.083 - 2.000	1	1	0.450 0.500	6.500	15.500	0.000
CCI 6.5" x 1.25" Plate	C	No	Surface Af (CaAa)	52.083 - 2.000	1	1	0.450 0.500	6.500	15.500	0.000
*										
CCI 6" x 1" Plate	A	No	Surface Af (CaAa)	115.000 - 85.000	1	1	0.350 0.400	6.000	14.000	0.000
CCI 6" x 1" Plate	B	No	Surface Af (CaAa)	115.000 - 85.000	1	1	0.350 0.400	6.000	14.000	0.000
CCI 6" x 1" Plate	C	No	Surface Af (CaAa)	115.000 - 85.000	1	1	0.350 0.400	6.000	14.000	0.000
*										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
HB158-21U6S24-xx M_TMO(1-5/8)	A	No	No	Inside Pole	180.500 - 0.000	4	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.003 0.003 0.003
*									
*									
LDF6-50A(1-1/4)	B	No	No	Inside Pole	155.000 - 0.000	12	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001
*									
FB-L98B-002-75000 (3/8)	B	No	No	Inside Pole	153.000 - 0.000	1	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000
PWRT-606-S(7/8)	B	No	No	Inside Pole	153.000 - 0.000	2	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001
PWRT-608-S(13/16)	B	No	No	Inside Pole	153.000 - 0.000	2	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001
FB-L98B-034-XXX(3/8)	B	No	No	Inside Pole	153.000 - 0.000	1	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
2" Rigid Conduit	B	No	No	Inside Pole	153.000 - 0.000	1	No Ice	0.000	0.003
							1/2" Ice	0.000	0.003
							1" Ice	0.000	0.003
*									
LDF4-50A(1/2)	A	No	No	Inside Pole	76.000 - 0.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
*									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	180.500-175.500	A	0.000	0.000	0.000	0.000	0.050
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.188	0.000	0.001
L2	175.500-170.500	A	0.000	0.000	0.000	0.000	0.050
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.188	0.000	0.001
L3	170.500-165.500	A	0.000	0.000	0.000	0.000	0.050
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	5.038	0.000	0.041
L4	165.500-160.500	A	0.000	0.000	0.000	0.000	0.050
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	7.117	0.000	0.059
L5	160.500-155.500	A	0.000	0.000	0.000	0.000	0.050
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	7.117	0.000	0.059
L6	155.500-150.500	A	0.000	0.000	0.000	0.000	0.050
		B	0.000	0.000	0.000	0.000	0.047
		C	0.000	0.000	7.117	0.000	0.059
L7	150.500-145.500	A	0.000	0.000	0.000	0.000	0.050
		B	0.000	0.000	0.000	0.000	0.066
		C	0.000	0.000	7.117	0.000	0.059
L8	145.500-140.500	A	0.000	0.000	0.000	0.000	0.050
		B	0.000	0.000	0.000	0.000	0.066
		C	0.000	0.000	7.117	0.000	0.059
L9	140.500-134.500	A	0.000	0.000	0.000	0.000	0.060
		B	0.000	0.000	0.720	0.000	0.089
		C	0.000	0.000	8.541	0.000	0.070
L10	134.500-132.794	A	0.000	0.000	0.000	0.000	0.017
		B	0.000	0.000	0.273	0.000	0.026
		C	0.000	0.000	2.428	0.000	0.020
L11	132.794-127.794	A	0.000	0.000	0.000	0.000	0.050
		B	0.000	0.000	0.800	0.000	0.077
		C	0.000	0.000	7.117	0.000	0.059
L12	127.794-122.794	A	0.000	0.000	0.000	0.000	0.050
		B	0.000	0.000	0.800	0.000	0.077
		C	0.000	0.000	7.117	0.000	0.059
L13	122.794-120.583	A	0.000	0.000	0.790	0.000	0.022
		B	0.000	0.000	1.143	0.000	0.034
		C	0.000	0.000	3.937	0.000	0.026
L14	120.583-120.333	A	0.000	0.000	0.169	0.000	0.003

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
		B	0.000	0.000	0.209	0.000	0.004
		C	0.000	0.000	0.525	0.000	0.003
L15	120.333-115.333	A	0.000	0.000	3.383	0.000	0.050
		B	0.000	0.000	4.183	0.000	0.077
		C	0.000	0.000	10.501	0.000	0.059
L16	115.333-112.500	A	0.000	0.000	4.417	0.000	0.028
		B	0.000	0.000	4.870	0.000	0.044
		C	0.000	0.000	8.450	0.000	0.033
L17	112.500-112.250	A	0.000	0.000	0.419	0.000	0.003
		B	0.000	0.000	0.459	0.000	0.004
		C	0.000	0.000	0.775	0.000	0.003
L18	112.250-107.917	A	0.000	0.000	8.327	0.000	0.043
		B	0.000	0.000	9.020	0.000	0.067
		C	0.000	0.000	14.495	0.000	0.051
L19	107.917-107.667	A	0.000	0.000	0.618	0.000	0.003
		B	0.000	0.000	0.658	0.000	0.004
		C	0.000	0.000	0.974	0.000	0.003
L20	107.667-107.417	A	0.000	0.000	0.618	0.000	0.003
		B	0.000	0.000	0.658	0.000	0.004
		C	0.000	0.000	0.974	0.000	0.003
L21	107.417-102.417	A	0.000	0.000	9.435	0.000	0.050
		B	0.000	0.000	10.235	0.000	0.077
		C	0.000	0.000	16.552	0.000	0.059
L22	102.417-97.417	A	0.000	0.000	8.983	0.000	0.050
		B	0.000	0.000	9.783	0.000	0.077
		C	0.000	0.000	16.101	0.000	0.059
L23	97.417-89.000	A	0.000	0.000	15.123	0.000	0.084
		B	0.000	0.000	16.469	0.000	0.130
		C	0.000	0.000	27.104	0.000	0.098
L24	89.000-88.311	A	0.000	0.000	1.238	0.000	0.007
		B	0.000	0.000	1.348	0.000	0.011
		C	0.000	0.000	2.219	0.000	0.008
L25	88.311-87.500	A	0.000	0.000	1.457	0.000	0.008
		B	0.000	0.000	1.587	0.000	0.013
		C	0.000	0.000	2.612	0.000	0.009
L26	87.500-87.250	A	0.000	0.000	0.449	0.000	0.003
		B	0.000	0.000	0.489	0.000	0.004
		C	0.000	0.000	0.805	0.000	0.003
L27	87.250-82.250	A	0.000	0.000	6.233	0.000	0.050
		B	0.000	0.000	7.033	0.000	0.077
		C	0.000	0.000	13.351	0.000	0.059
L28	82.250-80.833	A	0.000	0.000	2.258	0.000	0.014
		B	0.000	0.000	2.484	0.000	0.022
		C	0.000	0.000	4.275	0.000	0.017
L29	80.833-80.583	A	0.000	0.000	0.398	0.000	0.003
		B	0.000	0.000	0.438	0.000	0.004
		C	0.000	0.000	0.754	0.000	0.003
L30	80.583-75.583	A	0.000	0.000	5.045	0.000	0.050
		B	0.000	0.000	5.845	0.000	0.077
		C	0.000	0.000	12.163	0.000	0.059
L31	75.583-70.583	A	0.000	0.000	3.983	0.000	0.051
		B	0.000	0.000	4.783	0.000	0.077
		C	0.000	0.000	11.101	0.000	0.059
L32	70.583-65.583	A	0.000	0.000	3.983	0.000	0.051
		B	0.000	0.000	4.783	0.000	0.077
		C	0.000	0.000	11.101	0.000	0.059
L33	65.583-60.583	A	0.000	0.000	3.983	0.000	0.051
		B	0.000	0.000	4.783	0.000	0.077
		C	0.000	0.000	11.101	0.000	0.059
L34	60.583-55.583	A	0.000	0.000	4.354	0.000	0.051
		B	0.000	0.000	5.154	0.000	0.077

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	11.471	0.000	0.059
L35	55.583-53.667	A	0.000	0.000	3.228	0.000	0.019
		B	0.000	0.000	3.535	0.000	0.030
		C	0.000	0.000	5.956	0.000	0.022
L36	53.667-53.417	A	0.000	0.000	0.421	0.000	0.003
		B	0.000	0.000	0.461	0.000	0.004
		C	0.000	0.000	0.777	0.000	0.003
L37	53.417-53.167	A	0.000	0.000	0.421	0.000	0.003
		B	0.000	0.000	0.461	0.000	0.004
		C	0.000	0.000	0.777	0.000	0.003
L38	53.167-43.800	A	0.000	0.000	18.025	0.000	0.095
		B	0.000	0.000	19.524	0.000	0.145
		C	0.000	0.000	31.359	0.000	0.110
L39	43.800-42.800	A	0.000	0.000	1.972	0.000	0.010
		B	0.000	0.000	2.132	0.000	0.015
		C	0.000	0.000	3.395	0.000	0.012
L40	42.800-38.417	A	0.000	0.000	10.492	0.000	0.044
		B	0.000	0.000	11.193	0.000	0.068
		C	0.000	0.000	16.731	0.000	0.051
L41	38.417-38.167	A	0.000	0.000	0.715	0.000	0.003
		B	0.000	0.000	0.755	0.000	0.004
		C	0.000	0.000	1.071	0.000	0.003
L42	38.167-37.917	A	0.000	0.000	0.715	0.000	0.003
		B	0.000	0.000	0.755	0.000	0.004
		C	0.000	0.000	1.071	0.000	0.003
L43	37.917-37.667	A	0.000	0.000	0.715	0.000	0.003
		B	0.000	0.000	0.755	0.000	0.004
		C	0.000	0.000	1.071	0.000	0.003
L44	37.667-32.667	A	0.000	0.000	11.339	0.000	0.051
		B	0.000	0.000	12.139	0.000	0.077
		C	0.000	0.000	18.457	0.000	0.059
L45	32.667-27.667	A	0.000	0.000	9.858	0.000	0.051
		B	0.000	0.000	10.658	0.000	0.077
		C	0.000	0.000	16.976	0.000	0.059
L46	27.667-23.500	A	0.000	0.000	8.216	0.000	0.042
		B	0.000	0.000	8.883	0.000	0.065
		C	0.000	0.000	14.148	0.000	0.049
L47	23.500-23.250	A	0.000	0.000	0.493	0.000	0.003
		B	0.000	0.000	0.533	0.000	0.004
		C	0.000	0.000	0.849	0.000	0.003
L48	23.250-18.250	A	0.000	0.000	9.858	0.000	0.051
		B	0.000	0.000	10.658	0.000	0.077
		C	0.000	0.000	16.976	0.000	0.059
L49	18.250-13.250	A	0.000	0.000	9.858	0.000	0.051
		B	0.000	0.000	10.658	0.000	0.077
		C	0.000	0.000	16.976	0.000	0.059
L50	13.250-8.250	A	0.000	0.000	9.858	0.000	0.051
		B	0.000	0.000	10.658	0.000	0.077
		C	0.000	0.000	16.976	0.000	0.059
L51	8.250-7.917	A	0.000	0.000	0.657	0.000	0.003
		B	0.000	0.000	0.710	0.000	0.005
		C	0.000	0.000	1.131	0.000	0.004
L52	7.917-7.667	A	0.000	0.000	0.493	0.000	0.003
		B	0.000	0.000	0.533	0.000	0.004
		C	0.000	0.000	0.849	0.000	0.003
L53	7.667-5.500	A	0.000	0.000	4.273	0.000	0.022
		B	0.000	0.000	4.619	0.000	0.034
		C	0.000	0.000	7.357	0.000	0.025
L54	5.500-5.250	A	0.000	0.000	0.493	0.000	0.003
		B	0.000	0.000	0.311	0.000	0.004
		C	0.000	0.000	0.849	0.000	0.003

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
L55	5.250-3.000	A	0.000	0.000	4.436	0.000	0.023
		B	0.000	0.000	2.797	0.000	0.035
		C	0.000	0.000	7.639	0.000	0.026
L56	3.000-2.750	A	0.000	0.000	0.493	0.000	0.003
		B	0.000	0.000	0.311	0.000	0.004
		C	0.000	0.000	0.849	0.000	0.003
L57	2.750-0.000	A	0.000	0.000	2.738	0.000	0.028
		B	0.000	0.000	1.252	0.000	0.043
		C	0.000	0.000	6.652	0.000	0.032

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	180.500-175.500	A	1.006	0.000	0.000	0.000	0.000	0.050
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	1.194	0.000	0.010
L2	175.500-170.500	A	1.003	0.000	0.000	0.000	0.000	0.050
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	1.191	0.000	0.010
L3	170.500-165.500	A	1.000	0.000	0.000	0.000	0.000	0.050
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	8.127	0.000	0.115
L4	165.500-160.500	A	0.997	0.000	0.000	0.000	0.000	0.050
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	11.094	0.000	0.160
L5	160.500-155.500	A	0.994	0.000	0.000	0.000	0.000	0.050
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	11.087	0.000	0.160
L6	155.500-150.500	A	0.991	0.000	0.000	0.000	0.000	0.050
		B		0.000	0.000	0.000	0.000	0.047
		C		0.000	0.000	11.080	0.000	0.159
L7	150.500-145.500	A	0.988	0.000	0.000	0.000	0.000	0.050
		B		0.000	0.000	0.000	0.000	0.066
		C		0.000	0.000	11.072	0.000	0.159
L8	145.500-140.500	A	0.984	0.000	0.000	0.000	0.000	0.050
		B		0.000	0.000	0.000	0.000	0.066
		C		0.000	0.000	11.065	0.000	0.159
L9	140.500-134.500	A	0.980	0.000	0.000	0.000	0.000	0.060
		B		0.000	0.000	1.602	0.000	0.103
		C		0.000	0.000	13.267	0.000	0.190
L10	134.500-132.794	A	0.978	0.000	0.000	0.000	0.000	0.017
		B		0.000	0.000	0.607	0.000	0.032
		C		0.000	0.000	3.772	0.000	0.054
L11	132.794-127.794	A	0.975	0.000	0.000	0.000	0.000	0.050
		B		0.000	0.000	1.775	0.000	0.093
		C		0.000	0.000	11.044	0.000	0.158
L12	127.794-122.794	A	0.971	0.000	0.000	0.000	0.000	0.050
		B		0.000	0.000	1.771	0.000	0.093
		C		0.000	0.000	11.035	0.000	0.158
L13	122.794-120.583	A	0.968	0.000	0.000	1.016	0.000	0.029
		B		0.000	0.000	1.798	0.000	0.048
		C		0.000	0.000	5.893	0.000	0.076
L14	120.583-120.333	A	0.968	0.000	0.000	0.218	0.000	0.004
		B		0.000	0.000	0.306	0.000	0.006
		C		0.000	0.000	0.769	0.000	0.009
L15	120.333-115.333	A	0.965	0.000	0.000	4.349	0.000	0.078

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
		B		0.000	0.000	6.114	0.000	0.121
		C		0.000	0.000	15.371	0.000	0.185
L16	115.333-112.500	A	0.962	0.000	0.000	5.443	0.000	0.061
		B		0.000	0.000	6.442	0.000	0.085
		C		0.000	0.000	11.684	0.000	0.121
L17	112.500-112.250	A	0.961	0.000	0.000	0.515	0.000	0.006
		B		0.000	0.000	0.603	0.000	0.008
		C		0.000	0.000	1.066	0.000	0.011
L18	112.250-107.917	A	0.959	0.000	0.000	10.244	0.000	0.104
		B		0.000	0.000	11.769	0.000	0.141
		C		0.000	0.000	19.783	0.000	0.196
L19	107.917-107.667	A	0.957	0.000	0.000	0.762	0.000	0.007
		B		0.000	0.000	0.850	0.000	0.009
		C		0.000	0.000	1.312	0.000	0.012
L20	107.667-107.417	A	0.957	0.000	0.000	0.762	0.000	0.007
		B		0.000	0.000	0.850	0.000	0.009
		C		0.000	0.000	1.312	0.000	0.012
L21	107.417-102.417	A	0.954	0.000	0.000	11.470	0.000	0.117
		B		0.000	0.000	13.225	0.000	0.159
		C		0.000	0.000	22.467	0.000	0.223
L22	102.417-97.417	A	0.950	0.000	0.000	10.882	0.000	0.113
		B		0.000	0.000	12.632	0.000	0.155
		C		0.000	0.000	21.869	0.000	0.218
L23	97.417-89.000	A	0.943	0.000	0.000	18.297	0.000	0.189
		B		0.000	0.000	21.231	0.000	0.260
		C		0.000	0.000	36.767	0.000	0.366
L24	89.000-88.311	A	0.938	0.000	0.000	1.498	0.000	0.015
		B		0.000	0.000	1.738	0.000	0.021
		C		0.000	0.000	3.010	0.000	0.030
L25	88.311-87.500	A	0.937	0.000	0.000	1.761	0.000	0.018
		B		0.000	0.000	2.043	0.000	0.025
		C		0.000	0.000	3.539	0.000	0.035
L26	87.500-87.250	A	0.937	0.000	0.000	0.543	0.000	0.006
		B		0.000	0.000	0.630	0.000	0.008
		C		0.000	0.000	1.091	0.000	0.011
L27	87.250-82.250	A	0.934	0.000	0.000	7.588	0.000	0.094
		B		0.000	0.000	9.322	0.000	0.136
		C		0.000	0.000	18.539	0.000	0.198
L28	82.250-80.833	A	0.930	0.000	0.000	2.785	0.000	0.031
		B		0.000	0.000	3.276	0.000	0.043
		C		0.000	0.000	5.887	0.000	0.060
L29	80.833-80.583	A	0.930	0.000	0.000	0.491	0.000	0.005
		B		0.000	0.000	0.578	0.000	0.008
		C		0.000	0.000	1.038	0.000	0.011
L30	80.583-75.583	A	0.926	0.000	0.000	6.219	0.000	0.087
		B		0.000	0.000	7.945	0.000	0.129
		C		0.000	0.000	17.153	0.000	0.191
L31	75.583-70.583	A	0.920	0.000	0.000	4.904	0.000	0.080
		B		0.000	0.000	6.624	0.000	0.121
		C		0.000	0.000	15.824	0.000	0.182
L32	70.583-65.583	A	0.914	0.000	0.000	4.897	0.000	0.080
		B		0.000	0.000	6.611	0.000	0.120
		C		0.000	0.000	15.803	0.000	0.181
L33	65.583-60.583	A	0.907	0.000	0.000	4.890	0.000	0.079
		B		0.000	0.000	6.597	0.000	0.120
		C		0.000	0.000	15.781	0.000	0.180
L34	60.583-55.583	A	0.899	0.000	0.000	5.328	0.000	0.082
		B		0.000	0.000	7.028	0.000	0.122
		C		0.000	0.000	16.202	0.000	0.182
L35	55.583-53.667	A	0.894	0.000	0.000	3.914	0.000	0.042
		B		0.000	0.000	4.563	0.000	0.058

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	8.076	0.000	0.081
L36	53.667-53.417	A	0.892	0.000	0.000	0.510	0.000	0.006
		B		0.000	0.000	0.595	0.000	0.008
		C		0.000	0.000	1.053	0.000	0.011
L37	53.417-53.167	A	0.892	0.000	0.000	0.510	0.000	0.006
		B		0.000	0.000	0.595	0.000	0.008
		C		0.000	0.000	1.053	0.000	0.010
L38	53.167-43.800	A	0.883	0.000	0.000	21.305	0.000	0.212
		B		0.000	0.000	24.458	0.000	0.287
		C		0.000	0.000	41.608	0.000	0.397
L39	43.800-42.800	A	0.873	0.000	0.000	2.325	0.000	0.023
		B		0.000	0.000	2.662	0.000	0.031
		C		0.000	0.000	4.492	0.000	0.043
L40	42.800-38.417	A	0.868	0.000	0.000	12.375	0.000	0.112
		B		0.000	0.000	13.837	0.000	0.147
		C		0.000	0.000	21.845	0.000	0.197
L41	38.417-38.167	A	0.863	0.000	0.000	0.844	0.000	0.007
		B		0.000	0.000	0.928	0.000	0.009
		C		0.000	0.000	1.384	0.000	0.012
L42	38.167-37.917	A	0.862	0.000	0.000	0.844	0.000	0.007
		B		0.000	0.000	0.927	0.000	0.009
		C		0.000	0.000	1.384	0.000	0.012
L43	37.917-37.667	A	0.862	0.000	0.000	0.844	0.000	0.007
		B		0.000	0.000	0.927	0.000	0.009
		C		0.000	0.000	1.384	0.000	0.012
L44	37.667-32.667	A	0.855	0.000	0.000	13.335	0.000	0.122
		B		0.000	0.000	14.991	0.000	0.162
		C		0.000	0.000	24.110	0.000	0.218
L45	32.667-27.667	A	0.842	0.000	0.000	11.543	0.000	0.111
		B		0.000	0.000	13.185	0.000	0.150
		C		0.000	0.000	22.288	0.000	0.206
L46	27.667-23.500	A	0.829	0.000	0.000	9.597	0.000	0.091
		B		0.000	0.000	10.954	0.000	0.124
		C		0.000	0.000	18.526	0.000	0.170
L47	23.500-23.250	A	0.821	0.000	0.000	0.575	0.000	0.005
		B		0.000	0.000	0.656	0.000	0.007
		C		0.000	0.000	1.110	0.000	0.010
L48	23.250-18.250	A	0.811	0.000	0.000	11.481	0.000	0.108
		B		0.000	0.000	13.093	0.000	0.147
		C		0.000	0.000	22.157	0.000	0.201
L49	18.250-13.250	A	0.789	0.000	0.000	11.437	0.000	0.106
		B		0.000	0.000	13.026	0.000	0.145
		C		0.000	0.000	22.063	0.000	0.197
L50	13.250-8.250	A	0.760	0.000	0.000	11.378	0.000	0.104
		B		0.000	0.000	12.938	0.000	0.142
		C		0.000	0.000	21.937	0.000	0.192
L51	8.250-7.917	A	0.738	0.000	0.000	0.755	0.000	0.007
		B		0.000	0.000	0.857	0.000	0.009
		C		0.000	0.000	1.455	0.000	0.013
L52	7.917-7.667	A	0.736	0.000	0.000	0.566	0.000	0.005
		B		0.000	0.000	0.643	0.000	0.007
		C		0.000	0.000	1.092	0.000	0.009
L53	7.667-5.500	A	0.723	0.000	0.000	4.900	0.000	0.044
		B		0.000	0.000	5.560	0.000	0.060
		C		0.000	0.000	9.441	0.000	0.081
L54	5.500-5.250	A	0.709	0.000	0.000	0.564	0.000	0.005
		B		0.000	0.000	0.382	0.000	0.006
		C		0.000	0.000	1.086	0.000	0.009
L55	5.250-3.000	A	0.690	0.000	0.000	5.058	0.000	0.044
		B		0.000	0.000	3.419	0.000	0.050
		C		0.000	0.000	9.739	0.000	0.081

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
L56	3.000-2.750	A	0.666	0.000	0.000	0.560	0.000	0.005
		B		0.000	0.000	0.377	0.000	0.005
		C		0.000	0.000	1.077	0.000	0.009
L57	2.750-0.000	A	0.618	0.000	0.000	3.098	0.000	0.040
		B		0.000	0.000	1.685	0.000	0.050
		C		0.000	0.000	8.731	0.000	0.082

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	180.500-175.500	-0.125	0.273	-0.404	0.882
L2	175.500-170.500	-0.125	0.273	-0.406	0.888
L3	170.500-165.500	3.618	3.844	2.575	3.339
L4	165.500-160.500	4.434	4.629	3.255	3.919
L5	160.500-155.500	4.505	4.704	3.315	3.995
L6	155.500-150.500	4.573	4.777	3.373	4.067
L7	150.500-145.500	4.639	4.846	3.429	4.137
L8	145.500-140.500	4.702	4.913	3.483	4.204
L9	140.500-134.500	5.030	4.511	3.914	3.737
L10	134.500-132.794	5.128	4.378	4.044	3.585
L11	132.794-127.794	5.174	4.416	4.085	3.622
L12	127.794-122.794	5.241	4.471	4.146	3.676
L13	122.794-120.583	3.999	3.411	3.418	3.030
L14	120.583-120.333	3.299	2.814	2.948	2.614
L15	120.333-115.333	3.331	2.840	2.977	2.639
L16	115.333-112.500	2.273	1.938	2.225	1.973
L17	112.500-112.250	2.194	1.870	2.165	1.919
L18	112.250-107.917	2.029	1.730	2.036	1.805
L19	107.917-107.667	1.717	1.463	1.784	1.581
L20	107.667-107.417	1.719	1.465	1.785	1.583
L21	107.417-102.417	2.107	1.795	2.111	1.872
L22	102.417-97.417	2.215	1.887	2.210	1.959
L23	97.417-89.000	2.273	1.936	2.266	2.008
L24	89.000-88.311	2.284	1.945	2.276	2.018
L25	88.311-87.500	2.290	1.950	2.282	2.023
L26	87.500-87.250	2.294	1.954	2.286	2.026
L27	87.250-82.250	2.828	2.408	2.708	2.400
L28	82.250-80.833	2.511	2.138	2.445	2.167
L29	80.833-80.583	2.518	2.144	2.452	2.173
L30	80.583-75.583	3.193	2.718	2.979	2.640
L31	75.583-70.583	3.572	3.041	3.263	2.892
L32	70.583-65.583	3.622	3.082	3.307	2.931
L33	65.583-60.583	3.671	3.123	3.350	2.969
L34	60.583-55.583	3.594	3.057	3.305	2.928
L35	55.583-53.667	2.656	2.259	2.603	2.306
L36	53.667-53.417	2.665	2.266	2.611	2.313
L37	53.417-53.167	2.667	2.268	2.613	2.315
L38	53.167-43.800	2.509	2.134	2.516	2.229
L39	43.800-42.800	2.484	2.112	2.499	2.214
L40	42.800-38.417	2.225	1.892	2.278	2.018
L41	38.417-38.167	1.996	1.697	2.075	1.838
L42	38.167-37.917	1.997	1.698	2.077	1.839
L43	37.917-37.667	1.999	1.700	2.078	1.841
L44	37.667-32.667	2.339	1.989	2.381	2.108
L45	32.667-27.667	2.580	2.193	2.589	2.293

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L46	27.667-23.500	2.613	2.221	2.620	2.320
L47	23.500-23.250	2.629	2.234	2.634	2.332
L48	23.250-18.250	2.648	2.250	2.652	2.347
L49	18.250-13.250	2.683	2.280	2.684	2.375
L50	13.250-8.250	2.718	2.309	2.715	2.402
L51	8.250-7.917	2.736	2.325	2.731	2.416
L52	7.917-7.667	2.738	2.326	2.733	2.418
L53	7.667-5.500	2.746	2.333	2.740	2.424
L54	5.500-5.250	0.587	2.620	0.974	2.664
L55	5.250-3.000	0.588	2.627	0.977	2.670
L56	3.000-2.750	0.590	2.635	0.980	2.676
L57	2.750-0.000	1.551	3.670	1.820	3.450

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

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	23	Safety Line 3/8	175.50 - 180.50	1.0000	1.0000
L2	23	Safety Line 3/8	170.50 - 175.50	1.0000	1.0000
L3	7	LDF7-50A(1-5/8)	165.50 - 169.00	1.0000	1.0000
L3	23	Safety Line 3/8	165.50 - 170.50	1.0000	1.0000
L4	7	LDF7-50A(1-5/8)	160.50 - 165.50	1.0000	1.0000
L4	23	Safety Line 3/8	160.50 - 165.50	1.0000	1.0000
L5	7	LDF7-50A(1-5/8)	155.50 - 160.50	1.0000	1.0000
L5	23	Safety Line 3/8	155.50 - 160.50	1.0000	1.0000
L6	7	LDF7-50A(1-5/8)	150.50 - 155.50	1.0000	1.0000
L6	23	Safety Line 3/8	150.50 - 155.50	1.0000	1.0000
L7	7	LDF7-50A(1-5/8)	145.50 - 150.50	1.0000	1.0000
L7	23	Safety Line 3/8	145.50 - 150.50	1.0000	1.0000
L8	7	LDF7-50A(1-5/8)	140.50 - 145.50	1.0000	1.0000
L8	23	Safety Line 3/8	140.50 - 145.50	1.0000	1.0000
L9	7	LDF7-50A(1-5/8)	134.50 - 140.50	1.0000	1.0000
L9	19	CU12PSM9P6XXX(1-1/2)	134.50 - 139.00	1.0000	1.0000
L9	23	Safety Line 3/8	134.50 - 140.50	1.0000	1.0000
L10	7	LDF7-50A(1-5/8)	132.79 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L10	19	CU12PSM9P6XXX(1-1/2)	134.50 132.79 - 134.50	1.0000	1.0000
L10	23	Safety Line 3/8	132.79 - 134.50	1.0000	1.0000
L11	7	LDF7-50A(1-5/8)	127.79 - 132.79	1.0000	1.0000
L11	19	CU12PSM9P6XXX(1-1/2)	127.79 - 132.79	1.0000	1.0000
L11	23	Safety Line 3/8	127.79 - 132.79	1.0000	1.0000
L12	7	LDF7-50A(1-5/8)	122.79 - 127.79	1.0000	1.0000
L12	19	CU12PSM9P6XXX(1-1/2)	122.79 - 127.79	1.0000	1.0000
L12	23	Safety Line 3/8	122.79 - 127.79	1.0000	1.0000
L13	7	LDF7-50A(1-5/8)	120.58 - 122.79	1.0000	1.0000
L13	19	CU12PSM9P6XXX(1-1/2)	120.58 - 122.79	1.0000	1.0000
L13	23	Safety Line 3/8	120.58 - 122.79	1.0000	1.0000
L13	41	MP3-03	120.58 - 121.75	1.0000	1.0000
L13	42	MP3-03	120.58 - 121.75	1.0000	1.0000
L13	43	MP3-03	120.58 - 121.75	1.0000	1.0000
L14	7	LDF7-50A(1-5/8)	120.33 - 120.58	1.0000	1.0000
L14	19	CU12PSM9P6XXX(1-1/2)	120.33 - 120.58	1.0000	1.0000
L14	23	Safety Line 3/8	120.33 - 120.58	1.0000	1.0000
L14	41	MP3-03	120.33 - 120.58	1.0000	1.0000
L14	42	MP3-03	120.33 - 120.58	1.0000	1.0000
L14	43	MP3-03	120.33 - 120.58	1.0000	1.0000
L15	7	LDF7-50A(1-5/8)	115.33 - 120.33	1.0000	1.0000
L15	19	CU12PSM9P6XXX(1-1/2)	115.33 - 120.33	1.0000	1.0000
L15	23	Safety Line 3/8	115.33 - 120.33	1.0000	1.0000
L15	41	MP3-03	115.33 - 120.33	1.0000	1.0000
L15	42	MP3-03	115.33 - 120.33	1.0000	1.0000
L15	43	MP3-03	115.33 - 120.33	1.0000	1.0000
L16	7	LDF7-50A(1-5/8)	112.50 - 115.33	1.0000	1.0000
L16	19	CU12PSM9P6XXX(1-1/2)	112.50 - 115.33	1.0000	1.0000
L16	23	Safety Line 3/8	112.50 - 115.33	1.0000	1.0000
L16	41	MP3-03	112.50 - 115.33	1.0000	1.0000
L16	42	MP3-03	112.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L16	43	MP3-03	112.50 - 115.33	1.0000	1.0000
L16	49	CCI 6" x 1" Plate	112.50 - 115.33	1.0000	1.0000
L16	50	CCI 6" x 1" Plate	112.50 - 115.00	1.0000	1.0000
L16	51	CCI 6" x 1" Plate	112.50 - 115.00	1.0000	1.0000
L17	7	LDF7-50A(1-5/8)	112.25 - 112.50	1.0000	1.0000
L17	19	CU12PSM9P6XXX(1-1/2)	112.25 - 112.50	1.0000	1.0000
L17	23	Safety Line 3/8	112.25 - 112.50	1.0000	1.0000
L17	41	MP3-03	112.25 - 112.50	1.0000	1.0000
L17	42	MP3-03	112.25 - 112.50	1.0000	1.0000
L17	43	MP3-03	112.25 - 112.50	1.0000	1.0000
L17	49	CCI 6" x 1" Plate	112.25 - 112.50	1.0000	1.0000
L17	50	CCI 6" x 1" Plate	112.25 - 112.50	1.0000	1.0000
L17	51	CCI 6" x 1" Plate	112.25 - 112.50	1.0000	1.0000
L18	7	LDF7-50A(1-5/8)	107.92 - 112.25	1.0000	1.0000
L18	19	CU12PSM9P6XXX(1-1/2)	107.92 - 112.25	1.0000	1.0000
L18	23	Safety Line 3/8	107.92 - 112.25	1.0000	1.0000
L18	37	MP3-04	107.92 - 109.25	1.0000	1.0000
L18	38	MP3-04	107.92 - 109.25	1.0000	1.0000
L18	39	MP3-04	107.92 - 109.25	1.0000	1.0000
L18	41	MP3-03	107.92 - 112.25	1.0000	1.0000
L18	42	MP3-03	107.92 - 112.25	1.0000	1.0000
L18	43	MP3-03	107.92 - 112.25	1.0000	1.0000
L18	49	CCI 6" x 1" Plate	107.92 - 112.25	1.0000	1.0000
L18	50	CCI 6" x 1" Plate	107.92 - 112.25	1.0000	1.0000
L18	51	CCI 6" x 1" Plate	107.92 - 112.25	1.0000	1.0000
L19	7	LDF7-50A(1-5/8)	107.67 - 107.92	1.0000	1.0000
L19	19	CU12PSM9P6XXX(1-1/2)	107.67 - 107.92	1.0000	1.0000
L19	23	Safety Line 3/8	107.67 - 107.92	1.0000	1.0000
L19	37	MP3-04	107.67 - 107.92	1.0000	1.0000
L19	38	MP3-04	107.67 - 107.92	1.0000	1.0000
L19	39	MP3-04	107.67 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L19	41	MP3-03	107.92 107.67 - 107.92	1.0000	1.0000
L19	42	MP3-03	107.67 - 107.92	1.0000	1.0000
L19	43	MP3-03	107.67 - 107.92	1.0000	1.0000
L19	49	CCI 6" x 1" Plate	107.67 - 107.92	1.0000	1.0000
L19	50	CCI 6" x 1" Plate	107.67 - 107.92	1.0000	1.0000
L19	51	CCI 6" x 1" Plate	107.67 - 107.92	1.0000	1.0000
L20	7	LDF7-50A(1-5/8)	107.42 - 107.67	1.0000	1.0000
L20	19	CU12PSM9P6XXX(1-1/2)	107.42 - 107.67	1.0000	1.0000
L20	23	Safety Line 3/8	107.42 - 107.67	1.0000	1.0000
L20	37	MP3-04	107.42 - 107.67	1.0000	1.0000
L20	38	MP3-04	107.42 - 107.67	1.0000	1.0000
L20	39	MP3-04	107.42 - 107.67	1.0000	1.0000
L20	41	MP3-03	107.42 - 107.67	1.0000	1.0000
L20	42	MP3-03	107.42 - 107.67	1.0000	1.0000
L20	43	MP3-03	107.42 - 107.67	1.0000	1.0000
L20	49	CCI 6" x 1" Plate	107.42 - 107.67	1.0000	1.0000
L20	50	CCI 6" x 1" Plate	107.42 - 107.67	1.0000	1.0000
L20	51	CCI 6" x 1" Plate	107.42 - 107.67	1.0000	1.0000
L21	7	LDF7-50A(1-5/8)	102.42 - 107.42	1.0000	1.0000
L21	19	CU12PSM9P6XXX(1-1/2)	102.42 - 107.42	1.0000	1.0000
L21	23	Safety Line 3/8	102.42 - 107.42	1.0000	1.0000
L21	37	MP3-04	102.42 - 107.42	1.0000	1.0000
L21	38	MP3-04	102.42 - 107.42	1.0000	1.0000
L21	39	MP3-04	102.42 - 107.42	1.0000	1.0000
L21	41	MP3-03	106.75 - 107.42	1.0000	1.0000
L21	42	MP3-03	106.75 - 107.42	1.0000	1.0000
L21	43	MP3-03	106.75 - 107.42	1.0000	1.0000
L21	49	CCI 6" x 1" Plate	102.42 - 107.42	1.0000	1.0000
L21	50	CCI 6" x 1" Plate	102.42 - 107.42	1.0000	1.0000
L21	51	CCI 6" x 1" Plate	102.42 - 107.42	1.0000	1.0000
L22	7	LDF7-50A(1-5/8)	97.42 - 102.42	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L22	19	CU12PSM9P6XXX(1-1/2)	97.42 - 102.42	1.0000	1.0000
L22	23	Safety Line 3/8	97.42 - 102.42	1.0000	1.0000
L22	37	MP3-04	97.42 - 102.42	1.0000	1.0000
L22	38	MP3-04	97.42 - 102.42	1.0000	1.0000
L22	39	MP3-04	97.42 - 102.42	1.0000	1.0000
L22	49	CCI 6" x 1" Plate	97.42 - 102.42	1.0000	1.0000
L22	50	CCI 6" x 1" Plate	97.42 - 102.42	1.0000	1.0000
L22	51	CCI 6" x 1" Plate	97.42 - 102.42	1.0000	1.0000
L23	7	LDF7-50A(1-5/8)	89.00 - 97.42	1.0000	1.0000
L23	19	CU12PSM9P6XXX(1-1/2)	89.00 - 97.42	1.0000	1.0000
L23	23	Safety Line 3/8	89.00 - 97.42	1.0000	1.0000
L23	37	MP3-04	89.00 - 97.42	1.0000	1.0000
L23	38	MP3-04	89.00 - 97.42	1.0000	1.0000
L23	39	MP3-04	89.00 - 97.42	1.0000	1.0000
L23	49	CCI 6" x 1" Plate	89.00 - 97.42	1.0000	1.0000
L23	50	CCI 6" x 1" Plate	89.00 - 97.42	1.0000	1.0000
L23	51	CCI 6" x 1" Plate	89.00 - 97.42	1.0000	1.0000
L24	7	LDF7-50A(1-5/8)	88.31 - 89.00	1.0000	1.0000
L24	19	CU12PSM9P6XXX(1-1/2)	88.31 - 89.00	1.0000	1.0000
L24	23	Safety Line 3/8	88.31 - 89.00	1.0000	1.0000
L24	37	MP3-04	88.31 - 89.00	1.0000	1.0000
L24	38	MP3-04	88.31 - 89.00	1.0000	1.0000
L24	39	MP3-04	88.31 - 89.00	1.0000	1.0000
L24	49	CCI 6" x 1" Plate	88.31 - 89.00	1.0000	1.0000
L24	50	CCI 6" x 1" Plate	88.31 - 89.00	1.0000	1.0000
L24	51	CCI 6" x 1" Plate	88.31 - 89.00	1.0000	1.0000
L25	7	LDF7-50A(1-5/8)	87.50 - 88.31	1.0000	1.0000
L25	19	CU12PSM9P6XXX(1-1/2)	87.50 - 88.31	1.0000	1.0000
L25	23	Safety Line 3/8	87.50 - 88.31	1.0000	1.0000
L25	37	MP3-04	87.50 - 88.31	1.0000	1.0000
L25	38	MP3-04	87.50 - 88.31	1.0000	1.0000
L25	39	MP3-04	87.50 - 88.31	1.0000	1.0000
L25	49	CCI 6" x 1" Plate	87.50 - 88.31	1.0000	1.0000
L25	50	CCI 6" x 1" Plate	87.50 - 88.31	1.0000	1.0000
L25	51	CCI 6" x 1" Plate	87.50 - 88.31	1.0000	1.0000
L26	7	LDF7-50A(1-5/8)	87.25 - 87.50	1.0000	1.0000
L26	19	CU12PSM9P6XXX(1-1/2)	87.25 - 87.50	1.0000	1.0000
L26	23	Safety Line 3/8	87.25 - 87.50	1.0000	1.0000
L26	37	MP3-04	87.25 - 87.50	1.0000	1.0000
L26	38	MP3-04	87.25 - 87.50	1.0000	1.0000
L26	39	MP3-04	87.25 - 87.50	1.0000	1.0000
L26	49	CCI 6" x 1" Plate	87.25 - 87.50	1.0000	1.0000
L26	50	CCI 6" x 1" Plate	87.25 - 87.50	1.0000	1.0000
L26	51	CCI 6" x 1" Plate	87.25 - 87.50	1.0000	1.0000
L27	7	LDF7-50A(1-5/8)	82.25 - 87.25	1.0000	1.0000
L27	19	CU12PSM9P6XXX(1-1/2)	82.25 - 87.25	1.0000	1.0000
L27	23	Safety Line 3/8	82.25 - 87.25	1.0000	1.0000
L27	37	MP3-04	82.25 - 87.25	1.0000	1.0000
L27	38	MP3-04	82.25 - 87.25	1.0000	1.0000
L27	39	MP3-04	82.25 - 87.25	1.0000	1.0000
L27	49	CCI 6" x 1" Plate	85.00 - 87.25	1.0000	1.0000
L27	50	CCI 6" x 1" Plate	85.00 - 87.25	1.0000	1.0000
L27	51	CCI 6" x 1" Plate	85.00 - 87.25	1.0000	1.0000
L28	7	LDF7-50A(1-5/8)	80.83 - 82.25	1.0000	1.0000
L28	19	CU12PSM9P6XXX(1-1/2)	80.83 - 82.25	1.0000	1.0000
L28	23	Safety Line 3/8	80.83 - 82.25	1.0000	1.0000
L28	33	MP3-04	80.83 - 82.25	1.0000	1.0000
L28	34	MP3-04	80.83 - 82.25	1.0000	1.0000
L28	35	MP3-04	80.83 - 82.25	1.0000	1.0000
L28	37	MP3-04	80.83 - 82.25	1.0000	1.0000
L28	38	MP3-04	80.83 - 82.25	1.0000	1.0000
L28	39	MP3-04	80.83 - 82.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L29	7	LDF7-50A(1-5/8)	80.58 - 80.83	1.0000	1.0000
L29	19	CU12PSM9P6XXX(1-1/2)	80.58 - 80.83	1.0000	1.0000
L29	23	Safety Line 3/8	80.58 - 80.83	1.0000	1.0000
L29	33	MP3-04	80.58 - 80.83	1.0000	1.0000
L29	34	MP3-04	80.58 - 80.83	1.0000	1.0000
L29	35	MP3-04	80.58 - 80.83	1.0000	1.0000
L29	37	MP3-04	80.58 - 80.83	1.0000	1.0000
L29	38	MP3-04	80.58 - 80.83	1.0000	1.0000
L29	39	MP3-04	80.58 - 80.83	1.0000	1.0000
L30	7	LDF7-50A(1-5/8)	75.58 - 80.58	1.0000	1.0000
L30	19	CU12PSM9P6XXX(1-1/2)	75.58 - 80.58	1.0000	1.0000
L30	23	Safety Line 3/8	75.58 - 80.58	1.0000	1.0000
L30	33	MP3-04	75.58 - 80.58	1.0000	1.0000
L30	34	MP3-04	75.58 - 80.58	1.0000	1.0000
L30	35	MP3-04	75.58 - 80.58	1.0000	1.0000
L30	37	MP3-04	79.25 - 80.58	1.0000	1.0000
L30	38	MP3-04	79.25 - 80.58	1.0000	1.0000
L30	39	MP3-04	79.25 - 80.58	1.0000	1.0000
L31	7	LDF7-50A(1-5/8)	70.58 - 75.58	1.0000	1.0000
L31	19	CU12PSM9P6XXX(1-1/2)	70.58 - 75.58	1.0000	1.0000
L31	23	Safety Line 3/8	70.58 - 75.58	1.0000	1.0000
L31	33	MP3-04	70.58 - 75.58	1.0000	1.0000
L31	34	MP3-04	70.58 - 75.58	1.0000	1.0000
L31	35	MP3-04	70.58 - 75.58	1.0000	1.0000
L32	7	LDF7-50A(1-5/8)	65.58 - 70.58	1.0000	1.0000
L32	19	CU12PSM9P6XXX(1-1/2)	65.58 - 70.58	1.0000	1.0000
L32	23	Safety Line 3/8	65.58 - 70.58	1.0000	1.0000
L32	33	MP3-04	65.58 - 70.58	1.0000	1.0000
L32	34	MP3-04	65.58 - 70.58	1.0000	1.0000
L32	35	MP3-04	65.58 - 70.58	1.0000	1.0000
L33	7	LDF7-50A(1-5/8)	60.58 - 65.58	1.0000	1.0000
L33	19	CU12PSM9P6XXX(1-1/2)	60.58 - 65.58	1.0000	1.0000
L33	23	Safety Line 3/8	60.58 - 65.58	1.0000	1.0000
L33	33	MP3-04	60.58 - 65.58	1.0000	1.0000
L33	34	MP3-04	60.58 - 65.58	1.0000	1.0000
L33	35	MP3-04	60.58 - 65.58	1.0000	1.0000
L34	7	LDF7-50A(1-5/8)	55.58 - 60.58	1.0000	1.0000
L34	19	CU12PSM9P6XXX(1-1/2)	55.58 - 60.58	1.0000	1.0000
L34	23	Safety Line 3/8	55.58 - 60.58	1.0000	1.0000
L34	29	MP3-05	55.58 - 56.00	1.0000	1.0000
L34	30	MP3-05	55.58 - 56.00	1.0000	1.0000
L34	31	MP3-05	55.58 - 56.00	1.0000	1.0000
L34	33	MP3-04	55.58 - 60.58	1.0000	1.0000
L34	34	MP3-04	55.58 - 60.58	1.0000	1.0000
L34	35	MP3-04	55.58 - 60.58	1.0000	1.0000
L35	7	LDF7-50A(1-5/8)	53.67 - 55.58	1.0000	1.0000
L35	19	CU12PSM9P6XXX(1-1/2)	53.67 - 55.58	1.0000	1.0000
L35	23	Safety Line 3/8	53.67 - 55.58	1.0000	1.0000
L35	29	MP3-05	53.67 - 55.58	1.0000	1.0000
L35	30	MP3-05	53.67 - 55.58	1.0000	1.0000
L35	31	MP3-05	53.67 - 55.58	1.0000	1.0000
L35	33	MP3-04	53.67 - 55.58	1.0000	1.0000
L35	34	MP3-04	53.67 - 55.58	1.0000	1.0000
L35	35	MP3-04	53.67 - 55.58	1.0000	1.0000
L36	7	LDF7-50A(1-5/8)	53.42 - 53.67	1.0000	1.0000
L36	19	CU12PSM9P6XXX(1-1/2)	53.42 - 53.67	1.0000	1.0000
L36	23	Safety Line 3/8	53.42 - 53.67	1.0000	1.0000
L36	29	MP3-05	53.42 - 53.67	1.0000	1.0000
L36	30	MP3-05	53.42 - 53.67	1.0000	1.0000
L36	31	MP3-05	53.42 - 53.67	1.0000	1.0000
L36	33	MP3-04	53.42 - 53.67	1.0000	1.0000
L36	34	MP3-04	53.42 - 53.67	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L36	35	MP3-04	53.42 - 53.67	1.0000	1.0000
L37	7	LDF7-50A(1-5/8)	53.17 - 53.42	1.0000	1.0000
L37	19	CU12PSM9P6XXX(1-1/2)	53.17 - 53.42	1.0000	1.0000
L37	23	Safety Line 3/8	53.17 - 53.42	1.0000	1.0000
L37	29	MP3-05	53.17 - 53.42	1.0000	1.0000
L37	30	MP3-05	53.17 - 53.42	1.0000	1.0000
L37	31	MP3-05	53.17 - 53.42	1.0000	1.0000
L37	33	MP3-04	53.17 - 53.42	1.0000	1.0000
L37	34	MP3-04	53.17 - 53.42	1.0000	1.0000
L37	35	MP3-04	53.17 - 53.42	1.0000	1.0000
L38	7	LDF7-50A(1-5/8)	43.80 - 53.17	1.0000	1.0000
L38	19	CU12PSM9P6XXX(1-1/2)	43.80 - 53.17	1.0000	1.0000
L38	23	Safety Line 3/8	43.80 - 53.17	1.0000	1.0000
L38	29	MP3-05	43.80 - 53.17	1.0000	1.0000
L38	30	MP3-05	43.80 - 53.17	1.0000	1.0000
L38	31	MP3-05	43.80 - 53.17	1.0000	1.0000
L38	33	MP3-04	52.25 - 53.17	1.0000	1.0000
L38	34	MP3-04	52.25 - 53.17	1.0000	1.0000
L38	35	MP3-04	52.25 - 53.17	1.0000	1.0000
L38	45	CCI 6.5" x 1.25" Plate	43.80 - 52.08	1.0000	1.0000
L38	46	CCI 6.5" x 1.25" Plate	43.80 - 52.08	1.0000	1.0000
L38	47	CCI 6.5" x 1.25" Plate	43.80 - 52.08	1.0000	1.0000
L39	7	LDF7-50A(1-5/8)	42.80 - 43.80	1.0000	1.0000
L39	19	CU12PSM9P6XXX(1-1/2)	42.80 - 43.80	1.0000	1.0000
L39	23	Safety Line 3/8	42.80 - 43.80	1.0000	1.0000
L39	29	MP3-05	42.80 - 43.80	1.0000	1.0000
L39	30	MP3-05	42.80 - 43.80	1.0000	1.0000
L39	31	MP3-05	42.80 - 43.80	1.0000	1.0000
L39	45	CCI 6.5" x 1.25" Plate	42.80 - 43.80	1.0000	1.0000
L39	46	CCI 6.5" x 1.25" Plate	42.80 - 43.80	1.0000	1.0000
L39	47	CCI 6.5" x 1.25" Plate	42.80 - 43.80	1.0000	1.0000
L40	7	LDF7-50A(1-5/8)	38.42 - 42.80	1.0000	1.0000
L40	19	CU12PSM9P6XXX(1-1/2)	38.42 - 42.80	1.0000	1.0000
L40	23	Safety Line 3/8	38.42 - 42.80	1.0000	1.0000
L40	25	MP3-05	38.42 - 40.50	1.0000	1.0000
L40	26	MP3-05	38.42 - 40.50	1.0000	1.0000
L40	27	MP3-05	38.42 - 40.50	1.0000	1.0000
L40	29	MP3-05	38.42 - 42.80	1.0000	1.0000
L40	30	MP3-05	38.42 - 42.80	1.0000	1.0000
L40	31	MP3-05	38.42 - 42.80	1.0000	1.0000
L40	45	CCI 6.5" x 1.25" Plate	38.42 - 42.80	1.0000	1.0000
L40	46	CCI 6.5" x 1.25" Plate	38.42 - 42.80	1.0000	1.0000
L40	47	CCI 6.5" x 1.25" Plate	38.42 - 42.80	1.0000	1.0000
L41	7	LDF7-50A(1-5/8)	38.17 - 38.42	1.0000	1.0000
L41	19	CU12PSM9P6XXX(1-1/2)	38.17 - 38.42	1.0000	1.0000
L41	23	Safety Line 3/8	38.17 - 38.42	1.0000	1.0000
L41	25	MP3-05	38.17 - 38.42	1.0000	1.0000
L41	26	MP3-05	38.17 - 38.42	1.0000	1.0000
L41	27	MP3-05	38.17 - 38.42	1.0000	1.0000
L41	29	MP3-05	38.17 - 38.42	1.0000	1.0000
L41	30	MP3-05	38.17 - 38.42	1.0000	1.0000
L41	31	MP3-05	38.17 - 38.42	1.0000	1.0000
L41	45	CCI 6.5" x 1.25" Plate	38.17 - 38.42	1.0000	1.0000
L41	46	CCI 6.5" x 1.25" Plate	38.17 - 38.42	1.0000	1.0000
L41	47	CCI 6.5" x 1.25" Plate	38.17 - 38.42	1.0000	1.0000
L42	7	LDF7-50A(1-5/8)	37.92 - 38.17	1.0000	1.0000
L42	19	CU12PSM9P6XXX(1-1/2)	37.92 - 38.17	1.0000	1.0000
L42	23	Safety Line 3/8	37.92 - 38.17	1.0000	1.0000
L42	25	MP3-05	37.92 - 38.17	1.0000	1.0000
L42	26	MP3-05	37.92 - 38.17	1.0000	1.0000
L42	27	MP3-05	37.92 - 38.17	1.0000	1.0000
L42	29	MP3-05	37.92 - 38.17	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L42	30	MP3-05	37.92 - 38.17	1.0000	1.0000
L42	31	MP3-05	37.92 - 38.17	1.0000	1.0000
L42	45	CCI 6.5" x 1.25" Plate	37.92 - 38.17	1.0000	1.0000
L42	46	CCI 6.5" x 1.25" Plate	37.92 - 38.17	1.0000	1.0000
L42	47	CCI 6.5" x 1.25" Plate	37.92 - 38.17	1.0000	1.0000
L43	7	LDF7-50A(1-5/8)	37.67 - 37.92	1.0000	1.0000
L43	19	CU12PSM9P6XXX(1-1/2)	37.67 - 37.92	1.0000	1.0000
L43	23	Safety Line 3/8	37.67 - 37.92	1.0000	1.0000
L43	25	MP3-05	37.67 - 37.92	1.0000	1.0000
L43	26	MP3-05	37.67 - 37.92	1.0000	1.0000
L43	27	MP3-05	37.67 - 37.92	1.0000	1.0000
L43	29	MP3-05	37.67 - 37.92	1.0000	1.0000
L43	30	MP3-05	37.67 - 37.92	1.0000	1.0000
L43	31	MP3-05	37.67 - 37.92	1.0000	1.0000
L43	45	CCI 6.5" x 1.25" Plate	37.67 - 37.92	1.0000	1.0000
L43	46	CCI 6.5" x 1.25" Plate	37.67 - 37.92	1.0000	1.0000
L43	47	CCI 6.5" x 1.25" Plate	37.67 - 37.92	1.0000	1.0000
L44	7	LDF7-50A(1-5/8)	32.67 - 37.67	1.0000	1.0000
L44	19	CU12PSM9P6XXX(1-1/2)	32.67 - 37.67	1.0000	1.0000
L44	23	Safety Line 3/8	32.67 - 37.67	1.0000	1.0000
L44	25	MP3-05	32.67 - 37.67	1.0000	1.0000
L44	26	MP3-05	32.67 - 37.67	1.0000	1.0000
L44	27	MP3-05	32.67 - 37.67	1.0000	1.0000
L44	29	MP3-05	36.00 - 37.67	1.0000	1.0000
L44	30	MP3-05	36.00 - 37.67	1.0000	1.0000
L44	31	MP3-05	36.00 - 37.67	1.0000	1.0000
L44	45	CCI 6.5" x 1.25" Plate	32.67 - 37.67	1.0000	1.0000
L44	46	CCI 6.5" x 1.25" Plate	32.67 - 37.67	1.0000	1.0000
L44	47	CCI 6.5" x 1.25" Plate	32.67 - 37.67	1.0000	1.0000
L45	7	LDF7-50A(1-5/8)	27.67 - 32.67	1.0000	1.0000
L45	19	CU12PSM9P6XXX(1-1/2)	27.67 - 32.67	1.0000	1.0000
L45	23	Safety Line 3/8	27.67 - 32.67	1.0000	1.0000
L45	25	MP3-05	27.67 - 32.67	1.0000	1.0000
L45	26	MP3-05	27.67 - 32.67	1.0000	1.0000
L45	27	MP3-05	27.67 - 32.67	1.0000	1.0000
L45	45	CCI 6.5" x 1.25" Plate	27.67 - 32.67	1.0000	1.0000
L45	46	CCI 6.5" x 1.25" Plate	27.67 - 32.67	1.0000	1.0000
L45	47	CCI 6.5" x 1.25" Plate	27.67 - 32.67	1.0000	1.0000
L46	7	LDF7-50A(1-5/8)	23.50 - 27.67	1.0000	1.0000
L46	19	CU12PSM9P6XXX(1-1/2)	23.50 - 27.67	1.0000	1.0000
L46	23	Safety Line 3/8	23.50 - 27.67	1.0000	1.0000
L46	25	MP3-05	23.50 - 27.67	1.0000	1.0000
L46	26	MP3-05	23.50 - 27.67	1.0000	1.0000
L46	27	MP3-05	23.50 - 27.67	1.0000	1.0000
L46	45	CCI 6.5" x 1.25" Plate	23.50 - 27.67	1.0000	1.0000
L46	46	CCI 6.5" x 1.25" Plate	23.50 - 27.67	1.0000	1.0000
L46	47	CCI 6.5" x 1.25" Plate	23.50 - 27.67	1.0000	1.0000
L47	7	LDF7-50A(1-5/8)	23.25 - 23.50	1.0000	1.0000
L47	19	CU12PSM9P6XXX(1-1/2)	23.25 - 23.50	1.0000	1.0000
L47	23	Safety Line 3/8	23.25 - 23.50	1.0000	1.0000
L47	25	MP3-05	23.25 - 23.50	1.0000	1.0000
L47	26	MP3-05	23.25 - 23.50	1.0000	1.0000
L47	27	MP3-05	23.25 - 23.50	1.0000	1.0000
L47	45	CCI 6.5" x 1.25" Plate	23.25 - 23.50	1.0000	1.0000
L47	46	CCI 6.5" x 1.25" Plate	23.25 - 23.50	1.0000	1.0000
L47	47	CCI 6.5" x 1.25" Plate	23.25 - 23.50	1.0000	1.0000
L48	7	LDF7-50A(1-5/8)	18.25 - 23.25	1.0000	1.0000
L48	19	CU12PSM9P6XXX(1-1/2)	18.25 - 23.25	1.0000	1.0000
L48	23	Safety Line 3/8	18.25 - 23.25	1.0000	1.0000
L48	25	MP3-05	18.25 - 23.25	1.0000	1.0000
L48	26	MP3-05	18.25 - 23.25	1.0000	1.0000
L48	27	MP3-05	18.25 - 23.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L48	45	CCI 6.5" x 1.25" Plate	18.25 - 23.25	1.0000	1.0000
L48	46	CCI 6.5" x 1.25" Plate	18.25 - 23.25	1.0000	1.0000
L48	47	CCI 6.5" x 1.25" Plate	18.25 - 23.25	1.0000	1.0000
L49	7	LDF7-50A(1-5/8)	13.25 - 18.25	1.0000	1.0000
L49	19	CU12PSM9P6XXX(1-1/2)	13.25 - 18.25	1.0000	1.0000
L49	23	Safety Line 3/8	13.25 - 18.25	1.0000	1.0000
L49	25	MP3-05	13.25 - 18.25	1.0000	1.0000
L49	26	MP3-05	13.25 - 18.25	1.0000	1.0000
L49	27	MP3-05	13.25 - 18.25	1.0000	1.0000
L49	45	CCI 6.5" x 1.25" Plate	13.25 - 18.25	1.0000	1.0000
L49	46	CCI 6.5" x 1.25" Plate	13.25 - 18.25	1.0000	1.0000
L49	47	CCI 6.5" x 1.25" Plate	13.25 - 18.25	1.0000	1.0000
L50	7	LDF7-50A(1-5/8)	8.25 - 13.25	1.0000	1.0000
L50	19	CU12PSM9P6XXX(1-1/2)	8.25 - 13.25	1.0000	1.0000
L50	23	Safety Line 3/8	8.25 - 13.25	1.0000	1.0000
L50	25	MP3-05	8.25 - 13.25	1.0000	1.0000
L50	26	MP3-05	8.25 - 13.25	1.0000	1.0000
L50	27	MP3-05	8.25 - 13.25	1.0000	1.0000
L50	45	CCI 6.5" x 1.25" Plate	8.25 - 13.25	1.0000	1.0000
L50	46	CCI 6.5" x 1.25" Plate	8.25 - 13.25	1.0000	1.0000
L50	47	CCI 6.5" x 1.25" Plate	8.25 - 13.25	1.0000	1.0000
L51	7	LDF7-50A(1-5/8)	7.92 - 8.25	1.0000	1.0000
L51	19	CU12PSM9P6XXX(1-1/2)	7.92 - 8.25	1.0000	1.0000
L51	23	Safety Line 3/8	7.92 - 8.25	1.0000	1.0000
L51	25	MP3-05	7.92 - 8.25	1.0000	1.0000
L51	26	MP3-05	7.92 - 8.25	1.0000	1.0000
L51	27	MP3-05	7.92 - 8.25	1.0000	1.0000
L51	45	CCI 6.5" x 1.25" Plate	7.92 - 8.25	1.0000	1.0000
L51	46	CCI 6.5" x 1.25" Plate	7.92 - 8.25	1.0000	1.0000
L51	47	CCI 6.5" x 1.25" Plate	7.92 - 8.25	1.0000	1.0000
L52	7	LDF7-50A(1-5/8)	7.67 - 7.92	1.0000	1.0000
L52	19	CU12PSM9P6XXX(1-1/2)	7.67 - 7.92	1.0000	1.0000
L52	23	Safety Line 3/8	7.67 - 7.92	1.0000	1.0000
L52	25	MP3-05	7.67 - 7.92	1.0000	1.0000
L52	26	MP3-05	7.67 - 7.92	1.0000	1.0000
L52	27	MP3-05	7.67 - 7.92	1.0000	1.0000
L52	45	CCI 6.5" x 1.25" Plate	7.67 - 7.92	1.0000	1.0000
L52	46	CCI 6.5" x 1.25" Plate	7.67 - 7.92	1.0000	1.0000
L52	47	CCI 6.5" x 1.25" Plate	7.67 - 7.92	1.0000	1.0000
L53	7	LDF7-50A(1-5/8)	5.50 - 7.67	1.0000	1.0000
L53	19	CU12PSM9P6XXX(1-1/2)	5.50 - 7.67	1.0000	1.0000
L53	23	Safety Line 3/8	5.50 - 7.67	1.0000	1.0000
L53	25	MP3-05	5.50 - 7.67	1.0000	1.0000
L53	26	MP3-05	5.50 - 7.67	1.0000	1.0000
L53	27	MP3-05	5.50 - 7.67	1.0000	1.0000
L53	45	CCI 6.5" x 1.25" Plate	5.50 - 7.67	1.0000	1.0000
L53	46	CCI 6.5" x 1.25" Plate	5.50 - 7.67	1.0000	1.0000
L53	47	CCI 6.5" x 1.25" Plate	5.50 - 7.67	1.0000	1.0000
L54	7	LDF7-50A(1-5/8)	5.25 - 5.50	1.0000	1.0000
L54	19	CU12PSM9P6XXX(1-1/2)	5.25 - 5.50	1.0000	1.0000
L54	23	Safety Line 3/8	5.25 - 5.50	1.0000	1.0000
L54	25	MP3-05	5.25 - 5.50	1.0000	1.0000
L54	27	MP3-05	5.25 - 5.50	1.0000	1.0000
L54	45	CCI 6.5" x 1.25" Plate	5.25 - 5.50	1.0000	1.0000
L54	46	CCI 6.5" x 1.25" Plate	5.25 - 5.50	1.0000	1.0000
L54	47	CCI 6.5" x 1.25" Plate	5.25 - 5.50	1.0000	1.0000
L55	7	LDF7-50A(1-5/8)	3.00 - 5.25	1.0000	1.0000
L55	19	CU12PSM9P6XXX(1-1/2)	3.00 - 5.25	1.0000	1.0000
L55	23	Safety Line 3/8	3.00 - 5.25	1.0000	1.0000
L55	25	MP3-05	3.00 - 5.25	1.0000	1.0000
L55	27	MP3-05	3.00 - 5.25	1.0000	1.0000
L55	45	CCI 6.5" x 1.25" Plate	3.00 - 5.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L55	46	CCI 6.5" x 1.25" Plate	3.00 - 5.25	1.0000	1.0000
L55	47	CCI 6.5" x 1.25" Plate	3.00 - 5.25	1.0000	1.0000
L56	7	LDF7-50A(1-5/8)	2.75 - 3.00	1.0000	1.0000
L56	19	CU12PSM9P6XXX(1-1/2)	2.75 - 3.00	1.0000	1.0000
L56	23	Safety Line 3/8	2.75 - 3.00	1.0000	1.0000
L56	25	MP3-05	2.75 - 3.00	1.0000	1.0000
L56	27	MP3-05	2.75 - 3.00	1.0000	1.0000
L56	45	CCI 6.5" x 1.25" Plate	2.75 - 3.00	1.0000	1.0000
L56	46	CCI 6.5" x 1.25" Plate	2.75 - 3.00	1.0000	1.0000
L56	47	CCI 6.5" x 1.25" Plate	2.75 - 3.00	1.0000	1.0000
L57	7	LDF7-50A(1-5/8)	0.00 - 2.75	1.0000	1.0000
L57	19	CU12PSM9P6XXX(1-1/2)	0.00 - 2.75	1.0000	1.0000
L57	23	Safety Line 3/8	0.00 - 2.75	1.0000	1.0000
L57	25	MP3-05	0.58 - 2.75	1.0000	1.0000
L57	27	MP3-05	0.58 - 2.75	1.0000	1.0000
L57	45	CCI 6.5" x 1.25" Plate	2.00 - 2.75	1.0000	1.0000
L57	46	CCI 6.5" x 1.25" Plate	2.00 - 2.75	1.0000	1.0000
L57	47	CCI 6.5" x 1.25" Plate	2.00 - 2.75	1.0000	1.0000

Effective Width of Flat Linear Attachments / Feed Lines

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L13	41	MP3-03	120.58 - 121.75	Auto	0.0000
L13	42	MP3-03	120.58 - 121.75	Auto	0.0000
L13	43	MP3-03	120.58 - 121.75	Auto	0.0000
L14	41	MP3-03	120.33 - 120.58	Auto	0.0000
L14	42	MP3-03	120.33 - 120.58	Auto	0.0000
L14	43	MP3-03	120.33 - 120.58	Auto	0.0000
L15	41	MP3-03	115.33 - 120.33	Auto	0.0000
L15	42	MP3-03	115.33 - 120.33	Auto	0.0000
L15	43	MP3-03	115.33 - 120.33	Auto	0.0000
L16	41	MP3-03	112.50 - 115.33	Auto	0.0000
L16	42	MP3-03	112.50 - 115.33	Auto	0.0000
L16	43	MP3-03	112.50 - 115.33	Auto	0.0000
L16	49	CCI 6" x 1" Plate	112.50 - 115.00	Auto	0.2179
L16	50	CCI 6" x 1" Plate	112.50 - 115.00	Auto	0.2179
L16	51	CCI 6" x 1" Plate	112.50 - 115.00	Auto	0.2179

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L17	41	MP3-03	112.25 - 112.50	Auto	0.0000
L17	42	MP3-03	112.25 - 112.50	Auto	0.0000
L17	43	MP3-03	112.25 - 112.50	Auto	0.0000
L17	49	CCI 6" x 1" Plate	112.25 - 112.50	Auto	0.3056
L17	50	CCI 6" x 1" Plate	112.25 - 112.50	Auto	0.3056
L17	51	CCI 6" x 1" Plate	112.25 - 112.50	Auto	0.3056
L18	37	MP3-04	107.92 - 109.25	Auto	0.1018
L18	38	MP3-04	107.92 - 109.25	Auto	0.1018
L18	39	MP3-04	107.92 - 109.25	Auto	0.1018
L18	41	MP3-03	107.92 - 112.25	Auto	0.0000
L18	42	MP3-03	107.92 - 112.25	Auto	0.0000
L18	43	MP3-03	107.92 - 112.25	Auto	0.0000
L18	49	CCI 6" x 1" Plate	107.92 - 112.25	Auto	0.2928
L18	50	CCI 6" x 1" Plate	107.92 - 112.25	Auto	0.2928
L18	51	CCI 6" x 1" Plate	107.92 - 112.25	Auto	0.2928
L19	37	MP3-04	107.67 - 107.92	Auto	0.1101
L19	38	MP3-04	107.67 - 107.92	Auto	0.1101
L19	39	MP3-04	107.67 - 107.92	Auto	0.1101
L19	41	MP3-03	107.67 - 107.92	Auto	0.0000
L19	42	MP3-03	107.67 - 107.92	Auto	0.0000
L19	43	MP3-03	107.67 - 107.92	Auto	0.0000
L19	49	CCI 6" x 1" Plate	107.67 - 107.92	Auto	0.2911
L19	50	CCI 6" x 1" Plate	107.67 - 107.92	Auto	0.2911
L19	51	CCI 6" x 1" Plate	107.67 - 107.92	Auto	0.2911
L20	37	MP3-04	107.42 - 107.67	Auto	0.1084
L20	38	MP3-04	107.42 - 107.67	Auto	0.1084
L20	39	MP3-04	107.42 - 107.67	Auto	0.1084
L20	41	MP3-03	107.42 - 107.67	Auto	0.0000
L20	42	MP3-03	107.42 - 107.67	Auto	0.0000
L20	43	MP3-03	107.42 - 107.67	Auto	0.0000
L20	49	CCI 6" x 1" Plate	107.42 -	Auto	0.2897

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
			107.67		
L20	50	CCI 6" x 1" Plate	107.42 - 107.67	Auto	0.2897
L20	51	CCI 6" x 1" Plate	107.42 - 107.67	Auto	0.2897
L21	37	MP3-04	102.42 - 107.42	Auto	0.0854
L21	38	MP3-04	102.42 - 107.42	Auto	0.0854
L21	39	MP3-04	102.42 - 107.42	Auto	0.0854
L21	41	MP3-03	106.75 - 107.42	Auto	0.0000
L21	42	MP3-03	106.75 - 107.42	Auto	0.0000
L21	43	MP3-03	106.75 - 107.42	Auto	0.0000
L21	49	CCI 6" x 1" Plate	102.42 - 107.42	Auto	0.2714
L21	50	CCI 6" x 1" Plate	102.42 - 107.42	Auto	0.2714
L21	51	CCI 6" x 1" Plate	102.42 - 107.42	Auto	0.2714
L22	37	MP3-04	97.42 - 102.42	Auto	0.0459
L22	38	MP3-04	97.42 - 102.42	Auto	0.0459
L22	39	MP3-04	97.42 - 102.42	Auto	0.0459
L22	49	CCI 6" x 1" Plate	97.42 - 102.42	Auto	0.2399
L22	50	CCI 6" x 1" Plate	97.42 - 102.42	Auto	0.2399
L22	51	CCI 6" x 1" Plate	97.42 - 102.42	Auto	0.2399
L23	37	MP3-04	89.00 - 97.42	Auto	0.0048
L23	38	MP3-04	89.00 - 97.42	Auto	0.0048
L23	39	MP3-04	89.00 - 97.42	Auto	0.0048
L23	49	CCI 6" x 1" Plate	89.00 - 97.42	Auto	0.1989
L23	50	CCI 6" x 1" Plate	89.00 - 97.42	Auto	0.1989
L23	51	CCI 6" x 1" Plate	89.00 - 97.42	Auto	0.1989
L24	37	MP3-04	88.31 - 89.00	Auto	0.0086
L24	38	MP3-04	88.31 - 89.00	Auto	0.0086
L24	39	MP3-04	88.31 - 89.00	Auto	0.0086
L24	49	CCI 6" x 1" Plate	88.31 - 89.00	Auto	0.2102
L24	50	CCI 6" x 1" Plate	88.31 - 89.00	Auto	0.2102
L24	51	CCI 6" x 1" Plate	88.31 - 89.00	Auto	0.2102
L25	37	MP3-04	87.50 - 88.31	Auto	0.0034
L25	38	MP3-04	87.50 - 88.31	Auto	0.0034
L25	39	MP3-04	87.50 - 88.31	Auto	0.0034
L25	49	CCI 6" x 1" Plate	87.50 - 88.31	Auto	0.2060
L25	50	CCI 6" x 1" Plate	87.50 - 88.31	Auto	0.2060
L25	51	CCI 6" x 1" Plate	87.50 - 88.31	Auto	0.2060
L26	37	MP3-04	87.25 - 87.50	Auto	0.0000
L26	38	MP3-04	87.25 - 87.50	Auto	0.0000
L26	39	MP3-04	87.25 - 87.50	Auto	0.0000
L26	49	CCI 6" x 1" Plate	87.25 - 87.50	Auto	0.1077
L26	50	CCI 6" x 1" Plate	87.25 - 87.50	Auto	0.1077
L26	51	CCI 6" x 1" Plate	87.25 - 87.50	Auto	0.1077
L27	37	MP3-04	82.25 - 87.25	Auto	0.0000
L27	38	MP3-04	82.25 - 87.25	Auto	0.0000
L27	39	MP3-04	82.25 - 87.25	Auto	0.0000
L27	49	CCI 6" x 1" Plate	85.00 - 87.25	Auto	0.1008
L27	50	CCI 6" x 1" Plate	85.00 - 87.25	Auto	0.1008
L27	51	CCI 6" x 1" Plate	85.00 - 87.25	Auto	0.1008
L28	33	MP3-04	80.83 - 82.25	Auto	0.0000
L28	34	MP3-04	80.83 - 82.25	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L28	35	MP3-04	80.83 - 82.25	Auto	0.0000
L28	37	MP3-04	80.83 - 82.25	Auto	0.0000
L28	38	MP3-04	80.83 - 82.25	Auto	0.0000
L28	39	MP3-04	80.83 - 82.25	Auto	0.0000
L29	33	MP3-04	80.58 - 80.83	Auto	0.0000
L29	34	MP3-04	80.58 - 80.83	Auto	0.0000
L29	35	MP3-04	80.58 - 80.83	Auto	0.0000
L29	37	MP3-04	80.58 - 80.83	Auto	0.0000
L29	38	MP3-04	80.58 - 80.83	Auto	0.0000
L29	39	MP3-04	80.58 - 80.83	Auto	0.0000
L30	33	MP3-04	75.58 - 80.58	Auto	0.0000
L30	34	MP3-04	75.58 - 80.58	Auto	0.0000
L30	35	MP3-04	75.58 - 80.58	Auto	0.0000
L30	37	MP3-04	79.25 - 80.58	Auto	0.0000
L30	38	MP3-04	79.25 - 80.58	Auto	0.0000
L30	39	MP3-04	79.25 - 80.58	Auto	0.0000
L31	33	MP3-04	70.58 - 75.58	Auto	0.0000
L31	34	MP3-04	70.58 - 75.58	Auto	0.0000
L31	35	MP3-04	70.58 - 75.58	Auto	0.0000
L32	33	MP3-04	65.58 - 70.58	Auto	0.0000
L32	34	MP3-04	65.58 - 70.58	Auto	0.0000
L32	35	MP3-04	65.58 - 70.58	Auto	0.0000
L33	33	MP3-04	60.58 - 65.58	Auto	0.0000
L33	34	MP3-04	60.58 - 65.58	Auto	0.0000
L33	35	MP3-04	60.58 - 65.58	Auto	0.0000
L34	29	MP3-05	55.58 - 56.00	Auto	0.0000
L34	30	MP3-05	55.58 - 56.00	Auto	0.0000
L34	31	MP3-05	55.58 - 56.00	Auto	0.0000
L34	33	MP3-04	55.58 - 60.58	Auto	0.0000
L34	34	MP3-04	55.58 - 60.58	Auto	0.0000
L34	35	MP3-04	55.58 - 60.58	Auto	0.0000
L35	29	MP3-05	53.67 - 55.58	Auto	0.0000
L35	30	MP3-05	53.67 - 55.58	Auto	0.0000
L35	31	MP3-05	53.67 - 55.58	Auto	0.0000
L35	33	MP3-04	53.67 - 55.58	Auto	0.0000
L35	34	MP3-04	53.67 - 55.58	Auto	0.0000
L35	35	MP3-04	53.67 - 55.58	Auto	0.0000
L36	29	MP3-05	53.42 - 53.67	Auto	0.0000
L36	30	MP3-05	53.42 - 53.67	Auto	0.0000
L36	31	MP3-05	53.42 - 53.67	Auto	0.0000
L36	33	MP3-04	53.42 - 53.67	Auto	0.0000
L36	34	MP3-04	53.42 - 53.67	Auto	0.0000
L36	35	MP3-04	53.42 - 53.67	Auto	0.0000
L37	29	MP3-05	53.17 - 53.42	Auto	0.0000
L37	30	MP3-05	53.17 - 53.42	Auto	0.0000
L37	31	MP3-05	53.17 - 53.42	Auto	0.0000
L37	33	MP3-04	53.17 - 53.42	Auto	0.0000
L37	34	MP3-04	53.17 - 53.42	Auto	0.0000
L37	35	MP3-04	53.17 - 53.42	Auto	0.0000
L38	29	MP3-05	43.80 - 53.17	Auto	0.0000
L38	30	MP3-05	43.80 - 53.17	Auto	0.0000
L38	31	MP3-05	43.80 - 53.17	Auto	0.0000
L38	33	MP3-04	52.25 - 53.17	Auto	0.0000
L38	34	MP3-04	52.25 - 53.17	Auto	0.0000
L38	35	MP3-04	52.25 - 53.17	Auto	0.0000
L38	45	CCI 6.5" x 1.25" Plate	43.80 - 52.08	Auto	0.0000
L38	46	CCI 6.5" x 1.25" Plate	43.80 - 52.08	Auto	0.0000
L38	47	CCI 6.5" x 1.25" Plate	43.80 - 52.08	Auto	0.0000
L39	29	MP3-05	42.80 - 43.80	Auto	0.0000
L39	30	MP3-05	42.80 - 43.80	Auto	0.0000
L39	31	MP3-05	42.80 - 43.80	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L39	45	CCI 6.5" x 1.25" Plate	42.80 - 43.80	Auto	0.0582
L39	46	CCI 6.5" x 1.25" Plate	42.80 - 43.80	Auto	0.0582
L39	47	CCI 6.5" x 1.25" Plate	42.80 - 43.80	Auto	0.0582
L40	25	MP3-05	38.42 - 40.50	Auto	0.0000
L40	26	MP3-05	38.42 - 40.50	Auto	0.0000
L40	27	MP3-05	38.42 - 40.50	Auto	0.0000
L40	29	MP3-05	38.42 - 42.80	Auto	0.0000
L40	30	MP3-05	38.42 - 42.80	Auto	0.0000
L40	31	MP3-05	38.42 - 42.80	Auto	0.0000
L40	45	CCI 6.5" x 1.25" Plate	38.42 - 42.80	Auto	0.0410
L40	46	CCI 6.5" x 1.25" Plate	38.42 - 42.80	Auto	0.0410
L40	47	CCI 6.5" x 1.25" Plate	38.42 - 42.80	Auto	0.0410
L41	25	MP3-05	38.17 - 38.42	Auto	0.0000
L41	26	MP3-05	38.17 - 38.42	Auto	0.0000
L41	27	MP3-05	38.17 - 38.42	Auto	0.0000
L41	29	MP3-05	38.17 - 38.42	Auto	0.0000
L41	30	MP3-05	38.17 - 38.42	Auto	0.0000
L41	31	MP3-05	38.17 - 38.42	Auto	0.0000
L41	45	CCI 6.5" x 1.25" Plate	38.17 - 38.42	Auto	0.0000
L41	46	CCI 6.5" x 1.25" Plate	38.17 - 38.42	Auto	0.0000
L41	47	CCI 6.5" x 1.25" Plate	38.17 - 38.42	Auto	0.0000
L42	25	MP3-05	37.92 - 38.17	Auto	0.0000
L42	26	MP3-05	37.92 - 38.17	Auto	0.0000
L42	27	MP3-05	37.92 - 38.17	Auto	0.0000
L42	29	MP3-05	37.92 - 38.17	Auto	0.0000
L42	30	MP3-05	37.92 - 38.17	Auto	0.0000
L42	31	MP3-05	37.92 - 38.17	Auto	0.0000
L42	45	CCI 6.5" x 1.25" Plate	37.92 - 38.17	Auto	0.0278
L42	46	CCI 6.5" x 1.25" Plate	37.92 - 38.17	Auto	0.0278
L42	47	CCI 6.5" x 1.25" Plate	37.92 - 38.17	Auto	0.0278
L43	25	MP3-05	37.67 - 37.92	Auto	0.0000
L43	26	MP3-05	37.67 - 37.92	Auto	0.0000
L43	27	MP3-05	37.67 - 37.92	Auto	0.0000
L43	29	MP3-05	37.67 - 37.92	Auto	0.0000
L43	30	MP3-05	37.67 - 37.92	Auto	0.0000
L43	31	MP3-05	37.67 - 37.92	Auto	0.0000
L43	45	CCI 6.5" x 1.25" Plate	37.67 - 37.92	Auto	0.0265
L43	46	CCI 6.5" x 1.25" Plate	37.67 - 37.92	Auto	0.0265
L43	47	CCI 6.5" x 1.25" Plate	37.67 - 37.92	Auto	0.0265
L44	25	MP3-05	32.67 - 37.67	Auto	0.0000
L44	26	MP3-05	32.67 - 37.67	Auto	0.0000
L44	27	MP3-05	32.67 - 37.67	Auto	0.0000
L44	29	MP3-05	36.00 - 37.67	Auto	0.0000
L44	30	MP3-05	36.00 - 37.67	Auto	0.0000
L44	31	MP3-05	36.00 - 37.67	Auto	0.0000
L44	45	CCI 6.5" x 1.25" Plate	32.67 - 37.67	Auto	0.0098
L44	46	CCI 6.5" x 1.25" Plate	32.67 - 37.67	Auto	0.0098
L44	47	CCI 6.5" x 1.25" Plate	32.67 - 37.67	Auto	0.0098
L45	25	MP3-05	27.67 - 32.67	Auto	0.0000
L45	26	MP3-05	27.67 - 32.67	Auto	0.0000
L45	27	MP3-05	27.67 - 32.67	Auto	0.0000
L45	45	CCI 6.5" x 1.25" Plate	27.67 - 32.67	Auto	0.0000
L45	46	CCI 6.5" x 1.25" Plate	27.67 - 32.67	Auto	0.0000
L45	47	CCI 6.5" x 1.25" Plate	27.67 - 32.67	Auto	0.0000
L46	25	MP3-05	23.50 - 27.67	Auto	0.0000
L46	26	MP3-05	23.50 - 27.67	Auto	0.0000
L46	27	MP3-05	23.50 - 27.67	Auto	0.0000
L46	45	CCI 6.5" x 1.25" Plate	23.50 - 27.67	Auto	0.0000
L46	46	CCI 6.5" x 1.25" Plate	23.50 - 27.67	Auto	0.0000
L46	47	CCI 6.5" x 1.25" Plate	23.50 - 27.67	Auto	0.0000
L47	25	MP3-05	23.25 - 23.50	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L47	26	MP3-05	23.25 - 23.50	Auto	0.0000
L47	27	MP3-05	23.25 - 23.50	Auto	0.0000
L47	45	CCI 6.5" x 1.25" Plate	23.25 - 23.50	Auto	0.0000
L47	46	CCI 6.5" x 1.25" Plate	23.25 - 23.50	Auto	0.0000
L47	47	CCI 6.5" x 1.25" Plate	23.25 - 23.50	Auto	0.0000
L48	25	MP3-05	18.25 - 23.25	Auto	0.0000
L48	26	MP3-05	18.25 - 23.25	Auto	0.0000
L48	27	MP3-05	18.25 - 23.25	Auto	0.0000
L48	45	CCI 6.5" x 1.25" Plate	18.25 - 23.25	Auto	0.0000
L48	46	CCI 6.5" x 1.25" Plate	18.25 - 23.25	Auto	0.0000
L48	47	CCI 6.5" x 1.25" Plate	18.25 - 23.25	Auto	0.0000
L49	25	MP3-05	13.25 - 18.25	Auto	0.0000
L49	26	MP3-05	13.25 - 18.25	Auto	0.0000
L49	27	MP3-05	13.25 - 18.25	Auto	0.0000
L49	45	CCI 6.5" x 1.25" Plate	13.25 - 18.25	Auto	0.0000
L49	46	CCI 6.5" x 1.25" Plate	13.25 - 18.25	Auto	0.0000
L49	47	CCI 6.5" x 1.25" Plate	13.25 - 18.25	Auto	0.0000
L50	25	MP3-05	8.25 - 13.25	Auto	0.0000
L50	26	MP3-05	8.25 - 13.25	Auto	0.0000
L50	27	MP3-05	8.25 - 13.25	Auto	0.0000
L50	45	CCI 6.5" x 1.25" Plate	8.25 - 13.25	Auto	0.0000
L50	46	CCI 6.5" x 1.25" Plate	8.25 - 13.25	Auto	0.0000
L50	47	CCI 6.5" x 1.25" Plate	8.25 - 13.25	Auto	0.0000
L51	25	MP3-05	7.92 - 8.25	Auto	0.0000
L51	26	MP3-05	7.92 - 8.25	Auto	0.0000
L51	27	MP3-05	7.92 - 8.25	Auto	0.0000
L51	45	CCI 6.5" x 1.25" Plate	7.92 - 8.25	Auto	0.0000
L51	46	CCI 6.5" x 1.25" Plate	7.92 - 8.25	Auto	0.0000
L51	47	CCI 6.5" x 1.25" Plate	7.92 - 8.25	Auto	0.0000
L52	25	MP3-05	7.67 - 7.92	Auto	0.0000
L52	26	MP3-05	7.67 - 7.92	Auto	0.0000
L52	27	MP3-05	7.67 - 7.92	Auto	0.0000
L52	45	CCI 6.5" x 1.25" Plate	7.67 - 7.92	Auto	0.0000
L52	46	CCI 6.5" x 1.25" Plate	7.67 - 7.92	Auto	0.0000
L52	47	CCI 6.5" x 1.25" Plate	7.67 - 7.92	Auto	0.0000
L53	25	MP3-05	5.50 - 7.67	Auto	0.0000
L53	26	MP3-05	5.50 - 7.67	Auto	0.0000
L53	27	MP3-05	5.50 - 7.67	Auto	0.0000
L53	45	CCI 6.5" x 1.25" Plate	5.50 - 7.67	Auto	0.0000
L53	46	CCI 6.5" x 1.25" Plate	5.50 - 7.67	Auto	0.0000
L53	47	CCI 6.5" x 1.25" Plate	5.50 - 7.67	Auto	0.0000
L54	25	MP3-05	5.25 - 5.50	Auto	0.0000
L54	27	MP3-05	5.25 - 5.50	Auto	0.0000
L54	45	CCI 6.5" x 1.25" Plate	5.25 - 5.50	Auto	0.0000
L54	46	CCI 6.5" x 1.25" Plate	5.25 - 5.50	Auto	0.0000
L54	47	CCI 6.5" x 1.25" Plate	5.25 - 5.50	Auto	0.0000
L55	25	MP3-05	3.00 - 5.25	Auto	0.0000
L55	27	MP3-05	3.00 - 5.25	Auto	0.0000
L55	45	CCI 6.5" x 1.25" Plate	3.00 - 5.25	Auto	0.0000
L55	46	CCI 6.5" x 1.25" Plate	3.00 - 5.25	Auto	0.0000
L55	47	CCI 6.5" x 1.25" Plate	3.00 - 5.25	Auto	0.0000
L56	25	MP3-05	2.75 - 3.00	Auto	0.0000
L56	27	MP3-05	2.75 - 3.00	Auto	0.0000
L56	45	CCI 6.5" x 1.25" Plate	2.75 - 3.00	Auto	0.0000
L56	46	CCI 6.5" x 1.25" Plate	2.75 - 3.00	Auto	0.0000
L56	47	CCI 6.5" x 1.25" Plate	2.75 - 3.00	Auto	0.0000
L57	25	MP3-05	0.58 - 2.75	Auto	0.0000
L57	27	MP3-05	0.58 - 2.75	Auto	0.0000
L57	45	CCI 6.5" x 1.25" Plate	2.00 - 2.75	Auto	0.0000
L57	46	CCI 6.5" x 1.25" Plate	2.00 - 2.75	Auto	0.0000
L57	47	CCI 6.5" x 1.25" Plate	2.00 - 2.75	Auto	0.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	5.187 5.594 6.016	2.705 3.038 3.385	0.128 0.174 0.227
AIR6449 B41_T-MOBILE w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	5.187 5.594 6.016	2.705 3.038 3.385	0.128 0.174 0.227
AIR6449 B41_T-MOBILE w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	5.187 5.594 6.016	2.705 3.038 3.385	0.128 0.174 0.227
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	6.290 6.860 7.450	2.760 3.270 3.790	0.061 0.105 0.157
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	6.290 6.860 7.450	2.760 3.270 3.790	0.061 0.105 0.157
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	6.290 6.860 7.450	2.760 3.270 3.790	0.061 0.105 0.157
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	14.694 15.455 16.230	6.873 7.554 8.247	0.183 0.311 0.453
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	14.694 15.455 16.230	6.873 7.554 8.247	0.183 0.311 0.453
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	14.694 15.455 16.230	6.873 7.554 8.247	0.183 0.311 0.453
RADIO 4415 B66A	A	From Leg	4.000 0.000 0.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	1.856 2.027 2.204	0.870 0.997 1.134	0.050 0.064 0.081
RADIO 4415 B66A	B	From Leg	4.000 0.000 0.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	1.856 2.027 2.204	0.870 0.997 1.134	0.050 0.064 0.081
RADIO 4415 B66A	C	From Leg	4.000 0.000 0.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	1.856 2.027 2.204	0.870 0.997 1.134	0.050 0.064 0.081
RADIO 4424 B25_TMO	A	From Leg	4.000 0.000 0.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	2.052 2.231 2.417	1.610 1.772 1.941	0.086 0.107 0.131
RADIO 4424 B25_TMO	B	From Leg	4.000 0.000 0.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	2.052 2.231 2.417	1.610 1.772 1.941	0.086 0.107 0.131
RADIO 4424 B25_TMO	C	From Leg	4.000 0.000 0.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	2.052 2.231 2.417	1.610 1.772 1.941	0.086 0.107 0.131
RADIO 4449 B71 B85A_T-MOBILE	A	From Leg	4.000 0.000	0.000	183.000	No Ice 1/2" Ice	1.970 2.147	1.587 1.749	0.073 0.093

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.000			1" Ice	2.331	1.918	0.116
RADIO 4449 B71 B85A_T-MOBILE	B	From Leg	4.000 0.000 0.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	1.970 2.147 2.331	1.587 1.749 1.918	0.073 0.093 0.116
RADIO 4449 B71 B85A_T-MOBILE	C	From Leg	4.000 0.000 0.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	1.970 2.147 2.331	1.587 1.749 1.918	0.073 0.093 0.116
(2) 6' x 2" Mount Pipe	A	From Leg	4.000 0.000 1.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	1.425 1.925 2.294	1.425 1.925 2.294	0.022 0.033 0.048
(2) 6' x 2" Mount Pipe	B	From Leg	4.000 0.000 1.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	1.425 1.925 2.294	1.425 1.925 2.294	0.022 0.033 0.048
(2) 6' x 2" Mount Pipe	C	From Leg	4.000 0.000 1.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	1.425 1.925 2.294	1.425 1.925 2.294	0.022 0.033 0.048
(2) L2.5x2.5x3/16x4.333'	A	From Leg	2.000 0.000 -3.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	1.094 1.403 1.720	0.005 0.024 0.049	0.080 0.086 0.097
(2) L2.5x2.5x3/16x4.333'	B	From Leg	2.000 0.000 -3.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	1.094 1.403 1.720	0.005 0.024 0.049	0.080 0.086 0.097
(2) L2.5x2.5x3/16x4.333'	C	From Leg	2.000 0.000 -3.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	1.094 1.403 1.720	0.005 0.024 0.049	0.080 0.086 0.097
Side Arm Mount [SO 102-3]	C	None		0.000	181.000	No Ice 1/2" Ice 1" Ice	3.600 4.180 4.750	3.600 4.180 4.750	0.075 0.105 0.135
Miscellaneous [NA 507-1]	C	None		0.000	181.000	No Ice 1/2" Ice 1" Ice	4.560 6.390 8.180	4.560 6.390 8.180	0.245 0.311 0.402
Platform Mount [LP 602-1]	C	None		0.000	183.000	No Ice 1/2" Ice 1" Ice	31.070 34.820 38.480	31.070 34.820 38.480	1.343 1.967 2.669
Transition Ladder	C	From Leg	2.000 0.000 -3.000	0.000	183.000	No Ice 1/2" Ice 1" Ice	6.000 8.000 10.000	6.000 8.000 10.000	0.160 0.240 0.320
* *									
BXA-171063-12BF-EDIN-2 w/ Mount Pipe	A	From Leg	4.000 0.000 1.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	4.344 5.079 5.831	4.576 5.314 6.069	0.047 0.087 0.137
BXA-171063-12BF-EDIN-2 w/ Mount Pipe	B	From Leg	4.000 0.000 1.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	4.344 5.079 5.831	4.576 5.314 6.069	0.047 0.087 0.137
BXA-171063-12BF-EDIN-2 w/ Mount Pipe	C	From Leg	4.000 0.000 1.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	4.344 5.079 5.831	4.576 5.314 6.069	0.047 0.087 0.137
(2) NHH-65B-R2B w/ Mount Pipe	A	From Leg	4.000 0.000 1.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	4.095 4.483 4.880	3.295 3.672 4.058	0.069 0.132 0.205
(2) NHH-65B-R2B w/ Mount Pipe	B	From Leg	4.000 0.000 1.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	4.095 4.483 4.880	3.295 3.672 4.058	0.069 0.132 0.205
(2) NHH-65B-R2B w/ Mount Pipe	C	From Leg	4.000 0.000 1.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	4.095 4.483 4.880	3.295 3.672 4.058	0.069 0.132 0.205

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
MT6413-77A	A	From Leg	4.000 0.000 1.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	3.793 4.045 4.304	1.462 1.651 1.847	0.057 0.082 0.110
MT6413-77A	B	From Leg	4.000 0.000 1.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	3.793 4.045 4.304	1.462 1.651 1.847	0.057 0.082 0.110
MT6413-77A	C	From Leg	4.000 0.000 1.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	3.793 4.045 4.304	1.462 1.651 1.847	0.057 0.082 0.110
RF4439D-25A	A	From Leg	4.000 0.000 1.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	1.865 2.035 2.212	1.252 1.394 1.544	0.075 0.093 0.114
RF4439D-25A	B	From Leg	4.000 0.000 1.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	1.865 2.035 2.212	1.252 1.394 1.544	0.075 0.093 0.114
RF4439D-25A	C	From Leg	4.000 0.000 1.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	1.865 2.035 2.212	1.252 1.394 1.544	0.075 0.093 0.114
RF4461D-13A	A	From Leg	4.000 0.000 1.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	1.865 2.035 2.212	1.275 1.419 1.570	0.079 0.098 0.119
RF4461D-13A	B	From Leg	4.000 0.000 1.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	1.865 2.035 2.212	1.275 1.419 1.570	0.079 0.098 0.119
RF4461D-13A	C	From Leg	4.000 0.000 1.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	1.865 2.035 2.212	1.275 1.419 1.570	0.079 0.098 0.119
RVZDC-6627-PF-48_CCIV2	A	From Leg	4.000 0.000 1.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	4.056 4.316 4.582	3.098 3.335 3.580	0.032 0.068 0.109
3' x 2" Pipe Mount	A	From Leg	2.000 0.000 0.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	0.583 0.770 0.967	0.583 0.770 0.967	0.011 0.017 0.024
7'x2 1/2" Pipe Mount	A	From Leg	4.000 0.000 0.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	2.013 2.589 3.018	2.013 2.589 3.018	0.041 0.055 0.075
7'x2 1/2" Pipe Mount	B	From Leg	4.000 0.000 0.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	2.013 2.589 3.018	2.013 2.589 3.018	0.041 0.055 0.075
7'x2 1/2" Pipe Mount	C	From Leg	4.000 0.000 0.000	0.000	169.000	No Ice 1/2" Ice 1" Ice	2.013 2.589 3.018	2.013 2.589 3.018	0.041 0.055 0.075
Platform Mount [LP 303-1_HR-1] *	C	None		0.000	169.000	No Ice 1/2" Ice 1" Ice	17.090 21.470 25.720	17.090 21.470 25.720	1.495 1.881 2.346
AM-X-CD-17-65-00T-RET w/ Mount Pipe	A	From Leg	4.000 0.000 6.000	0.000	155.000	No Ice 1/2" Ice 1" Ice	6.090 6.660 7.240	4.310 4.860 5.420	0.092 0.170 0.261
AM-X-CD-17-65-00T-RET w/ Mount Pipe	B	From Leg	4.000 0.000 6.000	0.000	155.000	No Ice 1/2" Ice 1" Ice	6.090 6.660 7.240	4.310 4.860 5.420	0.092 0.170 0.261
AM-X-CD-17-65-00T-RET w/ Mount Pipe	C	From Leg	4.000 0.000 6.000	0.000	155.000	No Ice 1/2" Ice 1" Ice	6.090 6.660 7.240	4.310 4.860 5.420	0.092 0.170 0.261
OPA65R-BU6D w/ Mount Pipe	A	From Leg	4.000 0.000	0.000	155.000	No Ice 1/2" Ice	12.248 12.998	6.047 6.710	0.089 0.176

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			6.000			1" Ice	13.764	7.388	0.275
OPA65R-BU6D w/ Mount Pipe	B	From Leg	4.000	0.000	155.000	No Ice	12.248	6.047	0.089
			0.000			1/2" Ice	12.998	6.710	0.176
			6.000			1" Ice	13.764	7.388	0.275
OPA65R-BU6D w/ Mount Pipe	C	From Leg	4.000	0.000	155.000	No Ice	12.248	6.047	0.089
			0.000			1/2" Ice	12.998	6.710	0.176
			6.000			1" Ice	13.764	7.388	0.275
TPA65R-BU6DA-K w/ Mount Pipe	A	From Leg	4.000	0.000	155.000	No Ice	12.870	6.390	0.094
			0.000			1/2" Ice	13.670	7.100	0.180
			6.000			1" Ice	14.490	7.820	0.277
TPA65R-BU6DA-K w/ Mount Pipe	B	From Leg	4.000	0.000	155.000	No Ice	12.870	6.390	0.094
			0.000			1/2" Ice	13.670	7.100	0.180
			6.000			1" Ice	14.490	7.820	0.277
TPA65R-BU6DA-K w/ Mount Pipe	C	From Leg	4.000	0.000	155.000	No Ice	12.870	6.390	0.094
			0.000			1/2" Ice	13.670	7.100	0.180
			6.000			1" Ice	14.490	7.820	0.277
RRUS 4415 B25_CCIV2	A	From Leg	4.000	0.000	155.000	No Ice	1.843	0.820	0.046
			0.000			1/2" Ice	2.012	0.943	0.060
			6.000			1" Ice	2.190	1.075	0.077
RRUS 4415 B25_CCIV2	B	From Leg	4.000	0.000	155.000	No Ice	1.843	0.820	0.046
			0.000			1/2" Ice	2.012	0.943	0.060
			6.000			1" Ice	2.190	1.075	0.077
RRUS 4415 B25_CCIV2	C	From Leg	4.000	0.000	155.000	No Ice	1.843	0.820	0.046
			0.000			1/2" Ice	2.012	0.943	0.060
			6.000			1" Ice	2.190	1.075	0.077
RRUS 4426 B66	A	From Leg	4.000	0.000	155.000	No Ice	1.644	0.725	0.048
			0.000			1/2" Ice	1.804	0.842	0.061
			6.000			1" Ice	1.972	0.969	0.076
RRUS 4426 B66	B	From Leg	4.000	0.000	155.000	No Ice	1.644	0.725	0.048
			0.000			1/2" Ice	1.804	0.842	0.061
			6.000			1" Ice	1.972	0.969	0.076
RRUS 4426 B66	C	From Leg	4.000	0.000	155.000	No Ice	1.644	0.725	0.048
			0.000			1/2" Ice	1.804	0.842	0.061
			6.000			1" Ice	1.972	0.969	0.076
RRUS 4449 B5/B12	A	From Leg	4.000	0.000	155.000	No Ice	1.968	1.408	0.071
			0.000			1/2" Ice	2.144	1.564	0.090
			6.000			1" Ice	2.328	1.727	0.111
RRUS 4449 B5/B12	B	From Leg	4.000	0.000	155.000	No Ice	1.968	1.408	0.071
			0.000			1/2" Ice	2.144	1.564	0.090
			6.000			1" Ice	2.328	1.727	0.111
RRUS 4449 B5/B12	C	From Leg	4.000	0.000	155.000	No Ice	1.968	1.408	0.071
			0.000			1/2" Ice	2.144	1.564	0.090
			6.000			1" Ice	2.328	1.727	0.111
RRUS 4478 B14_CCIV2	A	From Leg	4.000	0.000	155.000	No Ice	2.021	1.246	0.059
			0.000			1/2" Ice	2.200	1.396	0.077
			6.000			1" Ice	2.386	1.554	0.097
RRUS 4478 B14_CCIV2	B	From Leg	4.000	0.000	155.000	No Ice	2.021	1.246	0.059
			0.000			1/2" Ice	2.200	1.396	0.077
			6.000			1" Ice	2.386	1.554	0.097
RRUS 4478 B14_CCIV2	C	From Leg	4.000	0.000	155.000	No Ice	2.021	1.246	0.059
			0.000			1/2" Ice	2.200	1.396	0.077
			6.000			1" Ice	2.386	1.554	0.097
DC6-48-60-18-8F	B	From Leg	4.000	0.000	155.000	No Ice	0.850	0.850	0.019
			0.000			1/2" Ice	1.356	1.356	0.036
			6.000			1" Ice	1.532	1.532	0.055
(2) 6' x 2" Mount Pipe	A	From Leg	1.000	0.000	155.000	No Ice	1.425	1.425	0.022
			0.000			1/2" Ice	1.925	1.925	0.033

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.000			1" Ice	2.294	2.294	0.048
(2) 6' x 2" Mount Pipe	B	From Leg	1.000	0.000	155.000	No Ice	1.425	1.425	0.022
			0.000			1/2" Ice	1.925	1.925	0.033
			0.000			1" Ice	2.294	2.294	0.048
(2) 6' x 2" Mount Pipe	C	From Leg	1.000	0.000	155.000	No Ice	1.425	1.425	0.022
			0.000			1/2" Ice	1.925	1.925	0.033
			0.000			1" Ice	2.294	2.294	0.048
10' x 2" Mount Pipe	A	From Leg	4.000	0.000	155.000	No Ice	2.375	2.375	0.037
			0.000			1/2" Ice	3.403	3.403	0.054
			0.000			1" Ice	4.448	4.448	0.079
10' x 2" Mount Pipe	B	From Leg	4.000	0.000	155.000	No Ice	2.375	2.375	0.037
			0.000			1/2" Ice	3.403	3.403	0.054
			0.000			1" Ice	4.448	4.448	0.079
10' x 2" Mount Pipe	C	From Leg	4.000	0.000	155.000	No Ice	2.375	2.375	0.037
			0.000			1/2" Ice	3.403	3.403	0.054
			0.000			1" Ice	4.448	4.448	0.079
Perfect Vision PV-LPPGS-14M-HR2-H5H10 *	C	None		0.000	155.000	No Ice	22.000	22.000	1.695
						1/2" Ice	29.200	29.200	2.171
						1" Ice	36.400	36.400	2.648
DC6-48-60-18-8F	C	From Leg	2.000	0.000	153.000	No Ice	0.850	0.850	0.019
			0.000			1/2" Ice	1.356	1.356	0.036
			8.000			1" Ice	1.532	1.532	0.055
6' x 2" Mount Pipe	A	From Leg	2.000	0.000	153.000	No Ice	1.425	1.425	0.022
			0.000			1/2" Ice	1.925	1.925	0.033
			1.000			1" Ice	2.294	2.294	0.048
6' x 2" Mount Pipe	B	From Leg	2.000	0.000	153.000	No Ice	1.425	1.425	0.022
			0.000			1/2" Ice	1.925	1.925	0.033
			1.000			1" Ice	2.294	2.294	0.048
6' x 2" Mount Pipe	C	From Leg	2.000	0.000	153.000	No Ice	1.425	1.425	0.022
			0.000			1/2" Ice	1.925	1.925	0.033
			1.000			1" Ice	2.294	2.294	0.048
Side Arm Mount [SO 104-3] *	C	None		0.000	153.000	No Ice	2.620	2.620	0.288
						1/2" Ice	3.300	3.300	0.408
						1" Ice	3.980	3.980	0.528
FFVV-65B-R2 w/ Mount Pipe	A	From Leg	4.000	0.000	139.000	No Ice	7.140	3.830	0.110
			0.000			1/2" Ice	7.600	4.240	0.195
			1.000			1" Ice	8.060	4.660	0.291
FFVV-65B-R2 w/ Mount Pipe	B	From Leg	4.000	0.000	139.000	No Ice	7.140	3.830	0.110
			0.000			1/2" Ice	7.600	4.240	0.195
			1.000			1" Ice	8.060	4.660	0.291
FFVV-65B-R2 w/ Mount Pipe	C	From Leg	4.000	0.000	139.000	No Ice	7.140	3.830	0.110
			0.000			1/2" Ice	7.600	4.240	0.195
			1.000			1" Ice	8.060	4.660	0.291
RF4451d-70A	A	From Leg	4.000	0.000	139.000	No Ice	1.875	1.113	0.061
			0.000			1/2" Ice	2.045	1.249	0.079
			3.000			1" Ice	2.223	1.393	0.098
RF4451d-70A	B	From Leg	4.000	0.000	139.000	No Ice	1.875	1.113	0.061
			0.000			1/2" Ice	2.045	1.249	0.079
			3.000			1" Ice	2.223	1.393	0.098
RF4451d-70A	C	From Leg	4.000	0.000	139.000	No Ice	1.875	1.113	0.061
			0.000			1/2" Ice	2.045	1.249	0.079
			3.000			1" Ice	2.223	1.393	0.098
RF4450t-71A	A	From Leg	4.000	0.000	139.000	No Ice	2.062	1.377	0.095
			0.000			1/2" Ice	2.241	1.526	0.115
			3.000			1" Ice	2.427	1.681	0.139

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
RF4450t-71A	B	From Leg	4.000 0.000 3.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	2.062 2.241 2.427	1.377 1.526 1.681	0.095 0.115 0.139
RF4450t-71A	C	From Leg	4.000 0.000 3.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	2.062 2.241 2.427	1.377 1.526 1.681	0.095 0.115 0.139
RDIDC-9181-PF-48	A	From Leg	4.000 0.000 3.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	2.012 2.189 2.373	1.168 1.311 1.461	0.022 0.040 0.060
(2) 8' x 2" Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	1.900 2.728 3.401	1.900 2.728 3.401	0.029 0.044 0.063
(2) 8' x 2" Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	1.900 2.728 3.401	1.900 2.728 3.401	0.029 0.044 0.063
(2) 8' x 2" Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	1.900 2.728 3.401	1.900 2.728 3.401	0.029 0.044 0.063
Commscope MC-PK8-DSH	C	None		0.000	139.000	No Ice 1/2" Ice 1" Ice	34.240 62.950 91.660	34.240 62.950 91.660	1.749 2.099 2.450
*									
8225	C	From Leg	2.000 0.000 2.000	0.000	76.000	No Ice 1/2" Ice 1" Ice	0.894 1.060 1.230	0.894 1.060 1.230	0.001 0.009 0.018
Side Arm Mount [SO 701-1]	C	From Leg	1.000 0.000 0.000	0.000	76.000	No Ice 1/2" Ice 1" Ice	0.850 1.140 1.430	1.670 2.340 3.010	0.065 0.079 0.093
*									

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

Comb. No.	Description
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	180.5 - 175.5	Pole	Max Tension	26	0.000	-0.000	0.000
			Max. Compression	26	-9.240	0.847	-0.511
			Max. Mx	20	-4.137	47.111	0.236
			Max. My	14	-4.133	0.340	-46.931
			Max. Vy	20	-6.906	47.111	0.236
			Max. Vx	14	6.909	0.340	-46.931
			Max. Torque	16			-3.000
L2	175.5 - 170.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-9.738	0.857	-0.540
			Max. Mx	20	-4.464	82.413	0.188
			Max. My	14	-4.460	0.349	-82.245
			Max. Vy	20	-7.218	82.413	0.188
			Max. Vx	14	7.221	0.349	-82.245
			Max. Torque	16			-2.999
L3	170.5 - 165.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-16.316	0.869	-0.060
			Max. Mx	20	-7.685	133.494	0.308
			Max. My	14	-7.672	0.360	-133.324
			Max. Vy	20	-11.052	133.494	0.308
			Max. Vx	14	11.089	0.360	-133.324

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	16			-3.939
L4	165.5 - 160.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-17.018	0.882	-0.272
			Max. Mx	20	-8.141	189.541	0.174
			Max. My	14	-8.129	0.370	-189.631
			Max. Vy	20	-11.375	189.541	0.174
			Max. Vx	14	11.413	0.370	-189.631
			Max. Torque	16			-3.937
L5	160.5 - 155.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-17.741	0.893	-0.491
			Max. Mx	20	-8.624	247.205	0.040
			Max. My	14	-8.612	0.379	-247.557
			Max. Vy	20	-11.700	247.205	0.040
			Max. Vx	14	11.738	0.379	-247.557
			Max. Torque	16			-3.933
L6	155.5 - 150.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-26.756	0.806	-0.961
			Max. Mx	20	-12.907	349.395	0.185
			Max. My	14	-12.891	0.363	-350.146
			Max. Vy	20	-17.592	349.395	0.185
			Max. Vx	14	17.632	0.363	-350.146
			Max. Torque	16			-6.050
L7	150.5 - 145.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-27.598	0.818	-1.209
			Max. Mx	20	-13.569	438.062	0.037
			Max. My	14	-13.555	0.373	-439.094
			Max. Vy	20	-17.894	438.062	0.037
			Max. Vx	14	17.935	0.373	-439.094
			Max. Torque	16			-6.045
L8	145.5 - 140.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-28.460	0.829	-1.462
			Max. Mx	20	-14.264	528.218	-0.105
			Max. My	14	-14.250	0.382	-529.533
			Max. Vy	20	-18.190	528.218	-0.105
			Max. Vx	14	18.230	0.382	-529.533
			Max. Torque	4			6.035
L9	140.5 - 134.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-33.938	0.823	-1.275
			Max. Mx	20	-17.510	583.015	0.011
			Max. My	14	-17.490	0.381	-584.474
			Max. Vy	20	-21.499	583.015	0.011
			Max. Vx	14	21.568	0.381	-584.474
			Max. Torque	4			6.765
L10	134.5 - 132.794	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-35.330	0.809	-1.528
			Max. Mx	20	-18.574	691.405	-0.132
			Max. My	14	-18.555	0.379	-693.305
			Max. Vy	20	-21.877	691.405	-0.132
			Max. Vx	14	21.947	0.379	-693.305
			Max. Torque	4			6.757
L11	132.794 - 127.794	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-36.368	0.788	-1.783
			Max. Mx	20	-19.467	801.351	-0.265
			Max. My	14	-19.449	0.373	-803.694
			Max. Vy	20	-22.147	801.351	-0.265
			Max. Vx	14	22.217	0.373	-803.694
			Max. Torque	4			6.754
L12	127.794 - 122.794	Pole	Max Tension	1	0.000	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-37.429	0.765	-2.041
			Max. Mx	20	-20.377	912.672	-0.395
			Max. My	14	-20.360	0.365	-915.462
			Max. Vy	20	-22.420	912.672	-0.395
			Max. Vx	14	22.490	0.365	-915.462
			Max. Torque	4			6.743
L13	122.794 - 120.583	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-37.925	0.755	-2.157
			Max. Mx	20	-20.787	962.327	-0.452
			Max. My	14	-20.770	0.361	-965.316
			Max. Vy	20	-22.540	962.327	-0.452
			Max. Vx	14	22.610	0.361	-965.316
			Max. Torque	4			6.731
L14	120.583 - 120.333	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-37.984	0.754	-2.171
			Max. Mx	20	-20.850	967.958	-0.457
			Max. My	14	-20.833	0.361	-970.970
			Max. Vy	20	-22.538	967.958	-0.457
			Max. Vx	14	22.612	0.361	-970.970
			Max. Torque	4			6.727
L15	120.333 - 115.333	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-39.164	0.728	-2.434
			Max. Mx	20	-21.788	1081.262	-0.582
			Max. My	14	-21.772	0.351	-1084.724
			Max. Vy	20	-22.812	1081.262	-0.582
			Max. Vx	14	22.882	0.351	-1084.724
			Max. Torque	4			6.725
L16	115.333 - 112.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-39.893	0.712	-2.585
			Max. Mx	20	-22.330	1146.032	-0.652
			Max. My	14	-22.315	0.344	-1149.751
			Max. Vy	20	-22.965	1146.032	-0.652
			Max. Vx	14	23.035	0.344	-1149.751
			Max. Torque	5			6.714
L17	112.5 - 112.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-39.986	0.711	-2.601
			Max. Mx	20	-22.427	1151.768	-0.658
			Max. My	14	-22.412	0.345	-1155.511
			Max. Vy	20	-22.961	1151.768	-0.658
			Max. Vx	14	23.034	0.345	-1155.511
			Max. Torque	5			6.709
L18	112.25 - 107.917	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-41.617	0.686	-2.833
			Max. Mx	20	-23.656	1252.004	-0.769
			Max. My	14	-23.641	0.334	-1256.141
			Max. Vy	20	-23.326	1252.004	-0.769
			Max. Vx	14	23.396	0.334	-1256.141
			Max. Torque	5			6.709
L19	107.917 - 107.667	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-41.719	0.685	-2.850
			Max. Mx	20	-23.740	1257.835	-0.776
			Max. My	14	-23.725	0.335	-1261.995
			Max. Vy	20	-23.341	1257.835	-0.776
			Max. Vx	14	23.414	0.335	-1261.995
			Max. Torque	5			6.705

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L20	107.667 - 107.417	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-41.820	0.684	-2.863
			Max. Mx	20	-23.816	1263.671	-0.783
			Max. My	14	-23.801	0.335	-1267.854
			Max. Vy	20	-23.363	1263.671	-0.783
			Max. Vx	14	23.437	0.335	-1267.854
			Max. Torque	5			6.703
L21	107.417 - 102.417	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-43.789	0.654	-3.137
			Max. Mx	20	-25.328	1381.481	-0.912
			Max. My	14	-25.313	0.322	-1386.123
			Max. Vy	20	-23.782	1381.481	-0.912
			Max. Vx	14	23.852	0.322	-1386.123
			Max. Torque	5			6.700
L22	102.417 - 97.417	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-45.769	0.624	-3.419
			Max. Mx	20	-26.871	1501.329	-1.043
			Max. My	14	-26.857	0.309	-1506.436
			Max. Vy	20	-24.187	1501.329	-1.043
			Max. Vx	14	24.258	0.309	-1506.436
			Max. Torque	5			6.695
L23	97.417 - 89	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-47.414	0.597	-3.656
			Max. Mx	20	-28.158	1601.247	-1.152
			Max. My	14	-28.144	0.298	-1606.738
			Max. Vy	20	-24.513	1601.247	-1.152
			Max. Vx	14	24.584	0.298	-1606.738
			Max. Torque	5			6.690
L24	89 - 88.311	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-50.859	0.566	-3.948
			Max. Mx	20	-30.946	1725.197	-1.287
			Max. My	14	-30.933	0.286	-1731.159
			Max. Vy	20	-25.072	1725.197	-1.287
			Max. Vx	14	25.144	0.286	-1731.159
			Max. Torque	5			6.684
L25	88.311 - 87.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-51.209	0.560	-3.995
			Max. Mx	20	-31.225	1745.546	-1.309
			Max. My	14	-31.211	0.283	-1751.585
			Max. Vy	20	-25.138	1745.546	-1.309
			Max. Vx	14	25.210	0.283	-1751.585
			Max. Torque	5			6.683
L26	87.5 - 87.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-51.286	0.559	-4.011
			Max. Mx	20	-31.288	1751.829	-1.315
			Max. My	14	-31.275	0.283	-1757.892
			Max. Vy	20	-25.146	1751.829	-1.315
			Max. Vx	14	25.222	0.283	-1757.892
			Max. Torque	5			6.683
L27	87.25 - 82.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-52.790	0.526	-4.304
			Max. Mx	20	-32.482	1878.091	-1.443
			Max. My	14	-32.470	0.268	-1884.628
			Max. Vy	20	-25.397	1878.091	-1.443
			Max. Vx	14	25.468	0.268	-1884.628
			Max. Torque	5			6.682
L28	82.25 - 80.833	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-53.233	0.516	-4.388

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	-32.821	1914.085	-1.480
			Max. My	14	-32.809	0.263	-1920.757
			Max. Vy	20	-25.472	1914.085	-1.480
			Max. Vx	14	25.543	0.263	-1920.757
			Max. Torque	5			6.673
L29	80.833 - 80.583	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-53.312	0.515	-4.405
			Max. Mx	20	-32.904	1920.445	-1.485
			Max. My	14	-32.892	0.263	-1927.141
			Max. Vy	20	-25.456	1920.445	-1.485
			Max. Vx	14	25.532	0.263	-1927.141
			Max. Torque	5			6.672
L30	80.583 - 75.583	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-54.952	0.758	-4.862
			Max. Mx	20	-34.206	2048.496	-1.706
			Max. My	14	-34.194	0.406	-2055.600
			Max. Vy	20	-25.770	2048.496	-1.706
			Max. Vx	14	25.855	0.406	-2055.600
			Max. Torque	5			6.763
L31	75.583 - 70.583	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-56.474	0.723	-5.161
			Max. Mx	20	-35.474	2177.739	-1.832
			Max. My	14	-35.463	0.388	-2185.391
			Max. Vy	20	-25.985	2177.739	-1.832
			Max. Vx	14	26.069	0.388	-2185.391
			Max. Torque	5			6.762
L32	70.583 - 65.583	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-58.021	0.685	-5.463
			Max. Mx	20	-36.766	2308.030	-1.958
			Max. My	14	-36.757	0.370	-2316.228
			Max. Vy	20	-26.190	2308.030	-1.958
			Max. Vx	14	26.274	0.370	-2316.228
			Max. Torque	5			6.755
L33	65.583 - 60.583	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-59.593	0.647	-5.765
			Max. Mx	20	-38.083	2439.320	-2.083
			Max. My	14	-38.074	0.351	-2448.066
			Max. Vy	20	-26.386	2439.320	-2.083
			Max. Vx	14	26.469	0.351	-2448.066
			Max. Torque	5			6.749
L34	60.583 - 55.583	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-61.198	0.607	-6.068
			Max. Mx	20	-39.424	2571.560	-2.208
			Max. My	14	-39.416	0.331	-2580.853
			Max. Vy	20	-26.571	2571.560	-2.208
			Max. Vx	14	26.653	0.331	-2580.853
			Max. Torque	5			6.744
L35	55.583 - 53.667	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-61.853	0.591	-6.173
			Max. Mx	20	-39.927	2622.478	-2.257
			Max. My	14	-39.920	0.323	-2631.980
			Max. Vy	20	-26.664	2622.478	-2.257
			Max. Vx	14	26.746	0.323	-2631.980
			Max. Torque	5			6.739

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L36	53.667 - 53.417	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-61.939	0.589	-6.189
			Max. Mx	20	-40.024	2629.131	-2.262
			Max. My	14	-40.017	0.322	-2638.661
			Max. Vy	20	-26.629	2629.131	-2.262
			Max. Vx	14	26.715	0.322	-2638.661
			Max. Torque	5			6.738
L37	53.417 - 53.167	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-62.024	0.587	-6.203
			Max. Mx	20	-40.092	2635.787	-2.268
			Max. My	14	-40.085	0.321	-2645.344
			Max. Vy	20	-26.638	2635.787	-2.268
			Max. Vx	14	26.723	0.321	-2645.344
			Max. Torque	5			6.737
L38	53.167 - 43.8	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-63.435	0.552	-6.428
			Max. Mx	20	-41.195	2744.212	-2.371
			Max. My	14	-41.189	0.303	-2754.214
			Max. Vy	20	-26.790	2744.212	-2.371
			Max. Vx	14	26.871	0.303	-2754.214
			Max. Torque	5			6.737
L39	43.8 - 42.8	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-67.995	0.498	-6.782
			Max. Mx	20	-44.928	2914.486	-2.536
			Max. My	14	-44.923	0.277	-2925.176
			Max. Vy	20	-27.253	2914.486	-2.536
			Max. Vx	14	27.334	0.277	-2925.176
			Max. Torque	5			6.733
L40	42.8 - 38.417	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-70.311	0.461	-7.029
			Max. Mx	20	-46.827	3034.379	-2.650
			Max. My	14	-46.822	0.258	-3045.530
			Max. Vy	20	-27.500	3034.379	-2.650
			Max. Vx	14	27.571	0.258	-3045.530
			Max. Torque	5			6.733
L41	38.417 - 38.167	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-70.429	0.459	-7.045
			Max. Mx	20	-46.928	3041.250	-2.656
			Max. My	14	-46.924	0.257	-3052.426
			Max. Vy	20	-27.498	3041.250	-2.656
			Max. Vx	14	27.572	0.257	-3052.426
			Max. Torque	5			6.731
L42	38.167 - 37.917	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-70.565	0.457	-7.060
			Max. Mx	20	-47.038	3048.124	-2.662
			Max. My	14	-47.034	0.256	-3059.325
			Max. Vy	20	-27.512	3048.124	-2.662
			Max. Vx	14	27.583	0.256	-3059.325
			Max. Torque	5			6.731
L43	37.917 - 37.667	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-70.700	0.454	-7.074
			Max. Mx	20	-47.148	3055.001	-2.669
			Max. My	14	-47.143	0.255	-3066.226
			Max. Vy	20	-27.526	3055.001	-2.669
			Max. Vx	14	27.596	0.255	-3066.226
			Max. Torque	5			6.731

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L44	37.667 - 32.667	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-73.351	0.410	-7.358
			Max. Mx	20	-49.334	3193.206	-2.800
			Max. My	14	-49.330	0.232	-3204.909
			Max. Vy	20	-27.787	3193.206	-2.800
			Max. Vx	14	27.853	0.232	-3204.909
			Max. Torque	5			6.731
L45	32.667 - 27.667	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-75.991	0.366	-7.648
			Max. Mx	20	-51.552	3332.597	-2.932
			Max. My	14	-51.549	0.209	-3344.778
			Max. Vy	20	-28.015	3332.597	-2.932
			Max. Vx	14	28.080	0.209	-3344.778
			Max. Torque	5			6.729
L46	27.667 - 23.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-78.207	0.329	-7.893
			Max. Mx	20	-53.420	3449.621	-3.043
			Max. My	14	-53.417	0.189	-3462.200
			Max. Vy	20	-28.200	3449.621	-3.043
			Max. Vx	14	28.265	0.189	-3462.200
			Max. Torque	5			6.728
L47	23.5 - 23.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-78.341	0.327	-7.909
			Max. Mx	20	-53.541	3456.666	-3.049
			Max. My	14	-53.538	0.188	-3469.270
			Max. Vy	20	-28.196	3456.666	-3.049
			Max. Vx	14	28.263	0.188	-3469.270
			Max. Torque	5			6.727
L48	23.25 - 18.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-81.014	0.282	-8.203
			Max. Mx	20	-55.797	3598.141	-3.183
			Max. My	14	-55.795	0.163	-3611.222
			Max. Vy	20	-28.428	3598.141	-3.183
			Max. Vx	14	28.492	0.163	-3611.222
			Max. Torque	5			6.727
L49	18.25 - 13.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-83.701	0.237	-8.501
			Max. Mx	20	-58.085	3740.684	-3.318
			Max. My	14	-58.083	0.138	-3754.243
			Max. Vy	20	-28.639	3740.684	-3.318
			Max. Vx	14	28.702	0.138	-3754.243
			Max. Torque	5			6.726
L50	13.25 - 8.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-86.396	0.192	-8.799
			Max. Mx	20	-60.396	3884.271	-3.453
			Max. My	14	-60.395	0.113	-3898.308
			Max. Vy	20	-28.846	3884.271	-3.453
			Max. Vx	14	28.909	0.113	-3898.308
			Max. Torque	5			6.726
L51	8.25 - 7.917	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-86.576	0.189	-8.820
			Max. Mx	20	-60.558	3893.871	-3.462
			Max. My	14	-60.557	0.111	-3907.940
			Max. Vy	20	-28.847	3893.871	-3.462
			Max. Vx	14	28.910	0.111	-3907.940
			Max. Torque	5			6.725
L52	7.917 - 7.667	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-86.717	0.187	-8.835
			Max. Mx	20	-60.681	3901.081	-3.469

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	14	-60.680	0.110	-3915.174
			Max. Vy	20	-28.856	3901.081	-3.469
			Max. Vx	14	28.919	0.110	-3915.174
			Max. Torque	5			6.725
L53	7.667 - 5.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-87.938	0.168	-8.963
			Max. Mx	20	-61.733	3963.693	-3.528
			Max. My	14	-61.732	0.098	-3977.992
			Max. Vy	20	-28.967	3963.693	-3.528
			Max. Vx	14	29.029	0.098	-3977.992
			Max. Torque	5			6.725
L54	5.5 - 5.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-88.041	0.168	-8.979
			Max. Mx	20	-61.828	3970.928	-3.535
			Max. My	14	-61.828	0.097	-3985.252
			Max. Vy	20	-28.958	3970.928	-3.535
			Max. Vx	14	29.022	0.097	-3985.252
			Max. Torque	5			6.725
L55	5.25 - 3	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-88.968	0.171	-9.117
			Max. Mx	20	-62.620	4036.104	-3.596
			Max. My	14	-62.619	0.085	-4050.642
			Max. Vy	20	-29.029	4036.104	-3.596
			Max. Vx	14	29.091	0.085	-4050.642
			Max. Torque	5			6.725
L56	3 - 2.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-89.096	0.171	-9.133
			Max. Mx	20	-62.747	4043.352	-3.602
			Max. My	14	-62.746	0.083	-4057.914
			Max. Vy	20	-29.009	4043.352	-3.602
			Max. Vx	14	29.071	0.083	-4057.914
			Max. Torque	5			6.725
L57	2.75 - 0	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-90.461	0.167	-9.295
			Max. Mx	20	-63.979	4123.244	-3.677
			Max. My	14	-63.979	0.069	-4138.067
			Max. Vy	20	-29.140	4123.244	-3.677
			Max. Vx	14	29.201	0.069	-4138.067
			Max. Torque	5			6.725

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	33	90.461	0.000	-7.552
	Max. H_x	20	63.993	29.110	0.000
	Max. H_z	2	63.993	0.000	29.171
	Max. M_x	2	4130.255	0.000	29.171
	Max. M_z	8	4123.059	-29.110	0.000
	Max. Torsion	5	6.725	-15.623	27.060
	Min. Vert	13	47.995	-14.634	-25.346
	Min. H_x	8	63.993	-29.110	0.000
	Min. H_z	14	63.993	0.000	-29.171
	Min. M_x	14	-4138.067	0.000	-29.171
	Min. M_z	20	-4123.244	29.110	0.000
	Min. Torsion	17	-6.724	15.623	-27.060

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K

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	53.328	-0.000	0.000	3.084	0.055	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	63.993	-0.000	-29.171	-4130.255	0.069	-0.839
0.9 Dead+1.0 Wind 0 deg - No Ice	47.995	0.000	-29.171	-4035.463	0.040	-0.818
1.2 Dead+1.0 Wind 30 deg - No Ice	63.993	15.623	-27.060	-3743.508	-2163.859	-6.718
0.9 Dead+1.0 Wind 30 deg - No Ice	47.995	15.623	-27.060	-3658.867	-2114.311	-6.725
1.2 Dead+1.0 Wind 60 deg - No Ice	63.993	26.753	-15.446	-2152.350	-3734.760	-0.581
0.9 Dead+1.0 Wind 60 deg - No Ice	47.995	26.753	-15.446	-2103.995	-3649.203	-0.583
1.2 Dead+1.0 Wind 90 deg - No Ice	63.993	29.110	0.000	3.677	-4123.059	5.720
0.9 Dead+1.0 Wind 90 deg - No Ice	47.995	29.110	0.000	2.703	-4027.511	5.723
1.2 Dead+1.0 Wind 120 deg - No Ice	63.993	25.215	14.558	2066.531	-3572.420	0.253
0.9 Dead+1.0 Wind 120 deg - No Ice	47.995	25.215	14.558	2017.662	-3489.637	0.230
1.2 Dead+1.0 Wind 150 deg - No Ice	63.993	14.634	25.346	3589.312	-2069.618	-5.281
0.9 Dead+1.0 Wind 150 deg - No Ice	47.995	14.634	25.346	3505.193	-2021.788	-5.323
1.2 Dead+1.0 Wind 180 deg - No Ice	63.993	-0.000	29.171	4138.067	0.069	0.839
0.9 Dead+1.0 Wind 180 deg - No Ice	47.995	0.000	29.171	4041.191	0.040	0.818
1.2 Dead+1.0 Wind 210 deg - No Ice	63.993	-15.623	27.060	3751.646	2163.469	6.717
0.9 Dead+1.0 Wind 210 deg - No Ice	47.995	-15.623	27.060	3664.822	2114.023	6.724
1.2 Dead+1.0 Wind 240 deg - No Ice	63.993	-26.753	15.446	2160.253	3734.889	0.581
0.9 Dead+1.0 Wind 240 deg - No Ice	47.995	-26.753	15.446	2109.784	3649.277	0.583
1.2 Dead+1.0 Wind 270 deg - No Ice	63.993	-29.110	0.000	3.677	4123.244	-5.720
0.9 Dead+1.0 Wind 270 deg - No Ice	47.995	-29.110	0.000	2.703	4027.623	-5.723
1.2 Dead+1.0 Wind 300 deg - No Ice	63.993	-25.215	-14.558	-2058.667	3572.634	-0.253
0.9 Dead+1.0 Wind 300 deg - No Ice	47.995	-25.215	-14.558	-2011.899	3489.769	-0.230
1.2 Dead+1.0 Wind 330 deg - No Ice	63.993	-14.634	-25.346	-3581.219	2070.290	5.281
0.9 Dead+1.0 Wind 330 deg - No Ice	47.995	-14.634	-25.346	-3499.269	2022.240	5.323
1.2 Dead+1.0 Ice+1.0 Temp	90.461	-0.000	0.000	9.295	0.167	0.000
1.2 Dead+1.0 Wind 0 deg+1.0	90.461	0.000	-7.552	-1087.714	0.170	-0.253

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Ice+1.0 Temp 1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	90.461	3.775	-6.538	-940.407	-548.279	-1.274
Ice+1.0 Temp 1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	90.461	6.531	-3.771	-538.356	-948.722	-0.105
Ice+1.0 Temp 1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	90.461	7.537	0.000	9.462	-1094.687	1.092
Ice+1.0 Temp 1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	90.461	6.533	3.772	557.338	-948.737	0.147
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	90.461	3.776	6.540	959.415	-548.243	-0.838
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	90.461	0.000	7.552	1106.674	0.170	0.253
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	90.461	-3.775	6.538	959.398	548.573	1.275
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	90.461	-6.531	3.771	557.330	949.062	0.105
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	90.461	-7.537	0.000	9.462	1095.034	-1.092
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	90.461	-6.533	-3.772	-538.371	949.088	-0.146
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	90.461	-3.776	-6.540	-940.430	548.633	0.838
Dead+Wind 0 deg - Service	53.328	0.000	-6.540	-913.055	0.073	-0.189
Dead+Wind 30 deg - Service	53.328	3.502	-6.066	-827.663	-479.666	-1.564
Dead+Wind 60 deg - Service	53.328	5.998	-3.463	-474.836	-827.987	-0.131
Dead+Wind 90 deg - Service	53.328	6.526	0.000	3.233	-913.768	1.336
Dead+Wind 120 deg - Service	53.328	5.653	3.264	460.393	-791.732	0.057
Dead+Wind 150 deg - Service	53.328	3.281	5.682	797.900	-458.709	-1.237
Dead+Wind 180 deg - Service	53.328	0.000	6.540	919.540	0.073	0.190
Dead+Wind 210 deg - Service	53.328	-3.502	6.066	834.161	479.789	1.564
Dead+Wind 240 deg - Service	53.328	-5.998	3.463	481.325	828.132	0.131
Dead+Wind 270 deg - Service	53.328	-6.526	0.000	3.233	913.915	-1.336
Dead+Wind 300 deg - Service	53.328	-5.653	-3.264	-453.906	791.880	-0.057
Dead+Wind 330 deg - Service	53.328	-3.281	-5.682	-791.403	458.876	1.237

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	0.000	-53.328	0.000	0.000	53.328	-0.000	0.000%
2	0.000	-63.993	-29.171	0.000	63.993	29.171	0.000%
3	0.000	-47.995	-29.171	0.000	47.995	29.171	0.000%
4	15.623	-63.993	-27.060	-15.623	63.993	27.060	0.000%
5	15.623	-47.995	-27.060	-15.623	47.995	27.060	0.000%
6	26.753	-63.993	-15.446	-26.753	63.993	15.446	0.000%
7	26.753	-47.995	-15.446	-26.753	47.995	15.446	0.000%
8	29.110	-63.993	0.000	-29.110	63.993	0.000	0.000%
9	29.110	-47.995	0.000	-29.110	47.995	0.000	0.000%
10	25.215	-63.993	14.558	-25.215	63.993	-14.558	0.000%
11	25.215	-47.995	14.558	-25.215	47.995	-14.558	0.000%
12	14.634	-63.993	25.346	-14.634	63.993	-25.346	0.000%
13	14.634	-47.995	25.346	-14.634	47.995	-25.346	0.000%
14	0.000	-63.993	29.171	0.000	63.993	-29.171	0.000%
15	0.000	-47.995	29.171	0.000	47.995	-29.171	0.000%
16	-15.623	-63.993	27.060	15.623	63.993	-27.060	0.000%
17	-15.623	-47.995	27.060	15.623	47.995	-27.060	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
18	-26.753	-63.993	15.446	26.753	63.993	-15.446	0.000%
19	-26.753	-47.995	15.446	26.753	47.995	-15.446	0.000%
20	-29.110	-63.993	0.000	29.110	63.993	0.000	0.000%
21	-29.110	-47.995	0.000	29.110	47.995	0.000	0.000%
22	-25.215	-63.993	-14.558	25.215	63.993	14.558	0.000%
23	-25.215	-47.995	-14.558	25.215	47.995	14.558	0.000%
24	-14.634	-63.993	-25.346	14.634	63.993	25.346	0.000%
25	-14.634	-47.995	-25.346	14.634	47.995	25.346	0.000%
26	0.000	-90.461	0.000	0.000	90.461	-0.000	0.000%
27	0.000	-90.461	-7.552	0.000	90.461	7.552	0.000%
28	3.775	-90.461	-6.538	-3.775	90.461	6.538	0.000%
29	6.531	-90.461	-3.771	-6.531	90.461	3.771	0.000%
30	7.537	-90.461	0.000	-7.537	90.461	-0.000	0.000%
31	6.533	-90.461	3.772	-6.533	90.461	-3.772	0.000%
32	3.776	-90.461	6.540	-3.776	90.461	-6.540	0.000%
33	0.000	-90.461	7.552	0.000	90.461	-7.552	0.000%
34	-3.775	-90.461	6.538	3.775	90.461	-6.538	0.000%
35	-6.531	-90.461	3.771	6.531	90.461	-3.771	0.000%
36	-7.537	-90.461	0.000	7.537	90.461	-0.000	0.000%
37	-6.533	-90.461	-3.772	6.533	90.461	3.772	0.000%
38	-3.776	-90.461	-6.540	3.776	90.461	6.540	0.000%
39	0.000	-53.328	-6.540	0.000	53.328	6.540	0.000%
40	3.502	-53.328	-6.066	-3.502	53.328	6.066	0.000%
41	5.998	-53.328	-3.463	-5.998	53.328	3.463	0.000%
42	6.526	-53.328	0.000	-6.526	53.328	0.000	0.000%
43	5.653	-53.328	3.264	-5.653	53.328	-3.264	0.000%
44	3.281	-53.328	5.682	-3.281	53.328	-5.682	0.000%
45	0.000	-53.328	6.540	0.000	53.328	-6.540	0.000%
46	-3.502	-53.328	6.066	3.502	53.328	-6.066	0.000%
47	-5.998	-53.328	3.463	5.998	53.328	-3.463	0.000%
48	-6.526	-53.328	0.000	6.526	53.328	0.000	0.000%
49	-5.653	-53.328	-3.264	5.653	53.328	3.264	0.000%
50	-3.281	-53.328	-5.682	3.281	53.328	5.682	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00001109
2	Yes	6	0.00000001	0.00054446
3	Yes	6	0.00000001	0.00017635
4	Yes	8	0.00000001	0.00040353
5	Yes	7	0.00000001	0.00089546
6	Yes	8	0.00000001	0.00043438
7	Yes	7	0.00000001	0.00097263
8	Yes	7	0.00000001	0.00038249
9	Yes	7	0.00000001	0.00009551
10	Yes	8	0.00000001	0.00041885
11	Yes	7	0.00000001	0.00094512
12	Yes	8	0.00000001	0.00044619
13	Yes	8	0.00000001	0.00007197
14	Yes	6	0.00000001	0.00054480
15	Yes	6	0.00000001	0.00017637
16	Yes	8	0.00000001	0.00046678
17	Yes	8	0.00000001	0.00007404
18	Yes	8	0.00000001	0.00042988

19	Yes	7	0.00000001	0.00096051
20	Yes	7	0.00000001	0.00038258
21	Yes	7	0.00000001	0.00009552
22	Yes	8	0.00000001	0.00041667
23	Yes	7	0.00000001	0.00094085
24	Yes	8	0.00000001	0.00039528
25	Yes	7	0.00000001	0.00088608
26	Yes	5	0.00000001	0.00031679
27	Yes	8	0.00000001	0.00030100
28	Yes	8	0.00000001	0.00048880
29	Yes	8	0.00000001	0.00049682
30	Yes	8	0.00000001	0.00030665
31	Yes	8	0.00000001	0.00051040
32	Yes	8	0.00000001	0.00051872
33	Yes	8	0.00000001	0.00030609
34	Yes	8	0.00000001	0.00052632
35	Yes	8	0.00000001	0.00051005
36	Yes	8	0.00000001	0.00030772
37	Yes	8	0.00000001	0.00049618
38	Yes	8	0.00000001	0.00049299
39	Yes	5	0.00000001	0.00053526
40	Yes	6	0.00000001	0.00055573
41	Yes	6	0.00000001	0.00063015
42	Yes	6	0.00000001	0.00019853
43	Yes	6	0.00000001	0.00057776
44	Yes	6	0.00000001	0.00068405
45	Yes	5	0.00000001	0.00053902
46	Yes	6	0.00000001	0.00077171
47	Yes	6	0.00000001	0.00062377
48	Yes	6	0.00000001	0.00019888
49	Yes	6	0.00000001	0.00056462
50	Yes	6	0.00000001	0.00051400

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	180.5 - 175.5	45.093	46	2.497	0.027
L2	175.5 - 170.5	42.487	46	2.480	0.025
L3	170.5 - 165.5	39.907	46	2.449	0.023
L4	165.5 - 160.5	37.366	46	2.405	0.021
L5	160.5 - 155.5	34.878	46	2.347	0.019
L6	155.5 - 150.5	32.457	46	2.278	0.018
L7	150.5 - 145.5	30.114	46	2.194	0.015
L8	145.5 - 140.5	27.867	46	2.098	0.013
L9	140.5 - 134.5	25.725	46	1.993	0.012
L10	137.794 - 132.794	24.613	46	1.933	0.011
L11	132.794 - 127.794	22.620	46	1.863	0.010
L12	127.794 - 122.794	20.724	46	1.758	0.009
L13	122.794 - 120.583	18.939	46	1.650	0.008
L14	120.583 - 120.333	18.186	46	1.602	0.007
L15	120.333 - 115.333	18.103	46	1.596	0.007
L16	115.333 - 112.5	16.490	46	1.485	0.006
L17	112.5 - 112.25	15.628	46	1.421	0.006
L18	112.25 - 107.917	15.553	46	1.418	0.006
L19	107.917 - 107.667	14.289	46	1.369	0.005
L20	107.667 - 107.417	14.217	46	1.366	0.005
L21	107.417 - 102.417	14.146	46	1.364	0.005
L22	102.417 - 97.417	12.747	46	1.309	0.005

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L23	97.417 - 89	11.406	46	1.253	0.004
L24	93.311 - 88.311	10.349	46	1.206	0.004
L25	88.311 - 87.5	9.100	46	1.175	0.004
L26	87.5 - 87.25	8.901	46	1.166	0.004
L27	87.25 - 82.25	8.840	46	1.162	0.004
L28	82.25 - 80.833	7.675	46	1.064	0.004
L29	80.833 - 80.583	7.363	46	1.037	0.003
L30	80.583 - 75.583	7.309	46	1.033	0.003
L31	75.583 - 70.583	6.278	46	0.937	0.003
L32	70.583 - 65.583	5.346	46	0.843	0.003
L33	65.583 - 60.583	4.512	46	0.750	0.002
L34	60.583 - 55.583	3.774	46	0.659	0.002
L35	55.583 - 53.667	3.131	46	0.570	0.002
L36	53.667 - 53.417	2.909	46	0.536	0.001
L37	53.417 - 53.167	2.881	46	0.532	0.001
L38	53.167 - 43.8	2.853	46	0.528	0.001
L39	49.105 - 42.8	2.434	46	0.457	0.001
L40	42.8 - 38.417	1.857	46	0.414	0.001
L41	38.417 - 38.167	1.497	46	0.371	0.001
L42	38.167 - 37.917	1.478	46	0.368	0.001
L43	37.917 - 37.667	1.459	46	0.365	0.001
L44	37.667 - 32.667	1.440	46	0.363	0.001
L45	32.667 - 27.667	1.085	46	0.314	0.001
L46	27.667 - 23.5	0.782	46	0.266	0.001
L47	23.5 - 23.25	0.568	46	0.226	0.001
L48	23.25 - 18.25	0.556	46	0.224	0.001
L49	18.25 - 13.25	0.346	46	0.177	0.000
L50	13.25 - 8.25	0.186	46	0.130	0.000
L51	8.25 - 7.917	0.074	46	0.084	0.000
L52	7.917 - 7.667	0.068	46	0.081	0.000
L53	7.667 - 5.5	0.064	46	0.079	0.000
L54	5.5 - 5.25	0.032	46	0.061	0.000
L55	5.25 - 3	0.029	46	0.058	0.000
L56	3 - 2.75	0.009	46	0.027	0.000
L57	2.75 - 0	0.007	46	0.025	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
183.000	AIR6449 B41_T-MOBILE w/ Mount Pipe	46	45.093	2.497	0.027	11650
181.000	Side Arm Mount [SO 102-3]	46	45.093	2.497	0.027	11650
169.000	BXA-171063-12BF-EDIN-2 w/ Mount Pipe	46	39.140	2.437	0.022	6967
155.000	AM-X-CD-17-65-00T-RET w/ Mount Pipe	46	32.219	2.271	0.017	3725
153.000	DC6-48-60-18-8F	46	31.275	2.238	0.017	3442
139.000	FFVV-65B-R2 w/ Mount Pipe	46	25.105	1.958	0.011	3164
76.000	8225	46	6.360	0.945	0.003	3020

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	180.5 - 175.5	202.174	16	11.245	0.118
L2	175.5 - 170.5	190.560	16	11.171	0.108
L3	170.5 - 165.5	179.055	16	11.033	0.100
L4	165.5 - 160.5	167.717	16	10.837	0.091
L5	160.5 - 155.5	156.612	16	10.578	0.083
L6	155.5 - 150.5	145.796	16	10.271	0.076
L7	150.5 - 145.5	135.326	16	9.894	0.067
L8	145.5 - 140.5	125.271	16	9.461	0.058
L9	140.5 - 134.5	115.680	16	8.988	0.051
L10	137.794 - 132.794	110.696	16	8.719	0.047
L11	132.794 - 127.794	101.761	16	8.405	0.043
L12	127.794 - 122.794	93.255	16	7.934	0.038
L13	122.794 - 120.583	85.243	16	7.446	0.033
L14	120.583 - 120.333	81.862	16	7.227	0.031
L15	120.333 - 115.333	81.486	16	7.202	0.030
L16	115.333 - 112.5	74.237	16	6.700	0.026
L17	112.5 - 112.25	70.362	16	6.413	0.024
L18	112.25 - 107.917	70.028	16	6.400	0.024
L19	107.917 - 107.667	64.340	16	6.178	0.023
L20	107.667 - 107.417	64.018	16	6.165	0.022
L21	107.417 - 102.417	63.697	16	6.153	0.022
L22	102.417 - 97.417	57.403	16	5.905	0.021
L23	97.417 - 89	51.370	16	5.653	0.019
L24	93.311 - 88.311	46.611	16	5.444	0.018
L25	88.311 - 87.5	40.991	16	5.303	0.017
L26	87.5 - 87.25	40.096	16	5.263	0.017
L27	87.25 - 82.25	39.821	16	5.241	0.017
L28	82.25 - 80.833	34.575	16	4.802	0.015
L29	80.833 - 80.583	33.170	16	4.680	0.015
L30	80.583 - 75.583	32.926	16	4.659	0.015
L31	75.583 - 70.583	28.282	16	4.227	0.013
L32	70.583 - 65.583	24.085	16	3.802	0.011
L33	65.583 - 60.583	20.327	16	3.384	0.009
L34	60.583 - 55.583	17.002	16	2.973	0.008
L35	55.583 - 53.667	14.102	16	2.569	0.007
L36	53.667 - 53.417	13.102	16	2.418	0.006
L37	53.417 - 53.167	12.976	16	2.399	0.006
L38	53.167 - 43.8	12.851	16	2.379	0.006
L39	49.105 - 42.8	10.964	16	2.059	0.005
L40	42.8 - 38.417	8.365	16	1.865	0.004
L41	38.417 - 38.167	6.743	16	1.670	0.004
L42	38.167 - 37.917	6.656	16	1.656	0.004
L43	37.917 - 37.667	6.569	16	1.645	0.004
L44	37.667 - 32.667	6.484	16	1.634	0.004
L45	32.667 - 27.667	4.888	16	1.414	0.003
L46	27.667 - 23.5	3.522	16	1.198	0.003
L47	23.5 - 23.25	2.555	16	1.018	0.002
L48	23.25 - 18.25	2.502	16	1.007	0.002
L49	18.25 - 13.25	1.559	16	0.796	0.002
L50	13.25 - 8.25	0.836	16	0.585	0.001
L51	8.25 - 7.917	0.331	16	0.379	0.001
L52	7.917 - 7.667	0.305	16	0.366	0.001
L53	7.667 - 5.5	0.286	16	0.356	0.001
L54	5.5 - 5.25	0.143	16	0.275	0.001
L55	5.25 - 3	0.129	16	0.259	0.001
L56	3 - 2.75	0.039	16	0.123	0.000
L57	2.75 - 0	0.033	16	0.113	0.000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
183.000	AIR6449 B41_T-MOBILE w/ Mount Pipe	16	202.174	11.245	0.118	2866
181.000	Side Arm Mount [SO 102-3]	16	202.174	11.245	0.118	2866
169.000	BXA-171063-12BF-EDIN-2 w/ Mount Pipe	16	175.633	10.980	0.097	1677
155.000	AM-X-CD-17-65-00T-RET w/ Mount Pipe	16	144.732	10.237	0.075	884
153.000	DC6-48-60-18-8F	16	140.513	10.091	0.072	816
139.000	FFVV-65B-R2 w/ Mount Pipe	16	112.902	8.832	0.049	742
76.000	8225	16	28.653	4.263	0.013	677

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	180.5 - 175.5 (1)	TP18.569x17.62x0.25	5.000	0.000	0.0	14.536	-4.101	850.359	0.005
L2	175.5 - 170.5 (2)	TP19.518x18.569x0.25	5.000	0.000	0.0	15.289	-4.426	894.408	0.005
L3	170.5 - 165.5 (3)	TP20.467x19.518x0.25	5.000	0.000	0.0	16.042	-7.617	938.456	0.008
L4	165.5 - 160.5 (4)	TP21.416x20.467x0.25	5.000	0.000	0.0	16.795	-8.060	982.504	0.008
L5	160.5 - 155.5 (5)	TP22.365x21.416x0.25	5.000	0.000	0.0	17.548	-8.530	1026.550	0.008
L6	155.5 - 150.5 (6)	TP23.313x22.365x0.25	5.000	0.000	0.0	18.301	-12.773	1070.600	0.012
L7	150.5 - 145.5 (7)	TP24.262x23.313x0.25	5.000	0.000	0.0	19.054	-13.428	1114.650	0.012
L8	145.5 - 140.5 (8)	TP25.211x24.262x0.25	5.000	0.000	0.0	19.807	-14.117	1158.700	0.012
L9	140.5 - 134.5 (9)	TP26.35x25.211x0.25	6.000	0.000	0.0	20.214	-17.343	1182.540	0.015
L10	134.5 - 132.794 (10)	TP26.174x25.225x0.313	5.000	0.000	0.0	25.651	-18.402	1500.590	0.012
L11	132.794 - 127.794 (11)	TP27.123x26.174x0.313	5.000	0.000	0.0	26.592	-19.295	1555.650	0.012
L12	127.794 - 122.794 (12)	TP28.072x27.123x0.313	5.000	0.000	0.0	27.534	-20.206	1610.710	0.013
L13	122.794 - 120.583 (13)	TP28.491x28.072x0.313	2.211	0.000	0.0	27.950	-20.615	1635.060	0.013
L14	120.583 - 120.333 (14)	TP28.539x28.491x0.313	0.250	0.000	0.0	27.997	-20.679	1637.810	0.013
L15	120.333 - 115.333 (15)	TP29.488x28.539x0.313	5.000	0.000	0.0	28.938	-21.614	1692.870	0.013
L16	115.333 - 112.5 (16)	TP30.025x29.488x0.313	2.833	0.000	0.0	29.471	-22.156	1724.070	0.013

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L17	112.5 - 112.25 (17)	TP30.073x30.025x0.638	0.250	0.000	0.0	59.560	-22.254	3484.240	0.006
L18	112.25 - 107.917 (18)	TP30.895x30.073x0.638	4.333	0.000	0.0	61.224	-23.476	3581.580	0.007
L19	107.917 - 107.667 (19)	TP30.942x30.895x0.675	0.250	0.000	0.0	64.846	-23.559	3793.510	0.006
L20	107.667 - 107.417 (20)	TP30.99x30.942x0.675	0.250	0.000	0.0	64.948	-23.633	3799.460	0.006
L21	107.417 - 102.417 (21)	TP31.939x30.99x0.663	5.000	0.000	0.0	65.767	-25.139	3847.360	0.007
L22	102.417 - 97.417 (22)	TP32.888x31.939x0.65	5.000	0.000	0.0	66.509	-26.679	3890.800	0.007
L23	97.417 - 89 (23)	TP34.485x32.888x0.638	8.417	0.000	0.0	66.832	-27.965	3909.700	0.007
L24	89 - 88.311 (24)	TP33.991x33.042x0.7	5.000	0.000	0.0	73.965	-30.748	4326.980	0.007
L25	88.311 - 87.5 (25)	TP34.145x33.991x0.7	0.811	0.000	0.0	74.307	-31.027	4346.980	0.007
L26	87.5 - 87.25 (26)	TP34.192x34.145x0.375	0.250	0.000	0.0	40.251	-31.091	2354.670	0.013
L27	87.25 - 82.25 (27)	TP35.141x34.192x0.375	5.000	0.000	0.0	41.380	-32.292	2420.740	0.013
L28	82.25 - 80.833 (28)	TP35.41x35.141x0.375	1.417	0.000	0.0	41.700	-32.633	2439.470	0.013
L29	80.833 - 80.583 (29)	TP35.457x35.41x0.375	0.250	0.000	0.0	41.757	-32.718	2442.770	0.013
L30	80.583 - 75.583 (30)	TP36.406x35.457x0.375	5.000	0.000	0.0	42.886	-34.029	2508.840	0.014
L31	75.583 - 70.583 (31)	TP37.355x36.406x0.375	5.000	0.000	0.0	44.016	-35.310	2574.910	0.014
L32	70.583 - 65.583 (32)	TP38.304x37.355x0.375	5.000	0.000	0.0	45.145	-36.617	2640.990	0.014
L33	65.583 - 60.583 (33)	TP39.253x38.304x0.375	5.000	0.000	0.0	46.275	-37.948	2707.060	0.014
L34	60.583 - 55.583 (34)	TP40.202x39.253x0.375	5.000	0.000	0.0	47.404	-39.304	2773.130	0.014
L35	55.583 - 53.667 (35)	TP40.565x40.202x0.375	1.916	0.000	0.0	47.837	-39.810	2798.450	0.014
L36	53.667 - 53.417 (36)	TP40.613x40.565x0.375	0.250	0.000	0.0	47.893	-39.911	2801.750	0.014
L37	53.417 - 53.167 (37)	TP40.66x40.613x0.375	0.250	0.000	0.0	47.950	-39.980	2805.050	0.014
L38	53.167 - 43.8 (38)	TP42.438x40.66x0.375	9.367	0.000	0.0	48.867	-41.093	2858.730	0.014
L39	43.8 - 42.8 (39)	TP41.878x40.681x0.7	6.305	0.000	0.0	91.489	-44.833	5352.090	0.008
L40	42.8 - 38.417 (40)	TP42.71x41.878x0.688	4.383	0.000	0.0	91.697	-46.739	5364.290	0.009
L41	38.417 - 38.167 (41)	TP42.757x42.71x0.538	0.250	0.000	0.0	72.027	-46.842	4213.610	0.011
L42	38.167 - 37.917 (42)	TP42.804x42.757x0.688	0.250	0.000	0.0	91.904	-46.952	5376.400	0.009
L43	37.917 - 37.667 (43)	TP42.852x42.804x0.688	0.250	0.000	0.0	92.008	-47.062	5382.460	0.009
L44	37.667 - 32.667 (44)	TP43.801x42.852x0.675	5.000	0.000	0.0	92.395	-49.257	5405.090	0.009
L45	32.667 - 27.667 (45)	TP44.75x43.801x0.675	5.000	0.000	0.0	94.428	-51.485	5524.010	0.009
L46	27.667 - 23.5 (46)	TP45.54x44.75x0.663	4.167	0.000	0.0	92.705	-51.508	5423.250	0.009
L47	23.5 - 23.25	TP45.588x45.54x0.663	0.250	0.000	0.0	94.368	-53.376	5520.530	0.010

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L48	23.25 - 18.25 (47)	TP46.537x45.588x0.663	5.000	0.000	0.0	94.468	-53.498	5526.360	0.010
L49	18.25 - 13.25 (48)	TP47.486x46.537x0.65	5.000	0.000	0.0	94.669	-55.772	5538.120	0.010
L50	13.25 - 8.25 (49)	TP48.434x47.486x0.65	5.000	0.000	0.0	96.626	-58.071	5652.640	0.010
L51	8.25 - 7.917 (50)	TP48.498x48.434x0.65	0.333	0.000	0.0	98.584	-60.386	5767.160	0.010
L52	7.917 - 7.667 (51)	TP48.545x48.498x0.7	0.250	0.000	0.0	106.197	-60.541	6212.500	0.010
L53	7.667 - 5.5 (52)	TP48.956x48.545x0.7	2.167	0.000	0.0	106.302	-60.673	6218.670	0.010
L54	5.5 - 5.25 (53)	TP49.004x48.956x0.413	0.250	0.000	0.0	63.619	-61.812	3721.730	0.017
L55	5.25 - 3 (54)	TP49.431x49.004x0.425	2.250	0.000	0.0	66.106	-62.610	3867.210	0.016
L56	3 - 2.75 (55)	TP49.478x49.431x0.625	0.250	0.000	0.0	96.818	-62.632	5663.870	0.011
L57	2.75 - 0 (56)	TP50x49.478x0.625	2.750	0.000	0.0	96.912	-62.758	5669.370	0.011

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	180.5 - 175.5 (1)	TP18.569x17.62x0.25	47.214	404.493	0.117	0.000	404.493	0.000
L2	175.5 - 170.5 (2)	TP19.518x18.569x0.25	82.626	447.781	0.185	0.000	447.781	0.000
L3	170.5 - 165.5 (3)	TP20.467x19.518x0.25	133.912	493.269	0.271	0.000	493.269	0.000
L4	165.5 - 160.5 (4)	TP21.416x20.467x0.25	190.669	540.957	0.352	0.000	540.957	0.000
L5	160.5 - 155.5 (5)	TP22.365x21.416x0.25	249.401	590.845	0.422	0.000	590.845	0.000
L6	155.5 - 150.5 (6)	TP23.313x22.365x0.25	353.147	642.934	0.549	0.000	642.934	0.000
L7	150.5 - 145.5 (7)	TP24.262x23.313x0.25	443.631	695.496	0.638	0.000	695.496	0.000
L8	145.5 - 140.5 (8)	TP25.211x24.262x0.25	535.900	744.672	0.720	0.000	744.672	0.000
L9	140.5 - 134.5 (9)	TP26.35x25.211x0.25	591.945	771.739	0.767	0.000	771.739	0.000
L10	134.5 - 132.794 (10)	TP26.174x25.225x0.313	703.042	1009.233	0.697	0.000	1009.233	0.000
L11	132.794 - 127.794 (11)	TP27.123x26.174x0.313	815.946	1085.117	0.752	0.000	1085.117	0.000
L12	127.794 - 122.794 (12)	TP28.072x27.123x0.313	930.458	1163.742	0.800	0.000	1163.742	0.000
L13	122.794 - 120.583 (13)	TP28.491x28.072x0.313	981.608	1199.392	0.818	0.000	1199.392	0.000
L14	120.583 - 120.333 (14)	TP28.539x28.491x0.313	987.408	1203.450	0.820	0.000	1203.450	0.000
L15	120.333 - 115.333 (15)	TP29.488x28.539x0.313	1104.375	1286.183	0.859	0.000	1286.183	0.000
L16	115.333 - 112.5 (16)	TP30.025x29.488x0.313	1171.417	1334.283	0.878	0.000	1334.283	0.000
L17	112.5 - 112.25 (17)	TP30.073x30.025x0.638	1177.358	2642.192	0.446	0.000	2642.192	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 $\frac{M_{uy}}{\phi M_{ny}}$
L18	112.25 - 107.917 (18)	TP30.895x30.073x0.638	1281.400	2793.492	0.459	0.000	2793.492	0.000
L19	107.917 - 107.667 (19)	TP30.942x30.895x0.675	1287.467	2956.200	0.436	0.000	2956.200	0.000
L20	107.667 - 107.417 (20)	TP30.99x30.942x0.675	1293.542	2965.575	0.436	0.000	2965.575	0.000
L21	107.417 - 102.417 (21)	TP31.939x30.99x0.663	1416.400	3101.492	0.457	0.000	3101.492	0.000
L22	102.417 - 97.417 (22)	TP32.888x31.939x0.65	1541.767	3236.150	0.476	0.000	3236.150	0.000
L23	97.417 - 89 (23)	TP34.485x32.888x0.638	1646.550	3334.550	0.494	0.000	3334.550	0.000
L24	89 - 88.311 (24)	TP33.991x33.042x0.7	1776.800	3713.358	0.478	0.000	3713.358	0.000
L25	88.311 - 87.5 (25)	TP34.145x33.991x0.7	1798.217	3748.133	0.480	0.000	3748.133	0.000
L26	87.5 - 87.25 (26)	TP34.192x34.145x0.375	1804.825	2072.875	0.871	0.000	2072.875	0.000
L27	87.25 - 82.25 (27)	TP35.141x34.192x0.375	1937.850	2191.492	0.884	0.000	2191.492	0.000
L28	82.25 - 80.833 (28)	TP35.41x35.141x0.375	1975.825	2225.708	0.888	0.000	2225.708	0.000
L29	80.833 - 80.583 (29)	TP35.457x35.41x0.375	1982.533	2231.775	0.888	0.000	2231.775	0.000
L30	80.583 - 75.583 (30)	TP36.406x35.457x0.375	2117.775	2348.758	0.902	0.000	2348.758	0.000
L31	75.583 - 70.583 (31)	TP37.355x36.406x0.375	2254.450	2459.008	0.917	0.000	2459.008	0.000
L32	70.583 - 65.583 (32)	TP38.304x37.355x0.375	2392.350	2570.908	0.931	0.000	2570.908	0.000
L33	65.583 - 60.583 (33)	TP39.253x38.304x0.375	2531.417	2684.392	0.943	0.000	2684.392	0.000
L34	60.583 - 55.583 (34)	TP40.202x39.253x0.375	2671.583	2799.392	0.954	0.000	2799.392	0.000
L35	55.583 - 53.667 (35)	TP40.565x40.202x0.375	2725.592	2843.850	0.958	0.000	2843.850	0.000
L36	53.667 - 53.417 (36)	TP40.613x40.565x0.375	2732.650	2849.667	0.959	0.000	2849.667	0.000
L37	53.417 - 53.167 (37)	TP40.66x40.613x0.375	2739.708	2855.492	0.959	0.000	2855.492	0.000
L38	53.167 - 43.8 (38)	TP42.438x40.66x0.375	2854.875	2950.550	0.968	0.000	2950.550	0.000
L39	43.8 - 42.8 (39)	TP41.878x40.681x0.7	3036.042	5703.759	0.532	0.000	5703.759	0.000
L40	42.8 - 38.417 (40)	TP42.71x41.878x0.688	3163.850	5837.641	0.542	0.000	5837.641	0.000
L41	38.417 - 38.167 (41)	TP42.757x42.71x0.538	3171.175	4623.475	0.686	0.000	4623.475	0.000
L42	38.167 - 37.917 (42)	TP42.804x42.757x0.688	3178.517	5864.250	0.542	0.000	5864.250	0.000
L43	37.917 - 37.667 (43)	TP42.852x42.804x0.688	3185.850	5877.575	0.542	0.000	5877.575	0.000
L44	37.667 - 32.667 (44)	TP43.801x42.852x0.675	3333.458	6040.741	0.552	0.000	6040.741	0.000
L45	32.667 - 27.667 (45)	TP44.75x43.801x0.675	3482.550	6311.583	0.552	0.000	6311.583	0.000
L46	27.667 - 23.5 (46)	TP45.54x44.75x0.663	3482.550	6199.967	0.562	0.000	6199.967	0.000
L47	23.5 - 23.25 (47)	TP45.588x45.54x0.663	3607.842	6426.059	0.561	0.000	6426.059	0.000
L48	23.25 - 18.25	TP46.537x45.588x0.663	3615.392	6439.750	0.561	0.000	6439.750	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 $\frac{M_{uy}}{\phi M_{ny}}$
L49	18.25 - 13.25 (48)	TP47.486x46.537x0.65	3767.000	6595.325	0.571	0.000	6595.325	0.000
L50	13.25 - 8.25 (49)	TP48.434x47.486x0.65	3919.892	6872.850	0.570	0.000	6872.850	0.000
L51	8.25 - 7.917 (50)	TP48.498x48.434x0.65	4074.025	7156.100	0.569	0.000	7156.100	0.000
L52	7.917 - 7.667 (51)	TP48.545x48.498x0.7	4084.333	7702.908	0.530	0.000	7702.908	0.000
L53	7.667 - 5.5 (52)	TP48.956x48.545x0.7	4092.075	7718.317	0.530	0.000	7718.317	0.000
L54	5.5 - 5.25 (53)	TP49.004x48.956x0.413	4167.100	4450.758	0.936	0.000	4450.758	0.000
L55	5.25 - 3 (54)	TP49.431x49.004x0.425	4237.125	4694.217	0.903	0.000	4694.217	0.000
L56	3 - 2.75 (55)	TP49.478x49.431x0.625	4237.125	7183.792	0.590	0.000	7183.792	0.000
L57	2.75 - 0 (56)	TP50x49.478x0.625	4244.917	7197.850	0.590	0.000	7197.850	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	180.5 - 175.5 (1)	TP18.569x17.62x0.25	6.928	255.108	0.027	3.000	409.264	0.007
L2	175.5 - 170.5 (2)	TP19.518x18.569x0.25	7.241	268.322	0.027	2.998	452.762	0.007
L3	170.5 - 165.5 (3)	TP20.467x19.518x0.25	11.145	281.537	0.040	3.937	498.455	0.008
L4	165.5 - 160.5 (4)	TP21.416x20.467x0.25	11.542	294.751	0.039	3.934	546.346	0.007
L5	160.5 - 155.5 (5)	TP22.365x21.416x0.25	11.936	307.966	0.039	3.929	596.432	0.007
L6	155.5 - 150.5 (6)	TP23.313x22.365x0.25	17.911	321.180	0.056	6.047	648.715	0.009
L7	150.5 - 145.5 (7)	TP24.262x23.313x0.25	18.275	334.395	0.055	6.037	703.193	0.009
L8	145.5 - 140.5 (8)	TP25.211x24.262x0.25	18.627	347.609	0.054	6.026	759.869	0.008
L9	140.5 - 134.5 (9)	TP26.35x25.211x0.25	21.998	354.761	0.062	6.765	791.457	0.009
L10	134.5 - 132.794 (10)	TP26.174x25.225x0.313	22.430	450.177	0.050	6.757	1019.558	0.007
L11	132.794 - 127.794 (11)	TP27.123x26.174x0.313	22.748	466.695	0.049	6.745	1095.750	0.006
L12	127.794 - 122.794 (12)	TP28.072x27.123x0.313	23.064	483.213	0.048	6.733	1174.692	0.006
L13	122.794 - 120.583 (13)	TP28.491x28.072x0.313	23.212	490.518	0.047	6.728	1210.475	0.006
L14	120.583 - 120.333 (14)	TP28.539x28.491x0.313	23.220	491.343	0.047	6.726	1214.550	0.006
L15	120.333 - 115.333 (15)	TP29.488x28.539x0.313	23.570	507.861	0.046	6.716	1297.583	0.005
L16	115.333 - 112.5 (16)	TP30.025x29.488x0.313	23.777	517.220	0.046	6.710	1345.850	0.005
L17	112.5 - 112.25 (17)	TP30.073x30.025x0.638	23.786	1045.270	0.023	6.708	2694.483	0.002
L18	112.25 - 107.917 (18)	TP30.895x30.073x0.638	24.233	1074.470	0.023	6.704	2847.133	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 $\frac{T_u}{\phi T_n}$
L19	107.917 - 107.667 (19)	TP30.942x30.895x0.675	24.274	1138.050	0.021	6.703	3016.600	0.002
L20	107.667 - 107.417 (20)	TP30.99x30.942x0.675	24.315	1139.840	0.021	6.701	3026.058	0.002
L21	107.417 - 102.417 (21)	TP31.939x30.99x0.663	24.825	1154.210	0.022	6.694	3161.392	0.002
L22	102.417 - 97.417 (22)	TP32.888x31.939x0.65	25.319	1167.240	0.022	6.689	3295.367	0.002
L23	97.417 - 89 (23)	TP34.485x32.888x0.638	25.712	1172.910	0.022	6.684	3392.692	0.002
L24	89 - 88.311 (24)	TP33.991x33.042x0.7	26.359	1298.090	0.020	6.681	3784.508	0.002
L25	88.311 - 87.5 (25)	TP34.145x33.991x0.7	26.438	1304.090	0.020	6.681	3819.583	0.002
L26	87.5 - 87.25 (26)	TP34.192x34.145x0.375	26.453	706.402	0.037	6.680	2092.033	0.003
L27	87.25 - 82.25 (27)	TP35.141x34.192x0.375	26.761	726.223	0.037	6.672	2211.083	0.003
L28	82.25 - 80.833 (28)	TP35.41x35.141x0.375	26.860	731.840	0.037	6.670	2245.417	0.003
L29	80.833 - 80.583 (29)	TP35.457x35.41x0.375	26.851	732.832	0.037	6.668	2251.508	0.003
L30	80.583 - 75.583 (30)	TP36.406x35.457x0.375	27.217	752.653	0.036	6.758	2374.950	0.003
L31	75.583 - 70.583 (31)	TP37.355x36.406x0.375	27.470	772.474	0.036	6.750	2501.683	0.003
L32	70.583 - 65.583 (32)	TP38.304x37.355x0.375	27.710	792.296	0.035	6.744	2631.717	0.003
L33	65.583 - 60.583 (33)	TP39.253x38.304x0.375	27.935	812.117	0.034	6.738	2765.042	0.002
L34	60.583 - 55.583 (34)	TP40.202x39.253x0.375	28.149	831.938	0.034	6.733	2901.667	0.002
L35	55.583 - 53.667 (35)	TP40.565x40.202x0.375	28.269	839.534	0.034	6.732	2954.892	0.002
L36	53.667 - 53.417 (36)	TP40.613x40.565x0.375	28.236	840.525	0.034	6.731	2961.867	0.002
L37	53.417 - 53.167 (37)	TP40.66x40.613x0.375	28.248	841.516	0.034	6.730	2968.858	0.002
L38	53.167 - 43.8 (38)	TP42.438x40.66x0.375	28.452	857.619	0.033	6.728	3083.567	0.002
L39	43.8 - 42.8 (39)	TP41.878x40.681x0.7	29.004	1605.630	0.018	6.726	5790.117	0.001
L40	42.8 - 38.417 (40)	TP42.71x41.878x0.688	29.313	1609.290	0.018	6.724	5922.300	0.001
L41	38.417 - 38.167 (41)	TP42.757x42.71x0.538	29.315	1264.080	0.023	6.724	4673.775	0.001
L42	38.167 - 37.917 (42)	TP42.804x42.757x0.688	29.331	1612.920	0.018	6.724	5949.075	0.001
L43	37.917 - 37.667 (43)	TP42.852x42.804x0.688	29.349	1614.740	0.018	6.724	5962.483	0.001
L44	37.667 - 32.667 (44)	TP43.801x42.852x0.675	29.678	1621.530	0.018	6.722	6124.067	0.001
L45	32.667 - 27.667 (45)	TP44.75x43.801x0.675	29.956	1657.200	0.018	6.721	6396.525	0.001
L46	27.667 - 23.5 (46)	TP45.54x44.75x0.663	30.013	1634.270	0.018	6.720	6281.633	0.001
L47	23.5 - 23.25 (47)	TP45.588x45.54x0.663	30.177	1657.910	0.018	6.720	6508.992	0.001
L48	23.25 - 18.25 (48)	TP46.537x45.588x0.663	30.244	1664.910	0.018	6.719	6522.767	0.001
L49	18.25 - 13.25	TP47.486x46.537x0.65	30.503	1668.310	0.018	6.719	6676.517	0.001

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L50	13.25 - 8.25 (49)	TP48.434x47.486x0.65	30.753	1702.660	0.018	6.718	6955.492	0.001
L51	8.25 - 7.917 (50)	TP48.498x48.434x0.65	30.951	1732.440	0.018	6.717	7240.175	0.001
L52	7.917 - 7.667 (51)	TP48.545x48.498x0.7	30.961	1865.600	0.017	6.717	7801.425	0.001
L53	7.667 - 5.5 (52)	TP48.956x48.545x0.7	31.033	1873.620	0.017	6.717	7816.917	0.001
L54	5.5 - 5.25 (53)	TP49.004x48.956x0.413	31.081	1116.520	0.028	6.717	4751.200	0.001
L55	5.25 - 3 (54)	TP49.431x49.004x0.425	31.165	1160.160	0.027	6.717	4979.042	0.001
L56	3 - 2.75 (55)	TP49.478x49.431x0.625	31.145	1700.810	0.018	6.717	7262.475	0.001
L57	2.75 - 0 (56)	TP50x49.478x0.625	31.224	1709.900	0.018	6.717	7276.608	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	180.5 - 175.5 (1)	0.005	0.117	0.000	0.027	0.007	0.123 ✔	1.050	✔
L2	175.5 - 170.5 (2)	0.005	0.185	0.000	0.027	0.007	0.191 ✔	1.050	✔
L3	170.5 - 165.5 (3)	0.008	0.271	0.000	0.040	0.008	0.282 ✔	1.050	✔
L4	165.5 - 160.5 (4)	0.008	0.352	0.000	0.039	0.007	0.363 ✔	1.050	✔
L5	160.5 - 155.5 (5)	0.008	0.422	0.000	0.039	0.007	0.432 ✔	1.050	✔
L6	155.5 - 150.5 (6)	0.012	0.549	0.000	0.056	0.009	0.565 ✔	1.050	✔
L7	150.5 - 145.5 (7)	0.012	0.638	0.000	0.055	0.009	0.654 ✔	1.050	✔
L8	145.5 - 140.5 (8)	0.012	0.720	0.000	0.054	0.008	0.736 ✔	1.050	✔
L9	140.5 - 134.5 (9)	0.015	0.767	0.000	0.062	0.009	0.787 ✔	1.050	✔
L10	134.5 - 132.794 (10)	0.012	0.697	0.000	0.050	0.007	0.712 ✔	1.050	✔
L11	132.794 - 127.794 (11)	0.012	0.752	0.000	0.049	0.006	0.767 ✔	1.050	✔
L12	127.794 - 122.794 (12)	0.013	0.800	0.000	0.048	0.006	0.815 ✔	1.050	✔
L13	122.794 - 120.583 (13)	0.013	0.818	0.000	0.047	0.006	0.834 ✔	1.050	✔
L14	120.583 - 120.333 (14)	0.013	0.820	0.000	0.047	0.006	0.836 ✔	1.050	✔
L15	120.333 - 115.333 (15)	0.013	0.859	0.000	0.046	0.005	0.874 ✔	1.050	✔
L16	115.333 - 112.5 (16)	0.013	0.878	0.000	0.046	0.005	0.893 ✔	1.050	✔

Section No.	Elevation ft	Ratio $P_u/\phi P_n$	Ratio $M_{ux}/\phi M_{nx}$	Ratio $M_{uy}/\phi M_{ny}$	Ratio $V_u/\phi V_n$	Ratio $T_u/\phi T_n$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L17	112.5 - 112.25 (17)	0.006	0.446	0.000	0.023	0.002	0.453 ✔	1.050	✔
L18	112.25 - 107.917 (18)	0.007	0.459	0.000	0.023	0.002	0.466 ✔	1.050	✔
L19	107.917 - 107.667 (19)	0.006	0.436	0.000	0.021	0.002	0.442 ✔	1.050	✔
L20	107.667 - 107.417 (20)	0.006	0.436	0.000	0.021	0.002	0.443 ✔	1.050	✔
L21	107.417 - 102.417 (21)	0.007	0.457	0.000	0.022	0.002	0.464 ✔	1.050	✔
L22	102.417 - 97.417 (22)	0.007	0.476	0.000	0.022	0.002	0.484 ✔	1.050	✔
L23	97.417 - 89 (23)	0.007	0.494	0.000	0.022	0.002	0.502 ✔	1.050	✔
L24	89 - 88.311 (24)	0.007	0.478	0.000	0.020	0.002	0.486 ✔	1.050	✔
L25	88.311 - 87.5 (25)	0.007	0.480	0.000	0.020	0.002	0.487 ✔	1.050	✔
L26	87.5 - 87.25 (26)	0.013	0.871	0.000	0.037	0.003	0.886 ✔	1.050	✔
L27	87.25 - 82.25 (27)	0.013	0.884	0.000	0.037	0.003	0.899 ✔	1.050	✔
L28	82.25 - 80.833 (28)	0.013	0.888	0.000	0.037	0.003	0.903 ✔	1.050	✔
L29	80.833 - 80.583 (29)	0.013	0.888	0.000	0.037	0.003	0.903 ✔	1.050	✔
L30	80.583 - 75.583 (30)	0.014	0.902	0.000	0.036	0.003	0.917 ✔	1.050	✔
L31	75.583 - 70.583 (31)	0.014	0.917	0.000	0.036	0.003	0.932 ✔	1.050	✔
L32	70.583 - 65.583 (32)	0.014	0.931	0.000	0.035	0.003	0.946 ✔	1.050	✔
L33	65.583 - 60.583 (33)	0.014	0.943	0.000	0.034	0.002	0.958 ✔	1.050	✔
L34	60.583 - 55.583 (34)	0.014	0.954	0.000	0.034	0.002	0.970 ✔	1.050	✔
L35	55.583 - 53.667 (35)	0.014	0.958	0.000	0.034	0.002	0.974 ✔	1.050	✔
L36	53.667 - 53.417 (36)	0.014	0.959	0.000	0.034	0.002	0.974 ✔	1.050	✔
L37	53.417 - 53.167 (37)	0.014	0.959	0.000	0.034	0.002	0.975 ✔	1.050	✔
L38	53.167 - 43.8 (38)	0.014	0.968	0.000	0.033	0.002	0.983 ✔	1.050	✔
L39	43.8 - 42.8 (39)	0.008	0.532	0.000	0.018	0.001	0.541 ✔	1.050	✔
L40	42.8 - 38.417 (40)	0.009	0.542	0.000	0.018	0.001	0.551 ✔	1.050	✔
L41	38.417 - 38.167 (41)	0.011	0.686	0.000	0.023	0.001	0.698 ✔	1.050	✔
L42	38.167 - 37.917 (42)	0.009	0.542	0.000	0.018	0.001	0.551 ✔	1.050	✔

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
L43	37.917 - 37.667 (43)	0.009	0.542	0.000	0.018	0.001	0.551 ✔	1.050	✔
L44	37.667 - 32.667 (44)	0.009	0.552	0.000	0.018	0.001	0.561 ✔	1.050	✔
L45	32.667 - 27.667 (45)	0.009	0.552	0.000	0.018	0.001	0.561 ✔	1.050	✔
L46	27.667 - 23.5 (46)	0.009	0.562	0.000	0.018	0.001	0.572 ✔	1.050	✔
L47	23.5 - 23.25 (47)	0.010	0.561	0.000	0.018	0.001	0.571 ✔	1.050	✔
L48	23.25 - 18.25 (48)	0.010	0.561	0.000	0.018	0.001	0.571 ✔	1.050	✔
L49	18.25 - 13.25 (49)	0.010	0.571	0.000	0.018	0.001	0.582 ✔	1.050	✔
L50	13.25 - 8.25 (50)	0.010	0.570	0.000	0.018	0.001	0.581 ✔	1.050	✔
L51	8.25 - 7.917 (51)	0.010	0.569	0.000	0.018	0.001	0.580 ✔	1.050	✔
L52	7.917 - 7.667 (52)	0.010	0.530	0.000	0.017	0.001	0.540 ✔	1.050	✔
L53	7.667 - 5.5 (53)	0.010	0.530	0.000	0.017	0.001	0.540 ✔	1.050	✔
L54	5.5 - 5.25 (54)	0.017	0.936	0.000	0.028	0.001	0.954 ✔	1.050	✔
L55	5.25 - 3 (55)	0.016	0.903	0.000	0.027	0.001	0.920 ✔	1.050	✔
L56	3 - 2.75 (56)	0.011	0.590	0.000	0.018	0.001	0.601 ✔	1.050	✔
L57	2.75 - 0 (57)	0.011	0.590	0.000	0.018	0.001	0.601 ✔	1.050	✔

Section Capacity Table

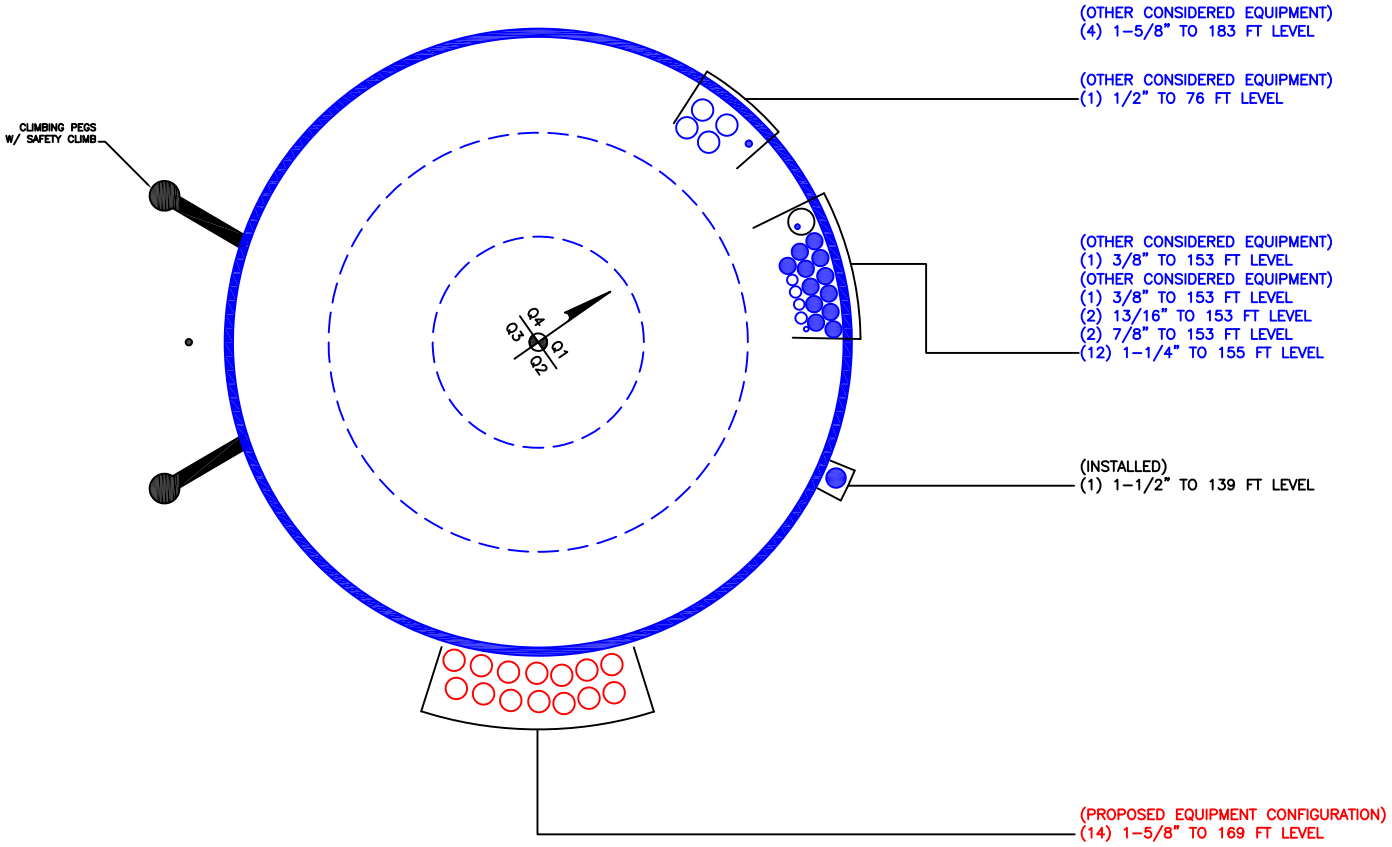
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	180.5 - 175.5	Pole	TP18.569x17.62x0.25	1	-4.101	892.877	**	**
L2	175.5 - 170.5	Pole	TP19.518x18.569x0.25	2	-4.426	939.128	**	**
L3	170.5 - 165.5	Pole	TP20.467x19.518x0.25	3	-7.617	985.379	**	**
L4	165.5 - 160.5	Pole	TP21.416x20.467x0.25	4	-8.060	1031.629	**	**
L5	160.5 - 155.5	Pole	TP22.365x21.416x0.25	5	-8.530	1077.878	**	**
L6	155.5 - 150.5	Pole	TP23.313x22.365x0.25	6	-12.773	1124.130	**	**
L7	150.5 - 145.5	Pole	TP24.262x23.313x0.25	7	-13.428	1170.382	**	**
L8	145.5 - 140.5	Pole	TP25.211x24.262x0.25	8	-14.117	1216.635	**	**
L9	140.5 - 134.5	Pole	TP26.35x25.211x0.25	9	-17.343	1241.667	**	**
L10	134.5 - 132.794	Pole	TP26.174x25.225x0.313	10	-18.402	1575.619	**	**
L11	132.794 - 127.794	Pole	TP27.123x26.174x0.313	11	-19.295	1633.432	**	**
L12	127.794 - 122.794	Pole	TP28.072x27.123x0.313	12	-20.206	1691.245	**	**
L13	122.794 - 120.583	Pole	TP28.491x28.072x0.313	13	-20.615	1716.813	**	**
L14	120.583 - 120.333	Pole	TP28.539x28.491x0.313	14	-20.679	1719.700	**	**

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	øP$_{allow}$ K	% Capacity	Pass Fail
L15	120.333 - 115.333	Pole	TP29.488x28.539x0.313	15	-21.614	1777.513	**	**
L16	115.333 - 112.5	Pole	TP30.025x29.488x0.313	16	-22.156	1810.273	**	**
L17	112.5 - 112.25	Pole	TP30.073x30.025x0.638	17	-22.254	3658.452	**	**
L18	112.25 - 107.917	Pole	TP30.895x30.073x0.638	18	-23.476	3760.659	**	**
L19	107.917 - 107.667	Pole	TP30.942x30.895x0.675	19	-23.559	3983.185	**	**
L20	107.667 - 107.417	Pole	TP30.99x30.942x0.675	20	-23.633	3989.433	**	**
L21	107.417 - 102.417	Pole	TP31.939x30.99x0.663	21	-25.139	4039.728	**	**
L22	102.417 - 97.417	Pole	TP32.888x31.939x0.65	22	-26.679	4085.340	**	**
L23	97.417 - 89	Pole	TP34.485x32.888x0.638	23	-27.965	4105.185	**	**
L24	89 - 88.311	Pole	TP33.991x33.042x0.7	24	-30.748	4543.329	**	**
L25	88.311 - 87.5	Pole	TP34.145x33.991x0.7	25	-31.027	4564.329	**	**
L26	87.5 - 87.25	Pole	TP34.192x34.145x0.375	26	-31.091	2472.403	**	**
L27	87.25 - 82.25	Pole	TP35.141x34.192x0.375	27	-32.292	2541.777	**	**
L28	82.25 - 80.833	Pole	TP35.41x35.141x0.375	28	-32.633	2561.443	**	**
L29	80.833 - 80.583	Pole	TP35.457x35.41x0.375	29	-32.718	2564.909	**	**
L30	80.583 - 75.583	Pole	TP36.406x35.457x0.375	30	-34.029	2634.282	**	**
L31	75.583 - 70.583	Pole	TP37.355x36.406x0.375	31	-35.310	2703.655	**	**
L32	70.583 - 65.583	Pole	TP38.304x37.355x0.375	32	-36.617	2773.039	**	**
L33	65.583 - 60.583	Pole	TP39.253x38.304x0.375	33	-37.948	2842.413	**	**
L34	60.583 - 55.583	Pole	TP40.202x39.253x0.375	34	-39.304	2911.786	**	**
L35	55.583 - 53.667	Pole	TP40.565x40.202x0.375	35	-39.810	2938.372	**	**
L36	53.667 - 53.417	Pole	TP40.613x40.565x0.375	36	-39.911	2941.837	**	**
L37	53.417 - 53.167	Pole	TP40.66x40.613x0.375	37	-39.980	2945.302	**	**
L38	53.167 - 43.8	Pole	TP42.438x40.66x0.375	38	-41.093	3001.666	**	**
L39	43.8 - 42.8	Pole	TP41.878x40.681x0.7	39	-44.833	5619.694	**	**
L40	42.8 - 38.417	Pole	TP42.71x41.878x0.688	40	-46.739	5632.504	**	**
L41	38.417 - 38.167	Pole	TP42.757x42.71x0.538	41	-46.842	4424.291	**	**
L42	38.167 - 37.917	Pole	TP42.804x42.757x0.688	42	-46.952	5645.220	**	**
L43	37.917 - 37.667	Pole	TP42.852x42.804x0.688	43	-47.062	5651.583	**	**
L44	37.667 - 32.667	Pole	TP43.801x42.852x0.675	44	-49.257	5675.344	**	**
L45	32.667 - 27.667	Pole	TP44.75x43.801x0.675	45	-51.485	5800.210	**	**
L46	27.667 - 23.5	Pole	TP45.54x44.75x0.663	46	-51.508	5694.412	**	**
L47	23.5 - 23.25	Pole	TP45.588x45.54x0.663	47	-53.376	5796.556	**	**
L48	23.25 - 18.25	Pole	TP46.537x45.588x0.663	48	-53.498	5802.677	**	**
L49	18.25 - 13.25	Pole	TP47.486x46.537x0.65	49	-55.772	5815.025	**	**
L50	13.25 - 8.25	Pole	TP48.434x47.486x0.65	50	-58.071	5935.271	**	**
L51	8.25 - 7.917	Pole	TP48.498x48.434x0.65	51	-60.386	6055.517	**	**
L52	7.917 - 7.667	Pole	TP48.545x48.498x0.7	52	-60.541	6523.124	**	**
L53	7.667 - 5.5	Pole	TP48.956x48.545x0.7	53	-60.673	6529.603	**	**
L54	5.5 - 5.25	Pole	TP49.004x48.956x0.413	54	-61.812	3907.816	**	**
L55	5.25 - 3	Pole	TP49.431x49.004x0.425	55	-62.610	4060.570	**	**
L56	3 - 2.75	Pole	TP49.478x49.431x0.625	56	-62.632	5947.063	**	**
L57	2.75 - 0	Pole	TP50x49.478x0.625	57	-62.758	5952.838	**	**
							Summary	
						Pole (L38)	**	**
						RATING =	**	**

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

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 876375

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- H

Site BU: 876375

Work Order: 2283804

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	180.5	46	3.294	18	17.62	26.35	0.25	Auto	A572-65
2	137.794	48.794	4.311	18	25.22	34.485	0.3125	Auto	A572-65
3	93.311	49.511	5.305	18	33.04	42.438	0.375	Auto	A572-65
4	49.105	49.105	0	18	40.68	50	0.375	Auto	A572-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	3	38.083	channel	MP3-05 (1.1875in)	2			E2												E2			
2	7.917	38.083	channel	MP3-05 (1.1875in)	1									E2									
3	38.417	53.583	channel	MP3-05 (1.1875in)	3					E2						E2						E2	
4	53.667	80.833	channel	MP3-04 (1.1875in)	3			E2						E2						E2			
5	80.833	107.833	channel	MP3-04 (1.1875in)	3					E2						E2						E2	
6	107.917	120.583	channel	MP3-03 (1.1875in)	3			E2						E2						E2			
7	5.5	23.5	plate	CCI-AFP-065125	3	E3					E3						E3						
8	23.5	48.583	plate	CCI-AFP-065125	3	E3					E3						E3						
9	87.5	112.5	plate	CCI-AFP-060100	3		E3						E3						E3				
10	0	3	plate	TS1-5x1.25	4		-4		4										-4		3		
11	0	7.917	plate	TS2-4.5625x1.25	2							-2			3								
12																							

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	5.33	2.09	5.65	0.79	PC 8.8 - M20 (100)	29	PC 8.8 - M20 (100)	29.000	18.000	5.025	1.1875	A572-65
2	5.33	2.09	5.65	0.79	PC 8.8 - M20 (100)	29	PC 8.8 - M20 (100)	29.000	18.000	5.025	1.1875	A572-65
3	5.33	2.09	5.65	0.79	PC 8.8 - M20 (100)	29	PC 8.8 - M20 (100)	29.000	18.000	5.025	1.1875	A572-65
4	4.78	1.61	4.13	0.61	PC 8.8 - M20 (100)	17	PC 8.8 - M20 (100)	17.000	18.000	3.593	1.1875	A572-65
5	4.78	1.61	4.13	0.61	PC 8.8 - M20 (100)	17	PC 8.8 - M20 (100)	17.000	18.000	3.593	1.1875	A572-65
6	4.06	1.57	2.92	0.59	PC 8.8 - M20 (100)	14	PC 8.8 - M20 (100)	14.000	18.000	2.545	1.1875	A572-65
7	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	42	PC 8.8 - M20 (100)	42.000	19.000	6.563	1.1875	A572-65
8	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	42	PC 8.8 - M20 (100)	42.000	19.000	6.563	1.1875	A572-65
9	6	1	6	0.5	PC 8.8 - M20 (100)	30	PC 8.8 - M20 (100)	30.000	16.000	4.750	1.1875	A572-65
10	1.25	5	6.25	2.5	Welded	n/a	Welded	n/a	0.750	6.250	0.0000	A572-65
11	1.25	4.5625	5.70313	2.28125	Welded	n/a	Welded	n/a	0.750	5.703	0.0000	A572-65

Connection Details for Custom Reinforcements

Reinforcement	End	# Bolts	N or X	Bolt Spacing (in)	Edge Dist (in)	Weld Grade (ksi)	Transverse (Horiz.) Weld Type	Horiz. Weld Length (in)	Horiz. Groove Depth (in)	Horiz. Groove Angle (deg)	Horiz. Fillet Size (in)	Vertical Weld Length (in)	Vertical Fillet Size (in)	Rev H Connection Capacity (kip)
TS1-5x1.25	Top	-	-	-	-	70	None	-	-	-	-	44.25	0.375	-
	Bottom	-	-	-	-	70	CJP Groove	10	0.625	45	0.625	-	-	-
TS2-4.5625x1.25	Top	-	-	-	-	70	None	-	-	-	-	107.25	0.375	-
	Bottom	-	-	-	-	70	CJP Groove	9.125	0.625	45	0.625	-	-	-

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	180.5 - 175.5	5		18	17.620	18.569	0.25	A572-65	1.000
2	175.5 - 170.5	5		18	18.569	19.518	0.25	A572-65	1.000
3	170.5 - 165.5	5		18	19.518	20.467	0.25	A572-65	1.000
4	165.5 - 160.5	5		18	20.467	21.416	0.25	A572-65	1.000
5	160.5 - 155.5	5		18	21.416	22.365	0.25	A572-65	1.000
6	155.5 - 150.5	5		18	22.365	23.313	0.25	A572-65	1.000
7	150.5 - 145.5	5		18	23.313	24.262	0.25	A572-65	1.000
8	145.5 - 140.5	5		18	24.262	25.211	0.25	A572-65	1.000
9	140.5 - 137.794	6	3.294	18	25.211	26.350	0.25	A572-65	1.000
10	137.794 - 132.794	5		18	25.225	26.174	0.3125	A572-65	1.000
11	132.794 - 127.794	5		18	26.174	27.123	0.3125	A572-65	1.000
12	127.794 - 122.794	5		18	27.123	28.072	0.3125	A572-65	1.000
13	122.794 - 120.583	2.211		18	28.072	28.491	0.3125	A572-65	1.000
14	120.583 - 120.333	0.25		18	28.491	28.539	0.3125	A572-65	1.000
15	120.333 - 115.333	5		18	28.539	29.488	0.3125	A572-65	1.000
16	115.333 - 112.5	2.833		18	29.488	30.025	0.3125	A572-65	1.000
17	112.5 - 112.25	0.25		18	30.025	30.073	0.6375	A572-65	0.945
18	112.25 - 107.917	4.333		18	30.073	30.895	0.6375	A572-65	0.933
19	107.917 - 107.667	0.25		18	30.895	30.942	0.675	A572-65	0.937
20	107.667 - 107.417	0.25		18	30.942	30.990	0.675	A572-65	0.936
21	107.417 - 102.417	5		18	30.990	31.939	0.6625	A572-65	0.939
22	102.417 - 97.417	5		18	31.939	32.888	0.65	A572-65	0.943
23	97.417 - 93.311	8.417	4.311	18	32.888	34.485	0.6375	A572-65	0.950
24	93.311 - 88.311	5		18	33.042	33.991	0.7	A572-65	0.952
25	88.311 - 87.5	0.811		18	33.991	34.145	0.7	A572-65	0.950
26	87.5 - 87.25	0.25		18	34.145	34.192	0.375	A572-65	1.000
27	87.25 - 82.25	5		18	34.192	35.141	0.375	A572-65	1.000
28	82.25 - 80.833	1.417		18	35.141	35.410	0.375	A572-65	1.000
29	80.833 - 80.583	0.25		18	35.410	35.457	0.375	A572-65	1.000
30	80.583 - 75.583	5		18	35.457	36.406	0.375	A572-65	1.000
31	75.583 - 70.583	5		18	36.406	37.355	0.375	A572-65	1.000
32	70.583 - 65.583	5		18	37.355	38.304	0.375	A572-65	1.000
33	65.583 - 60.583	5		18	38.304	39.253	0.375	A572-65	1.000
34	60.583 - 55.583	5		18	39.253	40.202	0.375	A572-65	1.000
35	55.583 - 53.667	1.916		18	40.202	40.565	0.375	A572-65	1.000
36	53.667 - 53.417	0.25		18	40.565	40.613	0.375	A572-65	1.000
37	53.417 - 53.167	0.25		18	40.613	40.660	0.375	A572-65	1.000
38	53.167 - 49.105	9.367	5.305	18	40.660	42.438	0.375	A572-65	1.000
39	49.105 - 42.8	6.305		18	40.681	41.878	0.7	A572-65	0.992
40	42.8 - 38.417	4.383		18	41.878	42.710	0.6875	A572-65	1.000
41	38.417 - 38.167	0.25		18	42.710	42.757	0.5375	A572-65	1.039
42	38.167 - 37.917	0.25		18	42.757	42.804	0.6875	A572-65	0.999
43	37.917 - 37.667	0.25		18	42.804	42.852	0.6875	A572-65	0.999
44	37.667 - 32.667	5		18	42.852	43.801	0.675	A572-65	1.007
45	32.667 - 27.667	5		18	43.801	44.750	0.675	A572-65	0.997
46	27.667 - 23.5	4.167		18	44.750	45.540	0.6625	A572-65	1.008
47	23.5 - 23.25	0.25		18	45.540	45.588	0.6625	A572-65	1.007
48	23.25 - 18.25	5		18	45.588	46.537	0.6625	A572-65	0.998
49	18.25 - 13.25	5		18	46.537	47.486	0.65	A572-65	1.008
50	13.25 - 8.25	5		18	47.486	48.434	0.65	A572-65	0.999
51	8.25 - 7.917	0.333		18	48.434	48.498	0.65	A572-65	0.999
52	7.917 - 7.667	0.25		18	48.498	48.545	0.7	A572-65	0.982
53	7.667 - 5.5	2.167		18	48.545	48.956	0.7	A572-65	0.978
54	5.5 - 5.25	0.25		18	48.956	49.004	0.4125	A572-65	1.089
55	5.25 - 3	2.25		18	49.004	49.431	0.425	A572-65	1.056
56	3 - 2.75	0.25		18	49.431	49.478	0.625	A572-65	0.979
57	2.75 - 0	2.75		18	49.478	50.000	0.625	A572-65	0.975

TNX Section Forces

Increment (ft): 5

	Section Height (ft)	TNX Output P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	180.5 - 175.5	4.10	47.28	6.93
2	175.5 - 170.5	4.43	82.68	7.24
3	170.5 - 165.5	7.62	133.95	11.13
4	165.5 - 160.5	8.06	190.67	11.54
5	160.5 - 155.5	8.53	249.40	11.94
6	155.5 - 150.5	12.77	353.15	17.91
7	150.5 - 145.5	13.43	443.63	18.27
8	145.5 - 140.5	14.12	535.90	18.63
9	140.5 - 137.794	17.34	591.95	22.00
10	137.794 - 132.794	18.40	703.04	22.43
11	132.794 - 127.794	19.29	815.95	22.75
12	127.794 - 122.794	20.21	930.46	23.06
13	122.794 - 120.583	20.62	981.60	23.21
14	120.583 - 120.333	20.68	987.41	23.22
15	120.333 - 115.333	21.61	1104.38	23.57
16	115.333 - 112.5	22.16	1171.42	23.78
17	112.5 - 112.25	22.25	1177.36	23.79
18	112.25 - 107.917	23.48	1281.40	24.23
19	107.917 - 107.667	23.56	1287.46	24.27
20	107.667 - 107.417	23.63	1293.54	24.32
21	107.417 - 102.417	25.14	1416.40	24.82
22	102.417 - 97.417	26.68	1541.77	25.32
23	97.417 - 93.311	27.96	1646.55	25.71
24	93.311 - 88.311	30.75	1776.80	26.36
25	88.311 - 87.5	31.03	1798.22	26.44
26	87.5 - 87.25	31.09	1804.83	26.45
27	87.25 - 82.25	32.29	1937.85	26.76
28	82.25 - 80.833	32.63	1975.82	26.86
29	80.833 - 80.583	32.72	1982.53	26.85
30	80.583 - 75.583	34.03	2117.78	27.22
31	75.583 - 70.583	35.31	2254.45	27.47
32	70.583 - 65.583	36.62	2392.35	27.71
33	65.583 - 60.583	37.95	2531.42	27.93
34	60.583 - 55.583	39.30	2671.58	28.15
35	55.583 - 53.667	39.81	2725.59	28.27
36	53.667 - 53.417	39.91	2732.65	28.24
37	53.417 - 53.167	39.98	2739.71	28.25
38	53.167 - 49.105	41.09	2854.87	28.45
39	49.105 - 42.8	44.83	3036.04	29.00
40	42.8 - 38.417	46.74	3163.85	29.31
41	38.417 - 38.167	46.84	3171.18	29.31
42	38.167 - 37.917	46.95	3178.51	29.33
43	37.917 - 37.667	47.06	3185.85	29.35
44	37.667 - 32.667	49.26	3333.46	29.68
45	32.667 - 27.667	51.48	3482.55	29.96
46	27.667 - 23.5	53.36	3607.84	30.18
47	23.5 - 23.25	53.48	3615.39	30.18
48	23.25 - 18.25	55.75	3767.00	30.45
49	18.25 - 13.25	58.05	3919.89	30.70
50	13.25 - 8.25	60.37	4074.03	30.95
51	8.25 - 7.917	60.54	4084.34	30.95
52	7.917 - 7.667	60.66	4092.08	30.96
53	7.667 - 5.5	61.72	4159.33	31.09
54	5.5 - 5.25	61.81	4167.10	31.08
55	5.25 - 3	62.61	4237.13	31.17
56	3 - 2.75	62.74	4244.91	31.15
57	2.75 - 0	63.98	4330.76	31.28

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
180.5 - 175.5	Pole	TP18.569x17.62x0.25	Pole	11.7%	Pass
175.5 - 170.5	Pole	TP19.518x18.569x0.25	Pole	18.1%	Pass
170.5 - 165.5	Pole	TP20.467x19.518x0.25	Pole	26.8%	Pass
165.5 - 160.5	Pole	TP21.416x20.467x0.25	Pole	34.5%	Pass
160.5 - 155.5	Pole	TP22.365x21.416x0.25	Pole	41.1%	Pass
155.5 - 150.5	Pole	TP23.313x22.365x0.25	Pole	53.7%	Pass
150.5 - 145.5	Pole	TP24.262x23.313x0.25	Pole	62.2%	Pass
145.5 - 140.5	Pole	TP25.211x24.262x0.25	Pole	70.0%	Pass
140.5 - 137.79	Pole	TP26.35x25.211x0.25	Pole	74.8%	Pass
137.79 - 132.79	Pole	TP26.174x25.225x0.3125	Pole	67.7%	Pass
132.79 - 127.79	Pole	TP27.123x26.174x0.3125	Pole	73.0%	Pass
127.79 - 122.79	Pole	TP28.072x27.123x0.3125	Pole	77.5%	Pass
122.79 - 120.58	Pole	TP28.491x28.072x0.3125	Pole	79.3%	Pass
120.58 - 120.33	Pole	TP28.539x28.491x0.3125	Pole	79.5%	Pass
120.33 - 115.33	Pole	TP29.488x28.539x0.3125	Pole	83.2%	Pass
115.33 - 112.5	Pole	TP30.025x29.488x0.3125	Pole	85.0%	Pass
112.5 - 112.25	Pole + Reinf.	TP30.073x30.025x0.6375	Reinf. 9 Tension Rupture	67.7%	Pass
112.25 - 107.92	Pole + Reinf.	TP30.895x30.073x0.6375	Reinf. 9 Tension Rupture	70.7%	Pass
107.92 - 107.67	Pole + Reinf.	TP30.942x30.895x0.675	Reinf. 9 Tension Rupture	66.4%	Pass
107.67 - 107.42	Pole + Reinf.	TP30.99x30.942x0.675	Reinf. 9 Tension Rupture	66.6%	Pass
107.42 - 102.42	Pole + Reinf.	TP31.939x30.99x0.6625	Reinf. 9 Tension Rupture	69.7%	Pass
102.42 - 97.42	Pole + Reinf.	TP32.888x31.939x0.65	Reinf. 9 Tension Rupture	72.6%	Pass
97.42 - 93.31	Pole + Reinf.	TP34.485x32.888x0.6375	Reinf. 9 Tension Rupture	74.9%	Pass
93.31 - 88.31	Pole + Reinf.	TP33.991x33.042x0.7	Reinf. 9 Tension Rupture	72.6%	Pass
88.31 - 87.5	Pole + Reinf.	TP34.145x33.991x0.7	Reinf. 9 Tension Rupture	72.9%	Pass
87.5 - 87.25	Pole	TP34.192x34.145x0.375	Pole	84.3%	Pass
87.25 - 82.25	Pole	TP35.141x34.192x0.375	Pole	85.6%	Pass
82.25 - 80.83	Pole	TP35.41x35.141x0.375	Pole	85.9%	Pass
80.83 - 80.58	Pole	TP35.457x35.41x0.375	Pole	86.0%	Pass
80.58 - 75.58	Pole	TP36.406x35.457x0.375	Pole	87.3%	Pass
75.58 - 70.58	Pole	TP37.355x36.406x0.375	Pole	88.7%	Pass
70.58 - 65.58	Pole	TP38.304x37.355x0.375	Pole	90.1%	Pass
65.58 - 60.58	Pole	TP39.253x38.304x0.375	Pole	91.3%	Pass
60.58 - 55.58	Pole	TP40.202x39.253x0.375	Pole	92.3%	Pass
55.58 - 53.67	Pole	TP40.565x40.202x0.375	Pole	92.7%	Pass
53.67 - 53.42	Pole	TP40.613x40.565x0.375	Pole	92.8%	Pass
53.42 - 53.17	Pole	TP40.66x40.613x0.375	Pole	92.8%	Pass
53.17 - 49.11	Pole	TP42.438x40.66x0.375	Pole	93.6%	Pass
49.11 - 42.8	Pole + Reinf.	TP41.878x40.681x0.7	Reinf. 8 Tension Rupture	77.7%	Pass
42.8 - 38.42	Pole + Reinf.	TP42.71x41.878x0.6875	Reinf. 8 Tension Rupture	78.6%	Pass
38.42 - 38.17	Pole + Reinf.	TP42.757x42.71x0.5375	Reinf. 8 Tension Rupture	98.1%	Pass
38.17 - 37.92	Pole + Reinf.	TP42.804x42.757x0.6875	Reinf. 8 Tension Rupture	78.6%	Pass
37.92 - 37.67	Pole + Reinf.	TP42.852x42.804x0.6875	Reinf. 8 Tension Rupture	78.7%	Pass
37.67 - 32.67	Pole + Reinf.	TP43.801x42.852x0.675	Reinf. 8 Tension Rupture	79.6%	Pass
32.67 - 27.67	Pole + Reinf.	TP44.75x43.801x0.675	Reinf. 8 Tension Rupture	80.4%	Pass
27.67 - 23.5	Pole + Reinf.	TP45.54x44.75x0.6625	Reinf. 8 Tension Rupture	81.1%	Pass
23.5 - 23.25	Pole + Reinf.	TP45.588x45.54x0.6625	Reinf. 7 Tension Rupture	81.1%	Pass
23.25 - 18.25	Pole + Reinf.	TP46.537x45.588x0.6625	Reinf. 7 Tension Rupture	81.9%	Pass
18.25 - 13.25	Pole + Reinf.	TP47.486x46.537x0.65	Reinf. 7 Tension Rupture	82.5%	Pass
13.25 - 8.25	Pole + Reinf.	TP48.434x47.486x0.65	Reinf. 7 Tension Rupture	83.1%	Pass
8.25 - 7.92	Pole + Reinf.	TP48.498x48.434x0.65	Reinf. 7 Tension Rupture	83.2%	Pass
7.92 - 7.67	Pole + Reinf.	TP48.545x48.498x0.7	Reinf. 1 Tension Rupture	78.6%	Pass
7.67 - 5.5	Pole + Reinf.	TP48.956x48.545x0.7	Reinf. 1 Tension Rupture	78.8%	Pass
5.5 - 5.25	Pole + Reinf.	TP49.004x48.956x0.4125	Pole	97.0%	Pass
5.25 - 3	Pole + Reinf.	TP49.431x49.004x0.425	Pole	97.2%	Pass
3 - 2.75	Pole + Reinf.	TP49.478x49.431x0.625	Reinf. 11 Compression	79.9%	Pass
2.75 - 0	Pole + Reinf.	TP50x49.478x0.625	Reinf. 11 Compression	80.1%	Pass
				Summary	
			Pole	97.2%	Pass
			Reinforcement	98.1%	Pass
			Overall	98.1%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity*										
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11
180.5 - 175.5	616	n/a	616	14.54	n/a	14.54	11.7%											
175.5 - 170.5	717	n/a	717	15.29	n/a	15.29	18.1%											
170.5 - 165.5	828	n/a	828	16.04	n/a	16.04	26.8%											
165.5 - 160.5	950	n/a	950	16.79	n/a	16.79	34.5%											
160.5 - 155.5	1084	n/a	1084	17.55	n/a	17.55	41.1%											
155.5 - 150.5	1229	n/a	1229	18.30	n/a	18.30	53.7%											
150.5 - 145.5	1388	n/a	1388	19.05	n/a	19.05	62.2%											
145.5 - 140.5	1559	n/a	1559	19.81	n/a	19.81	70.0%											
140.5 - 137.79	1657	n/a	1657	20.21	n/a	20.21	74.8%											
137.79 - 132.79	2167	n/a	2167	25.65	n/a	25.65	67.7%											
132.79 - 127.79	2414	n/a	2414	26.59	n/a	26.59	73.0%											
127.79 - 122.79	2680	n/a	2680	27.53	n/a	27.53	77.5%											
122.79 - 120.58	2803	n/a	2803	27.95	n/a	27.95	79.3%											
120.58 - 120.33	2817	n/a	2817	28.00	n/a	28.00	79.5%											
120.33 - 115.33	3111	n/a	3111	28.94	n/a	28.94	83.2%											
115.33 - 112.5	3286	n/a	3286	29.47	n/a	29.47	85.0%											
112.5 - 112.25	3302	3272	6574	29.52	26.76	56.28	42.2%						65.1%			67.7%		
112.25 - 107.92	3583	3446	7029	30.33	26.76	57.09	44.4%						68.0%			70.7%		
107.92 - 107.67	3600	3932	7532	30.38	30.39	60.77	41.7%					63.5%				66.4%		
107.67 - 107.42	3617	3944	7560	30.43	30.39	60.82	41.8%					63.6%				66.6%		
107.42 - 102.42	3963	4178	8141	31.37	30.39	61.76	44.2%					66.6%				69.7%		
102.42 - 97.42	4330	4420	8750	32.31	30.39	62.70	46.4%					69.4%				72.6%		
97.42 - 93.31	4648	4623	9272	33.08	30.39	63.47	48.2%					71.5%				74.9%		
93.31 - 88.31	5710	4709	10420	40.01	30.39	70.40	45.4%					69.3%				72.6%		
88.31 - 87.5	5789	4750	10540	40.19	30.39	70.58	45.6%					69.7%				72.9%		
87.5 - 87.25	5813	n/a	5813	40.25	n/a	40.25	84.3%											
87.25 - 82.25	6317	n/a	6317	41.38	n/a	41.38	85.6%											
82.25 - 80.83	6464	n/a	6464	41.70	n/a	41.70	85.9%											
80.83 - 80.58	6491	n/a	6491	41.76	n/a	41.76	86.0%											
80.58 - 75.58	7032	n/a	7032	42.88	n/a	42.88	87.3%											
75.58 - 70.58	7602	n/a	7602	44.01	n/a	44.01	88.7%											
70.58 - 65.58	8202	n/a	8202	45.14	n/a	45.14	90.1%											
65.58 - 60.58	8834	n/a	8834	46.27	n/a	46.27	91.3%											
60.58 - 55.58	9496	n/a	9496	47.40	n/a	47.40	92.3%											
55.58 - 53.67	9759	n/a	9759	47.83	n/a	47.83	92.7%											
53.67 - 53.42	9793	n/a	9793	47.89	n/a	47.89	92.8%											
53.42 - 53.17	9828	n/a	9828	47.95	n/a	47.95	92.8%											
53.17 - 49.11	10403	n/a	10403	48.87	n/a	48.87	93.6%											
49.11 - 42.8	10764	8689	19454	49.40	41.33	90.72	55.3%			77.5%					77.7%			
42.8 - 38.42	11424	9025	20449	50.39	41.33	91.71	56.3%			78.3%					78.6%			
38.42 - 38.17	11472	4851	16323	50.44	24.38	74.82	71.2%								98.1%			
38.17 - 37.92	11501	9063	20564	50.50	41.33	91.82	56.4%	78.4%	74.3%						78.6%			
37.92 - 37.67	11540	9083	20622	50.56	41.33	91.88	56.4%	78.4%	74.4%						78.7%			
37.67 - 32.67	12330	9474	21804	51.69	41.33	93.01	57.4%	79.3%	75.2%						79.6%			
32.67 - 27.67	13155	9874	23029	52.81	41.33	94.14	58.4%	80.0%	76.0%						80.4%			
27.67 - 23.5	13871	10213	24084	53.76	41.33	95.08	59.2%	80.6%	76.6%						81.1%			
23.5 - 23.25	13915	10234	24149	53.81	41.33	95.14	59.3%	80.7%	76.6%					81.1%				
23.25 - 18.25	14809	10649	25458	54.94	41.33	96.27	60.2%	81.3%	77.3%					81.9%				
18.25 - 13.25	15740	11073	26813	56.07	41.33	97.40	61.1%	81.9%	77.9%					82.5%				
13.25 - 8.25	16710	11505	28215	57.20	41.33	98.53	62.0%	82.5%	78.5%					83.1%				
8.25 - 7.92	16776	11534	28310	57.28	41.33	98.60	62.1%	82.5%	78.5%					83.2%				
7.92 - 7.67	16966	14172	31138	57.33	47.08	104.41	58.3%	78.6%						78.1%				64.8%
7.67 - 5.5	17402	14404	31806	57.82	47.08	104.90	58.7%	78.8%						78.4%				65.0%
5.5 - 5.25	17357	1694	19052	57.88	11.41	69.28	97.0%											89.3%
5.25 - 3	17968	2273	20241	58.39	11.41	69.79	97.2%											89.4%
3 - 2.75	17836	11654	29491	58.44	36.41	94.85	64.0%										73.6%	79.9%
2.75 - 0	18410	11877	30287	59.06	36.41	95.47	64.5%										73.8%	80.1%

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

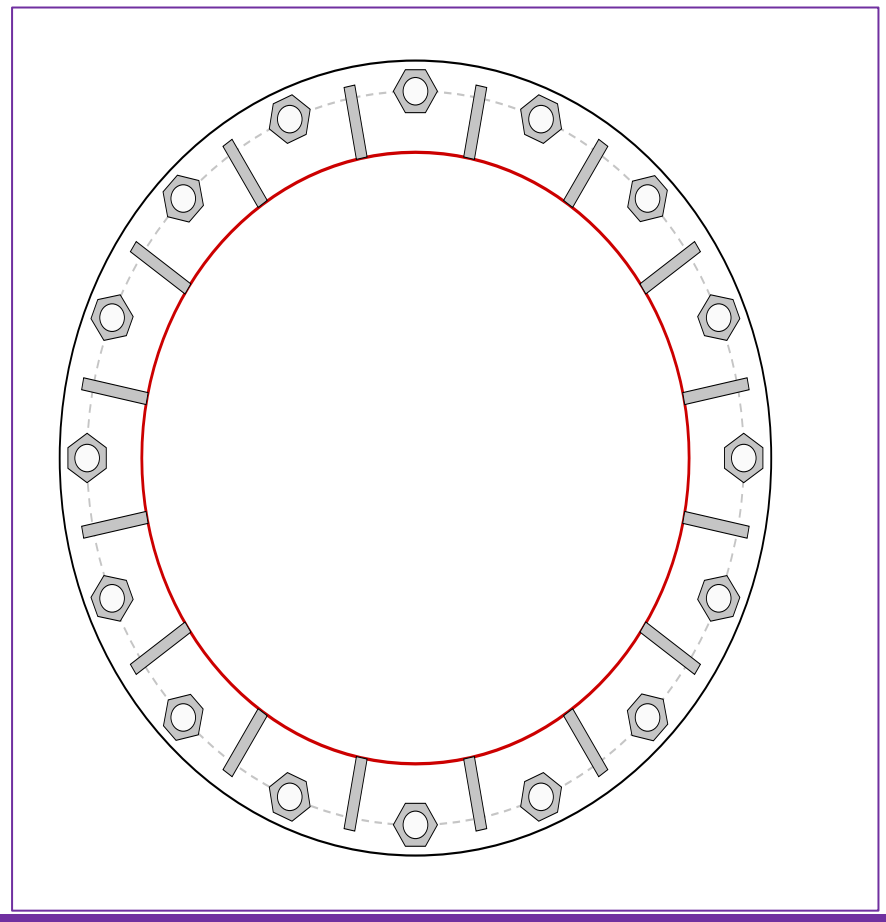
Monopole Base Plate Connection

Site Info	
BU #	876375
Site Name	NTERBURY / LEMIRE,
Order #	662899, Rev. 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	1.625

Applied Loads	
Moment (kip-ft)	4330.76
Axial Force (kips)	63.98
Shear Force (kips)	31.28

**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 60" BC

Base Plate Data

65" OD x 2" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)

Stiffener Data

(16) 18"H x 6"W x 1"T, Notch: 0.75"

plate: Fy= 50 ksi ; weld: Fy= 70 ksi

horiz. weld: 0.5" groove, 45° dbl bevel, 0.5" fillet

vert. weld: 0.375" fillet

Pole Data

50" x 0.375" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Anchor Rod Summary		*(units of kips, kip-in)*
Pu_t = 212.41	ϕPn_t = 243.75	**Stress Rating**
Vu = 1.95	ϕVn = 149.1	**83.0%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary		
Max Stress (ksi):	37.38	(Roark's Flexural)
Allowable Stress (ksi):	45	
Stress Rating:	**79.1%**	**Pass**

Stiffener Summary		
Horizontal Weld:	**66.8%**	**Pass**
Vertical Weld:	**56.5%**	**Pass**
Plate Flexure+Shear:	**18.0%**	**Pass**
Plate Tension+Shear:	**67.5%**	**Pass**
Plate Compression:	**67.3%**	**Pass**

Pole Summary		
Punching Shear:	**15.3%**	**Pass**

Pier and Pad Foundation

BU # :	876375
Site Name:	CANTERBURY / LE
App. Number:	662899, Rev. 0

TIA-222 Revision:	H
Tower Type:	Monopole

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

Superstructure Analysis Reactions

Compression, P_{comp}:	63.98	kips
Base Shear, Vu_comp:	31.28	kips
Moment, M_u:	4330.76	ft-kips
Tower Height, **H**:	180.5	ft
BP Dist. Above Fdn, bp_{dist}:	3.875	in

Foundation Analysis Checks

	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	187.44	31.28	**15.9%**	**Pass**
Bearing Pressure (ksf)	22.92	4.80	**20.9%**	**Pass**
*Overturning (kip*ft)*	5147.33	4528.54	**88.0%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	4676.65	4424.60	**90.1%**	**Pass**
Pier Compression (kip)	26891.28	86.80	**0.3%**	**Pass**
*Pad Flexure (kip*ft)*	4554.58	2554.35	**53.4%**	**Pass**
Pad Shear - 1-way (kips)	878.58	326.67	**35.4%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.190	0.000	**0.0%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	4800.18	2654.76	**52.7%**	**Pass**

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

Structural Rating*:	**90.1%**
Soil Rating*:	**88.0%**

Pier Properties

Pier Shape:	Square	
Pier Diameter, **dpier**:	6.5	ft
Ext. Above Grade, **E**:	1	ft
Pier Rebar Size, **Sc**:	8	
Pier Rebar Quantity, **mc**:	39	
Pier Tie/Spiral Size, **St**:	4	
Pier Tie/Spiral Quantity, **mt**:	4	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties

Depth, **D**:	5	ft
Pad Width, W_1:	24.5	ft
Pad Thickness, **T**:	3	ft
Pad Rebar Size (Top dir.2), Sp_{top2}:	8	
Pad Rebar Quantity (Top dir. 2), mp_{top2}:	28	
Pad Rebar Size (Bottom dir. 2), Sp_2:	8	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	42	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties

Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	4	ksi
Dry Concrete Density, δ**c**:	150	pcf

Soil Properties

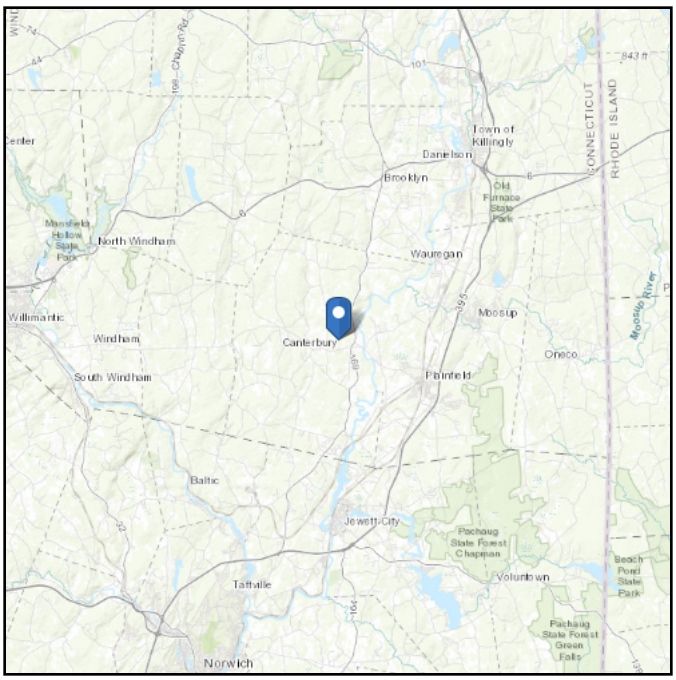
Total Soil Unit Weight, γ:	113	pcf
Ultimate Net Bearing, Qnet:	30.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	31	degrees
SPT Blow Count, N_{blows}:		
Base Friction, μ:	0.45	
Neglected Depth, **N**:	3.33	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

<--Toggle between Gross and Net

ASCE Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Latitude:**	41.701986
Risk Category:	II	**Longitude:**	-71.980586
Soil Class:	D - Default (see Section 11.4.3)	**Elevation:**	349.8079006361097 ft (NAVD 88)



Wind

Results:

Wind Speed	123 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	95 Vmph
100-year MRI	100 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:	Wed Feb 14 2024

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

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

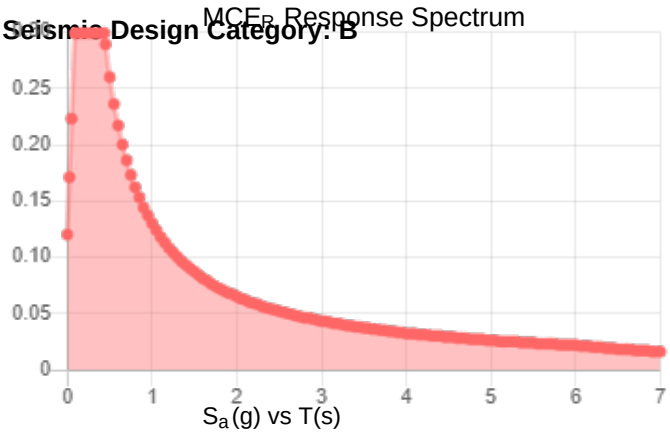
Seismic

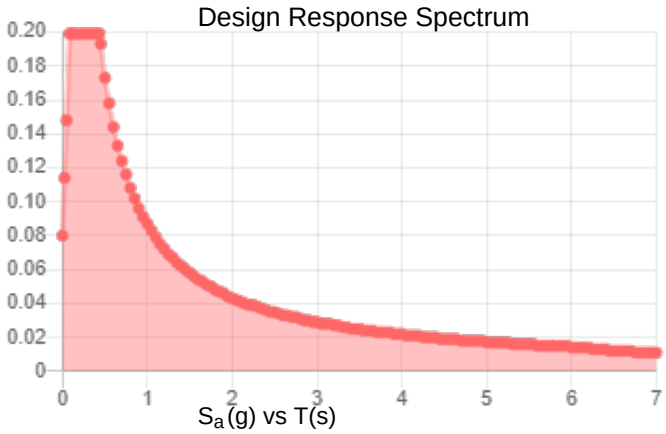
Site Soil Class: D - Default (see Section 11.4.3)

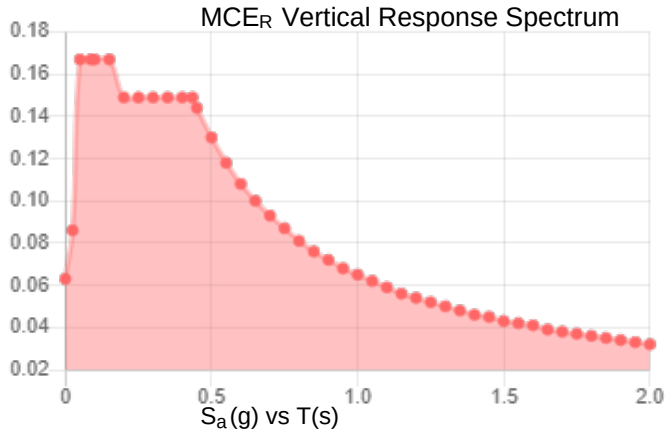
Results:

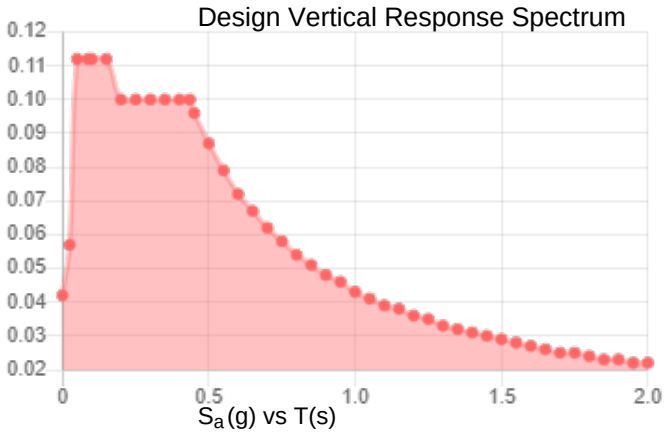
S_S :	0.187	S_{D1} :	0.087
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.101
F_v :	2.4	PGA_M :	0.162
S_{MS} :	0.299	F_{PGA} :	1.597
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.199	C_v :	0.7

Seismic Design Category: B









Data Accessed: **Wed Feb 14 2024**

Date Source:

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

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Wed Feb 14 2024

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

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

verizon

VERIZON SITE NUMBER:	5000245865	BUSINESS UNIT #:	876375
VERIZON SITE NAME:	CANTERBURY CT	SITE ADDRESS:	53 WESTMINSTER RD
VERIZON PROJECT:	5G L-SUB6 - CARRIER ADD		CANTERBURY, CT 06331
SITE TYPE:	MONOPOLE	COUNTY:	WINDHAM
TOWER HEIGHT:	180'-0"	JURISDICTION:	TOWN OF CANTERBURY CT

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	CANTERBURY / LEMIRE
BU NUMBER:	876375
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	VERIZON WIRELESS 20 ALEXANDER DRIVE WALLINGFORD, CT 06492
SITE ADDRESS:	53 WESTMINSTER RD CANTERBURY, CT 06331
COUNTY:	WINDHAM
LATITUDE:	41° 42' 6.84" / 41.7019°
LONGITUDE:	-71° 58' 49.8" / -71.9805°
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	350'+/- MSL
AREA OF CONSTRUCTION:	EXISTING
CURRENT ZONING:	RD (RURAL DISTRICT)
MAP/PARCEL #:	46-32
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	CROWN CASTLE TOWERS 09 LL PO BOX 301439 C/O CROWN CASTLE INVESTMENT CORP SOLE DALLAS, TX 75303
JURISDICTION:	TOWN OF CANTERBURY CT 1 MUNICIPAL DRIVE CANTERBURY , CT 06331
ELECTRIC PROVIDER:	NORTHEAST UTILITIES 800)(286-2000
TELCO PROVIDER:	AT&T (866) 620-6900

PROJECT TEAM

A&E FIRM:	CROWN CASTLE USA, INC. 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CROWN CASTLE INC. DISTRICT CONTACTS:	8020 KATY FREEWAY HOUSTON, TX 77024 ALEXANDER MABBETT - PROJECT MANAGER ALEXANDER.MABBETT@CROWNCASTLE.COM TRISTA BONOMI - AES TRISTA.BONOMI@CRWONCASTLE.COM

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

VERIZON_WBV_SOWA_TRIST_ANTENNA AMENDMENT

DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1	SITE PLAN
C-2	TOWER ELEVATIONS
C-3	ANTENNA PLANS
C-4	FINAL EQUIPMENT SCHEDULE
C-5.1	RFDS PLUMBING DIAGRAMS
C-5.2	RFDS PLUMBING DIAGRAMS
C-5.3	RFDS PLUMBING DIAGRAMS
C-5.4	RFDS PLUMBING DIAGRAMS
C-6.1	EQUIPMENT DETAILS & SPECIFICATIONS
C-6.2	EQUIPMENT DETAILS & SPECIFICATIONS
C-7	COLOR CODE MATRIX
G-1	GROUNDING DETAILS
ATTACHED	MOUNT MODIFICATION (BY OTHERS)

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 22X34. 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!

CONTRACTOR PMI REQUIREMENTS

PMI ACCESSED AT	https://pmi.vzwsmart.com
SMART TOOL VENDOR	
PROJECT NUMBER	10219427
VzW LOCATION CODE (PSLC)	468760

*** PMI AND REQUIREMENTS ALSO EMBEDDED IN MOUNT ANALYSIS REPORT

MOUNT MODIFICATION REQUIRED	Y

VzW APPROVED SMART KIT VENDORS

REFER TO MOUNT MODIFICATION DRAWINGS PAGE FOR VzW SMART KIT APPROVED VENDORS

APPROVALS

VERIZON SIGNATURE BLOCK

APPROVAL	SIGNATURE	DATE
SITE ACQUISITION		
CONSTRUCTION		
RADIO		
MICROWAVE		
TELCO		
EQUIPMENT		
PROJECT ADMINISTRATOR		
WO ADMINISTRATOR		

CROWN CASTLE USA INC. SINGNATURE BLOCK

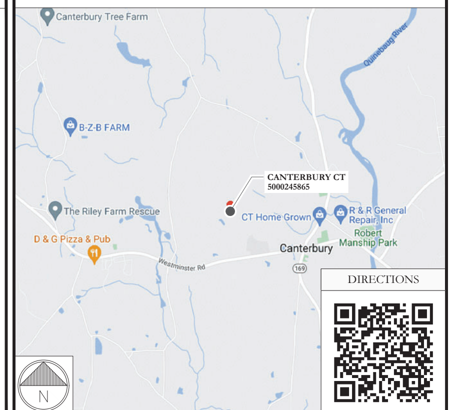
APPROVAL	SIGNATURE	DATE
SITE ACQUISITION		
PLANNER		
CONSTRUCTION		
PROJECT MANAGER		
UTILITY MANAGER		
LANDLORD		

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) AMPHENOL - BXA-171063-12BF-EDIN ANTENNA
- REMOVE (6) AMPHENOL - BXA-70063-6CF ANTENNA
- REMOVE (3) NOKIA - UHBB B13 RRH 2X40 RADIO
- REMOVE (3) NOKIA - UHID B4 RRH 2X40 RADIO
- REMOVE (2) RAYCAP - 6 OVP
- INSTALL (6) COMMSCOPE - NHH-65B-R2B ANTENNA
- INSTALL (3) SAMSUNG - MT6413-77A ANTENNA
- INSTALL (3) SAMSUNG - RF4461D-13A RADIO
- INSTALL (3) SAMSUNG - B2/B66A RRH ORAN (RF4439D-25A) RADIO
- INSTALL (1) RAYCAP - RVZDC-6627-PF-48_CCIV2 OVP

LOCATION MAP



DIRECTIONS

NO SCALE

APPLICABLE CODES & REFERENCE DOCUMENTS

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

CODE TYPE	CODE
BUILDING	2022 CONNECTICUT SBC/2021 IBC
MECHANICAL	2022 CONNECTICUT SBC/2021 IMC
ELECTRICAL	2022 CONNECTICUT SBC/2020 NEC

1 2

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	B+T GROUP
DATED:	02/19/2024
MOUNT ANALYSIS:	COLLIERS ENGINEERING & DESIGN
DATED:	01/18/2024
RFDS REVISION:	REV2
DATED:	08/10/2023
ORDER ID:	662899
REVISION:	0

INSTALLER NOTE:

NO PROPOSED LOADING TO BE ADDED UNTIL MOUNT MODIFICATIONS ARE INSTALLED PER MOUNT MODIFICATION DESIGN BY COLLIERS ENGINEERING & DESIGN DATED 01/18/2024.

verizon

CROWN CASTLE

VERIZON SITE NUMBER:
5000245865

BU #: **876375**

CROWN CASTLE SITE NAME
CANTERBURY / LEMIRE

53 WESTMINSTER RD
CANTERBURY, CT 06331

EXISTING 180'-0"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	02/29/2024	WS	FINAL	GMA
1	03/19/2024	WS	FINAL	GMA
2	06/04/2024	BCV	REVISION	GMA

DocuSigned by: Graham Andres

STATE OF CONNECTICUT GRAHAM M. ANDRES LICENSED PROFESSIONAL ENGINEER 29838

6/5/2024 | 7:28:03 AM CDT

CROWN CASTLE USA INC.
CERTIFICATE OF REGISTRATION
#PEC.0001101

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

SHEET NUMBER:	REVISION:
T-1	2

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: VERIZON
   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.

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).

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. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC ON STRAIGHTS AND SCHEDULE 80 PVC UNDER ALL TRAFFIC EASEMENTS AND ALL ELBOWS/90s. ABOVE GRADE CONDUIT TO BE SCH 80 PVC OR IMC/RMC CONDUIT. EMT IS ALLOWED AT STUB UP LOCATIONS AND INDOORS ONLY.
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 "VERIZON".
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

verizon✓

CROWN CASTLE

VERIZON SITE NUMBER:
5000245865

BU #: **876375**

CROWN CASTLE SITE NAME
CANTERBURY / LEMIRE

53 WESTMINSTER RD
CANTERBURY, CT 06331

EXISTING 180'-0"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	02/29/2024	WS	FINAL	GMA
1	03/19/2024	WS	FINAL	GMA
2	06/04/2024	BCV	REVISION	GMA

DocuSigned by:
Graham Andres
3575C110834479...

STATE OF CONNECTICUT
GRAHAM M. ANDRES
28638
LICENSED
PROFESSIONAL ENGINEER

6/5/2024 | 7:28:03 AM CDT

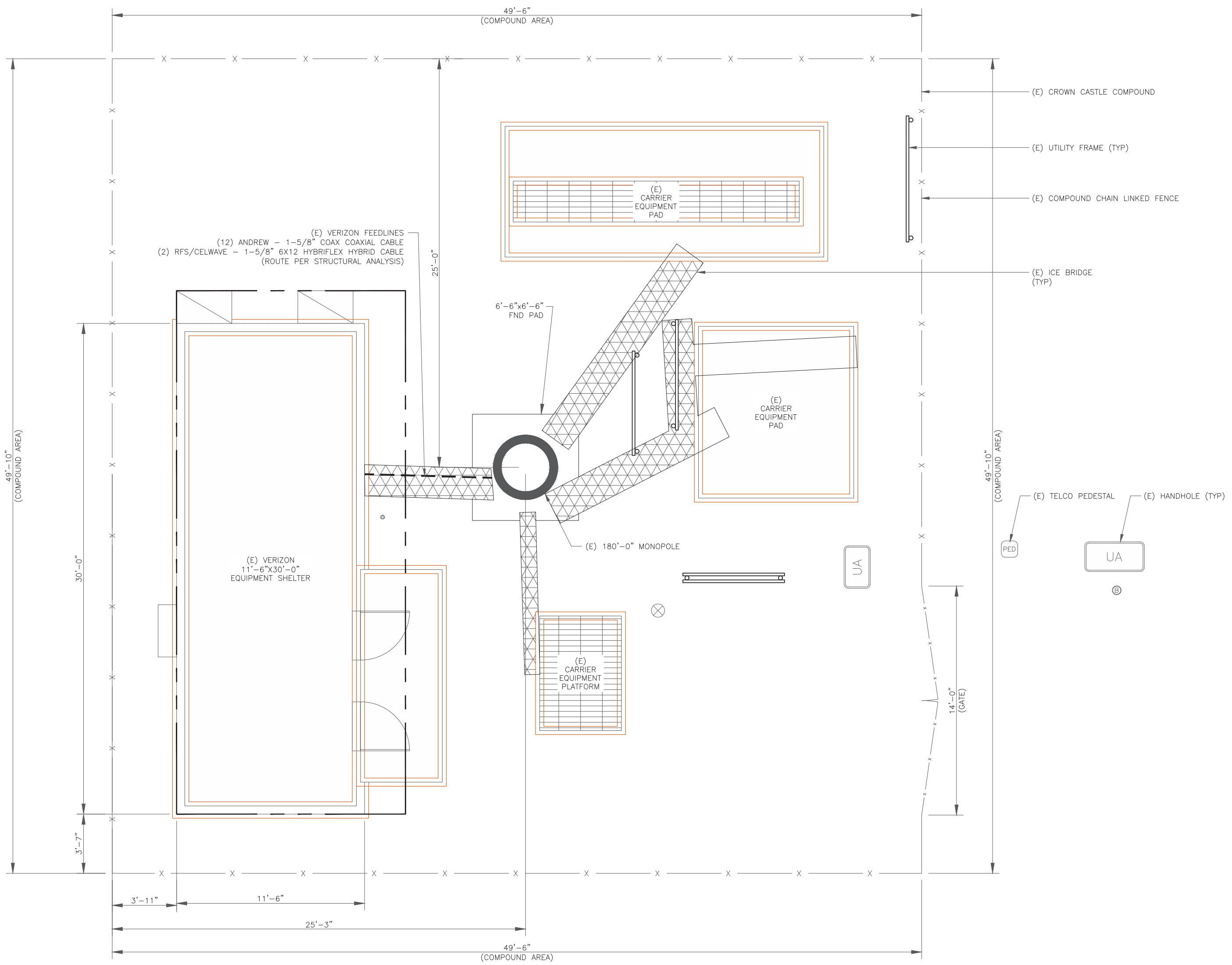
CROWN CASTLE USA INC.
CERTIFICATE OF REGISTRATION
#PEC.0001101

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: **2**

VERIZON_WBV_SOVA_TRIST_ANTENNA AMENDMENT



1 SITE PLAN
SCALE: 1"=40'-0" (FULL SIZE) 1"=80'-0" (11x17)

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CROWN CASTLE

VERIZON SITE NUMBER:
5000245865

BU #: **876375**

CROWN CASTLE SITE NAME
CANTERBURY / LEMIRE

53 WESTMINSTER RD
CANTERBURY, CT 06331

EXISTING 180'-0"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	02/29/2024	WS	FINAL	GMA
1	03/19/2024	WS	FINAL	GMA
2	06/04/2024	BCV	REVISION	GMA

DocuSigned by: Graham Andres
6/5/2024 | 7:28:03 AM CDT

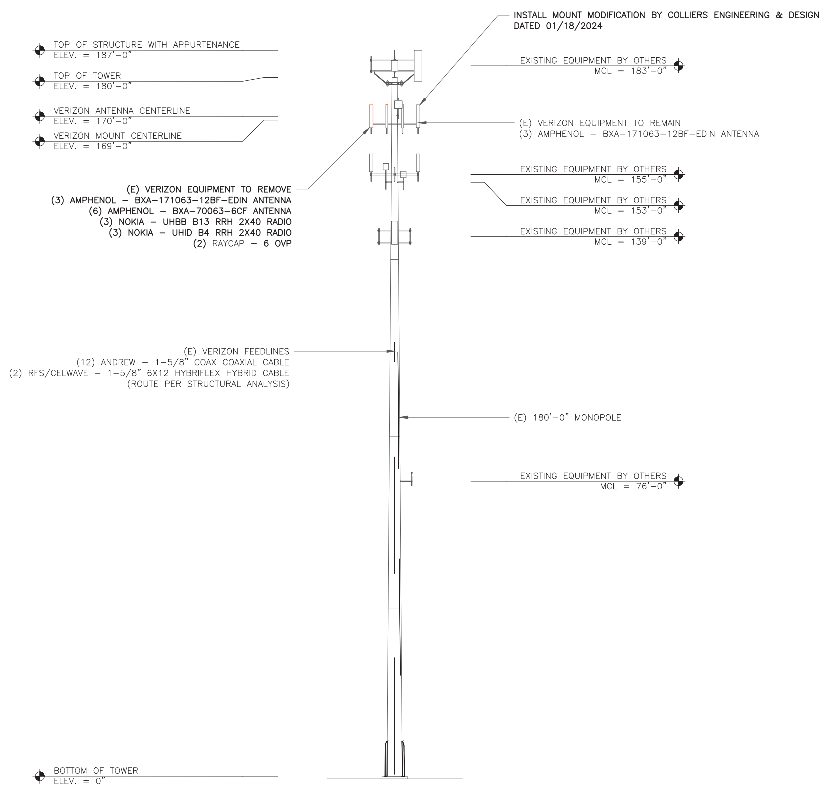
CROWN CASTLE USA INC.
CERTIFICATE OF REGISTRATION
#PEC.0001101

SHEET NUMBER: C-1
REVISION: 2

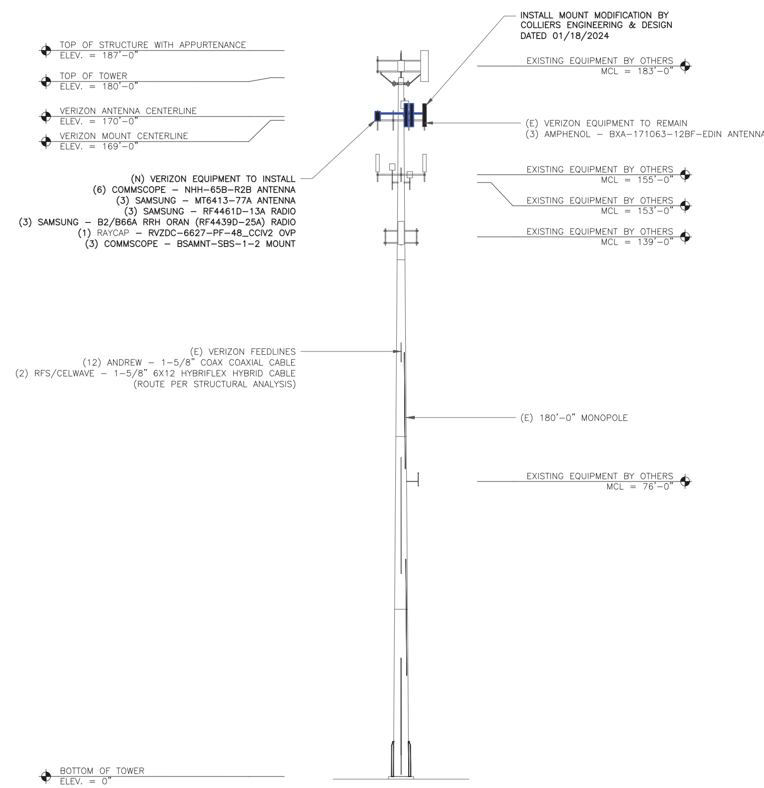
VERIZON EQUIPMENT

ANTENNA CL: 170'-0"
MOUNT CL: 169'-0"

FAA APPROVED HEIGHT:
NONE



1 EXISTING TOWER ELEVATION
SCALE: 1/16"=1'-0" (FULL SIZE) 1/32"=1'-0" (11x17)



2 FINAL TOWER ELEVATION
SCALE: 1/16"=1'-0" (FULL SIZE) 1/32"=1'-0" (11x17)

INSTALLER NOTE:

NO PROPOSED LOADING TO BE ADDED UNTIL MOUNT MODIFICATIONS ARE INSTALLED PER MOUNT MODIFICATION DESIGN BY COLLIERS ENGINEERING & DESIGN DATED 01/18/2024.

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CROWN CASTLE

VERIZON SITE NUMBER:
5000245865

BU #: **876375**

CROWN CASTLE SITE NAME
CANTERBURY / LEMIRE

53 WESTMINSTER RD
CANTERBURY, CT 06331

EXISTING 180'-0"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	02/29/2024	WS	FINAL	GMA
1	03/19/2024	WS	FINAL	GMA
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DocuSigned by: Graham Andres
6/5/2024 | 7:28:03 AM CDT

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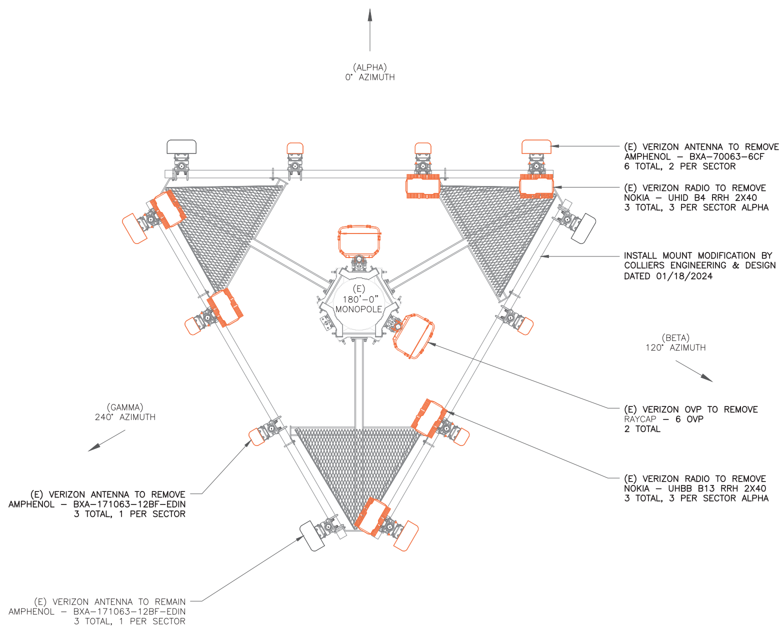
SHEET NUMBER: C-2
REVISION: 2

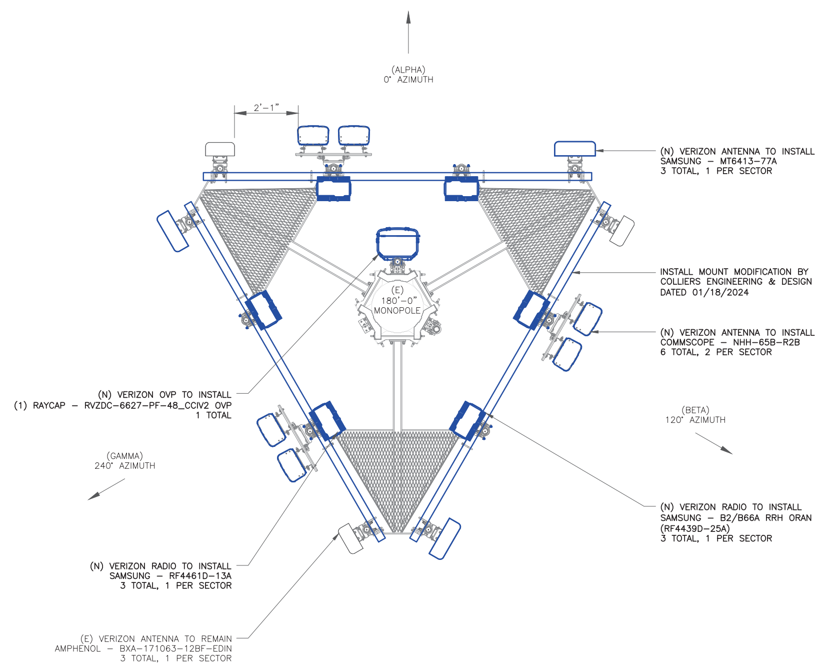
VERIZON_WBV_SOVA_TRIST_ANTENNA_AMENDMENT



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

INSTALLER NOTE:

NO PROPOSED LOADING TO BE ADDED UNTIL MOUNT MODIFICATIONS ARE INSTALLED PER MOUNT MODIFICATION DESIGN BY COLLIERS ENGINEERING & DESIGN DATED 01/18/2024.



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

verizon

CROWN CASTLE

VERIZON SITE NUMBER:
5000245865

BU #: **876375**

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EXISTING 180'-0"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	02/29/2024	WS	FINAL	GMA
1	03/19/2024	WS	FINAL	GMA
2	06/04/2024	BCV	REVISION	GMA

DocuSigned by: Graham Andres

6/5/2024 | 7:28:03 AM CDT

CROWN CASTLE USA INC.
CERTIFICATE OF REGISTRATION
#PEC.0001101

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SHEET NUMBER: C-3

REVISION: 2

VERIZON_WBV_SOWA_TRIST_ANTENNA_AMENDMENT

FINAL EQUIPMENT SCHEDULE
(VERIFY WITH CURRENT RFDS)

POSITION	ANTENNA				RADIO			DIPLEXER			TMA		SURGE PROTECTION		CABLES			
	TECH	STATUS/MANUFACTURER MODEL	AZIMUTH	RAD CENTER	QTY.	STATUS/MODEL	LOCATION	QTY.	STATUS	LOCATION	QTY.	STATUS	QTY.	STATUS/MODEL	QTY.	STATUS/TYPE	SIZE	LENGTH
A1	–	(E) AMPHENOL – BXA-171063-12BF-EDIN	0.0°	170'-0"	–	–	–	–	–	–	–	–	–	–	12	(E) COAXIAL CABLE	1-5/8"	190'-0"
A2	700 850	(N) COMMSCOPE – NHH-65B-R2B (N) COMMSCOPE – NHH-65B-R2B	0.0° 0.0°	170'-0" 170'-0"	1	(N) SAMSUNG – RF4461D-13A	TOWER	–	–	–	–	–	1	(N) RAYCAP – RVZDC-6627-PF-48_CCIV2 OVP	2	(E) HYBRID CABLE	1-5/8"	190'-0"
A3	1900	–	–	–	1	(N) SAMSUNG – B2/B66A RRH ORAN (RF4439D-25A)	TOWER	–	–	–	–	–	–	–	–	–	–	–
A4	–	(N) SAMSUNG – MT6413-77A	0.0°	170'-0"	–	–	–	–	–	–	–	–	–	–	–	–	–	–
B1	–	(E) AMPHENOL – BXA-171063-12BF-EDIN	120°	170'-0"	–	–	–	–	–	–	–	–	–	–	–	–	–	–
B2	700 850	(N) COMMSCOPE – NHH-65B-R2B (N) COMMSCOPE – NHH-65B-R2B	120° 120°	170'-0" 170'-0"	1	(N) SAMSUNG – RF4461D-13A	TOWER	–	–	–	–	–	–	–	–	–	–	–
B3	1900	–	–	–	1	(N) SAMSUNG – B2/B66A RRH ORAN (RF4439D-25A)	TOWER	–	–	–	–	–	–	–	–	–	–	–
B4	–	(N) SAMSUNG – MT6413-77A	120°	170'-0"	–	–	–	–	–	–	–	–	–	–	–	–	–	–
G1	–	(E) AMPHENOL – BXA-171063-12BF-EDIN	240°	170'-0"	–	–	–	–	–	–	–	–	–	–	–	–	–	–
G2	700 850	(N) COMMSCOPE – NHH-65B-R2B (N) COMMSCOPE – NHH-65B-R2B	240° 240°	170'-0" 170'-0"	1	(N) SAMSUNG – RF4461D-13A	TOWER	–	–	–	–	–	–	–	–	–	–	–
G3	1900	–	–	–	1	(N) SAMSUNG – B2/B66A RRH ORAN (RF4439D-25A)	TOWER	–	–	–	–	–	–	–	–	–	–	–
G4	–	(N) SAMSUNG – MT6413-77A	240°	170'-0"	–	–	–	–	–	–	–	–	–	–	–	–	–	–

1 FINAL EQUIPMENT SCHEDULE
SCALE: NOT TO SCALE

VERIZON_WBV_SOVA_TRIST_ANTENNA_AMENDMENT

verizon

CROWN CASTLE

VERIZON SITE NUMBER:
5000245865

BU #: **876375**

CROWN CASTLE SITE NAME
CANTERBURY / LEMIRE

53 WESTMINSTER RD
CANTERBURY, CT 06331

EXISTING 180'-0"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	02/29/2024	WS	FINAL	GMA
1	03/19/2024	WS	FINAL	GMA
2	06/04/2024	BCV	REVISION	GMA

DocuSigned by:
Graham Andres
3575C0112634479...

STATE OF CONNECTICUT
GRAHAM M. ANDRES
25538
LICENSED
PROFESSIONAL ENGINEER

6/5/2024 | 7:28:03 AM CDT

CROWN CASTLE USA INC.
CERTIFICATE OF REGISTRATION
#PEC.0001101

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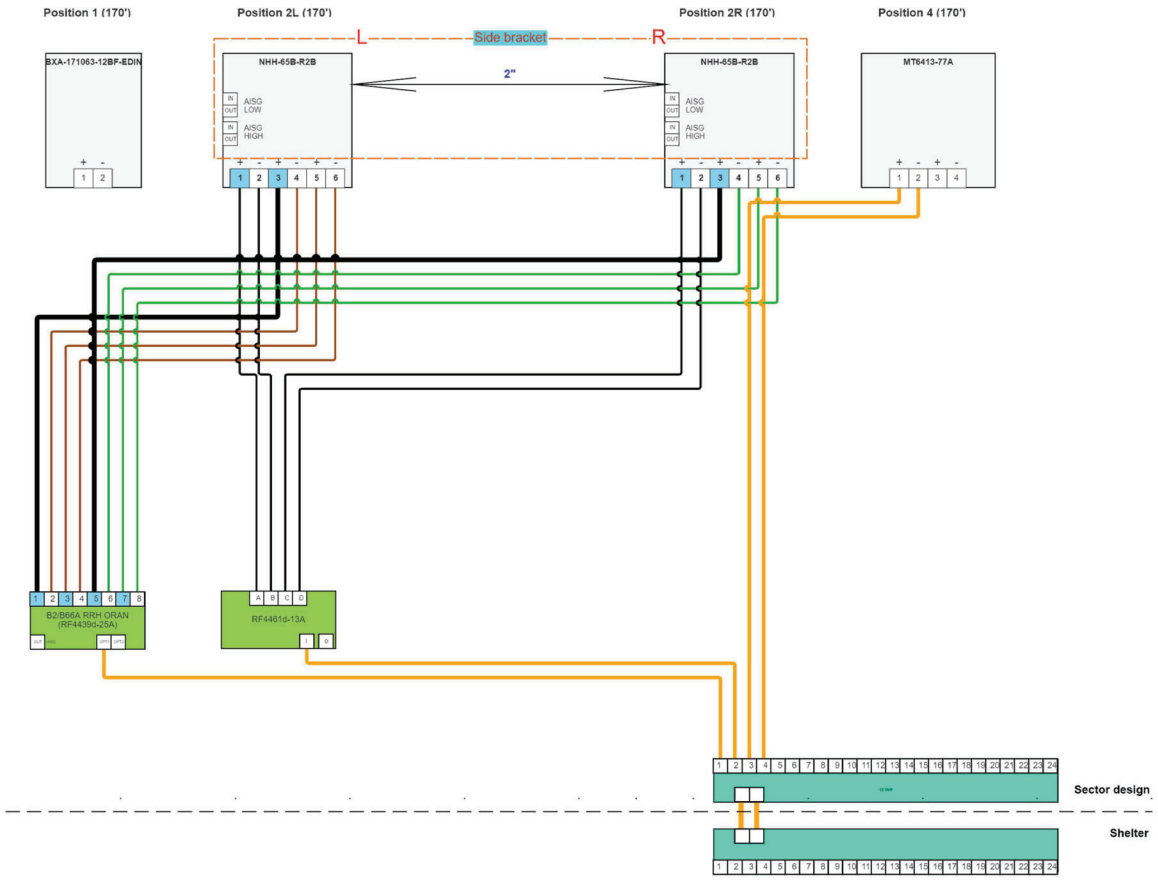
SHEET NUMBER: **C-4**

REVISION: **2**



Alpha
(Proposed)

Legends

RET dc signal capable port

700/850(LB)
700(LT)
850(CB)
AWS(AW)
PCS(PC)
AWS/PCS(HB)
28GHz(U28)
39GHz(U39)
L-Sub6(S6)
CBRS(RS)
LAA(LA)
Fiber
AISG
DC

Coax
Coax Jumper
Sectors Shared Equipments

Notes:

-Antenna view is from the back of the antennas
-Colors of connections are just for clarification
-Size of objects in drawing doesn't reflect equipment true dimensions

1 RFDS PLUMBING DIAGRAM
SCALE: NOT TO SCALE

verizon

CROWN CASTLE

VERIZON SITE NUMBER:
5000245865

BU #: **876375**

CROWN CASTLE SITE NAME
CANTERBURY / LEMIRE

53 WESTMINSTER RD
CANTERBURY, CT 06331

EXISTING 180'-0"
MONOPOLE

ISSUED FOR:

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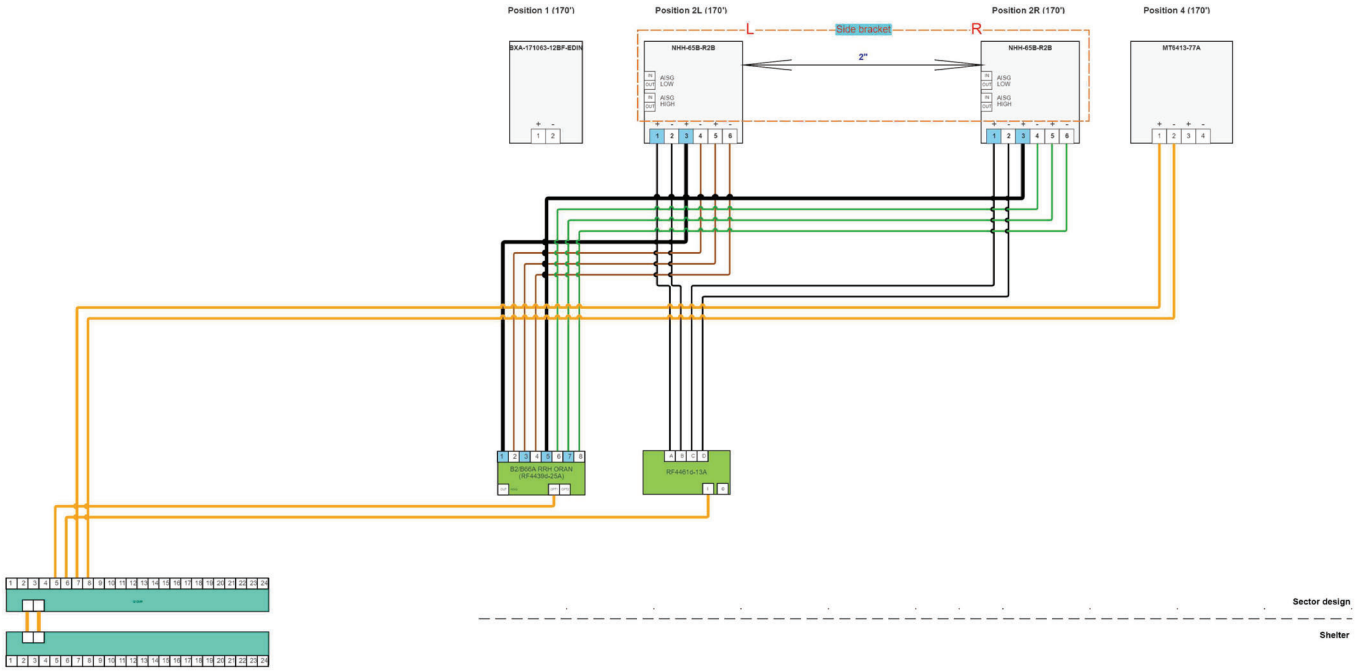
SHEET NUMBER: C-5.1
REVISION: 2



Beta
(Proposed)

Legends

RET dc signal capab
700/850(LB)
700(LT)
850(CB)
AWS(AW)
PCS(PC)
AWS/PCS(HB)
28GHz(U28)
39GHz(U39)
L-Sub6(S6)
CBRS(RS)
LAA(LA)
Fiber
AISG
DC
Coax
Coax Jumper
Sectors Shared Equipme

Notes:

-Antenna view is from t
of the antennas
-Colors of connections
for clarification
-Size of objects in draw
doesn't reflect equipme
dimensions

1 RFDS PLUMBING DIAGRAM
SCALE: NOT TO SCALE

verizon

CROWN CASTLE

VERIZON SITE NUMBER:
5000245865

BU #: **876375**

CROWN CASTLE SITE NAME
CANTERBURY / LEMIRE

53 WESTMINSTER RD
CANTERBURY, CT 06331

EXISTING 180'-0"
MONOPOLE

ISSUED FOR:

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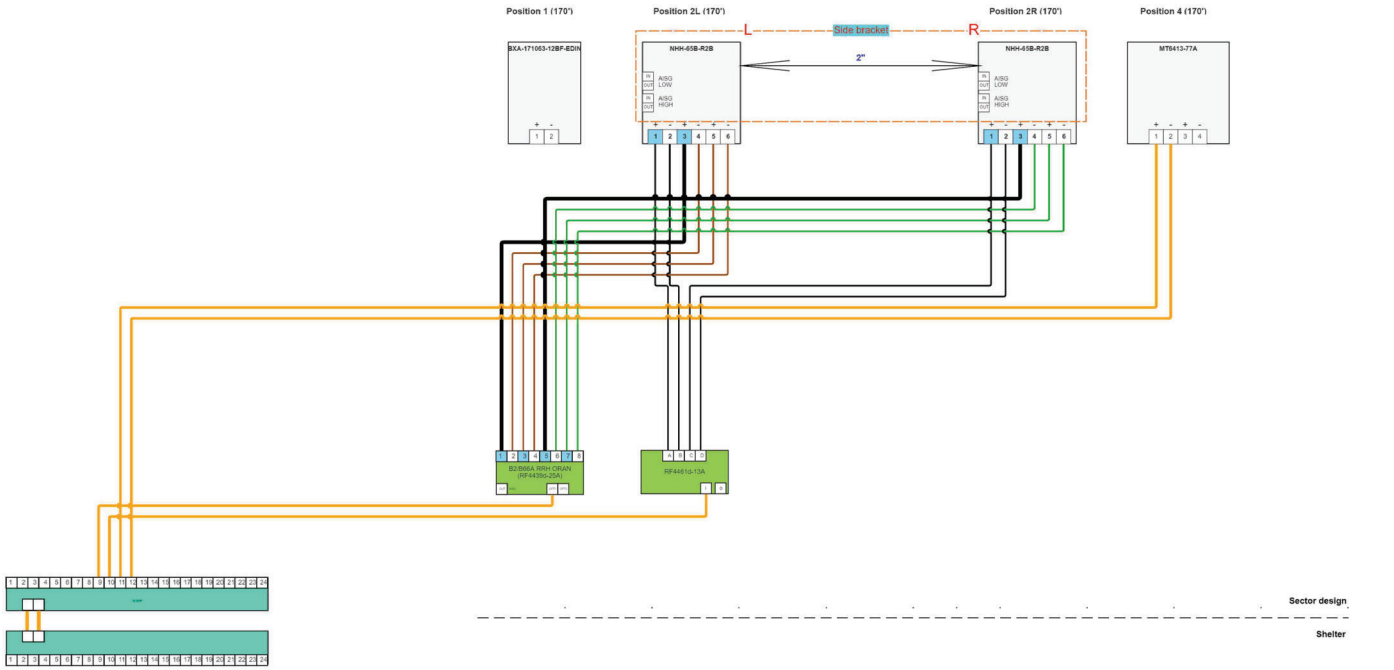
Graham Andres
STATE OF CONNECTICUT
GRAHAM M. ANDRES
29838
LICENSED
PROFESSIONAL ENGINEER
6/5/2024 | 7:28:03 AM CDT

CROWN CASTLE USA INC.
CERTIFICATE OF REGISTRATION
#PEC.0001101

SHEET NUMBER: C-5.2
REVISION: 2



Gamma
(Proposed)

Legends

RET dc signal capab
700/850(LB)
700(LT)
850(CB)
AWS(AW)
PCS(PC)
AWS/PCS(HB)
28GHz(U28)
39GHz(U39)
L-Sub6(S6)
CBRS(RS)
LAA(LA)
Fiber
AISG
DC
Coax
Coax Jumper
Sectors Shared Equipme

Notes:

-Antenna view is from th
of the antennas
-Colors of connections
for clarification
-Size of objects in drawi
doesn't reflect equipme
dimensions

1 RFDS PLUMBING DIAGRAM
SCALE: NOT TO SCALE

verizon

CROWN CASTLE

VERIZON SITE NUMBER:
5000245865

BU #: **876375**

CROWN CASTLE SITE NAME
CANTERBURY / LEMIRE

53 WESTMINSTER RD
CANTERBURY, CT 06331

EXISTING 180'-0"
MONOPOLE

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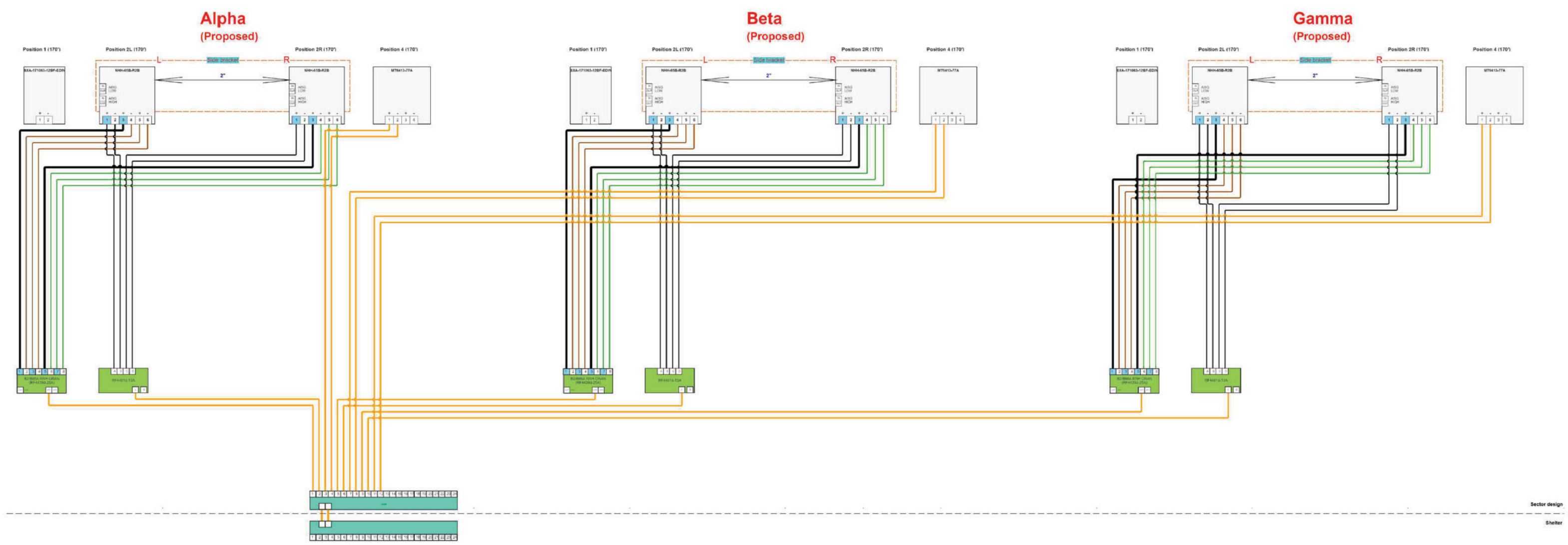
CROWN CASTLE USA INC.
CERTIFICATE OF REGISTRATION
#PEC.0001101

SHEET NUMBER: C-5.3
REVISION: 2



1 RFDS PLUMBING DIAGRAM
SCALE: NOT TO SCALE

VERIZON SITE NUMBER:
5000245865

BU #: **876375**

CROWN CASTLE SITE NAME
CANTERBURY / LEMIRE

53 WESTMINSTER RD
CANTERBURY, CT 06331

EXISTING 180'-0"
MONOPOLE

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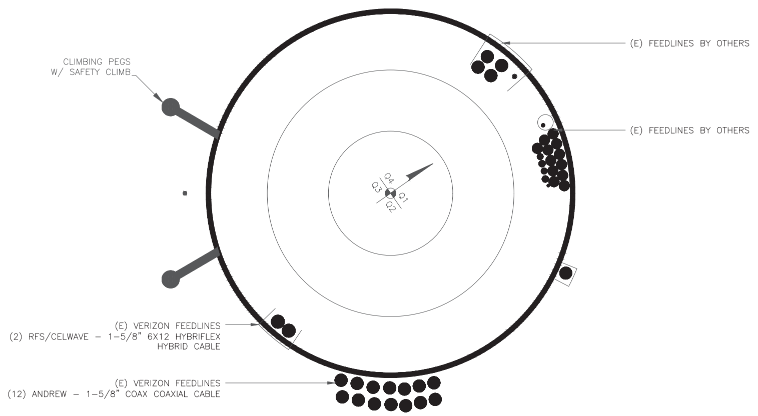
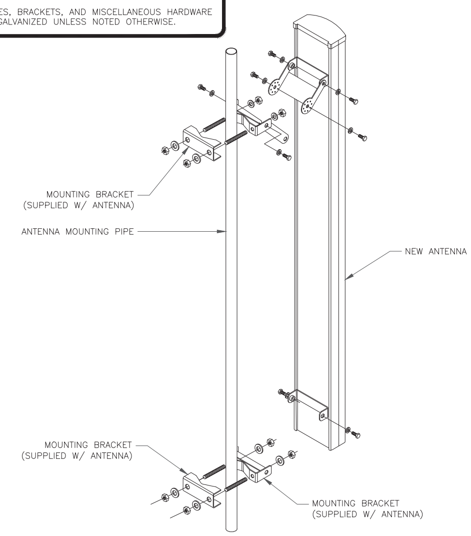
SHEET NUMBER: C-5.4
REVISION: 2



1 BASE LEVEL DETAIL
SCALE: NOT TO SCALE

INSTALLER NOTE:

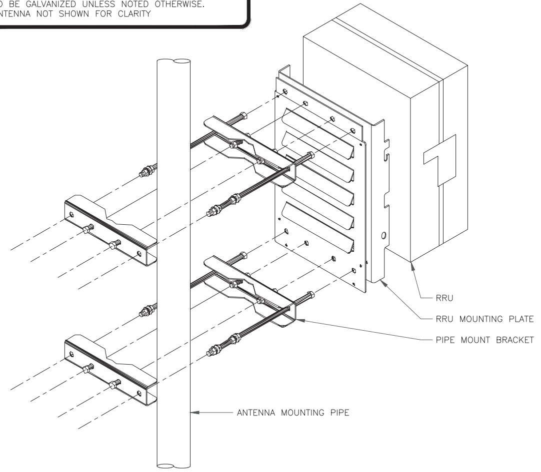
1. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.



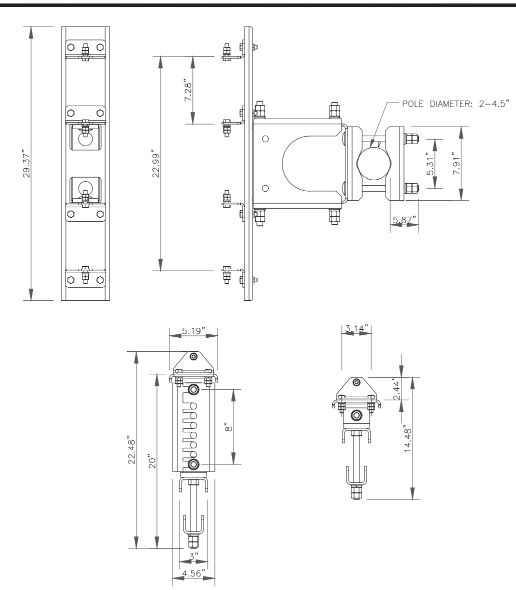
2 ANTENNA MOUNTING DETAIL
SCALE: NOT TO SCALE

INSTALLER NOTES:

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



3 RRU MOUNTING DETAIL
SCALE: NOT TO SCALE



4 COMMSCOPE – BSAMNT-SBS-2-2
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

verizon

CROWN CASTLE

VERIZON SITE NUMBER:
5000245865

BU #: **876375**

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CANTERBURY / LEMIRE

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DocuSigned by:
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STATE OF CONNECTICUT
GRAHAM M. ANDRES
28538
LICENSED PROFESSIONAL ENGINEER

CROWN CASTLE USA INC.
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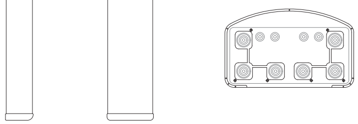
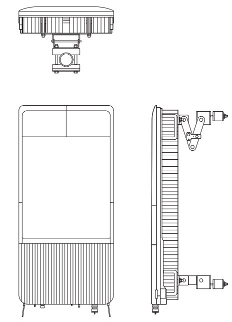
SHEET NUMBER: C-6
REVISION: 2

VERIZON_WBV_SOWA_TRIST_ANTENNA AMENDMENT



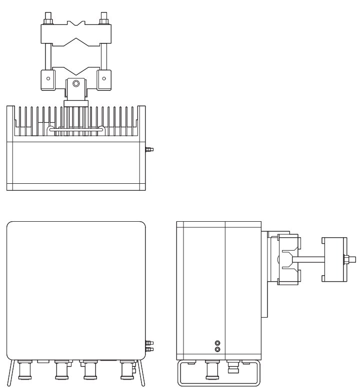
COMMSCOPE – NHH-65B-R2B
WEIGHT (WITHOUT MOUNTING HARDWARE): 43.7 LBS
SIZE (HxWxD): 72.0x11.9x7.1 IN.

1 COMMSCOPE – NHH-65B-R2B
SCALE: NOT TO SCALE



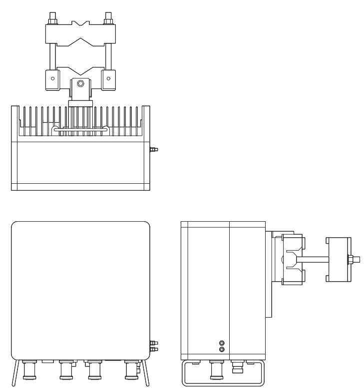
SAMSUNG – MT6413-77A
WEIGHT (WITHOUT MOUNTING HARDWARE): 57.30 LBS
SIZE (HxWxD): 28.90x15.75x5.51 IN.

2 SAMSUNG – MT6413-77A
SCALE: NOT TO SCALE



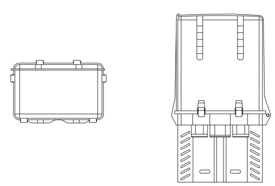
SAMSUNG – RF4439D-25A
WEIGHT: 74.70 LBS.
SIZE (HxWxD): 14.96x14.96x10.04 IN.

3 SAMSUNG – RF4439D-25A
SCALE: NOT TO SCALE



SAMSUNG – RF4461D-13A
WEIGHT: 79.10 LBS.
SIZE (HxWxD): 14.96x14.96x10.23 IN.

4 SAMSUNG – RF4461D-13A
SCALE: NOT TO SCALE



RAYCAP – RVZDC-6627-PF-48
WEIGHT (WITHOUT MOUNTING HARDWARE): 32.0 LBS
SIZE (HxWxD): 28.9x15.7x10.3 IN.

5 RAYCAP – RVZDC-6627-PF-48
SCALE: NOT TO SCALE

verizon

CROWN CASTLE

VERIZON SITE NUMBER:
5000245865

BU #: **876375**

CROWN CASTLE SITE NAME
CANTERBURY / LEMIRE

53 WESTMINSTER RD
CANTERBURY, CT 06331

EXISTING 180'-0"
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ISSUED FOR:

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CERTIFICATE OF REGISTRATION
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SHEET NUMBER: C-6.1
REVISION: 2

VERIZON_WBV_SOWA_TRIST_ANTENNA_AMENDMENT

Azimuth (1) Alpha					
Cell (850 CDMA)	Red				
PCS2 (1900 LTE)	Pink	Red	Pink		
700 LTE	Lt. Green	Red	Lt. Green		
850 LTE	Purple	Red	Purple		
2100 LTE	Orange	Red	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Red	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Red	Lt. Green	Purple
5G 28GHz	Brown	Red	Brown		
5G 39GHz	Blue	Red	Blue		
LAA	Gray	Red	Gray		
CBRS	White	Red	White		
L-Sub6 (C-Band)	Red	Red	Red		

Azimuth (2) Beta					
Cell (850 CDMA)	Blue				
PCS2 (1900 LTE)	Pink	Blue	Pink		
700 LTE	Lt. Green	Blue	Lt. Green		
850 LTE	Purple	Blue	Purple		
2100 LTE	Orange	Blue	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Blue	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Blue	Lt. Green	Purple
5G 28GHz	Brown	Blue	Brown		
5G 39GHz	Blue	Blue	Blue		
LAA	Gray	Blue	Gray		
CBRS	White	Blue	White		
L-Sub6 (C-Band)	Red	Blue	Red		

Azimuth (3) Gamma					
Cell (850 CDMA)	Yellow				
PCS2 (1900 LTE)	Pink	Yellow	Pink		
700 LTE	Lt. Green	Yellow	Lt. Green		
850 LTE	Purple	Yellow	Purple		
2100 LTE	Orange	Yellow	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Yellow	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Yellow	Lt. Green	Purple
5G 28GHz	Brown	Yellow	Brown		
5G 39GHz	Blue	Yellow	Blue		
LAA	Gray	Yellow	Gray		
CBRS	White	Yellow	White		
L-Sub6 (C-Band)	Red	Yellow	Red		

Azimuth (4) Delta					
Cell (850 CDMA)	Orange				
PCS2 (1900 LTE)	Pink	Orange	Pink		
700 LTE	Lt. Green	Orange	Lt. Green		
850 LTE	Purple	Orange	Purple		
2100 LTE	Orange	Orange	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Orange	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Orange	Lt. Green	Purple
5G 28GHz	Brown	Orange	Brown		
5G 39GHz	Blue	Orange	Blue		
LAA	Gray	Orange	Gray		
CBRS	White	Orange	White		
L-Sub6 (C-Band)	Red	Orange	Red		

Azimuth (5) Epsilon					
Cell (850 CDMA)	White				
PCS2 (1900 LTE)	Pink	White	Pink		
700 LTE	Lt. Green	White	Lt. Green		
850 LTE	Purple	White	Purple		
2100 LTE	Orange	White	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	White	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	White	Lt. Green	Purple
5G 28GHz	Brown	White	Brown		
5G 39GHz	Blue	White	Blue		
LAA	Gray	White	Gray		
CBRS	White	White	White		
L-Sub6 (C-Band)	Red	White	Red		

Azimuth (6) Zeta					
Cell (850 CDMA)	Gray				
PCS2 (1900 LTE)	Pink	Gray	Pink		
700 LTE	Lt. Green	Gray	Lt. Green		
850 LTE	Purple	Gray	Purple		
2100 LTE	Orange	Gray	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Gray	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Gray	Lt. Green	Purple
5G 28GHz	Brown	Gray	Brown		
5G 39GHz	Blue	Gray	Blue		
LAA	Gray	Gray	Gray		
CBRS	White	Gray	White		
L-Sub6 (C-Band)	Red	Gray	Red		

1 COLOR CODE MATRIX
SCALE: NOT TO SCALE

verizon

CROWN CASTLE

VERIZON SITE NUMBER:
5000245865

BU #: **876375**

CROWN CASTLE SITE NAME
CANTERBURY / LEMIRE

53 WESTMINSTER RD
CANTERBURY, CT 06331

EXISTING 180'-0"
MONOPOLE

ISSUED FOR:

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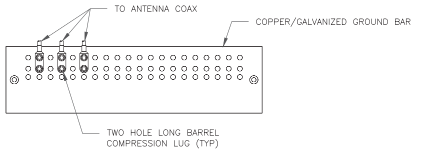
2	06/04/2024	BCV	REVISION	GMA

Digitally signed by Graham Andres
STATE OF CONNECTICUT · GRAHAM M. ANDRES · 29838 · LICENSED PROFESSIONAL ENGINEER
6/5/2024 | 7:28:03 AM CDT

CROWN CASTLE USA INC.
CERTIFICATE OF REGISTRATION
#PEC.0001101

SHEET NUMBER: C-7

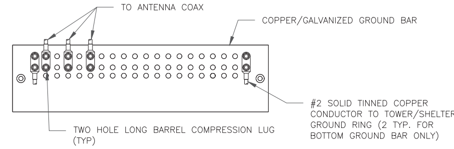
REVISION: 2



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

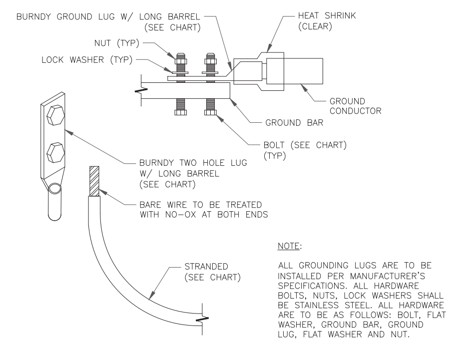


NOTES:

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

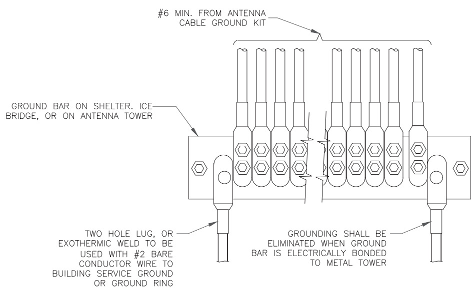
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 STRANDED	YA2C-2TC38	3/8" - 16 NC SS 2 BOLT
#2/0 STRANDED	YA26-2TC38	3/8" - 16 NC SS 2 BOLT
#4/0 STRANDED	YA28-2N	1/2" - 16 NC SS 2 BOLT



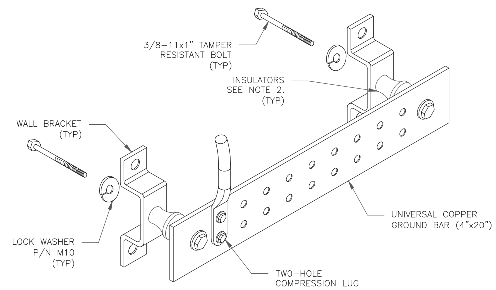
NOTE:

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



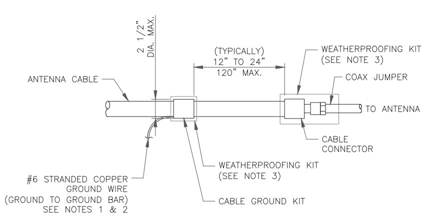
4 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



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.

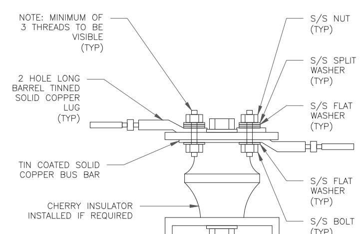
5 GROUND BAR DETAIL
SCALE: NOT TO SCALE



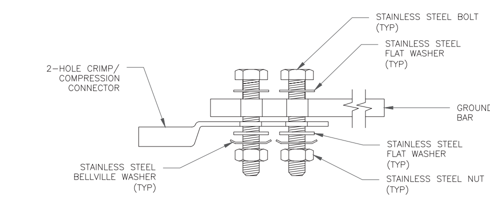
NOTES:

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.

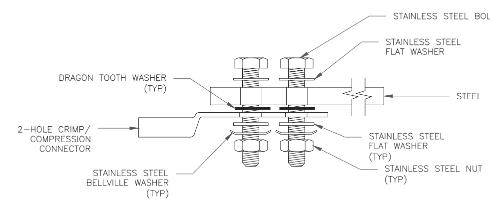
6 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



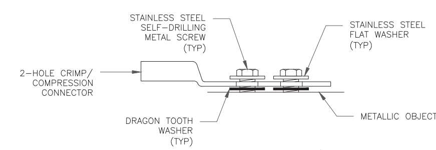
7 LUG DETAIL
SCALE: NOT TO SCALE



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

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CROWN CASTLE

VERIZON SITE NUMBER:
5000245865

BU #: **876375**

CROWN CASTLE SITE NAME
CANTERBURY / LEMIRE

53 WESTMINSTER RD
CANTERBURY, CT 06331

EXISTING 180'-0"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	02/29/2024	WS	FINAL	GMA
1	03/19/2024	WS	FINAL	GMA
2	06/04/2024	BCV	REVISION	GMA

DocuSigned by: Graham Andres
STATE OF CONNECTICUT GRAHAM M. ANDRES 26938 LICENSED PROFESSIONAL ENGINEER
6/5/2024 | 7:28:03 AM CDT

CROWN CASTLE USA INC.
CERTIFICATE OF REGISTRATION
#PEC.0001101

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SHEET NUMBER: G-1
REVISION: 2

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MOUNT MODIFICATION DRAWINGS
EXISTING 12.58' PLATFORM

TOWER OWNER: CROWN CASTLE
TOWER OWNER SITE NUMBER: 876375

CARRIER SITE NAME: CANTERBURY CT
CARRIER SITE NUMBER: 5000245865
FUZE ID: 16272087

53 WESTMINSTER RD
CANTERBURY, CT 06331
WINDHAM COUNTY

LATITUDE: 41.701986° N
LONGITUDE: 71.980586° W

DESIGN CRITERIA

WIND LOADS

BASIC WIND SPEED (3 SECOND GUST), V = 125 MPH
EXPOSURE CATEGORY B
TOPOGRAPHIC CATEGORY: 1
TOPOGRAPHY CONSIDERED: NO
MEAN BASE ELEVATION (AMSL) = 338.74'

ICE LOADS

ICE WIND SPEED (3 SECOND GUST), V = 50 MPH
ICE THICKNESS = 1.00 IN

SEISMIC LOADS

SEISMIC DESIGN CATEGORY B
SHORT TERM MCER GROUND MOTION, S_s = .187
LONG TERM MCER GROUND MOTION, S_1 = .054

PROJECT INFORMATION

APPLICANT/LESSEE

COMPANY: VERIZON WIRELESS

CLIENT REPRESENTATIVE

COMPANY: VERIZON WIRELESS

PROJECT MANAGER

COMPANY: COLLIERS ENGINEERING & DESIGN
CONTACT: PETER ALBANO
PHONE: 856-797-0412
E-MAIL: PETER.ALBANO@COLLIERSENG.COM

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION: HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #: 10219427
VZW MDG #: 5000245865
ANALYSIS DATE: 1/18/2024

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX

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www.colliersengineering.com

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SCALE: AS SHOWN
JOB NUMBER: 21777308

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	1/18/2024	ISSUED FOR CONSTRUCTION	DA	DX
0	8/13/2021	ISSUED FOR CONSTRUCTION	AJH	DH

COLLIERS ENGINEERING & DESIGN CT, P.C.
C.T. JPC.0000131

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SITE NAME:
CANTERBURY CT
5000245865
53 WESTMINSTER RD
CANTERBURY, CT 06331
WINDHAM COUNTY

Colliers Engineering & Design
STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
COLLIERS ENGINEERING & DESIGN CT, P.C. DOING BUSINESS AS MASER CONSULTING

SHEET TITLE: TITLE SHEET
SHEET NUMBER: ST-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	VZWSMART	VZWSMART-PLK1	SUPPORT RAIL KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	504	504
1		VZWSMART-MSK6	BACK TO BACK CROSSOVER PLATE		34	34
3		VZWSMART-MSK13	UNIVERSAL CHANNEL CROSSOVER PLATE		30	90

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
3	-	-	PROPOSED 84" LONG, PIPE 2 1/2 SCH40	GALVANIZED	41	122
1	-	-	PROPOSED 36" LONG, PIPE 2 SCH40	GALVANIZED	11	11

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
					TOTAL:	761

NOTES:

1. THE MANUFACTURERS LISTED ARE THE APPROVED VENDORS FOR THE VZW MOUNT KITS. EACH MANUFACTURER WILL BE AWARE OF WHICH KITS HAVE BEEN THROUGH THE VZW APPROVAL PROCESS AND THEY ARE IN TURN APPROVED TO SELL. PLEASE NOTE THAT THE MATERIAL UTILIZED ON THE MOUNT MODIFICATIONS WILL BE REVIEWED AS A PART OF THE DESKTOP PMI COMPLETED BY THE SMART TOOL VENDOR. IT WILL BE REQUIRED THAT THE VZW KITS SPECIFIED ARE UTILIZED IN THE MODIFICATIONS.
2. ALL MATERIALS REQUIRED FOR THE DESIGNED MODIFICATIONS BUT NOT LISTED IN THIS SHEET ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.

VZWSMART KITS - APPROVED VENDORS

COMMSCOPE	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 304-7492
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM
WEBSITE	WWW.COMMSCOPE.COM

METROSITE FABRICATORS, LLC	
CONTACT	KENT RAMEY
PHONE	(706) 335-7045 (O), (706) 982-9788 (M)
EMAIL	KENT@METROSITELLC.COM
WEBSITE	METROSITEFABRICATORS.COM

PERFECTVISION	
CONTACT	WIRELESS SALES
PHONE	(844) 887-6723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESSSALES@PERFECT-VISION.COM

SABRE INDUSTRIES, INC.	
CONTACT	ANGIE WELCH
PHONE	(866) 428-6937
EMAIL	AKWELCH@SABREINDUSTRIES.COM
WEBSITE	WWW.SABRESITESOLUTIONS.COM

SITE PRO 1	
CONTACT	PAULA BOSWELL
PHONE	(972) 236-9843
EMAIL	PAULA.BOSWELL@VALMONT.COM
WEBSITE	WWW.SITEPRO1.COM

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1055 Washington Boulevard
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SHEET TITLE: BILL OF MATERIALS

SHEET NUMBER: SBOM-1

GENERAL NOTES

1. THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE TELECOMMUNICATIONS INDUSTRY STANDARD TIA-222-H. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES.
2. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE TO EXISTING STRUCTURES. ANY DAMAGE TO EXISTING STRUCTURES AS A RESULT OF THE CONTRACTOR'S WORK OR FROM DAMAGE DUE TO OTHER CAUSES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE BEGINNING WORK, ORDERING MATERIAL, AND PREPARING OF SHOP DRAWINGS. ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE MODIFICATIONS, NOTIFY THE ENGINEER IMMEDIATELY.
4. IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
5. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
6. 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/TIA-322 (LATEST EDITION), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANSI/TIA-322 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION.
7. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
8. WORK SHALL ONLY BE PERFORMED DURING CALM DRY DAYS (WINDS LESS THAN 30-MPH). THE STRUCTURE SHOWN ON THE DRAWINGS IS STRUCTURALLY SOUND ONLY IN THE COMPLETED FORM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING ERECTION. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT, SHORING, BRACING AND ANY OTHER STRUCTURAL SYSTEMS AS REQUIRED TO RESIST ALL FORCES THAT MAY OCCUR DURING HANDLING AND ERECTION UNTIL THE STRUCTURE IS FULLY COMPLETED. TEMPORARY SUPPORTS, BRACING AND OTHER STRUCTURAL SYSTEMS REQUIRED DURING CONSTRUCTION SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THEIR USE.
9. ALL INSTALLATIONS PERFORMED ON THIS STRUCTURE SHALL BE COMPLETED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE STANDARD FOR INSTALLATION, ALTERATION AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS, ANSI/TIA-322.
10. CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GEOFABRIC, GROUNDING, AND SURROUNDING GRADE SHALL BE REPLACED AND REPAIRED AS REQUIRED TO ACHIEVE OWNER APPROVAL. POSITIVE DRAINAGE AWAY FROM TOWER SITE SHALL BE MAINTAINED.
11. CONNECTIONS BETWEEN ITEMS SUPPORTED BY THE STRUCTURE AND THE STRUCTURE NOT SPECIFICALLY DETAILED IN THE CONTRACT DOCUMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. SUCH CONNECTIONS SHALL BE DESIGNED, COORDINATED AND INSPECTED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. SUBMIT SIGNED AND SEALED CALCULATIONS DURING SHOP DRAWING REVIEW.
12. DO NOT SCALE DRAWINGS.
13. DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
14. ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDING BUT NOT LIMITED TO ALTERED SIZE AND/OR STRENGTHS, MUST BE APPROVED BY THE OWNER AND ENGINEER IN WRITING.
15. THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

STRUCTURAL STEEL

1. DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
   a. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
   b. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
   c. AISC CODE OF STANDARD PRACTICE
2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE SHOWN:

CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE

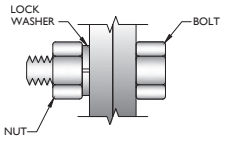
3. ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
4. PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
   a. SUBMIT SHOP DRAWINGS TO
      PETER.ALBANO@COLLIERSENG.COM
   b. PROVIDE COLLIERS ENGINEERING & DESIGN PROJECT # AND COLLIERS ENGINEERING & DESIGN PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
5. DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
6. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
7. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
8. ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
9. WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
10. FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
11. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
12. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
13. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
14. ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINC COTE, OR EOR APPROVED EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
15. ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

BOLT SCHEDULE (IN.)

BOLT DIAMETER	STANDARD HOLE	SHORT SLOT	MIN. EDGE DISTANCE	SPACING
1/2	9/16	9/16 x 11/16	7/8	1 1/2
5/8	11/16	11/16 x 7/8	1 1/8	1 7/8
3/4	13/16	13/16 x 1	1 1/4	2 1/4
7/8	15/16	15/16 x 1 1/8	1 1/2	2 5/8
1	1 1/16	1 1/16 x 1 5/16	1 3/4	3

WORKABLE GAGES (IN.)

LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8

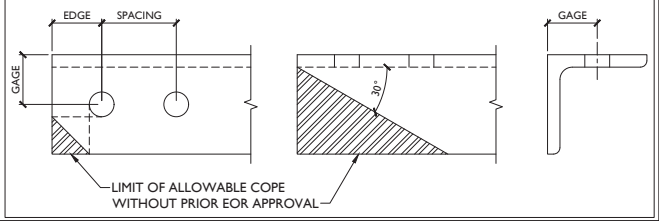


TYP. BOLT ASSEMBLY

NOTES:

1. ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
2. THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.
3. SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED IN THE DRAWINGS
4. MATCH EXISTING GAGES WHEN APPLICABLE, UNLESS MINIMUM EDGE DISTANCES ARE COMPROMISED.

ALLOWABLE COPING



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SITE NAME:
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5000245865
53 WESTMINSTER RD
CANTERBURY, CT 06331
WINDHAM COUNTY

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STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
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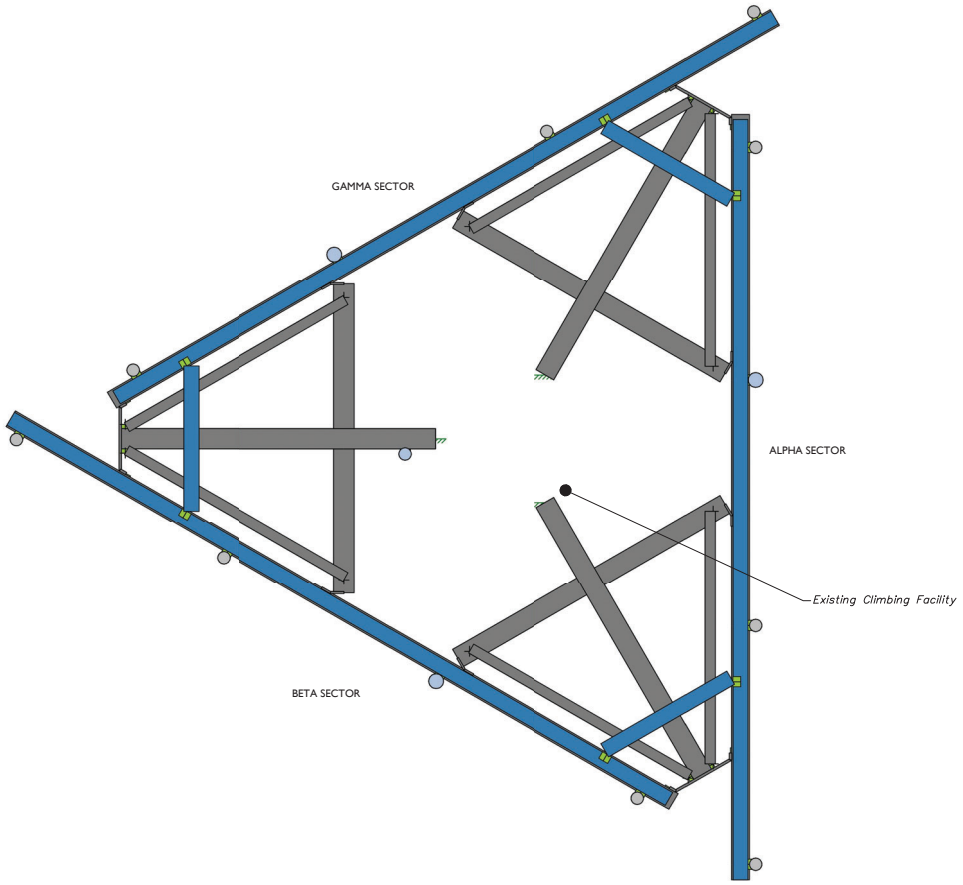
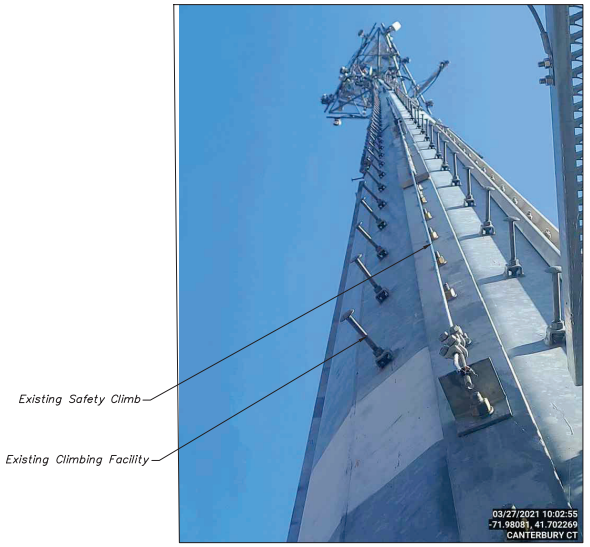
SHEET TITLE: GENERAL NOTES

SHEET NUMBER: SGN-1



1 CLIMBING FACILITY LOCATION
SCALE : N.T.S.



CLIMBING FACILITY PHOTO

STRUCTURAL NOTES:

1. PER THE MOUNT MAPPING COMPLETED BY ROAMING NETWORKS INC ON 3/27/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (169'-0") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.
2. INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.

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REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	5/18/2024	ISSUED FOR CONSTRUCTION	DA	DK
0	8/13/2021	ISSUED FOR CONSTRUCTION	AJH	DH

COLLIERS ENGINEERING & DESIGN CT, P.C.
C.T. JPC.0000131

SITE NAME:

CANTERBURY CT
5000245865

53 WESTMINSTER RD
CANTERBURY, CT 06331
WINDHAM COUNTY

Colliers Engineering & Design
STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
COLLIERS ENGINEERING & DESIGN CT, P.C. DOING BUSINESS AS MASER CONSULTING

SHEET TITLE:
CLIMBING FACILITY DETAIL

SHEET NUMBER:
SCF-1

LEGEND:

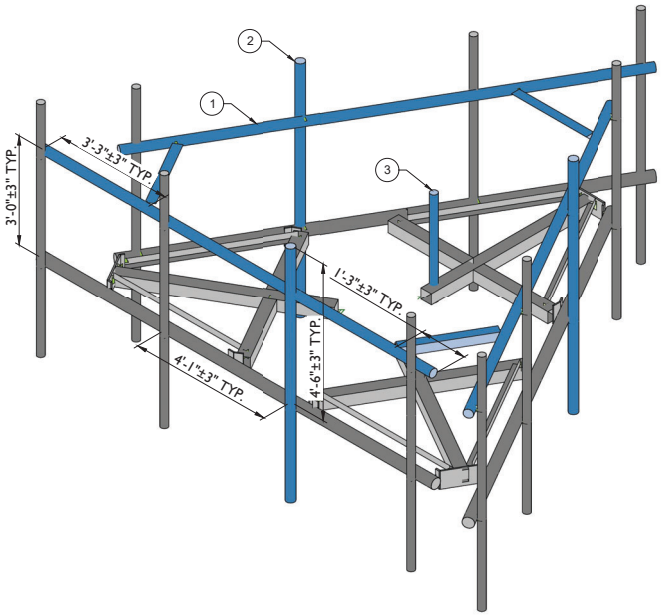
- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE

NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	169'-0"	1	PROPOSED SUPPORT RAIL KIT (PART #: VZWSMART-PLK1)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. RADIO AND/OR TME POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN.
2		3	PROPOSED 84" LONG, PIPE 2 1/2 SCH40 MOUNT PIPE	CONTRACTOR TO REPLACE EXISTING POSITION 3 PIPE IN ALL SECTORS. CONNECT NEW MOUNT PIPE TO EXISTING HORIZONTAL WITH CROSSOVER PLATES (PART #: VZWSMART-MSK13).
3		1	PROPOSED 36" LONG, PIPE 2 SCH40 MOUNT PIPE	CONNECT NEW OVP PIPE TO EXISTING STANDOFF HORIZONTAL WITH BACK TO BACK CROSSOVER PLATE (VZWSMART-MSK6).

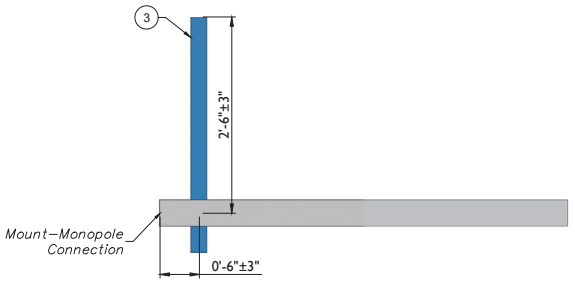
GENERAL NOTES:

A. CONTRACTOR SHALL VERIFY THAT NEW & EXISTING STEEL IS FREE OF CORROSION. VISIBLE MINOR CORROSION SHALL BE WIRE BRUSHED CLEAN AND TREATED WITH COLD GALVANIZATION. REPORT ANY SIGNIFICANT CORROSION TO EOR
B. THREADED ROD FROM PROPOSED KITS SHALL BE TRIMMED TO EXTEND NO MORE THAN 3" BEYOND THE LOCK NUT. TREAT ALL CUT ENDS WITH (2) COATS OF COLD GALVANIZATION (ZINC KOTE, OR EOR APPROVED EQUAL).
C. MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.



1 PROPOSED ISOMETRIC VIEW

SCALE : N.T.S.



2 PROPOSED SIDE ELEVATION VIEW (BETA/GAMMA SECTOR ONLY)

SCALE : N.T.S.

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811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
Know what's below. Call before you dig.
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE:	JOB NUMBER:
AS SHOWN	21777308

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	5/18/2024	ISSUED FOR CONSTRUCTION	DA	DX
0	8/13/2021	ISSUED FOR CONSTRUCTION	AJH	DH

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CANTERBURY CT
5000245865

53 WESTMINSTER RD
CANTERBURY, CT 06331
WINDHAM COUNTY

Colliers Engineering & Design
STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
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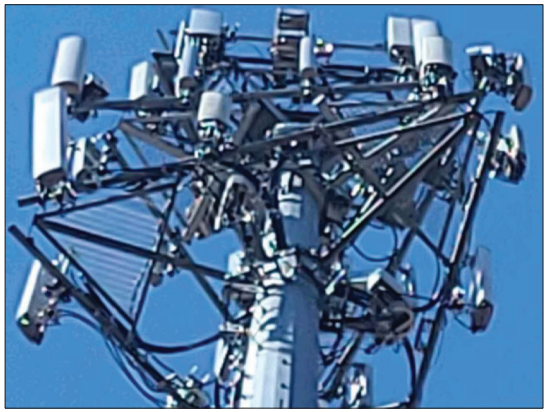
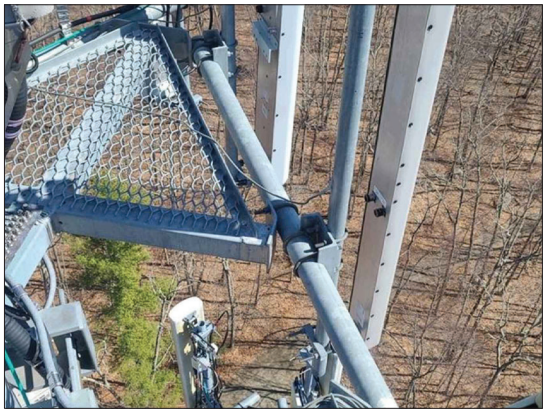
SHEET TITLE:
MODIFICATION DETAILS

SHEET NUMBER:
SS-1



MOUNT PHOTO 1



MOUNT PHOTO 2

MOUNT PHOTO 3

MOUNT PHOTO 4

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SCALE:	JOB NUMBER:
AS SHOWN	21777308

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	5/18/2024	ISSUED FOR CONSTRUCTION	DA	DX
0	8/13/2021	ISSUED FOR CONSTRUCTION	AJH	DH

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CANTERBURY, CT 06331
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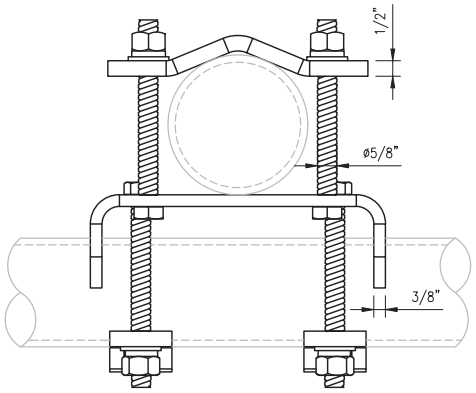
SHEET TITLE:

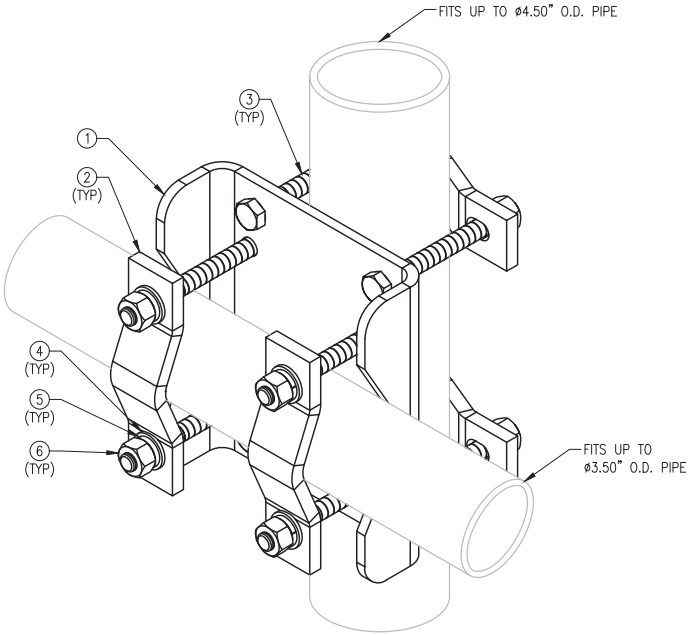
MOUNT PHOTOS

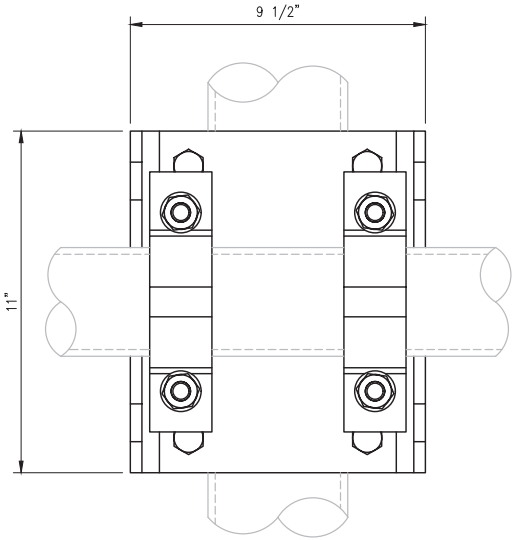
SHEET NUMBER:

SS-2

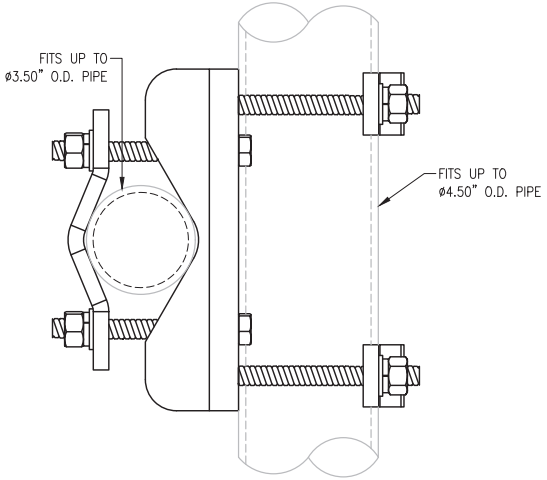


TOP VIEW





FRONT VIEW



SIDE VIEW

VZWSMART-MSK13 (UNIVERSAL CHANNEL CROSSOVER)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	P574-029-01	PL 3/8" X 11" X 14 1/8" A36 BENT PLATE	MSK13-F1	14.73
2	4	VCP	PL 1/2" X 2" X 8 5/8" A36 BENT PLATE	MSK3-F1	10
3	8	---	BOLT 5/8" X 6" FULL THREAD SAE GR-5	---	--
4	8	FW-625	5/8" HDG USS FLAT WASHER	---	1
5	8	LW-625	5/8" HDG LOCK WASHER	---	0
6	8	NUT-625	5/8" HDG HEX NUT	---	1
				GALVANIZED WT	29.91

NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.

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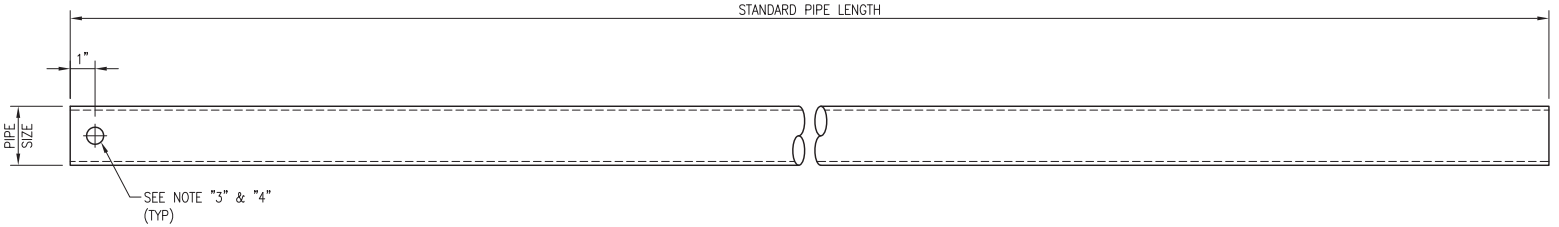
DRAWN BY: JBM | CHECKED BY: HMA/KW

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	JBM	10/08/21

SHEET TITLE:
VZWSMART-MSK13
UNIVERSAL CHANNEL
CROSSOVER

SHEET NUMBER: VZWSMART-MSK13

REV #: 0



VZWSMART Standard Pipe		
VZWSMART Number	Size	Length
P40-238X048	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	48"
P40-238X072	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	72"
P40-238X096	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	96"
P40-238X120	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	120"
P40-238X126	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	126"
P40-238X150	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	150"
P40-238X174	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	174"
P40-278X048	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	48"
P40-278X072	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	72"
P40-278X096	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	96"
P40-278X120	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	120"
P40-278X126	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	126"
P40-278X150	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	150"
P40-278X174	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	174"
P40-312X048	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	48"
P40-312X072	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	72"
P40-312X126	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	126"
P40-312X150	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	150"
P40-312X174	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	174"

NOTE:
APPROVED SMART KIT VENDORS ARE ALLOWED TO SUBSTITUTE AT THEIR DISCRETION PIPES LISTED ON THIS PAGE FOR CUSTOM LENGTH COMPONENTS OF MATCHING SIZE. SUBSTITUTIONS SHALL MEET THE ORIGINAL STRUCTURAL INTENT.

NOTES:
1. ALL PIPE GRADE A53-B OR BETTER.
2. HOT-DIPPED GALVANIZED PER ASTM A123.
3. ALL HOLES ARE 11/16" DIA. U.N.O
4. HOLES MAY OR MAY NOT BE PRESENT, DEPEND UPON MANUFACTURE DISCRETION.
5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA OR ZINC COTE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

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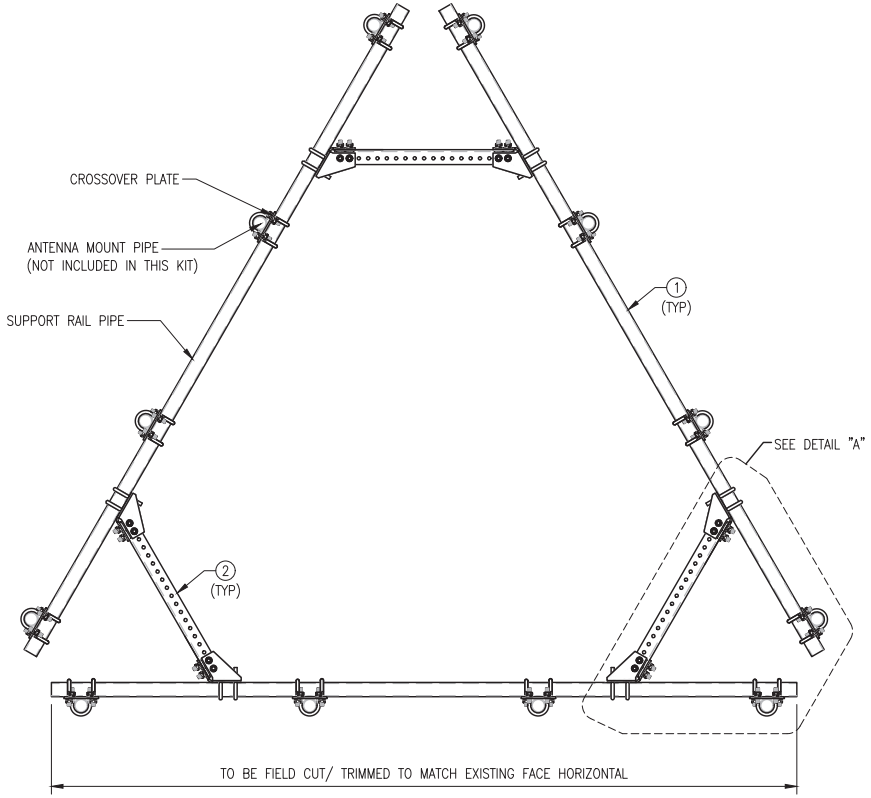
DRAWN BY: BT	CHECKED BY: HMA/KW

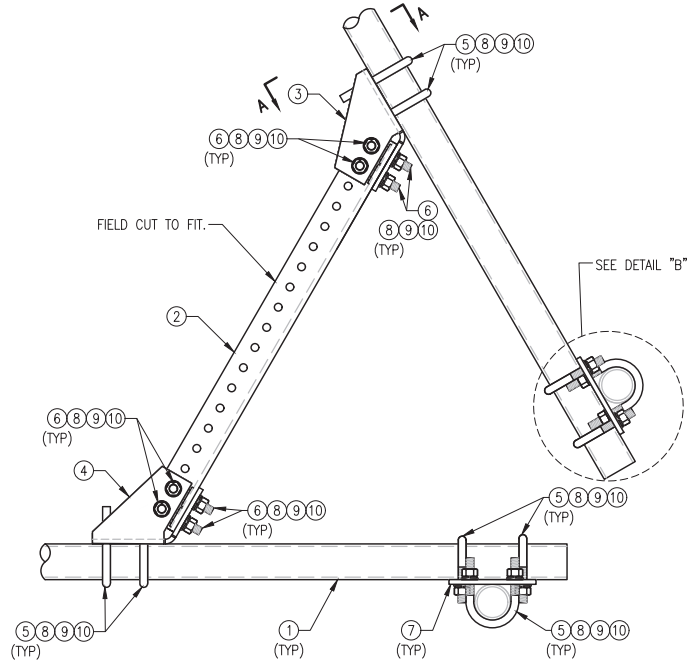
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BT	08/04/21

SHEET TITLE:
VZWSMART STANDARD PIPE

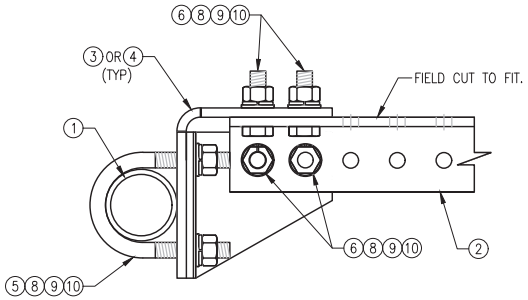
SHEET NUMBER:	REV #:
VZWSMART-PIPE	0



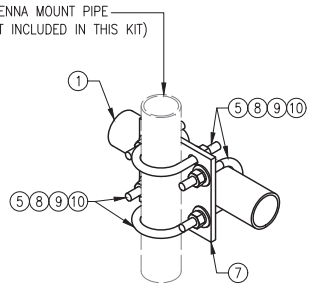
PLAN VIEW



DETAIL "A"



SECTION "A–A"



DETAIL "B"

NOTES:
1. HOT–DIPPED GALVANIZED PER ASTM A123.

VZW SMART–PLK1 (SUPPORT RAIL KIT)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	PST2875–12.5	2.5" PST (2.875" O.D. X 0.203" THK.) X 12'–6" A53 GR–B	PLK1–F1	292
2	3	L33375–3	L 3" X 3" X 3/8" X 3'–0" A36	PLK1–F1	66
3	3	CBP–L	CORNER BENT PLATE BRACKET	PLK1–F2	28
4	3	CBP–R	CORNER BENT PLATE BRACKET	PLK1–F2	28
5	60	MS02–625–300–500	RU–BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC–1	82
6	24	---	BOLT 5/8" X 2" A325	---	9
7	12	PL375–857	PL 3/8" X 8 1/2" X 7'–0" A36	PLK1–F3	77
8	144	FW–625	5/8" HDG USS FLAT WASHER	---	12
9	144	LW–625	5/8" HDG LOCK WASHER	---	3
10	144	NUT–625	5/8" HDG HEX NUT	---	17
				GALVANIZED WT	504

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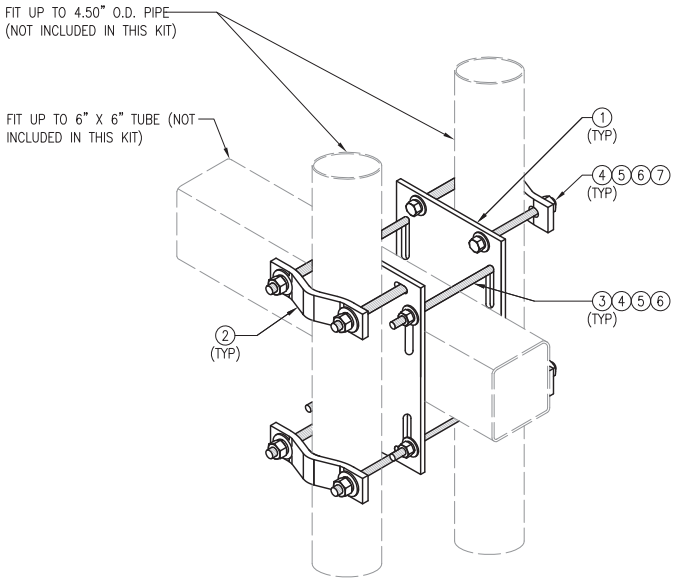
DRAWN BY: H.R	CHECKED BY: HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	H.R	05/08/20

SHEET TITLE:
VZWSMART–PLK1
SUPPORT RAIL KIT

SHEET NUMBER: VZWSMART–PLK1

REV #: 0



ISOMETRIC VIEW
BACK TO BACK CROSSOVER

VZWSMART–MSK6 (VZWSMART–MSK6 – BACK TO BACK CROSSOVER)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	2	PL375–8512	PL 3/8" X 8 1/2" X 1'–0" A36	MSK6–F2	20.7
2	4	VCP	PL 1/2" X 2" X 8 5/8" A36 BENT PLATE	MSK6–F1	9.6
3	4	---	THREADED ROD 5/8" DIA. X 10" F1554–36 HDG	---	---
4	16	NUT–625	5/8" HDG HEX NUT	---	2
5	16	FW–625	5/8" HDG USS FLAT WASHER	---	1
6	16	LW–625	5/8" HDG LOCK WASHER	---	0
7	8	---	BOLT 5/8" X 6" SAE GRADE 5 ALL THREAD	---	1
				GALVANIZED WT	34

NOTES:
1. HOT–DIPPED GALVANIZED PER ASTM A123.

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DRAWN BY: SK	CHECKED BY: BT/KW

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	SK	05/08/20

SHEET TITLE:
VZWSMART–MSK6
BACK TO BACK
CROSSOVER

SHEET NUMBER:	REV #:
VZWSMART–MSK6	0

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724-416-2000

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

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Ten Franklin Square
New Britain CT 06051

2695915

Robert A Cella VP and Controller
Authorized Signature

VOID AFTER 180 DAYS

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Check No 2958033
Check Date 04/26/24

Stub 1 of 1

CKRQ 876375 683824 ZN APP	04/25/24	Invoice Summ	625.00	625.00
			625.00	625.00

Canterbury