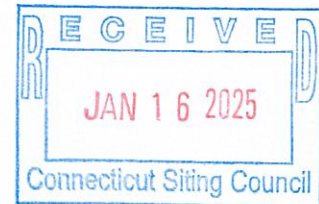




Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065

January 10, 2025

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



RE: **Notice of Exempt Modification for Verizon
Crown #842869; Verizon Site ID 5000382636
450-478 West Main St., Meriden, CT 06451
Latitude: 41° 32' 24.11" / Longitude: -72° 49' 08.47"**

Dear Ms. Bachman:

Verizon currently maintains twelve (12) antennas at the 65-foot level of the existing 102-foot monopole tower at 450-478 West Main St., Meriden, CT. The tower is owned by Crown Castle USA Inc. and the property is owned by the Hunter Family Ltd. Partnership. Verizon now intends to replace twelve (12) antennas and install nine (9) new antennas and ancillary equipment at the 65-foot level. This modification may include B2, B5, B17, B14, B29, B30, B66 & n77 hardware that is 4G(LTE) and/or 5G NR capable through remote software configuration and either or both services may be turned on or off at various times.

Planned Modification:

Tower:

Installed New:

- (3) JMA - MX12FRO445-01 ANTENNAS
- (4) SAMSUNG - MT6413-77A ANTENNAS
- (2) COMMSCOPE - NHH-33-R2B ANTENNAS
- (1) COMMSCOPE - BSAMNT-SBS-2-3 ANTENNA MOUNT BRACKET
- (4) SAMSUNG - B2/B66A RRH ORAN (RF4439D-25A) RADIOS
- (4) SAMSUNG - RF4461D-13A RADIOS

Remove:

- (3) ANTEL - BXA-171063-12CF ANTENNAS
- (6) ANDREW - SBNHH-1D45B ANTENNAS
- (3) ANTEL - BXA70063-6CF ANTENNAS
- (3) NOKIA - UHBA B13 RRH 4X30 RADIOS
- (3) NOKIA - UHIC B4 RRH 2X60-4R RADIOS

Ground: N/A

Install New:

The Foundation for a Wireless World.
CrownCastle.com

N/A

Remove:

N/A

The facility was approved by the Connecticut Siting Council in Petition No. 614 on March 11, 2003. Said approval given with conditions. Verizon's proposed exempt modification complies with the conditions of approval.

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 Kevin Scarpati, Mayor for the City of Meriden, as the municipality, Hunter Family L.P., property owner, and Jasmine Peele, City Planning Director, and Crown Castle is the tower owner.

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

For the foregoing reasons, Verizon 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: Keenan Brinn.

Sincerely,



Keenan Brinn
Site Acquisition Specialist
1800 W. Park Drive
Westborough, MA 01581
(617) 680-5464/ Keenan.Brinn.Contractor@crowncastle.com

Attachments

Melanie A. Bachman

Page 3

cc:

Kevin Scarpati, Mayor
Meriden City Hall
142 East Main Street
Meriden, CT 06450
203-630-4123

Jasmine Peele, Planning Director
Meriden City Hall
142 East Main Street
Meriden, CT 06450
203-630-4123

Hunter Family L.P.
51-B South Vine St.
Meriden, CT 06451

Crown Castle, Tower Owner

Petition No. 614
AT&T Wireless PCS, LLC
Staff Report
March 11, 2003

On March 5, 2003, Connecticut Siting Council (Council) member Philip T. Ashton and Christina Lepage of the Council staff met with AT&T Wireless PCS, LLC (AT&T) representatives Anthony Gioffre III, and Charisma King at 450-478 West Main Street, Meriden, Connecticut for the inspection of an existing tower site. The existing property and structure are owned by Hunters Family Limited Partnership. AT&T proposes to replace the existing structure and is petitioning the Council for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need (Certificate) is required for the modification.

The existing facility consists of a 100-foot guyed lattice tower, which is currently used by Hunter's Ambulance Company. AT&T proposes to replace the existing guyed lattice tower with a 100-foot monopole approximately 15 feet to the southeast. Existing antennas used by the ambulance company would be relocated to the top of the monopole. AT&T proposes to install 6 panel antennas at the 100-foot level of the proposed monopole. The proposed monopole would be designed to accommodate the antennas of two additional carriers.

The proposed equipment would be located at the base of the tower within 7-foot by 16-foot equipment pad. An 8-foot high stockade fence would surround the equipment compound. AT&T proposes to install a retaining wall along the southern portion of the equipment compound.

Access to the site would be via an existing driveway. AT&T proposes to provide utilities to the site overhead from an existing utility pole to the south. The utility corridor would cross over property recently purchased by Hunter's Ambulance Company. Two new poles would be necessary to install a utility line to the site. AT&T submits that the proposed overhead utility installation would cause the least amount of disturbance to the site and surrounding area, due to the presence of bedrock, sidewalks and a parking lot.

Surrounding land uses include a mix of residential and commercial uses. The proposed site is zoned Commercial. The calculated cumulative worst-case radio frequency power density would not exceed the applicable standard.

AT&T contends that it would not need to construct a telecommunications tower to provide coverage to this area of Meriden, and the proposed modification of the existing structure would not cause a substantial adverse environmental effect. Staff recommends approval, with the condition that the tower be situated so as to avoid the removal of an existing tree.



CITY OF MERIDEN

GIS Services

DISCLAIMER: The City of Meriden maintains this website to enhance public access to the City's tax assessment information. However, this information is continually being developed and is subject to change. The data presented here is not legally binding on the City of Meriden or any of its departments. This website reflects the best information available to the City Assessor and it should not be construed as confirming or denying the existence of any permits, licenses, or other such rights. The City of Meriden shall not be liable for any loss, damages, or claims that arise out of the user's access to, and use of, this information.

THE USER IS RESPONSIBLE FOR CHECKING THE ACCURACY OF ALL INFORMATION OBTAINED WITH THE APPROPRIATE CITY DEPARTMENT AND TO COMPLY WITH ALL CURRENT LAWS, RULES, REGULATIONS, ORDINANCES, PROCEDURES, AND GUIDELINES.

PROPERTY INFORMATION

Location: **450 WEST MAIN ST** Map/Lot: 0612-0202-0001-0002

OWNER INFORMATION

Owner(s): HUNTER FAMILY LLC
Owner Address: 51 B SO VINE ST
MERIDEN, CT 06451

BUILDING INFORMATION

Card Number: 1

OVERVIEW

Building ID	9661
Finished Area	28,934
Comm/Rental Units	1
Living Units	0
Building Type	Mixed Use-M
Year Built	1980
Effective Yr Built	
Building Number	1

INTERIOR DETAILS

Rooms	
BedRooms	
Full Bath	0
Full Bath Rating	
Half Bath	0
Half Bath Rating	
Kitchens	0
Kitchen Rating	
Fireplaces	0

CONSTRUCTION DETAILS

Exterior	Brick
Roof Structure	Gable
Roof Cover	Architectural
Quality	C+
Heat Fuel	Oil
Heat Type	Forced Air
Prcnt. Heated	100.00
Prcnt. AC	50.00
Stories	2 story
Foundation	Concrete

Building Area Summary

Building ID	Description	Total Area	Finished Area	Perimeter
9661	1st FLOOR	2,500	2,500	200
9661	1st FLOOR	960	960	136
9661	2nd FLOOR	2,500	2,500	200
9661	2nd FLOOR	1,520	1,520	192
9661	2nd FLOOR	960	960	136
9661	CARPORT	4,312	0	284
9661	COMM GAR	1,520	1,520	192
9661	COMM GAR	1,248	1,248	152
9661	COMM GAR	3,988	3,988	272
9661	OPEN PORCH	160	0	74
TOTALS		19,668 sqft	15,196 sqft	

Outbuildings & Special Features

BuildingID	Description	Quantity	Area	Length	Width	YearBuilt	Quality
9661	FENCE 6	1	400			1980	Average
9661	PAVING-ASPT	1	5,500			1980	Average

APPRAISAL INFORMATION

Grand List Year: 2023

Land Appraised	Building Appraised	Outbuilding Appraised	Total Appraised Value	Land Assessed	Building Assessed	Outbuilding Assessed	Special Land Value	Total Assessed Value
\$476,000	\$1,544,300	\$241,500	\$2,261,800	\$333,200	\$1,081,010	\$169,050	\$0	\$1,583,260

Previous Year: 2022

Land Appraised	Building Appraised	Outbuilding Appraised	Appraised Value	Land Assessed	Building Assessed	Outbuilding Assessed	Assessed Value
\$476,000	\$1,544,300	\$241,500	\$2,261,800	\$333,200	\$1,081,010	\$169,050	\$1,583,260
\$476,000	\$1,496,400	\$241,500	\$2,213,900	\$333,200	\$1,047,480	\$169,050	\$1,549,730

LAND INFORMATION

Land Use	Zoning	Land Area	Code	Neighborhood Description
Comm Bldg	C-2	2.60069	C4A	OUTER W. MAIN

*Confirm zoning with Planning Office.
[Zoning map](#) is the official document to determine zone.

SALES INFORMATION

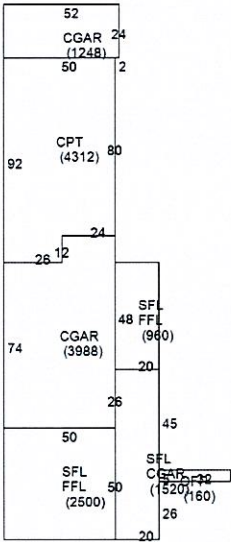
Sale Date	Sale Price	Book	Page	Grantor	Grantee	Deed Type
3/31/2023		5492	371	HUNTER FAMILY LTD PRTSHP	HUNTER FAMILY LLC	Change Na
12/31/1997	\$650,000	2322	336		HUNTER FAMILY LTD PRTSHP	

This feature has been removed from the Assessor Property Card. To search building permits, [Go to Building Permit Search](#)
The new building permit search app is part of our new [GIS Portal](#).

PROPERTY
IMAGES



1 2 3 4



9663
0612-0202-0001-0002
1
9661

450 West Main St.

Legend

450 W Main St

Taco Bell

Walgreens

450 W Main St

Hunters Ambulance Services

Meriden Tax Services

Google Earth

Image Landsat / Copernicus

300 ft

Sodom Brook





FOX HILL TELECOM

Radio Frequency Emissions Analysis Report

Prepared for:



Crown Site ID: 842869_Meriden West Central

Verizon Wireless Site Name: Meriden Hanover CT

Verizon Wireless FUZE ID: 16227612

Site Address:

450-478 West Main Street

Meriden, CT 06451

January 3, 2025

Fox Hill Telecom Project Number: 250004

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	96.01 %



FOX HILL TELECOM

January 3, 2025

Crown Castle
1800 W. Park Drive
Westborough, MA 01581

Emissions Analysis for:

Crown Castle Site: **842869 – Meriden West Central**

Verizon Wireless Site: **Meriden Hanover CT**

Fox Hill Telecom, Inc (“Fox Hill”) was directed to analyze the proposed upgrades for Verizon Wireless to the Crown Castle facility located at **450-478 West Main Street, Meriden, 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 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

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

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



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General population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 700 MHz band & the 850 MHz cellular band are approximately $497 \mu\text{W}/\text{cm}^2$ and $586 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 3700 MHz (C band) frequency bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report 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 **450-478 West Main Street, Meriden, 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

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

S = Power Density (in $\mu\text{W}/\text{cm}^2$)

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.



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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)	2	160

Table 1: Channel Data Table



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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	JMA MX12FRO445-01	66
A	2	Samsung MT6413-77A	67
B	1	Commscope NHH-33A-R2B	66
B	2	Samsung MT6413-77A	67
C	1	JMA MX12FRO445-01	66
C	2	Samsung MT6413-77A	67
D	1	JMA MX12FRO445-01	66
D	2	Samsung MT6413-77A	67

Table 2: Antenna Data

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



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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	JMA MX12FRO445-01	700 MHz / 850 MHz	10.55 / 10.85 / 14.05 / 14.65	16	640	12,495.35	10.09
Antenna A2	Samsung MT6413-77A	1900 MHz (PCS) / 2100 MHz (AWS)	23.15	2	320	66,092.16	13.84
Sector A Composite MPE%							23.93
Antenna B1	Commscope NHH-33A-R2B	700 MHz / 850 MHz	13.55 / 14.15 / 14.05 / 14.65	16	640	21,292.29	6.57
Antenna B2	Samsung MT6413-77A	1900 MHz (PCS) / 2100 MHz (AWS)	23.15	2	320	66,092.16	13.84
Sector B Composite MPE%							20.41
Antenna C1	JMA MX12FRO445-01	700 MHz / 850 MHz	10.55 / 10.85 / 16.05 / 16.45	16	640	12,495.35	10.09
Antenna C2	Samsung MT6413-77A	1900 MHz (PCS) / 2100 MHz (AWS)	23.15	2	320	66,092.16	13.84
Sector C Composite MPE%							23.93
Antenna D1	JMA MX12FRO445-01	700 MHz / 850 MHz	10.55 / 10.85 / 14.05 / 14.65	16	640	12,495.35	10.09
Antenna D2	Samsung MT6413-77A	1900 MHz (PCS) / 2100 MHz (AWS)	23.15	2	320	66,092.16	13.84
Sector D Composite MPE%							23.93

Table 3: Verizon Wireless Inventory and Power Data table



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Table 4 below 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, the Verizon Wireless sectors with the largest calculated MPE% are Sectors A, C & D. 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	23.93 %
AT&T	10.14 %
T-Mobile	6.72 %
Sprint	3.10 %
Dish Wireless	14.15 %
Hunters - Yagi 1	0.83 %
Hunters - Yagi 2	7.43 %
Hunters - Yagi 3	22.28 %
Hunters Whip	7.43 %
Site Total MPE %:	96.01 %

Table 4: All Carrier MPE Contributions

Verizon Wireless Sector A Total:	23.93 %
Verizon Wireless Sector B Total:	20.41 %
Verizon Wireless Sector C Total:	23.93 %
Site Total:	96.01 %

Table 5: Site MPE Summary



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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, the Verizon Wireless sectors with the largest calculated MPE% are Sectors A, C & D.

Verizon Wireless _ Frequency Band / Technology Max Power Values (Sectors A, C & D)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
Verizon Wireless 700 MHz LTE	4	454.00	66	18.19	700 MHz	497	3.66%
Verizon Wireless 850 MHz LTE / 5G	4	486.47	66	17.64	850 MHz	586	3.01%
Verizon Wireless 1900 MHz (PCS) LTE	4	1,016.39	66	17.10	1900 MHz (PCS)	1000	1.71%
Verizon Wireless 2100 MHz (AWS) LTE	4	1,166.97	66	17.10	2100 MHz (AWS)	1000	1.71%
Verizon Wireless 3700 MHz (C Band) 5G	2	33,046.08	67	138.40	3700 MHz (C Band)	1000	13.84%
						Total:	23.93 %

Table 6: Verizon Wireless Maximum Sector MPE Power Values



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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:	23.93 %
Sector B:	20.41 %
Sector C:	23.93 %
Sector D:	23.93 %
Verizon Wireless Maximum Total (Sectors A, C &D):	23.93 %
Site Total:	96.01 %
Site Compliance Status:	COMPLIANT

The estimated composite emissions value for this site, assuming all carriers present, is **96.01 %** 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

Date: October 10, 2024



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

Subject: Structural Analysis Report

Carrier Designation: Verizon Wireless Co-Locate
Site Number: 5000382636
Site Name: Meriden Hanover CT

Crown Castle Designation: BU Number: 842869
Site Name: Meriden West Central
JDE Job Number: 2107969
Work Order Number: 2334183
Order Number: 662909 Rev. 3

Engineering Firm Designation: Morrison Hershfield Project Number: CN4-064R7 / 2400001

Site Data: 450-478 West Main Street, Meriden, New Haven County, CT 06451
Latitude 41° 32' 24.11", Longitude -72° 49' 8.47"
100 Foot - Glen Martin Monopole Tower

Morrison Hershfield is pleased to submit this "Structural Analysis Report" to determine the structural integrity of the above-mentioned tower.

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

LC7: Proposed Equipment Configuration

Sufficient Capacity – 49.0%

This analysis utilizes an ultimate 3-second gust wind speed of 119 mph as required by the 2022 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Respectfully submitted by:

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



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tnxTower Output

6) APPENDIX B

Base Level Drawing

7) APPENDIX C

Additional Calculations

1) INTRODUCTION

This tower is a 100 ft monopole tower designed by Glen Martin Engineering.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	119 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)
64.0	67.0	4	samsung telecommunications	MT6413-77A w/ Mount Pipe	2	1-5/8
	66.0	2	commscope	NHH-33A-R2B w/ Mount Pipe		
		3	jma wireless	MX12FRO445-01 w/ Mount Pipe		
	65.0	2	raycap	RVZDC-3315-PF-48		
		4	samsung telecommunications	RF4439D-25A		
		4	samsung telecommunications	RF4461D-13A		
	64.0	2	-	7' Mount Pipe 2 SCH40 with 12" Pipe to Pipe Connection		
		2	-	7' Mount Pipe 2 SCH40 with 6" Pipe to Pipe Connection		
		3	-	Support Rail Kit [#VZWSMART-PLKI]		
		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)
100.0	111.0	1	rfs/celwave	1150-1	6 6 3 1	1-1/4 13/16 3/8 7/8
	110.0	1	maxrad	MFB-8137		
	109.0	1	decibel	DB201-A		
	108.0	1	decibel	DB201-A		
	106.0	1	decibel	DB201-A		
	101.0	3	ericsson	AIR 6419 B77G_CCIV3 w/ Mount Pipe		
	100.0	3	Site Pro1	8' Mount Pipe [#P296]		
		6	Site Pro1	8' Pipe Mount [#P3096]		
		1	Site Pro1	Ring Mount [#UGLM]		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
100.0	99.0	1	-	Platform Mount [LP 303-1_KCKR-HR-1]	12	1/2
		3	cci antennas	OPA65R-BU6D w/ Mount Pipe		
		3	ericsson	RRUS 32 B2		
		3	ericsson	RRUS 32 B30		
		3	ericsson	RRUS 32 B66		
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS 4478 B14		
		3	quintel technology	QD6616-7 w/ Mount Pipe		
		2	raycap	DC6-48-60-18-8F		
		1	raycap	DC9-48-60-24-8C-EV_CCIV2		
	97.0	3	ericsson	AIR 6449 B77D_CCIV2 w/ Mount Pipe		
	96.0	4	decibel	DB432-A		
88.0	89.0	3	ericsson	AIR -32 B2A/B66AA w/ Mount Pipe	6 4	7/8 1-5/8
		3	ericsson	AIR6449 B41 w/ Mount Pipe		
		3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe		
		3	ericsson	RADIO 4449 B71 B85A_T-MOBILE		
		3	ericsson	RRUS 4415 B25		
	88.0	3	ericsson	KRY 112 144/1		
		1	rfs/celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		
		1	-	Platform Mount [LP 305-1_HR-1]		
	87.0	2	rfs/celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		
80.0	80.0	3	alcatel lucent	1900MHz RRH	-	-
		3	alcatel lucent	800 EXTERNAL NOTCH FILTER		
		3	alcatel lucent	800MHZ RRH		
		1	-	Side Arm Mount [SO 104-3]		
78.0	82.0	3	alcatel lucent	TD-RRH8X20-25	3 1 1	1-1/4 EP185 5/8
	80.0	3	rfs/celwave	APXVTM14-C-120 w/ Mount Pipe		
	79.0	3	rfs/celwave	APXVSP18-C-A20 w/ Mount Pipe		
	78.0	1	-	Platform Mount [LP 303-1]		
54.0	55.0	3	jma wireless	MX08FRO665-21 w/ Mount Pipe	1	1-3/8
		3	fujitsu	TA08025-B604		
		3	fujitsu	TA08025-B605		
		1	raycap	RDIDC-9181-PF-48		
	54.0	1	-	Commscope MC-PK8-DSH		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	4529388	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	4529387	CCISITES
4-TOWER MANUFACTURER DRAWINGS	4713237	CCISITES

3.1) Analysis Method

tnxTower (version 8.2.4.3), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

3.2) Assumptions

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

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	100 - 47	Pole	TP40.72x28x0.3125	1	-27.97	2386.10	25.2	Pass
L2	47 - 0	Pole	TP51.37x38.655x0.375	2	-42.47	3747.09	37.8	Pass
							Summary	
						Pole (L2)	37.8	Pass
						Rating =	37.8	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	30.9	Pass
1	Base Plate		25.3	Pass
1	Base Foundation (Structure)	0	18.3	Pass
1	Base Foundation (Soil Interaction)		49.0	Pass

Structure Rating (max from all components) =	49.0%*
---	---------------

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.

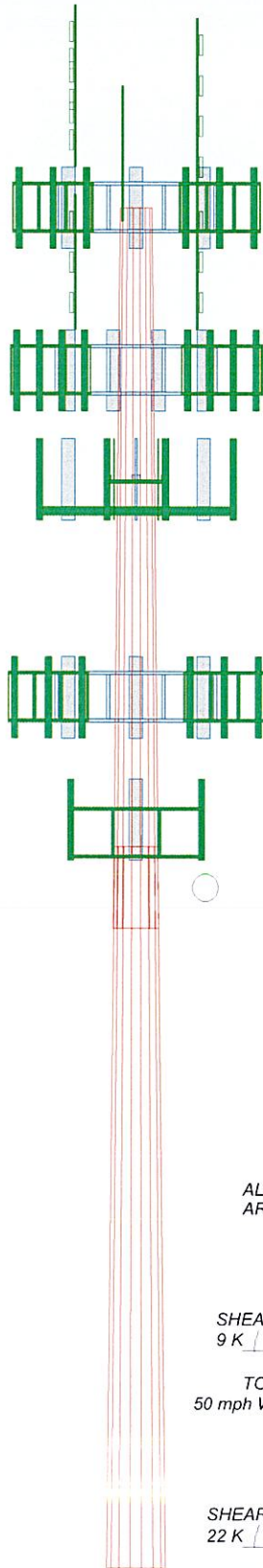
APPENDIX A
TNXTOWER OUTPUT

Section	1	2	
Length (ft)	53.00	53.00	
Number of Sides	16	16	
Thickness (in)	0.3125	0.3750	
Socket Length (ft)	6.00		
Top Dia (in)	28.0000	38.6550	
Bot Dia (in)	40.7200	51.3700	
Grade	A572-65		
Weight (K)	6.1	9.6	15.8

100.0 ft

47.0 ft

0.0 ft



MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 119 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 0.00 ft
8. TOWER RATING: 37.8%

ALL REACTIONS
ARE FACTORED

AXIAL
61 K
SHEAR
9 K
MOMENT
707 kip-ft
TORQUE 0 kip-ft
50 mph WIND - 1.0000 in ICE

AXIAL
42 K
SHEAR
22 K
MOMENT
1607 kip-ft
TORQUE 2 kip-ft
REACTIONS - 119 mph WIND

Tower Input Data

The tower is a monopole.
 This tower is designed using the TIA-222-H standard.
 The following design criteria apply:
 Tower is located in New Haven County, Connecticut.
 Tower base elevation above sea level: 170.00 ft.
 Basic wind speed of 119 mph.
 Risk Category II.
 Exposure Category B.
 Simplified Topographic Factor Procedure for wind speed-up calculations is used.
 Topographic Category: 1.
 Crest Height: 0.00 ft.
 Nominal ice thickness of 1.0000 in.
 Ice thickness is considered to increase with height.
 Ice density of 56 pcf.
 A wind speed of 50 mph is used in combination with ice.
 Temperature drop of 50 °F.
 Deflections calculated using a wind speed of 60 mph.
 A non-linear (P-delta) analysis was used.
 Pressures are calculated at each section.
 Stress ratio used in pole design is 1.
 Tower analysis based on target reliabilities in accordance with Annex S.
 Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
 Maximum demand-capacity ratio is: 1.05.
 Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	100.00-47.00	53.00	6.00	16	28.0000	40.7200	0.3125	1.2500	A572-65 (65 ksi)
L2	47.00-0.00	53.00		16	38.6550	51.3700	0.3750	1.5000	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	28.4873	27.6010	2673.0452	9.8567	14.2800	187.1880	5386.5635	13.6472	4.9501	15.84
	41.4565	40.2812	8308.8518	14.3851	20.7672	400.0949	16743.5097	19.9169	7.4814	23.94
L2	40.8065	45.7925	8477.1936	13.6277	19.7141	430.0077	17082.7422	22.6420	6.9461	18.523
	52.3029	61.0028	20040.9868	18.1542	26.1987	764.9611	40385.4186	30.1627	9.4764	25.27

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
ft	ft ²	in							
L1 100.00-47.00				1	1	1			
L2 47.00-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
Climbing Pegs	C	No	Surface Ar (CaAa)	100.00 - 8.00	1	1	0.000 0.100	0.7050		1.80
Safety Line 3/8"	C	No	Surface Ar (CaAa)	100.00 - 8.00	1	1	0.050 0.050	0.3750		0.22
**										
MLE HYBRID 9POWER/18FIBER RL 2(1-5/8) *****	A	No	Surface Ar (CaAa)	64.00 - 6.00	2	2	0.000 0.094	1.6250		1.07
CU12PSM9P8XXX(1-3/8) **	A	No	Surface Ar (CaAa)	54.00 - 6.00	1	1	0.000 0.040	1.4110		1.66

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight plf
**									
LDF6-50A(1-1/4)	C	No	No	Inside Pole	100.00 - 8.00	6	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.60 0.60 0.60
PWRT-608-S(13/16)	C	No	No	Inside Pole	100.00 - 8.00	6	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.62 0.62 0.62
FB-L98B-034-XXXXXX(3/8)	C	No	No	Inside Pole	100.00 - 8.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.05 0.05 0.05
LDF4-50A(1/2)	A	No	No	Inside Pole	100.00 - 8.00	12	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.15 0.15 0.15
**									
PWRT-606-S(7/8)	C	No	No	Inside Pole	100.00 - 8.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.89 0.89 0.89
RFFT-48SM-001-	C	No	No	Inside Pole	100.00 - 8.00	1	No Ice	0.00	0.06

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		$C_A A_A$ ft ² /ft	Weight plf
XXX(3/8)							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
**									
HCS 6X12 4AWG(1-5/8)	C	No	No	Inside Pole	88.00 - 4.00	3	No Ice	0.00	2.40
							1/2" Ice	0.00	2.40
							1" Ice	0.00	2.40
LDF5-50A(7/8)	C	No	No	Inside Pole	88.00 - 4.00	6	No Ice	0.00	0.33
							1/2" Ice	0.00	0.33
							1" Ice	0.00	0.33
MLE HYBRID 9POWER/18FIBE R RL 2(1-5/8)	C	No	No	Inside Pole	88.00 - 4.00	1	No Ice	0.00	1.07
							1/2" Ice	0.00	1.07
							1" Ice	0.00	1.07
**									
LDF4.5-50(5/8)	B	No	No	Inside Pole	76.00 - 6.00	1	No Ice	0.00	0.15
							1/2" Ice	0.00	0.15
							1" Ice	0.00	0.15
HB114-21U3M12- XXXF(1-1/4)	B	No	No	Inside Pole	76.00 - 6.00	1	No Ice	0.00	1.22
							1/2" Ice	0.00	1.22
							1" Ice	0.00	1.22
EP185(ELLIPTICA L)	B	No	No	Inside Pole	76.00 - 6.00	1	No Ice	0.00	0.20
							1/2" Ice	0.00	0.20
							1" Ice	0.00	0.20
HB114-13U3M12- XXXF(1-1/4)	B	No	No	Inside Pole	76.00 - 6.00	2	No Ice	0.00	0.99
							1/2" Ice	0.00	0.99
							1" Ice	0.00	0.99
**									

Feed Line/Linear Appurtenances Section Areas

Tower Section n	Tower Elevation ft	Face	A_R ft ²	A_F ft ²	$C_A A_A$ In Face ft ²	$C_A A_A$ Out Face ft ²	Weight K
L1	100.00-47.00	A	0.000	0.000	6.513	0.000	0.14
		B	0.000	0.000	0.000	0.000	0.10
		C	0.000	0.000	5.724	0.000	0.97
L2	47.00-0.00	A	0.000	0.000	19.110	0.000	0.23
		B	0.000	0.000	0.000	0.000	0.15
		C	0.000	0.000	4.212	0.000	0.85

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section n	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	$C_A A_A$ In Face ft ²	$C_A A_A$ Out Face ft ²	Weight K
L1	100.00-47.00	A	0.920	0.000	0.000	13.090	0.000	0.23
		B		0.000	0.000	0.000	0.000	0.10
		C		0.000	0.000	25.221	0.000	1.14
L2	47.00-0.00	A	0.819	0.000	0.000	39.409	0.000	0.51
		B		0.000	0.000	0.000	0.000	0.15
		C		0.000	0.000	18.559	0.000	0.97

Feed Line Center of Pressure

Section	Elevation ft	CP_x in	CP_z in	CP_x Ice in	CP_z Ice in
L1	100.00-47.00	-0.9225	0.1848	-1.0915	1.1865
L2	47.00-0.00	-2.3482	-0.9870	-2.6451	-0.3371

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	1	Climbing Pegs	47.00 - 100.00	1.0000	1.0000
L1	2	Safety Line 3/8"	47.00 - 100.00	1.0000	1.0000
L1	22	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	47.00 - 64.00	1.0000	1.0000
L1	24	CU12PSM9P8XXX(1-3/8)	47.00 - 54.00	1.0000	1.0000
L2	1	Climbing Pegs	8.00 - 47.00	1.0000	1.0000
L2	2	Safety Line 3/8"	8.00 - 47.00	1.0000	1.0000
L2	22	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	6.00 - 47.00	1.0000	1.0000
L2	24	CU12PSM9P8XXX(1-3/8)	6.00 - 47.00	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K

Lighting Rod 3/4" x 8'	C	From Leg	0.00 0.00 4.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	0.60 1.41 2.25	0.60 1.41 2.25	0.03 0.04 0.05

1150-1	A	From Leg	4.00 0.00 11.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	2.14 3.07 4.02	2.14 3.07 4.02	0.01 0.02 0.05
DB201-A	B	From Leg	4.00 0.00 6.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	1.10 1.98 2.86	1.10 1.98 2.86	0.03 0.03 0.04
DB201-A	B	From Leg	4.00 0.00 9.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	1.10 1.98 2.86	1.10 1.98 2.86	0.03 0.03 0.04
DB201-A	C	From Leg	4.00 0.00 8.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	1.10 1.98 2.86	1.10 1.98 2.86	0.03 0.03 0.04
(2) DB432-A	B	From Leg	4.00 0.00 -4.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	0.30 0.54 0.78	0.30 0.54 0.78	0.01 0.01 0.01
(2) DB432-A	C	From Leg	4.00 0.00 -4.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	0.30 0.54 0.78	0.30 0.54 0.78	0.01 0.01 0.01
MFB-8137	C	From Leg	4.00 0.00 10.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	1.20 2.02 2.86	1.20 2.02 2.86	0.00 0.01 0.03
8' Mount Pipe [#P296]	A	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
8' Mount Pipe [#P296]	B	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
8' Mount Pipe [#P296]	C	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
Ring Mount [#UGLM]	C	None		0.0000	100.00	No Ice 1/2" Ice 1" Ice	3.60 4.18 4.75	3.60 4.18 4.75	0.07 0.10 0.14

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K
**									
RRUS 32 B30	A	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	2.73 2.95 3.18	1.67 1.86 2.05	0.05 0.07 0.10
RRUS 32 B30	B	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	2.73 2.95 3.18	1.67 1.86 2.05	0.05 0.07 0.10
RRUS 32 B30	C	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	2.73 2.95 3.18	1.67 1.86 2.05	0.05 0.07 0.10
RRUS 32 B66	A	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	2.74 2.96 3.19	1.67 1.86 2.05	0.05 0.07 0.10
RRUS 32 B66	B	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	2.74 2.96 3.19	1.67 1.86 2.05	0.05 0.07 0.10
RRUS 32 B66	C	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	2.74 2.96 3.19	1.67 1.86 2.05	0.05 0.07 0.10
RRUS 32 B2	A	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	2.73 2.95 3.18	1.67 1.86 2.05	0.05 0.07 0.10
RRUS 32 B2	B	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	2.73 2.95 3.18	1.67 1.86 2.05	0.05 0.07 0.10
RRUS 32 B2	C	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	2.73 2.95 3.18	1.67 1.86 2.05	0.05 0.07 0.10
DC6-48-60-18-8F	A	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	0.92 1.46 1.64	0.92 1.46 1.64	0.02 0.04 0.06
DC6-48-60-18-8F	B	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	0.92 1.46 1.64	0.92 1.46 1.64	0.02 0.04 0.06
RRUS 4478 B14	A	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	1.84 2.01 2.19	1.06 1.20 1.34	0.06 0.08 0.09
RRUS 4478 B14	B	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	1.84 2.01 2.19	1.06 1.20 1.34	0.06 0.08 0.09
RRUS 4478 B14	C	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	1.84 2.01 2.19	1.06 1.20 1.34	0.06 0.08 0.09
Platform Mount [LP 303-1_KCKR-HR-1]	C	None		0.0000	100.00	No Ice 1/2" Ice 1" Ice	28.31 35.69 43.11	28.31 35.69 43.11	1.77 2.30 2.94
**									
AIR 6419 B77G_CCIV3 w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	3.79 4.14 4.51	2.15 2.45 2.76	0.07 0.10 0.15
AIR 6419 B77G_CCIV3 w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	3.79 4.14 4.51	2.15 2.45 2.76	0.07 0.10 0.15
AIR 6419 B77G_CCIV3 w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	3.79 4.14 4.51	2.15 2.45 2.76	0.07 0.10 0.15
AIR 6449 B77D_CCIV2 w/ Mount Pipe	A	From Leg	4.00 0.00 -3.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	3.58 3.92 4.27	2.31 2.60 2.91	0.09 0.13 0.17
AIR 6449 B77D_CCIV2 w/ Mount Pipe	B	From Leg	4.00 0.00 -3.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	3.58 3.92 4.27	2.31 2.60 2.91	0.09 0.13 0.17
AIR 6449 B77D_CCIV2 w/ Mount Pipe	C	From Leg	4.00 0.00 -3.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	3.58 3.92 4.27	2.31 2.60 2.91	0.09 0.13 0.17

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K
OPA65R-BU6D w/ Mount Pipe	A	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	12.25 13.00 13.76	6.05 6.71 7.39	0.09 0.18 0.27
OPA65R-BU6D w/ Mount Pipe	B	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	12.25 13.00 13.76	6.05 6.71 7.39	0.09 0.18 0.27
OPA65R-BU6D w/ Mount Pipe	C	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	12.25 13.00 13.76	6.05 6.71 7.39	0.09 0.18 0.27
QD6616-7 w/ Mount Pipe	A	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	12.56 13.30 14.06	6.93 7.60 8.28	0.16 0.25 0.36
QD6616-7 w/ Mount Pipe	B	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	12.56 13.30 14.06	6.93 7.60 8.28	0.16 0.25 0.36
QD6616-7 w/ Mount Pipe	C	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	12.56 13.30 14.06	6.93 7.60 8.28	0.16 0.25 0.36
RRUS 4449 B5/B12	A	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	1.97 2.14 2.33	1.41 1.56 1.73	0.07 0.09 0.11
RRUS 4449 B5/B12	B	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	1.97 2.14 2.33	1.41 1.56 1.73	0.07 0.09 0.11
RRUS 4449 B5/B12	C	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	1.97 2.14 2.33	1.41 1.56 1.73	0.07 0.09 0.11
DC9-48-60-24-8C- EV_CCIV2	C	From Leg	4.00 0.00 -1.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	2.74 2.96 3.20	4.78 5.06 5.35	0.02 0.06 0.10
(2) 8' Pipe Mount [#P3096]	A	From Leg	2.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	2.30 3.13 3.62	2.30 3.13 3.62	0.04 0.06 0.08
(2) 8' Pipe Mount [#P3096]	B	From Leg	2.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	2.30 3.13 3.62	2.30 3.13 3.62	0.04 0.06 0.08
(2) 8' Pipe Mount [#P3096]	C	From Leg	2.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	2.30 3.13 3.62	2.30 3.13 3.62	0.04 0.06 0.08
**									
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	88.00	No Ice 1/2" Ice 1" Ice	3.14 3.45 3.77	2.59 2.88 3.19	0.11 0.16 0.23
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	88.00	No Ice 1/2" Ice 1" Ice	3.14 3.45 3.77	2.59 2.88 3.19	0.11 0.16 0.23
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	88.00	No Ice 1/2" Ice 1" Ice	3.14 3.45 3.77	2.59 2.88 3.19	0.11 0.16 0.23
AIR -32 B2A/B66AA w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	88.00	No Ice 1/2" Ice 1" Ice	3.76 4.12 4.48	3.15 3.49 3.84	0.19 0.25 0.32
AIR -32 B2A/B66AA w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	88.00	No Ice 1/2" Ice 1" Ice	3.76 4.12 4.48	3.15 3.49 3.84	0.19 0.25 0.32
AIR -32 B2A/B66AA w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	88.00	No Ice 1/2" Ice 1" Ice	3.76 4.12 4.48	3.15 3.49 3.84	0.19 0.25 0.32
AIR6449 B41 w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	88.00	No Ice 1/2" Ice 1" Ice	5.18 5.59 6.01	2.72 3.05 3.39	0.12 0.16 0.22
AIR6449 B41 w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	88.00	No Ice 1/2" Ice 1" Ice	5.18 5.59 6.01	2.72 3.05 3.39	0.12 0.16 0.22
AIR6449 B41 w/ Mount	C	From Leg	4.00	0.0000	88.00	No Ice	5.18	2.72	0.12

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K
Pipe			0.00			1/2" Ice	5.59	3.05	0.16
			1.00			1" Ice	6.01	3.39	0.22
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.00	0.0000	88.00	No Ice	14.69	6.87	0.19
			0.00			1/2" Ice	15.46	7.55	0.31
			0.00			1" Ice	16.23	8.25	0.46
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.00	0.0000	88.00	No Ice	14.69	6.87	0.19
			0.00			1/2" Ice	15.46	7.55	0.31
			-1.00			1" Ice	16.23	8.25	0.46
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.00	0.0000	88.00	No Ice	14.69	6.87	0.19
			0.00			1/2" Ice	15.46	7.55	0.31
			-1.00			1" Ice	16.23	8.25	0.46
KRY 112 144/1	A	From Leg	4.00	0.0000	88.00	No Ice	0.35	0.17	0.01
			0.00			1/2" Ice	0.43	0.23	0.01
			0.00			1" Ice	0.51	0.30	0.02
KRY 112 144/1	B	From Leg	4.00	0.0000	88.00	No Ice	0.35	0.17	0.01
			0.00			1/2" Ice	0.43	0.23	0.01
			0.00			1" Ice	0.51	0.30	0.02
KRY 112 144/1	C	From Leg	4.00	0.0000	88.00	No Ice	0.35	0.17	0.01
			0.00			1/2" Ice	0.43	0.23	0.01
			0.00			1" Ice	0.51	0.30	0.02
RADIO 4449 B71 B85A_T- MOBILE	A	From Leg	4.00	0.0000	88.00	No Ice	1.97	1.59	0.07
			0.00			1/2" Ice	2.15	1.75	0.09
			1.00			1" Ice	2.33	1.92	0.12
RADIO 4449 B71 B85A_T- MOBILE	B	From Leg	4.00	0.0000	88.00	No Ice	1.97	1.59	0.07
			0.00			1/2" Ice	2.15	1.75	0.09
			1.00			1" Ice	2.33	1.92	0.12
RADIO 4449 B71 B85A_T- MOBILE	C	From Leg	4.00	0.0000	88.00	No Ice	1.97	1.59	0.07
			0.00			1/2" Ice	2.15	1.75	0.09
			1.00			1" Ice	2.33	1.92	0.12
RRUS 4415 B25	A	From Leg	4.00	0.0000	88.00	No Ice	1.64	0.68	0.04
			0.00			1/2" Ice	1.80	0.79	0.06
			1.00			1" Ice	1.97	0.91	0.07
RRUS 4415 B25	B	From Leg	4.00	0.0000	88.00	No Ice	1.64	0.68	0.04
			0.00			1/2" Ice	1.80	0.79	0.06
			1.00			1" Ice	1.97	0.91	0.07
RRUS 4415 B25	C	From Leg	4.00	0.0000	88.00	No Ice	1.64	0.68	0.04
			0.00			1/2" Ice	1.80	0.79	0.06
			1.00			1" Ice	1.97	0.91	0.07
Platform Mount [LP 305- 1_HR-1]	C	None		0.0000	88.00	No Ice	19.59	19.59	1.37
						1/2" Ice	24.48	24.48	1.78
						1" Ice	29.24	29.24	2.29
**									
800 EXTERNAL NOTCH FILTER	A	From Leg	1.00	0.0000	80.00	No Ice	0.66	0.32	0.01
			0.00			1/2" Ice	0.76	0.40	0.02
			0.00			1" Ice	0.87	0.48	0.02
800 EXTERNAL NOTCH FILTER	B	From Leg	1.00	0.0000	80.00	No Ice	0.66	0.32	0.01
			0.00			1/2" Ice	0.76	0.40	0.02
			0.00			1" Ice	0.87	0.48	0.02
800 EXTERNAL NOTCH FILTER	C	From Leg	1.00	0.0000	80.00	No Ice	0.66	0.32	0.01
			0.00			1/2" Ice	0.76	0.40	0.02
			0.00			1" Ice	0.87	0.48	0.02
1900MHz RRH	A	From Leg	1.00	0.0000	80.00	No Ice	2.49	3.26	0.04
			0.00			1/2" Ice	2.70	3.48	0.08
			0.00			1" Ice	2.91	3.72	0.11
1900MHz RRH	B	From Leg	1.00	0.0000	80.00	No Ice	2.49	3.26	0.04
			0.00			1/2" Ice	2.70	3.48	0.08
			0.00			1" Ice	2.91	3.72	0.11
1900MHz RRH	C	From Leg	1.00	0.0000	80.00	No Ice	2.49	3.26	0.04
			0.00			1/2" Ice	2.70	3.48	0.08
			0.00			1" Ice	2.91	3.72	0.11
800MHZ RRH	A	From Leg	1.00	0.0000	80.00	No Ice	2.13	1.77	0.05
			0.00			1/2" Ice	2.32	1.95	0.07
			0.00			1" Ice	2.51	2.13	0.10
800MHZ RRH	B	From Leg	1.00	0.0000	80.00	No Ice	2.13	1.77	0.05
			0.00			1/2" Ice	2.32	1.95	0.07

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K
800MHZ RRH	C	From Leg	0.00 1.00 0.00	0.0000	80.00	1" Ice No Ice	2.51 2.13	2.13 1.77	0.10 0.05
5' x 2" Pipe Mount	A	From Leg	0.00 0.50 0.00	0.0000	80.00	1/2" Ice 1" Ice No Ice	2.32 2.51 1.19	1.95 2.13 1.19	0.07 0.10 0.02
5' x 2" Pipe Mount	B	From Leg	0.00 0.50 0.00	0.0000	80.00	1/2" Ice 1" Ice No Ice	1.50 1.81 1.19	1.50 1.81 1.19	0.03 0.04 0.02
5' x 2" Pipe Mount	C	From Leg	0.00 0.50 0.00	0.0000	80.00	1/2" Ice 1" Ice No Ice	1.50 1.81 1.19	1.50 1.81 1.19	0.03 0.04 0.02
Side Arm Mount [SO 104-3]	B	None	0.00	0.0000	80.00	1" Ice No Ice 1/2" Ice	1.81 2.62 3.30	1.81 2.62 3.30	0.04 0.29 0.41
**						1" Ice	3.98	3.98	0.53
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	78.00	No Ice 1/2" Ice 1" Ice	4.09 4.48 4.88	2.86 3.23 3.61	0.08 0.13 0.19
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	78.00	No Ice 1/2" Ice 1" Ice	4.09 4.48 4.88	2.86 3.23 3.61	0.08 0.13 0.19
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	78.00	No Ice 1/2" Ice 1" Ice	4.09 4.48 4.88	2.86 3.23 3.61	0.08 0.13 0.19
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	78.00	No Ice 1/2" Ice 1" Ice	4.60 5.05 5.50	4.01 4.45 4.89	0.10 0.16 0.23
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	78.00	No Ice 1/2" Ice 1" Ice	4.60 5.05 5.50	4.01 4.45 4.89	0.10 0.16 0.23
APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	78.00	No Ice 1/2" Ice 1" Ice	4.60 5.05 5.50	4.01 4.45 4.89	0.10 0.16 0.23
TD-RRH8X20-25	A	From Leg	4.00 0.00 4.00	0.0000	78.00	No Ice 1/2" Ice 1" Ice	3.70 3.95 4.20	1.29 1.46 1.64	0.07 0.09 0.12
TD-RRH8X20-25	B	From Leg	4.00 0.00 4.00	0.0000	78.00	No Ice 1/2" Ice 1" Ice	3.70 3.95 4.20	1.29 1.46 1.64	0.07 0.09 0.12
TD-RRH8X20-25	C	From Leg	4.00 0.00 4.00	0.0000	78.00	No Ice 1/2" Ice 1" Ice	3.70 3.95 4.20	1.29 1.46 1.64	0.07 0.09 0.12
(2) 8' x 2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	78.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
(2) 8' x 2" Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	78.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
(2) 8' x 2" Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	78.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
Platform Mount [LP 303-1]	C	None	0.00	0.0000	78.00	No Ice 1/2" Ice 1" Ice	14.69 18.01 21.34	14.69 18.01 21.34	1.25 1.57 1.94
**									
7'x2" Antenna Mount Pipe	A	From Leg	5.00 0.00 0.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	1.66 2.39 2.83	1.66 2.39 2.83	0.03 0.04 0.06
7'x2" Antenna Mount Pipe	B	From Leg	5.00 0.00 0.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	1.66 2.39 2.83	1.66 2.39 2.83	0.03 0.04 0.06
7'x2" Antenna Mount Pipe	C	From Leg	5.00 0.00 0.00	0.0000	64.00	No Ice 1/2" Ice	1.66 2.39	1.66 2.39	0.03 0.04

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K
4' x 2" Pipe Mount	A	From Leg	0.00 2.00 0.00	0.0000	64.00	1" Ice No Ice 1/2" Ice	2.83 0.79 1.03	2.83 0.79 1.03	0.06 0.03 0.04
4' x 2" Pipe Mount	C	From Leg	0.00 2.00 0.00	0.0000	64.00	1" Ice No Ice 1/2" Ice	1.28 0.79 1.03	1.28 0.79 1.03	0.04 0.03 0.04
Platform Mount [LP 303-1]	C	None	0.00	0.0000	64.00	1" Ice No Ice 1/2" Ice 1" Ice	1.28 14.69 18.01 21.34	1.28 14.69 18.01 21.34	0.04 1.25 1.57 1.94
**									
NHH-33A-R2B w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	6.38 6.77 7.16	3.07 3.39 3.72	0.10 0.18 0.26
NHH-33A-R2B w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	6.38 6.77 7.16	3.07 3.39 3.72	0.10 0.18 0.26
MX12FRO445-01 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	6.37 6.80 7.24	3.38 3.75 4.14	0.11 0.18 0.26
MX12FRO445-01 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	6.37 6.80 7.24	3.38 3.75 4.14	0.11 0.18 0.26
MX12FRO445-01 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	6.37 6.80 7.24	3.38 3.75 4.14	0.11 0.18 0.26
(2) MT6413-77A w/ Mount Pipe	A	From Leg	4.00 0.00 3.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	4.00 4.31 4.63	2.15 2.55 2.97	0.07 0.10 0.14
MT6413-77A w/ Mount Pipe	B	From Leg	4.00 0.00 3.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	4.00 4.31 4.63	2.15 2.55 2.97	0.07 0.10 0.14
MT6413-77A w/ Mount Pipe	C	From Leg	4.00 0.00 3.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	4.00 4.31 4.63	2.15 2.55 2.97	0.07 0.10 0.14
(2) RF4439D-25A	A	From Leg	4.00 0.00 1.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.25 1.39 1.54	0.07 0.09 0.11
RF4439D-25A	B	From Leg	4.00 0.00 1.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.25 1.39 1.54	0.07 0.09 0.11
RF4439D-25A	C	From Leg	4.00 0.00 1.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.25 1.39 1.54	0.07 0.09 0.11
RF4461D-13A	A	From Leg	4.00 0.00 1.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.28 1.42 1.57	0.08 0.10 0.12
(2) RF4461D-13A	B	From Leg	4.00 0.00 1.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.28 1.42 1.57	0.08 0.10 0.12
RF4461D-13A	C	From Leg	4.00 0.00 1.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.28 1.42 1.57	0.08 0.10 0.12
RVZDC-3315-PF-48	A	From Leg	4.00 0.00 1.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	3.79 4.04 4.30	2.51 2.73 2.95	0.03 0.06 0.10
RVZDC-3315-PF-48	C	From Leg	4.00 0.00 1.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	3.79 4.04 4.30	2.51 2.73 2.95	0.03 0.06 0.10
Support Rail Kit [#VZWSMART-PLKI]	A	From Leg	4.00 0.00 0.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	4.56 6.39 8.18	4.56 6.39 8.18	0.24 0.31 0.40
Support Rail Kit [#VZWSMART-PLKI]	B	From Leg	4.00 0.00 0.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	4.56 6.39 8.18	4.56 6.39 8.18	0.24 0.31 0.40

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K
Support Rail Kit [#VZSMART-PLKI]	C	From Leg	4.00 0.00 0.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	4.56 6.39 8.18	4.56 6.39 8.18	0.24 0.31 0.40
(4) 7' Mount Pipe 2 SCH40 with 12" Pipe to Pipe Connection **	C	From Leg	4.00 0.00 0.00	0.0000	64.00	No Ice 1/2" Ice 1" Ice	1.66 2.39 2.83	1.66 2.39 2.83	0.03 0.04 0.06
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	54.00	No Ice 1/2" Ice 1" Ice	8.01 8.52 9.04	4.23 4.69 5.16	0.11 0.19 0.29
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	54.00	No Ice 1/2" Ice 1" Ice	8.01 8.52 9.04	4.23 4.69 5.16	0.11 0.19 0.29
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	54.00	No Ice 1/2" Ice 1" Ice	8.01 8.52 9.04	4.23 4.69 5.16	0.11 0.19 0.29
TA08025-B604	A	From Leg	4.00 0.00 1.00	0.0000	54.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	0.98 1.11 1.25	0.06 0.08 0.10
TA08025-B604	B	From Leg	4.00 0.00 1.00	0.0000	54.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	0.98 1.11 1.25	0.06 0.08 0.10
TA08025-B604	C	From Leg	4.00 0.00 1.00	0.0000	54.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	0.98 1.11 1.25	0.06 0.08 0.10
TA08025-B605	A	From Leg	4.00 0.00 1.00	0.0000	54.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	1.13 1.27 1.41	0.08 0.09 0.11
TA08025-B605	B	From Leg	4.00 0.00 1.00	0.0000	54.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	1.13 1.27 1.41	0.08 0.09 0.11
TA08025-B605	C	From Leg	4.00 0.00 1.00	0.0000	54.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	1.13 1.27 1.41	0.08 0.09 0.11
RDIDC-9181-PF-48	A	From Leg	4.00 0.00 1.00	0.0000	54.00	No Ice 1/2" Ice 1" Ice	2.01 2.19 2.37	1.17 1.31 1.46	0.02 0.04 0.06
(2) 8' x 2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	54.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
(2) 8' x 2" Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	54.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
(2) 8' x 2" Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	54.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
Commscope MC-PK8-DSH	B	None		0.0000	54.00	No Ice 1/2" Ice 1" Ice	34.24 62.95 91.66	34.24 62.95 91.66	1.75 2.10 2.45
**									

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

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	100 - 47	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.59	1.46	-0.95
			Max. Mx	20	-27.97	528.24	0.55
			Max. My	14	-27.97	-0.58	-529.77
			Max. Vy	20	-18.55	528.24	0.55
			Max. Vx	14	18.58	-0.58	-529.77
			Max. Torque	13			-1.67
L2	47 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.93	2.27	-0.96
			Max. Mx	20	-42.47	1603.33	1.48
			Max. My	14	-42.47	-1.19	-1606.55
			Max. Vy	20	-21.98	1603.33	1.48
			Max. Vx	14	22.02	-1.19	-1606.55
			Max. Torque	13			-1.59

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	36	60.93	8.96	0.00
	Max. H _x	20	42.48	21.96	0.02
	Max. H _z	2	42.48	0.02	21.99
	Max. M _x	2	1605.41	0.02	21.99
	Max. M _z	8	1601.62	-21.96	-0.02
	Max. Torsion	25	1.59	10.99	19.06
	Min. Vert	7	31.86	-19.01	10.98
	Min. H _x	8	42.48	-21.96	-0.02
	Min. H _z	14	42.48	-0.02	-21.99
	Min. M _x	14	-1606.55	-0.02	-21.99
	Min. M _z	20	-1603.33	21.96	0.02
	Min. Torsion	13	-1.59	-10.99	-19.06

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overtuning Moment, M _x kip-ft	Overtuning Moment, M _z kip-ft	Torque kip-ft
Dead Only	35.40	0.00	0.00	0.46	0.69	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	42.48	-0.02	-21.99	-1605.41	2.90	-1.52
0.9 Dead+1.0 Wind 0 deg - No Ice	31.86	-0.02	-21.99	-1596.63	2.67	-1.52
1.2 Dead+1.0 Wind 30 deg - No Ice	42.48	10.96	-19.04	-1389.23	-798.61	-1.04
0.9 Dead+1.0 Wind 30 deg - No Ice	31.86	10.96	-19.04	-1381.65	-794.39	-1.04
1.2 Dead+1.0 Wind 60 deg - No Ice	42.48	19.01	-10.98	-800.65	-1385.91	-0.28
0.9 Dead+1.0 Wind 60 deg - No Ice	31.86	19.01	-10.98	-796.35	-1378.42	-0.28
1.2 Dead+1.0 Wind 90 deg - No Ice	42.48	21.96	0.02	2.61	-1601.62	0.55
0.9 Dead+1.0 Wind 90 deg - No Ice	31.86	21.96	0.02	2.45	-1592.93	0.55
1.2 Dead+1.0 Wind 120 deg - No Ice	42.48	19.02	11.01	805.33	-1387.95	1.24
0.9 Dead+1.0 Wind 120 deg - No Ice	31.86	19.02	11.01	800.70	-1380.45	1.24
1.2 Dead+1.0 Wind 150 deg - No Ice	42.48	10.99	19.06	1392.41	-802.15	1.59
0.9 Dead+1.0 Wind 150 deg - No Ice	31.86	10.99	19.06	1384.52	-797.91	1.59
1.2 Dead+1.0 Wind 180 deg - No Ice	42.48	0.02	21.99	1606.55	-1.19	1.52
0.9 Dead+1.0 Wind 180 deg - No Ice	31.86	0.02	21.99	1597.47	-1.39	1.52
1.2 Dead+1.0 Wind 210 deg - No Ice	42.48	-10.96	19.04	1390.36	800.32	1.04
0.9 Dead+1.0 Wind 210 deg - No Ice	31.86	-10.96	19.04	1382.49	795.66	1.04
1.2 Dead+1.0 Wind 240 deg - No Ice	42.48	-19.01	10.98	801.79	1387.62	0.28
0.9 Dead+1.0 Wind 240 deg - No Ice	31.86	-19.01	10.98	797.19	1379.69	0.28
1.2 Dead+1.0 Wind 270 deg - No Ice	42.48	-21.96	-0.02	-1.48	1603.33	-0.56
0.9 Dead+1.0 Wind 270 deg - No Ice	31.86	-21.96	-0.02	-1.61	1594.21	-0.55
1.2 Dead+1.0 Wind 300 deg - No Ice	42.48	-19.02	-11.01	-804.19	1389.66	-1.24
0.9 Dead+1.0 Wind 300 deg - No Ice	31.86	-19.02	-11.01	-799.86	1381.72	-1.24

Load Combination	Vertical K	Shear _x K	Shear _y K	Overturning Moment, M _x kip-ft	Overturning Moment, M _y kip-ft	Torque kip-ft
- No Ice						
1.2 Dead+1.0 Wind 330 deg	42.48	-10.99	-19.06	-1391.27	803.86	-1.59
- No Ice						
0.9 Dead+1.0 Wind 330 deg	31.86	-10.99	-19.06	-1383.68	799.18	-1.59
- No Ice						
1.2 Dead+1.0 Ice+1.0 Temp	60.93	0.00	0.00	0.96	2.27	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	60.93	-0.00	-8.97	-704.19	2.76	-0.37
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	60.93	4.48	-7.76	-609.52	-349.36	-0.22
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	60.93	7.76	-4.48	-351.25	-607.24	-0.01
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	60.93	8.96	0.00	1.40	-701.77	0.21
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	60.93	7.76	4.49	353.95	-607.62	0.36
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	60.93	4.48	7.77	611.94	-350.03	0.42
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	60.93	0.00	8.97	706.22	1.98	0.37
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	60.93	-4.48	7.76	611.55	354.10	0.22
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	60.93	-7.76	4.48	353.29	611.98	0.01
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	60.93	-8.96	-0.00	0.63	706.51	-0.21
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	60.93	-7.76	-4.49	-351.92	612.36	-0.36
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	60.93	-4.48	-7.77	-609.90	354.77	-0.42
Dead+Wind 0 deg - Service	35.40	-0.00	-5.27	-382.91	1.20	-0.36
Dead+Wind 30 deg - Service	35.40	2.63	-4.56	-331.30	-190.14	-0.25
Dead+Wind 60 deg - Service	35.40	4.55	-2.63	-190.80	-330.34	-0.07
Dead+Wind 90 deg - Service	35.40	5.26	0.00	0.96	-381.84	0.13
Dead+Wind 120 deg - Service	35.40	4.56	2.64	192.58	-330.83	0.29
Dead+Wind 150 deg - Service	35.40	2.63	4.56	332.73	-190.99	0.38
Dead+Wind 180 deg - Service	35.40	0.00	5.27	383.85	0.22	0.36
Dead+Wind 210 deg - Service	35.40	-2.63	4.56	332.25	191.56	0.25
Dead+Wind 240 deg - Service	35.40	-4.55	2.63	191.74	331.76	0.07
Dead+Wind 270 deg - Service	35.40	-5.26	-0.00	-0.02	383.26	-0.13
Dead+Wind 300 deg - Service	35.40	-4.56	-2.64	-191.64	332.25	-0.29
Dead+Wind 330 deg - Service	35.40	-2.63	-4.56	-331.79	192.41	-0.38

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-35.40	0.00	0.00	35.40	0.00	0.000%
2	-0.02	-42.48	-21.99	0.02	42.48	21.99	0.000%
3	-0.02	-31.86	-21.99	0.02	31.86	21.99	0.000%
4	10.96	-42.48	-19.04	-10.96	42.48	19.04	0.000%
5	10.96	-31.86	-19.04	-10.96	31.86	19.04	0.000%
6	19.01	-42.48	-10.98	-19.01	42.48	10.98	0.000%
7	19.01	-31.86	-10.98	-19.01	31.86	10.98	0.000%
8	21.96	-42.48	0.02	-21.96	42.48	-0.02	0.000%
9	21.96	-31.86	0.02	-21.96	31.86	-0.02	0.000%
10	19.02	-42.48	11.01	-19.02	42.48	-11.01	0.000%

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
11	19.02	-31.86	11.01	-19.02	31.86	-11.01	0.000%
12	10.99	-42.48	19.06	-10.99	42.48	-19.06	0.000%
13	10.99	-31.86	19.06	-10.99	31.86	-19.06	0.000%
14	0.02	-42.48	21.99	-0.02	42.48	-21.99	0.000%
15	0.02	-31.86	21.99	-0.02	31.86	-21.99	0.000%
16	-10.96	-42.48	19.04	10.96	42.48	-19.04	0.000%
17	-10.96	-31.86	19.04	10.96	31.86	-19.04	0.000%
18	-19.01	-42.48	10.98	19.01	42.48	-10.98	0.000%
19	-19.01	-31.86	10.98	19.01	31.86	-10.98	0.000%
20	-21.96	-42.48	-0.02	21.96	42.48	0.02	0.000%
21	-21.96	-31.86	-0.02	21.96	31.86	0.02	0.000%
22	-19.02	-42.48	-11.01	19.02	42.48	11.01	0.000%
23	-19.02	-31.86	-11.01	19.02	31.86	11.01	0.000%
24	-10.99	-42.48	-19.06	10.99	42.48	19.06	0.000%
25	-10.99	-31.86	-19.06	10.99	31.86	19.06	0.000%
26	0.00	-60.93	0.00	0.00	60.93	0.00	0.000%
27	-0.00	-60.93	-8.97	0.00	60.93	8.97	0.000%
28	4.48	-60.93	-7.76	-4.48	60.93	7.76	0.000%
29	7.76	-60.93	-4.48	-7.76	60.93	4.48	0.000%
30	8.96	-60.93	0.00	-8.96	60.93	-0.00	0.000%
31	7.76	-60.93	4.49	-7.76	60.93	-4.49	0.000%
32	4.48	-60.93	7.77	-4.48	60.93	-7.77	0.000%
33	0.00	-60.93	8.97	-0.00	60.93	-8.97	0.000%
34	-4.48	-60.93	7.76	4.48	60.93	-7.76	0.000%
35	-7.76	-60.93	4.48	7.76	60.93	-4.48	0.000%
36	-8.96	-60.93	-0.00	8.96	60.93	0.00	0.000%
37	-7.76	-60.93	-4.49	7.76	60.93	4.49	0.000%
38	-4.48	-60.93	-7.77	4.48	60.93	7.77	0.000%
39	-0.00	-35.40	-5.27	0.00	35.40	5.27	0.000%
40	2.63	-35.40	-4.56	-2.63	35.40	4.56	0.000%
41	4.55	-35.40	-2.63	-4.55	35.40	2.63	0.000%
42	5.26	-35.40	0.00	-5.26	35.40	-0.00	0.000%
43	4.56	-35.40	2.64	-4.56	35.40	-2.64	0.000%
44	2.63	-35.40	4.56	-2.63	35.40	-4.56	0.000%
45	0.00	-35.40	5.27	-0.00	35.40	-5.27	0.000%
46	-2.63	-35.40	4.56	2.63	35.40	-4.56	0.000%
47	-4.55	-35.40	2.63	4.55	35.40	-2.63	0.000%
48	-5.26	-35.40	-0.00	5.26	35.40	0.00	0.000%
49	-4.56	-35.40	-2.64	4.56	35.40	2.64	0.000%
50	-2.63	-35.40	-4.56	2.63	35.40	4.56	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00004830
3	Yes	4	0.00000001	0.00003270
4	Yes	4	0.00000001	0.00019131
5	Yes	4	0.00000001	0.00012782
6	Yes	4	0.00000001	0.00020629
7	Yes	4	0.00000001	0.00013827
8	Yes	4	0.00000001	0.00002480
9	Yes	4	0.00000001	0.00001604
10	Yes	4	0.00000001	0.00022850
11	Yes	4	0.00000001	0.00015350
12	Yes	4	0.00000001	0.00018753
13	Yes	4	0.00000001	0.00012509
14	Yes	4	0.00000001	0.00004708
15	Yes	4	0.00000001	0.00003185
16	Yes	4	0.00000001	0.00022103
17	Yes	4	0.00000001	0.00014828
18	Yes	4	0.00000001	0.00020233
19	Yes	4	0.00000001	0.00013524
20	Yes	4	0.00000001	0.00002371
21	Yes	4	0.00000001	0.00001525

22	Yes	4	0.00000001	0.00019006
23	Yes	4	0.00000001	0.00012686
24	Yes	4	0.00000001	0.00023470
25	Yes	4	0.00000001	0.00015783
26	Yes	4	0.00000001	0.00000001
27	Yes	4	0.00000001	0.00028659
28	Yes	4	0.00000001	0.00031064
29	Yes	4	0.00000001	0.00031044
30	Yes	4	0.00000001	0.00028547
31	Yes	4	0.00000001	0.00031288
32	Yes	4	0.00000001	0.00031249
33	Yes	4	0.00000001	0.00028814
34	Yes	4	0.00000001	0.00031468
35	Yes	4	0.00000001	0.00031424
36	Yes	4	0.00000001	0.00028788
37	Yes	4	0.00000001	0.00031300
38	Yes	4	0.00000001	0.00031403
39	Yes	4	0.00000001	0.00000001
40	Yes	4	0.00000001	0.00000001
41	Yes	4	0.00000001	0.00000001
42	Yes	4	0.00000001	0.00000001
43	Yes	4	0.00000001	0.00000558
44	Yes	4	0.00000001	0.00000001
45	Yes	4	0.00000001	0.00000001
46	Yes	4	0.00000001	0.00000524
47	Yes	4	0.00000001	0.00000001
48	Yes	4	0.00000001	0.00000001
49	Yes	4	0.00000001	0.00000001
50	Yes	4	0.00000001	0.00000592

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	100 - 47	4.918	45	0.3837	0.0013
L2	53 - 0	1.560	45	0.2603	0.0005

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
100.00	Lighting Rod 3/4" x 8'	45	4.918	0.3837	0.0013	89461
88.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	45	3.950	0.3582	0.0011	37275
80.00	800 EXTERNAL NOTCH FILTER	45	3.327	0.3399	0.0009	22365
78.00	APXVTM14-C-120 w/ Mount Pipe	45	3.176	0.3351	0.0009	20332
64.00	7"x2" Antenna Mount Pipe	45	2.199	0.2971	0.0007	12425
54.00	MX08FRO665-21 w/ Mount Pipe	45	1.612	0.2639	0.0005	9897

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	100 - 47	20.587	12	1.6051	0.0054
L2	53 - 0	6.531	12	1.0900	0.0022

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
100.00	Lighting Rod 3/4" x 8'	12	20.587	1.6051	0.0054	21407
88.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	12	16.535	1.4989	0.0045	8919
80.00	800 EXTERNAL NOTCH FILTER	12	13.929	1.4229	0.0039	5351
78.00	APXVTM14-C-120 w/ Mount Pipe	12	13.298	1.4028	0.0038	4864
64.00	7'x2" Antenna Mount Pipe	12	9.206	1.2441	0.0029	2972
54.00	MX08FRO665-21 w/ Mount Pipe	12	6.750	1.1053	0.0023	2367

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
L1	100 - 47 (1)	TP40.72x28x0.3125	53.00	0.00	0.0	38.845 7	-27.97	2272.48	0.012
L2	47 - 0 (2)	TP51.37x38.655x0.375	53.00	0.00	0.0	61.002 8	-42.47	3568.66	0.012

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	100 - 47 (1)	TP40.72x28x0.3125	530.00	2103.40	0.252	0.00	2103.40	0.000
L2	47 - 0 (2)	TP51.37x38.655x0.375	1606.93	4179.68	0.384	0.00	4179.68	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	100 - 47 (1)	TP40.72x28x0.3125	18.59	681.74	0.027	1.67	2329.48	0.001
L2	47 - 0 (2)	TP51.37x38.655x0.375	22.02	1070.60	0.021	1.59	4787.30	0.000

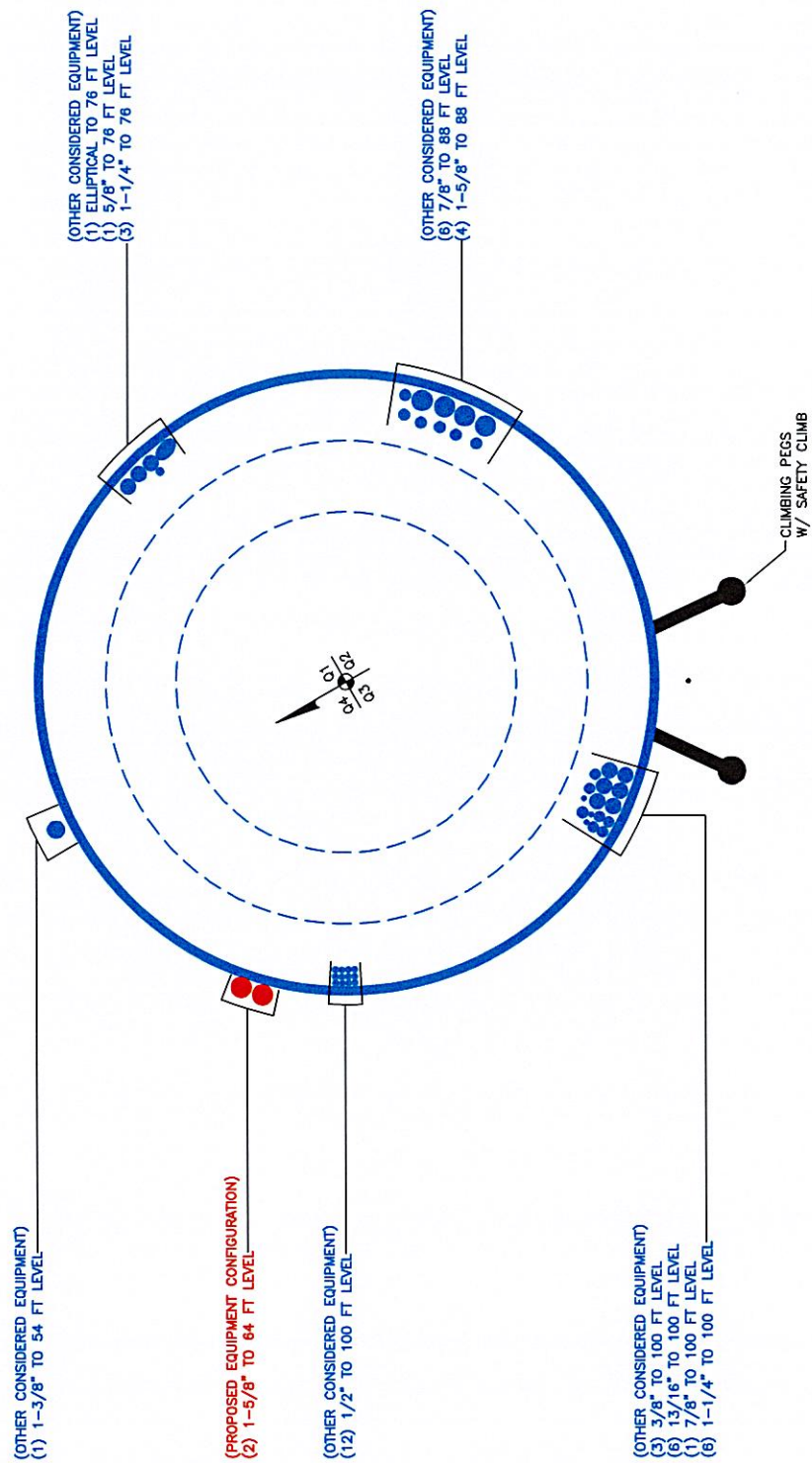
Pole Interaction Design Data

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	100 - 47 (1)	0.012	0.252	0.000	0.027	0.001	0.265	1.050	
L2	47 - 0 (2)	0.012	0.384	0.000	0.021	0.000	0.397	1.050	

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	100 - 47	Pole	TP40.72x28x0.3125	1	-27.97	2386.10	25.2	Pass
L2	47 - 0	Pole	TP51.37x38.655x0.375	2	-42.47	3747.09	37.8	Pass
							Summary	
							Pole (L2)	37.8 Pass
							RATING =	37.8 Pass

APPENDIX B
BASE LEVEL DRAWING



APPENDIX C
ADDITIONAL CALCULATIONS

Monopole Base Plate Connection

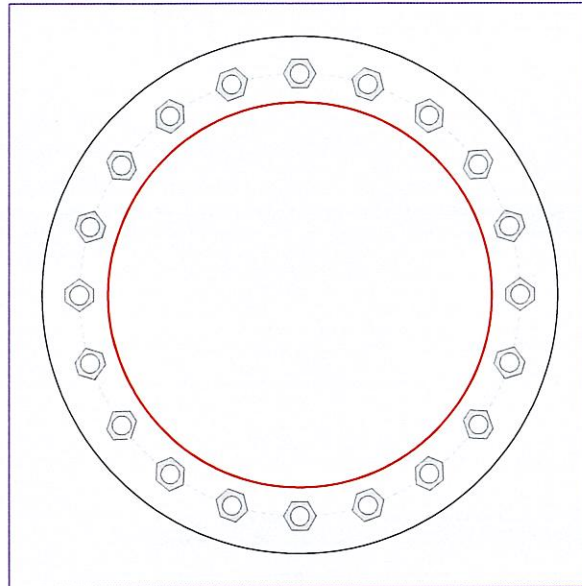


Site Info	
BU #	842869
Site Name	Meriden West Central
Order #	662909 Rev. 3

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
I_{ar} (in)	1

Applied Loads	
Moment (kip-ft)	1606.94
Axial Force (kips)	42.47
Shear Force (kips)	22.02

*TIA-222-H Section 15.5 Applied



Connection Properties		Analysis Results	
Anchor Rod Data		Anchor Rod Summary <i>(units of kips, kip-in)</i>	
(20) 2-1/2" ϕ bolts (A572-50 N; $F_y=50$ ksi, $F_u=65$ ksi) on 59" BC		$Pu_t = 63.2$	$\phi Pn_t = 195$ Stress Rating
Base Plate Data		$Vu = 1.1$	$\phi Vn = 119.65$ 30.9%
69" OD x 3" Plate (A36; $F_y=36$ ksi, $F_u=58$ ksi)		$Mu = n/a$	$\phi Mn = n/a$ Pass
Stiffener Data		Base Plate Summary	
N/A		Max Stress (ksi):	8.61 (Flexural)
Pole Data		Allowable Stress (ksi):	32.4
51.37" x 0.375" 16-sided pole (A572-65; $F_y=65$ ksi, $F_u=80$ ksi)		Stress Rating:	25.3% Pass

Pier and Pad Foundation



BU #: 842869
 Site Name: Meriden Hanover C
 App. Number: 662909 Rev. 3

TIA-222 Revision: H
 Tower Type: Monopole

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

Superstructure Analysis Reactions		
Compression, P_{comp} :	42.48	kips
Base Shear, V_{u_comp} :	22	kips
Moment, M_u :	1606.94	ft-kips
Tower Height, H :	100	ft
BP Dist. Above Fdn, b_{pdist} :	3.25	in

Foundation Analysis Checks				
	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	187.32	22.00	11.2%	Pass
Bearing Pressure (ksf)	6.00	2.22	35.2%	Pass
Overturning (kip*ft)	3674.07	1799.90	49.0%	Pass
Pier Flexure (Comp.) (kip*ft)	16463.30	1738.94	10.1%	Pass
Pier Compression (kip)	50918.40	111.60	0.2%	Pass
Pad Flexure (kip*ft)	3508.82	459.30	12.5%	Pass
Pad Shear - 1-way (kips)	644.24	99.93	14.8%	Pass
Pad Shear - 2-way (Comp) (ksi)	0.212	0.025	11.2%	Pass
Flexural 2-way (Comp) (kip*ft)	5430.32	1043.36	18.3%	Pass

Pier Properties		
Pier Shape:	Square	
Pier Diameter, d_{pier} :	8	ft
Ext. Above Grade, E :	1	ft
Pier Rebar Size, S_c :	11	
Pier Rebar Quantity, m_c :	60	
Pier Tie/Spiral Size, S_t :	4	
Pier Tie/Spiral Quantity, m_t :	7	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, c_{cpier} :	3	in

*Rating per TIA-222-H Section 15.5

Structural Rating*:	18.3%
Soil Rating*:	49.0%

Pad Properties		
Depth, D :	7.5	ft
Pad Width, W_1 :	20	ft
Pad Thickness, T :	2.5	ft
Pad Rebar Size (Bottom dir. 2), S_{p2} :	9	
Pad Rebar Quantity (Bottom dir. 2), m_{p2} :	32	
Pad Clear Cover, c_{cpad} :	3	in

Material Properties		
Rebar Grade, F_y :	60	ksi
Concrete Compressive Strength, F'_c :	5	ksi
Dry Concrete Density, δ_c :	150	pcf

Soil Properties		
Total Soil Unit Weight, γ :	110	pcf
Ultimate Gross Bearing, Q_{ult} :	8.000	ksf
Cohesion, C_u :	0.000	ksf
Friction Angle, ϕ :	30	degrees
SPT Blow Count, N_{blows} :	50	
Base Friction, μ :	0.35	
Neglected Depth, N :	4.00	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, gw :	N/A	ft

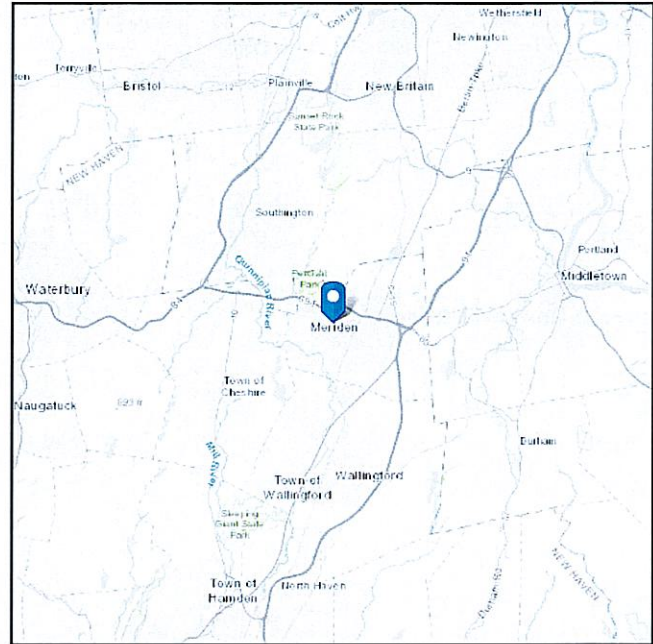
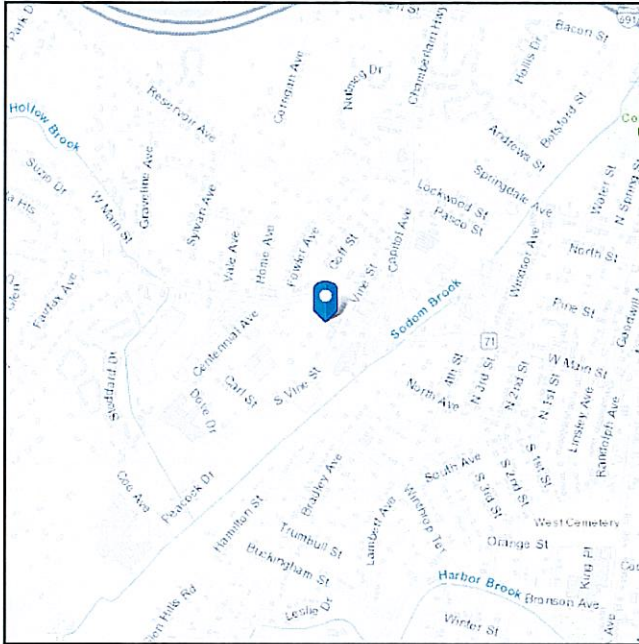
<--Togggle between Gross and Net

ASCE Hazards Report

Address:
No Address at This Location

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

Latitude: 41.540031
Longitude: -72.819019
Elevation: 170.1153536785993 ft (NAVD 88)



Wind

Results:

Wind Speed	119 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	98 Vmph

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

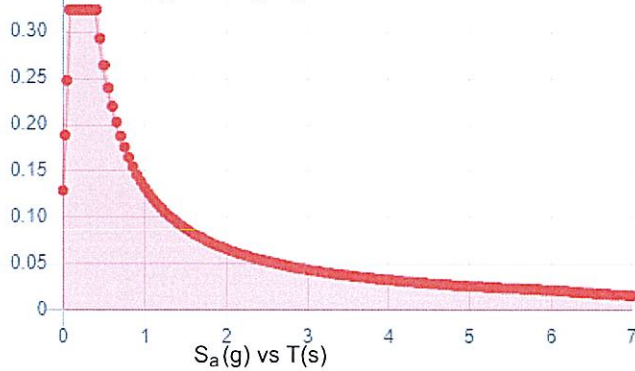
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

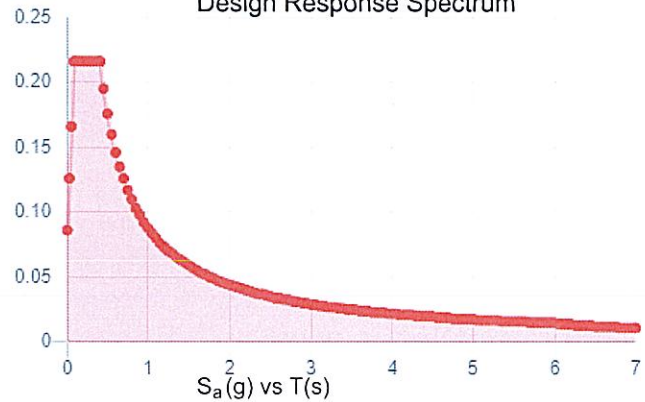
Results:

S_S :	0.202	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.112
F_v :	2.4	PGA _M :	0.177
S_{MS} :	0.324	F_{PGA} :	1.576
S_{M1} :	0.132	I_e :	1
S_{DS} :	0.216	C_v :	0.704

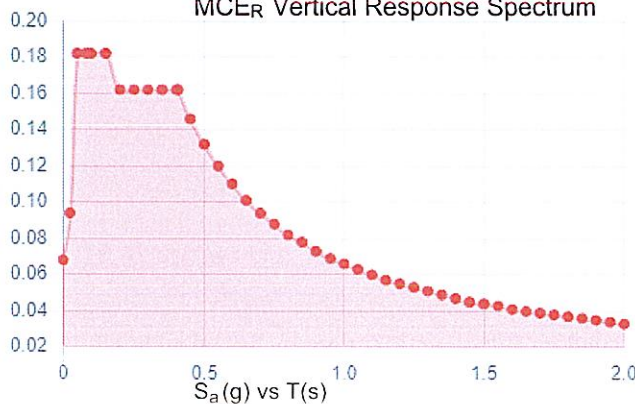
Seismic Design Category: B MCE_R Response Spectrum



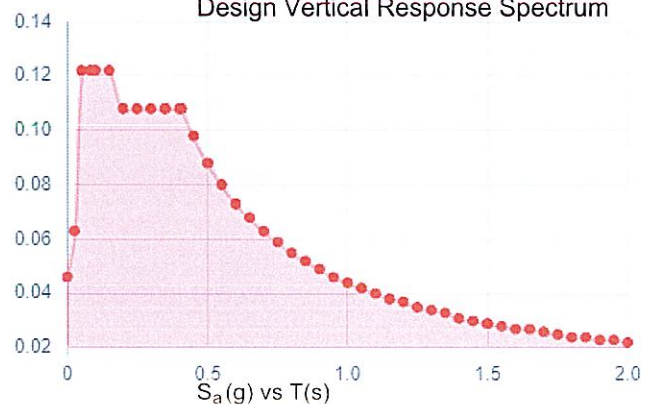
Design Response Spectrum



MCE_R Vertical Response Spectrum



Design Vertical Response Spectrum



Data Accessed: Wed Oct 09 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 Oct 09 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.

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

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

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



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Mt. Laurel, NJ 08054
856.797.0412
sean.osullivan@collierseng.com

Post-Modification Antenna Mount Analysis Report and PMI Requirements

Mount Fix

SMART Tool Project #: 10251206
Colliers Engineering & Design Project #: 21777777 (Rev. 4)

September 26, 2024

Site Information

Site ID: 5000382636-VZW / MERIDEN HANOVER CT
Site Name: MERIDEN HANOVER CT
Carrier Name: Verizon Wireless
Address: 450-478 West Main St
Meriden, Connecticut 06451
New Haven County
Latitude: 41.540067°
Longitude: -72.819183°

Structure Information

Tower Type: 102-Ft Monopole
Mount Type: 12.50-Ft Platform

FUZE ID # 16227612

Analysis Results

Platform: 40.9% **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: Frank Centone



Digitally signed by Dejian Xu
Date: 2024.09.26 09:56:46-04'00'

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: 1737811, dated April 15, 2024
Mount Mapping Report	Structural Components, Site ID: 21777777, dated April 14, 2021
Previous Mount Analysis	Colliers Engineering & Design, Project #: 21777777 (Rev. 4), dated August 23, 2024
Mount Modification Drawings	Colliers Engineering & Design, Project #: 21777777 (Rev. 3), dated September 26, 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} : 120 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 : 0.994
Seismic Parameters:	S_S : 0.203 g S_1 : 0.055 g
Maintenance Parameters:	Wind Speed (3-sec. Gust): 30 mph Maintenance Load, L_v : 250 lbs. Maintenance Load, L_m : 500 lbs.
Analysis Software:	RISA-3D (V22)

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
64.00	66.80	4	Samsung	MT6413-77A	Added
	66.00	2	Commscope	NHH-33A-R2B	
	65.50	3	JMA Wireless	MX12FRO445-01	
		4	Samsung	RF4461d-13A	
		4	Samsung	RF4439d-25A	
		2	Raycap	RRFDC-3315-PF-48	Retained

The recent mount mapping reported existing OVP units. 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	37.3%	Pass
Platform Crossmember	17.0%	Pass
Corner Plate	15.1%	Pass
Grating Support	11.4%	Pass
Cross Arm Plate	34.6%	Pass
Face Horizontal	13.8%	Pass
Mount Pipe	31.7%	Pass
Mod Support Rail	15.0%	Pass
Mod Corner Angle	28.1%	Pass
Mod Pipe to Pipe	13.1%	Pass
Mount Connection	40.9%	Pass

Structure Rating – (Controlling Utilization of all Components)	40.9%
---	--------------

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	64.0	N1	1562	1390	3.807	0.587	2213	665	4.671	0.207
Sector B Standoff	64.0	N30	1802	1605	4.424	1.141	2787	648	5.967	0.362
Sector A Standoff	64.0	N58	1371	1444	3.065	0.507	1933	591	3.638	0.143

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	34.9	34.4	49.5	49.0
0.5	46.5	45.9	67.3	66.7
1	57.6	56.8	84.6	83.8

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 #: 5000382636

SMART Project #: 10251206

Fuze Project ID: 16227612

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:

N/A

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:

Contractor to provide measurement from top of the highest equipment/steel to the bottom of the lowest equipment/steel by documenting it using the most appropriate illustration below along with supporting photos:

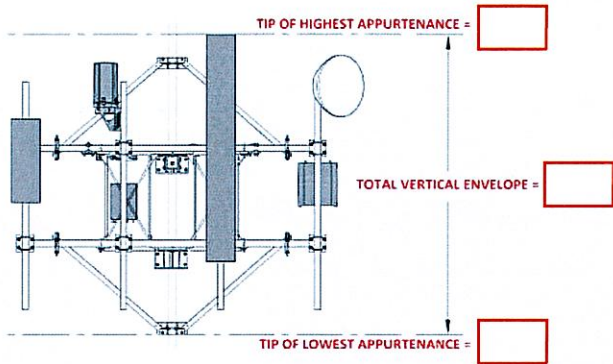


Illustration #1

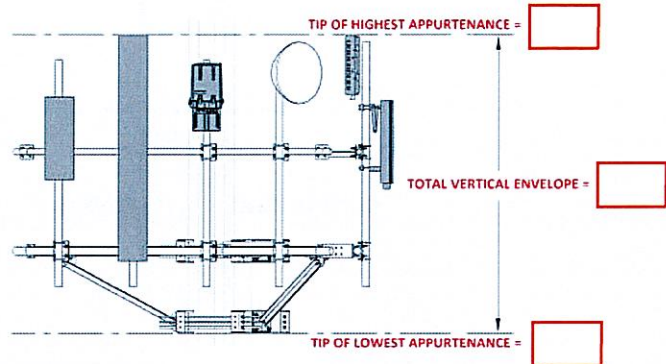


Illustration #2

Certifying Individual:

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

Sector: A

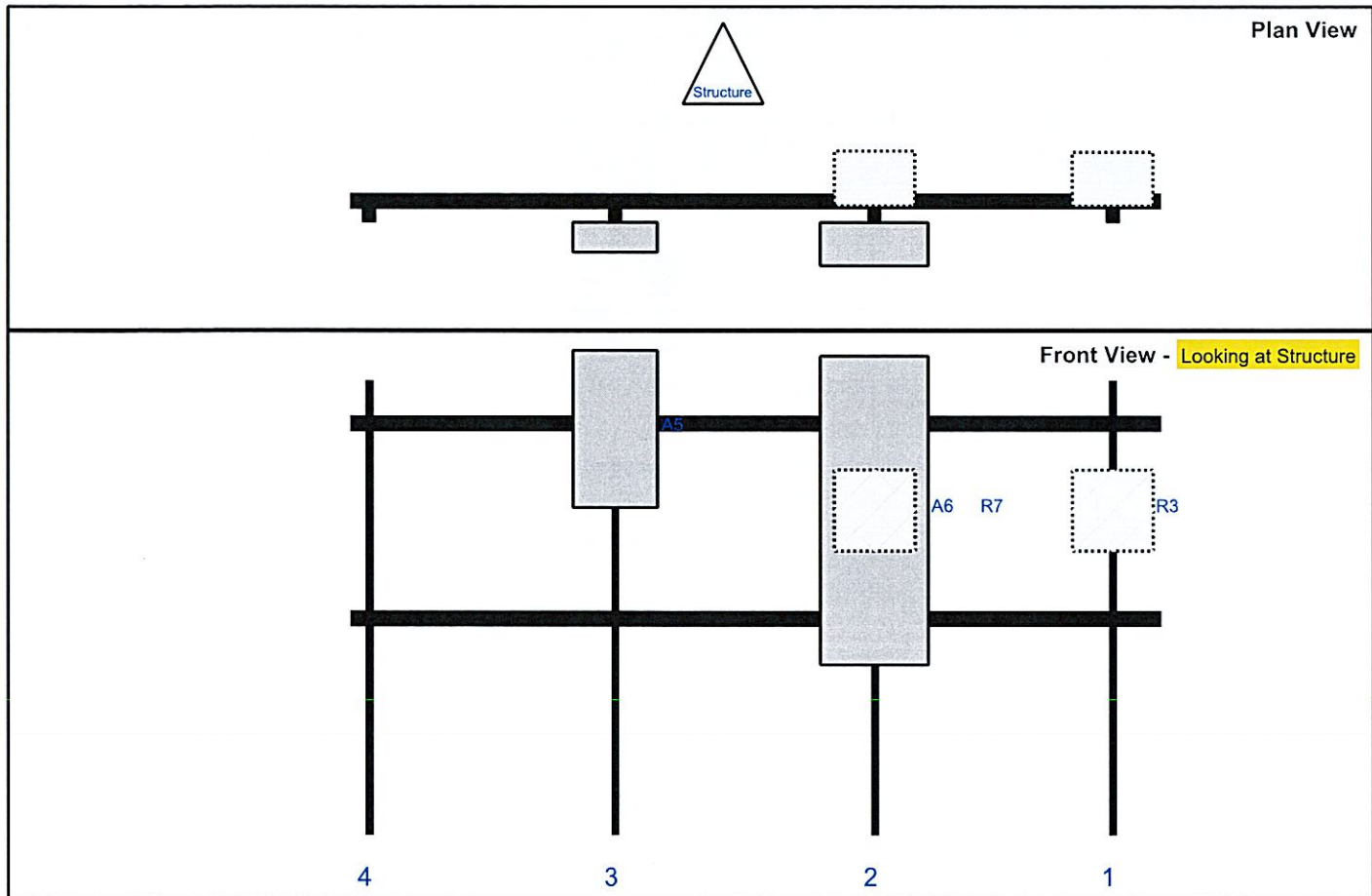
9/25/2024

Structure Type: Monopole

10251206

Mount Elev: 64.00

Page: 1



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
R3	RF4439d-25A	15	15	141	1	a	Behind	24	0	Added	
A6	MX12FRO445-01	56.9	20	97	2	a	Front	24	0	Added	
R7	RF4461d-13A	15	15	97	2	a	Behind	24	0	Added	
A5	MT6413-77A	28.9	15.8	49	3	a	Front	9	0	Added	
OVP	RRFDC-3315-PF-48	19.1	15.7		Member					Retained	04/14/2021
OVP	RRFDC-3315-PF-48	19.1	15.7		Member					Retained	04/14/2021

Structure: 5000382636-VZW - MERIDEN HANOVER CT

Sector: B

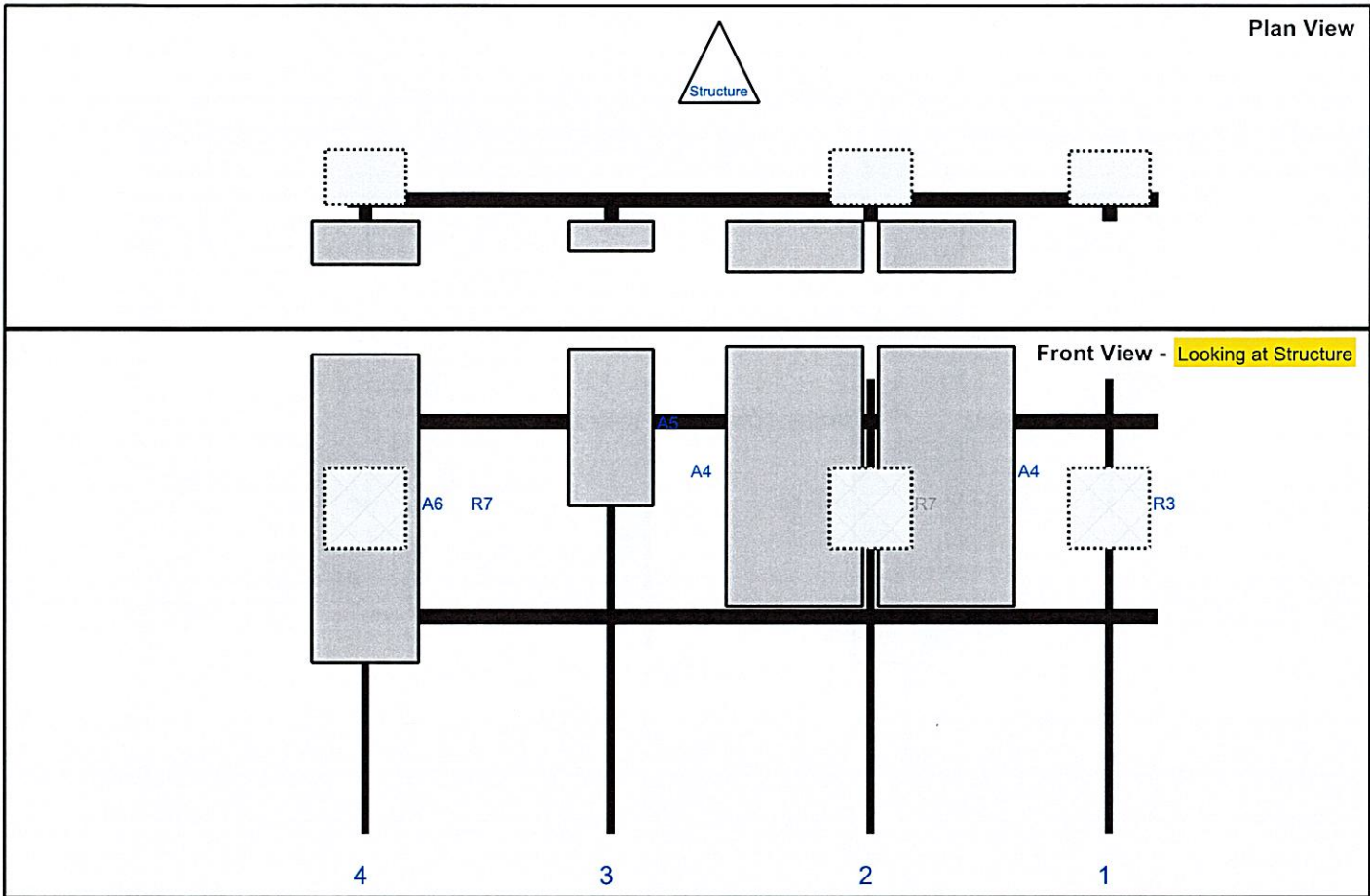
9/25/2024

Structure Type: Monopole

10251206

Mount Elev: 64.00

Page: 2



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
R3	RF4439d-25A	15	15	141	1	a	Behind	24	0	Added	
A4	NHH-33A-R2B	48	25.2	97	2	a	Front	18	-14	Added	
A4	NHH-33A-R2B	48	25.2	97	2	b	Front	18	14	Added	
R7	RF4461d-13A	15	15	97	2	a	Behind	24	0	Added	
A5	MT6413-77A	28.9	15.8	49	3	a	Front	9	0	Added	
A6	MX12FRO445-01	56.9	20	3.5	4	a	Front	24	0	Added	
R7	RF4461d-13A	15	15	3.5	4	a	Behind	24	0	Added	

Structure: 5000382636-VZW - MERIDEN HANOVER CT

Sector: C

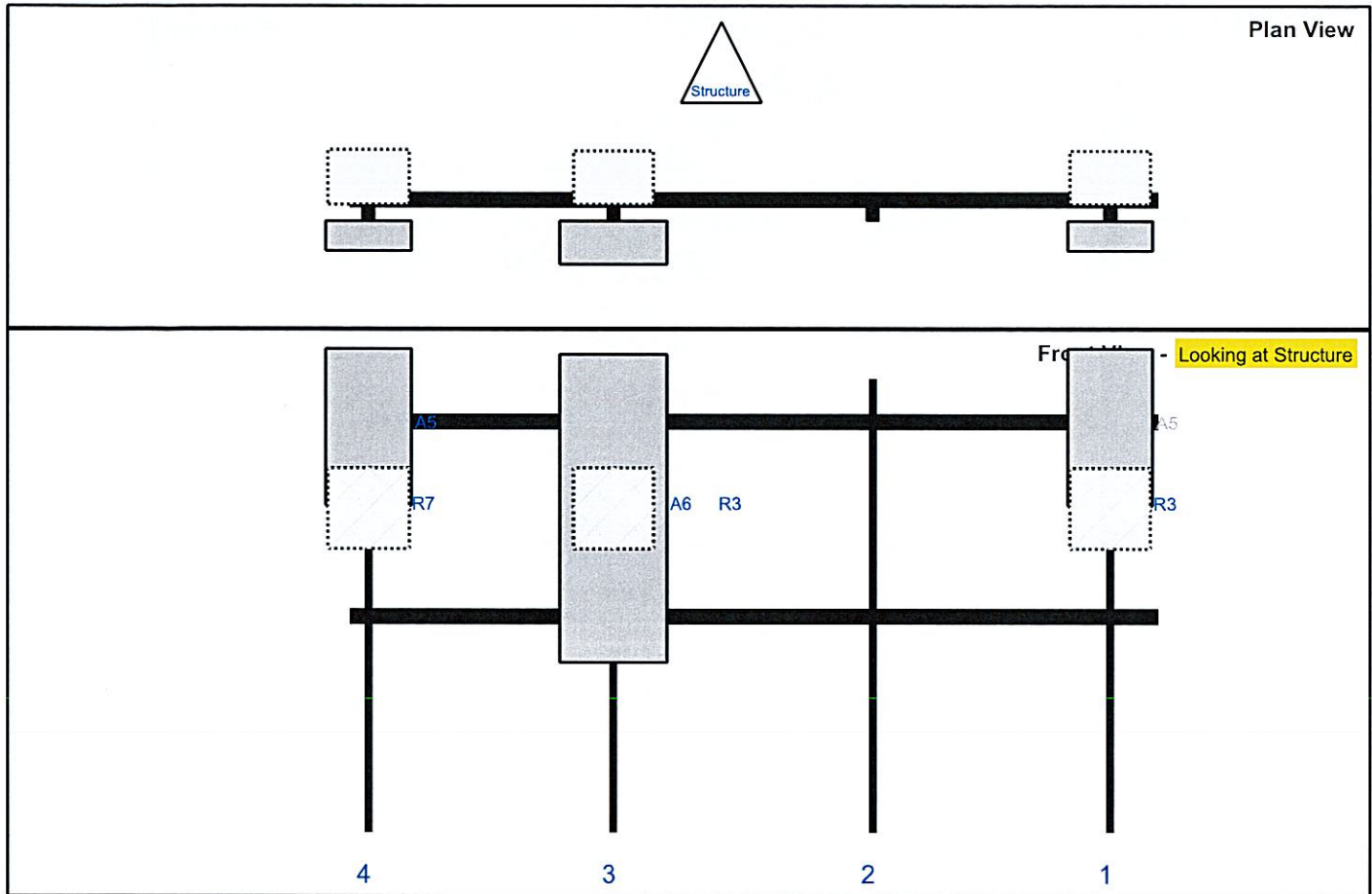
9/25/2024

Structure Type: Monopole

10251206

Mount Elev: 64.00

Page: 3



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A5	MT6413-77A	28.9	15.8	141	1	a	Front	9	0	Added	
R3	RF4439d-25A	15	15	141	1	a	Behind	24	0	Added	
A6	MX12FRO445-01	56.9	20	49	3	a	Front	24	0	Added	
R3	RF4439d-25A	15	15	49	3	a	Behind	24	0	Added	
A5	MT6413-77A	28.9	15.8	3.5	4	a	Front	9	0	Added	
R7	RF4461d-13A	15	15	3.5	4	a	Behind	24	0	Added	



MOUNT MODIFICATION DRAWINGS
EXISTING 12.50' PLATFORM

TOWER OWNER: CROWN CASTLE
TOWER OWNER SITE NUMBER: 842869

CARRIER SITE NAME: MERIDEN HANOVER CT
CARRIER SITE NUMBER: 5000382636
FUZE ID: 16227612

450-478 WEST MAIN ST
MERIDEN, CT 06451
NEW HAVEN COUNTY

LATITUDE: 41.54006700° N
LONGITUDE: 72.81918300° W



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Design Business as a



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CT REG. NO. 311771717

REV	DATE	DESCRIPTION	BY	CHKD
1	06/24/24	ISSUED FOR PERMIT	MM	MM
2	06/24/24	REVISION	MM	MM
3	06/24/24	REVISION	MM	MM
4	06/24/24	REVISION	MM	MM
5	06/24/24	REVISION	MM	MM
6	06/24/24	REVISION	MM	MM
7	06/24/24	REVISION	MM	MM
8	06/24/24	REVISION	MM	MM
9	06/24/24	REVISION	MM	MM
10	06/24/24	REVISION	MM	MM

SHEET INDEX

SHEET	DESCRIPTION
ST-1	TITLE SHEET
SG2H-1	BILL OF MATERIALS
SG2H-2	GENERAL NOTES
SG2H-3	CLIMBING FACILITY DETAIL
SG2H-4	MODIFICATION DETAILS
SG2H-5	MOUNT PHOTOS
SG2H-6	SPECIFICATION SHEETS

PROJECT INFORMATION

APPLICANT/LESSEE	VERIZON WIRELESS
COMPANY	VERIZON WIRELESS
CLIENT REPRESENTATIVE	VERIZON WIRELESS
COMPANY	VERIZON WIRELESS
PROJECT MANAGER	COLLIERS ENGINEERING & DESIGN SEAN O'SULLIVAN 860.779.0412 SEAN.OSULLIVAN@COLLIERSENG.COM
COMPANY	COLLIERS ENGINEERING & DESIGN
CONTACT	SEAN O'SULLIVAN
PHONE	860.779.0412
E-MAIL	SEAN.OSULLIVAN@COLLIERSENG.COM

CONTRACTOR PMI REQUIREMENTS	
PMI LOCATION	HTT://PMI.VZWS9PMART.COM
SMART TOOL PROJECT #	10311206
VZW REG #	5000382636
ANALYSIS DATE	9/26/2024
PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT	

DESIGN CRITERIA

WIND LOADS
BASIC WIND SPEED (3 SECOND GUST), V = 120 MPH
EXPOSURE CATEGORY B
TOPOGRAPHIC CATEGORY 1
TOPOGRAPHIC CONSIDERED: N/A
TOPOGRAPHIC METHOD: N/A
MEAN BASE ELEVATION (ASL) = 170.12'
ICE LOADS
ICE WIND SPEED (3 SECOND GUST), V = 50 MPH
ICE THICKNESS = 1.00 IN
SEISMIC LOADS
SEISMIC DESIGN CATEGORY 8
SHORT PERIOD GROUND MOTION, S ₁ = .20
LONG PERIOD GROUND MOTION, S ₁ = .05

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NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION

SECTION I - VZWSMART KITS

[illegible]

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
4			84" LONG PIPE 3 SCH40 (3.375" O.D. X 0.154" THK)			
			PROPOSED 12" LONG CROSSOVER PIPE TO PIPE CONNECTION			
4	PERFECT VISION	PA11100-PTPC-2010-12		GALVANIZED	25	100
			PROPOSED 12" LONG CROSSOVER PIPE TO PIPE CONNECTION	OR EOH APPROVED EQUAL	15	60
4	PERFECT VISION	PA11100-PTPC-2010-6				
			PROPOSED 6" LONG CROSSOVER PIPE TO PIPE CONNECTION	OR EOH APPROVED EQUAL	13	52

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

[illegible]

VZWSMART KITS - APPROVED VENDORS

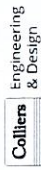
CORIMSCOPE	
CONTACT	SAL ALON ANGUIRANO
PHONE	(817) 334-7492
EMAIL	SAL.ALON.ANGUIANO@CORIMSCOPE.COM
WEBSITE	WWW.CORIMSCOPE.COM
METROSUIT FABRICATORS, LLC	
CONTACT	KEAT FANEY
PHONE	(704) 345-2005 (O), (704) 983-9788 (M)
EMAIL	KEAT@METROSUIT.ELLCC.COM
WEBSITE	METROSUITFABRICATORS.COM

CONTACT	PERFECTVISION
PHONE	WIRELESS SALES
PHONE	(844) 887-4723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESS@PERFECT-VISION.COM
CONTACT	SABIE INDUSTRIES, INC.
PHONE	ANGIE WITCH
PHONE	(866) 428-4937
EMAIL	AW.WELCH@SABIEINDUSTRIES.COM
WEBSITE	WWW.SABIEINDUSTRIES.COM

CONTACT	PAULA BOSWELL
PHONE	(972) 216-9843
EMAIL	PAULA.BOSWELL@VALMONT.COM
WEBSITE	VALMONT.INTERNET.COM

NOTES:

1. THE MANUFACTURERS LISTED ARE THE APPROVED VENDORS FOR THE VZW MOUNT KIT. EACH MANUFACTURER WILL BE AWARE OF WHICH KITS HAVE BEEN THROUGH THE VZW MATERIAL PROCESS AND THEY ARE IN TURN APPROVED TO SELL. PLEASE NOTE THAT THE MATERIAL UTILIZED ON THE MOUNT MODIFICATIONS WILL BE REVISED 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.



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[illegible]

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SURFACE ANYWHERE IN ANY STATE

800 STATE SPECIFIC DIRECT PHONE NUMBERS WAIT

NAME	AS SYNDWN	JOB NUMBER	2377777
1	ISSUE FOR CONSTRUCTION	DATE	ISSUE FOR CONSTRUCTION
2	ISSUE FOR CONSTRUCTION	DATE	ISSUE FOR CONSTRUCTION
3	ISSUE FOR CONSTRUCTION	DATE	ISSUE FOR CONSTRUCTION
4	DESCRIPTION	DATE	DESCRIPTION

COLLEGE INNOVATIONS AND DESIGN, A THOMSON CITI, PUBLICATION

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF THE RESPONSIBLE LICENSED PROFESSIONAL

CITY: NAME:

MERIDEN HANOVER CT
5000382636
450-478 WEST MAIN ST
MERIDEN, CT 06451
NEW HAVEN COUNTY



BRIEF COMMUNICATIONS

SBOM-1

GENERAL NOTES

1. THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE TELECOMMUNICATIONS INDUSTRY STANDARD TIA-224-H MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE REFERENCED CODES.
2. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE TO EXISTING STRUCTURES AND DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING UTILITIES 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. CORRECTIONS TO THE DRAWINGS AND THE DRAWINGS ARE THE PROPERTY OF THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING UTILITIES FROM DAMAGE DUE TO OTHER CAUSES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
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 DESIGNED AND APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXECUTION OF THE WORK. CORRECTIONS TO THE DRAWINGS AND THE DRAWINGS ARE THE PROPERTY OF THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING UTILITIES FROM DAMAGE DUE TO OTHER CAUSES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
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 CONTRACTOR'S SOUND ONLY IN THE COMPLETED FORM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING ERECTION. CONTRACTOR SHALL PROVIDE ALL NECESSARY BRACING AND SHORING TO MAINTAIN THE STABILITY OF THE STRUCTURE DURING ERECTION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING UTILITIES FROM DAMAGE DUE TO OTHER CAUSES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
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-224-H.
10. CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GEOGRAPHIC, 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 ITEMS ARE NOT SPECIFICALLY DETAILED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL CONNECTIONS. THE DESIGN SHALL BE 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 ALTERNATE SIZE AND/OR WEIGHTS, MUST BE APPROVED BY THE OWNER AND ENGINEER IN WRITING.
15. THE POINT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

STRUCTURAL STEEL

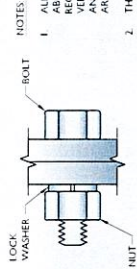
1. DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY PUBLISHED IN THE CONTRACT DOCUMENTS:
 - a. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (13TH EDITION)
 - b. SPECIFICATION FOR STRUCTURAL 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 A503
 - NUTS ASTM A503
 - 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 THE ENGINEER) SHALL BE PROVIDED TO THE ENGINEER. THE 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:
SEAN.O'BRIEN@COLLIERS.COM
 - b. PROVIDE COLLIER'S ENGINEERING A DESIGN PROJECT # IN AND COLLIER'S ENGINEERING A DESIGN PROJECT # IN THE BODY OF THE EMAIL.
5. DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
6. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
7. ALL NEW STEEL SHALL BE HOT 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-224-H SECTION 4.2.2 REQUIREMENT 1.
9. WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHEN 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 MEMBER BEING REPLACED. THE BOLT END SHALL NOT BE BELOW THE FACE OF THE MEMBER BEING REPLACED. THE BOLT END SHALL BE BELOW THE FACE OF THE MEMBER BEING REPLACED.
12. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
13. ALL NEW STEEL SHALL BE HOT 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 COATING FOR 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 1 1/16	7/8	1 1/2
5/8	1 1/16	1 1/16 x 7/8	1 1/8	1 7/8
3/4	1 3/16	1 3/16 x 1	1 1/4	2 1/4
7/8	1 5/16	1 5/16 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.)

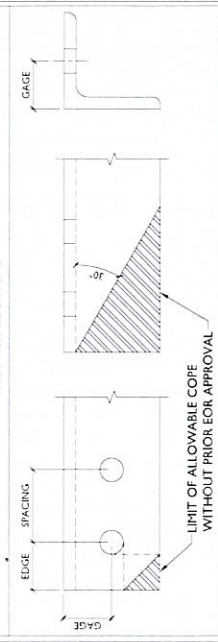
LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



TYP. BOLT ASSEMBLY

- NOTES
1. ALL DIMENSIONS REPRESENTED IN THE DRAWINGS ARE IN INCHES. 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 MAY VARY 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



NOTE: DO NOT SCALE DRAWING FOR CONSTRUCTION

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REV	DATE	DESCRIPTION	BY	CHKD	APP'D
1	01/11/2017	ISSUED FOR CONSTRUCTION	SEAN	SEAN	SEAN
2	01/11/2017	ISSUED FOR CONSTRUCTION	SEAN	SEAN	SEAN
3	01/11/2017	ISSUED FOR CONSTRUCTION	SEAN	SEAN	SEAN

COLLIERS ENGINEERING & DESIGN, CT, P.E.
CT, P.E. 000011

IT IS A CONDITION OF ANY GRANT OR PERMIT, LICENSE, OR OTHER INSTRUMENT OF SERVICE, THAT THE GRANTEE OR PERMITTEE SHALL MAINTAIN AND PROTECT ALL EXISTING UTILITIES AND STRUCTURES, AND SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING UTILITIES AND STRUCTURES.

SITE NAME:
MERIDEN HANOVER CT
5000 \$826.36
450-478 WEST MAIN ST
MERIDEN, CT 06451
NEW HAVEN COUNTY

Colliers
Engineering
& Design
1000 Main Street
Meriden, CT 06451
Phone: 484-397-0447
Fax: 484-397-0448
www.collierseng.com

GENERAL NOTES
SGN-1



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 PERFORMANCE.

LEGEND:

- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE

NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1		1	PROPOSED SUPPORT HAIL KIT (PART # VZW5HART-RLK1)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE STRUCTURAL STEEL NOTES ON SHEET 504-1 RADIO AND/OR THE ANTENNA NOTES ON SHEET 504-2. THE HAIL KIT SHALL BE HELD IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL, AS SHOWN.
2	64'-0"	2	PROPOSED 84" LONG, PIPE 2 SCH40 MOUNT PIPE WITH 12" PIPE TO PIPE CONNECTION	CONNECT NEW MOUNT PIPE TO EXISTING MOUNT PIPE WITH 12" LONG, CROSSTOVER PIPE TO PIPE CONNECTIONS (PERFECT VISION, PART # PVDC-PTFC-2020-12), POSITION 4 (BETA SECTOR AND POSITION 1 (GAMMA SECTOR).
3		2	PROPOSED 84" LONG, PIPE 2 SCH40 MOUNT PIPE WITH 6" PIPE TO PIPE CONNECTION	CONNECT NEW MOUNT PIPE TO EXISTING MOUNT PIPE WITH 6" LONG, CROSSTOVER PIPE TO PIPE CONNECTIONS (PERFECT VISION, PART # PVDC-PTFC-2020-6), POSITION 3 & 4 (GAMMA SECTOR).

GENERAL NOTES:

- 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.
- 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).
- MOUNT MEMBERS NOT SHOWN FOR CLARITY UNLO.

TOTAL VERTICAL ENVELOPE

CONTRACTOR SHALL VERIFY AND CONFIRM IN FIELD THAT VERIZON'S OVERALL TIP TO TIP VERTICAL SPACE CONFIGURATION (EQUIPMENT AND STEEL COMBINED) DOES NOT EXCEED THE VERTICAL ENVELOPE LISTED IN THESE DRAWINGS. IF THE SITE'S EXISTING OR PROPOSED SPACE CONFIGURATION EXCEEDS THE ALLOWED VERTICAL ENVELOPE LISTED IN THESE DRAWINGS, CONTRACTOR SHALL CONTACT EOR IMMEDIATELY FOR A SOLUTION ON HOW TO CORRECT THE ISSUE PRIOR TO LEAVING THE SITE.

PROPOSED ISOMETRIC VIEW
SCALE: N.T.S.

PROPOSED SIDE ELEVATION VIEW (TYP. ALL SECTORS)
SCALE: N.T.S.

LEGEND:

- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE

NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1		1	PROPOSED SUPPORT HAIL KIT (PART # VZW5HART-RLK1)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE STRUCTURAL STEEL NOTES ON SHEET 504-1 RADIO AND/OR THE ANTENNA NOTES ON SHEET 504-2. THE HAIL KIT SHALL BE HELD IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL, AS SHOWN.
2	64'-0"	2	PROPOSED 84" LONG, PIPE 2 SCH40 MOUNT PIPE WITH 12" PIPE TO PIPE CONNECTION	CONNECT NEW MOUNT PIPE TO EXISTING MOUNT PIPE WITH 12" LONG, CROSSTOVER PIPE TO PIPE CONNECTIONS (PERFECT VISION, PART # PVDC-PTFC-2020-12), POSITION 4 (BETA SECTOR AND POSITION 1 (GAMMA SECTOR).
3		2	PROPOSED 84" LONG, PIPE 2 SCH40 MOUNT PIPE WITH 6" PIPE TO PIPE CONNECTION	CONNECT NEW MOUNT PIPE TO EXISTING MOUNT PIPE WITH 6" LONG, CROSSTOVER PIPE TO PIPE CONNECTIONS (PERFECT VISION, PART # PVDC-PTFC-2020-6), POSITION 3 & 4 (GAMMA SECTOR).

GENERAL NOTES:

- 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.
- 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).
- MOUNT MEMBERS NOT SHOWN FOR CLARITY UNLO.

TOTAL VERTICAL ENVELOPE

CONTRACTOR SHALL VERIFY AND CONFIRM IN FIELD THAT VERIZON'S OVERALL TIP TO TIP VERTICAL SPACE CONFIGURATION (EQUIPMENT AND STEEL COMBINED) DOES NOT EXCEED THE VERTICAL ENVELOPE LISTED IN THESE DRAWINGS. IF THE SITE'S EXISTING OR PROPOSED SPACE CONFIGURATION EXCEEDS THE ALLOWED VERTICAL ENVELOPE LISTED IN THESE DRAWINGS, CONTRACTOR SHALL CONTACT EOR IMMEDIATELY FOR A SOLUTION ON HOW TO CORRECT THE ISSUE PRIOR TO LEAVING THE SITE.

PROPOSED ISOMETRIC VIEW
SCALE: N.T.S.

PROPOSED SIDE ELEVATION VIEW (TYP. ALL SECTORS)
SCALE: N.T.S.


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PROJECT INFORMATION		PROJECT LOCATION	
1	PROJECT NAME	1	PROJECT LOCATION
2	PROJECT NUMBER	2	PROJECT LOCATION
3	PROJECT DATE	3	PROJECT LOCATION
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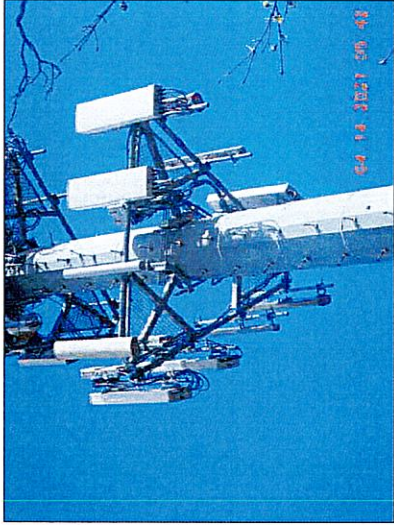
COLLIERS ENGINEERING & DESIGN, CT, P.C.
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SITE NAME:
MERIDEN HANOVER CT
5000385636
450-478 WEST MAIN ST
MERIDEN CT 06461
NEW HAVEN COUNTY


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MOUNT PHOTOS

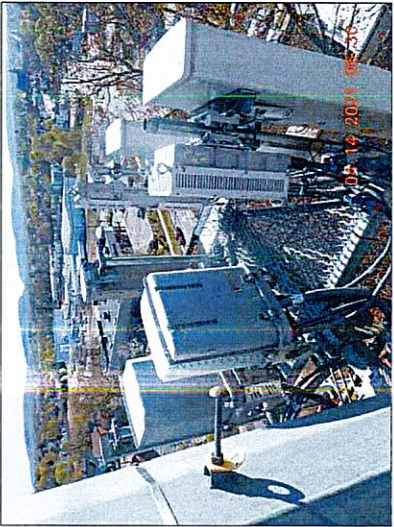
SS-2



MOUNT PHOTO 2



MOUNT PHOTO 4



MOUNT PHOTO 1



MOUNT PHOTO 3

DUALCROSS - PIPE TO PIPE CONNECTION

Part Number	Weight	Pipe to Pipe C-C	Pipe 1 Size	Pipe 2 Size	Pipe 1 Bolt Size	Pipe 2 Bolt Size
	lbs	in	in	in	in	in
PV-DC-PTPC-2020-6	13	6	Ø 2.375	Ø 2.375	Ø 5/8 x 4-1/2	Ø 5/8 x 4-1/2
PV-DC-PTPC-2020-12	14.8	12	Ø 2.375	Ø 2.375	Ø 5/8 x 4-1/2	Ø 5/8 x 4-1/2
PV-DC-PTPC-2020-24	18.5	24	Ø 2.375	Ø 2.375	Ø 5/8 x 4-1/2	Ø 5/8 x 4-1/2
PV-DC-PTPC-2025-6	13.8	6	Ø 2.375	Ø 2.875	Ø 5/8 x 4-1/2	Ø 5/8 x 5
PV-DC-PTPC-2025-12	15.7	12	Ø 2.375	Ø 2.875	Ø 5/8 x 4-1/2	Ø 5/8 x 5
PV-DC-PTPC-2025-24	19.3	24	Ø 2.375	Ø 2.875	Ø 5/8 x 4-1/2	Ø 5/8 x 5
PV-DC-PTPC-2030-6	15	6	Ø 2.375	Ø 3.5	Ø 5/8 x 4-1/2	Ø 5/8 x 5-1/2
PV-DC-PTPC-2030-12	19.1	12	Ø 2.375	Ø 3.5	Ø 5/8 x 4-1/2	Ø 5/8 x 5-1/2
PV-DC-PTPC-2030-24	20.4	24	Ø 2.375	Ø 3.5	Ø 5/8 x 4-1/2	Ø 5/8 x 5-1/2
PV-DC-PTPC-2525-6	15.2	6	Ø 2.875	Ø 2.875	Ø 5/8 x 5	Ø 5/8 x 5
PV-DC-PTPC-2525-12	18	12	Ø 2.875	Ø 2.875	Ø 5/8 x 5	Ø 5/8 x 5
PV-DC-PTPC-2525-24	23.9	24	Ø 2.875	Ø 2.875	Ø 5/8 x 5	Ø 5/8 x 5
PV-DC-PTPC-2530-6	16.2	6	Ø 2.875	Ø 3.5	Ø 5/8 x 5-1/2	Ø 5/8 x 5-1/2
PV-DC-PTPC-2530-12	19.1	12	Ø 2.875	Ø 3.5	Ø 5/8 x 5-1/2	Ø 5/8 x 5-1/2
PV-DC-PTPC-2530-24	25	24	Ø 2.875	Ø 3.5	Ø 5/8 x 5-1/2	Ø 5/8 x 5-1/2
PV-DC-PTPC-3030-6	17.5	6	Ø 3.5	Ø 3.5	Ø 5/8 x 5-1/2	Ø 5/8 x 5-1/2
PV-DC-PTPC-3030-12	21.3	12	Ø 3.5	Ø 3.5	Ø 5/8 x 5-1/2	Ø 5/8 x 5-1/2
PV-DC-PTPC-3030-24	28.9	24	Ø 3.5	Ø 3.5	Ø 5/8 x 5-1/2	Ø 5/8 x 5-1/2
PV-DC-PTPC-3040-6	19.1	6	Ø 3.5	Ø 4.5	Ø 5/8 x 5-1/2	Ø 5/8 x 6-1/2
PV-DC-PTPC-3040-12	23	12	Ø 3.5	Ø 4.5	Ø 5/8 x 5-1/2	Ø 5/8 x 6-1/2
PV-DC-PTPC-3040-24	30.5	24	Ø 3.5	Ø 4.5	Ø 5/8 x 5-1/2	Ø 5/8 x 6-1/2

FOR REFERENCE
ONLY

- NOTES:



ITEM #	THREADED PROJECTION	CATEGORY	06_Pipe and Attachment Hardware	4					
			ITEMS	3					
			TYPE	2					
			BY	1					
			REV	0					
			APPROVED	REV					
			DATE						
1 OF 2									
12/30/2020	SCALE: 1:4								
DIMENSIONS ARE IN INCHES TOLERANCES UNLESS OTHERWISE SPECIFIED: HOLES: +1/16" -1/32" ANGULAR PROFILE: 1/4" RND ±.2" ALL OTHERS: ±1/16"									

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SMART Tool®
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FOR REFERENCE
ONLY

DRAWN BY: BT

CHECKED BY: HAN/PH

REV

DESCRIPTION

BY

DATE

1

FIRST ISSUE

BT

09/04/21

2

3

4

5

SHEET TITLE:

VZWSMART
STANDARD PIPE

SHEET NUMBER

REV #

0

VZWSMART-PIPE

STANDARD PIPE LENGTH

SEE NOTE 3" & 4"
(TYP)

PIPE
SIZE

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
PIPS 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 ZINCA OR ZINC COTE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

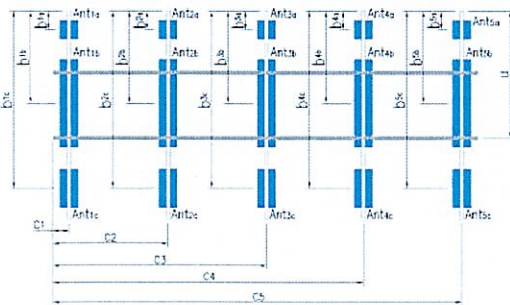


FCC #
1288238

Tower Owner:	Crown Castle	Mapping Date:	4/14/2021
Site Name:	Meriden West Central	Tower Type:	Monopole
Site Number or ID:	21777777	Tower Height (Ft.):	102
Mapping Contractor:	Structural Components	Mount Elevation (Ft.):	65

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The diagram illustrates a triangular structure composed of three sectors (A, B, C) and three legs (A, B, C). Each sector contains a face (FACE A, FACE B, FACE C). A detailed view of a sector shows a horizontal bar with a central point and a vertical offset 'h'.



Antenna Layout (Looking Out From Tower)

Mount Pipe Configuration and Geometries [Unit = Inches]

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	2-3/8x0.154x84	43.00	3.50	C1	2-3/8x0.154x84	42.00	3.50
A2	2-3/8x0.154x84	42.50	49.00	C2	2-3/8x0.154x84	42.50	47.00
A3	2-3/8x0.154x84	44.00	97.00	C3	2-3/8x0.154x84	42.00	96.00
A4	2-3/8x0.154x84	42.00	141.00	C4	2-3/8x0.154x84	44.00	139.00
A5				C5			
A6				C6			
B1	2-3/8x0.154x84	41.00	3.50	D1			
B2	2-3/8x0.154x84	43.00	49.50	D2			
B3	2-3/8x0.154x84	42.00	96.50	D3			
B4	2-3/8x0.154x84	41.50	141.50	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.) :							
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :							
Please enter additional information or comments below.							
1/2" Weld main standoff to plate							
Raycaps are on Alpha/Beta standoff arm on pipe mounts							
Tower Face Width at Mount Elev. (ft.):		7.5	Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):				38.22
For T-Arms/Platforms on monopoles, report the weld size from the main standoff to the plate bolting into the collar mount.							

[illegible]

Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #
1	Lock cut on Verizon gate	2
2		
3		
4		
5		
6		
7		
8		

Observed Obstructions to Tower Lighting System			
If the tower lighting system is being obstructed by the carrier's equipment (for example: a light nested by the antennas), please provide photos and fill in the information below.			Photo #
Description of Obstruction:			
Type of Light:	Photo #	Additional Comments:	
Lighting Technology:	Photo #		
Elevation (AGL) at base of light (Ft.):	Photo #		
Is a service loop available?	Photo #		
Is beacon installed on an extension?	Photo #		

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.



Antenna Mount Mapping Form (PATENT PENDING)

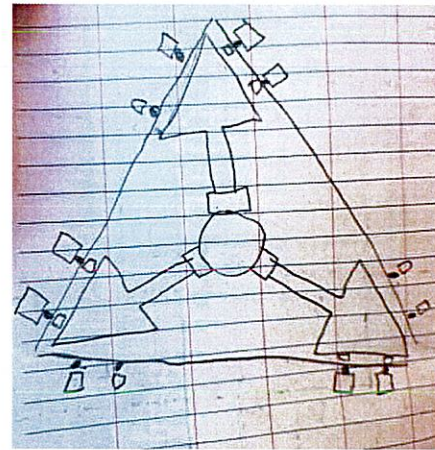
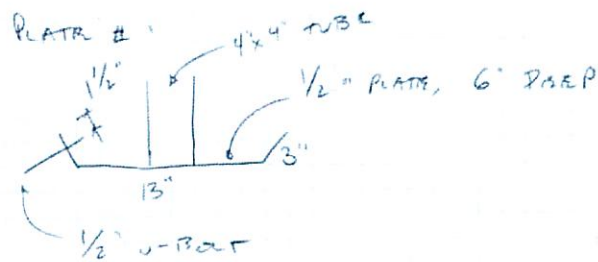
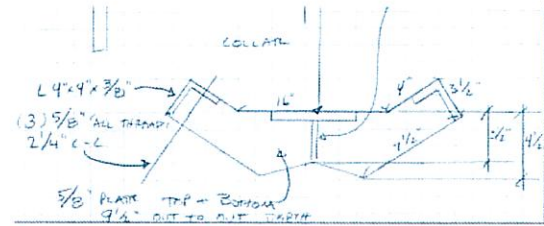
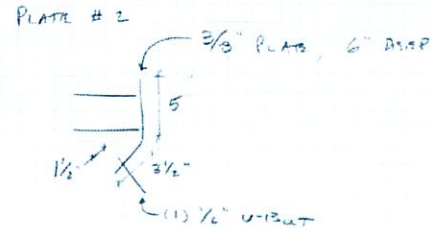
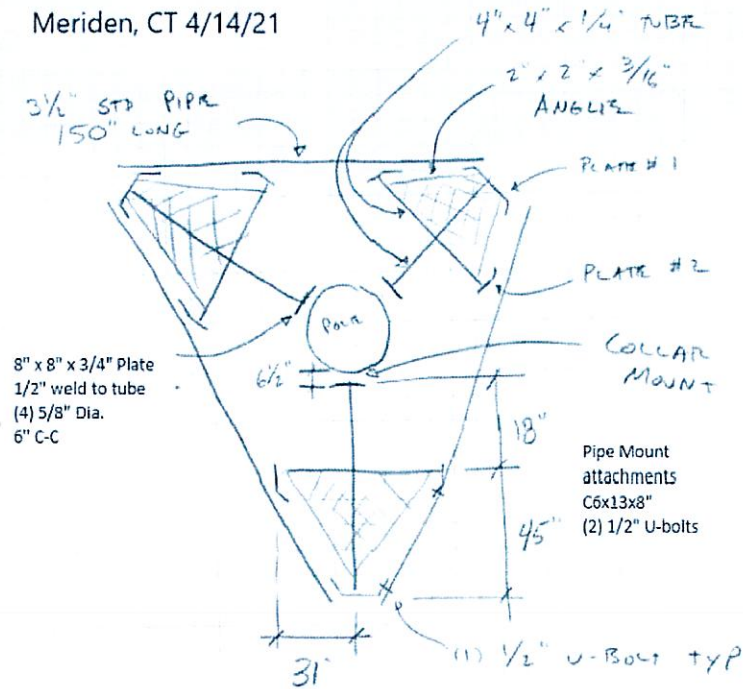
FCC #
1288238

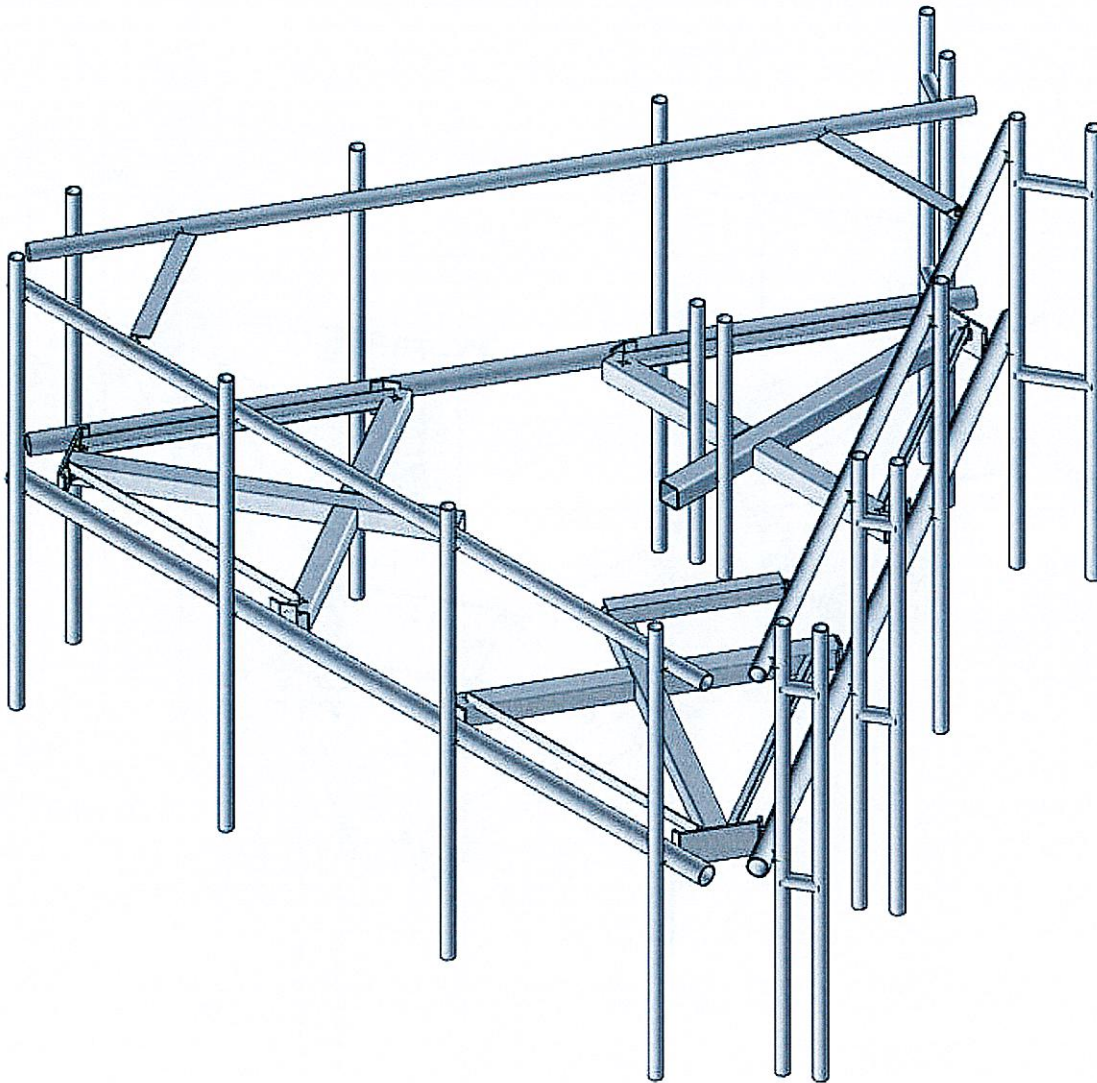
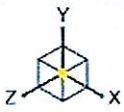
Tower Owner:	Crown Castle	Mapping Date:	4/14/2021
Site Name:	Meriden West Central	Tower Type:	Monopole
Site Number or ID:	21777777	Tower Height (Ft.):	102
Mapping Contractor:	Structural Components	Mount Elevation (Ft.):	65

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Please Insert Sketches of the Antenna Mount

Meriden, CT 4/14/21





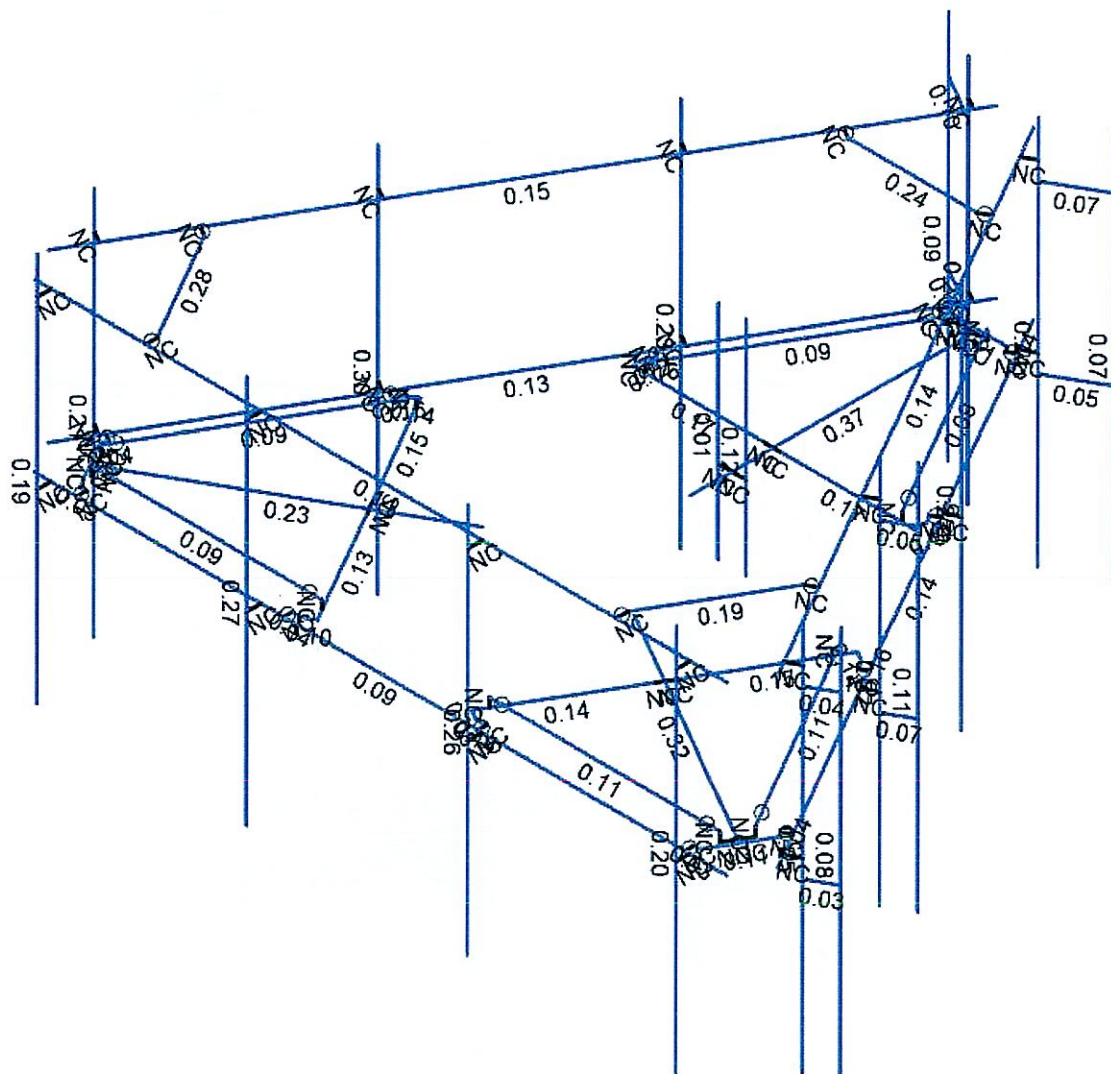
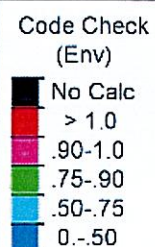
Envelope Only Solution



SK-1

Sep 25, 2024 at 02:11 PM

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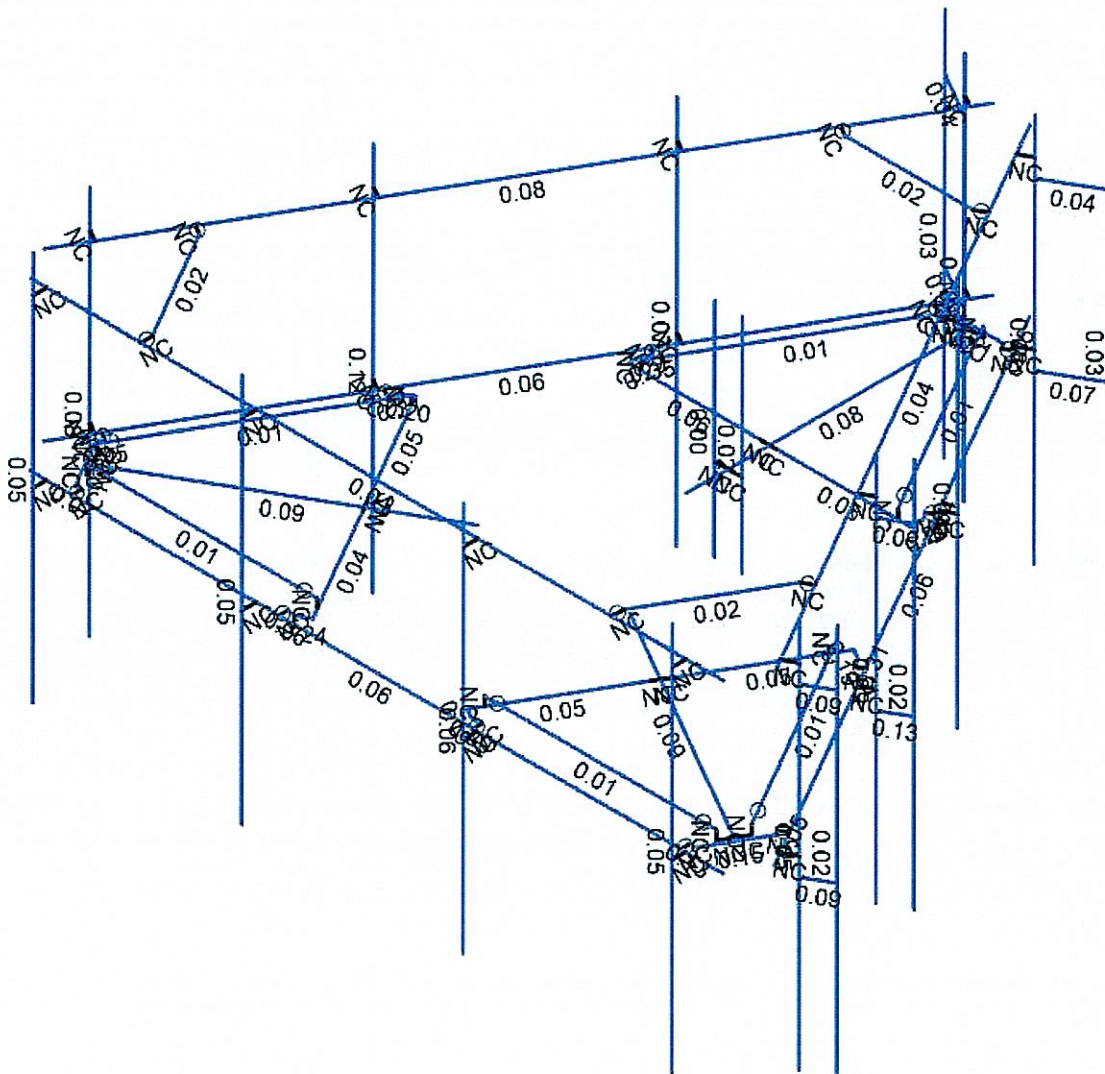
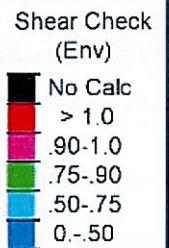
Member Code Checks Displayed (Enveloped)
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SK-2

Sep 25, 2024 at 02:11 PM

5000382636-VZW_MT_LO...



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution



Company :
 Designer :
 Job Number :
 Model Name :

9/25/2024
 2:08:51 PM
 Checked By : _____

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Point	Distributed	Area(Member)
1	Antenna D	None				84		
2	Antenna Di	None				84		
3	Antenna Wo (0 Deg)	None				84		
4	Antenna Wo (30 Deg)	None				84		
5	Antenna Wo (60 Deg)	None				84		
6	Antenna Wo (90 Deg)	None				84		
7	Antenna Wo (120 Deg)	None				84		
8	Antenna Wo (150 Deg)	None				84		
9	Antenna Wo (180 Deg)	None				84		
10	Antenna Wo (210 Deg)	None				84		
11	Antenna Wo (240 Deg)	None				84		
12	Antenna Wo (270 Deg)	None				84		
13	Antenna Wo (300 Deg)	None				84		
14	Antenna Wo (330 Deg)	None				84		
15	Antenna Wi (0 Deg)	None				84		
16	Antenna Wi (30 Deg)	None				84		
17	Antenna Wi (60 Deg)	None				84		
18	Antenna Wi (90 Deg)	None				84		
19	Antenna Wi (120 Deg)	None				84		
20	Antenna Wi (150 Deg)	None				84		
21	Antenna Wi (180 Deg)	None				84		
22	Antenna Wi (210 Deg)	None				84		
23	Antenna Wi (240 Deg)	None				84		
24	Antenna Wi (270 Deg)	None				84		
25	Antenna Wi (300 Deg)	None				84		
26	Antenna Wi (330 Deg)	None				84		
27	Antenna Wm (0 Deg)	None				84		
28	Antenna Wm (30 Deg)	None				84		
29	Antenna Wm (60 Deg)	None				84		
30	Antenna Wm (90 Deg)	None				84		
31	Antenna Wm (120 Deg)	None				84		
32	Antenna Wm (150 Deg)	None				84		
33	Antenna Wm (180 Deg)	None				84		
34	Antenna Wm (210 Deg)	None				84		
35	Antenna Wm (240 Deg)	None				84		
36	Antenna Wm (270 Deg)	None				84		
37	Antenna Wm (300 Deg)	None				84		
38	Antenna Wm (330 Deg)	None				84		
39	Structure D	None		-1				3
40	Structure Di	None					71	4
41	Structure Wo (0 Deg)	None					142	
42	Structure Wo (30 Deg)	None					142	
43	Structure Wo (60 Deg)	None					142	
44	Structure Wo (90 Deg)	None					142	
45	Structure Wo (120 Deg)	None					142	
46	Structure Wo (150 Deg)	None					142	
47	Structure Wo (180 Deg)	None					142	
48	Structure Wo (210 Deg)	None					142	
49	Structure Wo (240 Deg)	None					142	
50	Structure Wo (270 Deg)	None					142	
51	Structure Wo (300 Deg)	None					142	
52	Structure Wo (330 Deg)	None					142	
53	Structure Wi (0 Deg)	None					142	
54	Structure Wi (30 Deg)	None					142	
55	Structure Wi (60 Deg)	None					142	

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Point	Distributed	Area(Member)
56	Structure Wi (90 Deg)	None					142	
57	Structure Wi (120 Deg)	None					142	
58	Structure Wi (150 Deg)	None					142	
59	Structure Wi (180 Deg)	None					142	
60	Structure Wi (210 Deg)	None					142	
61	Structure Wi (240 Deg)	None					142	
62	Structure Wi (270 Deg)	None					142	
63	Structure Wi (300 Deg)	None					142	
64	Structure Wi (330 Deg)	None					142	
65	Structure Wm (0 Deg)	None					142	
66	Structure Wm (30 Deg)	None					142	
67	Structure Wm (60 Deg)	None					142	
68	Structure Wm (90 Deg)	None					142	
69	Structure Wm (120 Deg)	None					142	
70	Structure Wm (150 Deg)	None					142	
71	Structure Wm (180 Deg)	None					142	
72	Structure Wm (210 Deg)	None					142	
73	Structure Wm (240 Deg)	None					142	
74	Structure Wm (270 Deg)	None					142	
75	Structure Wm (300 Deg)	None					142	
76	Structure Wm (330 Deg)	None					142	
77	Lm1	None				1		
78	Lm2	None				1		
79	Lv1	None				1		
80	Lv2	None				1		
81	Antenna Ev	None				84		
82	Antenna Eh (0 Deg)	None				56		
83	Antenna Eh (90 Deg)	None				56		
84	Structure Ev	ELY		-0.043				3
85	Structure Eh (0 Deg)	ELZ			-0.108			3
86	Structure Eh (90 Deg)	ELX	0.108					3
87	BLC 39 Transient Area Loads	None					30	
88	BLC 40 Transient Area Loads	None					30	
89	BLC 84 Transient Area Loads	None					30	
90	BLC 85 Transient Area Loads	None					30	
91	BLC 86 Transient Area Loads	None					30	

Load Combinations

	Description	Solve	P-Delta	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor
1	1.2D+1.0Wo (0 Deg)	Yes	Y	1	1.2	39	1.2	3	1	41	1							
2	1.2D+1.0Wo (30 Deg)	Yes	Y	1	1.2	39	1.2	4	1	42	1							
3	1.2D+1.0Wo (60 Deg)	Yes	Y	1	1.2	39	1.2	5	1	43	1							
4	1.2D+1.0Wo (90 Deg)	Yes	Y	1	1.2	39	1.2	6	1	44	1							
5	1.2D+1.0Wo (120 Deg)	Yes	Y	1	1.2	39	1.2	7	1	45	1							
6	1.2D+1.0Wo (150 Deg)	Yes	Y	1	1.2	39	1.2	8	1	46	1							
7	1.2D+1.0Wo (180 Deg)	Yes	Y	1	1.2	39	1.2	9	1	47	1							
8	1.2D+1.0Wo (210 Deg)	Yes	Y	1	1.2	39	1.2	10	1	48	1							
9	1.2D+1.0Wo (240 Deg)	Yes	Y	1	1.2	39	1.2	11	1	49	1							
10	1.2D+1.0Wo (270 Deg)	Yes	Y	1	1.2	39	1.2	12	1	50	1							
11	1.2D+1.0Wo (300 Deg)	Yes	Y	1	1.2	39	1.2	13	1	51	1							
12	1.2D+1.0Wo (330 Deg)	Yes	Y	1	1.2	39	1.2	14	1	52	1							
13	1.2D + 1.0Di + 1.0Wi (0 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	15	1	53	1			
14	1.2D + 1.0Di + 1.0Wi (30 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	16	1	54	1			
15	1.2D + 1.0Di + 1.0Wi (60 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	17	1	55	1			
16	1.2D + 1.0Di + 1.0Wi (90 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	18	1	56	1			

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
17	1.2D + 1.0Di + 1.0Wi (120 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	19	1	57	1				
18	1.2D + 1.0Di + 1.0Wi (150 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	20	1	58	1				
19	1.2D + 1.0Di + 1.0Wi (180 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	21	1	59	1				
20	1.2D + 1.0Di + 1.0Wi (210 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	22	1	60	1				
21	1.2D + 1.0Di + 1.0Wi (240 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	23	1	61	1				
22	1.2D + 1.0Di + 1.0Wi (270 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	24	1	62	1				
23	1.2D + 1.0Di + 1.0Wi (300 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	25	1	63	1				
24	1.2D + 1.0Di + 1.0Wi (330 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	26	1	64	1				
25	1.2D + 1.5Lm1 + 1.0Wm (0 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	27	1	65	1						
26	1.2D + 1.5Lm1 + 1.0Wm (30 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	28	1	66	1						
27	1.2D + 1.5Lm1 + 1.0Wm (60 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	29	1	67	1						
28	1.2D + 1.5Lm1 + 1.0Wm (90 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	30	1	68	1						
29	1.2D + 1.5Lm1 + 1.0Wm (120 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	31	1	69	1						
30	1.2D + 1.5Lm1 + 1.0Wm (150 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	32	1	70	1						
31	1.2D + 1.5Lm1 + 1.0Wm (180 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	33	1	71	1						
32	1.2D + 1.5Lm1 + 1.0Wm (210 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	34	1	72	1						
33	1.2D + 1.5Lm1 + 1.0Wm (240 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	35	1	73	1						
34	1.2D + 1.5Lm1 + 1.0Wm (270 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	36	1	74	1						
35	1.2D + 1.5Lm1 + 1.0Wm (300 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	37	1	75	1						
36	1.2D + 1.5Lm1 + 1.0Wm (330 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	38	1	76	1						
37	1.2D + 1.5Lm2 + 1.0Wm (0 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	27	1	65	1						
38	1.2D + 1.5Lm2 + 1.0Wm (30 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	28	1	66	1						
39	1.2D + 1.5Lm2 + 1.0Wm (60 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	29	1	67	1						
40	1.2D + 1.5Lm2 + 1.0Wm (90 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	30	1	68	1						
41	1.2D + 1.5Lm2 + 1.0Wm (120 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	31	1	69	1						
42	1.2D + 1.5Lm2 + 1.0Wm (150 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	32	1	70	1						
43	1.2D + 1.5Lm2 + 1.0Wm (180 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	33	1	71	1						
44	1.2D + 1.5Lm2 + 1.0Wm (210 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	34	1	72	1						
45	1.2D + 1.5Lm2 + 1.0Wm (240 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	35	1	73	1						
46	1.2D + 1.5Lm2 + 1.0Wm (270 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	36	1	74	1						
47	1.2D + 1.5Lm2 + 1.0Wm (300 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	37	1	75	1						
48	1.2D + 1.5Lm2 + 1.0Wm (330 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	38	1	76	1						
49	1.2D + 1.5Lv1	Yes	Y	1	1.2	39	1.2	79	1.5										
50	1.2D + 1.5Lv2	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 + 1.0Ev + 1.0Eh (0 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	1	83		ELZ	1	ELX	
53	1.2D + 1.0Ev + 1.0Eh (30 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.866	83	0.5	ELZ	0.866	ELX	0.5
54	1.2D + 1.0Ev + 1.0Eh (60 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.5	83	0.866	ELZ	0.5	ELX	0.866
55	1.2D + 1.0Ev + 1.0Eh (90 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82		83	1	ELZ		ELX	1
56	1.2D + 1.0Ev + 1.0Eh (120 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.5	83	0.866	ELZ	-0.5	ELX	0.866
57	1.2D + 1.0Ev + 1.0Eh (150 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.866	83	0.5	ELZ	-0.866	ELX	0.5
58	1.2D + 1.0Ev + 1.0Eh (180 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-1	83		ELZ	-1	ELX	
59	1.2D + 1.0Ev + 1.0Eh (210 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.866	83	-0.5	ELZ	-0.866	ELX	-0.5
60	1.2D + 1.0Ev + 1.0Eh (240 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.5	83	-0.866	ELZ	-0.5	ELX	-0.866
61	1.2D + 1.0Ev + 1.0Eh (270 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82		83	-1	ELZ		ELX	-1
62	1.2D + 1.0Ev + 1.0Eh (300 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.5	83	-0.866	ELZ	0.5	ELX	-0.866
63	1.2D + 1.0Ev + 1.0Eh (330 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.866	83	-0.5	ELZ	0.866	ELX	-0.5
64	0.9D - 1.0Ev + 1.0Eh (0 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	1	83		ELZ	1	ELX	
65	0.9D - 1.0Ev + 1.0Eh (30 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.866	83	0.5	ELZ	0.866	ELX	0.5
66	0.9D - 1.0Ev + 1.0Eh (60 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.5	83	0.866	ELZ	0.5	ELX	0.866
67	0.9D - 1.0Ev + 1.0Eh (90 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82		83	1	ELZ		ELX	1
68	0.9D - 1.0Ev + 1.0Eh (120 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.5	83	0.866	ELZ	-0.5	ELX	0.866
69	0.9D - 1.0Ev + 1.0Eh (150 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.866	83	0.5	ELZ	-0.866	ELX	0.5
70	0.9D - 1.0Ev + 1.0Eh (180 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-1	83		ELZ	-1	ELX	
71	0.9D - 1.0Ev + 1.0Eh (210 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.866	83	-0.5	ELZ	-0.866	ELX	-0.5

Load Combinations (Continued)

Description		Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
72	0.9D - 1.0Ev + 1.0Eh (240 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.5	83	-0.866	ELZ	-0.5	ELX	-0.866
73	0.9D - 1.0Ev + 1.0Eh (270 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82		83	-1	ELZ		ELX	-1
74	0.9D - 1.0Ev + 1.0Eh (300 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.5	83	-0.866	ELZ	0.5	ELX	-0.866
75	0.9D - 1.0Ev + 1.0Eh (330 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.866	83	-0.5	ELZ	0.866	ELX	-0.5

Load Combination Design

Description		Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
1	1.2D+1.0Wo (0 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1.2D+1.0Wo (30 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1.2D+1.0Wo (60 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1.2D+1.0Wo (90 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1.2D+1.0Wo (120 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1.2D+1.0Wo (150 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1.2D+1.0Wo (180 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1.2D+1.0Wo (210 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1.2D+1.0Wo (240 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1.2D+1.0Wo (270 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1.2D+1.0Wo (300 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	1.2D+1.0Wo (330 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	1.2D + 1.0Di + 1.0Wi (0 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	1.2D + 1.0Di + 1.0Wi (30 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15	1.2D + 1.0Di + 1.0Wi (60 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16	1.2D + 1.0Di + 1.0Wi (90 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17	1.2D + 1.0Di + 1.0Wi (120 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
18	1.2D + 1.0Di + 1.0Wi (150 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19	1.2D + 1.0Di + 1.0Wi (180 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
20	1.2D + 1.0Di + 1.0Wi (210 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
21	1.2D + 1.0Di + 1.0Wi (240 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
22	1.2D + 1.0Di + 1.0Wi (270 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
23	1.2D + 1.0Di + 1.0Wi (300 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
24	1.2D + 1.0Di + 1.0Wi (330 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
25	1.2D + 1.5Lm1 + 1.0Wm (0 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
26	1.2D + 1.5Lm1 + 1.0Wm (30 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
27	1.2D + 1.5Lm1 + 1.0Wm (60 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
28	1.2D + 1.5Lm1 + 1.0Wm (90 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
29	1.2D + 1.5Lm1 + 1.0Wm (120 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
30	1.2D + 1.5Lm1 + 1.0Wm (150 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
31	1.2D + 1.5Lm1 + 1.0Wm (180 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
32	1.2D + 1.5Lm1 + 1.0Wm (210 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
33	1.2D + 1.5Lm1 + 1.0Wm (240 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
34	1.2D + 1.5Lm1 + 1.0Wm (270 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
35	1.2D + 1.5Lm1 + 1.0Wm (300 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
36	1.2D + 1.5Lm1 + 1.0Wm (330 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
37	1.2D + 1.5Lm2 + 1.0Wm (0 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
38	1.2D + 1.5Lm2 + 1.0Wm (30 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
39	1.2D + 1.5Lm2 + 1.0Wm (60 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
40	1.2D + 1.5Lm2 + 1.0Wm (90 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41	1.2D + 1.5Lm2 + 1.0Wm (120 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
42	1.2D + 1.5Lm2 + 1.0Wm (150 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
43	1.2D + 1.5Lm2 + 1.0Wm (180 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
44	1.2D + 1.5Lm2 + 1.0Wm (210 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
45	1.2D + 1.5Lm2 + 1.0Wm (240 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
46	1.2D + 1.5Lm2 + 1.0Wm (270 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
47	1.2D + 1.5Lm2 + 1.0Wm (300 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
48	1.2D + 1.5Lm2 + 1.0Wm (330 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Load Combination Design (Continued)

	Description	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
49	1.2D + 1.5Lv1		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
50	1.2D + 1.5Lv2		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
51	1.4D		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
52	1.2D + 1.0Ev + 1.0Eh (0 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
53	1.2D + 1.0Ev + 1.0Eh (30 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
54	1.2D + 1.0Ev + 1.0Eh (60 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
55	1.2D + 1.0Ev + 1.0Eh (90 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
56	1.2D + 1.0Ev + 1.0Eh (120 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
57	1.2D + 1.0Ev + 1.0Eh (150 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
58	1.2D + 1.0Ev + 1.0Eh (180 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
59	1.2D + 1.0Ev + 1.0Eh (210 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
60	1.2D + 1.0Ev + 1.0Eh (240 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
61	1.2D + 1.0Ev + 1.0Eh (270 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
62	1.2D + 1.0Ev + 1.0Eh (300 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
63	1.2D + 1.0Ev + 1.0Eh (330 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
64	0.9D - 1.0Ev + 1.0Eh (0 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
65	0.9D - 1.0Ev + 1.0Eh (30 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
66	0.9D - 1.0Ev + 1.0Eh (60 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
67	0.9D - 1.0Ev + 1.0Eh (90 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
68	0.9D - 1.0Ev + 1.0Eh (120 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
69	0.9D - 1.0Ev + 1.0Eh (150 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
70	0.9D - 1.0Ev + 1.0Eh (180 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
71	0.9D - 1.0Ev + 1.0Eh (210 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
72	0.9D - 1.0Ev + 1.0Eh (240 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
73	0.9D - 1.0Ev + 1.0Eh (270 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
74	0.9D - 1.0Ev + 1.0Eh (300 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
75	0.9D - 1.0Ev + 1.0Eh (330 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	I _{yy} [in ⁴]	I _{zz} [in ⁴]	J [in ⁴]
1	Face Horizontal	PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2	Standoff Horizontal	HSS4X4X4	Beam	SquareTube	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
3	Corner Plate	PL1/2X6	Beam	BAR	A36 Gr.36	Typical	3	0.062	9	0.237
4	Platform Crossmember	HSS4X4X4	Beam	SquareTube	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
5	Grating Support	L2X2X3	Beam	Single Angle	A36 Gr.36	Typical	0.722	0.271	0.271	0.009
6	Mount Pipe	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
7	Cross Arm Plate	PL3/8X6	Column	RECT	A36 Gr.36	Typical	2.25	0.026	6.75	0.101
8	Mod Support Rail	PIPE 2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
9	Mod Corner Angle	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	0.031
10	Mod Mount Pipe	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
11	Mod Pipe to Pipe	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e ⁻⁵ F ⁻¹]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
7	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3
8	Q235	29000	11154	0.3	0.65	0.49	35	1.5	58	1.2

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	M1	N1	N6		Standoff Horizontal	Beam	SquareTube	A500 Gr.B Rect	Typical
2	M2	N10	N12		Platform Crossmember	Beam	SquareTube	A500 Gr.B Rect	Typical
3	M3	N11	N2		Platform Crossmember	Beam	SquareTube	A500 Gr.B Rect	Typical
4	M4	N21	N22		Corner Plate	Beam	BAR	A36 Gr.36	Typical
5	M5	N4	N9	240	RIGID	None	None	RIGID	Typical
6	M6	N3	N8	240	RIGID	None	None	RIGID	Typical
7	M7	N26	N3		Grating Support	Beam	Single Angle	A36 Gr.36	Typical
8	M8	N4	N28		Grating Support	Beam	Single Angle	A36 Gr.36	Typical
9	M9	N28	N29	240	RIGID	None	None	RIGID	Typical
10	M10	N11	N5		RIGID	None	None	RIGID	Typical
11	M11	N5	N12		RIGID	None	None	RIGID	Typical
12	M12	N10	N14		Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
13	M13	N14	N15		Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
14	M14	N15	N19		RIGID	None	None	RIGID	Typical
15	M15	N22	N16		Corner Plate	Beam	BAR	A36 Gr.36	Typical
16	M16	N16	N23		RIGID	None	None	RIGID	Typical
17	M17	N2	N13		Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
18	M18	N13	N17		Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
19	M19	N17	N20		RIGID	None	None	RIGID	Typical
20	M20	N21	N18		Corner Plate	Beam	BAR	A36 Gr.36	Typical
21	M21	N18	N24		RIGID	None	None	RIGID	Typical
22	M22	N29	N25		RIGID	None	None	RIGID	Typical
23	M23	N25	N27		RIGID	None	None	RIGID	Typical
24	M24	N26	N27	240	RIGID	None	None	RIGID	Typical
25	M25	N30	N35		Standoff Horizontal	Beam	SquareTube	A500 Gr.B Rect	Typical
26	M26	N38	N40		Platform Crossmember	Beam	SquareTube	A500 Gr.B Rect	Typical
27	M27	N39	N31		Platform Crossmember	Beam	SquareTube	A500 Gr.B Rect	Typical
28	M28	N49	N50		Corner Plate	Beam	BAR	A36 Gr.36	Typical
29	M29	N33	N37	240	RIGID	None	None	RIGID	Typical
30	M30	N32	N36	240	RIGID	None	None	RIGID	Typical
31	M31	N54	N32		Grating Support	Beam	Single Angle	A36 Gr.36	Typical
32	M32	N33	N56		Grating Support	Beam	Single Angle	A36 Gr.36	Typical
33	M33	N56	N57	240	RIGID	None	None	RIGID	Typical
34	M34	N39	N34		RIGID	None	None	RIGID	Typical
35	M35	N34	N40		RIGID	None	None	RIGID	Typical
36	M36	N38	N42		Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
37	M37	N42	N43		Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
38	M38	N43	N47		RIGID	None	None	RIGID	Typical
39	M39	N50	N44		Corner Plate	Beam	BAR	A36 Gr.36	Typical
40	M40	N44	N51		RIGID	None	None	RIGID	Typical
41	M41	N31	N41		Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
42	M42	N41	N45		Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
43	M43	N45	N48		RIGID	None	None	RIGID	Typical
44	M44	N49	N46		Corner Plate	Beam	BAR	A36 Gr.36	Typical
45	M45	N46	N52		RIGID	None	None	RIGID	Typical
46	M46	N57	N53		RIGID	None	None	RIGID	Typical
47	M47	N53	N55		RIGID	None	None	RIGID	Typical
48	M48	N54	N55	240	RIGID	None	None	RIGID	Typical
49	M49	N58	N63		Standoff Horizontal	Beam	SquareTube	A500 Gr.B Rect	Typical
50	M50	N66	N68		Platform Crossmember	Beam	SquareTube	A500 Gr.B Rect	Typical
51	M51	N67	N59		Platform Crossmember	Beam	SquareTube	A500 Gr.B Rect	Typical
52	M52	N77	N78		Corner Plate	Beam	BAR	A36 Gr.36	Typical
53	M53	N61	N65	240	RIGID	None	None	RIGID	Typical
54	M54	N60	N64	240	RIGID	None	None	RIGID	Typical
55	M55	N82	N60		Grating Support	Beam	Single Angle	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
56	M56	N61	N84		Grating Support	Beam	Single Angle	A36 Gr.36	Typical
57	M57	N84	N85	240	RIGID	None	None	RIGID	Typical
58	M58	N67	N62		RIGID	None	None	RIGID	Typical
59	M59	N62	N68		RIGID	None	None	RIGID	Typical
60	M60	N66	N70		Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
61	M61	N70	N71		Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
62	M62	N71	N75		RIGID	None	None	RIGID	Typical
63	M63	N78	N72		Corner Plate	Beam	BAR	A36 Gr.36	Typical
64	M64	N72	N79		RIGID	None	None	RIGID	Typical
65	M65	N59	N69		Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
66	M66	N69	N73		Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
67	M67	N73	N76		RIGID	None	None	RIGID	Typical
68	M68	N77	N74		Corner Plate	Beam	BAR	A36 Gr.36	Typical
69	M69	N74	N80		RIGID	None	None	RIGID	Typical
70	M70	N85	N81		RIGID	None	None	RIGID	Typical
71	M71	N81	N83		RIGID	None	None	RIGID	Typical
72	M72	N82	N83	240	RIGID	None	None	RIGID	Typical
73	M73	N86	N87		Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
74	M76	N92	N93		RIGID	None	None	RIGID	Typical
75	MP1A	N94	N95		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
76	M78	N96	N97		RIGID	None	None	RIGID	Typical
77	MP2A	N98	N99		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
78	M101	N142	N143		RIGID	None	None	RIGID	Typical
79	OVP	N144	N145		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
80	M101A	N142A	N143A		Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
81	M102A	N144A	N145A		Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
82	M83	N106	N107		RIGID	None	None	RIGID	Typical
83	MP3A	N108	N109		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
84	M85	N110	N111		RIGID	None	None	RIGID	Typical
85	MP4A	N112	N113		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
86	M87	N114	N115		RIGID	None	None	RIGID	Typical
87	1C	N116	N117		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
88	M89	N118	N119		RIGID	None	None	RIGID	Typical
89	C2	N120	N121		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
90	M91	N122	N123		RIGID	None	None	RIGID	Typical
91	3C	N124	N125		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
92	M93	N126	N127		RIGID	None	None	RIGID	Typical
93	4C	N128	N129		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
94	M95	N130	N131		RIGID	None	None	RIGID	Typical
95	MP1B	N132	N133		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
96	M97	N134	N135		RIGID	None	None	RIGID	Typical
97	MP2B	N136	N137		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
98	M99	N138	N139		RIGID	None	None	RIGID	Typical
99	MP3B	N140A	N141A		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
100	M101B	N142B	N143B		RIGID	None	None	RIGID	Typical
101	4B	N144B	N145B		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
102	M103	N148	N149		RIGID	None	None	RIGID	Typical
103	M104	N150	N151		RIGID	None	None	RIGID	Typical
104	M105	N152	N153		RIGID	None	None	RIGID	Typical
105	M106	N154	N155		RIGID	None	None	RIGID	Typical
106	M107	N147	N146		Mod Support Rail	Beam	Pipe	A53 Gr.B	Typical
107	M108	N158	N159		RIGID	None	None	RIGID	Typical
108	M109	N160	N161		RIGID	None	None	RIGID	Typical
109	M110	N162	N163		RIGID	None	None	RIGID	Typical
110	M111	N164	N165		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
111	M112	N157	N156		Mod Support Rail	Beam	Pipe	A53 Gr.B	Typical
112	M113	N168	N169		RIGID	None	None	RIGID	Typical
113	M114	N170	N171		RIGID	None	None	RIGID	Typical
114	M115	N172	N173		RIGID	None	None	RIGID	Typical
115	M116	N174	N175		RIGID	None	None	RIGID	Typical
116	M117	N167	N166		Mod Support Rail	Beam	Pipe	A53 Gr.B	Typical
117	M118	N176	N177		RIGID	None	None	RIGID	Typical
118	M119	N178	N179		RIGID	None	None	RIGID	Typical
119	M120	N180	N181		RIGID	None	None	RIGID	Typical
120	M121	N182	N183		RIGID	None	None	RIGID	Typical
121	M122	N184	N185		RIGID	None	None	RIGID	Typical
122	M123	N186	N187		RIGID	None	None	RIGID	Typical
123	M124	N185	N183	90	Mod Corner Angle	Beam	Single Angle	A36 Gr.36	Typical
124	M125	N177	N187	90	Mod Corner Angle	Beam	Single Angle	A36 Gr.36	Typical
125	M126	N181	N179	90	Mod Corner Angle	Beam	Single Angle	A36 Gr.36	Typical
126	MP1C	N194	N195		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
127	M131	N196	N197		Mod Pipe to Pipe	Column	Pipe	A53 Gr.B	Typical
128	M132	N198	N199		Mod Pipe to Pipe	Column	Pipe	A53 Gr.B	Typical
129	M133	N200	N201		Mod Pipe to Pipe	Column	Pipe	A53 Gr.B	Typical
130	M134	N202	N203		Mod Pipe to Pipe	Column	Pipe	A53 Gr.B	Typical
131	MP3C	N204	N205	240	Mount Pipe	Column	Pipe	A53 Gr.B	Typical
132	M136	N206	N207		Mod Pipe to Pipe	Column	Pipe	A53 Gr.B	Typical
133	M137	N208	N209		Mod Pipe to Pipe	Column	Pipe	A53 Gr.B	Typical
134	MP4C	N210	N211	240	Mount Pipe	Column	Pipe	A53 Gr.B	Typical
135	M139	N216	N213		Mod Pipe to Pipe	Column	Pipe	A53 Gr.B	Typical
136	M140	N217	N214		Mod Pipe to Pipe	Column	Pipe	A53 Gr.B	Typical
137	MP4B	N215	N212		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
138	OV1P	N218	N220		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
139	M141	N142	N219		RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	Col-Wall Vert Release	Physical	Deflection Ratio Options	Seismic DR
1	M1				Yes	N/A	None
2	M2				Yes	Default	None
3	M3				Yes	Default	None
4	M4				Yes	Default	None
5	M5				Yes	** NA **	None
6	M6				Yes	** NA **	None
7	M7	OOOOOX	OOOOOX		Yes	Default	None
8	M8	OOOOOX	OOOOOX		Yes	Default	None
9	M9				Yes	** NA **	None
10	M10				Yes	** NA **	None
11	M11				Yes	** NA **	None
12	M12				Yes	** NA **	None
13	M13				Yes	** NA **	None
14	M14		BenPIN		Yes	** NA **	None
15	M15				Yes	N/A	None
16	M16		BenPIN		Yes	** NA **	None
17	M17				Yes	** NA **	None
18	M18				Yes	** NA **	None
19	M19		BenPIN		Yes	** NA **	None
20	M20				Yes	N/A	None
21	M21		BenPIN		Yes	** NA **	None
22	M22				Yes	** NA **	None
23	M23				Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Col-Wall Vert Release	Physical	Deflection Ratio Options	Seismic DR
24	M24				Yes	** NA **	None
25	M25				Yes	N/A	None
26	M26				Yes	Default	None
27	M27				Yes	Default	None
28	M28				Yes	Default	None
29	M29				Yes	** NA **	None
30	M30				Yes	** NA **	None
31	M31	OOOOOX	OOOOOX		Yes	Default	None
32	M32	OOOOOX	OOOOOX		Yes	Default	None
33	M33				Yes	** NA **	None
34	M34				Yes	** NA **	None
35	M35				Yes	** NA **	None
36	M36				Yes	** NA **	None
37	M37				Yes	** NA **	None
38	M38		BenPIN		Yes	** NA **	None
39	M39				Yes	N/A	None
40	M40		BenPIN		Yes	** NA **	None
41	M41				Yes	** NA **	None
42	M42				Yes	** NA **	None
43	M43		BenPIN		Yes	** NA **	None
44	M44				Yes	N/A	None
45	M45		BenPIN		Yes	** NA **	None
46	M46				Yes	** NA **	None
47	M47				Yes	** NA **	None
48	M48				Yes	** NA **	None
49	M49				Yes	N/A	None
50	M50				Yes	Default	None
51	M51				Yes	Default	None
52	M52				Yes	Default	None
53	M53				Yes	** NA **	None
54	M54				Yes	** NA **	None
55	M55	OOOOOX	OOOOOX		Yes	Default	None
56	M56	OOOOOX	OOOOOX		Yes	Default	None
57	M57				Yes	** NA **	None
58	M58				Yes	** NA **	None
59	M59				Yes	** NA **	None
60	M60				Yes	** NA **	None
61	M61				Yes	** NA **	None
62	M62		BenPIN		Yes	** NA **	None
63	M63				Yes	N/A	None
64	M64		BenPIN		Yes	** NA **	None
65	M65				Yes	** NA **	None
66	M66				Yes	** NA **	None
67	M67		BenPIN		Yes	** NA **	None
68	M68				Yes	N/A	None
69	M69		BenPIN		Yes	** NA **	None
70	M70				Yes	** NA **	None
71	M71				Yes	** NA **	None
72	M72				Yes	** NA **	None
73	M73				Yes	N/A	None
74	M76				Yes	** NA **	None
75	MP1A				Yes	** NA **	None
76	M78				Yes	** NA **	None
77	MP2A				Yes	** NA **	None
78	M101				Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Col-Wall Vert Release	Physical	Deflection Ratio Options	Seismic DR
79	OVP				Yes	** NA **	None
80	M101A				Yes	N/A	None
81	M102A				Yes	N/A	None
82	M83				Yes	** NA **	None
83	MP3A				Yes	** NA **	None
84	M85				Yes	** NA **	None
85	MP4A				Yes	** NA **	None
86	M87				Yes	** NA **	None
87	1C				Yes	** NA **	None
88	M89				Yes	** NA **	None
89	C2				Yes	** NA **	None
90	M91				Yes	** NA **	None
91	3C				Yes	** NA **	None
92	M93				Yes	** NA **	None
93	4C				Yes	** NA **	None
94	M95				Yes	** NA **	None
95	MP1B				Yes	** NA **	None
96	M97				Yes	** NA **	None
97	MP2B				Yes	** NA **	None
98	M99				Yes	** NA **	None
99	MP3B				Yes	** NA **	None
100	M101B				Yes	** NA **	None
101	4B				Yes	** NA **	None
102	M103				Yes	** NA **	None
103	M104				Yes	** NA **	None
104	M105				Yes	** NA **	None
105	M106				Yes	** NA **	None
106	M107				Yes	N/A	None
107	M108				Yes	** NA **	None
108	M109				Yes	** NA **	None
109	M110				Yes	** NA **	None
110	M111				Yes	** NA **	None
111	M112				Yes	N/A	None
112	M113				Yes	** NA **	None
113	M114				Yes	** NA **	None
114	M115				Yes	** NA **	None
115	M116				Yes	** NA **	None
116	M117				Yes	N/A	None
117	M118	OOOOOX			Yes	** NA **	None
118	M119	OOOOOX			Yes	** NA **	None
119	M120	OOOOOX			Yes	** NA **	None
120	M121	OOOOOX			Yes	** NA **	None
121	M122	OOOOOX			Yes	** NA **	None
122	M123	OOOOOX			Yes	** NA **	None
123	M124				Yes	Default	None
124	M125				Yes	Default	None
125	M126				Yes	Default	None
126	MP1C				Yes	** NA **	None
127	M131				Yes	** NA **	None
128	M132				Yes	** NA **	None
129	M133				Yes	** NA **	None
130	M134				Yes	** NA **	None
131	MP3C				Yes	** NA **	None
132	M136				Yes	** NA **	None
133	M137				Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Col-Wall Vert Release	Physical	Deflection Ratio Options	Seismic DR
134	MP4C				Yes	** NA **	None
135	M139				Yes	** NA **	None
136	M140				Yes	** NA **	None
137	MP4B				Yes	** NA **	None
138	OVP1				Yes	** NA **	None
139	M141				Yes	** NA **	None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	Y	-74.7	2
2	MP1A	My	0.036	2
3	MP1A	Mz	0.008	2
4	MP1B	Y	-74.7	2
5	MP1B	My	-0.012	2
6	MP1B	Mz	0.035	2
7	MP2B	Y	-48.2	0
8	MP2B	My	0.066	0
9	MP2B	Mz	-0.02	0
10	MP2B	Y	-48.2	3
11	MP2B	My	0.066	3
12	MP2B	Mz	-0.02	3
13	MP2B	Y	-48.2	0
14	MP2B	My	-0.04	0
15	MP2B	Mz	-0.056	0
16	MP2B	Y	-48.2	3
17	MP2B	My	-0.04	3
18	MP2B	Mz	-0.056	3
19	OVP	Y	-26.9	1
20	OVP	My	0	1
21	OVP	Mz	0	1
22	OVP	Y	-26.9	1
23	OVP	My	0	1
24	OVP	Mz	0	1
25	MP1C	Y	-28.65	0
26	MP1C	My	0.024	0
27	MP1C	Mz	-0.002	0
28	MP1C	Y	-28.65	1.5
29	MP1C	My	0.024	1.5
30	MP1C	Mz	-0.002	1.5
31	MP3A	Y	-28.65	0
32	MP3A	My	-0.023	0
33	MP3A	Mz	-0.005	0
34	MP3A	Y	-28.65	1.5
35	MP3A	My	-0.023	1.5
36	MP3A	Mz	-0.005	1.5
37	MP3B	Y	-28.65	0
38	MP3B	My	0.008	0
39	MP3B	Mz	-0.023	0
40	MP3B	Y	-28.65	1.5
41	MP3B	My	0.008	1.5
42	MP3B	Mz	-0.023	1.5
43	MP4C	Y	-28.65	0
44	MP4C	My	0.002	0
45	MP4C	Mz	0.024	0
46	MP4C	Y	-28.65	1.5

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
47	MP4C	My	0.002	1.5
48	MP4C	Mz	0.024	1.5
49	MP2A	Y	-33.25	0
50	MP2A	My	-0.027	0
51	MP2A	Mz	-0.006	0
52	MP2A	Y	-33.25	4
53	MP2A	My	-0.027	4
54	MP2A	Mz	-0.006	4
55	MP3C	Y	-33.25	0
56	MP3C	My	0.028	0
57	MP3C	Mz	-0.002	0
58	MP3C	Y	-33.25	4
59	MP3C	My	0.028	4
60	MP3C	Mz	-0.002	4
61	MP4B	Y	-33.25	0
62	MP4B	My	0.028	0
63	MP4B	Mz	-0.002	0
64	MP4B	Y	-33.25	4
65	MP4B	My	0.028	4
66	MP4B	Mz	-0.002	4
67	MP2A	Y	-79.1	2
68	MP2A	My	0.039	2
69	MP2A	Mz	0.009	2
70	MP2B	Y	-79.1	2
71	MP2B	My	-0.013	2
72	MP2B	Mz	0.037	2
73	4B	Y	-79.1	2
74	4B	My	-0.036	2
75	4B	Mz	-0.017	2
76	1C	Y	-74.7	2
77	1C	My	0.036	2
78	1C	Mz	0.008	2
79	3C	Y	-74.7	2
80	3C	My	0.036	2
81	3C	Mz	0.008	2
82	4C	Y	-79.1	2
83	4C	My	0.039	2
84	4C	Mz	0.009	2

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	Y	-41.173	2
2	MP1A	My	0.02	2
3	MP1A	Mz	0.005	2
4	MP1B	Y	-41.173	2
5	MP1B	My	-0.007	2
6	MP1B	Mz	0.019	2
7	MP2B	Y	-70.334	0
8	MP2B	My	0.097	0
9	MP2B	Mz	-0.029	0
10	MP2B	Y	-70.334	3
11	MP2B	My	0.097	3
12	MP2B	Mz	-0.029	3
13	MP2B	Y	-70.334	0
14	MP2B	My	-0.059	0

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
15	MP2B	Mz	-0.082	0
16	MP2B	Y	-70.334	3
17	MP2B	My	-0.059	3
18	MP2B	Mz	-0.082	3
19	OVP	Y	-50.745	1
20	OVP	My	0	1
21	OVP	Mz	0	1
22	OVP	Y	-50.745	1
23	OVP	My	0	1
24	OVP	Mz	0	1
25	MP1C	Y	-27.324	0
26	MP1C	My	0.023	0
27	MP1C	Mz	-0.002	0
28	MP1C	Y	-27.324	1.5
29	MP1C	My	0.023	1.5
30	MP1C	Mz	-0.002	1.5
31	MP3A	Y	-27.324	0
32	MP3A	My	-0.022	0
33	MP3A	Mz	-0.005	0
34	MP3A	Y	-27.324	1.5
35	MP3A	My	-0.022	1.5
36	MP3A	Mz	-0.005	1.5
37	MP3B	Y	-27.324	0
38	MP3B	My	0.007	0
39	MP3B	Mz	-0.022	0
40	MP3B	Y	-27.324	1.5
41	MP3B	My	0.007	1.5
42	MP3B	Mz	-0.022	1.5
43	MP4C	Y	-27.324	0
44	MP4C	My	0.002	0
45	MP4C	Mz	0.023	0
46	MP4C	Y	-27.324	1.5
47	MP4C	My	0.002	1.5
48	MP4C	Mz	0.023	1.5
49	MP2A	Y	-65.724	0
50	MP2A	My	-0.053	0
51	MP2A	Mz	-0.012	0
52	MP2A	Y	-65.724	4
53	MP2A	My	-0.053	4
54	MP2A	Mz	-0.012	4
55	MP3C	Y	-65.724	0
56	MP3C	My	0.055	0
57	MP3C	Mz	-0.005	0
58	MP3C	Y	-65.724	4
59	MP3C	My	0.055	4
60	MP3C	Mz	-0.005	4
61	MP4B	Y	-65.724	0
62	MP4B	My	0.055	0
63	MP4B	Mz	-0.005	0
64	MP4B	Y	-65.724	4
65	MP4B	My	0.055	4
66	MP4B	Mz	-0.005	4
67	MP2A	Y	-41.612	2
68	MP2A	My	0.02	2
69	MP2A	Mz	0.005	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
70	MP2B	Y	-41.612	2
71	MP2B	My	-0.007	2
72	MP2B	Mz	0.02	2
73	4B	Y	-41.612	2
74	4B	My	-0.019	2
75	4B	Mz	-0.009	2
76	1C	Y	-41.173	2
77	1C	My	0.02	2
78	1C	Mz	0.005	2
79	3C	Y	-41.173	2
80	3C	My	0.02	2
81	3C	Mz	0.005	2
82	4C	Y	-41.612	2
83	4C	My	0.02	2
84	4C	Mz	0.005	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	0	2
2	MP1A	Z	-41.535	2
3	MP1A	Mx	-0.005	2
4	MP1B	X	0	2
5	MP1B	Z	-29.814	2
6	MP1B	Mx	-0.014	2
7	MP2B	X	0	0
8	MP2B	Z	-64.338	0
9	MP2B	Mx	0.026	0
10	MP2B	X	0	3
11	MP2B	Z	-64.338	3
12	MP2B	Mx	0.026	3
13	MP2B	X	0	0
14	MP2B	Z	-64.338	0
15	MP2B	Mx	0.075	0
16	MP2B	X	0	3
17	MP2B	Z	-64.338	3
18	MP2B	Mx	0.075	3
19	OVP	X	0	1
20	OVP	Z	-54.11	1
21	OVP	Mx	0	1
22	OVP	X	0	1
23	OVP	Z	-54.11	1
24	OVP	Mx	0	1
25	MP1C	X	0	0
26	MP1C	Z	-42.844	0
27	MP1C	Mx	0.003	0
28	MP1C	X	0	1.5
29	MP1C	Z	-42.844	1.5
30	MP1C	Mx	0.003	1.5
31	MP3A	X	0	0
32	MP3A	Z	-41.642	0
33	MP3A	Mx	0.008	0
34	MP3A	X	0	1.5
35	MP3A	Z	-41.642	1.5
36	MP3A	Mx	0.008	1.5
37	MP3B	X	0	0

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
38	MP3B	Z	-18.085	0
39	MP3B	Mx	0.014	0
40	MP3B	X	0	1.5
41	MP3B	Z	-18.085	1.5
42	MP3B	Mx	0.014	1.5
43	MP4C	X	0	0
44	MP4C	Z	-15.336	0
45	MP4C	Mx	-0.013	0
46	MP4C	X	0	1.5
47	MP4C	Z	-15.336	1.5
48	MP4C	Mx	-0.013	1.5
49	MP2A	X	0	0
50	MP2A	Z	-60.953	0
51	MP2A	Mx	0.011	0
52	MP2A	X	0	4
53	MP2A	Z	-60.953	4
54	MP2A	Mx	0.011	4
55	MP3C	X	0	0
56	MP3C	Z	-62.418	0
57	MP3C	Mx	0.005	0
58	MP3C	X	0	4
59	MP3C	Z	-62.418	4
60	MP3C	Mx	0.005	4
61	MP4B	X	0	0
62	MP4B	Z	-62.418	0
63	MP4B	Mx	0.005	0
64	MP4B	X	0	4
65	MP4B	Z	-62.418	4
66	MP4B	Mx	0.005	4
67	MP2A	X	0	2
68	MP2A	Z	-50.138	2
69	MP2A	Mx	-0.006	2
70	MP2B	X	0	2
71	MP2B	Z	-36.463	2
72	MP2B	Mx	-0.017	2
73	4B	X	0	2
74	4B	Z	-48.063	2
75	4B	Mx	0.01	2
76	1C	X	0	2
77	1C	Z	-41.535	2
78	1C	Mx	-0.005	2
79	3C	X	0	2
80	3C	Z	-41.535	2
81	3C	Mx	-0.005	2
82	4C	X	0	2
83	4C	Z	-50.138	2
84	4C	Mx	-0.006	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	20.525	2
2	MP1A	Z	-35.551	2
3	MP1A	Mx	0.006	2
4	MP1B	X	14.423	2
5	MP1B	Z	-24.982	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
6	MP1B	Mx	-0.014	2
7	MP2B	X	29.328	0
8	MP2B	Z	-50.797	0
9	MP2B	Mx	0.061	0
10	MP2B	X	29.328	3
11	MP2B	Z	-50.797	3
12	MP2B	Mx	0.061	3
13	MP2B	X	29.328	0
14	MP2B	Z	-50.797	0
15	MP2B	Mx	0.035	0
16	MP2B	X	29.328	3
17	MP2B	Z	-50.797	3
18	MP2B	Mx	0.035	3
19	OVP	X	22.481	1
20	OVP	Z	-38.938	1
21	OVP	Mx	0	1
22	OVP	X	22.481	1
23	OVP	Z	-38.938	1
24	OVP	Mx	0	1
25	MP1C	X	16.933	0
26	MP1C	Z	-29.329	0
27	MP1C	Mx	0.016	0
28	MP1C	X	16.933	1.5
29	MP1C	Z	-29.329	1.5
30	MP1C	Mx	0.016	1.5
31	MP3A	X	20.334	0
32	MP3A	Z	-35.22	0
33	MP3A	Mx	-0.01	0
34	MP3A	X	20.334	1.5
35	MP3A	Z	-35.22	1.5
36	MP3A	Mx	-0.01	1.5
37	MP3B	X	8.071	0
38	MP3B	Z	-13.979	0
39	MP3B	Mx	0.013	0
40	MP3B	X	8.071	1.5
41	MP3B	Z	-13.979	1.5
42	MP3B	Mx	0.013	1.5
43	MP4C	X	12.157	0
44	MP4C	Z	-21.056	0
45	MP4C	Mx	-0.017	0
46	MP4C	X	12.157	1.5
47	MP4C	Z	-21.056	1.5
48	MP4C	Mx	-0.017	1.5
49	MP2A	X	29.882	0
50	MP2A	Z	-51.758	0
51	MP2A	Mx	-0.015	0
52	MP2A	X	29.882	4
53	MP2A	Z	-51.758	4
54	MP2A	Mx	-0.015	4
55	MP3C	X	25.735	0
56	MP3C	Z	-44.574	0
57	MP3C	Mx	0.025	0
58	MP3C	X	25.735	4
59	MP3C	Z	-44.574	4
60	MP3C	Mx	0.025	4

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
61	MP4B	X	25.735	0
62	MP4B	Z	-44.574	0
63	MP4B	Mx	0.025	0
64	MP4B	X	25.735	4
65	MP4B	Z	-44.574	4
66	MP4B	Mx	0.025	4
67	MP2A	X	24.786	2
68	MP2A	Z	-42.931	2
69	MP2A	Mx	0.007	2
70	MP2B	X	17.667	2
71	MP2B	Z	-30.601	2
72	MP2B	Mx	-0.017	2
73	4B	X	25.418	2
74	4B	Z	-44.025	2
75	4B	Mx	-0.002	2
76	1C	X	20.525	2
77	1C	Z	-35.551	2
78	1C	Mx	0.006	2
79	3C	X	20.525	2
80	3C	Z	-35.551	2
81	3C	Mx	0.006	2
82	4C	X	24.786	2
83	4C	Z	-42.931	2
84	4C	Mx	0.007	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	30.142	2
2	MP1A	Z	-17.402	2
3	MP1A	Mx	0.013	2
4	MP1B	X	29.724	2
5	MP1B	Z	-17.161	2
6	MP1B	Mx	-0.013	2
7	MP2B	X	78.661	0
8	MP2B	Z	-45.415	0
9	MP2B	Mx	0.127	0
10	MP2B	X	78.661	3
11	MP2B	Z	-45.415	3
12	MP2B	Mx	0.127	3
13	MP2B	X	78.661	0
14	MP2B	Z	-45.415	0
15	MP2B	Mx	-0.012	0
16	MP2B	X	78.661	3
17	MP2B	Z	-45.415	3
18	MP2B	Mx	-0.012	3
19	OVP	X	40.734	1
20	OVP	Z	-23.518	1
21	OVP	Mx	0	1
22	OVP	X	40.734	1
23	OVP	Z	-23.518	1
24	OVP	Mx	0	1
25	MP1C	X	17.418	0
26	MP1C	Z	-10.056	0
27	MP1C	Mx	0.015	0
28	MP1C	X	17.418	1.5

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
29	MP1C	Z	-10.056	1.5
30	MP1C	Mx	0.015	1.5
31	MP3A	X	24.349	0
32	MP3A	Z	-14.058	0
33	MP3A	Mx	-0.017	0
34	MP3A	X	24.349	1.5
35	MP3A	Z	-14.058	1.5
36	MP3A	Mx	-0.017	1.5
37	MP3B	X	23.509	0
38	MP3B	Z	-13.573	0
39	MP3B	Mx	0.017	0
40	MP3B	X	23.509	1.5
41	MP3B	Z	-13.573	1.5
42	MP3B	Mx	0.017	1.5
43	MP4C	X	32.967	0
44	MP4C	Z	-19.034	0
45	MP4C	Mx	-0.013	0
46	MP4C	X	32.967	1.5
47	MP4C	Z	-19.034	1.5
48	MP4C	Mx	-0.013	1.5
49	MP2A	X	38.501	0
50	MP2A	Z	-22.228	0
51	MP2A	Mx	-0.027	0
52	MP2A	X	38.501	4
53	MP2A	Z	-22.228	4
54	MP2A	Mx	-0.027	4
55	MP3C	X	30.048	0
56	MP3C	Z	-17.348	0
57	MP3C	Mx	0.026	0
58	MP3C	X	30.048	4
59	MP3C	Z	-17.348	4
60	MP3C	Mx	0.026	4
61	MP4B	X	30.048	0
62	MP4B	Z	-17.348	0
63	MP4B	Mx	0.026	0
64	MP4B	X	30.048	4
65	MP4B	Z	-17.348	4
66	MP4B	Mx	0.026	4
67	MP2A	X	36.621	2
68	MP2A	Z	-21.143	2
69	MP2A	Mx	0.015	2
70	MP2B	X	36.133	2
71	MP2B	Z	-20.862	2
72	MP2B	Mx	-0.016	2
73	4B	X	39.512	2
74	4B	Z	-22.812	2
75	4B	Mx	-0.013	2
76	1C	X	30.142	2
77	1C	Z	-17.402	2
78	1C	Mx	0.013	2
79	3C	X	30.142	2
80	3C	Z	-17.402	2
81	3C	Mx	0.013	2
82	4C	X	36.621	2
83	4C	Z	-21.143	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
84	4C	Mx	0.015	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	29.044	2
2	MP1A	Z	0	2
3	MP1A	Mx	0.014	2
4	MP1B	X	40.765	2
5	MP1B	Z	0	2
6	MP1B	Mx	-0.007	2
7	MP2B	X	128.687	0
8	MP2B	Z	0	0
9	MP2B	Mx	0.177	0
10	MP2B	X	128.687	3
11	MP2B	Z	0	3
12	MP2B	Mx	0.177	3
13	MP2B	X	128.687	0
14	MP2B	Z	0	0
15	MP2B	Mx	-0.107	0
16	MP2B	X	128.687	3
17	MP2B	Z	0	3
18	MP2B	Mx	-0.107	3
19	OVP	X	58.258	1
20	OVP	Z	0	1
21	OVP	Mx	0	1
22	OVP	X	58.258	1
23	OVP	Z	0	1
24	OVP	Mx	0	1
25	MP1C	X	15.336	0
26	MP1C	Z	0	0
27	MP1C	Mx	0.013	0
28	MP1C	X	15.336	1.5
29	MP1C	Z	0	1.5
30	MP1C	Mx	0.013	1.5
31	MP3A	X	16.537	0
32	MP3A	Z	0	0
33	MP3A	Mx	-0.013	0
34	MP3A	X	16.537	1.5
35	MP3A	Z	0	1.5
36	MP3A	Mx	-0.013	1.5
37	MP3B	X	40.095	0
38	MP3B	Z	0	0
39	MP3B	Mx	0.011	0
40	MP3B	X	40.095	1.5
41	MP3B	Z	0	1.5
42	MP3B	Mx	0.011	1.5
43	MP4C	X	42.844	0
44	MP4C	Z	0	0
45	MP4C	Mx	0.003	0
46	MP4C	X	42.844	1.5
47	MP4C	Z	0	1.5
48	MP4C	Mx	0.003	1.5
49	MP2A	X	30.337	0
50	MP2A	Z	0	0
51	MP2A	Mx	-0.025	0

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
52	MP2A	X	30.337	4
53	MP2A	Z	0	4
54	MP2A	Mx	-0.025	4
55	MP3C	X	28.872	0
56	MP3C	Z	0	0
57	MP3C	Mx	0.024	0
58	MP3C	X	28.872	4
59	MP3C	Z	0	4
60	MP3C	Mx	0.024	4
61	MP4B	X	28.872	0
62	MP4B	Z	0	0
63	MP4B	Mx	0.024	0
64	MP4B	X	28.872	4
65	MP4B	Z	0	4
66	MP4B	Mx	0.024	4
67	MP2A	X	35.565	2
68	MP2A	Z	0	2
69	MP2A	Mx	0.017	2
70	MP2B	X	49.24	2
71	MP2B	Z	0	2
72	MP2B	Mx	-0.008	2
73	4B	X	37.64	2
74	4B	Z	0	2
75	4B	Mx	-0.017	2
76	1C	X	29.044	2
77	1C	Z	0	2
78	1C	Mx	0.014	2
79	3C	X	29.044	2
80	3C	Z	0	2
81	3C	Mx	0.014	2
82	4C	X	35.565	2
83	4C	Z	0	2
84	4C	Mx	0.017	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	25.573	2
2	MP1A	Z	14.764	2
3	MP1A	Mx	0.014	2
4	MP1B	X	36.141	2
5	MP1B	Z	20.866	2
6	MP1B	Mx	0.004	2
7	MP2B	X	116.368	0
8	MP2B	Z	67.185	0
9	MP2B	Mx	0.133	0
10	MP2B	X	116.368	3
11	MP2B	Z	67.185	3
12	MP2B	Mx	0.133	3
13	MP2B	X	116.368	0
14	MP2B	Z	67.185	0
15	MP2B	Mx	-0.175	0
16	MP2B	X	116.368	3
17	MP2B	Z	67.185	3
18	MP2B	Mx	-0.175	3
19	OVP	X	58.375	1

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
20	OVP	Z	33.703	1
21	OVP	Mx	0	1
22	OVP	X	58.375	1
23	OVP	Z	33.703	1
24	OVP	Mx	0	1
25	MP1C	X	21.056	0
26	MP1C	Z	12.157	0
27	MP1C	Mx	0.017	0
28	MP1C	X	21.056	1.5
29	MP1C	Z	12.157	1.5
30	MP1C	Mx	0.017	1.5
31	MP3A	X	15.166	0
32	MP3A	Z	8.756	0
33	MP3A	Mx	-0.014	0
34	MP3A	X	15.166	1.5
35	MP3A	Z	8.756	1.5
36	MP3A	Mx	-0.014	1.5
37	MP3B	X	36.407	0
38	MP3B	Z	21.019	0
39	MP3B	Mx	-0.007	0
40	MP3B	X	36.407	1.5
41	MP3B	Z	21.019	1.5
42	MP3B	Mx	-0.007	1.5
43	MP4C	X	29.329	0
44	MP4C	Z	16.933	0
45	MP4C	Mx	0.016	0
46	MP4C	X	29.329	1.5
47	MP4C	Z	16.933	1.5
48	MP4C	Mx	0.016	1.5
49	MP2A	X	27.301	0
50	MP2A	Z	15.762	0
51	MP2A	Mx	-0.025	0
52	MP2A	X	27.301	4
53	MP2A	Z	15.762	4
54	MP2A	Mx	-0.025	4
55	MP3C	X	34.485	0
56	MP3C	Z	19.91	0
57	MP3C	Mx	0.027	0
58	MP3C	X	34.485	4
59	MP3C	Z	19.91	4
60	MP3C	Mx	0.027	4
61	MP4B	X	34.485	0
62	MP4B	Z	19.91	0
63	MP4B	Mx	0.027	0
64	MP4B	X	34.485	4
65	MP4B	Z	19.91	4
66	MP4B	Mx	0.027	4
67	MP2A	X	31.29	2
68	MP2A	Z	18.065	2
69	MP2A	Mx	0.017	2
70	MP2B	X	43.62	2
71	MP2B	Z	25.184	2
72	MP2B	Mx	0.005	2
73	4B	X	30.196	2
74	4B	Z	17.434	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
75	4B	Mx	-0.017	2
76	1C	X	25.573	2
77	1C	Z	14.764	2
78	1C	Mx	0.014	2
79	3C	X	25.573	2
80	3C	Z	14.764	2
81	3C	Mx	0.014	2
82	4C	X	31.29	2
83	4C	Z	18.065	2
84	4C	Mx	0.017	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	17.887	2
2	MP1A	Z	30.981	2
3	MP1A	Mx	0.012	2
4	MP1B	X	18.128	2
5	MP1B	Z	31.399	2
6	MP1B	Mx	0.012	2
7	MP2B	X	51.097	0
8	MP2B	Z	88.503	0
9	MP2B	Mx	0.034	0
10	MP2B	X	51.097	3
11	MP2B	Z	88.503	3
12	MP2B	Mx	0.034	3
13	MP2B	X	51.097	0
14	MP2B	Z	88.503	0
15	MP2B	Mx	-0.146	0
16	MP2B	X	51.097	3
17	MP2B	Z	88.503	3
18	MP2B	Mx	-0.146	3
19	OVP	X	32.666	1
20	OVP	Z	56.579	1
21	OVP	Mx	0	1
22	OVP	X	32.666	1
23	OVP	Z	56.579	1
24	OVP	Mx	0	1
25	MP1C	X	19.034	0
26	MP1C	Z	32.967	0
27	MP1C	Mx	0.013	0
28	MP1C	X	19.034	1.5
29	MP1C	Z	32.967	1.5
30	MP1C	Mx	0.013	1.5
31	MP3A	X	15.032	0
32	MP3A	Z	26.036	0
33	MP3A	Mx	-0.017	0
34	MP3A	X	15.032	1.5
35	MP3A	Z	26.036	1.5
36	MP3A	Mx	-0.017	1.5
37	MP3B	X	15.517	0
38	MP3B	Z	26.876	0
39	MP3B	Mx	-0.017	0
40	MP3B	X	15.517	1.5
41	MP3B	Z	26.876	1.5
42	MP3B	Mx	-0.017	1.5

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
43	MP4C	X	10.056	0
44	MP4C	Z	17.418	0
45	MP4C	Mx	0.015	0
46	MP4C	X	10.056	1.5
47	MP4C	Z	17.418	1.5
48	MP4C	Mx	0.015	1.5
49	MP2A	X	23.416	0
50	MP2A	Z	40.558	0
51	MP2A	Mx	-0.027	0
52	MP2A	X	23.416	4
53	MP2A	Z	40.558	4
54	MP2A	Mx	-0.027	4
55	MP3C	X	28.296	0
56	MP3C	Z	49.01	0
57	MP3C	Mx	0.02	0
58	MP3C	X	28.296	4
59	MP3C	Z	49.01	4
60	MP3C	Mx	0.02	4
61	MP4B	X	28.296	0
62	MP4B	Z	49.01	0
63	MP4B	Mx	0.02	0
64	MP4B	X	28.296	4
65	MP4B	Z	49.01	4
66	MP4B	Mx	0.02	4
67	MP2A	X	21.709	2
68	MP2A	Z	37.6	2
69	MP2A	Mx	0.015	2
70	MP2B	X	21.99	2
71	MP2B	Z	38.088	2
72	MP2B	Mx	0.014	2
73	4B	X	20.039	2
74	4B	Z	34.709	2
75	4B	Mx	-0.016	2
76	1C	X	17.887	2
77	1C	Z	30.981	2
78	1C	Mx	0.012	2
79	3C	X	17.887	2
80	3C	Z	30.981	2
81	3C	Mx	0.012	2
82	4C	X	21.709	2
83	4C	Z	37.6	2
84	4C	Mx	0.015	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	0	2
2	MP1A	Z	41.535	2
3	MP1A	Mx	0.005	2
4	MP1B	X	0	2
5	MP1B	Z	29.814	2
6	MP1B	Mx	0.014	2
7	MP2B	X	0	0
8	MP2B	Z	64.338	0
9	MP2B	Mx	-0.026	0
10	MP2B	X	0	3

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
11	MP2B	Z	64.338	3
12	MP2B	Mx	-0.026	3
13	MP2B	X	0	0
14	MP2B	Z	64.338	0
15	MP2B	Mx	-0.075	0
16	MP2B	X	0	3
17	MP2B	Z	64.338	3
18	MP2B	Mx	-0.075	3
19	OVP	X	0	1
20	OVP	Z	54.11	1
21	OVP	Mx	0	1
22	OVP	X	0	1
23	OVP	Z	54.11	1
24	OVP	Mx	0	1
25	MP1C	X	0	0
26	MP1C	Z	42.844	0
27	MP1C	Mx	-0.003	0
28	MP1C	X	0	1.5
29	MP1C	Z	42.844	1.5
30	MP1C	Mx	-0.003	1.5
31	MP3A	X	0	0
32	MP3A	Z	41.642	0
33	MP3A	Mx	-0.008	0
34	MP3A	X	0	1.5
35	MP3A	Z	41.642	1.5
36	MP3A	Mx	-0.008	1.5
37	MP3B	X	0	0
38	MP3B	Z	18.085	0
39	MP3B	Mx	-0.014	0
40	MP3B	X	0	1.5
41	MP3B	Z	18.085	1.5
42	MP3B	Mx	-0.014	1.5
43	MP4C	X	0	0
44	MP4C	Z	15.336	0
45	MP4C	Mx	0.013	0
46	MP4C	X	0	1.5
47	MP4C	Z	15.336	1.5
48	MP4C	Mx	0.013	1.5
49	MP2A	X	0	0
50	MP2A	Z	60.953	0
51	MP2A	Mx	-0.011	0
52	MP2A	X	0	4
53	MP2A	Z	60.953	4
54	MP2A	Mx	-0.011	4
55	MP3C	X	0	0
56	MP3C	Z	62.418	0
57	MP3C	Mx	-0.005	0
58	MP3C	X	0	4
59	MP3C	Z	62.418	4
60	MP3C	Mx	-0.005	4
61	MP4B	X	0	0
62	MP4B	Z	62.418	0
63	MP4B	Mx	-0.005	0
64	MP4B	X	0	4
65	MP4B	Z	62.418	4

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
66	MP4B	Mx	-0.005	4
67	MP2A	X	0	2
68	MP2A	Z	50.138	2
69	MP2A	Mx	0.006	2
70	MP2B	X	0	2
71	MP2B	Z	36.463	2
72	MP2B	Mx	0.017	2
73	4B	X	0	2
74	4B	Z	48.063	2
75	4B	Mx	-0.01	2
76	1C	X	0	2
77	1C	Z	41.535	2
78	1C	Mx	0.005	2
79	3C	X	0	2
80	3C	Z	41.535	2
81	3C	Mx	0.005	2
82	4C	X	0	2
83	4C	Z	50.138	2
84	4C	Mx	0.006	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	-20.525	2
2	MP1A	Z	35.551	2
3	MP1A	Mx	-0.006	2
4	MP1B	X	-14.423	2
5	MP1B	Z	24.982	2
6	MP1B	Mx	0.014	2
7	MP2B	X	-29.328	0
8	MP2B	Z	50.797	0
9	MP2B	Mx	-0.061	0
10	MP2B	X	-29.328	3
11	MP2B	Z	50.797	3
12	MP2B	Mx	-0.061	3
13	MP2B	X	-29.328	0
14	MP2B	Z	50.797	0
15	MP2B	Mx	-0.035	0
16	MP2B	X	-29.328	3
17	MP2B	Z	50.797	3
18	MP2B	Mx	-0.035	3
19	OVP	X	-22.481	1
20	OVP	Z	38.938	1
21	OVP	Mx	0	1
22	OVP	X	-22.481	1
23	OVP	Z	38.938	1
24	OVP	Mx	0	1
25	MP1C	X	-16.933	0
26	MP1C	Z	29.329	0
27	MP1C	Mx	-0.016	0
28	MP1C	X	-16.933	1.5
29	MP1C	Z	29.329	1.5
30	MP1C	Mx	-0.016	1.5
31	MP3A	X	-20.334	0
32	MP3A	Z	35.22	0
33	MP3A	Mx	0.01	0

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

	Member Label	Direction	Magnitude [lb. k-ft]	Location [(ft, %)]
34	MP3A	X	-20.334	1.5
35	MP3A	Z	35.22	1.5
36	MP3A	Mx	0.01	1.5
37	MP3B	X	-8.071	0
38	MP3B	Z	13.979	0
39	MP3B	Mx	-0.013	0
40	MP3B	X	-8.071	1.5
41	MP3B	Z	13.979	1.5
42	MP3B	Mx	-0.013	1.5
43	MP4C	X	-12.157	0
44	MP4C	Z	21.056	0
45	MP4C	Mx	0.017	0
46	MP4C	X	-12.157	1.5
47	MP4C	Z	21.056	1.5
48	MP4C	Mx	0.017	1.5
49	MP2A	X	-29.882	0
50	MP2A	Z	51.758	0
51	MP2A	Mx	0.015	0
52	MP2A	X	-29.882	4
53	MP2A	Z	51.758	4
54	MP2A	Mx	0.015	4
55	MP3C	X	-25.735	0
56	MP3C	Z	44.574	0
57	MP3C	Mx	-0.025	0
58	MP3C	X	-25.735	4
59	MP3C	Z	44.574	4
60	MP3C	Mx	-0.025	4
61	MP4B	X	-25.735	0
62	MP4B	Z	44.574	0
63	MP4B	Mx	-0.025	0
64	MP4B	X	-25.735	4
65	MP4B	Z	44.574	4
66	MP4B	Mx	-0.025	4
67	MP2A	X	-24.786	2
68	MP2A	Z	42.931	2
69	MP2A	Mx	-0.007	2
70	MP2B	X	-17.667	2
71	MP2B	Z	30.601	2
72	MP2B	Mx	0.017	2
73	4B	X	-25.418	2
74	4B	Z	44.025	2
75	4B	Mx	0.002	2
76	1C	X	-20.525	2
77	1C	Z	35.551	2
78	1C	Mx	-0.006	2
79	3C	X	-20.525	2
80	3C	Z	35.551	2
81	3C	Mx	-0.006	2
82	4C	X	-24.786	2
83	4C	Z	42.931	2
84	4C	Mx	-0.007	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	-30.142	2
2	MP1A	Z	17.402	2
3	MP1A	Mx	-0.013	2
4	MP1B	X	-29.724	2
5	MP1B	Z	17.161	2
6	MP1B	Mx	0.013	2
7	MP2B	X	-78.661	0
8	MP2B	Z	45.415	0
9	MP2B	Mx	-0.127	0
10	MP2B	X	-78.661	3
11	MP2B	Z	45.415	3
12	MP2B	Mx	-0.127	3
13	MP2B	X	-78.661	0
14	MP2B	Z	45.415	0
15	MP2B	Mx	0.012	0
16	MP2B	X	-78.661	3
17	MP2B	Z	45.415	3
18	MP2B	Mx	0.012	3
19	OVP	X	-40.734	1
20	OVP	Z	23.518	1
21	OVP	Mx	0	1
22	OVP	X	-40.734	1
23	OVP	Z	23.518	1
24	OVP	Mx	0	1
25	MP1C	X	-17.418	0
26	MP1C	Z	10.056	0
27	MP1C	Mx	-0.015	0
28	MP1C	X	-17.418	1.5
29	MP1C	Z	10.056	1.5
30	MP1C	Mx	-0.015	1.5
31	MP3A	X	-24.349	0
32	MP3A	Z	14.058	0
33	MP3A	Mx	0.017	0
34	MP3A	X	-24.349	1.5
35	MP3A	Z	14.058	1.5
36	MP3A	Mx	0.017	1.5
37	MP3B	X	-23.509	0
38	MP3B	Z	13.573	0
39	MP3B	Mx	-0.017	0
40	MP3B	X	-23.509	1.5
41	MP3B	Z	13.573	1.5
42	MP3B	Mx	-0.017	1.5
43	MP4C	X	-32.967	0
44	MP4C	Z	19.034	0
45	MP4C	Mx	0.013	0
46	MP4C	X	-32.967	1.5
47	MP4C	Z	19.034	1.5
48	MP4C	Mx	0.013	1.5
49	MP2A	X	-38.501	0
50	MP2A	Z	22.228	0
51	MP2A	Mx	0.027	0
52	MP2A	X	-38.501	4
53	MP2A	Z	22.228	4
54	MP2A	Mx	0.027	4
55	MP3C	X	-30.048	0

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
56	MP3C	Z	17.348	0
57	MP3C	Mx	-0.026	0
58	MP3C	X	-30.048	4
59	MP3C	Z	17.348	4
60	MP3C	Mx	-0.026	4
61	MP4B	X	-30.048	0
62	MP4B	Z	17.348	0
63	MP4B	Mx	-0.026	0
64	MP4B	X	-30.048	4
65	MP4B	Z	17.348	4
66	MP4B	Mx	-0.026	4
67	MP2A	X	-36.621	2
68	MP2A	Z	21.143	2
69	MP2A	Mx	-0.015	2
70	MP2B	X	-36.133	2
71	MP2B	Z	20.862	2
72	MP2B	Mx	0.016	2
73	4B	X	-39.512	2
74	4B	Z	22.812	2
75	4B	Mx	0.013	2
76	1C	X	-30.142	2
77	1C	Z	17.402	2
78	1C	Mx	-0.013	2
79	3C	X	-30.142	2
80	3C	Z	17.402	2
81	3C	Mx	-0.013	2
82	4C	X	-36.621	2
83	4C	Z	21.143	2
84	4C	Mx	-0.015	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	-29.044	2
2	MP1A	Z	0	2
3	MP1A	Mx	-0.014	2
4	MP1B	X	-40.765	2
5	MP1B	Z	0	2
6	MP1B	Mx	0.007	2
7	MP2B	X	-128.687	0
8	MP2B	Z	0	0
9	MP2B	Mx	-0.177	0
10	MP2B	X	-128.687	3
11	MP2B	Z	0	3
12	MP2B	Mx	-0.177	3
13	MP2B	X	-128.687	0
14	MP2B	Z	0	0
15	MP2B	Mx	0.107	0
16	MP2B	X	-128.687	3
17	MP2B	Z	0	3
18	MP2B	Mx	0.107	3
19	OVP	X	-58.258	1
20	OVP	Z	0	1
21	OVP	Mx	0	1
22	OVP	X	-58.258	1
23	OVP	Z	0	1

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
24	OVP	Mx	0	1
25	MP1C	X	-15.336	0
26	MP1C	Z	0	0
27	MP1C	Mx	-0.013	0
28	MP1C	X	-15.336	1.5
29	MP1C	Z	0	1.5
30	MP1C	Mx	-0.013	1.5
31	MP3A	X	-16.537	0
32	MP3A	Z	0	0
33	MP3A	Mx	0.013	0
34	MP3A	X	-16.537	1.5
35	MP3A	Z	0	1.5
36	MP3A	Mx	0.013	1.5
37	MP3B	X	-40.095	0
38	MP3B	Z	0	0
39	MP3B	Mx	-0.011	0
40	MP3B	X	-40.095	1.5
41	MP3B	Z	0	1.5
42	MP3B	Mx	-0.011	1.5
43	MP4C	X	-42.844	0
44	MP4C	Z	0	0
45	MP4C	Mx	-0.003	0
46	MP4C	X	-42.844	1.5
47	MP4C	Z	0	1.5
48	MP4C	Mx	-0.003	1.5
49	MP2A	X	-30.337	0
50	MP2A	Z	0	0
51	MP2A	Mx	0.025	0
52	MP2A	X	-30.337	4
53	MP2A	Z	0	4
54	MP2A	Mx	0.025	4
55	MP3C	X	-28.872	0
56	MP3C	Z	0	0
57	MP3C	Mx	-0.024	0
58	MP3C	X	-28.872	4
59	MP3C	Z	0	4
60	MP3C	Mx	-0.024	4
61	MP4B	X	-28.872	0
62	MP4B	Z	0	0
63	MP4B	Mx	-0.024	0
64	MP4B	X	-28.872	4
65	MP4B	Z	0	4
66	MP4B	Mx	-0.024	4
67	MP2A	X	-35.565	2
68	MP2A	Z	0	2
69	MP2A	Mx	-0.017	2
70	MP2B	X	-49.24	2
71	MP2B	Z	0	2
72	MP2B	Mx	0.008	2
73	4B	X	-37.64	2
74	4B	Z	0	2
75	4B	Mx	0.017	2
76	1C	X	-29.044	2
77	1C	Z	0	2
78	1C	Mx	-0.014	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
79	3C	X	-29.044	2
80	3C	Z	0	2
81	3C	Mx	-0.014	2
82	4C	X	-35.565	2
83	4C	Z	0	2
84	4C	Mx	-0.017	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	-25.573	2
2	MP1A	Z	-14.764	2
3	MP1A	Mx	-0.014	2
4	MP1B	X	-36.141	2
5	MP1B	Z	-20.866	2
6	MP1B	Mx	-0.004	2
7	MP2B	X	-116.368	0
8	MP2B	Z	-67.185	0
9	MP2B	Mx	-0.133	0
10	MP2B	X	-116.368	3
11	MP2B	Z	-67.185	3
12	MP2B	Mx	-0.133	3
13	MP2B	X	-116.368	0
14	MP2B	Z	-67.185	0
15	MP2B	Mx	0.175	0
16	MP2B	X	-116.368	3
17	MP2B	Z	-67.185	3
18	MP2B	Mx	0.175	3
19	OVP	X	-58.375	1
20	OVP	Z	-33.703	1
21	OVP	Mx	0	1
22	OVP	X	-58.375	1
23	OVP	Z	-33.703	1
24	OVP	Mx	0	1
25	MP1C	X	-21.056	0
26	MP1C	Z	-12.157	0
27	MP1C	Mx	-0.017	0
28	MP1C	X	-21.056	1.5
29	MP1C	Z	-12.157	1.5
30	MP1C	Mx	-0.017	1.5
31	MP3A	X	-15.166	0
32	MP3A	Z	-8.756	0
33	MP3A	Mx	0.014	0
34	MP3A	X	-15.166	1.5
35	MP3A	Z	-8.756	1.5
36	MP3A	Mx	0.014	1.5
37	MP3B	X	-36.407	0
38	MP3B	Z	-21.019	0
39	MP3B	Mx	0.007	0
40	MP3B	X	-36.407	1.5
41	MP3B	Z	-21.019	1.5
42	MP3B	Mx	0.007	1.5
43	MP4C	X	-29.329	0
44	MP4C	Z	-16.933	0
45	MP4C	Mx	-0.016	0
46	MP4C	X	-29.329	1.5

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
47	MP4C	Z	-16.933	1.5
48	MP4C	Mx	-0.016	1.5
49	MP2A	X	-27.301	0
50	MP2A	Z	-15.762	0
51	MP2A	Mx	0.025	0
52	MP2A	X	-27.301	4
53	MP2A	Z	-15.762	4
54	MP2A	Mx	0.025	4
55	MP3C	X	-34.485	0
56	MP3C	Z	-19.91	0
57	MP3C	Mx	-0.027	0
58	MP3C	X	-34.485	4
59	MP3C	Z	-19.91	4
60	MP3C	Mx	-0.027	4
61	MP4B	X	-34.485	0
62	MP4B	Z	-19.91	0
63	MP4B	Mx	-0.027	0
64	MP4B	X	-34.485	4
65	MP4B	Z	-19.91	4
66	MP4B	Mx	-0.027	4
67	MP2A	X	-31.29	2
68	MP2A	Z	-18.065	2
69	MP2A	Mx	-0.017	2
70	MP2B	X	-43.62	2
71	MP2B	Z	-25.184	2
72	MP2B	Mx	-0.005	2
73	4B	X	-30.196	2
74	4B	Z	-17.434	2
75	4B	Mx	0.017	2
76	1C	X	-25.573	2
77	1C	Z	-14.764	2
78	1C	Mx	-0.014	2
79	3C	X	-25.573	2
80	3C	Z	-14.764	2
81	3C	Mx	-0.014	2
82	4C	X	-31.29	2
83	4C	Z	-18.065	2
84	4C	Mx	-0.017	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	-17.887	2
2	MP1A	Z	-30.981	2
3	MP1A	Mx	-0.012	2
4	MP1B	X	-18.128	2
5	MP1B	Z	-31.399	2
6	MP1B	Mx	-0.012	2
7	MP2B	X	-51.097	0
8	MP2B	Z	-88.503	0
9	MP2B	Mx	-0.034	0
10	MP2B	X	-51.097	3
11	MP2B	Z	-88.503	3
12	MP2B	Mx	-0.034	3
13	MP2B	X	-51.097	0
14	MP2B	Z	-88.503	0

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
15	MP2B	Mx	0.146	0
16	MP2B	X	-51.097	3
17	MP2B	Z	-88.503	3
18	MP2B	Mx	0.146	3
19	OVP	X	-32.666	1
20	OVP	Z	-56.579	1
21	OVP	Mx	0	1
22	OVP	X	-32.666	1
23	OVP	Z	-56.579	1
24	OVP	Mx	0	1
25	MP1C	X	-19.034	0
26	MP1C	Z	-32.967	0
27	MP1C	Mx	-0.013	0
28	MP1C	X	-19.034	1.5
29	MP1C	Z	-32.967	1.5
30	MP1C	Mx	-0.013	1.5
31	MP3A	X	-15.032	0
32	MP3A	Z	-26.036	0
33	MP3A	Mx	0.017	0
34	MP3A	X	-15.032	1.5
35	MP3A	Z	-26.036	1.5
36	MP3A	Mx	0.017	1.5
37	MP3B	X	-15.517	0
38	MP3B	Z	-26.876	0
39	MP3B	Mx	0.017	0
40	MP3B	X	-15.517	1.5
41	MP3B	Z	-26.876	1.5
42	MP3B	Mx	0.017	1.5
43	MP4C	X	-10.056	0
44	MP4C	Z	-17.418	0
45	MP4C	Mx	-0.015	0
46	MP4C	X	-10.056	1.5
47	MP4C	Z	-17.418	1.5
48	MP4C	Mx	-0.015	1.5
49	MP2A	X	-23.416	0
50	MP2A	Z	-40.558	0
51	MP2A	Mx	0.027	0
52	MP2A	X	-23.416	4
53	MP2A	Z	-40.558	4
54	MP2A	Mx	0.027	4
55	MP3C	X	-28.296	0
56	MP3C	Z	-49.01	0
57	MP3C	Mx	-0.02	0
58	MP3C	X	-28.296	4
59	MP3C	Z	-49.01	4
60	MP3C	Mx	-0.02	4
61	MP4B	X	-28.296	0
62	MP4B	Z	-49.01	0
63	MP4B	Mx	-0.02	0
64	MP4B	X	-28.296	4
65	MP4B	Z	-49.01	4
66	MP4B	Mx	-0.02	4
67	MP2A	X	-21.709	2
68	MP2A	Z	-37.6	2
69	MP2A	Mx	-0.015	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
70	MP2B	X	-21.99	2
71	MP2B	Z	-38.088	2
72	MP2B	Mx	-0.014	2
73	4B	X	-20.039	2
74	4B	Z	-34.709	2
75	4B	Mx	0.016	2
76	1C	X	-17.887	2
77	1C	Z	-30.981	2
78	1C	Mx	-0.012	2
79	3C	X	-17.887	2
80	3C	Z	-30.981	2
81	3C	Mx	-0.012	2
82	4C	X	-21.709	2
83	4C	Z	-37.6	2
84	4C	Mx	-0.015	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	0	2
2	MP1A	Z	-10.288	2
3	MP1A	Mx	-0.001	2
4	MP1B	X	0	2
5	MP1B	Z	-7.587	2
6	MP1B	Mx	-0.004	2
7	MP2B	X	0	0
8	MP2B	Z	-12.523	0
9	MP2B	Mx	0.005	0
10	MP2B	X	0	3
11	MP2B	Z	-12.523	3
12	MP2B	Mx	0.005	3
13	MP2B	X	0	0
14	MP2B	Z	-12.523	0
15	MP2B	Mx	0.015	0
16	MP2B	X	0	3
17	MP2B	Z	-12.523	3
18	MP2B	Mx	0.015	3
19	OVP	X	0	1
20	OVP	Z	-11.049	1
21	OVP	Mx	0	1
22	OVP	X	0	1
23	OVP	Z	-11.049	1
24	OVP	Mx	0	1
25	MP1C	X	0	0
26	MP1C	Z	-10.107	0
27	MP1C	Mx	0.000734	0
28	MP1C	X	0	1.5
29	MP1C	Z	-10.107	1.5
30	MP1C	Mx	0.000734	1.5
31	MP3A	X	0	0
32	MP3A	Z	-9.854	0
33	MP3A	Mx	0.002	0
34	MP3A	X	0	1.5
35	MP3A	Z	-9.854	1.5
36	MP3A	Mx	0.002	1.5
37	MP3B	X	0	0

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
38	MP3B	Z	-4.882	0
39	MP3B	Mx	0.004	0
40	MP3B	X	0	1.5
41	MP3B	Z	-4.882	1.5
42	MP3B	Mx	0.004	1.5
43	MP4C	X	0	0
44	MP4C	Z	-4.302	0
45	MP4C	Mx	-0.004	0
46	MP4C	X	0	1.5
47	MP4C	Z	-4.302	1.5
48	MP4C	Mx	-0.004	1.5
49	MP2A	X	0	0
50	MP2A	Z	-23.885	0
51	MP2A	Mx	0.004	0
52	MP2A	X	0	4
53	MP2A	Z	-23.885	4
54	MP2A	Mx	0.004	4
55	MP3C	X	0	0
56	MP3C	Z	-24.428	0
57	MP3C	Mx	0.002	0
58	MP3C	X	0	4
59	MP3C	Z	-24.428	4
60	MP3C	Mx	0.002	4
61	MP4B	X	0	0
62	MP4B	Z	-24.428	0
63	MP4B	Mx	0.002	0
64	MP4B	X	0	4
65	MP4B	Z	-24.428	4
66	MP4B	Mx	0.002	4
67	MP2A	X	0	2
68	MP2A	Z	-10.294	2
69	MP2A	Mx	-0.001	2
70	MP2B	X	0	2
71	MP2B	Z	-7.701	2
72	MP2B	Mx	-0.004	2
73	4B	X	0	2
74	4B	Z	-9.901	2
75	4B	Mx	0.002	2
76	1C	X	0	2
77	1C	Z	-10.288	2
78	1C	Mx	-0.001	2
79	3C	X	0	2
80	3C	Z	-10.288	2
81	3C	Mx	-0.001	2
82	4C	X	0	2
83	4C	Z	-10.294	2
84	4C	Mx	-0.001	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	5.088	2
2	MP1A	Z	-8.813	2
3	MP1A	Mx	0.001	2
4	MP1B	X	3.682	2
5	MP1B	Z	-6.377	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
6	MP1B	Mx	-0.004	2
7	MP2B	X	5.749	0
8	MP2B	Z	-9.957	0
9	MP2B	Mx	0.012	0
10	MP2B	X	5.749	3
11	MP2B	Z	-9.957	3
12	MP2B	Mx	0.012	3
13	MP2B	X	5.749	0
14	MP2B	Z	-9.957	0
15	MP2B	Mx	0.007	0
16	MP2B	X	5.749	3
17	MP2B	Z	-9.957	3
18	MP2B	Mx	0.007	3
19	OVP	X	4.679	1
20	OVP	Z	-8.105	1
21	OVP	Mx	0	1
22	OVP	X	4.679	1
23	OVP	Z	-8.105	1
24	OVP	Mx	0	1
25	MP1C	X	4.106	0
26	MP1C	Z	-7.112	0
27	MP1C	Mx	0.004	0
28	MP1C	X	4.106	1.5
29	MP1C	Z	-7.112	1.5
30	MP1C	Mx	0.004	1.5
31	MP3A	X	4.824	0
32	MP3A	Z	-8.356	0
33	MP3A	Mx	-0.002	0
34	MP3A	X	4.824	1.5
35	MP3A	Z	-8.356	1.5
36	MP3A	Mx	-0.002	1.5
37	MP3B	X	2.236	0
38	MP3B	Z	-3.873	0
39	MP3B	Mx	0.004	0
40	MP3B	X	2.236	1.5
41	MP3B	Z	-3.873	1.5
42	MP3B	Mx	0.004	1.5
43	MP4C	X	3.098	0
44	MP4C	Z	-5.366	0
45	MP4C	Mx	-0.004	0
46	MP4C	X	3.098	1.5
47	MP4C	Z	-5.366	1.5
48	MP4C	Mx	-0.004	1.5
49	MP2A	X	11.722	0
50	MP2A	Z	-20.304	0
51	MP2A	Mx	-0.006	0
52	MP2A	X	11.722	4
53	MP2A	Z	-20.304	4
54	MP2A	Mx	-0.006	4
55	MP3C	X	10.185	0
56	MP3C	Z	-17.641	0
57	MP3C	Mx	0.01	0
58	MP3C	X	10.185	4
59	MP3C	Z	-17.641	4
60	MP3C	Mx	0.01	4

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
61	MP4B	X	10.185	0
62	MP4B	Z	-17.641	0
63	MP4B	Mx	0.01	0
64	MP4B	X	10.185	4
65	MP4B	Z	-17.641	4
66	MP4B	Mx	0.01	4
67	MP2A	X	5.094	2
68	MP2A	Z	-8.822	2
69	MP2A	Mx	0.001	2
70	MP2B	X	3.744	2
71	MP2B	Z	-6.484	2
72	MP2B	Mx	-0.004	2
73	4B	X	5.213	2
74	4B	Z	-9.03	2
75	4B	Mx	-0.000454	2
76	1C	X	5.088	2
77	1C	Z	-8.813	2
78	1C	Mx	0.001	2
79	3C	X	5.088	2
80	3C	Z	-8.813	2
81	3C	Mx	0.001	2
82	4C	X	5.094	2
83	4C	Z	-8.822	2
84	4C	Mx	0.001	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	7.566	2
2	MP1A	Z	-4.369	2
3	MP1A	Mx	0.003	2
4	MP1B	X	7.47	2
5	MP1B	Z	-4.313	2
6	MP1B	Mx	-0.003	2
7	MP2B	X	14.985	0
8	MP2B	Z	-8.652	0
9	MP2B	Mx	0.024	0
10	MP2B	X	14.985	3
11	MP2B	Z	-8.652	3
12	MP2B	Mx	0.024	3
13	MP2B	X	14.985	0
14	MP2B	Z	-8.652	0
15	MP2B	Mx	-0.002	0
16	MP2B	X	14.985	3
17	MP2B	Z	-8.652	3
18	MP2B	Mx	-0.002	3
19	OVP	X	8.437	1
20	OVP	Z	-4.871	1
21	OVP	Mx	0	1
22	OVP	X	8.437	1
23	OVP	Z	-4.871	1
24	OVP	Mx	0	1
25	MP1C	X	4.599	0
26	MP1C	Z	-2.655	0
27	MP1C	Mx	0.004	0
28	MP1C	X	4.599	1.5

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
29	MP1C	Z	-2.655	1.5
30	MP1C	Mx	0.004	1.5
31	MP3A	X	6.061	0
32	MP3A	Z	-3.5	0
33	MP3A	Mx	-0.004	0
34	MP3A	X	6.061	1.5
35	MP3A	Z	-3.5	1.5
36	MP3A	Mx	-0.004	1.5
37	MP3B	X	5.884	0
38	MP3B	Z	-3.397	0
39	MP3B	Mx	0.004	0
40	MP3B	X	5.884	1.5
41	MP3B	Z	-3.397	1.5
42	MP3B	Mx	0.004	1.5
43	MP4C	X	7.88	0
44	MP4C	Z	-4.55	0
45	MP4C	Mx	-0.003	0
46	MP4C	X	7.88	1.5
47	MP4C	Z	-4.55	1.5
48	MP4C	Mx	-0.003	1.5
49	MP2A	X	15.39	0
50	MP2A	Z	-8.886	0
51	MP2A	Mx	-0.011	0
52	MP2A	X	15.39	4
53	MP2A	Z	-8.886	4
54	MP2A	Mx	-0.011	4
55	MP3C	X	12.258	0
56	MP3C	Z	-7.077	0
57	MP3C	Mx	0.011	0
58	MP3C	X	12.258	4
59	MP3C	Z	-7.077	4
60	MP3C	Mx	0.011	4
61	MP4B	X	12.258	0
62	MP4B	Z	-7.077	0
63	MP4B	Mx	0.011	0
64	MP4B	X	12.258	4
65	MP4B	Z	-7.077	4
66	MP4B	Mx	0.011	4
67	MP2A	X	7.626	2
68	MP2A	Z	-4.403	2
69	MP2A	Mx	0.003	2
70	MP2B	X	7.533	2
71	MP2B	Z	-4.349	2
72	MP2B	Mx	-0.003	2
73	4B	X	8.174	2
74	4B	Z	-4.719	2
75	4B	Mx	-0.003	2
76	1C	X	7.566	2
77	1C	Z	-4.369	2
78	1C	Mx	0.003	2
79	3C	X	7.566	2
80	3C	Z	-4.369	2
81	3C	Mx	0.003	2
82	4C	X	7.626	2
83	4C	Z	-4.403	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
84	4C	Mx	0.003	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	7.409	2
2	MP1A	Z	0	2
3	MP1A	Mx	0.004	2
4	MP1B	X	10.111	2
5	MP1B	Z	0	2
6	MP1B	Mx	-0.002	2
7	MP2B	X	24.134	0
8	MP2B	Z	0	0
9	MP2B	Mx	0.033	0
10	MP2B	X	24.134	3
11	MP2B	Z	0	3
12	MP2B	Mx	0.033	3
13	MP2B	X	24.134	0
14	MP2B	Z	0	0
15	MP2B	Mx	-0.02	0
16	MP2B	X	24.134	3
17	MP2B	Z	0	3
18	MP2B	Mx	-0.02	3
19	OVP	X	11.815	1
20	OVP	Z	0	1
21	OVP	Mx	0	1
22	OVP	X	11.815	1
23	OVP	Z	0	1
24	OVP	Mx	0	1
25	MP1C	X	4.302	0
26	MP1C	Z	0	0
27	MP1C	Mx	0.004	0
28	MP1C	X	4.302	1.5
29	MP1C	Z	0	1.5
30	MP1C	Mx	0.004	1.5
31	MP3A	X	4.555	0
32	MP3A	Z	0	0
33	MP3A	Mx	-0.004	0
34	MP3A	X	4.555	1.5
35	MP3A	Z	0	1.5
36	MP3A	Mx	-0.004	1.5
37	MP3B	X	9.527	0
38	MP3B	Z	0	0
39	MP3B	Mx	0.003	0
40	MP3B	X	9.527	1.5
41	MP3B	Z	0	1.5
42	MP3B	Mx	0.003	1.5
43	MP4C	X	10.107	0
44	MP4C	Z	0	0
45	MP4C	Mx	0.000734	0
46	MP4C	X	10.107	1.5
47	MP4C	Z	0	1.5
48	MP4C	Mx	0.000734	1.5
49	MP2A	X	12.538	0
50	MP2A	Z	0	0
51	MP2A	Mx	-0.01	0

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
52	MP2A	X	12.538	4
53	MP2A	Z	0	4
54	MP2A	Mx	-0.01	4
55	MP3C	X	11.995	0
56	MP3C	Z	0	0
57	MP3C	Mx	0.01	0
58	MP3C	X	11.995	4
59	MP3C	Z	0	4
60	MP3C	Mx	0.01	4
61	MP4B	X	11.995	0
62	MP4B	Z	0	0
63	MP4B	Mx	0.01	0
64	MP4B	X	11.995	4
65	MP4B	Z	0	4
66	MP4B	Mx	0.01	4
67	MP2A	X	7.531	2
68	MP2A	Z	0	2
69	MP2A	Mx	0.004	2
70	MP2B	X	10.124	2
71	MP2B	Z	0	2
72	MP2B	Mx	-0.002	2
73	4B	X	7.925	2
74	4B	Z	0	2
75	4B	Mx	-0.004	2
76	1C	X	7.409	2
77	1C	Z	0	2
78	1C	Mx	0.004	2
79	3C	X	7.409	2
80	3C	Z	0	2
81	3C	Mx	0.004	2
82	4C	X	7.531	2
83	4C	Z	0	2
84	4C	Mx	0.004	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	6.514	2
2	MP1A	Z	3.761	2
3	MP1A	Mx	0.004	2
4	MP1B	X	8.949	2
5	MP1B	Z	5.167	2
6	MP1B	Mx	0.000986	2
7	MP2B	X	21.788	0
8	MP2B	Z	12.58	0
9	MP2B	Mx	0.025	0
10	MP2B	X	21.788	3
11	MP2B	Z	12.58	3
12	MP2B	Mx	0.025	3
13	MP2B	X	21.788	0
14	MP2B	Z	12.58	0
15	MP2B	Mx	-0.033	0
16	MP2B	X	21.788	3
17	MP2B	Z	12.58	3
18	MP2B	Mx	-0.033	3
19	OVP	X	11.695	1

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
20	OVP	Z	6.752	1
21	OVP	Mx	0	1
22	OVP	X	11.695	1
23	OVP	Z	6.752	1
24	OVP	Mx	0	1
25	MP1C	X	5.366	0
26	MP1C	Z	3.098	0
27	MP1C	Mx	0.004	0
28	MP1C	X	5.366	1.5
29	MP1C	Z	3.098	1.5
30	MP1C	Mx	0.004	1.5
31	MP3A	X	4.123	0
32	MP3A	Z	2.381	0
33	MP3A	Mx	-0.004	0
34	MP3A	X	4.123	1.5
35	MP3A	Z	2.381	1.5
36	MP3A	Mx	-0.004	1.5
37	MP3B	X	8.606	0
38	MP3B	Z	4.969	0
39	MP3B	Mx	-0.002	0
40	MP3B	X	8.606	1.5
41	MP3B	Z	4.969	1.5
42	MP3B	Mx	-0.002	1.5
43	MP4C	X	7.112	0
44	MP4C	Z	4.106	0
45	MP4C	Mx	0.004	0
46	MP4C	X	7.112	1.5
47	MP4C	Z	4.106	1.5
48	MP4C	Mx	0.004	1.5
49	MP2A	X	11.239	0
50	MP2A	Z	6.489	0
51	MP2A	Mx	-0.01	0
52	MP2A	X	11.239	4
53	MP2A	Z	6.489	4
54	MP2A	Mx	-0.01	4
55	MP3C	X	13.902	0
56	MP3C	Z	8.026	0
57	MP3C	Mx	0.011	0
58	MP3C	X	13.902	4
59	MP3C	Z	8.026	4
60	MP3C	Mx	0.011	4
61	MP4B	X	13.902	0
62	MP4B	Z	8.026	0
63	MP4B	Mx	0.011	0
64	MP4B	X	13.902	4
65	MP4B	Z	8.026	4
66	MP4B	Mx	0.011	4
67	MP2A	X	6.615	2
68	MP2A	Z	3.819	2
69	MP2A	Mx	0.004	2
70	MP2B	X	8.953	2
71	MP2B	Z	5.169	2
72	MP2B	Mx	0.000986	2
73	4B	X	6.408	2
74	4B	Z	3.699	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
75	4B	Mx	-0.004	2
76	1C	X	6.514	2
77	1C	Z	3.761	2
78	1C	Mx	0.004	2
79	3C	X	6.514	2
80	3C	Z	3.761	2
81	3C	Mx	0.004	2
82	4C	X	6.615	2
83	4C	Z	3.819	2
84	4C	Mx	0.004	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	4.48	2
2	MP1A	Z	7.76	2
3	MP1A	Mx	0.003	2
4	MP1B	X	4.536	2
5	MP1B	Z	7.856	2
6	MP1B	Mx	0.003	2
7	MP2B	X	9.677	0
8	MP2B	Z	16.761	0
9	MP2B	Mx	0.006	0
10	MP2B	X	9.677	3
11	MP2B	Z	16.761	3
12	MP2B	Mx	0.006	3
13	MP2B	X	9.677	0
14	MP2B	Z	16.761	0
15	MP2B	Mx	-0.028	0
16	MP2B	X	9.677	3
17	MP2B	Z	16.761	3
18	MP2B	Mx	-0.028	3
19	OVP	X	6.561	1
20	OVP	Z	11.364	1
21	OVP	Mx	0	1
22	OVP	X	6.561	1
23	OVP	Z	11.364	1
24	OVP	Mx	0	1
25	MP1C	X	4.55	0
26	MP1C	Z	7.88	0
27	MP1C	Mx	0.003	0
28	MP1C	X	4.55	1.5
29	MP1C	Z	7.88	1.5
30	MP1C	Mx	0.003	1.5
31	MP3A	X	3.705	0
32	MP3A	Z	6.417	0
33	MP3A	Mx	-0.004	0
34	MP3A	X	3.705	1.5
35	MP3A	Z	6.417	1.5
36	MP3A	Mx	-0.004	1.5
37	MP3B	X	3.807	0
38	MP3B	Z	6.595	0
39	MP3B	Mx	-0.004	0
40	MP3B	X	3.807	1.5
41	MP3B	Z	6.595	1.5
42	MP3B	Mx	-0.004	1.5

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
43	MP4C	X	2.655	0
44	MP4C	Z	4.599	0
45	MP4C	Mx	0.004	0
46	MP4C	X	2.655	1.5
47	MP4C	Z	4.599	1.5
48	MP4C	Mx	0.004	1.5
49	MP2A	X	9.326	0
50	MP2A	Z	16.153	0
51	MP2A	Mx	-0.011	0
52	MP2A	X	9.326	4
53	MP2A	Z	16.153	4
54	MP2A	Mx	-0.011	4
55	MP3C	X	11.135	0
56	MP3C	Z	19.286	0
57	MP3C	Mx	0.008	0
58	MP3C	X	11.135	4
59	MP3C	Z	19.286	4
60	MP3C	Mx	0.008	4
61	MP4B	X	11.135	0
62	MP4B	Z	19.286	0
63	MP4B	Mx	0.008	0
64	MP4B	X	11.135	4
65	MP4B	Z	19.286	4
66	MP4B	Mx	0.008	4
67	MP2A	X	4.51	2
68	MP2A	Z	7.812	2
69	MP2A	Mx	0.003	2
70	MP2B	X	4.563	2
71	MP2B	Z	7.904	2
72	MP2B	Mx	0.003	2
73	4B	X	4.193	2
74	4B	Z	7.263	2
75	4B	Mx	-0.003	2
76	1C	X	4.48	2
77	1C	Z	7.76	2
78	1C	Mx	0.003	2
79	3C	X	4.48	2
80	3C	Z	7.76	2
81	3C	Mx	0.003	2
82	4C	X	4.51	2
83	4C	Z	7.812	2
84	4C	Mx	0.003	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	0	2
2	MP1A	Z	10.288	2
3	MP1A	Mx	0.001	2
4	MP1B	X	0	2
5	MP1B	Z	7.587	2
6	MP1B	Mx	0.004	2
7	MP2B	X	0	0
8	MP2B	Z	12.523	0
9	MP2B	Mx	-0.005	0
10	MP2B	X	0	3

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
11	MP2B	Z	12.523	3
12	MP2B	Mx	-0.005	3
13	MP2B	X	0	0
14	MP2B	Z	12.523	0
15	MP2B	Mx	-0.015	0
16	MP2B	X	0	3
17	MP2B	Z	12.523	3
18	MP2B	Mx	-0.015	3
19	OVP	X	0	1
20	OVP	Z	11.049	1
21	OVP	Mx	0	1
22	OVP	X	0	1
23	OVP	Z	11.049	1
24	OVP	Mx	0	1
25	MP1C	X	0	0
26	MP1C	Z	10.107	0
27	MP1C	Mx	-0.000734	0
28	MP1C	X	0	1.5
29	MP1C	Z	10.107	1.5
30	MP1C	Mx	-0.000734	1.5
31	MP3A	X	0	0
32	MP3A	Z	9.854	0
33	MP3A	Mx	-0.002	0
34	MP3A	X	0	1.5
35	MP3A	Z	9.854	1.5
36	MP3A	Mx	-0.002	1.5
37	MP3B	X	0	0
38	MP3B	Z	4.882	0
39	MP3B	Mx	-0.004	0
40	MP3B	X	0	1.5
41	MP3B	Z	4.882	1.5
42	MP3B	Mx	-0.004	1.5
43	MP4C	X	0	0
44	MP4C	Z	4.302	0
45	MP4C	Mx	0.004	0
46	MP4C	X	0	1.5
47	MP4C	Z	4.302	1.5
48	MP4C	Mx	0.004	1.5
49	MP2A	X	0	0
50	MP2A	Z	23.885	0
51	MP2A	Mx	-0.004	0
52	MP2A	X	0	4
53	MP2A	Z	23.885	4
54	MP2A	Mx	-0.004	4
55	MP3C	X	0	0
56	MP3C	Z	24.428	0
57	MP3C	Mx	-0.002	0
58	MP3C	X	0	4
59	MP3C	Z	24.428	4
60	MP3C	Mx	-0.002	4
61	MP4B	X	0	0
62	MP4B	Z	24.428	0
63	MP4B	Mx	-0.002	0
64	MP4B	X	0	4
65	MP4B	Z	24.428	4

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
66	MP4B	Mx	-0.002	4
67	MP2A	X	0	2
68	MP2A	Z	10.294	2
69	MP2A	Mx	0.001	2
70	MP2B	X	0	2
71	MP2B	Z	7.701	2
72	MP2B	Mx	0.004	2
73	4B	X	0	2
74	4B	Z	9.901	2
75	4B	Mx	-0.002	2
76	1C	X	0	2
77	1C	Z	10.288	2
78	1C	Mx	0.001	2
79	3C	X	0	2
80	3C	Z	10.288	2
81	3C	Mx	0.001	2
82	4C	X	0	2
83	4C	Z	10.294	2
84	4C	Mx	0.001	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	-5.088	2
2	MP1A	Z	8.813	2
3	MP1A	Mx	-0.001	2
4	MP1B	X	-3.682	2
5	MP1B	Z	6.377	2
6	MP1B	Mx	0.004	2
7	MP2B	X	-5.749	0
8	MP2B	Z	9.957	0
9	MP2B	Mx	-0.012	0
10	MP2B	X	-5.749	3
11	MP2B	Z	9.957	3
12	MP2B	Mx	-0.012	3
13	MP2B	X	-5.749	0
14	MP2B	Z	9.957	0
15	MP2B	Mx	-0.007	0
16	MP2B	X	-5.749	3
17	MP2B	Z	9.957	3
18	MP2B	Mx	-0.007	3
19	OVP	X	-4.679	1
20	OVP	Z	8.105	1
21	OVP	Mx	0	1
22	OVP	X	-4.679	1
23	OVP	Z	8.105	1
24	OVP	Mx	0	1
25	MP1C	X	-4.106	0
26	MP1C	Z	7.112	0
27	MP1C	Mx	-0.004	0
28	MP1C	X	-4.106	1.5
29	MP1C	Z	7.112	1.5
30	MP1C	Mx	-0.004	1.5
31	MP3A	X	-4.824	0
32	MP3A	Z	8.356	0
33	MP3A	Mx	0.002	0

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
34	MP3A	X	-4.824	1.5
35	MP3A	Z	8.356	1.5
36	MP3A	Mx	0.002	1.5
37	MP3B	X	-2.236	0
38	MP3B	Z	3.873	0
39	MP3B	Mx	-0.004	0
40	MP3B	X	-2.236	1.5
41	MP3B	Z	3.873	1.5
42	MP3B	Mx	-0.004	1.5
43	MP4C	X	-3.098	0
44	MP4C	Z	5.366	0
45	MP4C	Mx	0.004	0
46	MP4C	X	-3.098	1.5
47	MP4C	Z	5.366	1.5
48	MP4C	Mx	0.004	1.5
49	MP2A	X	-11.722	0
50	MP2A	Z	20.304	0
51	MP2A	Mx	0.006	0
52	MP2A	X	-11.722	4
53	MP2A	Z	20.304	4
54	MP2A	Mx	0.006	4
55	MP3C	X	-10.185	0
56	MP3C	Z	17.641	0
57	MP3C	Mx	-0.01	0
58	MP3C	X	-10.185	4
59	MP3C	Z	17.641	4
60	MP3C	Mx	-0.01	4
61	MP4B	X	-10.185	0
62	MP4B	Z	17.641	0
63	MP4B	Mx	-0.01	0
64	MP4B	X	-10.185	4
65	MP4B	Z	17.641	4
66	MP4B	Mx	-0.01	4
67	MP2A	X	-5.094	2
68	MP2A	Z	8.822	2
69	MP2A	Mx	-0.001	2
70	MP2B	X	-3.744	2
71	MP2B	Z	6.484	2
72	MP2B	Mx	0.004	2
73	4B	X	-5.213	2
74	4B	Z	9.03	2
75	4B	Mx	0.000454	2
76	1C	X	-5.088	2
77	1C	Z	8.813	2
78	1C	Mx	-0.001	2
79	3C	X	-5.088	2
80	3C	Z	8.813	2
81	3C	Mx	-0.001	2
82	4C	X	-5.094	2
83	4C	Z	8.822	2
84	4C	Mx	-0.001	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	-7.566	2
2	MP1A	Z	4.369	2
3	MP1A	Mx	-0.003	2
4	MP1B	X	-7.47	2
5	MP1B	Z	4.313	2
6	MP1B	Mx	0.003	2
7	MP2B	X	-14.985	0
8	MP2B	Z	8.652	0
9	MP2B	Mx	-0.024	0
10	MP2B	X	-14.985	3
11	MP2B	Z	8.652	3
12	MP2B	Mx	-0.024	3
13	MP2B	X	-14.985	0
14	MP2B	Z	8.652	0
15	MP2B	Mx	0.002	0
16	MP2B	X	-14.985	3
17	MP2B	Z	8.652	3
18	MP2B	Mx	0.002	3
19	OVP	X	-8.437	1
20	OVP	Z	4.871	1
21	OVP	Mx	0	1
22	OVP	X	-8.437	1
23	OVP	Z	4.871	1
24	OVP	Mx	0	1
25	MP1C	X	-4.599	0
26	MP1C	Z	2.655	0
27	MP1C	Mx	-0.004	0
28	MP1C	X	-4.599	1.5
29	MP1C	Z	2.655	1.5
30	MP1C	Mx	-0.004	1.5
31	MP3A	X	-6.061	0
32	MP3A	Z	3.5	0
33	MP3A	Mx	0.004	0
34	MP3A	X	-6.061	1.5
35	MP3A	Z	3.5	1.5
36	MP3A	Mx	0.004	1.5
37	MP3B	X	-5.884	0
38	MP3B	Z	3.397	0
39	MP3B	Mx	-0.004	0
40	MP3B	X	-5.884	1.5
41	MP3B	Z	3.397	1.5
42	MP3B	Mx	-0.004	1.5
43	MP4C	X	-7.88	0
44	MP4C	Z	4.55	0
45	MP4C	Mx	0.003	0
46	MP4C	X	-7.88	1.5
47	MP4C	Z	4.55	1.5
48	MP4C	Mx	0.003	1.5
49	MP2A	X	-15.39	0
50	MP2A	Z	8.886	0
51	MP2A	Mx	0.011	0
52	MP2A	X	-15.39	4
53	MP2A	Z	8.886	4
54	MP2A	Mx	0.011	4
55	MP3C	X	-12.258	0

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
56	MP3C	Z	7.077	0
57	MP3C	Mx	-0.011	0
58	MP3C	X	-12.258	4
59	MP3C	Z	7.077	4
60	MP3C	Mx	-0.011	4
61	MP4B	X	-12.258	0
62	MP4B	Z	7.077	0
63	MP4B	Mx	-0.011	0
64	MP4B	X	-12.258	4
65	MP4B	Z	7.077	4
66	MP4B	Mx	-0.011	4
67	MP2A	X	-7.626	2
68	MP2A	Z	4.403	2
69	MP2A	Mx	-0.003	2
70	MP2B	X	-7.533	2
71	MP2B	Z	4.349	2
72	MP2B	Mx	0.003	2
73	4B	X	-8.174	2
74	4B	Z	4.719	2
75	4B	Mx	0.003	2
76	1C	X	-7.566	2
77	1C	Z	4.369	2
78	1C	Mx	-0.003	2
79	3C	X	-7.566	2
80	3C	Z	4.369	2
81	3C	Mx	-0.003	2
82	4C	X	-7.626	2
83	4C	Z	4.403	2
84	4C	Mx	-0.003	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	-7.409	2
2	MP1A	Z	0	2
3	MP1A	Mx	-0.004	2
4	MP1B	X	-10.111	2
5	MP1B	Z	0	2
6	MP1B	Mx	0.002	2
7	MP2B	X	-24.134	0
8	MP2B	Z	0	0
9	MP2B	Mx	-0.033	0
10	MP2B	X	-24.134	3
11	MP2B	Z	0	3
12	MP2B	Mx	-0.033	3
13	MP2B	X	-24.134	0
14	MP2B	Z	0	0
15	MP2B	Mx	0.02	0
16	MP2B	X	-24.134	3
17	MP2B	Z	0	3
18	MP2B	Mx	0.02	3
19	OVP	X	-11.815	1
20	OVP	Z	0	1
21	OVP	Mx	0	1
22	OVP	X	-11.815	1
23	OVP	Z	0	1

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
24	OVP	Mx	0	1
25	MP1C	X	-4.302	0
26	MP1C	Z	0	0
27	MP1C	Mx	-0.004	0
28	MP1C	X	-4.302	1.5
29	MP1C	Z	0	1.5
30	MP1C	Mx	-0.004	1.5
31	MP3A	X	-4.555	0
32	MP3A	Z	0	0
33	MP3A	Mx	0.004	0
34	MP3A	X	-4.555	1.5
35	MP3A	Z	0	1.5
36	MP3A	Mx	0.004	1.5
37	MP3B	X	-9.527	0
38	MP3B	Z	0	0
39	MP3B	Mx	-0.003	0
40	MP3B	X	-9.527	1.5
41	MP3B	Z	0	1.5
42	MP3B	Mx	-0.003	1.5
43	MP4C	X	-10.107	0
44	MP4C	Z	0	0
45	MP4C	Mx	-0.000734	0
46	MP4C	X	-10.107	1.5
47	MP4C	Z	0	1.5
48	MP4C	Mx	-0.000734	1.5
49	MP2A	X	-12.538	0
50	MP2A	Z	0	0
51	MP2A	Mx	0.01	0
52	MP2A	X	-12.538	4
53	MP2A	Z	0	4
54	MP2A	Mx	0.01	4
55	MP3C	X	-11.995	0
56	MP3C	Z	0	0
57	MP3C	Mx	-0.01	0
58	MP3C	X	-11.995	4
59	MP3C	Z	0	4
60	MP3C	Mx	-0.01	4
61	MP4B	X	-11.995	0
62	MP4B	Z	0	0
63	MP4B	Mx	-0.01	0
64	MP4B	X	-11.995	4
65	MP4B	Z	0	4
66	MP4B	Mx	-0.01	4
67	MP2A	X	-7.531	2
68	MP2A	Z	0	2
69	MP2A	Mx	-0.004	2
70	MP2B	X	-10.124	2
71	MP2B	Z	0	2
72	MP2B	Mx	0.002	2
73	4B	X	-7.925	2
74	4B	Z	0	2
75	4B	Mx	0.004	2
76	1C	X	-7.409	2
77	1C	Z	0	2
78	1C	Mx	-0.004	2



Company :
 Designer :
 Job Number :
 Model Name :

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
79	3C	X	-7.409	2
80	3C	Z	0	2
81	3C	Mx	-0.004	2
82	4C	X	-7.531	2
83	4C	Z	0	2
84	4C	Mx	-0.004	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	-6.514	2
2	MP1A	Z	-3.761	2
3	MP1A	Mx	-0.004	2
4	MP1B	X	-8.949	2
5	MP1B	Z	-5.167	2
6	MP1B	Mx	-0.000986	2
7	MP2B	X	-21.788	0
8	MP2B	Z	-12.58	0
9	MP2B	Mx	-0.025	0
10	MP2B	X	-21.788	3
11	MP2B	Z	-12.58	3
12	MP2B	Mx	-0.025	3
13	MP2B	X	-21.788	0
14	MP2B	Z	-12.58	0
15	MP2B	Mx	0.033	0
16	MP2B	X	-21.788	3
17	MP2B	Z	-12.58	3
18	MP2B	Mx	0.033	3
19	OVP	X	-11.695	1
20	OVP	Z	-6.752	1
21	OVP	Mx	0	1
22	OVP	X	-11.695	1
23	OVP	Z	-6.752	1
24	OVP	Mx	0	1
25	MP1C	X	-5.366	0
26	MP1C	Z	-3.098	0
27	MP1C	Mx	-0.004	0
28	MP1C	X	-5.366	1.5
29	MP1C	Z	-3.098	1.5
30	MP1C	Mx	-0.004	1.5
31	MP3A	X	-4.123	0
32	MP3A	Z	-2.381	0
33	MP3A	Mx	0.004	0
34	MP3A	X	-4.123	1.5
35	MP3A	Z	-2.381	1.5
36	MP3A	Mx	0.004	1.5
37	MP3B	X	-8.606	0
38	MP3B	Z	-4.969	0
39	MP3B	Mx	0.002	0
40	MP3B	X	-8.606	1.5
41	MP3B	Z	-4.969	1.5
42	MP3B	Mx	0.002	1.5
43	MP4C	X	-7.112	0
44	MP4C	Z	-4.106	0
45	MP4C	Mx	-0.004	0
46	MP4C	X	-7.112	1.5

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
47	MP4C	Z	-4.106	1.5
48	MP4C	Mx	-0.004	1.5
49	MP2A	X	-11.239	0
50	MP2A	Z	-6.489	0
51	MP2A	Mx	0.01	0
52	MP2A	X	-11.239	4
53	MP2A	Z	-6.489	4
54	MP2A	Mx	0.01	4
55	MP3C	X	-13.902	0
56	MP3C	Z	-8.026	0
57	MP3C	Mx	-0.011	0
58	MP3C	X	-13.902	4
59	MP3C	Z	-8.026	4
60	MP3C	Mx	-0.011	4
61	MP4B	X	-13.902	0
62	MP4B	Z	-8.026	0
63	MP4B	Mx	-0.011	0
64	MP4B	X	-13.902	4
65	MP4B	Z	-8.026	4
66	MP4B	Mx	-0.011	4
67	MP2A	X	-6.615	2
68	MP2A	Z	-3.819	2
69	MP2A	Mx	-0.004	2
70	MP2B	X	-8.953	2
71	MP2B	Z	-5.169	2
72	MP2B	Mx	-0.000986	2
73	4B	X	-6.408	2
74	4B	Z	-3.699	2
75	4B	Mx	0.004	2
76	1C	X	-6.514	2
77	1C	Z	-3.761	2
78	1C	Mx	-0.004	2
79	3C	X	-6.514	2
80	3C	Z	-3.761	2
81	3C	Mx	-0.004	2
82	4C	X	-6.615	2
83	4C	Z	-3.819	2
84	4C	Mx	-0.004	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	-4.48	2
2	MP1A	Z	-7.76	2
3	MP1A	Mx	-0.003	2
4	MP1B	X	-4.536	2
5	MP1B	Z	-7.856	2
6	MP1B	Mx	-0.003	2
7	MP2B	X	-9.677	0
8	MP2B	Z	-16.761	0
9	MP2B	Mx	-0.006	0
10	MP2B	X	-9.677	3
11	MP2B	Z	-16.761	3
12	MP2B	Mx	-0.006	3
13	MP2B	X	-9.677	0
14	MP2B	Z	-16.761	0

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
15	MP2B	Mx	0.028	0
16	MP2B	X	-9.677	3
17	MP2B	Z	-16.761	3
18	MP2B	Mx	0.028	3
19	OVP	X	-6.561	1
20	OVP	Z	-11.364	1
21	OVP	Mx	0	1
22	OVP	X	-6.561	1
23	OVP	Z	-11.364	1
24	OVP	Mx	0	1
25	MP1C	X	-4.55	0
26	MP1C	Z	-7.88	0
27	MP1C	Mx	-0.003	0
28	MP1C	X	-4.55	1.5
29	MP1C	Z	-7.88	1.5
30	MP1C	Mx	-0.003	1.5
31	MP3A	X	-3.705	0
32	MP3A	Z	-6.417	0
33	MP3A	Mx	0.004	0
34	MP3A	X	-3.705	1.5
35	MP3A	Z	-6.417	1.5
36	MP3A	Mx	0.004	1.5
37	MP3B	X	-3.807	0
38	MP3B	Z	-6.595	0
39	MP3B	Mx	0.004	0
40	MP3B	X	-3.807	1.5
41	MP3B	Z	-6.595	1.5
42	MP3B	Mx	0.004	1.5
43	MP4C	X	-2.655	0
44	MP4C	Z	-4.599	0
45	MP4C	Mx	-0.004	0
46	MP4C	X	-2.655	1.5
47	MP4C	Z	-4.599	1.5
48	MP4C	Mx	-0.004	1.5
49	MP2A	X	-9.326	0
50	MP2A	Z	-16.153	0
51	MP2A	Mx	0.011	0
52	MP2A	X	-9.326	4
53	MP2A	Z	-16.153	4
54	MP2A	Mx	0.011	4
55	MP3C	X	-11.135	0
56	MP3C	Z	-19.286	0
57	MP3C	Mx	-0.008	0
58	MP3C	X	-11.135	4
59	MP3C	Z	-19.286	4
60	MP3C	Mx	-0.008	4
61	MP4B	X	-11.135	0
62	MP4B	Z	-19.286	0
63	MP4B	Mx	-0.008	0
64	MP4B	X	-11.135	4
65	MP4B	Z	-19.286	4
66	MP4B	Mx	-0.008	4
67	MP2A	X	-4.51	2
68	MP2A	Z	-7.812	2
69	MP2A	Mx	-0.003	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
70	MP2B	X	-4.563	2
71	MP2B	Z	-7.904	2
72	MP2B	Mx	-0.003	2
73	4B	X	-4.193	2
74	4B	Z	-7.263	2
75	4B	Mx	0.003	2
76	1C	X	-4.48	2
77	1C	Z	-7.76	2
78	1C	Mx	-0.003	2
79	3C	X	-4.48	2
80	3C	Z	-7.76	2
81	3C	Mx	-0.003	2
82	4C	X	-4.51	2
83	4C	Z	-7.812	2
84	4C	Mx	-0.003	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	0	2
2	MP1A	Z	-2.596	2
3	MP1A	Mx	-0.000292	2
4	MP1B	X	0	2
5	MP1B	Z	-1.863	2
6	MP1B	Mx	-0.000881	2
7	MP2B	X	0	0
8	MP2B	Z	-4.021	0
9	MP2B	Mx	0.002	0
10	MP2B	X	0	3
11	MP2B	Z	-4.021	3
12	MP2B	Mx	0.002	3
13	MP2B	X	0	0
14	MP2B	Z	-4.021	0
15	MP2B	Mx	0.005	0
16	MP2B	X	0	3
17	MP2B	Z	-4.021	3
18	MP2B	Mx	0.005	3
19	OVP	X	0	1
20	OVP	Z	-3.382	1
21	OVP	Mx	0	1
22	OVP	X	0	1
23	OVP	Z	-3.382	1
24	OVP	Mx	0	1
25	MP1C	X	0	0
26	MP1C	Z	-2.678	0
27	MP1C	Mx	0.000195	0
28	MP1C	X	0	1.5
29	MP1C	Z	-2.678	1.5
30	MP1C	Mx	0.000195	1.5
31	MP3A	X	0	0
32	MP3A	Z	-2.603	0
33	MP3A	Mx	0.000488	0
34	MP3A	X	0	1.5
35	MP3A	Z	-2.603	1.5
36	MP3A	Mx	0.000488	1.5
37	MP3B	X	0	0

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
38	MP3B	Z	-1.13	0
39	MP3B	Mx	0.00089	0
40	MP3B	X	0	1.5
41	MP3B	Z	-1.13	1.5
42	MP3B	Mx	0.00089	1.5
43	MP4C	X	0	0
44	MP4C	Z	-0.959	0
45	MP4C	Mx	-0.000796	0
46	MP4C	X	0	1.5
47	MP4C	Z	-0.959	1.5
48	MP4C	Mx	-0.000796	1.5
49	MP2A	X	0	0
50	MP2A	Z	-3.81	0
51	MP2A	Mx	0.000714	0
52	MP2A	X	0	4
53	MP2A	Z	-3.81	4
54	MP2A	Mx	0.000714	4
55	MP3C	X	0	0
56	MP3C	Z	-3.901	0
57	MP3C	Mx	0.000283	0
58	MP3C	X	0	4
59	MP3C	Z	-3.901	4
60	MP3C	Mx	0.000283	4
61	MP4B	X	0	0
62	MP4B	Z	-3.901	0
63	MP4B	Mx	0.000283	0
64	MP4B	X	0	4
65	MP4B	Z	-3.901	4
66	MP4B	Mx	0.000283	4
67	MP2A	X	0	2
68	MP2A	Z	-3.134	2
69	MP2A	Mx	-0.000352	2
70	MP2B	X	0	2
71	MP2B	Z	-2.279	2
72	MP2B	Mx	-0.001	2
73	4B	X	0	2
74	4B	Z	-3.004	2
75	4B	Mx	0.000635	2
76	1C	X	0	2
77	1C	Z	-2.596	2
78	1C	Mx	-0.000292	2
79	3C	X	0	2
80	3C	Z	-2.596	2
81	3C	Mx	-0.000292	2
82	4C	X	0	2
83	4C	Z	-3.134	2
84	4C	Mx	-0.000352	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	1.283	2
2	MP1A	Z	-2.222	2
3	MP1A	Mx	0.000375	2
4	MP1B	X	0.901	2
5	MP1B	Z	-1.561	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
6	MP1B	Mx	-0.000885	2
7	MP2B	X	1.833	0
8	MP2B	Z	-3.175	0
9	MP2B	Mx	0.004	0
10	MP2B	X	1.833	3
11	MP2B	Z	-3.175	3
12	MP2B	Mx	0.004	3
13	MP2B	X	1.833	0
14	MP2B	Z	-3.175	0
15	MP2B	Mx	0.002	0
16	MP2B	X	1.833	3
17	MP2B	Z	-3.175	3
18	MP2B	Mx	0.002	3
19	OVP	X	1.405	1
20	OVP	Z	-2.434	1
21	OVP	Mx	0	1
22	OVP	X	1.405	1
23	OVP	Z	-2.434	1
24	OVP	Mx	0	1
25	MP1C	X	1.058	0
26	MP1C	Z	-1.833	0
27	MP1C	Mx	0.001	0
28	MP1C	X	1.058	1.5
29	MP1C	Z	-1.833	1.5
30	MP1C	Mx	0.001	1.5
31	MP3A	X	1.271	0
32	MP3A	Z	-2.201	0
33	MP3A	Mx	-0.000619	0
34	MP3A	X	1.271	1.5
35	MP3A	Z	-2.201	1.5
36	MP3A	Mx	-0.000619	1.5
37	MP3B	X	0.504	0
38	MP3B	Z	-0.874	0
39	MP3B	Mx	0.000825	0
40	MP3B	X	0.504	1.5
41	MP3B	Z	-0.874	1.5
42	MP3B	Mx	0.000825	1.5
43	MP4C	X	0.76	0
44	MP4C	Z	-1.316	0
45	MP4C	Mx	-0.001	0
46	MP4C	X	0.76	1.5
47	MP4C	Z	-1.316	1.5
48	MP4C	Mx	-0.001	1.5
49	MP2A	X	1.868	0
50	MP2A	Z	-3.235	0
51	MP2A	Mx	-0.00091	0
52	MP2A	X	1.868	4
53	MP2A	Z	-3.235	4
54	MP2A	Mx	-0.00091	4
55	MP3C	X	1.608	0
56	MP3C	Z	-2.786	0
57	MP3C	Mx	0.002	0
58	MP3C	X	1.608	4
59	MP3C	Z	-2.786	4
60	MP3C	Mx	0.002	4

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
61	MP4B	X	1.608	0
62	MP4B	Z	-2.786	0
63	MP4B	Mx	0.002	0
64	MP4B	X	1.608	4
65	MP4B	Z	-2.786	4
66	MP4B	Mx	0.002	4
67	MP2A	X	1.549	2
68	MP2A	Z	-2.683	2
69	MP2A	Mx	0.000453	2
70	MP2B	X	1.104	2
71	MP2B	Z	-1.913	2
72	MP2B	Mx	-0.001	2
73	4B	X	1.589	2
74	4B	Z	-2.752	2
75	4B	Mx	-0.000139	2
76	1C	X	1.283	2
77	1C	Z	-2.222	2
78	1C	Mx	0.000375	2
79	3C	X	1.283	2
80	3C	Z	-2.222	2
81	3C	Mx	0.000375	2
82	4C	X	1.549	2
83	4C	Z	-2.683	2
84	4C	Mx	0.000453	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	1.884	2
2	MP1A	Z	-1.088	2
3	MP1A	Mx	0.000795	2
4	MP1B	X	1.858	2
5	MP1B	Z	-1.073	2
6	MP1B	Mx	-0.00081	2
7	MP2B	X	4.916	0
8	MP2B	Z	-2.838	0
9	MP2B	Mx	0.008	0
10	MP2B	X	4.916	3
11	MP2B	Z	-2.838	3
12	MP2B	Mx	0.008	3
13	MP2B	X	4.916	0
14	MP2B	Z	-2.838	0
15	MP2B	Mx	-0.000775	0
16	MP2B	X	4.916	3
17	MP2B	Z	-2.838	3
18	MP2B	Mx	-0.000775	3
19	OVP	X	2.546	1
20	OVP	Z	-1.47	1
21	OVP	Mx	0	1
22	OVP	X	2.546	1
23	OVP	Z	-1.47	1
24	OVP	Mx	0	1
25	MP1C	X	1.089	0
26	MP1C	Z	-0.629	0
27	MP1C	Mx	0.00095	0
28	MP1C	X	1.089	1.5

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
29	MP1C	Z	-0.629	1.5
30	MP1C	Mx	0.00095	1.5
31	MP3A	X	1.522	0
32	MP3A	Z	-0.879	0
33	MP3A	Mx	-0.001	0
34	MP3A	X	1.522	1.5
35	MP3A	Z	-0.879	1.5
36	MP3A	Mx	-0.001	1.5
37	MP3B	X	1.469	0
38	MP3B	Z	-0.848	0
39	MP3B	Mx	0.001	0
40	MP3B	X	1.469	1.5
41	MP3B	Z	-0.848	1.5
42	MP3B	Mx	0.001	1.5
43	MP4C	X	2.06	0
44	MP4C	Z	-1.19	0
45	MP4C	Mx	-0.000838	0
46	MP4C	X	2.06	1.5
47	MP4C	Z	-1.19	1.5
48	MP4C	Mx	-0.000838	1.5
49	MP2A	X	2.406	0
50	MP2A	Z	-1.389	0
51	MP2A	Mx	-0.002	0
52	MP2A	X	2.406	4
53	MP2A	Z	-1.389	4
54	MP2A	Mx	-0.002	4
55	MP3C	X	1.878	0
56	MP3C	Z	-1.084	0
57	MP3C	Mx	0.002	0
58	MP3C	X	1.878	4
59	MP3C	Z	-1.084	4
60	MP3C	Mx	0.002	4
61	MP4B	X	1.878	0
62	MP4B	Z	-1.084	0
63	MP4B	Mx	0.002	0
64	MP4B	X	1.878	4
65	MP4B	Z	-1.084	4
66	MP4B	Mx	0.002	4
67	MP2A	X	2.289	2
68	MP2A	Z	-1.321	2
69	MP2A	Mx	0.000967	2
70	MP2B	X	2.258	2
71	MP2B	Z	-1.304	2
72	MP2B	Mx	-0.000984	2
73	4B	X	2.469	2
74	4B	Z	-1.426	2
75	4B	Mx	-0.000818	2
76	1C	X	1.884	2
77	1C	Z	-1.088	2
78	1C	Mx	0.000795	2
79	3C	X	1.884	2
80	3C	Z	-1.088	2
81	3C	Mx	0.000795	2
82	4C	X	2.289	2
83	4C	Z	-1.321	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
84	4C	Mx	0.000967	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	1.815	2
2	MP1A	Z	0	2
3	MP1A	Mx	0.000884	2
4	MP1B	X	2.548	2
5	MP1B	Z	0	2
6	MP1B	Mx	-0.000415	2
7	MP2B	X	8.043	0
8	MP2B	Z	0	0
9	MP2B	Mx	0.011	0
10	MP2B	X	8.043	3
11	MP2B	Z	0	3
12	MP2B	Mx	0.011	3
13	MP2B	X	8.043	0
14	MP2B	Z	0	0
15	MP2B	Mx	-0.007	0
16	MP2B	X	8.043	3
17	MP2B	Z	0	3
18	MP2B	Mx	-0.007	3
19	OVP	X	3.641	1
20	OVP	Z	0	1
21	OVP	Mx	0	1
22	OVP	X	3.641	1
23	OVP	Z	0	1
24	OVP	Mx	0	1
25	MP1C	X	0.959	0
26	MP1C	Z	0	0
27	MP1C	Mx	0.000796	0
28	MP1C	X	0.959	1.5
29	MP1C	Z	0	1.5
30	MP1C	Mx	0.000796	1.5
31	MP3A	X	1.034	0
32	MP3A	Z	0	0
33	MP3A	Mx	-0.00084	0
34	MP3A	X	1.034	1.5
35	MP3A	Z	0	1.5
36	MP3A	Mx	-0.00084	1.5
37	MP3B	X	2.506	0
38	MP3B	Z	0	0
39	MP3B	Mx	0.00068	0
40	MP3B	X	2.506	1.5
41	MP3B	Z	0	1.5
42	MP3B	Mx	0.00068	1.5
43	MP4C	X	2.678	0
44	MP4C	Z	0	0
45	MP4C	Mx	0.000195	0
46	MP4C	X	2.678	1.5
47	MP4C	Z	0	1.5
48	MP4C	Mx	0.000195	1.5
49	MP2A	X	1.896	0
50	MP2A	Z	0	0
51	MP2A	Mx	-0.002	0

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
52	MP2A	X	1.896	4
53	MP2A	Z	0	4
54	MP2A	Mx	-0.002	4
55	MP3C	X	1.804	0
56	MP3C	Z	0	0
57	MP3C	Mx	0.001	0
58	MP3C	X	1.804	4
59	MP3C	Z	0	4
60	MP3C	Mx	0.001	4
61	MP4B	X	1.804	0
62	MP4B	Z	0	0
63	MP4B	Mx	0.001	0
64	MP4B	X	1.804	4
65	MP4B	Z	0	4
66	MP4B	Mx	0.001	4
67	MP2A	X	2.223	2
68	MP2A	Z	0	2
69	MP2A	Mx	0.001	2
70	MP2B	X	3.077	2
71	MP2B	Z	0	2
72	MP2B	Mx	-0.000501	2
73	4B	X	2.353	2
74	4B	Z	0	2
75	4B	Mx	-0.001	2
76	1C	X	1.815	2
77	1C	Z	0	2
78	1C	Mx	0.000884	2
79	3C	X	1.815	2
80	3C	Z	0	2
81	3C	Mx	0.000884	2
82	4C	X	2.223	2
83	4C	Z	0	2
84	4C	Mx	0.001	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	1.598	2
2	MP1A	Z	0.923	2
3	MP1A	Mx	0.000882	2
4	MP1B	X	2.259	2
5	MP1B	Z	1.304	2
6	MP1B	Mx	0.000249	2
7	MP2B	X	7.273	0
8	MP2B	Z	4.199	0
9	MP2B	Mx	0.008	0
10	MP2B	X	7.273	3
11	MP2B	Z	4.199	3
12	MP2B	Mx	0.008	3
13	MP2B	X	7.273	0
14	MP2B	Z	4.199	0
15	MP2B	Mx	-0.011	0
16	MP2B	X	7.273	3
17	MP2B	Z	4.199	3
18	MP2B	Mx	-0.011	3
19	OVP	X	3.648	1

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
20	OVP	Z	2.106	1
21	OVP	Mx	0	1
22	OVP	X	3.648	1
23	OVP	Z	2.106	1
24	OVP	Mx	0	1
25	MP1C	X	1.316	0
26	MP1C	Z	0.76	0
27	MP1C	Mx	0.001	0
28	MP1C	X	1.316	1.5
29	MP1C	Z	0.76	1.5
30	MP1C	Mx	0.001	1.5
31	MP3A	X	0.948	0
32	MP3A	Z	0.547	0
33	MP3A	Mx	-0.000872	0
34	MP3A	X	0.948	1.5
35	MP3A	Z	0.547	1.5
36	MP3A	Mx	-0.000872	1.5
37	MP3B	X	2.275	0
38	MP3B	Z	1.314	0
39	MP3B	Mx	-0.000418	0
40	MP3B	X	2.275	1.5
41	MP3B	Z	1.314	1.5
42	MP3B	Mx	-0.000418	1.5
43	MP4C	X	1.833	0
44	MP4C	Z	1.058	0
45	MP4C	Mx	0.001	0
46	MP4C	X	1.833	1.5
47	MP4C	Z	1.058	1.5
48	MP4C	Mx	0.001	1.5
49	MP2A	X	1.706	0
50	MP2A	Z	0.985	0
51	MP2A	Mx	-0.002	0
52	MP2A	X	1.706	4
53	MP2A	Z	0.985	4
54	MP2A	Mx	-0.002	4
55	MP3C	X	2.155	0
56	MP3C	Z	1.244	0
57	MP3C	Mx	0.002	0
58	MP3C	X	2.155	4
59	MP3C	Z	1.244	4
60	MP3C	Mx	0.002	4
61	MP4B	X	2.155	0
62	MP4B	Z	1.244	0
63	MP4B	Mx	0.002	0
64	MP4B	X	2.155	4
65	MP4B	Z	1.244	4
66	MP4B	Mx	0.002	4
67	MP2A	X	1.956	2
68	MP2A	Z	1.129	2
69	MP2A	Mx	0.001	2
70	MP2B	X	2.726	2
71	MP2B	Z	1.574	2
72	MP2B	Mx	0.0003	2
73	4B	X	1.887	2
74	4B	Z	1.09	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
75	4B	Mx	-0.001	2
76	1C	X	1.598	2
77	1C	Z	0.923	2
78	1C	Mx	0.000882	2
79	3C	X	1.598	2
80	3C	Z	0.923	2
81	3C	Mx	0.000882	2
82	4C	X	1.956	2
83	4C	Z	1.129	2
84	4C	Mx	0.001	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	1.118	2
2	MP1A	Z	1.936	2
3	MP1A	Mx	0.000762	2
4	MP1B	X	1.133	2
5	MP1B	Z	1.962	2
6	MP1B	Mx	0.000743	2
7	MP2B	X	3.194	0
8	MP2B	Z	5.531	0
9	MP2B	Mx	0.002	0
10	MP2B	X	3.194	3
11	MP2B	Z	5.531	3
12	MP2B	Mx	0.002	3
13	MP2B	X	3.194	0
14	MP2B	Z	5.531	0
15	MP2B	Mx	-0.009	0
16	MP2B	X	3.194	3
17	MP2B	Z	5.531	3
18	MP2B	Mx	-0.009	3
19	OVP	X	2.042	1
20	OVP	Z	3.536	1
21	OVP	Mx	0	1
22	OVP	X	2.042	1
23	OVP	Z	3.536	1
24	OVP	Mx	0	1
25	MP1C	X	1.19	0
26	MP1C	Z	2.06	0
27	MP1C	Mx	0.000838	0
28	MP1C	X	1.19	1.5
29	MP1C	Z	2.06	1.5
30	MP1C	Mx	0.000838	1.5
31	MP3A	X	0.94	0
32	MP3A	Z	1.627	0
33	MP3A	Mx	-0.001	0
34	MP3A	X	0.94	1.5
35	MP3A	Z	1.627	1.5
36	MP3A	Mx	-0.001	1.5
37	MP3B	X	0.97	0
38	MP3B	Z	1.68	0
39	MP3B	Mx	-0.001	0
40	MP3B	X	0.97	1.5
41	MP3B	Z	1.68	1.5
42	MP3B	Mx	-0.001	1.5

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
43	MP4C	X	0.629	0
44	MP4C	Z	1.089	0
45	MP4C	Mx	0.00095	0
46	MP4C	X	0.629	1.5
47	MP4C	Z	1.089	1.5
48	MP4C	Mx	0.00095	1.5
49	MP2A	X	1.464	0
50	MP2A	Z	2.535	0
51	MP2A	Mx	-0.002	0
52	MP2A	X	1.464	4
53	MP2A	Z	2.535	4
54	MP2A	Mx	-0.002	4
55	MP3C	X	1.769	0
56	MP3C	Z	3.063	0
57	MP3C	Mx	0.001	0
58	MP3C	X	1.769	4
59	MP3C	Z	3.063	4
60	MP3C	Mx	0.001	4
61	MP4B	X	1.769	0
62	MP4B	Z	3.063	0
63	MP4B	Mx	0.001	0
64	MP4B	X	1.769	4
65	MP4B	Z	3.063	4
66	MP4B	Mx	0.001	4
67	MP2A	X	1.357	2
68	MP2A	Z	2.35	2
69	MP2A	Mx	0.000925	2
70	MP2B	X	1.374	2
71	MP2B	Z	2.38	2
72	MP2B	Mx	0.000902	2
73	4B	X	1.252	2
74	4B	Z	2.169	2
75	4B	Mx	-0.001	2
76	1C	X	1.118	2
77	1C	Z	1.936	2
78	1C	Mx	0.000762	2
79	3C	X	1.118	2
80	3C	Z	1.936	2
81	3C	Mx	0.000762	2
82	4C	X	1.357	2
83	4C	Z	2.35	2
84	4C	Mx	0.000925	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	0	2
2	MP1A	Z	2.596	2
3	MP1A	Mx	0.000292	2
4	MP1B	X	0	2
5	MP1B	Z	1.863	2
6	MP1B	Mx	0.000881	2
7	MP2B	X	0	0
8	MP2B	Z	4.021	0
9	MP2B	Mx	-0.002	0
10	MP2B	X	0	3

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
11	MP2B	Z	4.021	3
12	MP2B	Mx	-0.002	3
13	MP2B	X	0	0
14	MP2B	Z	4.021	0
15	MP2B	Mx	-0.005	0
16	MP2B	X	0	3
17	MP2B	Z	4.021	3
18	MP2B	Mx	-0.005	3
19	OVP	X	0	1
20	OVP	Z	3.382	1
21	OVP	Mx	0	1
22	OVP	X	0	1
23	OVP	Z	3.382	1
24	OVP	Mx	0	1
25	MP1C	X	0	0
26	MP1C	Z	2.678	0
27	MP1C	Mx	-0.000195	0
28	MP1C	X	0	1.5
29	MP1C	Z	2.678	1.5
30	MP1C	Mx	-0.000195	1.5
31	MP3A	X	0	0
32	MP3A	Z	2.603	0
33	MP3A	Mx	-0.000488	0
34	MP3A	X	0	1.5
35	MP3A	Z	2.603	1.5
36	MP3A	Mx	-0.000488	1.5
37	MP3B	X	0	0
38	MP3B	Z	1.13	0
39	MP3B	Mx	-0.00089	0
40	MP3B	X	0	1.5
41	MP3B	Z	1.13	1.5
42	MP3B	Mx	-0.00089	1.5
43	MP4C	X	0	0
44	MP4C	Z	0.959	0
45	MP4C	Mx	0.000796	0
46	MP4C	X	0	1.5
47	MP4C	Z	0.959	1.5
48	MP4C	Mx	0.000796	1.5
49	MP2A	X	0	0
50	MP2A	Z	3.81	0
51	MP2A	Mx	-0.000714	0
52	MP2A	X	0	4
53	MP2A	Z	3.81	4
54	MP2A	Mx	-0.000714	4
55	MP3C	X	0	0
56	MP3C	Z	3.901	0
57	MP3C	Mx	-0.000283	0
58	MP3C	X	0	4
59	MP3C	Z	3.901	4
60	MP3C	Mx	-0.000283	4
61	MP4B	X	0	0
62	MP4B	Z	3.901	0
63	MP4B	Mx	-0.000283	0
64	MP4B	X	0	4
65	MP4B	Z	3.901	4

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
66	MP4B	Mx	-0.000283	4
67	MP2A	X	0	2
68	MP2A	Z	3.134	2
69	MP2A	Mx	0.000352	2
70	MP2B	X	0	2
71	MP2B	Z	2.279	2
72	MP2B	Mx	0.001	2
73	4B	X	0	2
74	4B	Z	3.004	2
75	4B	Mx	-0.000635	2
76	1C	X	0	2
77	1C	Z	2.596	2
78	1C	Mx	0.000292	2
79	3C	X	0	2
80	3C	Z	2.596	2
81	3C	Mx	0.000292	2
82	4C	X	0	2
83	4C	Z	3.134	2
84	4C	Mx	0.000352	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	-1.283	2
2	MP1A	Z	2.222	2
3	MP1A	Mx	-0.000375	2
4	MP1B	X	-0.901	2
5	MP1B	Z	1.561	2
6	MP1B	Mx	0.000885	2
7	MP2B	X	-1.833	0
8	MP2B	Z	3.175	0
9	MP2B	Mx	-0.004	0
10	MP2B	X	-1.833	3
11	MP2B	Z	3.175	3
12	MP2B	Mx	-0.004	3
13	MP2B	X	-1.833	0
14	MP2B	Z	3.175	0
15	MP2B	Mx	-0.002	0
16	MP2B	X	-1.833	3
17	MP2B	Z	3.175	3
18	MP2B	Mx	-0.002	3
19	OVP	X	-1.405	1
20	OVP	Z	2.434	1
21	OVP	Mx	0	1
22	OVP	X	-1.405	1
23	OVP	Z	2.434	1
24	OVP	Mx	0	1
25	MP1C	X	-1.058	0
26	MP1C	Z	1.833	0
27	MP1C	Mx	-0.001	0
28	MP1C	X	-1.058	1.5
29	MP1C	Z	1.833	1.5
30	MP1C	Mx	-0.001	1.5
31	MP3A	X	-1.271	0
32	MP3A	Z	2.201	0
33	MP3A	Mx	0.000619	0

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
34	MP3A	X	-1.271	1.5
35	MP3A	Z	2.201	1.5
36	MP3A	Mx	0.000619	1.5
37	MP3B	X	-0.504	0
38	MP3B	Z	0.874	0
39	MP3B	Mx	-0.000825	0
40	MP3B	X	-0.504	1.5
41	MP3B	Z	0.874	1.5
42	MP3B	Mx	-0.000825	1.5
43	MP4C	X	-0.76	0
44	MP4C	Z	1.316	0
45	MP4C	Mx	0.001	0
46	MP4C	X	-0.76	1.5
47	MP4C	Z	1.316	1.5
48	MP4C	Mx	0.001	1.5
49	MP2A	X	-1.868	0
50	MP2A	Z	3.235	0
51	MP2A	Mx	0.00091	0
52	MP2A	X	-1.868	4
53	MP2A	Z	3.235	4
54	MP2A	Mx	0.00091	4
55	MP3C	X	-1.608	0
56	MP3C	Z	2.786	0
57	MP3C	Mx	-0.002	0
58	MP3C	X	-1.608	4
59	MP3C	Z	2.786	4
60	MP3C	Mx	-0.002	4
61	MP4B	X	-1.608	0
62	MP4B	Z	2.786	0
63	MP4B	Mx	-0.002	0
64	MP4B	X	-1.608	4
65	MP4B	Z	2.786	4
66	MP4B	Mx	-0.002	4
67	MP2A	X	-1.549	2
68	MP2A	Z	2.683	2
69	MP2A	Mx	-0.000453	2
70	MP2B	X	-1.104	2
71	MP2B	Z	1.913	2
72	MP2B	Mx	0.001	2
73	4B	X	-1.589	2
74	4B	Z	2.752	2
75	4B	Mx	0.000139	2
76	1C	X	-1.283	2
77	1C	Z	2.222	2
78	1C	Mx	-0.000375	2
79	3C	X	-1.283	2
80	3C	Z	2.222	2
81	3C	Mx	-0.000375	2
82	4C	X	-1.549	2
83	4C	Z	2.683	2
84	4C	Mx	-0.000453	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	-1.884	2
2	MP1A	Z	1.088	2
3	MP1A	Mx	-0.000795	2
4	MP1B	X	-1.858	2
5	MP1B	Z	1.073	2
6	MP1B	Mx	0.00081	2
7	MP2B	X	-4.916	0
8	MP2B	Z	2.838	0
9	MP2B	Mx	-0.008	0
10	MP2B	X	-4.916	3
11	MP2B	Z	2.838	3
12	MP2B	Mx	-0.008	3
13	MP2B	X	-4.916	0
14	MP2B	Z	2.838	0
15	MP2B	Mx	0.000775	0
16	MP2B	X	-4.916	3
17	MP2B	Z	2.838	3
18	MP2B	Mx	0.000775	3
19	OVP	X	-2.546	1
20	OVP	Z	1.47	1
21	OVP	Mx	0	1
22	OVP	X	-2.546	1
23	OVP	Z	1.47	1
24	OVP	Mx	0	1
25	MP1C	X	-1.089	0
26	MP1C	Z	0.629	0
27	MP1C	Mx	-0.00095	0
28	MP1C	X	-1.089	1.5
29	MP1C	Z	0.629	1.5
30	MP1C	Mx	-0.00095	1.5
31	MP3A	X	-1.522	0
32	MP3A	Z	0.879	0
33	MP3A	Mx	0.001	0
34	MP3A	X	-1.522	1.5
35	MP3A	Z	0.879	1.5
36	MP3A	Mx	0.001	1.5
37	MP3B	X	-1.469	0
38	MP3B	Z	0.848	0
39	MP3B	Mx	-0.001	0
40	MP3B	X	-1.469	1.5
41	MP3B	Z	0.848	1.5
42	MP3B	Mx	-0.001	1.5
43	MP4C	X	-2.06	0
44	MP4C	Z	1.19	0
45	MP4C	Mx	0.000838	0
46	MP4C	X	-2.06	1.5
47	MP4C	Z	1.19	1.5
48	MP4C	Mx	0.000838	1.5
49	MP2A	X	-2.406	0
50	MP2A	Z	1.389	0
51	MP2A	Mx	0.002	0
52	MP2A	X	-2.406	4
53	MP2A	Z	1.389	4
54	MP2A	Mx	0.002	4
55	MP3C	X	-1.878	0

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
56	MP3C	Z	1.084	0
57	MP3C	Mx	-0.002	0
58	MP3C	X	-1.878	4
59	MP3C	Z	1.084	4
60	MP3C	Mx	-0.002	4
61	MP4B	X	-1.878	0
62	MP4B	Z	1.084	0
63	MP4B	Mx	-0.002	0
64	MP4B	X	-1.878	4
65	MP4B	Z	1.084	4
66	MP4B	Mx	-0.002	4
67	MP2A	X	-2.289	2
68	MP2A	Z	1.321	2
69	MP2A	Mx	-0.000967	2
70	MP2B	X	-2.258	2
71	MP2B	Z	1.304	2
72	MP2B	Mx	0.000984	2
73	4B	X	-2.469	2
74	4B	Z	1.426	2
75	4B	Mx	0.000818	2
76	1C	X	-1.884	2
77	1C	Z	1.088	2
78	1C	Mx	-0.000795	2
79	3C	X	-1.884	2
80	3C	Z	1.088	2
81	3C	Mx	-0.000795	2
82	4C	X	-2.289	2
83	4C	Z	1.321	2
84	4C	Mx	-0.000967	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	-1.815	2
2	MP1A	Z	0	2
3	MP1A	Mx	-0.000884	2
4	MP1B	X	-2.548	2
5	MP1B	Z	0	2
6	MP1B	Mx	0.000415	2
7	MP2B	X	-8.043	0
8	MP2B	Z	0	0
9	MP2B	Mx	-0.011	0
10	MP2B	X	-8.043	3
11	MP2B	Z	0	3
12	MP2B	Mx	-0.011	3
13	MP2B	X	-8.043	0
14	MP2B	Z	0	0
15	MP2B	Mx	0.007	0
16	MP2B	X	-8.043	3
17	MP2B	Z	0	3
18	MP2B	Mx	0.007	3
19	OVP	X	-3.641	1
20	OVP	Z	0	1
21	OVP	Mx	0	1
22	OVP	X	-3.641	1
23	OVP	Z	0	1

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
24	OVP	Mx	0	1
25	MP1C	X	-0.959	0
26	MP1C	Z	0	0
27	MP1C	Mx	-0.000796	0
28	MP1C	X	-0.959	1.5
29	MP1C	Z	0	1.5
30	MP1C	Mx	-0.000796	1.5
31	MP3A	X	-1.034	0
32	MP3A	Z	0	0
33	MP3A	Mx	0.00084	0
34	MP3A	X	-1.034	1.5
35	MP3A	Z	0	1.5
36	MP3A	Mx	0.00084	1.5
37	MP3B	X	-2.506	0
38	MP3B	Z	0	0
39	MP3B	Mx	-0.00068	0
40	MP3B	X	-2.506	1.5
41	MP3B	Z	0	1.5
42	MP3B	Mx	-0.00068	1.5
43	MP4C	X	-2.678	0
44	MP4C	Z	0	0
45	MP4C	Mx	-0.000195	0
46	MP4C	X	-2.678	1.5
47	MP4C	Z	0	1.5
48	MP4C	Mx	-0.000195	1.5
49	MP2A	X	-1.896	0
50	MP2A	Z	0	0
51	MP2A	Mx	0.002	0
52	MP2A	X	-1.896	4
53	MP2A	Z	0	4
54	MP2A	Mx	0.002	4
55	MP3C	X	-1.804	0
56	MP3C	Z	0	0
57	MP3C	Mx	-0.001	0
58	MP3C	X	-1.804	4
59	MP3C	Z	0	4
60	MP3C	Mx	-0.001	4
61	MP4B	X	-1.804	0
62	MP4B	Z	0	0
63	MP4B	Mx	-0.001	0
64	MP4B	X	-1.804	4
65	MP4B	Z	0	4
66	MP4B	Mx	-0.001	4
67	MP2A	X	-2.223	2
68	MP2A	Z	0	2
69	MP2A	Mx	-0.001	2
70	MP2B	X	-3.077	2
71	MP2B	Z	0	2
72	MP2B	Mx	0.000501	2
73	4B	X	-2.353	2
74	4B	Z	0	2
75	4B	Mx	0.001	2
76	1C	X	-1.815	2
77	1C	Z	0	2
78	1C	Mx	-0.000884	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
79	3C	X	-1.815	2
80	3C	Z	0	2
81	3C	Mx	-0.000884	2
82	4C	X	-2.223	2
83	4C	Z	0	2
84	4C	Mx	-0.001	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	-1.598	2
2	MP1A	Z	-0.923	2
3	MP1A	Mx	-0.000882	2
4	MP1B	X	-2.259	2
5	MP1B	Z	-1.304	2
6	MP1B	Mx	-0.000249	2
7	MP2B	X	-7.273	0
8	MP2B	Z	-4.199	0
9	MP2B	Mx	-0.008	0
10	MP2B	X	-7.273	3
11	MP2B	Z	-4.199	3
12	MP2B	Mx	-0.008	3
13	MP2B	X	-7.273	0
14	MP2B	Z	-4.199	0
15	MP2B	Mx	0.011	0
16	MP2B	X	-7.273	3
17	MP2B	Z	-4.199	3
18	MP2B	Mx	0.011	3
19	OVP	X	-3.648	1
20	OVP	Z	-2.106	1
21	OVP	Mx	0	1
22	OVP	X	-3.648	1
23	OVP	Z	-2.106	1
24	OVP	Mx	0	1
25	MP1C	X	-1.316	0
26	MP1C	Z	-0.76	0
27	MP1C	Mx	-0.001	0
28	MP1C	X	-1.316	1.5
29	MP1C	Z	-0.76	1.5
30	MP1C	Mx	-0.001	1.5
31	MP3A	X	-0.948	0
32	MP3A	Z	-0.547	0
33	MP3A	Mx	0.000872	0
34	MP3A	X	-0.948	1.5
35	MP3A	Z	-0.547	1.5
36	MP3A	Mx	0.000872	1.5
37	MP3B	X	-2.275	0
38	MP3B	Z	-1.314	0
39	MP3B	Mx	0.000418	0
40	MP3B	X	-2.275	1.5
41	MP3B	Z	-1.314	1.5
42	MP3B	Mx	0.000418	1.5
43	MP4C	X	-1.833	0
44	MP4C	Z	-1.058	0
45	MP4C	Mx	-0.001	0
46	MP4C	X	-1.833	1.5

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
47	MP4C	Z	-1.058	1.5
48	MP4C	Mx	-0.001	1.5
49	MP2A	X	-1.706	0
50	MP2A	Z	-0.985	0
51	MP2A	Mx	0.002	0
52	MP2A	X	-1.706	4
53	MP2A	Z	-0.985	4
54	MP2A	Mx	0.002	4
55	MP3C	X	-2.155	0
56	MP3C	Z	-1.244	0
57	MP3C	Mx	-0.002	0
58	MP3C	X	-2.155	4
59	MP3C	Z	-1.244	4
60	MP3C	Mx	-0.002	4
61	MP4B	X	-2.155	0
62	MP4B	Z	-1.244	0
63	MP4B	Mx	-0.002	0
64	MP4B	X	-2.155	4
65	MP4B	Z	-1.244	4
66	MP4B	Mx	-0.002	4
67	MP2A	X	-1.956	2
68	MP2A	Z	-1.129	2
69	MP2A	Mx	-0.001	2
70	MP2B	X	-2.726	2
71	MP2B	Z	-1.574	2
72	MP2B	Mx	-0.0003	2
73	4B	X	-1.887	2
74	4B	Z	-1.09	2
75	4B	Mx	0.001	2
76	1C	X	-1.598	2
77	1C	Z	-0.923	2
78	1C	Mx	-0.000882	2
79	3C	X	-1.598	2
80	3C	Z	-0.923	2
81	3C	Mx	-0.000882	2
82	4C	X	-1.956	2
83	4C	Z	-1.129	2
84	4C	Mx	-0.001	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	-1.118	2
2	MP1A	Z	-1.936	2
3	MP1A	Mx	-0.000762	2
4	MP1B	X	-1.133	2
5	MP1B	Z	-1.962	2
6	MP1B	Mx	-0.000743	2
7	MP2B	X	-3.194	0
8	MP2B	Z	-5.531	0
9	MP2B	Mx	-0.002	0
10	MP2B	X	-3.194	3
11	MP2B	Z	-5.531	3
12	MP2B	Mx	-0.002	3
13	MP2B	X	-3.194	0
14	MP2B	Z	-5.531	0

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
15	MP2B	Mx	0.009	0
16	MP2B	X	-3.194	3
17	MP2B	Z	-5.531	3
18	MP2B	Mx	0.009	3
19	OVP	X	-2.042	1
20	OVP	Z	-3.536	1
21	OVP	Mx	0	1
22	OVP	X	-2.042	1
23	OVP	Z	-3.536	1
24	OVP	Mx	0	1
25	MP1C	X	-1.19	0
26	MP1C	Z	-2.06	0
27	MP1C	Mx	-0.000838	0
28	MP1C	X	-1.19	1.5
29	MP1C	Z	-2.06	1.5
30	MP1C	Mx	-0.000838	1.5
31	MP3A	X	-0.94	0
32	MP3A	Z	-1.627	0
33	MP3A	Mx	0.001	0
34	MP3A	X	-0.94	1.5
35	MP3A	Z	-1.627	1.5
36	MP3A	Mx	0.001	1.5
37	MP3B	X	-0.97	0
38	MP3B	Z	-1.68	0
39	MP3B	Mx	0.001	0
40	MP3B	X	-0.97	1.5
41	MP3B	Z	-1.68	1.5
42	MP3B	Mx	0.001	1.5
43	MP4C	X	-0.629	0
44	MP4C	Z	-1.089	0
45	MP4C	Mx	-0.00095	0
46	MP4C	X	-0.629	1.5
47	MP4C	Z	-1.089	1.5
48	MP4C	Mx	-0.00095	1.5
49	MP2A	X	-1.464	0
50	MP2A	Z	-2.535	0
51	MP2A	Mx	0.002	0
52	MP2A	X	-1.464	4
53	MP2A	Z	-2.535	4
54	MP2A	Mx	0.002	4
55	MP3C	X	-1.769	0
56	MP3C	Z	-3.063	0
57	MP3C	Mx	-0.001	0
58	MP3C	X	-1.769	4
59	MP3C	Z	-3.063	4
60	MP3C	Mx	-0.001	4
61	MP4B	X	-1.769	0
62	MP4B	Z	-3.063	0
63	MP4B	Mx	-0.001	0
64	MP4B	X	-1.769	4
65	MP4B	Z	-3.063	4
66	MP4B	Mx	-0.001	4
67	MP2A	X	-1.357	2
68	MP2A	Z	-2.35	2
69	MP2A	Mx	-0.000925	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
70	MP2B	X	-1.374	2
71	MP2B	Z	-2.38	2
72	MP2B	Mx	-0.000902	2
73	4B	X	-1.252	2
74	4B	Z	-2.169	2
75	4B	Mx	0.001	2
76	1C	X	-1.118	2
77	1C	Z	-1.936	2
78	1C	Mx	-0.000762	2
79	3C	X	-1.118	2
80	3C	Z	-1.936	2
81	3C	Mx	-0.000762	2
82	4C	X	-1.357	2
83	4C	Z	-2.35	2
84	4C	Mx	-0.000925	2

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M78	Y	-500	0

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M76	Y	-500	0

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M73	Y	-250	0

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M73	Y	-250	%50

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	Y	-3.235	2
2	MP1A	My	0.002	2
3	MP1A	Mz	0.000364	2
4	MP1B	Y	-3.235	2
5	MP1B	My	-0.000527	2
6	MP1B	Mz	0.002	2
7	MP2B	Y	-2.087	0
8	MP2B	My	0.003	0
9	MP2B	Mz	-0.000852	0
10	MP2B	Y	-2.087	3
11	MP2B	My	0.003	3
12	MP2B	Mz	-0.000852	3
13	MP2B	Y	-2.087	0
14	MP2B	My	-0.002	0
15	MP2B	Mz	-0.002	0

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
16	MP2B	Y	-2.087	3
17	MP2B	My	-0.002	3
18	MP2B	Mz	-0.002	3
19	OVP	Y	-1.165	1
20	OVP	My	0	1
21	OVP	Mz	0	1
22	OVP	Y	-1.165	1
23	OVP	My	0	1
24	OVP	Mz	0	1
25	MP1C	Y	-1.241	0
26	MP1C	My	0.001	0
27	MP1C	Mz	-9e-5	0
28	MP1C	Y	-1.241	1.5
29	MP1C	My	0.001	1.5
30	MP1C	Mz	-9e-5	1.5
31	MP3A	Y	-1.241	0
32	MP3A	My	-0.001	0
33	MP3A	Mz	-0.000233	0
34	MP3A	Y	-1.241	1.5
35	MP3A	My	-0.001	1.5
36	MP3A	Mz	-0.000233	1.5
37	MP3B	Y	-1.241	0
38	MP3B	My	0.000337	0
39	MP3B	Mz	-0.000978	0
40	MP3B	Y	-1.241	1.5
41	MP3B	My	0.000337	1.5
42	MP3B	Mz	-0.000978	1.5
43	MP4C	Y	-1.241	0
44	MP4C	My	9e-5	0
45	MP4C	Mz	0.001	0
46	MP4C	Y	-1.241	1.5
47	MP4C	My	9e-5	1.5
48	MP4C	Mz	0.001	1.5
49	MP2A	Y	-1.44	0
50	MP2A	My	-0.001	0
51	MP2A	Mz	-0.00027	0
52	MP2A	Y	-1.44	4
53	MP2A	My	-0.001	4
54	MP2A	Mz	-0.00027	4
55	MP3C	Y	-1.44	0
56	MP3C	My	0.001	0
57	MP3C	Mz	-0.000105	0
58	MP3C	Y	-1.44	4
59	MP3C	My	0.001	4
60	MP3C	Mz	-0.000105	4
61	MP4B	Y	-1.44	0
62	MP4B	My	0.001	0
63	MP4B	Mz	-0.000105	0
64	MP4B	Y	-1.44	4
65	MP4B	My	0.001	4
66	MP4B	Mz	-0.000105	4
67	MP2A	Y	-3.426	2
68	MP2A	My	0.002	2
69	MP2A	Mz	0.000385	2
70	MP2B	Y	-3.426	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
71	MP2B	My	-0.000558	2
72	MP2B	Mz	0.002	2
73	4B	Y	-3.426	2
74	4B	My	-0.002	2
75	4B	Mz	-0.000724	2
76	1C	Y	-3.235	2
77	1C	My	0.002	2
78	1C	Mz	0.000364	2
79	3C	Y	-3.235	2
80	3C	My	0.002	2
81	3C	Mz	0.000364	2
82	4C	Y	-3.426	2
83	4C	My	0.002	2
84	4C	Mz	0.000385	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	Z	-8.088	2
2	MP1A	Mx	-0.00091	2
3	MP1B	Z	-8.088	2
4	MP1B	Mx	-0.004	2
5	MP2B	Z	-5.218	0
6	MP2B	Mx	0.002	0
7	MP2B	Z	-5.218	3
8	MP2B	Mx	0.002	3
9	MP2B	Z	-5.218	0
10	MP2B	Mx	0.006	0
11	MP2B	Z	-5.218	3
12	MP2B	Mx	0.006	3
13	OVP	Z	-2.912	1
14	OVP	Mx	0	1
15	OVP	Z	-2.912	1
16	OVP	Mx	0	1
17	MP1C	Z	-3.102	0
18	MP1C	Mx	0.000225	0
19	MP1C	Z	-3.102	1.5
20	MP1C	Mx	0.000225	1.5
21	MP3A	Z	-3.102	0
22	MP3A	Mx	0.000581	0
23	MP3A	Z	-3.102	1.5
24	MP3A	Mx	0.000581	1.5
25	MP3B	Z	-3.102	0
26	MP3B	Mx	0.002	0
27	MP3B	Z	-3.102	1.5
28	MP3B	Mx	0.002	1.5
29	MP4C	Z	-3.102	0
30	MP4C	Mx	-0.003	0
31	MP4C	Z	-3.102	1.5
32	MP4C	Mx	-0.003	1.5
33	MP2A	Z	-3.6	0
34	MP2A	Mx	0.000675	0
35	MP2A	Z	-3.6	4
36	MP2A	Mx	0.000675	4
37	MP3C	Z	-3.6	0
38	MP3C	Mx	0.000261	0

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
39	MP3C	Z	-3.6	4
40	MP3C	Mx	0.000261	4
41	MP4B	Z	-3.6	0
42	MP4B	Mx	0.000261	0
43	MP4B	Z	-3.6	4
44	MP4B	Mx	0.000261	4
45	MP2A	Z	-8.564	2
46	MP2A	Mx	-0.000963	2
47	MP2B	Z	-8.564	2
48	MP2B	Mx	-0.004	2
49	4B	Z	-8.564	2
50	4B	Mx	0.002	2
51	1C	Z	-8.088	2
52	1C	Mx	-0.00091	2
53	3C	Z	-8.088	2
54	3C	Mx	-0.00091	2
55	4C	Z	-8.564	2
56	4C	Mx	-0.000963	2

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP1A	X	8.088	2
2	MP1A	Mx	0.004	2
3	MP1B	X	8.088	2
4	MP1B	Mx	-0.001	2
5	MP2B	X	5.218	0
6	MP2B	Mx	0.007	0
7	MP2B	X	5.218	3
8	MP2B	Mx	0.007	3
9	MP2B	X	5.218	0
10	MP2B	Mx	-0.004	0
11	MP2B	X	5.218	3
12	MP2B	Mx	-0.004	3
13	OVP	X	2.912	1
14	OVP	Mx	0	1
15	OVP	X	2.912	1
16	OVP	Mx	0	1
17	MP1C	X	3.102	0
18	MP1C	Mx	0.003	0
19	MP1C	X	3.102	1.5
20	MP1C	Mx	0.003	1.5
21	MP3A	X	3.102	0
22	MP3A	Mx	-0.003	0
23	MP3A	X	3.102	1.5
24	MP3A	Mx	-0.003	1.5
25	MP3B	X	3.102	0
26	MP3B	Mx	0.000842	0
27	MP3B	X	3.102	1.5
28	MP3B	Mx	0.000842	1.5
29	MP4C	X	3.102	0
30	MP4C	Mx	0.000225	0
31	MP4C	X	3.102	1.5
32	MP4C	Mx	0.000225	1.5
33	MP2A	X	3.6	0
34	MP2A	Mx	-0.003	0

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

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
35	MP2A	X	3.6	4
36	MP2A	Mx	-0.003	4
37	MP3C	X	3.6	0
38	MP3C	Mx	0.003	0
39	MP3C	X	3.6	4
40	MP3C	Mx	0.003	4
41	MP4B	X	3.6	0
42	MP4B	Mx	0.003	0
43	MP4B	X	3.6	4
44	MP4B	Mx	0.003	4
45	MP2A	X	8.564	2
46	MP2A	Mx	0.004	2
47	MP2B	X	8.564	2
48	MP2B	Mx	-0.001	2
49	4B	X	8.564	2
50	4B	Mx	-0.004	2
51	1C	X	8.088	2
52	1C	Mx	0.004	2
53	3C	X	8.088	2
54	3C	Mx	0.004	2
55	4C	X	8.564	2
56	4C	Mx	0.004	2

Member Area Loads (BLC 39 : Structure D)

	Node A	Node B	Node C	Node D	Direction	Load Direction	A Magnitude [ksf]	B Magnitude [ksf]	C Magnitude [ksf]	D Magnitude [ksf]	Exclude Braces
1	N84	N82	N60	N61	Y	Two Way	-0.005	-0.005	-0.005	-0.005	Yes
2	N56	N54	N32	N33	Y	Two Way	-0.005	-0.005	-0.005	-0.005	Yes
3	N28	N26	N3	N4	Y	Two Way	-0.005	-0.005	-0.005	-0.005	Yes

Member Area Loads (BLC 40 : Structure Di)

	Node A	Node B	Node C	Node D	Direction	Load Direction	A Magnitude [ksf]	B Magnitude [ksf]	C Magnitude [ksf]	D Magnitude [ksf]	Exclude Braces
1	N84	N82	N60	N61	Y	Two Way	-0.01	-0.01	-0.01	-0.01	Yes
2	N56	N54	N32	N33	Y	Two Way	-0.01	-0.01	-0.01	-0.01	Yes
3	N28	N26	N3	N4	Y	Two Way	-0.01	-0.01	-0.01	-0.01	Yes
4	N28	N26	N3	N4	Y	Two Way	-0.01	-0.01	-0.01	-0.01	Yes

Member Area Loads (BLC 84 : Structure Ev)

	Node A	Node B	Node C	Node D	Direction	Load Direction	A Magnitude [ksf]	B Magnitude [ksf]	C Magnitude [ksf]	D Magnitude [ksf]	Exclude Braces
1	N84	N82	N60	N61	Y	Two Way	-0.000225	-0.000225	-0.000225	-0.000225	Yes
2	N56	N54	N32	N33	Y	Two Way	-0.000225	-0.000225	-0.000225	-0.000225	Yes
3	N28	N26	N3	N4	Y	Two Way	-0.000225	-0.000225	-0.000225	-0.000225	Yes

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

	Node A	Node B	Node C	Node D	Direction	Load Direction	A Magnitude [ksf]	B Magnitude [ksf]	C Magnitude [ksf]	D Magnitude [ksf]	Exclude Braces
1	N84	N82	N60	N61	Z	Two Way	-0.000563	-0.000563	-0.000563	-0.000563	Yes
2	N56	N54	N32	N33	Z	Two Way	-0.000563	-0.000563	-0.000563	-0.000563	Yes
3	N28	N26	N3	N4	Z	Two Way	-0.000563	-0.000563	-0.000563	-0.000563	Yes

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

	Node A	Node B	Node C	Node D	Direction	Load Direction	A Magnitude [ksf]	B Magnitude [ksf]	C Magnitude [ksf]	D Magnitude [ksf]	Exclude Braces
1	N84	N82	N60	N61	X	Two Way	0.000563	0.000563	0.000563	0.000563	Yes
2	N56	N54	N32	N33	X	Two Way	0.000563	0.000563	0.000563	0.000563	Yes
3	N28	N26	N3	N4	X	Two Way	0.000563	0.000563	0.000563	0.000563	Yes

Envelope Node Reactions

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N1	max	1183.281	11	2212.908	17	778.278	12	-0.269	11	0.587	8	4.389	41
2		min	-925.231	5	635.61	11	-666.781	6	-2.749	41	-0.582	2	0.703	11
3	N30	max	687.616	10	2787.093	13	1392.888	1	5.966	13	1.14	4	0.115	5
4		min	-709.318	4	936.913	70	-1604.476	7	1.366	7	-1.141	10	-0.244	11
5	N58	max	1021.18	10	1932.587	21	753.084	3	0.048	3	0.467	12	-0.407	3
6		min	-1257.912	4	540.53	3	-653.17	9	-1.387	21	-0.507	6	-3.363	21
7	Totals:	max	2759.188	10	6590.194	13	2760.386	1						
8		min	-2759.195	4	2450.223	71	-2760.389	7						

Node Reactions

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N1	579.288	887.01	728.551	-0.635	-0.512	1.443
2	1	N30	27.96	1801.871	1392.888	4.423	-0.077	-0.068
3	1	N58	-607.285	743.231	638.947	-0.238	0.288	-1.003
4	1	Totals:	-0.037	3432.112	2760.386			
5	1	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
6	2	N1	-78.53	1100.181	418.297	-0.98	-0.582	2.05
7	2	N30	-204.902	1727.632	1157.061	4.137	0.233	0.011
8	2	N58	-1046.408	604.299	727.955	-0.033	0.115	-0.599
9	2	Totals:	-1329.84	3432.112	2303.312			
10	2	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
11	3	N1	-546.655	1306.371	-84.725	-1.325	-0.114	2.638
12	3	N30	-523.93	1585.209	661.168	3.62	0.838	0.067
13	3	N58	-1232.216	540.53	753.084	0.048	0.307	-0.407
14	3	Totals:	-2302.801	3432.111	1329.527			
15	3	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
16	4	N1	-791.965	1482.107	-470.015	-1.635	0.308	3.139
17	4	N30	-709.318	1381.072	-116.417	2.884	1.14	0.113
18	4	N58	-1257.912	568.93	586.439	-0.024	0.323	-0.479
19	4	Totals:	-2759.195	3432.109	0.007			
20	4	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
21	5	N1	-925.231	1561.651	-618.569	-1.8	0.268	3.355
22	5	N30	-569.975	1151.381	-969.446	2.048	0.779	0.115
23	5	N58	-981.573	719.074	158.036	-0.294	-0.154	-0.902
24	5	Totals:	-2476.779	3432.106	-1429.979			
25	5	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
26	6	N1	-818.327	1491.415	-666.781	-1.716	0.232	3.141
27	6	N30	-276.834	989.406	-1514.724	1.464	0.288	0.042
28	6	N58	-335.08	951.281	-295.799	-0.684	-0.507	-1.563
29	6	Totals:	-1430.241	3432.103	-2477.304			
30	6	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
31	7	N1	-323.697	1308.749	-617.676	-1.435	0.516	2.617
32	7	N30	-49.501	956.8	-1604.476	1.366	0.075	-0.062
33	7	N58	373.228	1166.552	-538.237	-1.025	-0.327	-2.177
34	7	Totals:	0.03	3432.101	-2760.389			
35	7	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			

Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
36	8	N1	334.018	1094.929	-308.173	-1.089	0.587	2.01
37	8	N30	184.157	1030.481	-1368.228	1.653	-0.236	-0.142
38	8	N58	811.658	1306.692	-626.915	-1.23	-0.154	-2.58
39	8	Totals:	1329.833	3432.102	-2303.316			
40	8	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
41	9	N1	803.387	889.033	194.354	-0.744	0.12	1.421
42	9	N30	502.733	1172.283	-870.715	2.173	-0.84	-0.198
43	9	N58	996.673	1370.787	-653.17	-1.31	-0.347	-2.771
44	9	Totals:	2302.794	3432.103	-1329.53			
45	9	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
46	10	N1	1050.391	714.302	579.639	-0.433	-0.302	0.919
47	10	N30	687.616	1376.142	-92.776	2.911	-1.141	-0.243
48	10	N58	1021.18	1341.662	-486.874	-1.237	-0.363	-2.699
49	10	Totals:	2759.188	3432.105	-0.011			
50	10	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
51	11	N1	1183.281	635.61	729.267	-0.269	-0.262	0.703
52	11	N30	547.579	1606.265	758.716	3.745	-0.78	-0.244
53	11	N58	745.913	1190.232	-58.007	-0.967	0.115	-2.276
54	11	Totals:	2476.772	3432.108	1429.976			
55	11	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
56	12	N1	1074.797	705.486	778.278	-0.353	-0.227	0.918
57	12	N30	254.14	1769.086	1303.225	4.326	-0.289	-0.172
58	12	N58	101.297	957.539	395.797	-0.578	0.467	-1.616
59	12	Totals:	1430.234	3432.111	2477.3			
60	12	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
61	13	N1	389.587	2037.236	346.832	-1.828	-0.198	3.664
62	13	N30	-16.056	2787.093	210.204	5.966	-0.025	-0.133
63	13	N58	-373.55	1765.865	239.069	-1.103	0.007	-2.895
64	13	Totals:	-0.019	6590.194	796.106			
65	13	COG (ft):	X: 0.247	Y: 1.154	Z: -0.476			
66	14	N1	192.6	2095.998	250.262	-1.923	-0.207	3.83
67	14	N30	-87.058	2766.385	146.186	5.89	0.079	-0.114
68	14	N58	-489.502	1727.811	268.565	-1.047	-0.031	-2.785
69	14	Totals:	-383.96	6590.194	665.013			
70	14	COG (ft):	X: 0.247	Y: 1.154	Z: -0.476			
71	15	N1	55.222	2150.114	101.112	-2.013	-0.067	3.983
72	15	N30	-178.353	2724.532	-1.381	5.742	0.258	-0.102
73	15	N58	-524.178	1715.547	273.993	-1.034	0.027	-2.747
74	15	Totals:	-647.309	6590.194	373.724			
75	15	COG (ft):	X: 0.247	Y: 1.154	Z: -0.476			
76	16	N1	-9.777	2192.184	-15.524	-2.087	0.072	4.102
77	16	N30	-233.438	2670.938	-217.938	5.553	0.362	-0.093
78	16	N58	-511.981	1727.072	233.461	-1.059	0.051	-2.777
79	16	Totals:	-755.197	6590.193	-0.001			
80	16	COG (ft):	X: 0.247	Y: 1.154	Z: -0.476			
81	17	N1	-41.311	2212.908	-70.208	-2.129	0.092	4.158
82	17	N30	-204.863	2612.767	-448.173	5.346	0.292	-0.094
83	17	N58	-432.274	1764.517	126.674	-1.125	-0.051	-2.882
84	17	Totals:	-678.448	6590.192	-391.707			
85	17	COG (ft):	X: 0.247	Y: 1.154	Z: -0.476			
86	18	N1	-6.884	2199.596	-93.446	-2.115	0.099	4.117
87	18	N30	-132.268	2567.415	-605.456	5.186	0.166	-0.11
88	18	N58	-262.782	1823.18	2.727	-1.224	-0.138	-3.048
89	18	Totals:	-401.933	6590.191	-696.175			
90	18	COG (ft):	X: 0.247	Y: 1.154	Z: -0.476			

Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
91	19	N1	140.591	2153.822	-77.202	-2.045	0.172	3.986
92	19	N30	-67.756	2554.213	-644.933	5.144	0.09	-0.133
93	19	N58	-72.834	1882.155	-73.978	-1.318	-0.099	-3.216
94	19	Totals:	0.001	6590.191	-796.113			
95	19	COG (ft):	X: 0.247	Y: 1.154	Z: -0.476			
96	20	N1	337.574	2095.008	19.321	-1.95	0.181	3.821
97	20	N30	3.305	2574.876	-580.896	5.22	-0.015	-0.151
98	20	N58	43.065	1920.307	-103.444	-1.374	-0.061	-3.326
99	20	Totals:	383.943	6590.191	-665.02			
100	20	COG (ft):	X: 0.247	Y: 1.154	Z: -0.476			
101	21	N1	475.053	2040.921	168.436	-1.859	0.041	3.668
102	21	N30	94.553	2616.683	-433.194	5.368	-0.193	-0.164
103	21	N58	77.687	1932.587	-108.973	-1.387	-0.119	-3.363
104	21	Totals:	647.292	6590.192	-373.731			
105	21	COG (ft):	X: 0.247	Y: 1.154	Z: -0.476			
106	22	N1	540.177	1998.928	285.062	-1.785	-0.098	3.548
107	22	N30	149.595	2670.263	-216.586	5.558	-0.297	-0.173
108	22	N58	65.407	1921.002	-68.482	-1.362	-0.143	-3.333
109	22	Totals:	755.179	6590.192	-0.006			
110	22	COG (ft):	X: 0.247	Y: 1.154	Z: -0.476			
111	23	N1	571.674	1978.267	339.803	-1.744	-0.118	3.492
112	23	N30	120.977	2728.464	13.572	5.765	-0.227	-0.172
113	23	N58	-14.22	1883.462	38.325	-1.295	-0.041	-3.229
114	23	Totals:	678.431	6590.193	391.7			
115	23	COG (ft):	X: 0.247	Y: 1.154	Z: -0.476			
116	24	N1	537.125	1991.556	363.101	-1.758	-0.125	3.533
117	24	N30	48.365	2773.875	170.783	5.924	-0.101	-0.156
118	24	N58	-183.575	1824.763	162.284	-1.197	0.046	-3.063
119	24	Totals:	401.915	6590.194	696.168			
120	24	COG (ft):	X: 0.247	Y: 1.154	Z: -0.476			
121	25	N1	160.074	1760.051	98.38	-2.255	-0.03	2.844
122	25	N30	-9.597	1244.085	-12.71	2.655	-0.003	-0.084
123	25	N58	-150.479	1177.948	86.858	-1.046	-0.004	-1.61
124	25	Totals:	-0.002	4182.084	172.527			
125	25	COG (ft):	X: 0.524	Y: 0.97	Z: 0.348			
126	26	N1	118.964	1773.398	79.01	-2.276	-0.035	2.882
127	26	N30	-24.172	1239.46	-27.463	2.637	0.017	-0.079
128	26	N58	-177.904	1169.227	92.413	-1.034	-0.015	-1.585
129	26	Totals:	-83.113	4182.084	143.96			
130	26	COG (ft):	X: 0.524	Y: 0.97	Z: 0.348			
131	27	N1	89.665	1786.283	47.582	-2.298	-0.006	2.919
132	27	N30	-44.096	1230.582	-58.504	2.605	0.054	-0.076
133	27	N58	-189.492	1165.22	94.017	-1.029	-0.003	-1.573
134	27	Totals:	-143.923	4182.084	83.096			
135	27	COG (ft):	X: 0.524	Y: 0.97	Z: 0.348			
136	28	N1	74.276	1797.247	23.497	-2.317	0.021	2.95
137	28	N30	-55.664	1217.837	-107.111	2.558	0.073	-0.073
138	28	N58	-191.062	1167	83.614	-1.033	-0.002	-1.578
139	28	Totals:	-172.45	4182.084	0.001			
140	28	COG (ft):	X: 0.524	Y: 0.97	Z: 0.348			
141	29	N1	65.952	1802.198	14.177	-2.327	0.018	2.964
142	29	N30	-46.93	1203.473	-160.374	2.506	0.051	-0.073
143	29	N58	-173.817	1176.412	56.826	-1.05	-0.032	-1.604
144	29	Totals:	-154.795	4182.084	-89.371			
145	29	COG (ft):	X: 0.524	Y: 0.97	Z: 0.348			

Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
146	30	N1	72.67	1797.821	11.13	-2.322	0.016	2.95
147	30	N30	-28.604	1193.334	-194.423	2.47	0.02	-0.077
148	30	N58	-133.465	1190.929	28.467	-1.074	-0.054	-1.645
149	30	Totals:	-89.398	4182.084	-154.826			
150	30	COG (ft):	X: 0.524	Y: 0.97	Z: 0.348			
151	31	N1	103.608	1786.433	14.213	-2.305	0.034	2.918
152	31	N30	-14.428	1191.297	-200.028	2.464	0.007	-0.084
153	31	N58	-89.178	1204.354	13.289	-1.095	-0.042	-1.684
154	31	Totals:	0.002	4182.084	-172.526			
155	31	COG (ft):	X: 0.524	Y: 0.97	Z: 0.348			
156	32	N1	144.718	1773.084	33.579	-2.283	0.038	2.88
157	32	N30	0.15	1195.92	-185.274	2.482	-0.013	-0.089
158	32	N58	-61.755	1213.08	7.735	-1.108	-0.032	-1.709
159	32	Totals:	83.113	4182.084	-143.959			
160	32	COG (ft):	X: 0.524	Y: 0.97	Z: 0.348			
161	33	N1	174.021	1760.2	65.005	-2.261	0.009	2.843
162	33	N30	20.072	1204.795	-154.226	2.514	-0.051	-0.092
163	33	N58	-50.171	1217.089	6.126	-1.113	-0.044	-1.721
164	33	Totals:	143.923	4182.084	-83.095			
165	33	COG (ft):	X: 0.524	Y: 0.97	Z: 0.348			
166	34	N1	189.417	1749.24	89.09	-2.242	-0.017	2.812
167	34	N30	31.638	1217.539	-105.618	2.56	-0.069	-0.095
168	34	N58	-48.605	1215.305	16.528	-1.109	-0.045	-1.716
169	34	Totals:	172.45	4182.084	0			
170	34	COG (ft):	X: 0.524	Y: 0.97	Z: 0.348			
171	35	N1	197.739	1744.292	98.415	-2.232	-0.015	2.798
172	35	N30	22.901	1231.904	-52.361	2.612	-0.047	-0.095
173	35	N58	-65.846	1205.888	43.318	-1.092	-0.015	-1.69
174	35	Totals:	154.794	4182.084	89.372			
175	35	COG (ft):	X: 0.524	Y: 0.97	Z: 0.348			
176	36	N1	191.015	1748.667	101.465	-2.237	-0.013	2.812
177	36	N30	4.574	1242.047	-18.315	2.649	-0.016	-0.091
178	36	N58	-106.191	1191.37	71.677	-1.068	0.007	-1.649
179	36	Totals:	89.398	4182.084	154.827			
180	36	COG (ft):	X: 0.524	Y: 0.97	Z: 0.348			
181	37	N1	194.407	2035.921	120.994	-2.677	-0.027	4.27
182	37	N30	-16.806	1267.519	-40.939	2.527	0.02	0.02
183	37	N58	-177.594	878.637	92.479	-0.555	-0.024	-1.111
184	37	Totals:	0.007	4182.077	172.533			
185	37	COG (ft):	X: 1.196	Y: 0.97	Z: 0.348			
186	38	N1	153.308	2049.275	101.633	-2.698	-0.031	4.308
187	38	N30	-31.383	1262.883	-55.705	2.51	0.039	0.025
188	38	N58	-205.029	869.919	98.039	-0.542	-0.035	-1.086
189	38	Totals:	-83.104	4182.077	143.966			
190	38	COG (ft):	X: 1.196	Y: 0.97	Z: 0.348			
191	39	N1	124.02	2062.163	70.224	-2.72	-0.002	4.344
192	39	N30	-51.311	1254.003	-86.769	2.477	0.077	0.028
193	39	N58	-216.624	865.911	99.648	-0.537	-0.023	-1.074
194	39	Totals:	-143.914	4182.077	83.102			
195	39	COG (ft):	X: 1.196	Y: 0.97	Z: 0.348			
196	40	N1	108.643	2073.132	46.159	-2.739	0.025	4.376
197	40	N30	-62.884	1241.265	-135.4	2.431	0.096	0.031
198	40	N58	-218.2	867.681	89.248	-0.541	-0.022	-1.078
199	40	Totals:	-172.441	4182.077	0.007			
200	40	COG (ft):	X: 1.196	Y: 0.97	Z: 0.348			

Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
201	41	N1	100.327	2078.092	36.854	-2.749	0.022	4.389
202	41	N30	-54.157	1226.909	-188.681	2.379	0.073	0.031
203	41	N58	-200.956	877.076	62.463	-0.558	-0.052	-1.105
204	41	Totals:	-154.786	4182.077	-89.365			
205	41	COG (ft):	X: 1.196	Y: 0.97	Z: 0.348			
206	42	N1	107.042	2073.719	33.817	-2.744	0.02	4.376
207	42	N30	-35.834	1216.778	-222.74	2.342	0.043	0.027
208	42	N58	-160.597	891.579	34.103	-0.582	-0.074	-1.146
209	42	Totals:	-89.39	4182.077	-154.82			
210	42	COG (ft):	X: 1.196	Y: 0.97	Z: 0.348			
211	43	N1	137.97	2062.326	36.903	-2.726	0.038	4.343
212	43	N30	-21.658	1214.754	-228.344	2.336	0.029	0.02
213	43	N58	-116.301	904.997	18.92	-0.604	-0.062	-1.184
214	43	Totals:	0.011	4182.076	-172.52			
215	43	COG (ft):	X: 1.196	Y: 0.97	Z: 0.348			
216	44	N1	179.068	2048.969	56.262	-2.705	0.042	4.305
217	44	N30	-7.077	1219.388	-213.576	2.354	0.01	0.015
218	44	N58	-88.869	913.719	13.362	-0.617	-0.052	-1.21
219	44	Totals:	83.121	4182.076	-143.953			
220	44	COG (ft):	X: 1.196	Y: 0.97	Z: 0.348			
221	45	N1	208.36	2036.082	87.669	-2.683	0.013	4.269
222	45	N30	12.848	1228.266	-182.506	2.387	-0.028	0.012
223	45	N58	-77.277	917.729	11.749	-0.622	-0.064	-1.222
224	45	Totals:	143.932	4182.077	-83.089			
225	45	COG (ft):	X: 1.196	Y: 0.97	Z: 0.348			
226	46	N1	223.744	2025.118	111.733	-2.664	-0.013	4.237
227	46	N30	24.42	1241.003	-133.873	2.433	-0.047	0.009
228	46	N58	-75.705	915.956	22.146	-0.617	-0.065	-1.217
229	46	Totals:	172.458	4182.077	0.006			
230	46	COG (ft):	X: 1.196	Y: 0.97	Z: 0.348			
231	47	N1	232.059	2020.161	121.042	-2.654	-0.011	4.224
232	47	N30	15.69	1255.36	-80.598	2.485	-0.024	0.009
233	47	N58	-92.945	906.556	48.934	-0.6	-0.035	-1.191
234	47	Totals:	154.803	4182.077	89.378			
235	47	COG (ft):	X: 1.196	Y: 0.97	Z: 0.348			
236	48	N1	225.337	2024.532	124.083	-2.659	-0.009	4.237
237	48	N30	-2.634	1265.494	-46.543	2.521	0.006	0.014
238	48	N58	-133.297	892.051	77.293	-0.576	-0.013	-1.149
239	48	Totals:	89.407	4182.077	154.833			
240	48	COG (ft):	X: 1.196	Y: 0.97	Z: 0.348			
241	49	N1	151.583	1596.707	70.469	-1.899	0.005	3.291
242	49	N30	-15.706	1311.452	-123.901	2.654	0.015	-0.011
243	49	N58	-135.873	898.932	53.436	-0.566	-0.033	-1.317
244	49	Totals:	0.003	3807.091	0.003			
245	49	COG (ft):	X: 0.83	Y: 1.066	Z: -0.011			
246	50	N1	130.134	1327.366	55.724	-1.456	0.002	2.216
247	50	N30	-10.922	1295.426	-106.298	2.737	-0.001	-0.065
248	50	N58	-119.215	1184.303	50.572	-1.054	-0.02	-1.776
249	50	Totals:	-0.003	3807.096	-0.002			
250	50	COG (ft):	X: 0.214	Y: 1.066	Z: -0.011			
251	51	N1	150.676	1281.024	65.042	-1.208	0.003	2.369
252	51	N30	-12.621	1609.033	-124.087	3.382	-0.001	-0.076
253	51	N58	-138.059	1114.067	59.043	-0.737	-0.023	-1.855
254	51	Totals:	-0.004	4004.124	-0.002			
255	51	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			

Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
256	52	N1	182.782	1113.962	133.196	-1.027	-0.06	2.038
257	52	N30	-6.035	1476.497	58.332	3.166	-0.01	-0.067
258	52	N58	-176.755	965.504	118.129	-0.61	0.013	-1.582
259	52	Totals:	-0.007	3555.963	309.656			
260	52	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
261	53	N1	114.265	1137.866	94.481	-1.066	-0.049	2.106
262	53	N30	-36.289	1470.157	35.089	3.144	0.041	-0.061
263	53	N58	-232.811	947.94	138.593	-0.583	0.012	-1.531
264	53	Totals:	-154.835	3555.963	268.163			
265	53	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
266	54	N1	50.982	1161.721	45.934	-1.106	-0.024	2.174
267	54	N30	-59.821	1452.758	-27.075	3.084	0.081	-0.056
268	54	N58	-259.329	941.484	135.969	-0.576	0.003	-1.511
269	54	Totals:	-268.168	3555.963	154.828			
270	54	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
271	55	N1	9.873	1179.137	0.557	-1.138	0.008	2.224
272	55	N30	-70.329	1428.963	-111.521	3.002	0.099	-0.054
273	55	N58	-249.204	947.863	110.964	-0.589	-0.013	-1.528
274	55	Totals:	-309.66	3555.963	-0.001			
275	55	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
276	56	N1	1.963	1185.44	-29.486	-1.152	0.039	2.241
277	56	N30	-64.991	1405.15	-195.619	2.921	0.091	-0.056
278	56	N58	-205.136	965.373	70.276	-0.62	-0.031	-1.576
279	56	Totals:	-268.164	3555.963	-154.83			
280	56	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
281	57	N1	29.361	1178.941	-36.151	-1.144	0.06	2.221
282	57	N30	-45.24	1387.697	-256.828	2.861	0.057	-0.061
283	57	N58	-138.95	989.325	24.813	-0.66	-0.046	-1.644
284	57	Totals:	-154.829	3555.962	-268.165			
285	57	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
286	58	N1	84.735	1161.381	-17.655	-1.118	0.065	2.17
287	58	N30	-16.364	1381.275	-278.752	2.839	0.009	-0.068
288	58	N58	-68.371	1013.306	-13.254	-0.699	-0.054	-1.713
289	58	Totals:	0	3555.962	-309.66			
290	58	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
291	59	N1	153.253	1137.469	21.052	-1.079	0.054	2.102
292	59	N30	13.895	1387.608	-255.5	2.861	-0.043	-0.074
293	59	N58	-12.32	1030.885	-33.719	-0.725	-0.054	-1.764
294	59	Totals:	154.827	3555.962	-268.167			
295	59	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
296	60	N1	216.547	1113.618	69.592	-1.039	0.029	2.034
297	60	N30	37.426	1404.997	-193.321	2.921	-0.083	-0.079
298	60	N58	14.187	1037.347	-31.103	-0.733	-0.044	-1.784
299	60	Totals:	268.16	3555.962	-154.832			
300	60	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
301	61	N1	257.667	1096.213	114.971	-1.007	-0.003	1.984
302	61	N30	47.928	1428.79	-108.869	3.003	-0.101	-0.08
303	61	N58	4.057	1030.96	-6.104	-0.72	-0.028	-1.768
304	61	Totals:	309.652	3555.963	-0.003			
305	61	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
306	62	N1	265.576	1089.918	145.022	-0.993	-0.033	1.967
307	62	N30	42.584	1452.61	-24.781	3.085	-0.092	-0.079
308	62	N58	-40.004	1013.435	34.585	-0.689	-0.01	-1.719
309	62	Totals:	268.157	3555.963	154.826			
310	62	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			

Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
311	63	N1	238.167	1096.413	151.693	-1.001	-0.055	1.987
312	63	N30	22.834	1470.073	36.413	3.145	-0.059	-0.074
313	63	N58	-106.18	989.477	80.056	-0.649	0.005	-1.651
314	63	Totals:	154.821	3555.963	268.162			
315	63	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
316	64	N1	141.072	760.288	115.264	-0.694	-0.061	1.384
317	64	N30	-2.534	1032.021	92.54	2.232	-0.01	-0.046
318	64	N58	-138.544	657.915	101.853	-0.407	0.02	-1.07
319	64	Totals:	-0.006	2450.225	309.657			
320	64	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
321	65	N1	72.581	784.162	76.57	-0.732	-0.05	1.452
322	65	N30	-32.814	1025.692	69.303	2.21	0.041	-0.04
323	65	N58	-194.602	640.371	122.291	-0.38	0.019	-1.019
324	65	Totals:	-154.834	2450.225	268.163			
325	65	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
326	66	N1	9.331	807.983	28.035	-0.773	-0.025	1.52
327	66	N30	-56.366	1008.317	7.151	2.15	0.081	-0.035
328	66	N58	-221.132	633.925	119.643	-0.372	0.009	-0.999
329	66	Totals:	-268.167	2450.224	154.829			
330	66	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
331	67	N1	-31.748	825.372	-17.343	-0.804	0.007	1.569
332	67	N30	-66.884	984.551	-77.279	2.068	0.1	-0.033
333	67	N58	-211.027	640.301	94.622	-0.386	-0.007	-1.015
334	67	Totals:	-309.659	2450.224	0			
335	67	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
336	68	N1	-39.639	831.662	-47.399	-0.818	0.038	1.586
337	68	N30	-61.542	960.765	-161.361	1.986	0.091	-0.035
338	68	N58	-166.982	657.797	53.93	-0.417	-0.025	-1.064
339	68	Totals:	-268.163	2450.224	-154.829			
340	68	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
341	69	N1	-12.239	825.168	-54.084	-0.811	0.059	1.567
342	69	N30	-41.774	943.331	-222.558	1.927	0.058	-0.04
343	69	N58	-100.815	681.725	8.478	-0.457	-0.04	-1.132
344	69	Totals:	-154.828	2450.224	-268.165			
345	69	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
346	70	N1	43.12	807.629	-35.613	-0.785	0.065	1.516
347	70	N30	-12.873	936.913	-244.479	1.905	0.009	-0.047
348	70	N58	-30.246	705.682	-29.568	-0.495	-0.048	-1.201
349	70	Totals:	0.001	2450.223	-309.66			
350	70	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
351	71	N1	111.611	783.748	3.073	-0.746	0.054	1.447
352	71	N30	17.413	943.235	-221.232	1.927	-0.043	-0.053
353	71	N58	25.805	723.24	-50.007	-0.522	-0.047	-1.252
354	71	Totals:	154.829	2450.223	-268.166			
355	71	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
356	72	N1	174.873	759.93	51.602	-0.706	0.029	1.379
357	72	N30	40.965	960.601	-159.066	1.987	-0.083	-0.058
358	72	N58	52.324	729.693	-47.368	-0.529	-0.037	-1.272
359	72	Totals:	268.162	2450.224	-154.832			
360	72	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
361	73	N1	215.963	742.552	96.982	-0.674	-0.004	1.33
362	73	N30	51.476	984.364	-74.631	2.069	-0.101	-0.06
363	73	N58	42.215	723.309	-22.353	-0.516	-0.021	-1.255
364	73	Totals:	309.654	2450.224	-0.002			
365	73	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			

Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
366	74	N1	223.854	736.269	127.045	-0.66	-0.034	1.313
367	74	N30	46.128	1008.157	9.442	2.151	-0.092	-0.058
368	74	N58	-1.824	705.798	18.34	-0.485	-0.004	-1.207
369	74	Totals:	268.158	2450.224	154.827			
370	74	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			
371	75	N1	196.442	742.76	133.738	-0.667	-0.055	1.333
372	75	N30	26.361	1025.601	70.624	2.21	-0.059	-0.053
373	75	N58	-67.98	681.863	63.8	-0.445	0.012	-1.139
374	75	Totals:	154.822	2450.224	268.162			
375	75	COG (ft):	X: 0.237	Y: 1.182	Z: -0.449			

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

	Member	Shape	Code	Check	Loc[ft]	LC	Shear	Check	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	M1	HSS4X4X4	0.322	0	41	0.086	0	y	30	124657.752	139518	16.181	16.181	2.577	H1-1b		
2	M2	HSS4X4X4	0.142	2.375	18	0.051	2.375	y	29	136263.03	139518	16.181	16.181	1.66	H1-1b		
3	M3	HSS4X4X4	0.153	0	16	0.051	0	y	17	136263.03	139518	16.181	16.181	1.663	H1-1b		
4	M4	PL1/2X6	0.107	0.516	10	0.151	0.516	y	38	66009.234	97200	1.012	12.15	1.422	H1-1b		
5	M7	L2X2X3	0.111	2.211	24	0.014	4.162	y	20	9823.122	23392.8	0.558	1.077	1.152	H2-1		
6	M8	L2X2X3	0.114	1.951	22	0.014	0	y	13	9823.122	23392.8	0.558	1.077	1.151	H2-1		
7	M12	PL3/8X6	0.082	0	6	0.186	0	y	22	70677.939	72900	0.57	9.113	1.249	H1-1b		
8	M13	PL3/8X6	0.136	0.167	12	0.304	0	y	29	71601.728	72900	0.57	9.113	1.307	H1-1b		
9	M15	PL1/2X6	0.033	0.112	11	0.131	0	y	39	96757.507	97200	1.012	12.15	1.125	H1-1b		
10	M17	PL3/8X6	0.143	0	10	0.191	0	y	36	70677.939	72900	0.57	9.113	1.537	H1-1b		
11	M18	PL3/8X6	0.156	0.167	11	0.311	0	y	17	71601.728	72900	0.57	9.113	1.31	H1-1b		
12	M20	PL1/2X6	0.038	0.112	5	0.051	0.112	y	37	96757.507	97200	1.012	12.15	1.121	H1-1b		
13	M25	HSS4X4X4	0.373	0	24	0.084	0	y	24	124657.752	139518	16.181	16.181	2.836	H1-1b		
14	M26	HSS4X4X4	0.17	2.375	13	0.051	2.375	y	24	136263.03	139518	16.181	16.181	1.648	H1-1b		
15	M27	HSS4X4X4	0.168	0	24	0.055	0	y	13	136263.03	139518	16.181	16.181	1.657	H1-1b		
16	M28	PL1/2X6	0.114	0.516	1	0.113	0.516	y	16	66009.234	97200	1.012	12.15	1.287	H1-1b		
17	M31	L2X2X3	0.092	0	2	0.012	4.162	y	17	9823.122	23392.8	0.558	1.081	1.169	H2-1		
18	M32	L2X2X3	0.09	0	12	0.01	0	y	21	9823.122	23392.8	0.558	1.081	1.171	H2-1		
19	M36	PL3/8X6	0.141	0	1	0.259	0	y	18	70677.939	72900	0.57	9.113	1.26	H1-1b		
20	M37	PL3/8X6	0.148	0.167	7	0.337	0	y	13	71601.728	72900	0.57	9.113	1.244	H1-1b		
21	M39	PL1/2X6	0.045	0.112	1	0.046	0	y	11	96757.507	97200	1.012	12.15	1.062	H1-1b		
22	M41	PL3/8X6	0.118	0	10	0.219	0	y	20	70677.939	72900	0.57	9.113	1.353	H1-1b		
23	M42	PL3/8X6	0.159	0.167	6	0.346	0	y	24	71601.728	72900	0.57	9.113	1.445	H1-1b		
24	M44	PL1/2X6	0.041	0.112	1	0.065	0	y	3	96757.507	97200	1.012	12.15	1.223	H1-1b		
25	M49	HSS4X4X4	0.231	0	21	0.086	0	y	22	124657.752	139518	16.181	16.181	3	H1-1b		
26	M50	HSS4X4X4	0.146	2.375	22	0.049	2.375	y	21	136263.03	139518	16.181	16.181	1.655	H1-1b		
27	M51	HSS4X4X4	0.126	0	20	0.036	0	y	21	136263.03	139518	16.181	16.181	1.639	H1-1b		
28	M52	PL1/2X6	0.107	0.516	3	0.091	0	y	6	66009.234	97200	1.012	12.15	1.434	H1-1b		
29	M55	L2X2X3	0.088	0	10	0.011	4.162	y	24	9823.122	23392.8	0.558	1.081	1.169	H2-1		
30	M56	L2X2X3	0.09	4.162	8	0.012	4.162	y	17	9823.122	23392.8	0.558	1.081	1.171	H2-1		
31	M60	PL3/8X6	0.139	0	9	0.199	0	y	13	70677.939	72900	0.57	9.113	1.225	H1-1b		
32	M61	PL3/8X6	0.16	0.167	4	0.309	0	y	22	71601.728	72900	0.57	9.113	1.317	H1-1b		
33	M63	PL1/2X6	0.037	0.112	9	0.052	0	y	7	96757.507	97200	1.012	12.15	1.174	H1-1b		
34	M65	PL3/8X6	0.1	0	9	0.239	0	y	17	70677.939	72900	0.57	9.113	1.282	H1-1b		
35	M66	PL3/8X6	0.137	0.167	3	0.255	0	y	20	71601.728	72900	0.57	9.113	1.149	H1-1b		
36	M68	PL1/2X6	0.035	0.112	9	0.068	0.112	y	5	96757.507	97200	1.012	12.15	1.033	H1-1b		
37	M73	PIPE 3.0	0.091	7.943	21	0.055	4.427		23	28250.554	65205	5.749	5.749	1	H1-1b		
38	MP1A	PIPE 2.0	0.199	3.646	9	0.054	3.646		8	17855.085	32130	1.872	1.872	1	H1-1b		
39	MP2A	PIPE 2.0	0.261	3.646	10	0.061	1.969		11	17855.085	32130	1.872	1.872	1	H1-1b		
40	OVP	PIPE 2.0	0.119	2.5	11	0.016	2.5		11	26521.424	32130	1.872	1.872	1	H1-1b		
41	M101A	PIPE 3.0	0.138	4.557	13	0.056	8.073		13	28250.554	65205	5.749	5.749	1	H1-1b		
42	M102A	PIPE 3.0	0.128	7.943	13	0.06	4.427		24	28250.554	65205	5.749	5.749	1	H1-1b		

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

Member	Shape	Code	CheckLoc[ft]	LC	Shear	CheckLoc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
43	MP3A	PIPE 2.0	0.272	3.646	5	0.048	3.646	4	17855.085	32130	1.872	1.872	1	H1-1b
44	MP4A	PIPE 2.0	0.193	3.646	5	0.052	3.646	6	17855.085	32130	1.872	1.872	1	H1-1b
45	1C	PIPE 2.0	0.239	3.646	17	0.081	0.729	12	17855.085	32130	1.872	1.872	1	H1-1b
46	C2	PIPE 2.0	0.25	3.646	5	0.04	3.646	12	17855.085	32130	1.872	1.872	1	H1-1b
47	3C	PIPE 2.0	0.317	0.729	12	0.09	3.719	12	17855.085	32130	1.872	1.872	1	H1-1b
48	4C	PIPE 2.0	0.254	0.729	13	0.052	0.729	2	17855.085	32130	1.872	1.872	1	H1-1b
49	MP1B	PIPE 2.0	0.21	3.646	1	0.076	0.729	11	17855.085	32130	1.872	1.872	1	H1-1b
50	MP2B	PIPE 2.0	0.303	3.646	1	0.118	3.646	3	17855.085	32130	1.872	1.872	1	H1-1b
51	MP3B	PIPE 2.0	0.228	3.646	8	0.068	3.646	11	17855.085	32130	1.872	1.872	1	H1-1b
52	4B	PIPE 2.0	0.212	3.646	21	0.097	3.719	8	17855.085	32130	1.872	1.872	1	H1-1b
53	M107	PIPE 2.5	0.136	2.083	11	0.042	10.547	12	14558.792	50715	3.596	3.596	1	H1-1b
54	M112	PIPE 2.5	0.142	8.203	17	0.045	8.073	11	14558.792	50715	3.596	3.596	1	H1-1b
55	M117	PIPE 2.5	0.15	8.203	11	0.078	10.417	11	14558.792	50715	3.596	3.596	1	H1-1b
56	M124	L3X3X4	0.241	2.328	11	0.021	2.328	y 11	41376.434	46656	1.688	3.756	1.5	H2-1
57	M125	L3X3X4	0.281	0	11	0.022	0	y 11	41376.434	46656	1.688	3.756	1.5	H2-1
58	M126	L3X3X4	0.192	0	2	0.017	2.328	y 2	41376.434	46656	1.688	3.756	1.5	H2-1
59	MP1C	PIPE 2.0	0.066	3.938	6	0.028	1.021	4	17855.085	32130	1.872	1.872	1	H1-1b
60	M131	PIPE 2.0	0.071	0	12	0.042	0	12	31747.067	32130	1.872	1.872	1	H1-1b
61	M132	PIPE 2.0	0.049	0	6	0.073	0	18	31747.067	32130	1.872	1.872	1	H1-1b
62	M133	PIPE 2.0	0.046	0	18	0.094	0	12	32033.836	32130	1.872	1.872	1	H1-1b
63	M134	PIPE 2.0	0.066	0	11	0.131	0	12	32033.836	32130	1.872	1.872	1	H1-1b
64	MP3C	PIPE 2.0	0.113	3.938	12	0.021	0.948	11	17855.085	32130	1.872	1.872	1	H1-1b
65	M136	PIPE 2.0	0.037	0	5	0.086	0	24	32033.836	32130	1.872	1.872	1	H1-1b
66	M137	PIPE 2.0	0.032	0	11	0.089	0	24	32033.836	32130	1.872	1.872	1	H1-1b
67	MP4C	PIPE 2.0	0.079	3.938	12	0.02	1.021	2	17855.085	32130	1.872	1.872	1	H1-1b
68	M139	PIPE 2.0	0.095	0	14	0.04	0	2	31747.067	32130	1.872	1.872	1	H1-1b
69	M140	PIPE 2.0	0.073	0	8	0.051	0	8	31747.067	32130	1.872	1.872	1	H1-1b
70	MP4B	PIPE 2.0	0.093	3.938	20	0.026	1.021	10	17855.085	32130	1.872	1.872	1	H1-1b
71	OVP1	PIPE 2.0	0.01	2.5	1	0.002	2.5	1	26521.424	32130	1.872	1.872	1	H1-1b

I. Mount-to-Tower Connection Check

Custom Orientation Required

No

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):

6.1

Required Shear Strength / bolt (kips):

0.8

Tensile Capacity / bolt (kips):

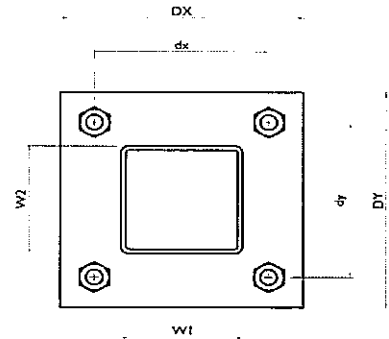
20.7

Shear Capacity / bolt (kips):

12.4

Bolt Overall Utilization:

29.3%



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

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):

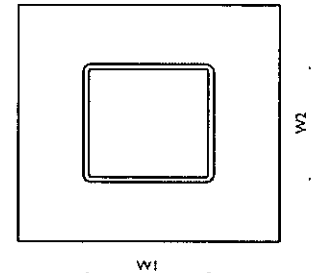
9.99

$\Phi * M_n$ (kip-in):

26.65

Plate Bending Utilization:

37.5%



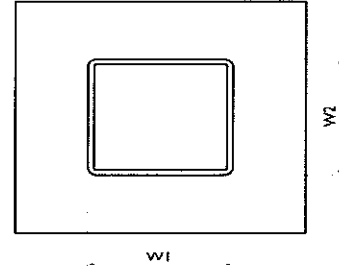
VzW
SMART Tool®
Vendor

Client: Verizon Wireless Date: 9/25/2024
 Site Name: MERIDEN HANOVER CT
 MDG #: 5000382636
 Fuze ID #: 16227612 Page: 2
 Version 2.00

Tower Connection Weld Checks

Weld Shape:
 Weld Stiffener Configuration:
 Stiffener Notch Present?
 Weld Size (1/16 in):
 W1 (in):
 W2 (in):
 Weld Total Length (in):
 Z_x (in³/in):
 Z_y (in³/in):
 J_p (in⁴/in):
 c_x (in)
 c_y (in)
 Required combined strength (kip/in):
 Weld Capacity (kip/in):
 Weld Utilization:

Yes
Rectangle
None
No
4
4
4
16.00
21.33
21.33
85.33
2.25
2.25
2.28
5.57
40.9%





VERIZON SITE NUMBER: 5000382636
VERIZON SITE NAME: MERIDEN HANOVER CT
VERIZON PROJECT: 16227612
SITE TYPE: MONOPOLE
TOWER HEIGHT: 101.97'

BUSINESS UNIT #: 842869
SITE ADDRESS: 450-478 W MAIN ST
MERIDEN, CT 06451
COUNTY: NEW HAVEN
JURISDICTION: CONNECTICUT SITING COUNCIL



SITE INFORMATION

CROWN CASTLE USA INC.
SITE NAME:
BU NUMBER:

MERIDEN WEST CENTRAL
842869

TOWER OWNER:

CROWN CASTLE
2000 CORPORATE DRIVE
CANONSBURG, PA 15317

CARRIER/APPLICANT:

VERIZON WIRELESS
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

SITE ADDRESS:

450-478 W MAIN ST
MERIDEN, CT 06451
NEW HAVEN

COUNTY:

NEW HAVEN

LATITUDE:
LONGITUDE:
LAT/LONG TYPE:
GROUND ELEVATION:

41° 32' 24.11" N
72° 49' 08.47" W
NAD83
170' +/-

AREA OF CONSTRUCTION:
CURRENT ZONING:
MAP/PARCEL #:

EXISTING
-
0612-0202-0001-0002

OCCUPANCY CLASSIFICATION: U
TYPE OF CONSTRUCTION:
A.D.A. COMPLIANCE:

IIB
FACILITY IS UNMANNED AND
NOT FOR HUMAN HABITATION

PROPERTY OWNER:

HUNTER FAMILY LTD PRTSHP
51-B S VINE ST
MERIDEN, CT 06451

JURISDICTION:

CONNECTICUT SITING COUNCIL
TEN FRANKLIN SQUARE
NEW BRITAIN, CT 06051

ELECTRIC PROVIDER:

CONNECTICUT LIGHT & POWER CO (800) 922-4455

TELCO PROVIDER:

LIGHTOWER
(845) 458-7720

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	EQUIPMENT DETAILS & SPECIFICATIONS
C-5.1	EQUIPMENT DETAILS & SPECIFICATIONS
C-6	COLOR CODE MATRIX
G-1	GROUNDING DETAILS
ATTACHED	MOUNT MODIFICATION DRAWING (BY OTHERS)

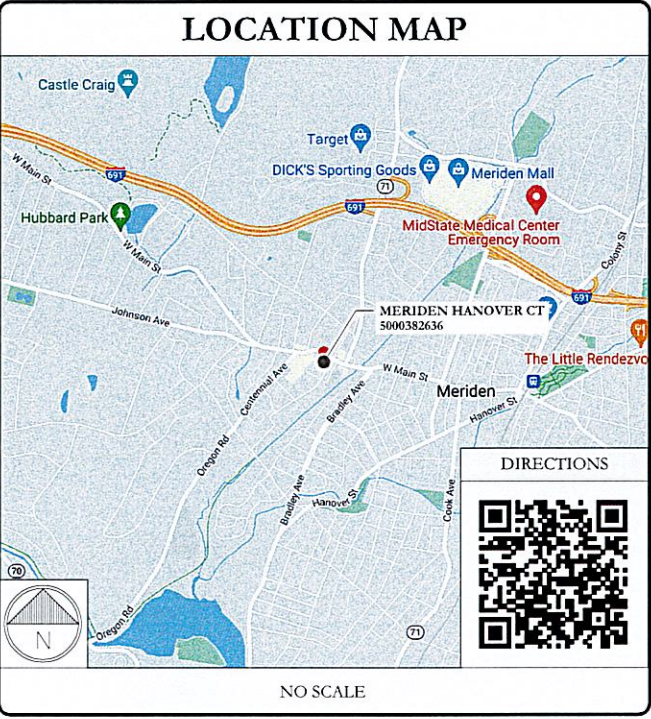
APPROVALS

VERIZON SIGNATURE BLOCK

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

CROWN CASTLE USA INC. SINGNATURE BLOCK

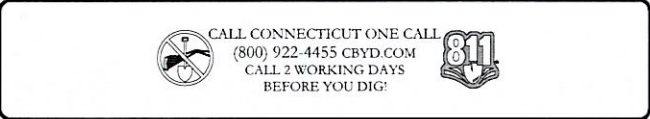
APPROVAL	SIGNATURE	DATE
SITE ACQUISITION		
PLANNER		
CONSTRUCTION		
PROJECT MANAGER		
UTILITY MANAGER		
LANDLORD		



VERIZON SITE NUMBER:
5000382636
BU #: 842869
CROWN CASTLE SITE NAME
MERIDEN WEST CENTRAL
450-478 W MAIN ST
MERIDEN, CT 06451
EXISTING
101.97' MONOPOLE

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	3/18/24	MDW	CONSTRUCTION	MB
1	7/10/24	MDW	CONSTRUCTION	MB
2	10/17/24	MDW	CONSTRUCTION	MB
3	12/16/24	MDW	CONSTRUCTION	MB

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. 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.



CONTRACTOR PMI REQUIREMENTS

PMI ACCESSED AT
SMART TOOL VENDOR
PROJECT NUMBER
VzW LOCATION CODE (PSLC)

https://pmi.vzwsmart.com
10247779
469190

*** 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

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) ANTEL - BXA-171063-12CF ANTENNAS
- REMOVE (6) ANDREW - SBNHH-1D45B ANTENNAS
- REMOVE (3) ANTEL - BXA70063-6CF ANTENNAS
- REMOVE (3) NOKIA - UHBA B13 RRH 4X30 RADIOS
- REMOVE (3) NOKIA - UHIC B4 RRH 2X60-4R RADIOS
- INSTALL (3) JMA - MX12FRO445-01 ANTENNAS
- INSTALL (4) SAMSUNG - MT6413-77A ANTENNAS
- INSTALL (2) COMMSCOPE - NHH-33A-R2B ANTENNAS
- INSTALL (1) COMMSCOPE - BSAMNT-SBS-2-3 ANTENNA MOUNT BRACKET
- INSTALL (4) SAMSUNG - B2/B66A RRH ORAN (RF4439D-25A) RADIOS
- INSTALL (4) SAMSUNG - RF4461D-13A RADIOS

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 CT BUILDING CODES
MECHANICAL	2022 CT BUILDING CODES
ELECTRICAL	2020 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	MORRISON HERSHFIELD
DATED:	10/10/24
MOUNT ANALYSIS:	COLLIERS ENGINEERING & DESIGN
DATED:	8/23/24
RFDS REVISION:	REV6
DATED:	4/15/24
ORDER ID:	662909
REVISION:	3

INSTALLER NOTE:

NO PROPOSED LOADING TO BE ADDED UNTIL MOUNT MODIFICATIONS ARE INSTALLED PER MOUNT MODIFICATION DRAWING BY COLLIERS ENGINEERING & DESIGN DATED 9/26/24.

Signed by:
Maham Barimani
604788923AD4B1...

STATE OF CONNECTICUT
MAHAM BARIMANI
30501
LICENSED PROFESSIONAL ENGINEER

12/17/2024 | 7:52:33 AM C

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-1

REVISION:
3

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 IMPED/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.

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-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING SYSTEMS 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, THE CONDUIT SHALL BE NON-METALLIC CONDUIT. NON-METALLIC CONDUIT SHALL BE PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE, NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE. THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. ALL GROUND 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/YO COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
CARRIER: 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° AT TIME OF PLACEMENT.
4. CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES, AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.
5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:
#4 BARS AND SMALLER.....40 ksi
#5 BARS AND LARGER.....60 ksi
6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS.
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.....3"
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 BARS AND LARGER.....2"
#5 BARS AND SMALLER.....1-1/2"
CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
SLAB AND WALLS.....3/4"
BEAMS AND COLUMNS.....1-1/2"
7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
- 4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. ALL THE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#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 FASTENED 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
120/2Ø8V, 3Ø	A PHASE	BLACK
	B PHASE	RED
	C PHASE	BLUE
	NEUTRAL	WHITE
277/48ØV, 3Ø	A PHASE	BROWN
	B PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
	NEUTRAL	GREY
DC VOLTAGE	GROUND	GREEN
	POS (+)	RED**
	NEG (-)	BLACK**

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

ABBREVIATIONS:

ANT	ANTENNA
(E)	EXISTING
FIF	FACILITY INTERFACE FRAME
GEN	GENERAL
GPS	GLOBAL POSITIONING SYSTEM
OSM	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
TWA	TOWER MOUNTED AMPLIFIER
TYP	TYPICAL
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
W.P.	WORK POINT

APWA UNIFORM COLOR CODE:

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

verizon

CROWN CASTLE

VERIZON SITE NUMBER:
5000382636

BU #: 842869

CROWN CASTLE SITE NAME
MERIDEN WEST CENTRAL

450-478 W MAIN ST
MERIDEN, CT 06451

EXISTING
101.97' MONOPOLE

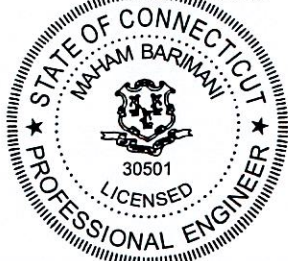
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	3/18/24	MDW	CONSTRUCTION	MB
1	7/10/24	MDW	CONSTRUCTION	MB
2	10/17/24	MDW	CONSTRUCTION	MB
3	12/16/24	MDW	CONSTRUCTION	MB

Signed by:

Maham Barimani

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12/17/2024 | 7:52:31 AM C

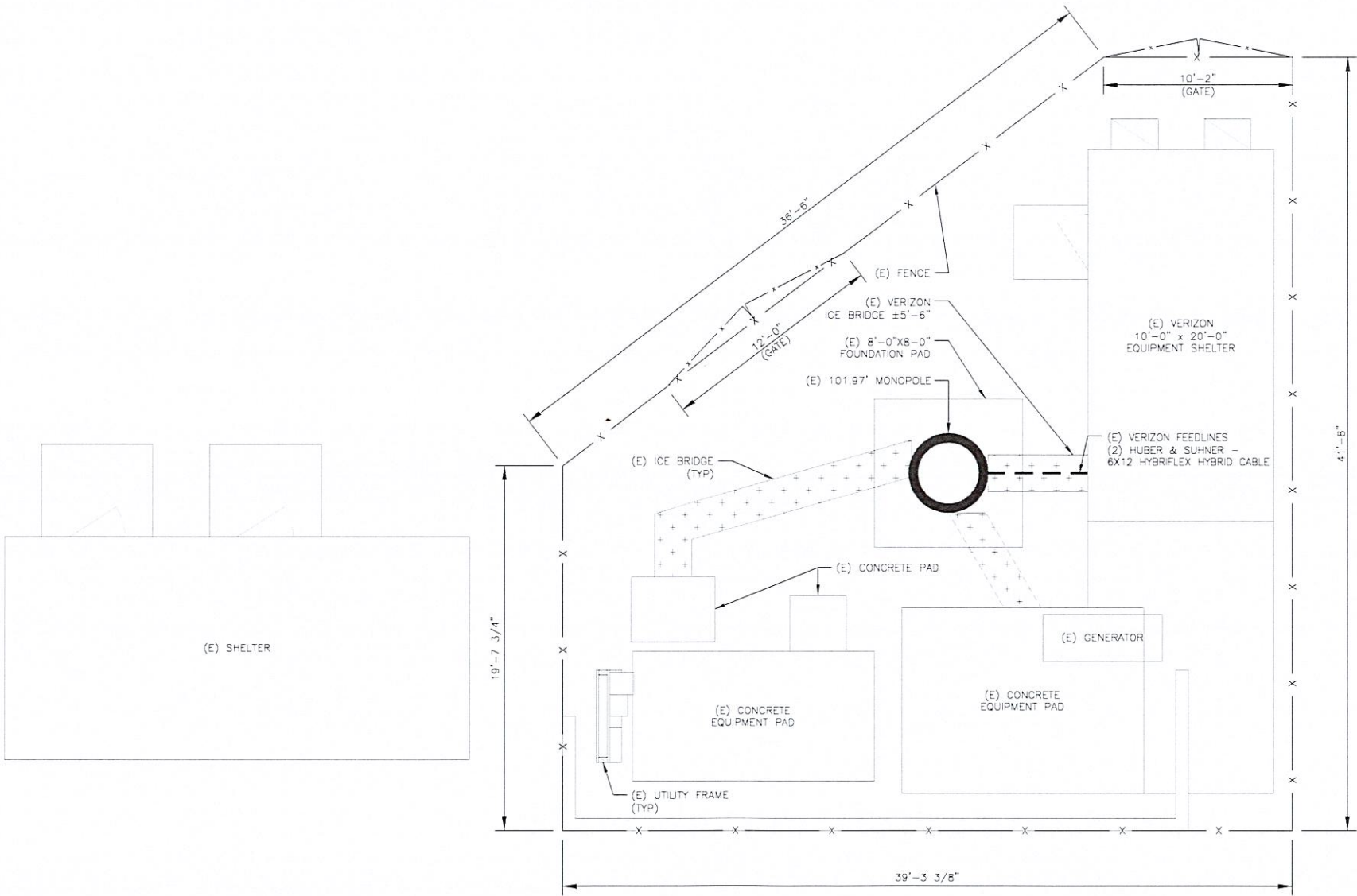
CROWN CASTLE USA INC.
CERTIFICATE OF REGISTRATION #PEC0001101
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TO ALTER THIS DOCUMENT.

SHEET NUMBER:

T-2

REVISION:

3



VERIZON SITE NUMBER:
5000382636

BU #: 842869

CROWN CASTLE SITE NAME
MERIDEN WEST CENTRAL

450-478 W MAIN ST
MERIDEN, CT 06451

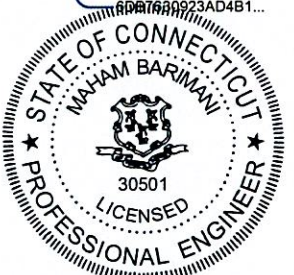
EXISTING
101.97' MONOPOLE

ISSUED FOR:

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SHEET NUMBER:

C-1

REVISION:

3

1 SITE PLAN
SCALE: 1/4"=1'-0" (FULL SIZE)
1/8"=1'-0" (1:12)



VERIZON EQUIPMENT
ANTENNA CL: 65'-0"
MOUNT CL: 65'-0"

INSTALLER NOTE:
NO PROPOSED LOADING TO BE ADDED
UNTIL MOUNT MODIFICATIONS ARE
INSTALLED PER MOUNT MODIFICATION
DRAWING BY COLLIERS ENGINEERING &
DESIGN DATED 9/26/24.



VERIZON SITE NUMBER:
5000382636

BU #: 842869

CROWN CASTLE SITE NAME
MERIDEN WEST CENTRAL

450-478 W MAIN ST
MERIDEN, CT 06451

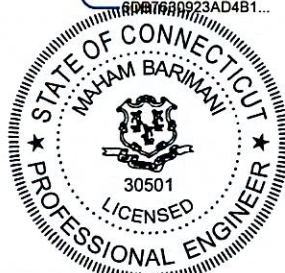
EXISTING
101.97' MONOPOLE

ISSUED FOR:

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SHEET NUMBER:

C-2

REVISION:

3

TOP OF STRUCTURE WITH APPURTENANCE
ELEV. = 118.31'

TOP OF TOWER
ELEV. = 101.97'

EXISTING EQUIPMENT BY OTHERS
MCL = 100'-0"

EXISTING EQUIPMENT BY OTHERS
MCL = 86'-0"

EXISTING EQUIPMENT BY OTHERS
MCL = 78'-0"

(E) VERIZON EQUIPMENT TO REMOVE
(3) ANTEL - BXA-171063-12CF ANTENNAS
(3) ANTEL - BXA-70063-6CF ANTENNAS
(6) ANDREW - SBNHH-1D45B ANTENNAS
(3) NOKIA - UHBA B13 RRH 4X30 RADIOS
(3) NOKIA - UHIC B4 RRH 2X60-4R RADIOS

VERIZON MOUNT CENTERLINE
ELEV. = 65'-0"

VERIZON ANTENNA CENTERLINE
ELEV. = 65'-0"

(E) VERIZON EQUIPMENT TO REMAIN
(3) AMPHENOL - BXA-70063-6CF ANTENNAS
(2) RAYCAP - 6 OVPS

(E) VERIZON FEEDLINES
(2) HUBER & SUHNER - 6X12 HYBRIFLEX HYBRID CABLE

(E) 101.97' MONOPOLE

BOTTOM OF TOWER
ELEV. = 0'-0"

1 EXISTING TOWER ELEVATION

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

TOP OF STRUCTURE WITH APPURTENANCE
ELEV. = 118.31'

TOP OF TOWER
ELEV. = 101.97'

EXISTING EQUIPMENT BY OTHERS
MCL = 100'-0"

EXISTING EQUIPMENT BY OTHERS
MCL = 86'-0"

EXISTING EQUIPMENT BY OTHERS
MCL = 78'-0"

INSTALL MOUNT MODIFICATIONS PER MOUNT MODIFICATION DRAWING
BY COLLIERS ENGINEERING & DESIGN DATED 9/26/24

(N) VERIZON EQUIPMENT TO INSTALL
(3) JMA - MX12FRO445-01 ANTENNAS
(4) SAMSUNG - MT6413-77A ANTENNAS
(2) COMMScope - NHH-33A-R2B ANTENNAS
(4) SAMSUNG - B2/B66A RRH ORAN (RF4439D-25A) RADIOS
(4) SAMSUNG - RF4461D-13A RADIOS
(1) COMMScope - BSAMNT-SBS-1-2 ANTENNA MOUNT BRACKET

VERIZON MOUNT CENTERLINE
ELEV. = 65'-0"

VERIZON ANTENNA CENTERLINE
ELEV. = 65'-0"

(E) VERIZON EQUIPMENT TO REMAIN
(3) AMPHENOL - BXA-70063-6CF ANTENNAS
(2) RAYCAP - 6 OVPS

(E) VERIZON FEEDLINES
(2) HUBER & SUHNER - 6X12 HYBRIFLEX HYBRID CABLE

(E) 101.97' MONOPOLE

BOTTOM OF TOWER
ELEV. = 0'-0"

2 FINAL TOWER ELEVATION

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

INSTALLER NOTE:
NO PROPOSED LOADING TO BE ADDED
UNTIL MOUNT MODIFICATIONS ARE
INSTALLED PER MOUNT MODIFICATION
DRAWING BY COLLIERS ENGINEERING &
DESIGN DATED 9/26/24.



VERIZON SITE NUMBER:
5000382636

BU #: 842869

CROWN CASTLE SITE NAME
MERIDEN WEST CENTRAL

450-478 W MAIN ST
MERIDEN, CT 06451

EXISTING
101.97' MONOPOLE

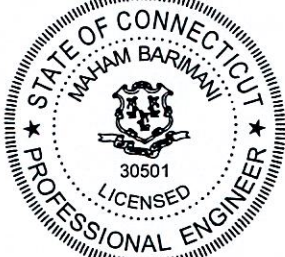
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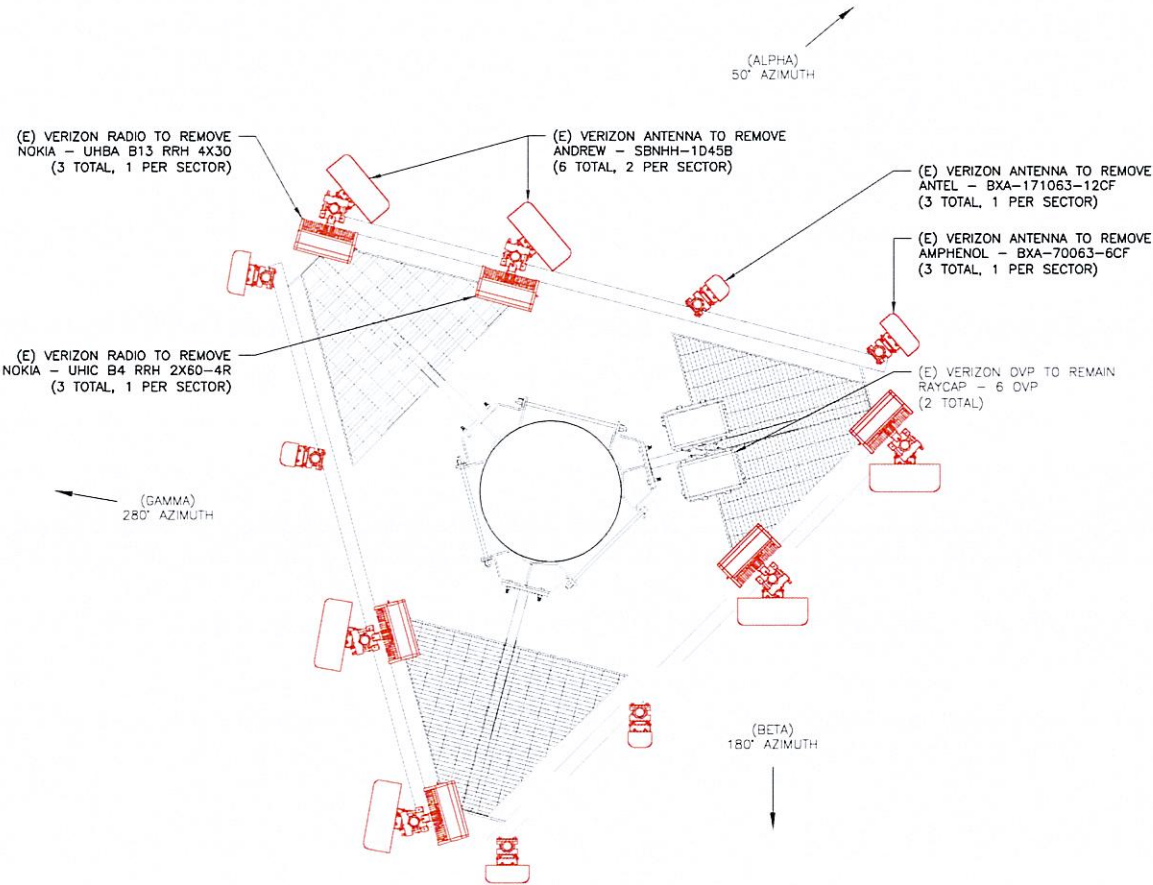
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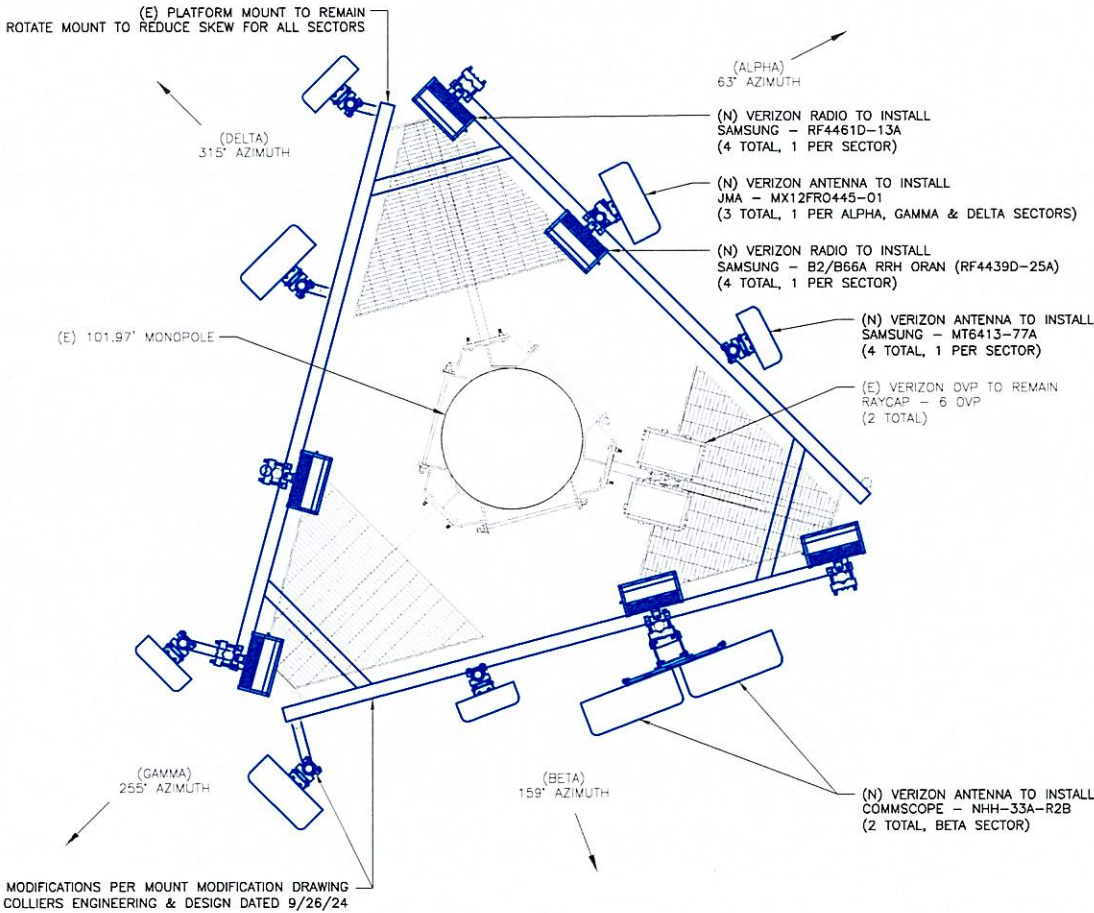
C-3

REVISION:

3



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



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



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	1900 AWS	-	-	-	1	(N) SAMSUNG - B2/B66A RRH ORAN (RF4439D-25A)	TOWER	-	-	-	-	-	1	(E) RAYCAP - 6 OVP	1	(E) HYBRID CABLE	1 5/8"	-
A2	700 850 1900 AWS	(N) JMA - MX12FR0445-01	63°	65°-6°	1	(N) SAMSUNG - RF4461D-13A	TOWER	-	-	-	-	-	-	-	-	-	-	-
A3	L-SUB6	(N) SAMSUNG - MT6413-77A	63°	66°-9°	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B1	1900 AWS	-	-	-	1	(N) SAMSUNG - B2/B66A RRH ORAN (RF4439D-25A)	TOWER	-	-	-	-	-	1	(E) RAYCAP - 6 OVP	1	(E) HYBRID CABLE	1 5/8"	-
B2	700 850 1900 AWS	(N) COMMSCOPE - NHH-33A-R2B	159°	66°-0°	1	(N) SAMSUNG - RF4461D-13A	TOWER	-	-	-	-	-	-	-	-	-	-	-
		(N) COMMSCOPE - NHH-33A-R2B	159°	66°-0°														
B3	L-SUB6	(N) SAMSUNG - MT6413-77A	159°	66°-9°	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G1	700 850 1900 AWS	(N) JMA - MX12FR0445-01	225°	65°-6°	1	(N) SAMSUNG - B2/B66A RRH ORAN (RF4439D-25A)	TOWER	-	-	-	-	-	-	-	-	-	-	-
G2	L-SUB6	(N) SAMSUNG - MT6413-77A	225°	66°-9°	1	(N) SAMSUNG - RF4461D-13A	TOWER	-	-	-	-	-	-	-	-	-	-	-
D1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D2	700 850 1900 AWS	(N) JMA - MX12FR0445-01	315°	65°-6°	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D3	L-SUB6	(N) SAMSUNG - MT6413-77A	315°	66°-9°	-	-	-	-	-	-	-	-	-	-	-	-	-	-

UNUSED FEEDLINES			
-	-	-	-
-	-	-	-



VERIZON SITE NUMBER:
5000382636

BU #: 842869

CROWN CASTLE SITE NAME
MERIDEN WEST CENTRAL

450-478 W MAIN ST
MERIDEN, CT 06451

EXISTING
101.97' MONOPOLE

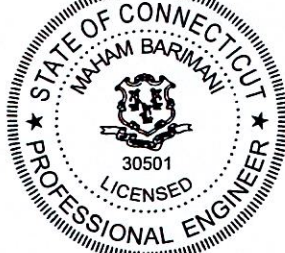
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Signed by:

Maham Barimani

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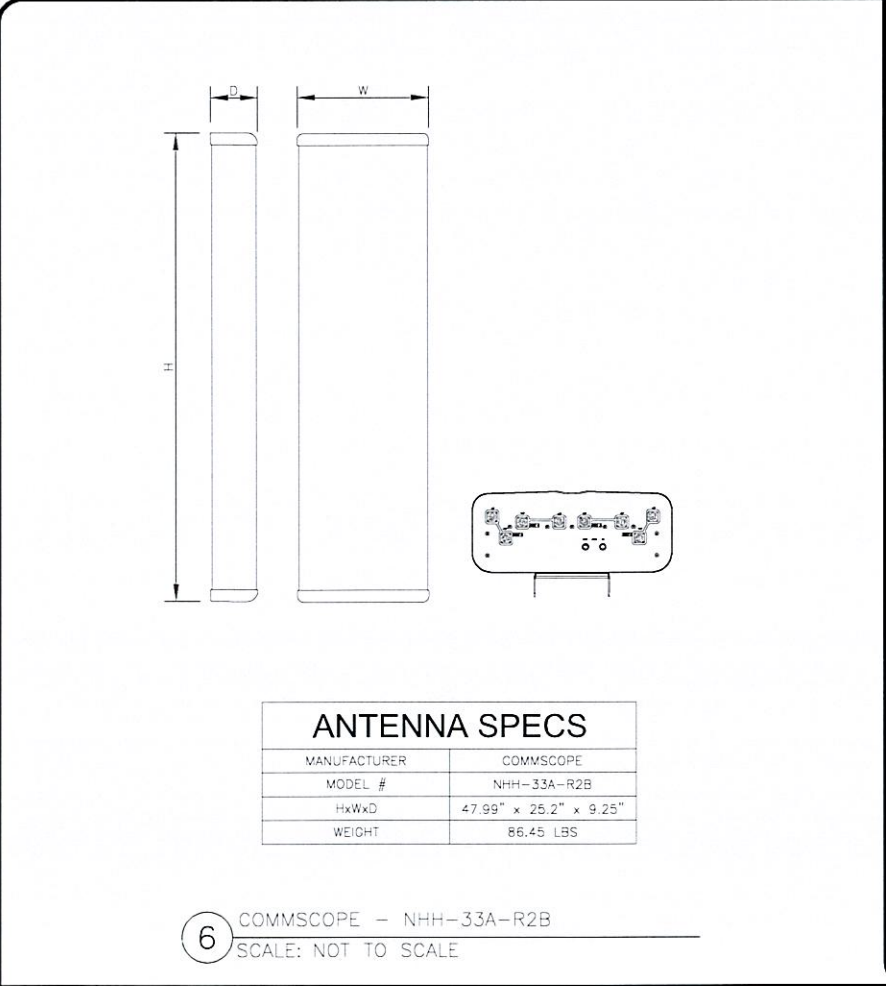
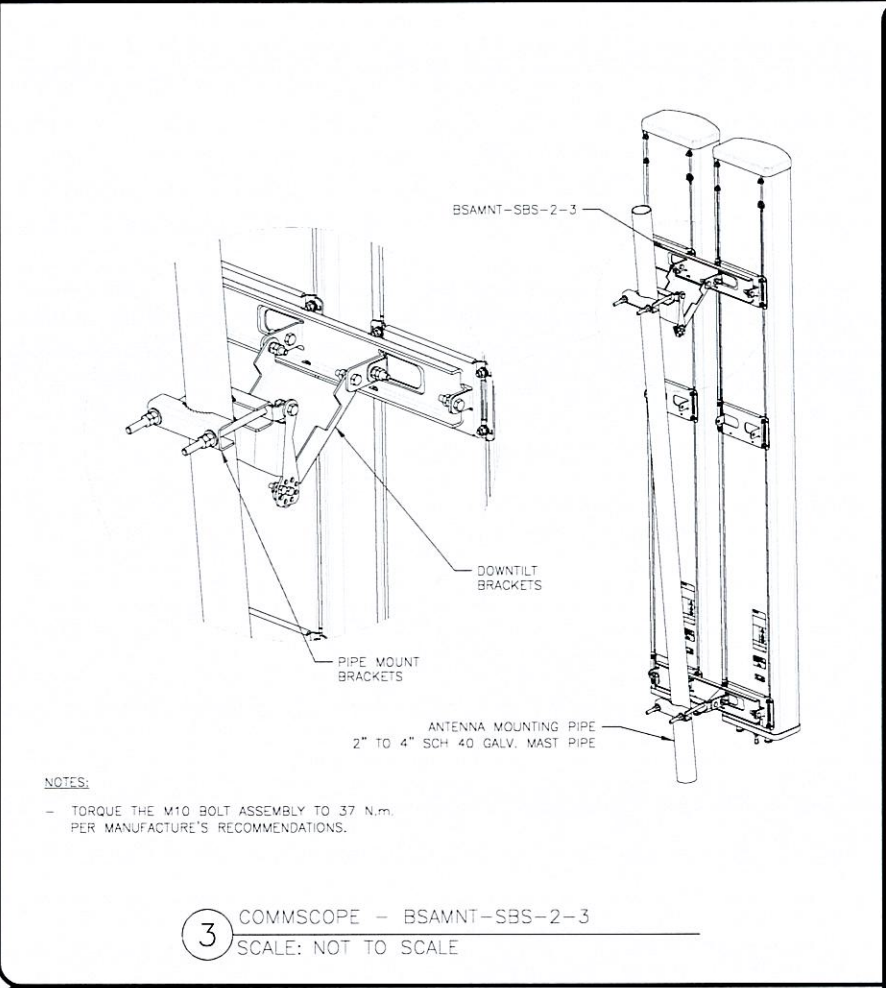
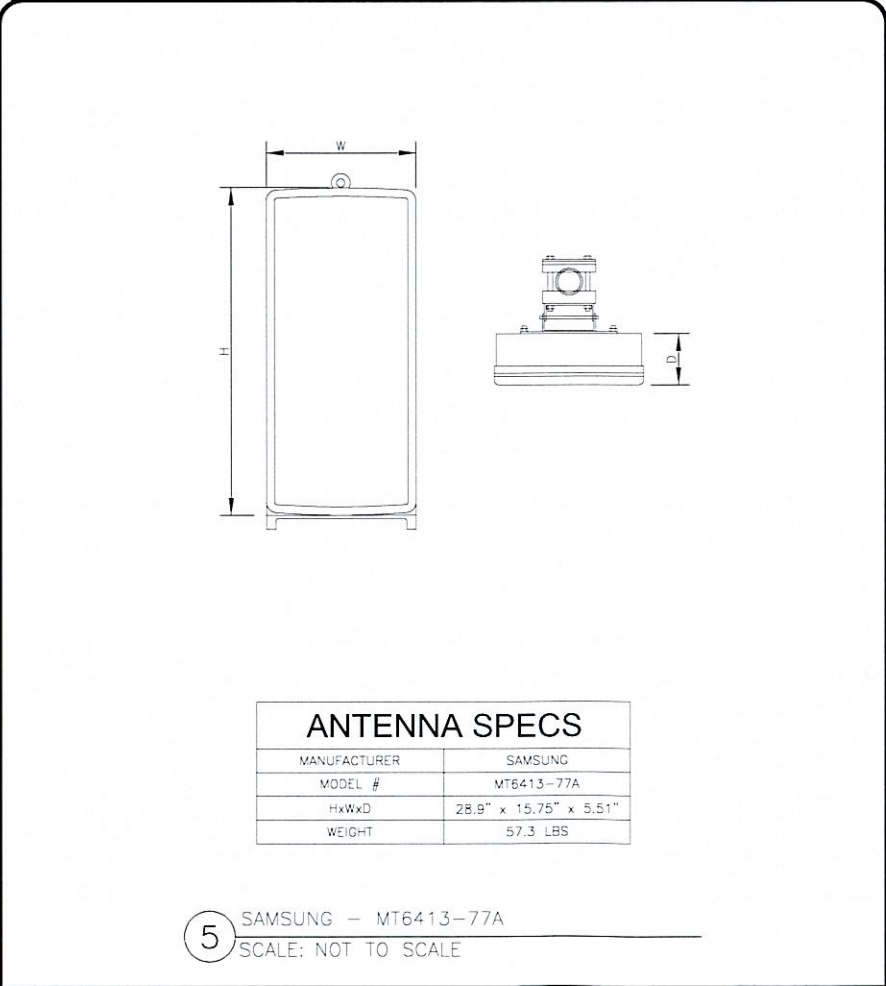
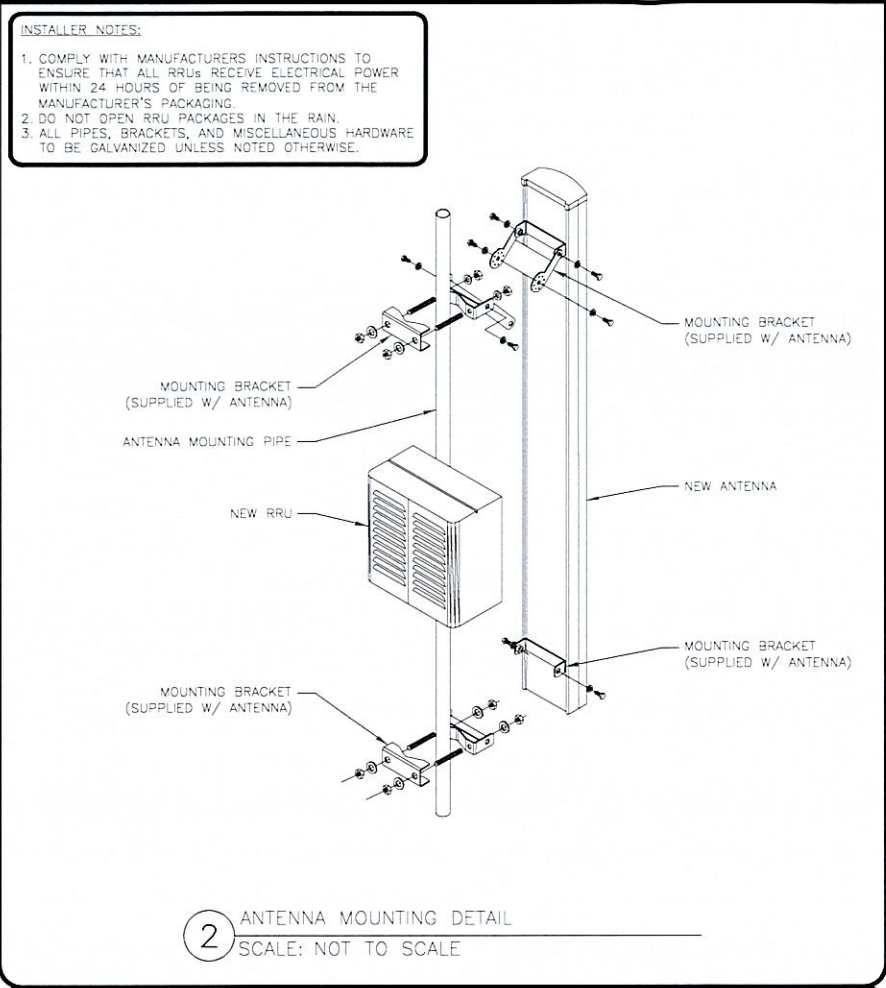
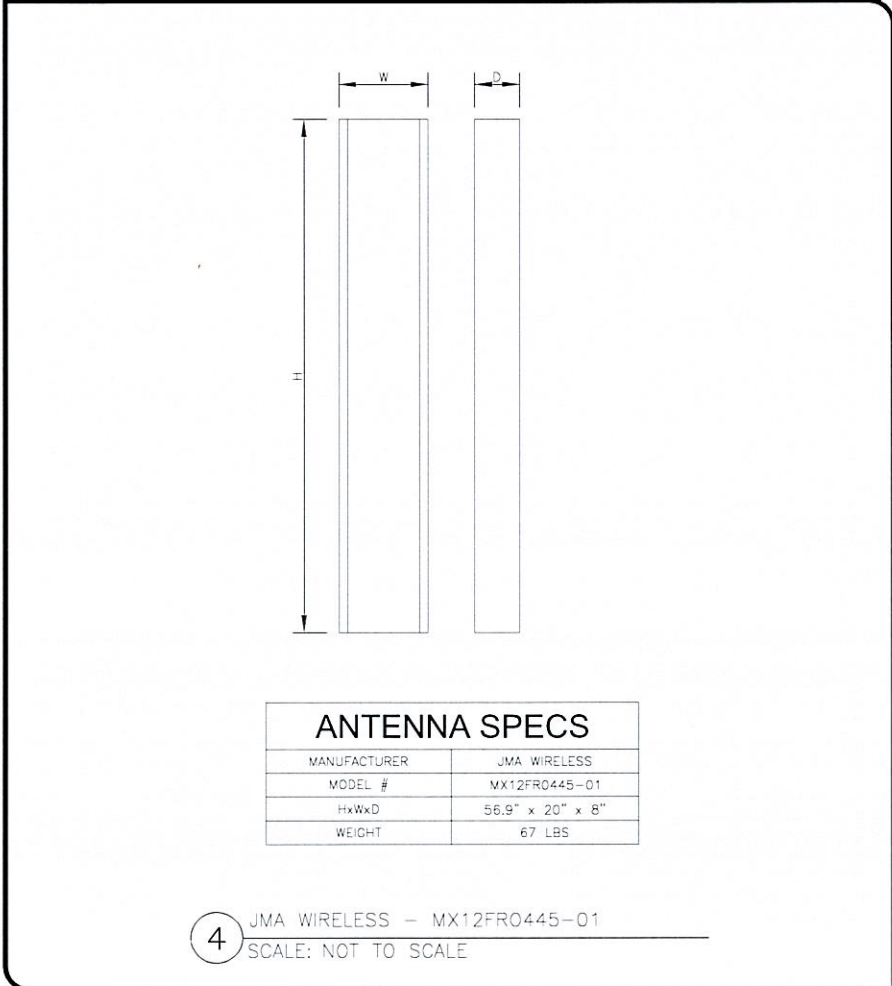
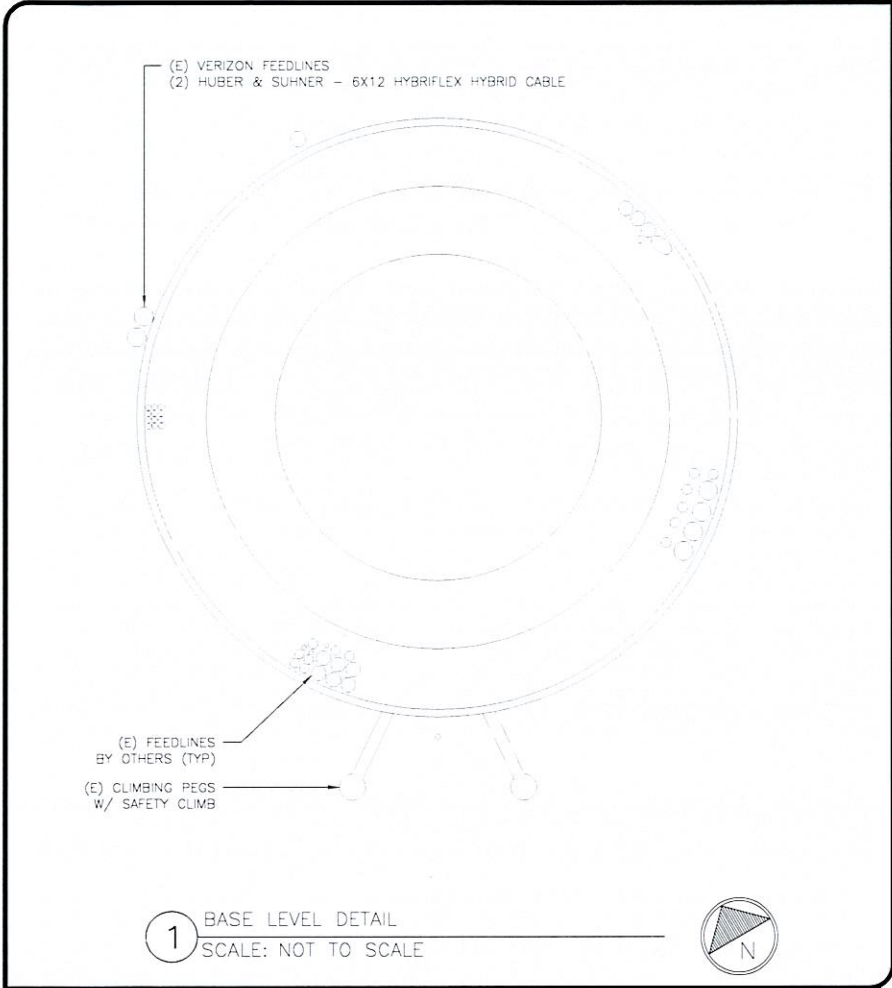
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SHEET NUMBER:

C-4

REVISION:

3



VERIZON SITE NUMBER:
5000382636

BU #: 842869

CROWN CASTLE SITE NAME
MERIDEN WEST CENTRAL

450-478 W MAIN ST
MERIDEN, CT 06451

EXISTING
101.97' MONOPOLE

ISSUED FOR:				
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6047600923AD4B1...

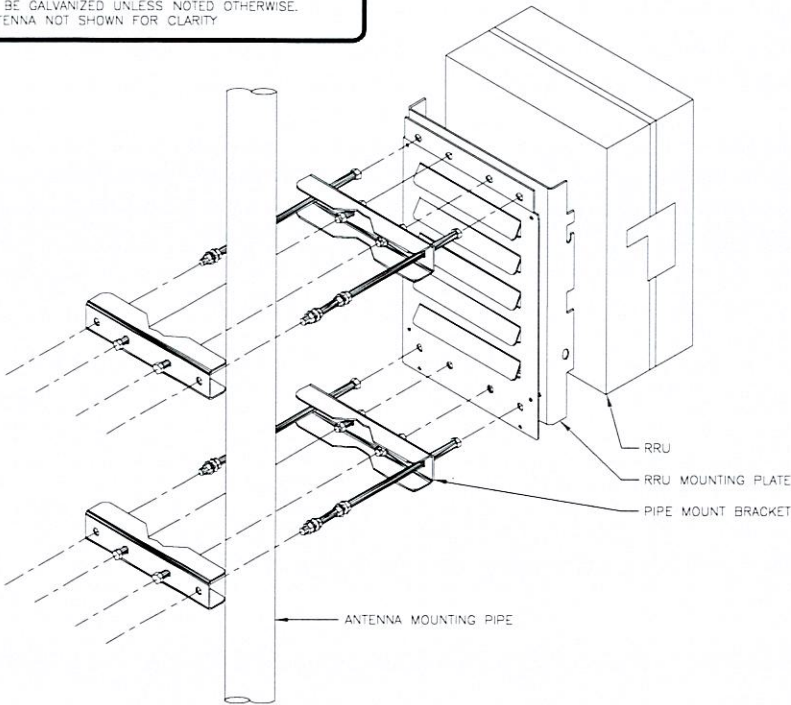
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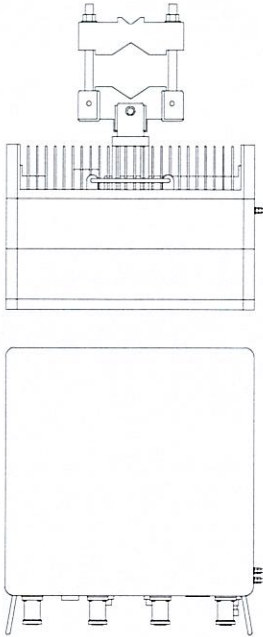
SHEET NUMBER: C-5	REVISION: 3
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INSTALLER NOTES:

1. COMPLY WITH MANUFACTURER'S INSTRUCTIONS TO ENSURE THAT ALL RRU's 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

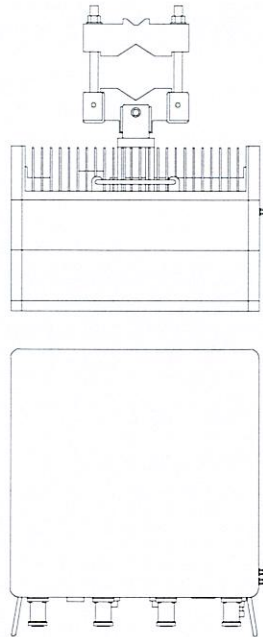


1 RRU MOUNTING DETAIL
SCALE: NOT TO SCALE



RADIO SPECS	
MANUFACTURER	SAMSUNG
MODEL #	RF4439D-25A
HxWxD	14.96" x 14.96" x 10.04"
WEIGHT	74.7 LBS

2 SAMSUNG - RF4439D-25A
SCALE: NOT TO SCALE



RADIO SPECS	
MANUFACTURER	SAMSUNG
MODEL #	RF4461D-13A
HxWxD	14.96" x 14.96" x 10.23"
WEIGHT	79.1 LBS

3 SAMSUNG - RF4461D-13A
SCALE: NOT TO SCALE

verizon

CROWN
CASTLE

VERIZON SITE NUMBER:
5000382636

BU #: 842869

CROWN CASTLE SITE NAME
MERIDEN WEST CENTRAL

450-478 W MAIN ST
MERIDEN, CT 06451

EXISTING
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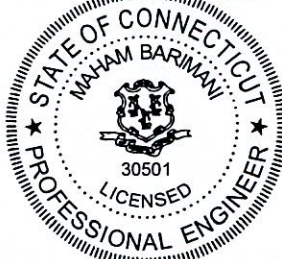
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SHEET NUMBER:

C-5.1

REVISION:

3

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		

verizon



VERIZON SITE NUMBER:
5000382636

BU #: 842869

CROWN CASTLE SITE NAME
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450-478 W MAIN ST
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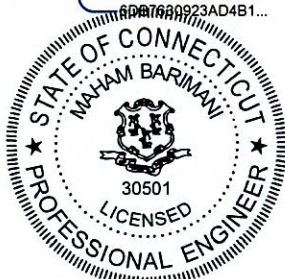
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ISSUED FOR:

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Maham Barimani



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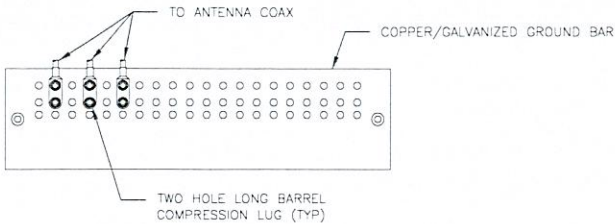
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SHEET NUMBER:

C-6

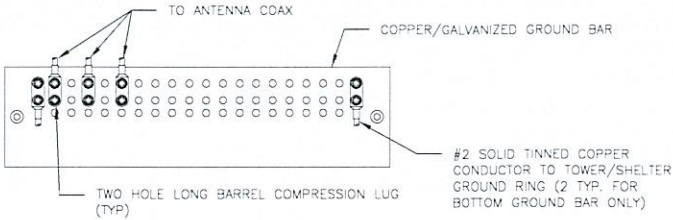
REVISION:

3



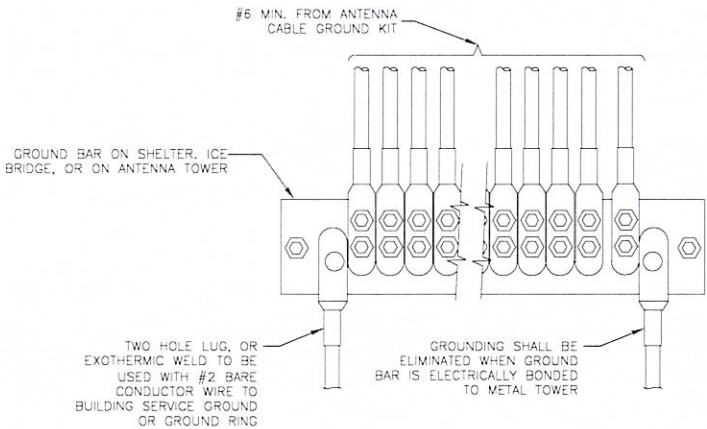
- NOTES:
- DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
 - EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
 - GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO ANTENNA MOUNT STEEL.

1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE

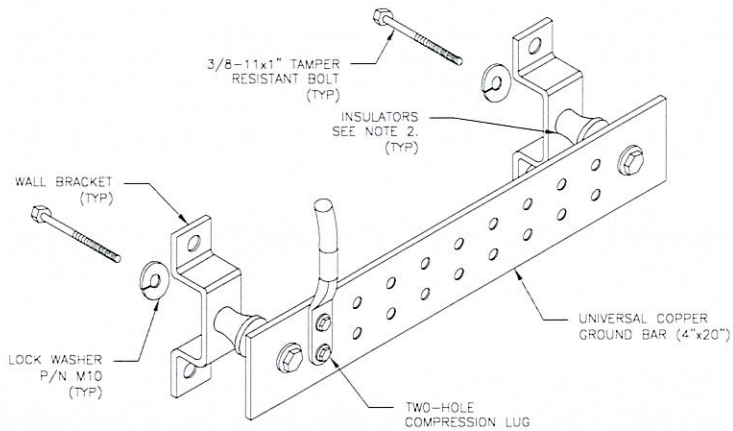


- NOTES:
- EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
 - GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
 - GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

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

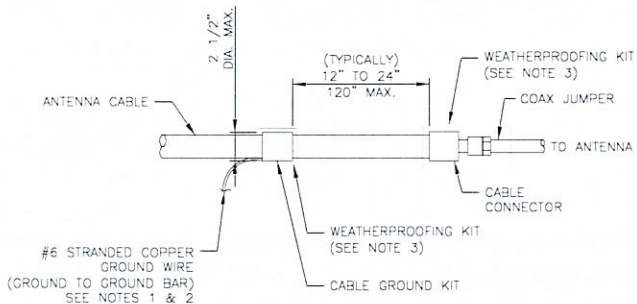


4 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



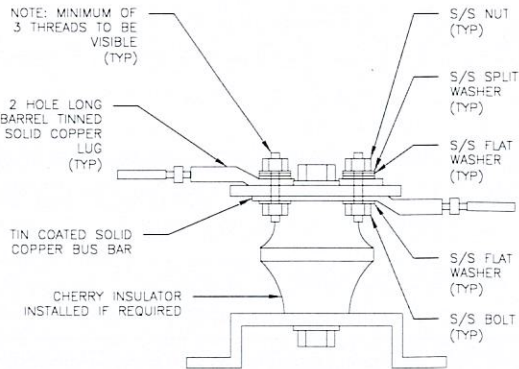
- NOTES:
- DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER. PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION. CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
 - OMIT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



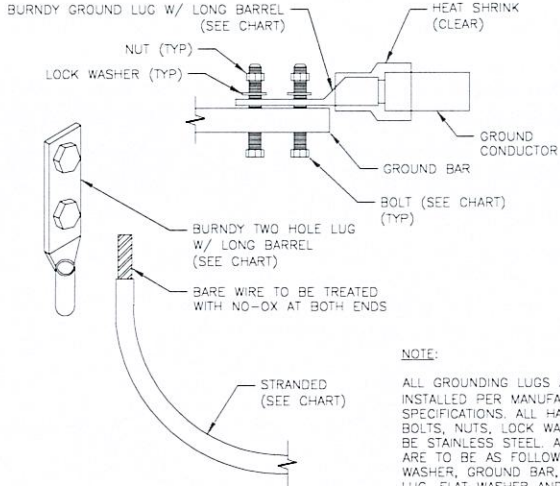
- NOTES:
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 - GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
 - WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

6 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



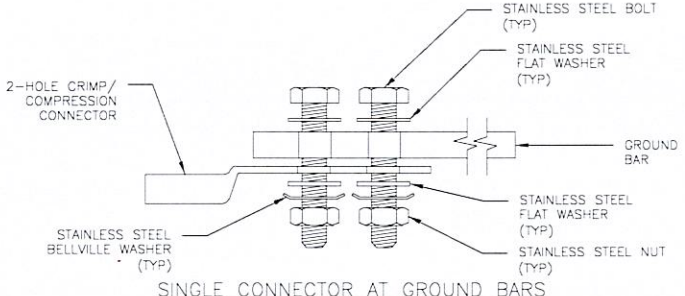
7 LUG DETAIL
SCALE: NOT TO SCALE

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

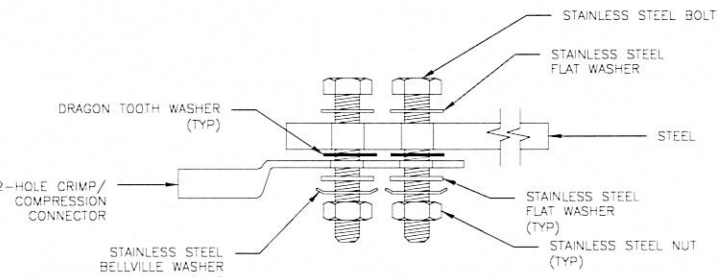


- NOTE:
- ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE (BOLTS, NUTS, LOCK WASHERS) SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

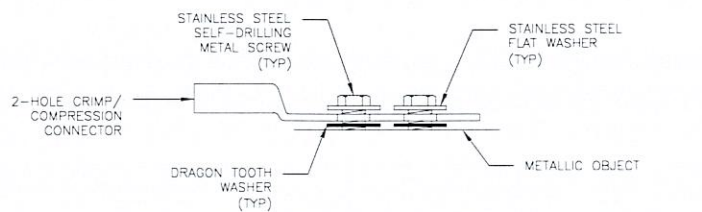
3 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



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



VERIZON SITE NUMBER:
5000382636

BU #: 842869

CROWN CASTLE SITE NAME
MERIDEN WEST CENTRAL

450-478 W MAIN ST
MERIDEN, CT 06451

EXISTING
101.97' MONOPOLE

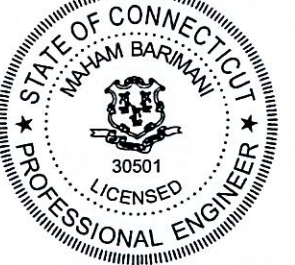
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	3/18/24	MDW	CONSTRUCTION	MB
1	7/10/24	MDW	CONSTRUCTION	MB
2	10/17/24	MDW	CONSTRUCTION	MB
3	12/16/24	MDW	CONSTRUCTION	MB

Signed by:

Maham Barimani

RDPT000023AD4B1...



12/17/2024 | 7:52:31 AM C

CROWN CASTLE USA INC.
CERTIFICATE OF REGISTRATION #PEC.0001101
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UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:

G-1

REVISION:

3



NORTHEAST > North East > New England > Wallingford-1 > MERIDEN HANOVER CT

GADASU, SHIVA - shiva.gadasu@verizonwireless.com - 20240415_154245

Project Details		Location Information	
Carrier Aggregation	N	Site Id	1737811
Ecip	N	Search Ring#	
Project Name	5G L-SUB6 - CARRIER ADD	E-NodeB ID#	064168
Project Alt Name	MERIDEN HANOVER CT - MKT 64 - MODIFICATION	PSLC#	469190
Project Id	16227612	Switch Name	Wallingford-1
Designed Sector Carrier 4G	16	Tower Type	
Designed Sector Carrier 5G	8	Site Type	MACRO
Additional Sector Carrier 4G	0	Street Address	450-478 West Main St
Additional Sector Carrier 5G	0	City	Meriden
Suffix	Rev6_04.15.2024	State	CT
FP Solution Type & Tech Type	MODIFICATION;5G_850;4G_850;5G_L-Su b6;4G_PCS;4G_Radio Swap	Zip Code	06451
		County	New Haven
		Latitude	41.540067/ 41° 32' 24.241"
		Longitude	-72.819183/ 72° 49' 9.059"

Project Scope
RFDS SOW: Sector Add, Az reorientation, 850 5G NR/ PCS/ L-Sub6 carrier add, Samsung dual band RRH swap, antenna change Remove all antennas and coax (if exists) from the site REV1 (5/24/21): Adds 850 5G NR carrier and updates L-SUB6 antenna/ RRH information (no material changes) REV2 (11/24/21): Updates Regulatory power (no material changes) REV3 (4/20/23): Upgrades to O-RAN RRH REV4 (8/16/23): Upgrades LB/ C-Band RRH REV5 (4/2/24): Updated antenna positions to match MA Rev6_04.15.2024 : Changed to 4 sector design, new antennas, Az reorientation. updated PCS to 15Mhz FC3C4, corrected powers on LSub6

Antenna Summary											
Added Antenna											
700	850	1900	AWS	L-Sub6	Make	Model	Centerl ine	Tip Height	Azimuth	Install Type	Quantity
				5G	Samsung	MT6413-77A	66.8	68	63(A),159(B),22 5(C),315(D)	PHYSICAL	4
LTE	5G,LTE	LTE	LTE		JMA	MX12FRO445-01	65.5	68	63(A),225(C),31 5(D)	PHYSICAL	3
LTE	5G,LTE	LTE	LTE		COMMSCOPE	NHH-33A-R2B	66	68	159(B)	PHYSICAL	2

Removed Antenna											
700	850	1900	AWS	L-Sub6	Make	Model	Centerl ine	Tip Height	Azimuth	Install Type	Quantity
					ANTEL	BXA-171063-12CF	65	67	50(A),180(B),28 0(C)	SPARE	3
					AMPHENOL	BXA-70063-6CF	65	68	50(A),180(B),28 0(C)	SPARE	3
LTE			LTE		ANDREW	SBNHH-1D45B	65	68	50(A),180(B),28 0(C)	PHYSICAL	6

Retained Antenna											
700	850	1900	AWS	L-Sub6	Make	Model	Centerl ine	Tip Height	Azimuth	Install Type	Quantity

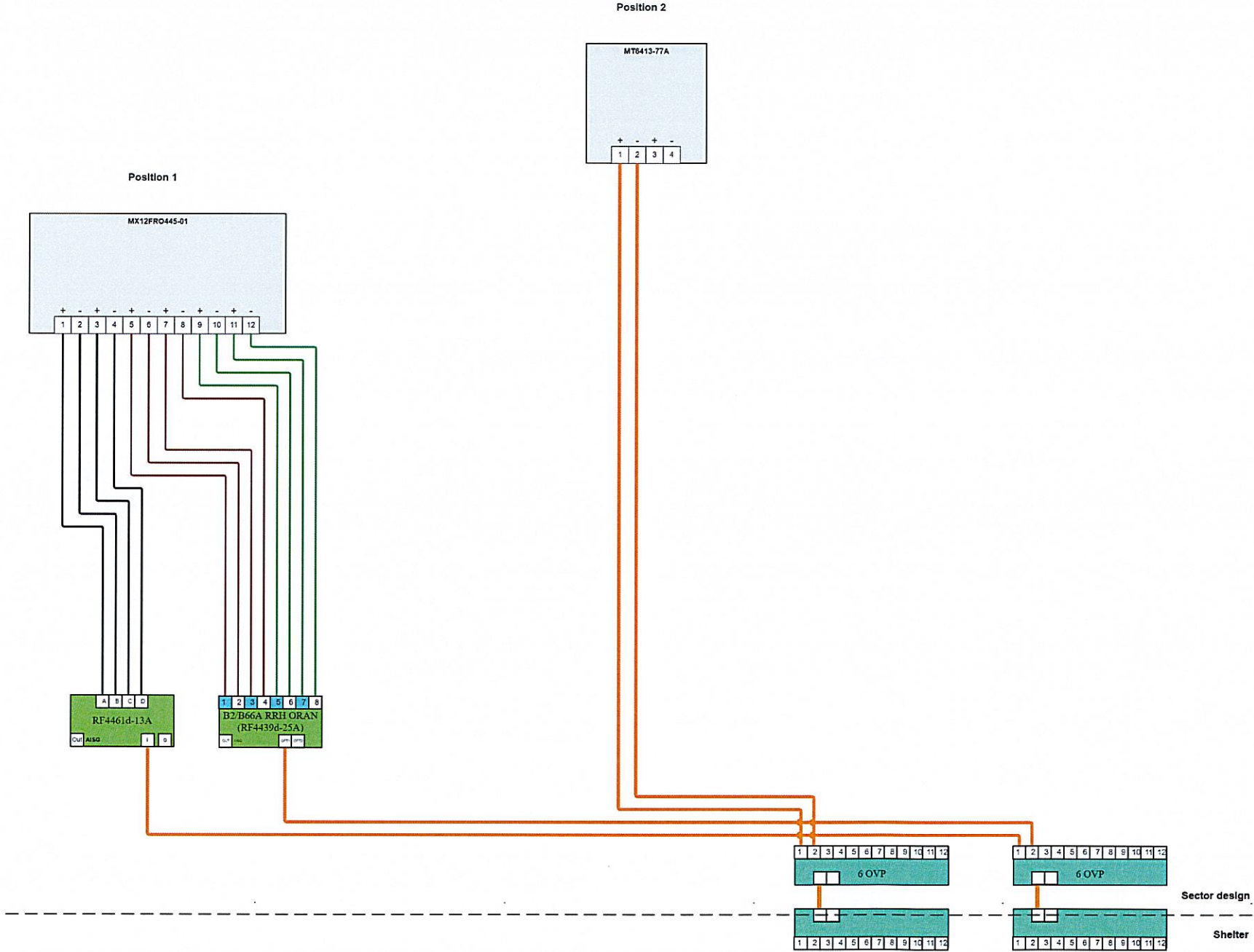
Added: 9	Removed: 12	Retained: 0
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Non Antenna Summary										
Added Non Antenna										
Equipment Type	Location	700	850	1900	AWS	L-Sub6	Make	Model	Install Type	Quantity
RRU	Tower			LTE	LTE		Samsung	B2/B66A RRH ORAN (RF4439d-25A)	PHYSICAL	4
Mount	Tower	LTE	LTE,5G	LTE	LTE		Commscope	Commscope Mount	PHYSICAL	1
RRU	Tower					5G	Samsung	MT6413-77A	PHYSICAL	0
RRU	Tower	LTE	5G,LTE				Samsung	RF4461d-13A	PHYSICAL	4

Removed Non Antenna										
Equipment Type	Location	700	850	1900	AWS	L-Sub6	Make	Model	Install Type	Quantity
RRU	Tower	LTE					Nokia	UHBA B13 RRH 4x30	PHYSICAL	3
RRU	Tower				LTE		Nokia	UHC B4 RRH 2x60-4R	PHYSICAL	3

Retained Non Antenna										
Equipment Type	Location	700	850	1900	AWS	L-Sub6	Make	Model	Install Type	Quantity
OVP	Tower	LTE	LTE,5G	LTE	LTE			6 OVP	PHYSICAL	2
Hybrid Cable	Tower	LTE	LTE,5G	LTE	LTE		N/A	6x12 Hybriflex	PHYSICAL	2

Added: 9	Removed: 6	Retained: 4
----------	------------	-------------



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

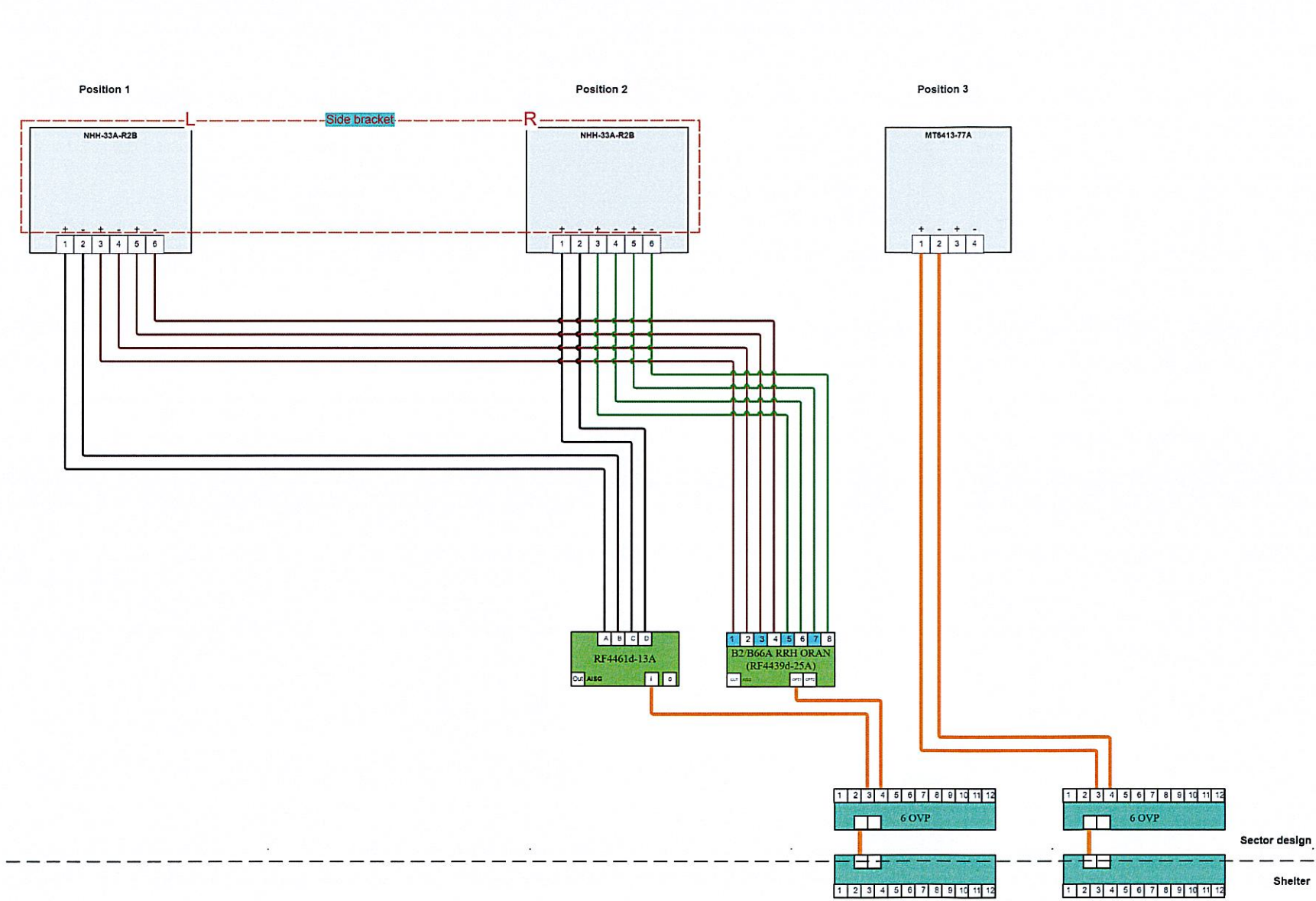
Coax

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



Beta
(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

Gamma
(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

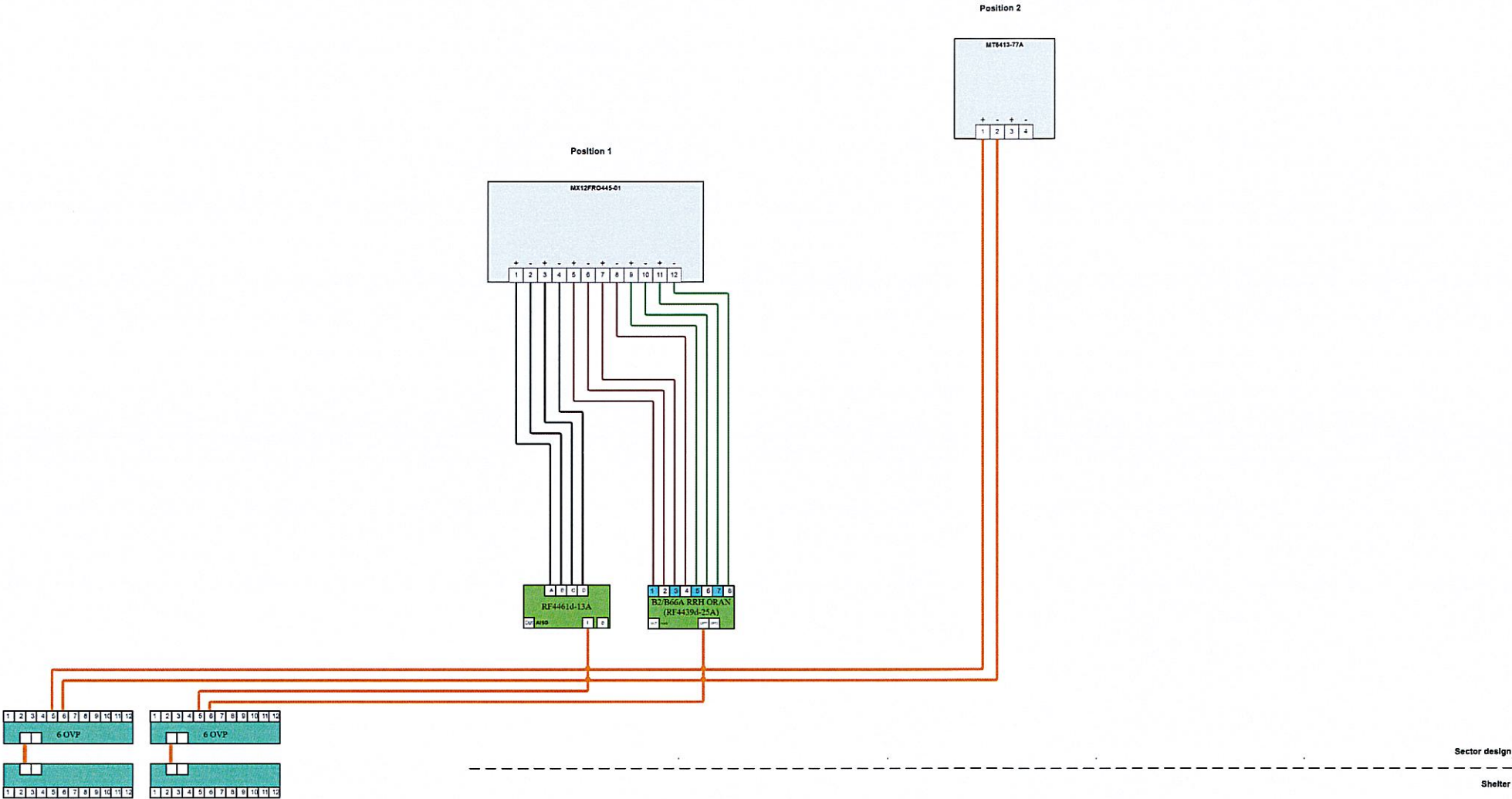
Sectors Shared Equipments

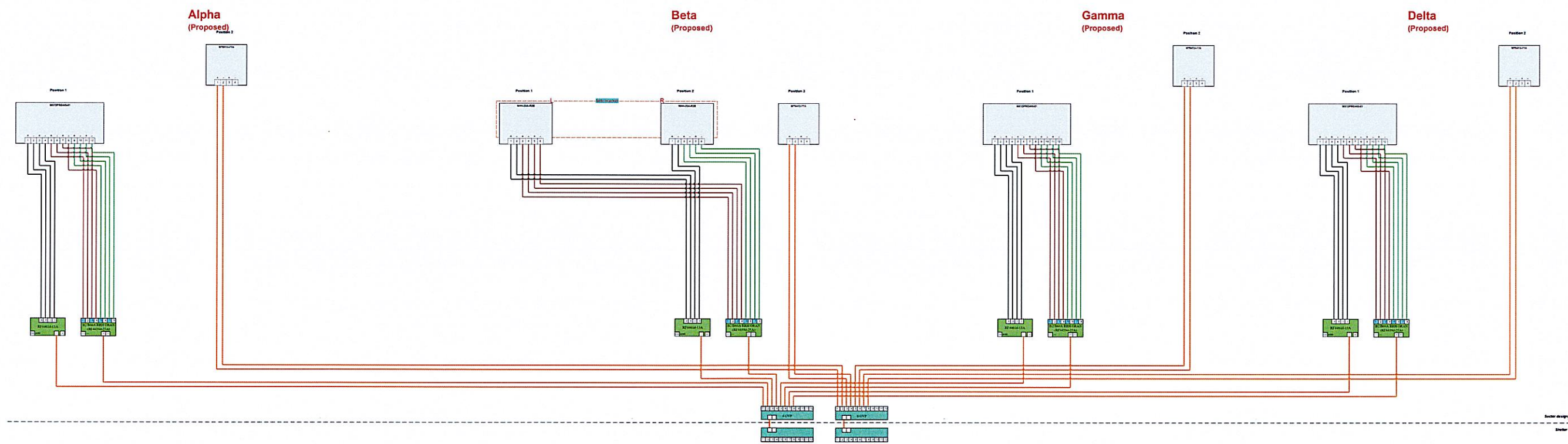
Notes:

-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







MOUNT MODIFICATION DRAWINGS
EXISTING 12.50' PLATFORM

TOWER OWNER: CROWN CASTLE
TOWER OWNER SITE NUMBER: 842869

CARRIER SITE NAME: MERIDEN HANOVER CT
CARRIER SITE NUMBER: 5000382636
FUZE ID: 16227612

450-478 WEST MAIN ST
MERIDEN, CT 06451
NEW HAVEN COUNTY

LATITUDE: 41.54006700° N
LONGITUDE: 72.81918300° W

DESIGN CRITERIA

WIND LOADS

BASIC WIND SPEED (3 SECOND GUST), V = 120 MPH
EXPOSURE CATEGORY B
TOPOGRAPHIC CATEGORY: I
TOPOGRAPHIC CONSIDERED: N/A
TOPOGRAPHIC METHOD: N/A
MEAN BASE ELEVATION (AMSL) = 170.12'

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_g = .203
LONG TERM MCER GROUND MOTION, S_g = .055

PROJECT INFORMATION

APPLICANT/LESSEE

COMPANY: VERIZON WIRELESS

CLIENT REPRESENTATIVE

COMPANY: VERIZON WIRELESS

PROJECT MANAGER

COMPANY: COLLIERS ENGINEERING & DESIGN
CONTACT: SEAN O'SULLIVAN
PHONE: 856.797.0412
E-MAIL: SEAN.OSULLIVAN@COLLIERSENG.COM

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION: HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #: 10251206
VZW MDG #: 5000382636
ANALYSIS DATE: 9/26/2024

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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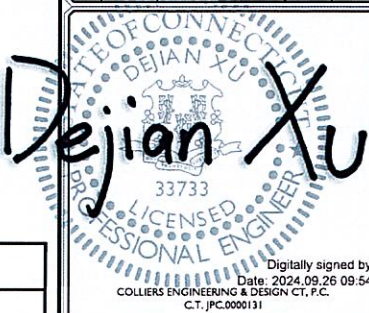


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3	09/26/24	ISSUED FOR CONSTRUCTION	FAC	DX
2	06/05/24	ISSUED FOR CONSTRUCTION	DAH	DX
1	05/30/23	ISSUED FOR CONSTRUCTION	SC	DRH



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SITE NAME:

MERIDEN HANOVER CT
5000382636
450-478 WEST MAIN ST
MERIDEN, CT 06451
NEW HAVEN COUNTY



MT. LAUREL
2000 Midlantic Drive,
Suite 100
Mt. Laurel, NJ 08054
Phone: 856.797.0412
COLLIERS ENGINEERING & DESIGN CT, P.C.
DOING BUSINESS AS MASER CONSULTING

TITLE SHEET

ST-1

BILL OF MATERIALS						
SECTION 1 - VZWSMART KITS						
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
I	VZWSMART	VZWSMART-PLKI	SUPPORT RAIL KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-I.	504	504
SECTION 2 - OTHER REQUIRED PARTS						
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
4	-	-	84" LONG, PIPE 2 SCH40 (2.375"OD X 0.154" THK)	GALVANIZED	25	100
4	PERFECT VISION	PV-DC-PTPC-2020-12	PROPOSED 12" LONG, CROSSOVER PIPE TO PIPE CONNECTION	OR EOR APPROVED EQUAL	15	60
4	PERFECT VISION	PV-DC-PTPC-2020-6	PROPOSED 6" LONG, CROSSOVER PIPE TO PIPE CONNECTION	OR EOR APPROVED EQUAL	13	52
SECTION 3 - REQUIRED SAFETY CLIMB PARTS						
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
TOTAL:						716

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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1	05/30/23	ISSUED FOR CONSTRUCTION	SC	DRH
REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY

STATE OF CONNECTICUT
DEJIAN XU
33733
LICENSED PROFESSIONAL ENGINEER

Digitally signed by Dejian Xu
Date: 2024.09.26 09:54:17-04'00'
COLLIERS ENGINEERING & DESIGN CT, P.C.
C.T. JPC.0000131

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5000382636
450-478 WEST MAIN ST
MERIDEN, CT 06451
NEW HAVEN COUNTY

Colliers

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MT. LAUREL
2000 Midlantic Drive,
Suite 100
Mt. Laurel, NJ 08054
Phone: 856.797.0412
COLLIERS ENGINEERING & DESIGN CT, P.C.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE:
BILL OF MATERIALS

SHEET NUMBER:
SBOM-I

GENERAL NOTES

- 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.
- 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.
- 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.
- IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
- 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.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
- 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.
- 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.
- CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GEOTEXTILE, GROUNDING, AND SURROUNDING GRADE SHALL BE REPLACED AND REPAIRED AS REQUIRED TO ACHIEVE OWNER APPROVAL. POSITIVE DRAINAGE AWAY FROM TOWER SITE SHALL BE MAINTAINED.
- 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.
- DO NOT SCALE DRAWINGS.
- DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
- 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.
- THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

STRUCTURAL STEEL

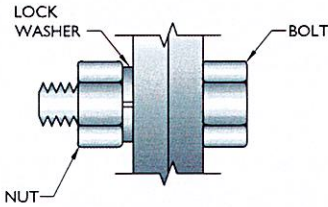
- DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
 - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
 - SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
 - AISC CODE OF STANDARD PRACTICE
- 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
- 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.
- PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
 - SUBMIT SHOP DRAWINGS TO
SEAN.OSULLIVAN@COLLIERSENG.COM
 - PROVIDE COLLIERS ENGINEERING & DESIGN PROJECT # AND COLLIERS ENGINEERING & DESIGN PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
- 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.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- 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.
- 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.
- 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.
- FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
- 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.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- 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.
- ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINC COAT, OR EOR APPROVED EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
- 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 1 1/16	7/8	1 1/2
5/8	1 1/16	1 1/16 x 7/8	1 1/8	1 7/8
3/4	1 3/16	1 3/16 x 1	1 1/4	2 1/4
7/8	1 5/16	1 5/16 x 1 1/8	1 1/2	2 5/8
1	1 7/16	1 7/16 x 1 5/16	1 3/4	3

WORKABLE GAGES (IN.)

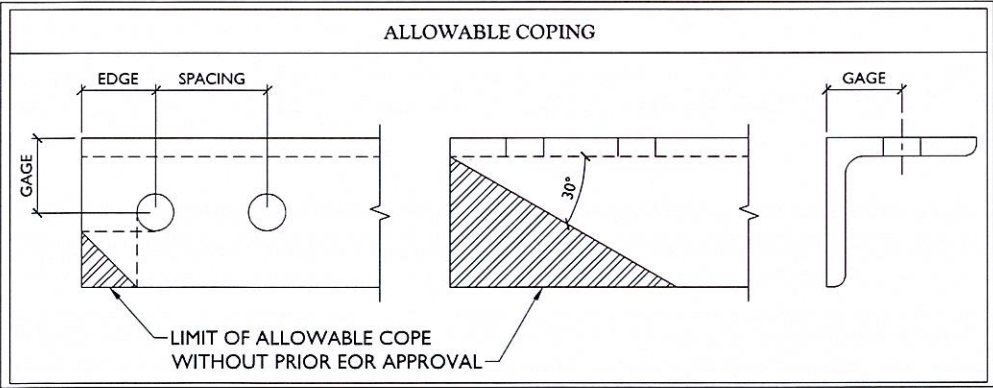
LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



TYP. BOLT ASSEMBLY

NOTES:

- 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.
- THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.
- SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED IN THE DRAWINGS
- MATCH EXISTING GAGES WHEN APPLICABLE, UNLESS MINIMUM EDGE DISTANCES ARE COMPROMISED.



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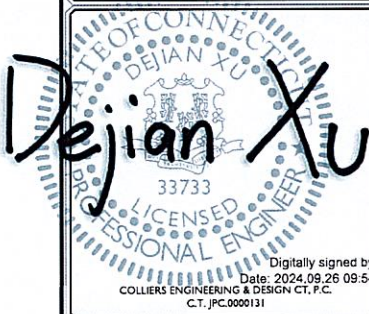
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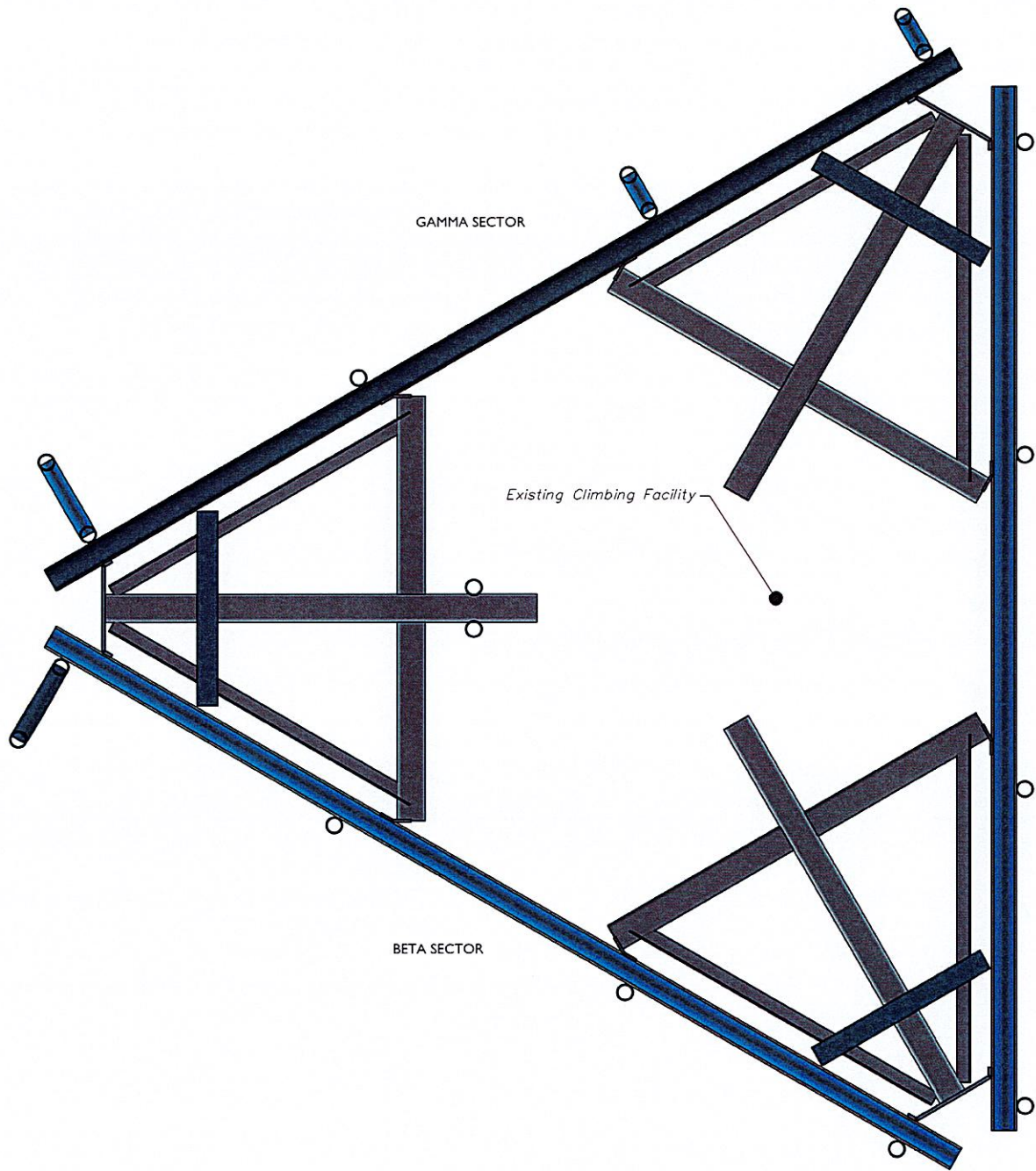
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SHEET TITLE: GENERAL NOTES

SHEET NUMBER: SGN-I



CLIMBING FACILITY PHOTO

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

STRUCTURAL NOTES:

- 1. PER THE MOUNT MAPPING COMPLETED BY STRUCTURAL COMPONENTS ON 4/14/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (64'-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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DEJIAN XU

33733

LICENSED PROFESSIONAL ENGINEER

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Date: 2024.09.26 09:54:19-04'00'
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SHEET TITLE:

CLIMBING FACILITY DETAIL

SHEET NUMBER:

SCF-I

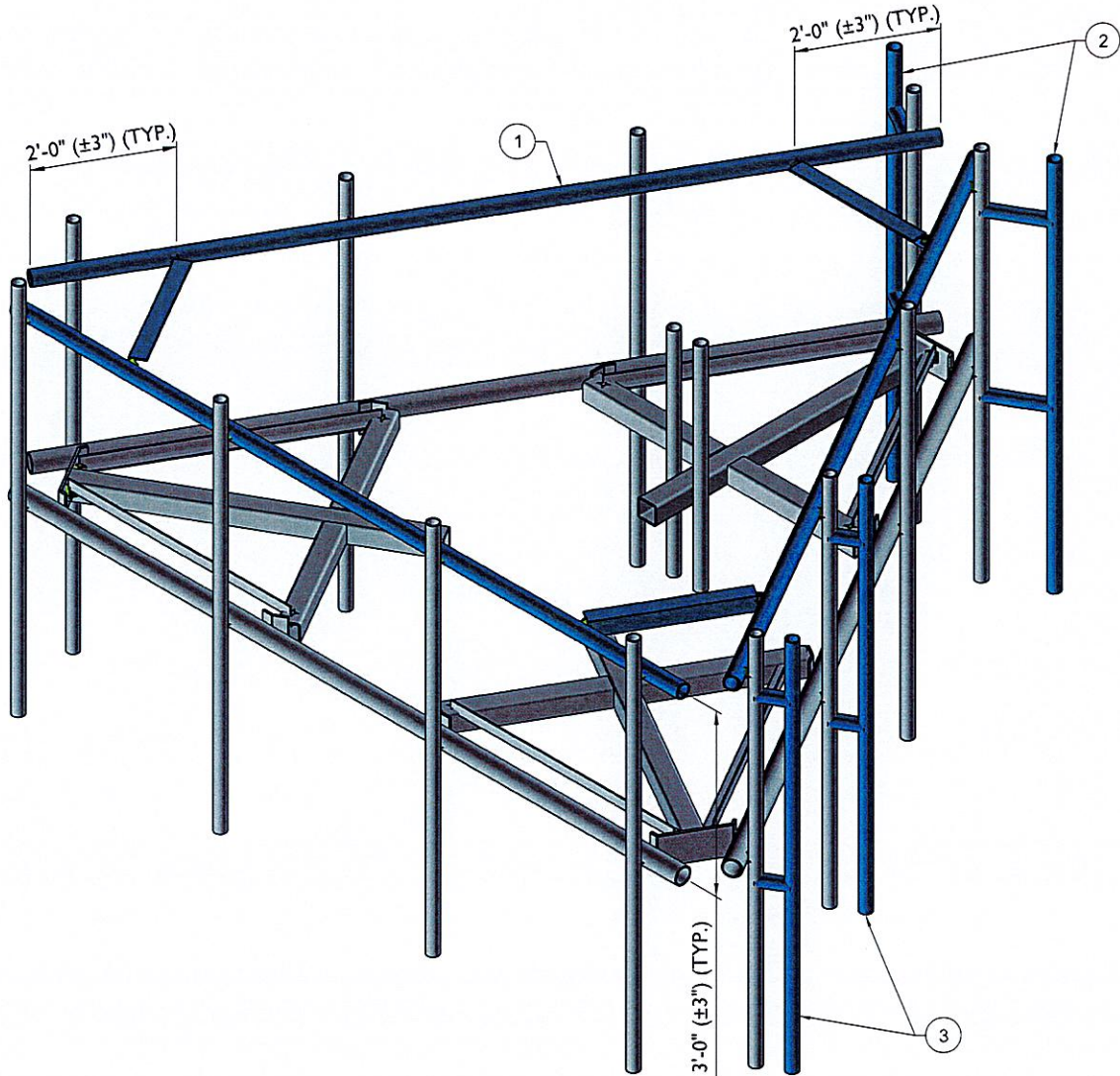
LEGEND:

- PROPOSED
- RELOCATED
- EXISTING

TOTAL VERTICAL ENVELOPE:

CONTRACTOR SHALL VERIFY AND CONFIRM IN FIELD THAT VERIZON'S OVERALL TIP TO TIP VERTICAL SPACE CONFIGURATION (EQUIPMENT AND STEEL COMBINED) DOES NOT EXCEED THE VERTICAL ENVELOPE LISTED IN THESE DRAWINGS. IF THE SITE'S EXISTING OR PROPOSED CONFIGURATION EXCEEDS THE ALLOWED VERTICAL ENVELOPE LISTED IN THESE DRAWINGS, CONTRACTOR SHALL CONTACT EOR IMMEDIATELY FOR A SOLUTION ON HOW TO CORRECT THE ISSUE PRIOR TO LEAVING THE SITE.

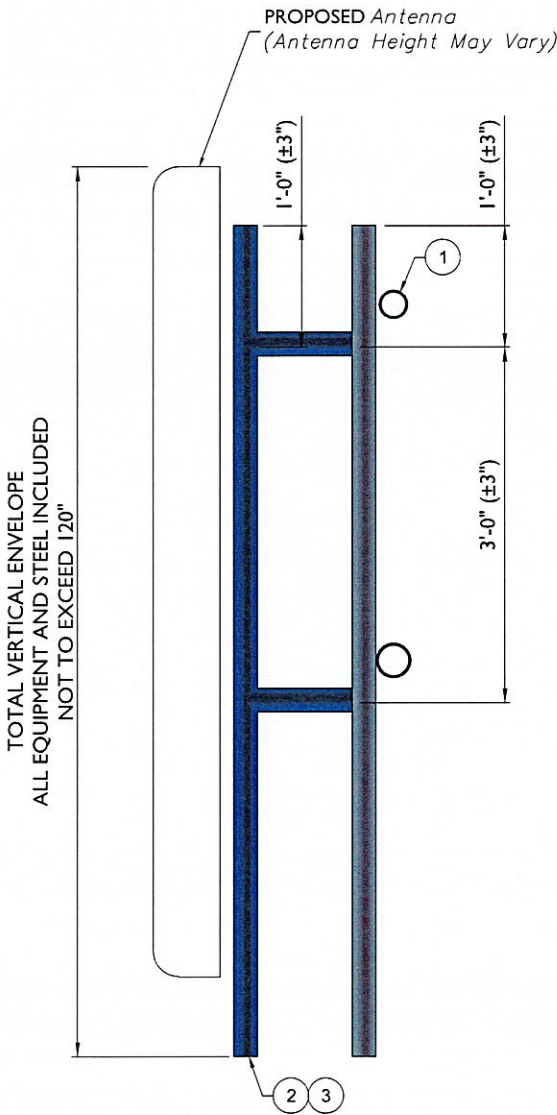
MOUNT MODIFICATION SCHEDULE				
NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	64'-0"	1	PROPOSED SUPPORT RAIL KIT (PART #: VZWSMART-PLK1)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-I. RADIO AND/OR TME POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN.
2		2	PROPOSED 84" LONG, PIPE 2 SCH40 MOUNT PIPE WITH 12" PIPE TO PIPE CONNECTION	CONNECT NEW MOUNT PIPE TO EXISTING MOUNT PIPE WITH 12" LONG, CROSSOVER PIPE TO PIPE CONNECTIONS (PERFECT VISION, PART #: PV-DC-PTPC-2020-12). POSTION 4 BETA SECTOR AND POSTION 1 GAMMA SECTOR.
3		2	PROPOSED 84" LONG, PIPE 2 SCH40 MOUNT PIPE WITH 6" PIPE TO PIPE CONNECTION	CONNECT NEW MOUNT PIPE TO EXISTING MOUNT PIPE WITH 6" LONG, CROSSOVER PIPE TO PIPE CONNECTIONS (PERFECT VISION, PART #: PV-DC-PTPC-2020-6). POSTION 3 & 4 GAMMA SECTOR
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 (TYP. ALL SECTORS)

SCALE : N.T.S.

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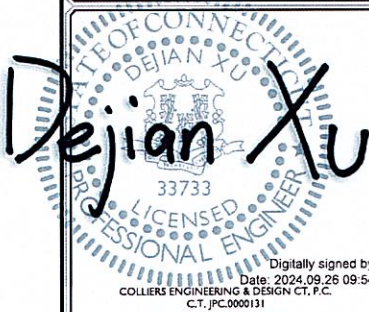
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SHEET TITLE: MODIFICATION DETAILS

SHEET NUMBER: SS-1



MOUNT PHOTO 1



MOUNT PHOTO 2



MOUNT PHOTO 3



MOUNT PHOTO 4

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33733
LICENSED PROFESSIONAL ENGINEER

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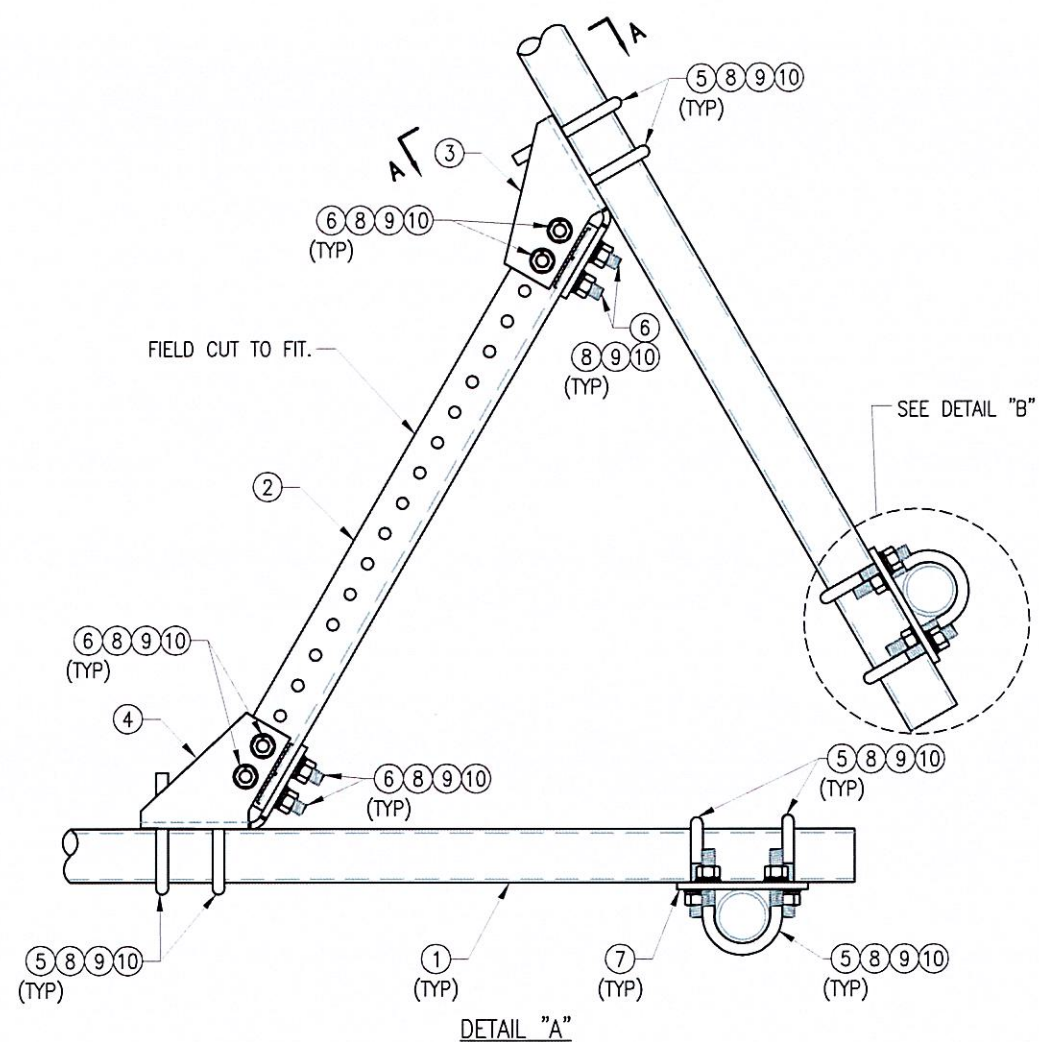
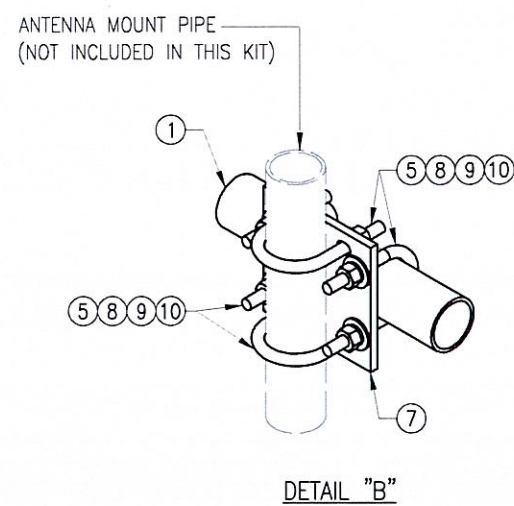
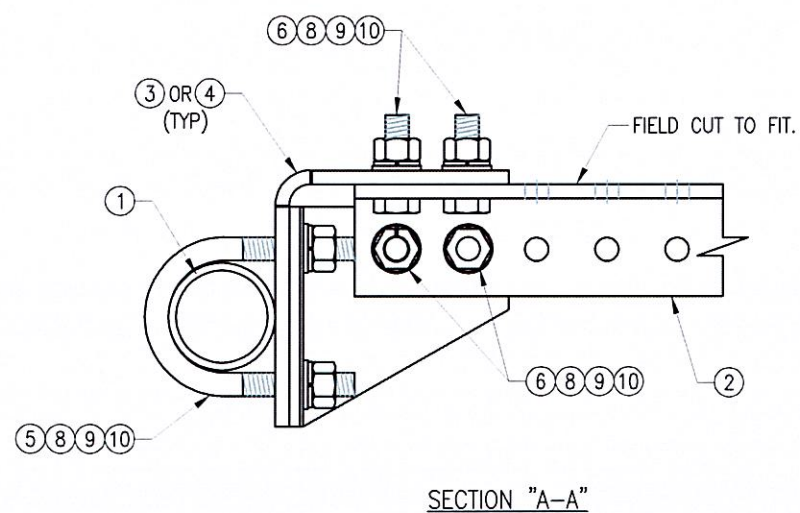
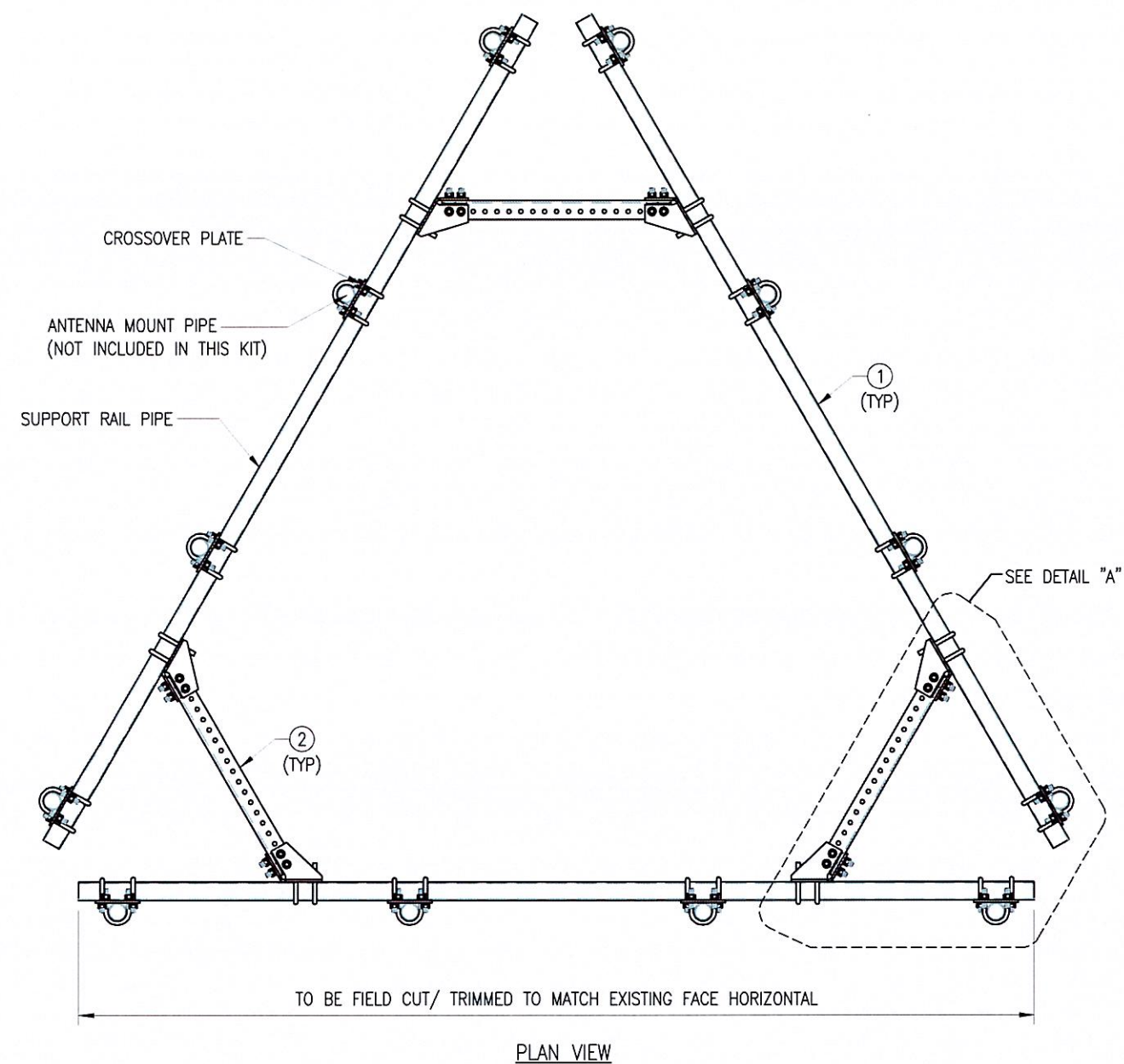
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SHEET TITLE

MOUNT PHOTOS

SHEET NUMBER

SS-2



**VzW
SMART Tool[®]
Vendor**



FOR REFERENCE
ONLY

DRAWN BY: H.R	CHECKED BY: HMA
---------------	-----------------

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	H.R	05/08/2

SHEET TITLE:

VZWSMART-PLK1
SUPPORT RAIL KIT

SHEET NUMBER:	REV #:
---------------	--------

VZWSMART-PLK1	0
---------------	---

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

PV-DC-PTPC

DUALCROSS - PIPE TO PIPE CONNECTION

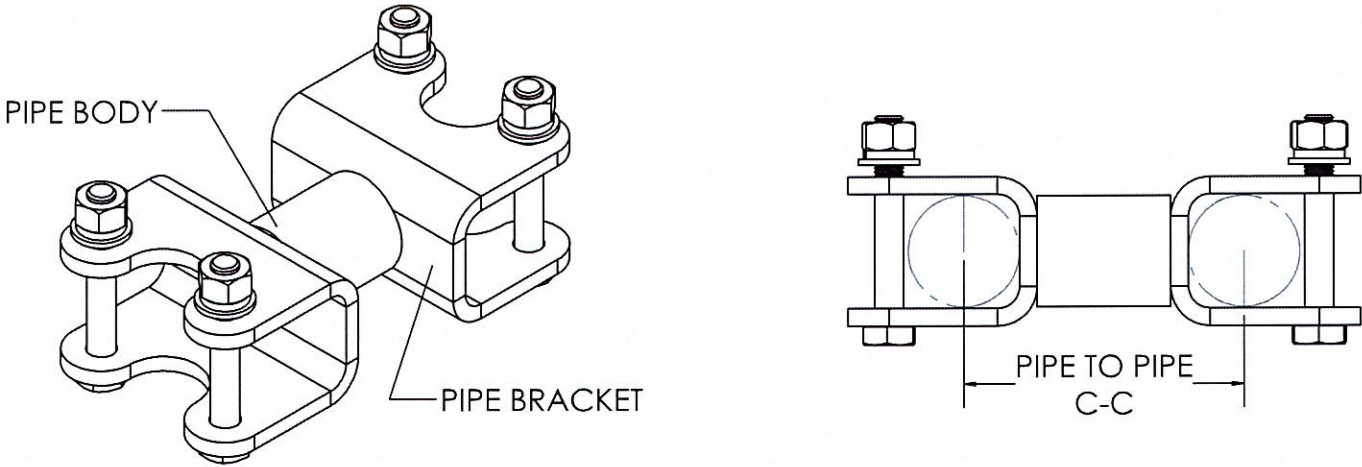
Table 1: Crossover Pipe to Pipe Connection Configurations						
Part Number	Weight	Pipe to Pipe C-C	Pipe 1 Size	Pipe 2 Size	Pipe 1 Bolt Size	Pipe 2 Bolt Size
	lbs	in	in	in	in	in
PV-DC-PTPC-2020-6	13	6	Ø 2.375	Ø 2.375	Ø 5/8 x 4-1/2	Ø 5/8 x 4-1/2
PV-DC-PTPC-2020-12	14.8	12	Ø 2.375	Ø 2.375	Ø 5/8 x 4-1/2	Ø 5/8 x 4-1/2
PV-DC-PTPC-2020-24	18.5	24	Ø 2.375	Ø 2.375	Ø 5/8 x 4-1/2	Ø 5/8 x 4-1/2
PV-DC-PTPC-2025-6	13.8	6	Ø 2.375	Ø 2.875	Ø 5/8 x 4-1/2	Ø 5/8 x 5
PV-DC-PTPC-2025-12	15.7	12	Ø 2.375	Ø 2.875	Ø 5/8 x 4-1/2	Ø 5/8 x 5
PV-DC-PTPC-2025-24	19.3	24	Ø 2.375	Ø 2.875	Ø 5/8 x 4-1/2	Ø 5/8 x 5
PV-DC-PTPC-2030-6	15	6	Ø 2.375	Ø 3.5	Ø 5/8 x 4-1/2	Ø 5/8 x 5-1/2
PV-DC-PTPC-2030-12	19.1	12	Ø 2.375	Ø 3.5	Ø 5/8 x 4-1/2	Ø 5/8 x 5-1/2
PV-DC-PTPC-2030-24	20.4	24	Ø 2.375	Ø 3.5	Ø 5/8 x 4-1/2	Ø 5/8 x 5-1/2
PV-DC-PTPC-2525-6	15.2	6	Ø 2.875	Ø 2.875	Ø 5/8 x 5	Ø 5/8 x 5
PV-DC-PTPC-2525-12	18	12	Ø 2.875	Ø 2.875	Ø 5/8 x 5	Ø 5/8 x 5
PV-DC-PTPC-2525-24	23.9	24	Ø 2.875	Ø 2.875	Ø 5/8 x 5	Ø 5/8 x 5
PV-DC-PTPC-2530-6	16.2	6	Ø 2.875	Ø 3.5	Ø 5/8 x 5	Ø 5/8 x 5-1/2
PV-DC-PTPC-2530-12	19.1	12	Ø 2.875	Ø 3.5	Ø 5/8 x 5	Ø 5/8 x 5-1/2
PV-DC-PTPC-2530-24	25	24	Ø 2.875	Ø 3.5	Ø 5/8 x 5	Ø 5/8 x 5-1/2
PV-DC-PTPC-3030-6	17.5	6	Ø 3.5	Ø 3.5	Ø 5/8 x 5-1/2	Ø 5/8 x 5-1/2
PV-DC-PTPC-3030-12	21.3	12	Ø 3.5	Ø 3.5	Ø 5/8 x 5-1/2	Ø 5/8 x 5-1/2
PV-DC-PTPC-3030-24	28.9	24	Ø 3.5	Ø 3.5	Ø 5/8 x 5-1/2	Ø 5/8 x 5-1/2
PV-DC-PTPC-3040-6	19.1	6	Ø 3.5	Ø 4.5	Ø 5/8 x 5-1/2	Ø 5/8 x 6-1/2
PV-DC-PTPC-3040-12	23	12	Ø 3.5	Ø 4.5	Ø 5/8 x 5-1/2	Ø 5/8 x 6-1/2
PV-DC-PTPC-3040-24	30.5	24	Ø 3.5	Ø 4.5	Ø 5/8 x 5-1/2	Ø 5/8 x 6-1/2

NOTE: 'PIPE BODY' DIAMETER IS ALWAYS EQUIVALENT TO 'PIPE 1' DIAMETER SIZE

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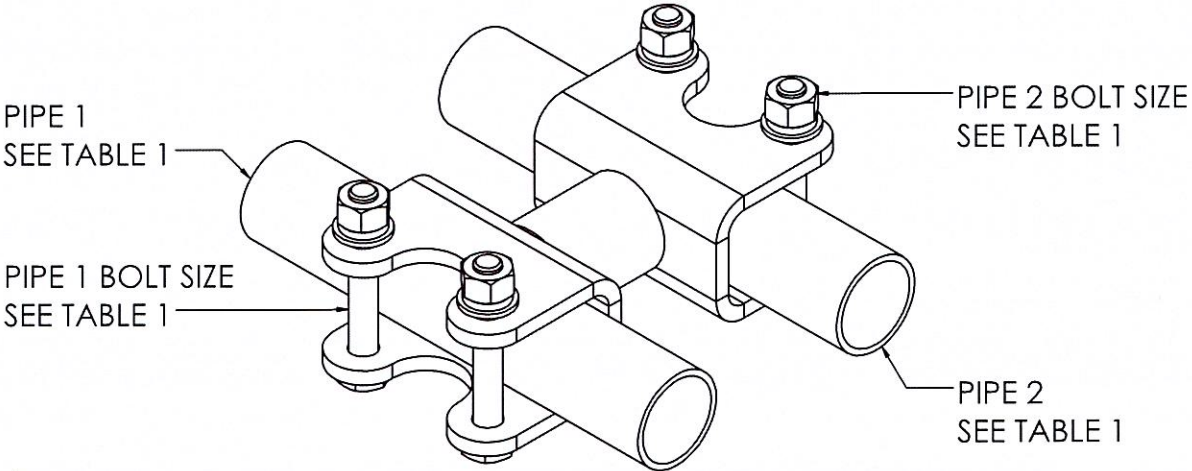
NOTES:

- INSTALLATION REQUIREMENTS:
 - MINIMUM BOLT TORQUE: 100 FT-LBS
 - CLEAN, DRY ASSEMBLY
 - GALVANIZED WELDMENT AND HARDWARE
 - COLORED WAX COATING ON NUTS
- MATERIALS
 - PIPE BRACKET: A36 HDG
 - PIPE BODY: A500 GR. C
 - HARDWARE: A325 HDG BOLT, A563DH NUT



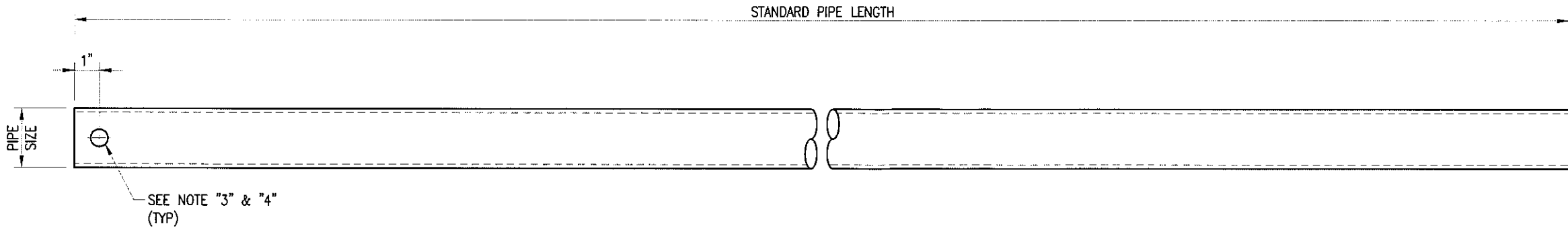
PV-DC-PTPC
DUALCROSS - PIPE TO PIPE CONNECTION

PV-DC-PTPC
SIDE VIEW



C:\PVMSteel\Catalog\SW Working Files\Engineering Details\

SHEET 1 OF 2	THIRD ANGLE PROJECTION 	CATEGORY 06_Pipe and Attachment Hardware	4	
		SERIES 01_Crossovers	3	
12/30/2020	SCALE 1:4	TYPE PV-DC-PTPC_Pipe to Pipe connection	2	DUALCROSS - PIPE TO PIPE CONNECTION
DIMENSIONS ARE IN INCHES TOLERANCES U.N.O. HOLES: +1/16", -1/32" ANGULAR: PROFILE ±1/4°, BEND ±2° ALL OTHERS: ±1/16"		BY INT	1	
		CHECKED	0	INITIAL RELEASE
		STATUS APPROVED	REV	DESCRIPTION
			DATE	3/30/20
				DOCUMENT NUMBER PTPC-ENG-01-R0
				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.

VzW
SMART Tool[®]
Vendor

verizon

FOR REFERENCE
ONLY

DRAWN BY: BT CHECKED BY: HMA/KW

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

SHEET TITLE:

VZWSMART
STANDARD PIPE

SHEET NUMBER: REV #:

VZWSMART-PIPE

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