



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

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VIA ELECTRONIC MAIL

August 31, 2022

Katie Adams
SR Site Acquisition Specialist
Network Building + Consulting
100 Apollo Drive, Suite 303
Chelmsford, MA 01824
kadams@nbcllc.com

RE: **EM-VER-167-220708** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 50 Woodfield Road, Woodbridge, Connecticut.

Dear Ms. Adams:

The Connecticut Siting Council (Council) is in receipt of your correspondence of August 30, 2022, submitted in response to the Council's August 5, 2022 notification of an incomplete request for exempt modification with regard to the above-referenced matter.

The submission renders the request for exempt modification complete and the Council will process the request in accordance with the Federal Communications Commission 60-day timeframe.

Thank you for your attention and cooperation.

Sincerely,

Melanie A. Bachman
Executive Director

MAB/MP/emr

From: Katie Adams <kadams@nbcllc.com>
Sent: Tuesday, August 30, 2022 2:50 PM
To: Robidoux, Evan <Evan.Robidoux@ct.gov>
Cc: CSC-DL Siting Council <Siting.Council@ct.gov>
Subject: RE: Council Incomplete Letter for EM-VER-167-220708 (50 Woodfield Road, Woodbridge)

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

Good afternoon,

Attached are the corrected Structural analysis as well as the signed and stamped mount modification drawings. Please let me know if there's anything else you need for this site.

Thank you,

Katie Adams

SR Site Acquisition Specialist

NETWORK BUILDING + CONSULTING

100 Apollo Drive | Suite 303 | Chelmsford, MA | 01824
M 781-392-7547





MORRISON HERSHFIELD

Date: **June 01, 2022**

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

Subject: **Structural Analysis Report**

Carrier Designation: **Verizon Wireless Co-Locate**
Site Number: 468541
Site Name: Westville West CT

Crown Castle Designation: **BU Number:** 842879
Site Name: Woodbridge Country Club
JDE Job Number: 717371
Work Order Number: 2114941
Order Number: 617708 Rev. 0

Engineering Firm Designation: **Morrison Hershfield Project Number:** CN11-641 / 2200039

Site Data: **50 Woodfield Road, Woodbridge, New Haven County, CT 06525**
Latitude 41° 19' 39.5", Longitude -72° 59' 36.84"
102 Foot – EEI 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 – 31.6%**

This analysis utilizes an ultimate 3-second gust wind speed of 119 mph as required by the 2018 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

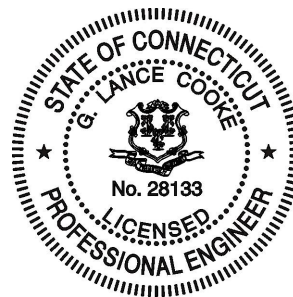


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1) INTRODUCTION

This tower is a 102 ft monopole tower designed by Engineer Endeavors Incorporation.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	119 mph
Exposure Category:	C
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)
90.0	90.0	3	antel	BXA-70063/6CF w/ Mount Pipe	19	1-5/8
		6	jma wireless	MX06FRO660-03 w/ Mount Pipe		
		3	samsung telecommunications	MT6407-77A w/ Mount Pipe		
		3	samsung telecommunications	RFV01U-D1A		
		6	samsung telecommunications	RFV01U-D2A		
		1	raycap	RVZDC-6627-PF-48		
		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)	
98.0	102.0	3	ericsson	RRUS 4449 B5/B12	6 3 2 2	1-5/8 7/8 13/16 3/8	
		3	ericsson	RRUS 4478 B14_CCIV2			
		3	ericsson	RRUS 8843 B2/B66A_CCIV2			
		1	raycap	DC6-48-60-18-8F			
		1	raycap	DC9-48-60-24-8C-EV			
	101.0	3	cci antennas	DMP65R-BU6D w/ Mount Pipe			
		3	cci antennas	OPA65R-BU6D w/ Mount Pipe			
		3	ericsson	AIR 6419 B77G_CCIV3 w/ Mount Pipe			
		98.0	1	Sabre			13'Sector Mount [#C10-857-802]
		97.0	3	ericsson			AIR 6449 B77D w/ Mount Pipe
67.0	67.0	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			
		1	tower mounts	Commscope MC-PK8-DSH			

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	4529495	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	7160639	CCISITES
4-TOWER MANUFACTURER DRAWINGS	7160648	CCISITES

3.1) Analysis Method

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

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	102 - 86.58	Pole	TP34.3925x29.58x0.3125	1	-5.63	1984.45	3.5	Pass
L2	86.58 - 42.7433	Pole	TP47.4475x32.2591x0.375	2	-22.69	3293.22	18.9	Pass
L3	42.7433 - 0	Pole	TP60x44.669x0.375	3	-38.62	4359.25	30.5	Pass
							Summary	
						Pole (L3)	30.5	Pass
						Rating =	30.5	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	24.7	Pass
1	Base Plate		31.6	Pass
1	Base Foundation (Structure)	0	30.4	Pass
1	Base Foundation (Soil Interaction)		31.5	Pass

Structure Rating (max from all components) =	31.6%*
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Notes:

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

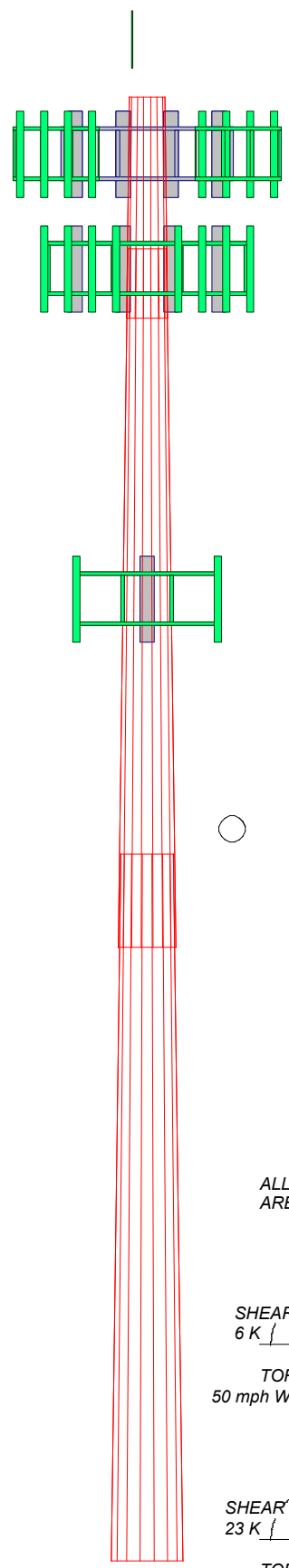
4.1) Recommendations

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

APPENDIX A
TNXTOWER OUTPUT

Section	1	2	3
Length (ft)	15.42	48.67	49.24
Number of Sides	18	18	18
Thickness (in)	0.3125	0.3750	0.3750
Socket Length (ft)	4.83	6.50	44.6690
Top Dia (in)	29.5800	32.2591	60.0000
Bot Dia (in)	34.3925	47.4475	60.0000
Grade		A572-65	
Weight (K)	1.6	7.8	10.4

102.0 ft
86.6 ft
42.7 ft
0.0 ft



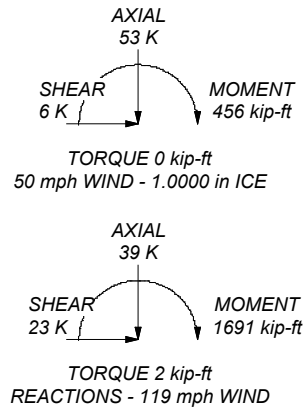
MATERIAL STRENGTH

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 C 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: 30.5%

ALL REACTIONS ARE FACTORED



Morrison Hershfield
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Atlanta, GA 30346
Phone: (770)379-8500
FAX: (770)379-8500

Job: CN11-641 / 2200039		
Project: 842879 / Woodbridge Country Club		
Client: Crown Castle USA	Drawn by: CSA	App'd:
Code: TIA-222-H	Date: 06/01/22	Scale: NTS
Path:		Dwg No. E-1

Tower Input Data

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

- Tower is located in New Haven County, Connecticut.
- Tower base elevation above sea level: 360.00 ft.
- Basic wind speed of 119 mph.
- Risk Category II.
- Exposure Category C.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.00 ft.
- Nominal ice thickness of 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 Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification ✓ Use Code Stress Ratios ✓ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric	Distribute Leg Loads As Uniform Assume Legs Pinned ✓ Assume Rigid Index Plate ✓ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension Guys To Initial Tension ✓ Bypass Mast Stability Checks ✓ Use Azimuth Dish Coefficients ✓ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination ✓ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs	Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation ✓ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption <div style="text-align: center; background-color: #e0e0e0; padding: 2px;">Poles</div> ✓ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known
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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	102.00-86.58	15.42	4.83	18	29.5800	34.3925	0.3125	1.2500	A572-65 (65 ksi)
L2	86.58-42.74	48.67	6.50	18	32.2591	47.4475	0.3750	1.5000	A572-65 (65 ksi)

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
L3	42.74-0.00	49.24		18	44.6690	60.0000	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	29.9881	29.0297	3141.6028	10.3900	15.0266	209.0689	6287.3394	14.5176	4.6561	14.899
L2	34.8749	33.8031	4960.1311	12.0984	17.4714	283.9002	9926.7888	16.9048	5.5031	17.61
	34.2304	37.9500	4874.1199	11.3188	16.3876	297.4273	9754.6533	18.9786	5.0176	13.38
L3	48.1216	56.0280	15684.7439	16.7107	24.1033	650.7293	31390.1262	28.0193	7.6908	20.509
	47.3552	52.7210	13068.0765	15.7244	22.6919	575.8923	26153.3483	26.3655	7.2018	19.205
	60.8677	70.9687	31875.7797	21.1669	30.4800	1045.7933	63793.5023	35.4911	9.9000	26.4

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontal in	Double Angle Stitch Bolt Spacing Redundants in
L1 102.00-86.58				1	1	1			
L2 86.58-42.74				1	1	1			
L3 42.74-0.00				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 r in	Perimeter r in	Weight plf
***** Safety Line 5/8"	C	No	Surface Ar (CaAa)	102.00 - 0.00	1	1	0.000 0.000	0.8800		0.40
Climbing Rungs	C	No	Surface Ar (CaAa)	102.00 - 0.00	1	1	-0.050 0.050	0.7050		1.80
***** CU12PSM9P8XXX(1-3/8)	A	No	Surface Ar (CaAa)	67.00 - 0.00	1	1	0.500 0.500	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	
***** LDF7-50A(1-5/8)	A	No	No	Inside Pole	98.00 - 0.00	6	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.82 0.82 0.82
FB-L98B-034-XXX(3/8)	A	No	No	Inside Pole	98.00 - 0.00	1	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
FB-L98B-235-XXX(3/8)	A	No	No	Inside Pole	98.00 - 0.00	1	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _{AA} ft ² /ft	Weight plf

PWRT-606-S(7/8)	A	No	No	Inside Pole	98.00 - 0.00	3	No Ice	0.00	0.89
							1/2" Ice	0.00	0.89
							1" Ice	0.00	0.89
PWRT-608-S(13/16)	A	No	No	Inside Pole	98.00 - 0.00	2	No Ice	0.00	0.62
							1/2" Ice	0.00	0.62
							1" Ice	0.00	0.62

LDF7-50A(1-5/8)	C	No	No	Inside Pole	90.00 - 0.00	18	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82

HB158-U12S24-XXX-LI(1-5/8)	C	No	No	Inside Pole	90.00 - 0.00	1	No Ice	0.00	3.20
							1/2" Ice	0.00	3.20
							1" Ice	0.00	3.20

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	102.00-86.58	A	0.000	0.000	0.000	0.000	0.10
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	2.444	0.000	0.10
L2	86.58-42.74	A	0.000	0.000	3.423	0.000	0.43
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	6.948	0.000	0.88
L3	42.74-0.00	A	0.000	0.000	6.031	0.000	0.45
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	6.775	0.000	0.86

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	102.00-86.58	A	0.944	0.000	0.000	0.000	0.000	0.10
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	8.266	0.000	0.16
L2	86.58-42.74	A	0.908	0.000	0.000	8.002	0.000	0.50
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	23.499	0.000	1.06
L3	42.74-0.00	A	0.814	0.000	0.000	13.793	0.000	0.56
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	22.298	0.000	1.02

Feed Line Center of Pressure

Section	Elevation ft	CP _x in	CP _z in	CP _x Ice in	CP _z Ice in
L1	102.00-86.58	0.0000	1.2191	0.0000	2.2143
L2	86.58-42.74	0.0000	0.5552	0.0000	1.3917
L3	42.74-0.00	0.0000	0.1192	0.0000	0.8238

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	2	Safety Line 5/8"	86.58 - 102.00	1.0000	1.0000
L1	3	Climbing Rungs	86.58 - 102.00	1.0000	1.0000
L2	2	Safety Line 5/8"	42.74 - 86.58	1.0000	1.0000
L2	3	Climbing Rungs	42.74 - 86.58	1.0000	1.0000
L2	24	CU12PSM9P8XXX(1-3/8)	42.74 - 67.00	1.0000	1.0000
L3	2	Safety Line 5/8"	0.00 - 42.74	1.0000	1.0000
L3	3	Climbing Rungs	0.00 - 42.74	1.0000	1.0000
L3	24	CU12PSM9P8XXX(1-3/8)	0.00 - 42.74	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	

Lighting Rod 5/8" x 4' on 4' Pole	C	From Leg	0.00	0.0000	102.00	No Ice	1.37	1.37	0.07
			0.00			1/2"	2.13	2.13	0.09
			4.00			Ice	2.70	2.70	0.11
						1" Ice			

DMP65R-BU6D w/ Mount Pipe	A	From Leg	4.00	0.0000	98.00	No Ice	11.96	5.97	0.11
			0.00			1/2"	12.70	6.63	0.20
			3.00			Ice	13.46	7.30	0.30
						1" Ice			
DMP65R-BU6D w/ Mount Pipe	B	From Leg	4.00	0.0000	98.00	No Ice	11.96	5.97	0.11
			0.00			1/2"	12.70	6.63	0.20
			3.00			Ice	13.46	7.30	0.30
						1" Ice			
DMP65R-BU6D w/ Mount Pipe	C	From Leg	4.00	0.0000	98.00	No Ice	11.96	5.97	0.11
			0.00			1/2"	12.70	6.63	0.20
			3.00			Ice	13.46	7.30	0.30
						1" Ice			
OPA65R-BU6D w/ Mount Pipe	A	From Leg	4.00	0.0000	98.00	No Ice	12.25	6.05	0.09
			0.00			1/2"	13.00	6.71	0.18
			3.00			Ice	13.76	7.39	0.27
						1" Ice			
OPA65R-BU6D w/ Mount Pipe	B	From Leg	4.00	0.0000	98.00	No Ice	12.25	6.05	0.09
			0.00			1/2"	13.00	6.71	0.18
			3.00			Ice	13.76	7.39	0.27
						1" Ice			
OPA65R-BU6D w/ Mount Pipe	C	From Leg	4.00	0.0000	98.00	No Ice	12.25	6.05	0.09
			0.00			1/2"	13.00	6.71	0.18
			3.00			Ice	13.76	7.39	0.27
						1" Ice			
RRUS 4449 B5/B12	A	From Leg	4.00	0.0000	98.00	No Ice	1.97	1.41	0.07
			0.00			1/2"	2.14	1.56	0.09
			4.00			Ice	2.33	1.73	0.11
						1" Ice			
RRUS 4449 B5/B12	B	From Leg	4.00	0.0000	98.00	No Ice	1.97	1.41	0.07
			0.00			1/2"	2.14	1.56	0.09
			4.00			Ice	2.33	1.73	0.11
						1" Ice			
RRUS 4449 B5/B12	C	From Leg	4.00	0.0000	98.00	No Ice	1.97	1.41	0.07
			0.00				2.14	1.56	0.09

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
			4.00			1/2" Ice 1" Ice	2.33	1.73	0.11
RRUS 8843 B2/B66A_CCIV2	A	From Leg	4.00 0.00 4.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice	1.98 2.16 2.34	1.70 1.86 2.04	0.08 0.10 0.12
RRUS 8843 B2/B66A_CCIV2	B	From Leg	4.00 0.00 4.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice	1.98 2.16 2.34	1.70 1.86 2.04	0.08 0.10 0.12
RRUS 8843 B2/B66A_CCIV2	C	From Leg	4.00 0.00 4.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice	1.98 2.16 2.34	1.70 1.86 2.04	0.08 0.10 0.12
RRUS 4478 B14_CCIV2	A	From Leg	4.00 0.00 4.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice	2.02 2.20 2.39	1.25 1.40 1.55	0.06 0.08 0.10
RRUS 4478 B14_CCIV2	B	From Leg	4.00 0.00 4.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice	2.02 2.20 2.39	1.25 1.40 1.55	0.06 0.08 0.10
RRUS 4478 B14_CCIV2	C	From Leg	4.00 0.00 4.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice	2.02 2.20 2.39	1.25 1.40 1.55	0.06 0.08 0.10
DC6-48-60-18-8F	A	From Leg	4.00 0.00 4.00	0.0000	98.00	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
DC9-48-60-24-8C-EV	A	From Leg	4.00 0.00 4.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice	2.74 2.96 3.20	4.78 5.06 5.35	0.03 0.06 0.10

AIR 6419 B77G_CCIV3 w/ Mount Pipe	A	From Leg	4.00 0.00 3.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice	4.38 4.71 5.05	2.76 3.19 3.64	0.06 0.10 0.14
AIR 6419 B77G_CCIV3 w/ Mount Pipe	B	From Leg	4.00 0.00 3.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice	4.38 4.71 5.05	2.76 3.19 3.64	0.06 0.10 0.14
AIR 6419 B77G_CCIV3 w/ Mount Pipe	C	From Leg	4.00 0.00 3.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice	4.38 4.71 5.05	2.76 3.19 3.64	0.06 0.10 0.14
AIR 6449 B77D w/ Mount Pipe	A	From Leg	4.00 0.00 -1.00	0.0000	98.00	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 w/ Mount Pipe	B	From Leg	4.00 0.00 -1.00	0.0000	98.00	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 w/ Mount Pipe	C	From Leg	4.00 0.00 -1.00	0.0000	98.00	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
6' x 2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
6' x 2" Mount Pipe	B	From Leg	4.00	0.0000	98.00	No Ice	1.43	1.43	0.02

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
			0.00			1/2"	1.92	1.92	0.03
			0.00			Ice	2.29	2.29	0.05
6' x 2" Mount Pipe	C	From Leg	4.00	0.0000	98.00	1" Ice			
			0.00			No Ice	1.43	1.43	0.02
			0.00			1/2"	1.92	1.92	0.03
			0.00			Ice	2.29	2.29	0.05
13' Sector Mount [#C10-857-802]	C	None		0.0000	98.00	1" Ice			
						No Ice	29.82	29.82	1.67
						1/2"	42.21	42.21	2.27
						Ice	54.43	54.43	3.05
						1" Ice			

BXA-70063/6CF w/ Mount Pipe	A	From Leg	4.00	0.0000	90.00	No Ice	7.34	5.51	0.06
			0.00			1/2"	8.08	6.22	0.11
			0.00			Ice	8.83	6.94	0.18
BXA-70063/6CF w/ Mount Pipe	B	From Leg	4.00	0.0000	90.00	1" Ice			
			0.00			No Ice	7.34	5.51	0.06
			0.00			1/2"	8.08	6.22	0.11
			0.00			Ice	8.83	6.94	0.18
BXA-70063/6CF w/ Mount Pipe	C	From Leg	4.00	0.0000	90.00	1" Ice			
			0.00			No Ice	7.34	5.51	0.06
			0.00			1/2"	8.08	6.22	0.11
			0.00			Ice	8.83	6.94	0.18
Platform Mount [LP 303-1]	C	None		0.0000	90.00	1" Ice			
						No Ice	14.69	14.69	1.25
						1/2"	18.01	18.01	1.57
						Ice	21.34	21.34	1.94
						1" Ice			

(2) MX06FRO660-03 w/ Mount Pipe	A	From Leg	4.00	0.0000	90.00	No Ice	6.54	5.55	0.10
			0.00			1/2"	7.06	6.05	0.18
			0.00			Ice	7.60	6.57	0.28
(2) MX06FRO660-03 w/ Mount Pipe	B	From Leg	4.00	0.0000	90.00	1" Ice			
			0.00			No Ice	6.54	5.55	0.10
			0.00			1/2"	7.06	6.05	0.18
			0.00			Ice	7.60	6.57	0.28
(2) MX06FRO660-03 w/ Mount Pipe	C	From Leg	4.00	0.0000	90.00	1" Ice			
			0.00			No Ice	6.54	5.55	0.10
			0.00			1/2"	7.06	6.05	0.18
			0.00			Ice	7.60	6.57	0.28
MT6407-77A w/ Mount Pipe	A	From Leg	4.00	0.0000	90.00	1" Ice			
			0.00			No Ice	4.91	2.68	0.10
			0.00			1/2"	5.26	3.14	0.14
			0.00			Ice	5.61	3.62	0.18
MT6407-77A w/ Mount Pipe	B	From Leg	4.00	0.0000	90.00	1" Ice			
			0.00			No Ice	4.91	2.68	0.10
			0.00			1/2"	5.26	3.14	0.14
			0.00			Ice	5.61	3.62	0.18
MT6407-77A w/ Mount Pipe	C	From Leg	4.00	0.0000	90.00	1" Ice			
			0.00			No Ice	4.91	2.68	0.10
			0.00			1/2"	5.26	3.14	0.14
			0.00			Ice	5.61	3.62	0.18
(2) RFV01U-D2A	A	From Leg	4.00	0.0000	90.00	1" Ice			
			0.00			No Ice	1.88	1.01	0.07
			0.00			1/2"	2.05	1.14	0.09
			0.00			Ice	2.22	1.28	0.11
(2) RFV01U-D2A	B	From Leg	4.00	0.0000	90.00	1" Ice			
			0.00			No Ice	1.88	1.01	0.07
			0.00			1/2"	2.05	1.14	0.09
			0.00			Ice	2.22	1.28	0.11
(2) RFV01U-D2A	C	From Leg	4.00	0.0000	90.00	1" Ice			
			0.00			No Ice	1.88	1.01	0.07
			0.00			1/2"	2.05	1.14	0.09
			0.00			Ice	2.22	1.28	0.11
						1" Ice			

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _{AA}	C _{AA}	Weight
			Horz	Lateral	Vert			Front	Side	
			ft	ft	ft	°	ft	ft ²	ft ²	K
RFV01U-D1A	A	From Leg	4.00	0.0000	90.00	No Ice	1.88	1.25	0.08	
			0.00			1/2"	2.05	1.39	0.10	
			0.00			Ice	2.22	1.54	0.12	
RFV01U-D1A	B	From Leg	4.00	0.0000	90.00	1" Ice	1.88	1.25	0.08	
			0.00			No Ice	2.05	1.39	0.10	
			0.00			1/2"	2.22	1.54	0.12	
RFV01U-D1A	C	From Leg	4.00	0.0000	90.00	Ice	1.88	1.25	0.08	
			0.00			1/2"	2.05	1.39	0.10	
			0.00			Ice	2.22	1.54	0.12	
RVZDC-6627-PF-48	A	From Leg	4.00	0.0000	90.00	1" Ice	3.79	2.51	0.03	
			0.00			No Ice	4.04	2.73	0.06	
			0.00			1/2"	4.30	2.95	0.10	
Mount Reinforcement Specifications	C	None		0.0000	90.00	Ice	28.63	28.63	0.28	
						1/2"	37.31	37.31	0.67	
						Ice	45.80	45.80	0.94	
***** ***										
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.00	0.0000	67.00	No Ice	8.01	4.23	0.11	
			0.00			1/2"	8.52	4.69	0.19	
			0.00			Ice	9.04	5.16	0.29	
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.00	0.0000	67.00	1" Ice	8.01	4.23	0.11	
			0.00			No Ice	8.52	4.69	0.19	
			0.00			1/2"	9.04	5.16	0.29	
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.00	0.0000	67.00	Ice	8.01	4.23	0.11	
			0.00			1/2"	8.52	4.69	0.19	
			0.00			Ice	9.04	5.16	0.29	
TA08025-B604	A	From Leg	4.00	0.0000	67.00	1" Ice	1.96	0.98	0.06	
			0.00			No Ice	2.14	1.11	0.08	
			0.00			Ice	2.32	1.25	0.10	
TA08025-B604	B	From Leg	4.00	0.0000	67.00	1" Ice	1.96	0.98	0.06	
			0.00			No Ice	2.14	1.11	0.08	
			0.00			Ice	2.32	1.25	0.10	
TA08025-B604	C	From Leg	4.00	0.0000	67.00	1" Ice	1.96	0.98	0.06	
			0.00			No Ice	2.14	1.11	0.08	
			0.00			Ice	2.32	1.25	0.10	
TA08025-B605	A	From Leg	4.00	0.0000	67.00	1" Ice	1.96	1.13	0.08	
			0.00			No Ice	2.14	1.27	0.09	
			0.00			Ice	2.32	1.41	0.11	
TA08025-B605	B	From Leg	4.00	0.0000	67.00	1" Ice	1.96	1.13	0.08	
			0.00			No Ice	2.14	1.27	0.09	
			0.00			Ice	2.32	1.41	0.11	
TA08025-B605	C	From Leg	4.00	0.0000	67.00	1" Ice	1.96	1.13	0.08	
			0.00			No Ice	2.14	1.27	0.09	
			0.00			Ice	2.32	1.41	0.11	
RDIDC-9181-PF-48	A	From Leg	4.00	0.0000	67.00	1" Ice	2.01	1.17	0.02	
			0.00			No Ice	2.19	1.31	0.04	
			0.00			Ice	2.37	1.46	0.06	
(2) 8' x 2" Mount Pipe	A	From Leg	4.00	0.0000	67.00	1" Ice	1.90	1.90	0.03	
			0.00			No Ice	2.73	2.73	0.04	
			0.00			Ice	3.40	3.40	0.06	

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight
			Horz	Lateral	Vert					
(2) 8' x 2" Mount Pipe	B	From Leg	4.00	0.0000	67.00	1" Ice				
			0.00			No Ice	1.90	1.90	0.03	
			0.00			1/2" Ice	2.73	2.73	0.04	
(2) 8' x 2" Mount Pipe	C	From Leg	4.00	0.0000	67.00	1" Ice				
			0.00			No Ice	1.90	1.90	0.03	
			0.00			1/2" Ice	2.73	2.73	0.04	
Commscope MC-PK8-DSH	C	None		0.0000	67.00	1" Ice				
						No Ice	34.24	34.24	1.75	
						1/2" Ice	62.95	62.95	2.10	
						Ice	91.66	91.66	2.45	
						1" Ice				

Load Combinations

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

Comb. No.	Description
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	102 - 86.58	Pole	Max Tension	27	0.00	-0.00	-0.00
			Max. Compression	26	-9.74	0.06	0.47
			Max. Mx	20	-5.63	52.71	0.21
			Max. My	2	-5.64	0.09	51.96
			Max. Vy	20	-6.44	52.71	0.21
			Max. Vx	2	-6.35	0.09	51.96
			Max. Torque	9			1.18
L2	86.58 - 42.7433	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-33.86	0.29	1.20
			Max. Mx	20	-22.69	660.45	0.41
			Max. My	2	-22.69	0.16	658.61
			Max. Vy	20	-18.36	660.45	0.41
			Max. Vx	2	-18.35	0.16	658.61
			Max. Torque	9			1.88
L3	42.7433 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.85	0.70	0.75
			Max. Mx	20	-38.62	1691.11	0.23
			Max. My	2	-38.62	0.34	1688.39
			Max. Vy	20	-23.40	1691.11	0.23
			Max. Vx	2	-23.39	0.34	1688.39
			Max. Torque	9			1.88

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	52.85	0.00	0.00
	Max. H _x	20	38.62	23.39	0.00
	Max. H _z	2	38.62	0.00	23.38
	Max. M _x	2	1688.39	0.00	23.38
	Max. M _z	8	1690.43	-23.39	0.00
	Max. Torsion	9	1.88	-23.39	0.00
	Min. Vert	13	28.97	-11.69	-20.25
	Min. H _x	8	38.62	-23.39	0.00
	Min. H _z	14	38.62	0.00	-23.38
	Min. M _x	14	-1687.92	0.00	-23.38
	Min. M _z	20	-1691.11	23.39	0.00
	Min. Torsion	21	-1.88	23.39	0.00

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead Only	32.19	0.00	0.00	-0.19	0.28	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	38.62	0.00	-23.38	-1688.39	0.34	-0.07
0.9 Dead+1.0 Wind 0 deg - No Ice	28.97	0.00	-23.38	-1683.14	0.25	-0.07
1.2 Dead+1.0 Wind 30 deg - No Ice	38.62	11.69	-20.25	-1462.22	-845.04	-1.00
0.9 Dead+1.0 Wind 30 deg - No Ice	28.97	11.69	-20.25	-1457.67	-842.53	-1.00
1.2 Dead+1.0 Wind 60 deg - No Ice	38.62	20.26	-11.69	-844.31	-1463.91	-1.66
0.9 Dead+1.0 Wind 60 deg - No Ice	28.97	20.26	-11.69	-841.66	-1459.50	-1.66
1.2 Dead+1.0 Wind 90 deg - No Ice	38.62	23.39	0.00	-0.23	-1690.43	-1.88
0.9 Dead+1.0 Wind 90 deg - No Ice	28.97	23.39	0.00	-0.17	-1685.32	-1.88
1.2 Dead+1.0 Wind 120 deg - No Ice	38.62	20.26	11.69	843.84	-1463.91	-1.59
0.9 Dead+1.0 Wind 120 deg - No Ice	28.97	20.26	11.69	841.31	-1459.50	-1.59
1.2 Dead+1.0 Wind 150 deg - No Ice	38.62	11.69	20.25	1461.75	-845.04	-0.88
0.9 Dead+1.0 Wind 150 deg - No Ice	28.97	11.69	20.25	1457.32	-842.53	-0.88
1.2 Dead+1.0 Wind 180 deg - No Ice	38.62	0.00	23.38	1687.92	0.34	0.07
0.9 Dead+1.0 Wind 180 deg - No Ice	28.97	0.00	23.38	1682.79	0.25	0.07
1.2 Dead+1.0 Wind 210 deg - No Ice	38.62	-11.69	20.25	1461.75	845.73	1.00
0.9 Dead+1.0 Wind 210 deg - No Ice	28.97	-11.69	20.25	1457.32	843.04	1.00
1.2 Dead+1.0 Wind 240 deg - No Ice	38.62	-20.26	11.69	843.84	1464.59	1.66
0.9 Dead+1.0 Wind 240 deg - No Ice	28.97	-20.26	11.69	841.31	1460.01	1.66
1.2 Dead+1.0 Wind 270 deg - No Ice	38.62	-23.39	0.00	-0.23	1691.11	1.88
0.9 Dead+1.0 Wind 270 deg - No Ice	28.97	-23.39	0.00	-0.17	1685.83	1.88
1.2 Dead+1.0 Wind 300 deg - No Ice	38.62	-20.26	-11.69	-844.31	1464.59	1.59
0.9 Dead+1.0 Wind 300 deg - No Ice	28.97	-20.26	-11.69	-841.66	1460.01	1.59
1.2 Dead+1.0 Wind 330 deg - No Ice	38.62	-11.69	-20.25	-1462.22	845.73	0.88
0.9 Dead+1.0 Wind 330 deg - No Ice	28.97	-11.69	-20.25	-1457.67	843.04	0.88
1.2 Dead+1.0 Ice+1.0 Temp	52.85	0.00	0.00	-0.75	0.70	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	52.85	0.00	-6.49	-455.59	0.72	-0.02
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	52.85	3.24	-5.62	-394.66	-226.92	-0.22
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	52.85	5.62	-3.24	-228.19	-393.57	-0.35
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	52.85	6.49	-0.00	-0.78	-454.57	-0.39
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	52.85	5.62	3.24	226.62	-393.57	-0.33

Load Combination	Vertical	Shear _x	Shear _z	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
	K	K	K			
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	52.85	3.24	5.62	393.09	-226.92	-0.18
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	52.85	0.00	6.49	454.02	0.72	0.02
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	52.85	-3.24	5.62	393.09	228.36	0.22
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	52.85	-5.62	3.24	226.62	395.00	0.35
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	52.85	-6.49	-0.00	-0.78	456.00	0.39
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	52.85	-5.62	-3.24	-228.19	395.00	0.33
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	52.85	-3.24	-5.62	-394.66	228.36	0.18
Dead+Wind 0 deg - Service	32.19	0.00	-5.60	-403.81	0.28	-0.02
Dead+Wind 30 deg - Service	32.19	2.80	-4.85	-349.73	-201.84	-0.24
Dead+Wind 60 deg - Service	32.19	4.85	-2.80	-202.00	-349.80	-0.40
Dead+Wind 90 deg - Service	32.19	5.60	0.00	-0.19	-403.96	-0.45
Dead+Wind 120 deg - Service	32.19	4.85	2.80	201.61	-349.80	-0.39
Dead+Wind 150 deg - Service	32.19	2.80	4.85	349.34	-201.84	-0.21
Dead+Wind 180 deg - Service	32.19	0.00	5.60	403.42	0.28	0.02
Dead+Wind 210 deg - Service	32.19	-2.80	4.85	349.34	202.40	0.24
Dead+Wind 240 deg - Service	32.19	-4.85	2.80	201.61	350.36	0.40
Dead+Wind 270 deg - Service	32.19	-5.60	0.00	-0.19	404.52	0.45
Dead+Wind 300 deg - Service	32.19	-4.85	-2.80	-202.00	350.36	0.39
Dead+Wind 330 deg - Service	32.19	-2.80	-4.85	-349.73	202.40	0.21

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	-32.19	0.00	0.00	32.19	0.00	0.000%
2	0.00	-38.62	-23.38	0.00	38.62	23.38	0.000%
3	0.00	-28.97	-23.38	0.00	28.97	23.38	0.000%
4	11.69	-38.62	-20.25	-11.69	38.62	20.25	0.000%
5	11.69	-28.97	-20.25	-11.69	28.97	20.25	0.000%
6	20.26	-38.62	-11.69	-20.26	38.62	11.69	0.000%
7	20.26	-28.97	-11.69	-20.26	28.97	11.69	0.000%
8	23.39	-38.62	0.00	-23.39	38.62	0.00	0.000%
9	23.39	-28.97	0.00	-23.39	28.97	0.00	0.000%
10	20.26	-38.62	11.69	-20.26	38.62	-11.69	0.000%
11	20.26	-28.97	11.69	-20.26	28.97	-11.69	0.000%
12	11.69	-38.62	20.25	-11.69	38.62	-20.25	0.000%
13	11.69	-28.97	20.25	-11.69	28.97	-20.25	0.000%
14	0.00	-38.62	23.38	0.00	38.62	-23.38	0.000%

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
15	0.00	-28.97	23.38	0.00	28.97	-23.38	0.000%
16	-11.69	-38.62	20.25	11.69	38.62	-20.25	0.000%
17	-11.69	-28.97	20.25	11.69	28.97	-20.25	0.000%
18	-20.26	-38.62	11.69	20.26	38.62	-11.69	0.000%
19	-20.26	-28.97	11.69	20.26	28.97	-11.69	0.000%
20	-23.39	-38.62	0.00	23.39	38.62	0.00	0.000%
21	-23.39	-28.97	0.00	23.39	28.97	0.00	0.000%
22	-20.26	-38.62	-11.69	20.26	38.62	11.69	0.000%
23	-20.26	-28.97	-11.69	20.26	28.97	11.69	0.000%
24	-11.69	-38.62	-20.25	11.69	38.62	20.25	0.000%
25	-11.69	-28.97	-20.25	11.69	28.97	20.25	0.000%
26	0.00	-52.85	0.00	0.00	52.85	0.00	0.000%
27	0.00	-52.85	-6.49	0.00	52.85	6.49	0.000%
28	3.24	-52.85	-5.62	-3.24	52.85	5.62	0.000%
29	5.62	-52.85	-3.24	-5.62	52.85	3.24	0.000%
30	6.49	-52.85	0.00	-6.49	52.85	0.00	0.000%
31	5.62	-52.85	3.24	-5.62	52.85	-3.24	0.000%
32	3.24	-52.85	5.62	-3.24	52.85	-5.62	0.000%
33	0.00	-52.85	6.49	0.00	52.85	-6.49	0.000%
34	-3.24	-52.85	5.62	3.24	52.85	-5.62	0.000%
35	-5.62	-52.85	3.24	5.62	52.85	-3.24	0.000%
36	-6.49	-52.85	0.00	6.49	52.85	0.00	0.000%
37	-5.62	-52.85	-3.24	5.62	52.85	3.24	0.000%
38	-3.24	-52.85	-5.62	3.24	52.85	5.62	0.000%
39	0.00	-32.19	-5.60	0.00	32.19	5.60	0.000%
40	2.80	-32.19	-4.85	-2.80	32.19	4.85	0.000%
41	4.85	-32.19	-2.80	-4.85	32.19	2.80	0.000%
42	5.60	-32.19	0.00	-5.60	32.19	0.00	0.000%
43	4.85	-32.19	2.80	-4.85	32.19	-2.80	0.000%
44	2.80	-32.19	4.85	-2.80	32.19	-4.85	0.000%
45	0.00	-32.19	5.60	0.00	32.19	-5.60	0.000%
46	-2.80	-32.19	4.85	2.80	32.19	-4.85	0.000%
47	-4.85	-32.19	2.80	4.85	32.19	-2.80	0.000%
48	-5.60	-32.19	0.00	5.60	32.19	0.00	0.000%
49	-4.85	-32.19	-2.80	4.85	32.19	2.80	0.000%
50	-2.80	-32.19	-4.85	2.80	32.19	4.85	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	0.00000638
3	Yes	4	0.00000001	0.00000001
4	Yes	4	0.00000001	0.00009590
5	Yes	4	0.00000001	0.00006258
6	Yes	4	0.00000001	0.00013718
7	Yes	4	0.00000001	0.00009041
8	Yes	4	0.00000001	0.00005495
9	Yes	4	0.00000001	0.00003656
10	Yes	4	0.00000001	0.00009326
11	Yes	4	0.00000001	0.00006090
12	Yes	4	0.00000001	0.00012059
13	Yes	4	0.00000001	0.00007927
14	Yes	4	0.00000001	0.00000638
15	Yes	4	0.00000001	0.00000001
16	Yes	4	0.00000001	0.00012320
17	Yes	4	0.00000001	0.00008100
18	Yes	4	0.00000001	0.00009325
19	Yes	4	0.00000001	0.00006090
20	Yes	4	0.00000001	0.00005497
21	Yes	4	0.00000001	0.00003657
22	Yes	4	0.00000001	0.00013569
23	Yes	4	0.00000001	0.00008939
24	Yes	4	0.00000001	0.00009699
25	Yes	4	0.00000001	0.00006328
26	Yes	4	0.00000001	0.00000001
27	Yes	4	0.00000001	0.00013284
28	Yes	4	0.00000001	0.00013570
29	Yes	4	0.00000001	0.00013571
30	Yes	4	0.00000001	0.00013232
31	Yes	4	0.00000001	0.00013476
32	Yes	4	0.00000001	0.00013454
33	Yes	4	0.00000001	0.00013151
34	Yes	4	0.00000001	0.00013484
35	Yes	4	0.00000001	0.00013519
36	Yes	4	0.00000001	0.00013278
37	Yes	4	0.00000001	0.00013611
38	Yes	4	0.00000001	0.00013596
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	0.00000001
44	Yes	4	0.00000001	0.00000001
45	Yes	4	0.00000001	0.00000001
46	Yes	4	0.00000001	0.00000001
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	0.00000001

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	102 - 86.58	3.493	49	0.2662	0.0013
L2	91.4133 - 42.7433	2.905	48	0.2624	0.0011
L3	49.2433 - 0	0.922	48	0.1675	0.0004

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
102.00	Lighting Rod 5/8" x 4' on 4' Pole	49	3.493	0.2662	0.0013	204799
98.00	DMP65R-BU6D w/ Mount Pipe	49	3.270	0.2654	0.0012	204799
90.00	BXA-70063/6CF w/ Mount Pipe	48	2.827	0.2613	0.0011	78870
67.00	MX08FRO665-21 w/ Mount Pipe	48	1.641	0.2196	0.0007	20920

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	102 - 86.58	14.603	20	1.1124	0.0053
L2	91.4133 - 42.7433	12.146	20	1.0971	0.0045
L3	49.2433 - 0	3.854	20	0.7004	0.0015

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
102.00	Lighting Rod 5/8" x 4' on 4' Pole	20	14.603	1.1124	0.0053	49629
98.00	DMP65R-BU6D w/ Mount Pipe	20	13.672	1.1092	0.0050	49629
90.00	BXA-70063/6CF w/ Mount Pipe	20	11.821	1.0925	0.0044	19053
67.00	MX08FRO665-21 w/ Mount Pipe	20	6.863	0.9182	0.0027	5009

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
L1	102 - 86.58 (1)	TP34.3925x29.58x0.3125	15.42	0.00	0.0	32.306 9	-5.63	1889.95	0.003
L2	86.58 - 42.7433 (2)	TP47.4475x32.2591x0.37 5	48.67	0.00	0.0	53.613 7	-22.69	3136.40	0.007
L3	42.7433 - 0 (3)	TP60x44.669x0.375	49.24	0.00	0.0	70.968 7	-38.62	4151.67	0.009

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	102 - 86.58 (1)	TP34.3925x29.58x0.3125	52.71	1567.97	0.034	0.00	1567.97	0.000
L2	86.58 - 42.7433 (2)	TP47.4475x32.2591x0.37 5	660.45	3456.07	0.191	0.00	3456.07	0.000
L3	42.7433 - 0 (3)	TP60x44.669x0.375	1691.11	5436.67	0.311	0.00	5436.67	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	102 - 86.58 (1)	TP34.3925x29.58x0.3125	6.44	566.99	0.011	1.18	1617.30	0.001
L2	86.58 - 42.7433 (2)	TP47.4475x32.2591x0.375	18.36	940.92	0.020	1.88	3711.68	0.001
L3	42.7433 - 0 (3)	TP60x44.669x0.375	23.40	1245.50	0.019	1.88	6503.57	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P_u ϕP_n	Ratio M_{ux} ϕM_{nx}	Ratio M_{uy} ϕM_{ny}	Ratio V_u ϕV_n	Ratio T_u ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	102 - 86.58 (1)	0.003	0.034	0.000	0.011	0.001	0.037	1.050	4.8.2
L2	86.58 - 42.7433 (2)	0.007	0.191	0.000	0.020	0.001	0.199	1.050	4.8.2
L3	42.7433 - 0 (3)	0.009	0.311	0.000	0.019	0.000	0.321	1.050	4.8.2

Section Capacity Table

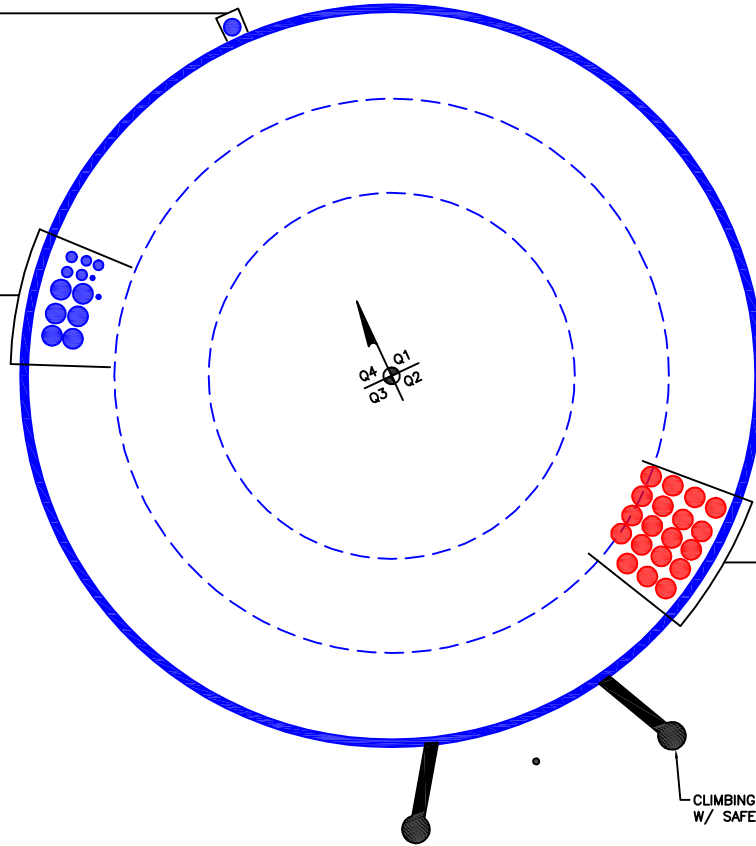
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail	
L1	102 - 86.58	Pole	TP34.3925x29.58x0.3125	1	-5.63	1984.45	3.5	Pass	
L2	86.58 - 42.7433	Pole	TP47.4475x32.2591x0.375	2	-22.69	3293.22	18.9	Pass	
L3	42.7433 - 0	Pole	TP60x44.669x0.375	3	-38.62	4359.25	30.5	Pass	
							Summary		
							Pole (L3)	30.5	Pass
							RATING =	30.5	Pass

APPENDIX B
BASE LEVEL DRAWING



(OTHER CONSIDERED EQUIPMENT)
(1) 1-3/8" TO 67 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(2) 3/8" TO 98 FT LEVEL
(2) 13/16" TO 98 FT LEVEL
(3) 7/8" TO 98 FT LEVEL
(6) 1-5/8" TO 98 FT LEVEL



(PROPOSED EQUIPMENT CONFIGURATION)
(19) 1-5/8" TO 90 FT LEVEL

CLIMBING PEGS
W/ SAFETY CLIMB

APPENDIX C
ADDITIONAL CALCULATIONS

Monopole Base Plate Connection

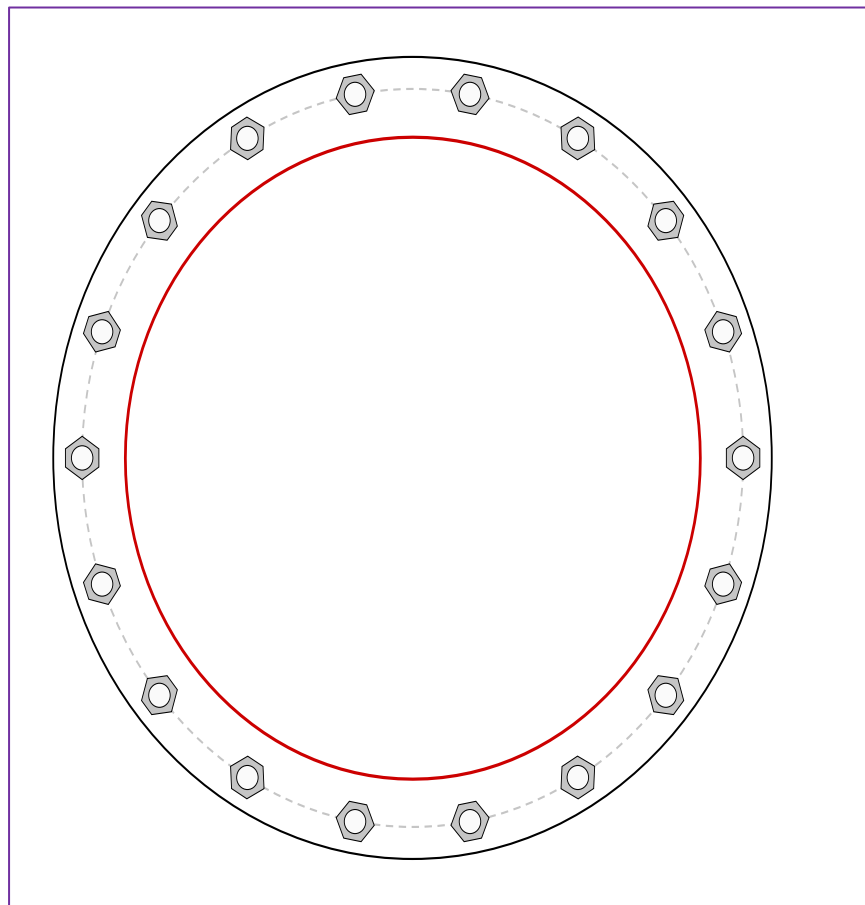


Site Info	
BU #	842879
Site Name	oodbridge Country Cl
Order #	617708 Rev. 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	Yes
l_{ar} (in)	2.5

Applied Loads	
Moment (kip-ft)	1691.11
Axial Force (kips)	38.62
Shear Force (kips)	23.40

*TIA-222-H Section 15.5 Applied



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

Anchor Rod Data
(18) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 69" BC
Base Plate Data
75" OD x 2" Plate (A572-60; $F_y=60$ ksi, $F_u=75$ ksi)
Stiffener Data
N/A
Pole Data
60" x 0.375" 18-sided pole (A572-65; $F_y=65$ ksi, $F_u=80$ ksi)

Anchor Rod Summary			<i>(units of kips, kip-in)</i>
$P_{u,t} = 63.18$	$\phi P_{n,t} = 243.75$	Stress Rating	
$V_u = 1.3$	$\phi V_n = 149.1$	24.7%	
$M_u = n/a$	$\phi M_n = n/a$	Pass	
Base Plate Summary			
Max Stress (ksi):	17.93	(Flexural)	
Allowable Stress (ksi):	54		
Stress Rating:	31.6%	Pass	

Pier and Pad Foundation



BU #: 842879
Site Name: Woodbridge Count
App. Number: 617708 Rev. 0

TIA-222 Revision: H
Tower Type: Monopole

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

Superstructure Analysis Reactions		
Compression, P_{comp} :	38.62	kips
Base Shear, Vu_{comp} :	23.39	kips
Moment, M_u :	1691.11	ft-kips
Tower Height, H :	102	ft
BP Dist. Above Fdn, bp_{dist} :	4.75	in

Foundation Analysis Checks				
	Capacity	Demand	Rating*	Check
<i>Lateral (Sliding) (kips)</i>	178.96	23.39	12.4%	Pass
<i>Bearing Pressure (ksf)</i>	6.00	1.63	25.8%	Pass
<i>Overturning (kip*ft)</i>	5844.49	1840.71	31.5%	Pass
<i>Pier Flexure (Comp.) (kip*ft)</i>	5525.23	1761.28	30.4%	Pass
<i>Pier Compression (kip)</i>	35802.00	69.00	0.2%	Pass
<i>Pad Flexure (kip*ft)</i>	3934.05	651.63	15.8%	Pass
<i>Pad Shear - 1-way (kips)</i>	986.16	93.34	9.0%	Pass
<i>Pad Shear - 2-way (Comp) (ksi)</i>	0.190	0.018	8.8%	Pass
<i>Flexural 2-way (Comp) (kip*ft)</i>	3898.96	1056.77	25.8%	Pass

Pier Properties		
Pier Shape:	Square	
Pier Diameter, $dpier$:	7.5	ft
Ext. Above Grade, E :	1	ft
Pier Rebar Size, Sc :	8	
Pier Rebar Quantity, mc :	40	
Pier Tie/Spiral Size, St :	4	
Pier Tie/Spiral Quantity, mt :	4	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier} :	5	in

*Rating per TIA-222-H Section 15.5

Structural Rating*:	30.4%
Soil Rating*:	31.5%

Pad Properties		
Depth, D :	5	ft
Pad Width, W_1 :	27.5	ft
Pad Thickness, T :	3	ft
Pad Rebar Size (Top dir.2), Sp_{top2} :	8	
Pad Rebar Quantity (Top dir. 2), mp_{top2} :	24	
Pad Rebar Size (Bottom dir. 2), Sp_2 :	8	
Pad Rebar Quantity (Bottom dir. 2), mp_2 :	36	
Pad Clear Cover, cc_{pad} :	3	in

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

Soil Properties		
Total Soil Unit Weight, γ :	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} :	60	
Base Friction, μ :		
Neglected Depth, N :	3.50	ft
Foundation Bearing on Rock?	Yes	
Groundwater Depth, gw :	N/A	ft

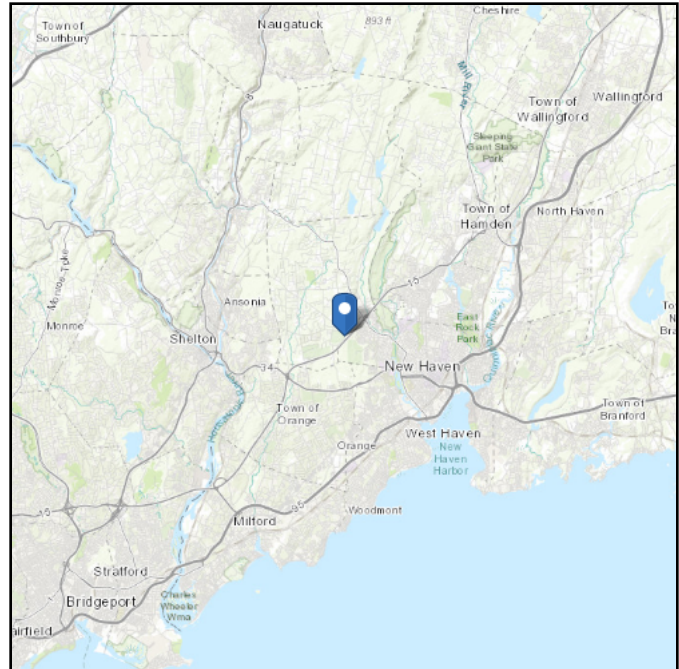
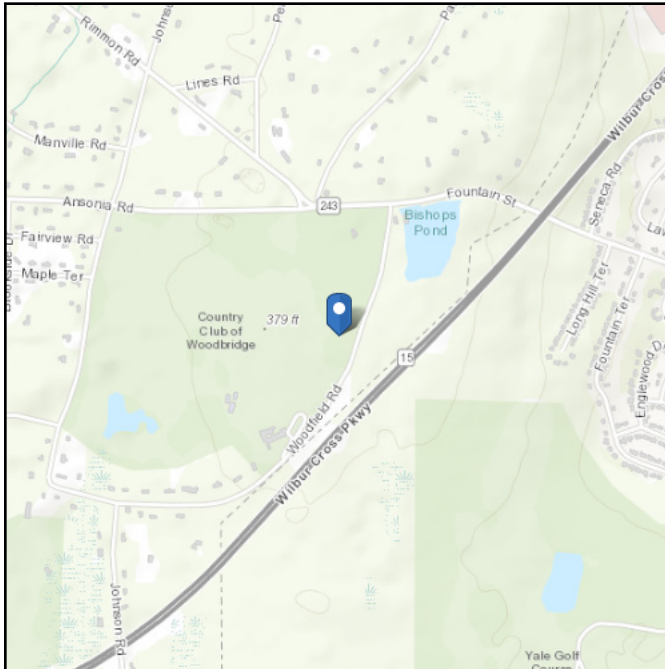
--Toggle between Gross and Net

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 360.98 ft (NAVD 88)
Latitude: 41.327639
Longitude: -72.993567



Wind

Results:

Wind Speed	119 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	90 Vmph
100-year MRI	98 Vmph

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

Date Accessed: Tue May 31 2022

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

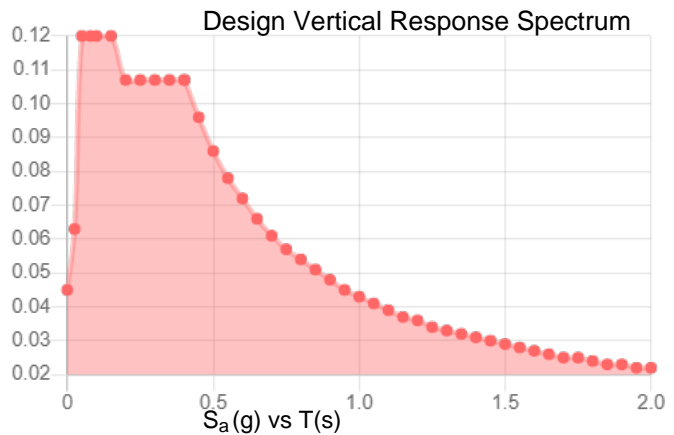
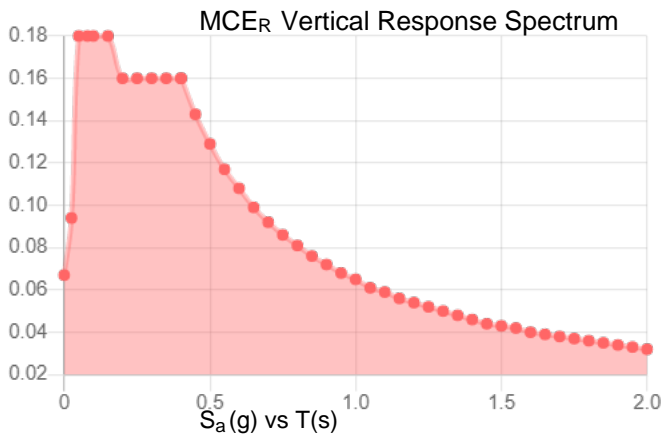
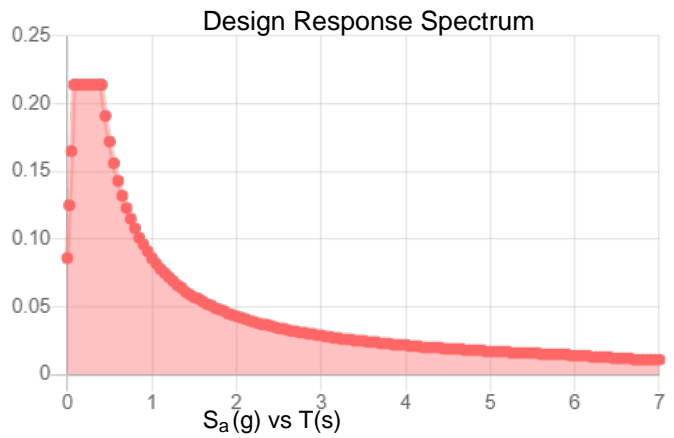
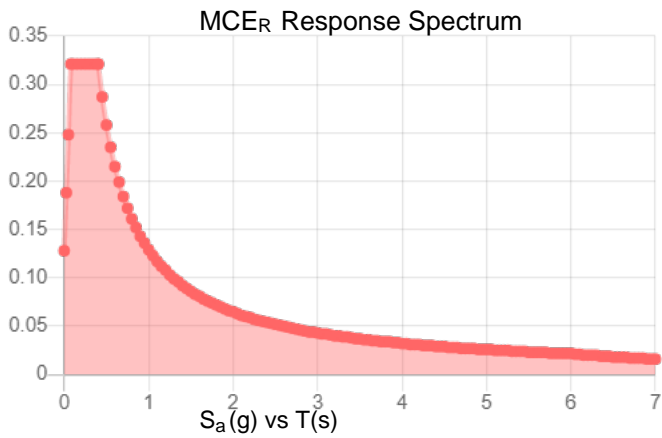
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: D - Stiff Soil

Results:

S_s :	0.2	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.112
F_v :	2.4	PGA _M :	0.177
S_{MS} :	0.321	F_{PGA} :	1.576
S_{M1} :	0.129	I_e :	1
S_{DS} :	0.214	C_v :	0.701

Seismic Design Category B



Data Accessed: Tue May 31 2022

Date Source:

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

Ice

Results:

Ice Thickness: 1.00 in.
Concurrent Temperature: 15 F
Gust Speed 50 mph

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

Date Accessed: Tue May 31 2022

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

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

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MOUNT MODIFICATION DRAWINGS
EXISTING 12.50' PLATFORM

TOWER OWNER: CROWN CASTLE
TOWER OWNER SITE NUMBER: 842879

CARRIER SITE NAME: WESTVILLE WEST CT
CARRIER SITE NUMBER: 468541
FUZE ID: 16244609

50 WOODFIELD RD.
WOODBIDGE, CT 06525
NEW HAVEN COUNTY

LATITUDE: 41.327639° N
LONGITUDE: 72.993567° W



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SCALE: AS SHOWN JOB NUMBER: 21777972A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	04/28/22	ISSUED FOR CONSTRUCTION	AE	DX



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SITE NAME:
WESTVILLE WEST CT
468541
50 WOODFIELD RD.
WOODBIDGE, CT 06525
NEW HAVEN COUNTY

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

ST-1

DESIGN CRITERIA
WIND LOADS BASIC WIND SPEED (3 SECOND GUST), V = 119 MPH EXPOSURE CATEGORY C TOPOGRAPHIC CATEGORY I MEAN BASE ELEVATION (AMSL) = 360.98'
ICE LOADS ICE WIND SPEED (3 SECOND GUST), V = 50 MPH ICE THICKNESS = 1.00 IN
SEISMIC LOADS SEISMIC DESIGN CATEGORY B SHORT TERM MCER GROUND MOTION, S _s = .200 LONG TERM MCER GROUND MOTION, S _l = .054

PROJECT INFORMATION
APPLICANT/LESSEE COMPANY: VERIZON WIRELESS
CLIENT REPRESENTATIVE COMPANY: VERIZON WIRELESS
PROJECT MANAGER COMPANY: COLLIERS ENGINEERING & DESIGN CONTACT: PETER ALBANO PHONE: 856.797.0412 E-MAIL: PETER.ALBANO@COLLIERSENGINEERING.COM

CONTRACTOR PMI REQUIREMENTS
PMI LOCATION: HTTPS://PMI.VZWSMART.COM SMART TOOL PROJECT #: 10145609 VZW LOCATION CODE (PSLC): 468541 ANALYSIS DATE: 4/28/2022
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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BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)	
1	VZWSMART	VZWSMART-PLK1	SUPPORT RAIL KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	504	504	
1		VZWSMART-PLK5	KICKER KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	291	291	
1		VZWSMART-P40-238X048	48" LONG, PIPE 2 STD (2.375"OD X 0.154" THK)			15	15
1		VZWSMART-PLK7	MONOPOLE COLLAR MOUNT ASSEMBLY			150	150
1		VZWSMART-MSK6	BACK TO BACK CROSSOVER PLATE			34	34

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
TOTAL:						994

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	WIRELESSALES@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

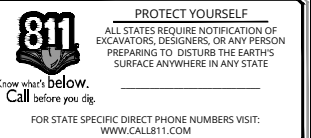
VZWSMART KITS - APPROVED VENDORS

NEWAVE	
CONTACT	NEWAVE SALES TEAM
PHONE	(971) 239-4762
EMAIL	SALES@NEWAVETC.COM
WEBSITE	WWW.NEWAVETC.COM
BETTER METAL, LLC	
CONTACT	DAVID STANSBERRY
PHONE	(615) 535-0990 (O), (615) 631-2520 (M)
EMAIL	DLS@BETTERMETAL.COM
WEBSITE	WWW.BETTERMETAL.COM



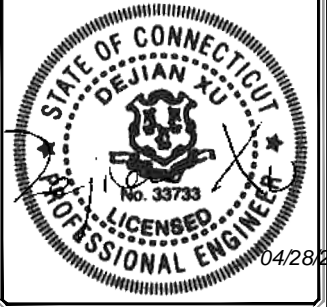
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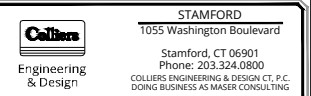


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SITE NAME:

WESTVILLE WEST CT
468541

50 WOODFIELD RD.
WOODBIDGE, CT 06525
NEW HAVEN COUNTY



BILL OF MATERIALS

SHEET NUMBER: SBOM-1

PROJECT NOTES

- SEE MODIFICATION NOTES
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITY COMPANIES OR OTHER PUBLIC/GOVERNING AUTHORITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
- THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE AS A RESULT OF CONSTRUCTION OF THIS FACILITY AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING THE BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND CONSTRUCTION DRAWINGS.
- THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THESE DRAWINGS MUST BE VERIFIED. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY POTENTIALLY DANGEROUS EXPOSURE LEVELS.
- NO NOISE, SMOKE, DUST OR ODOR WILL RESULT FROM THIS FACILITY AS TO CAUSE A NUISANCE.
- THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION (NO HANDICAP ACCESS IS REQUIRED).

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 ANSII/TIA-322 (LATEST EDITION), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANSII/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, ANSII/TIA-322.
- CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GEOFABRIC, GROUNDING, AND SURROUNDING GRADE SHALL BE REPLACED AND REPAIRED AS REQUIRED TO ACHIEVE OWNER APPROVAL. POSITIVE DRAINAGE AWAY FROM TOWER SITE SHALL BE MAINTAINED.
- 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
PETER.ALBANO@COLLIERSENGINEERING.COM
 - PROVIDE MASER CONSULTING PROJECT # AND MASER CONSULTING 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.
- CONTRACTOR SHALL PROTECT CUT ENDS OF ALL FIELD-CUT STEEL WITH TWO (2) COATS OF COLD GALVANIZATION (ZINGA OR ZINC COTE).
- 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.

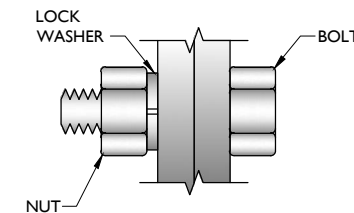
- ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINGA OR ZINC COTE), 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.

WELDING NOTES

- ALL WELDING SHALL BE DONE IN ACCORDANCE WITH AWS D1.0 (LATEST EDITION). THIS SHALL INCLUDE A CERTIFIED WELD INSPECTION (CWI) FOR ACCEPTANCE OR REJECTION OF ALL WELDING OPERATIONS, PRE, DURING, AND POST INSTALLATION, USING THE ACCEPTANCE CRITERIA OF AWS D1.1.
- CONTRACTOR IS RESPONSIBLE FOR COMMISSIONING A THIRD PARTY CERTIFIED WELD INSPECTOR (CWI) THROUGHOUT THE ENTIRETY OF THE PROJECT. A PASSING CWI REPORT SHALL BE PROVIDED TO THE ENGINEER UPON COMPLETION OF THE PROJECT.
- THE CERTIFIED WELD INSPECTOR SHALL INDICATE, IN A WRITTEN CWI REPORT, THAT ALL WELDING OPERATIONS PRE, DURING, AND POST INSTALLATION WERE CONDUCTED IN ACCORDANCE WITH AWS D1.1 WITH PHOTOGRAPHS AND DOCUMENTATION SUPPORTING THE ACCEPTANCE OR REJECTION OF ALL WELDING. ALL CWI WELD INSPECTION DOCUMENTATION AND PHOTOS SHALL BE SUBMITTED DURING THE PMI.
- IN CASES WHERE A WELD IS SPECIFIED BETWEEN TWO MEMBERS IN WHICH THERE IS A GAP IN BETWEEN, THE WELD IS TO BE BUILT-UP SUCH THAT THE SIZE OF WELD ON THE MEMBER IS EQUAL TO THAT SHOWN IN THE DRAWINGS.
- OXY FUEL GAS WELDING OR BRAZING IS STRICTLY PROHIBITED. SPECIFICALLY, NO TORCH CUTTING IS PERMITTED ON SITE. ALL HOLES SHALL BE CUT WITH A GRINDER.
- CONTRACTOR SHALL EXERCISE CAUTION WHEN WELDING A GALVANIZED SURFACE.
- CONTRACTOR SHALL HAVE A FIRE PROTECTION PLAN IN PLACE THAT CONFORMS WITH ALL OSHA, ANSII/ASSP A10.48, ANSII Z49.1, AND LOCAL JURISDICTIONAL REQUIREMENTS.

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

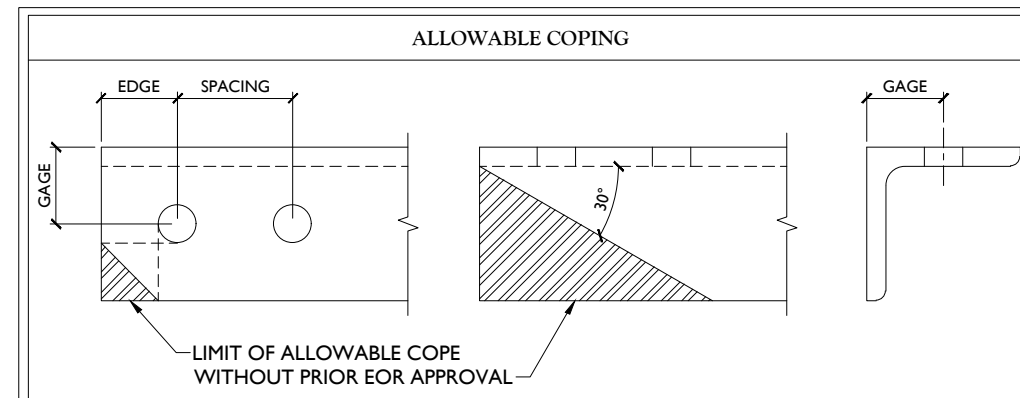
WORKABLE GAGES (IN.)	
LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



TYP. BOLT ASSEMBLY

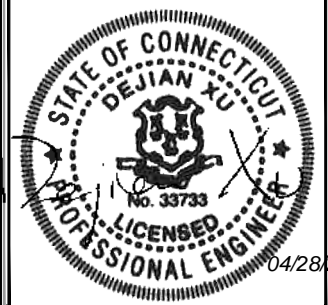
NOTES:

- 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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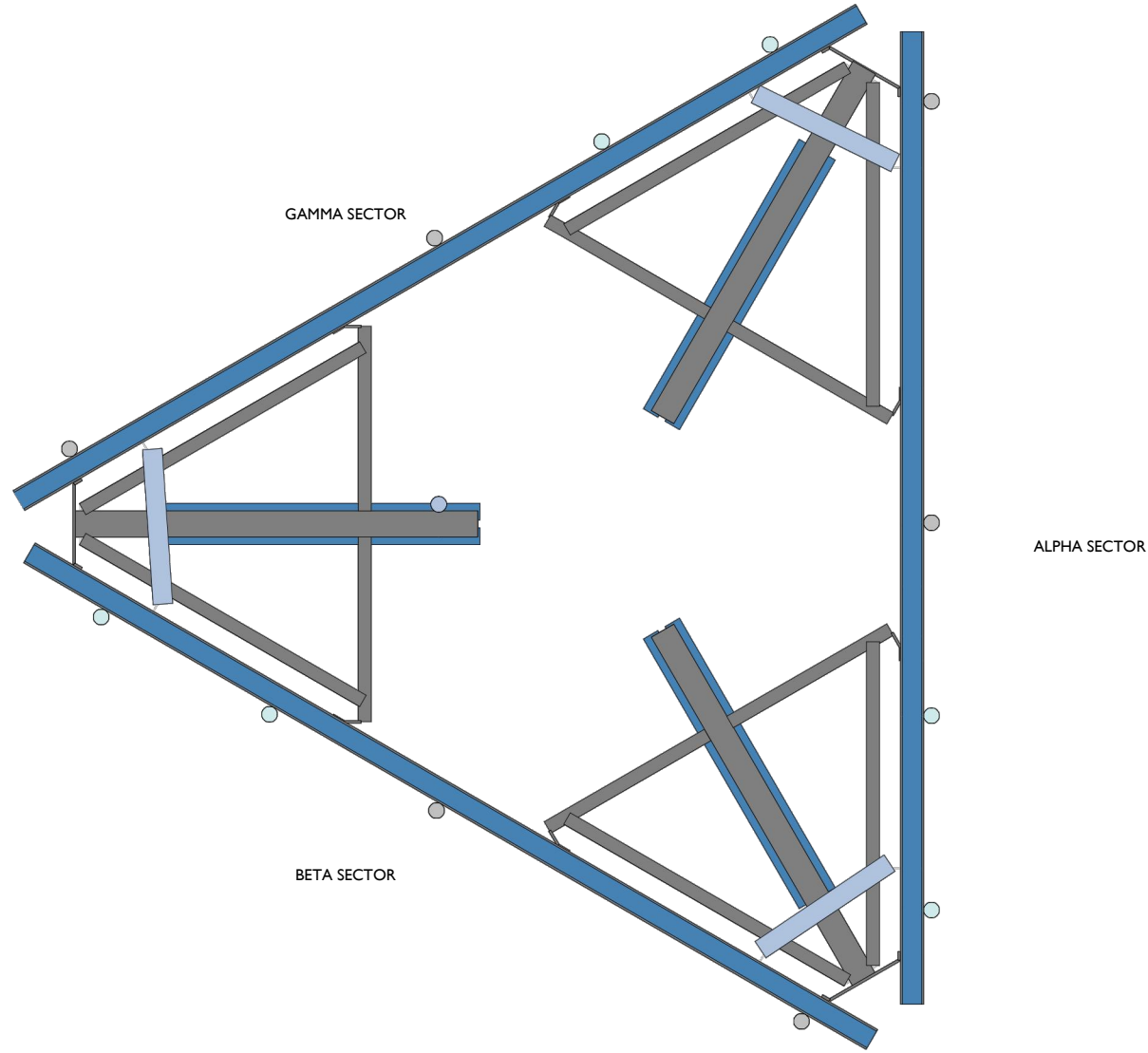
SITE NAME:

WESTVILLE WEST CT
468541
50 WOODFIELD RD.
WOODBIDGE, CT 06525
NEW HAVEN COUNTY

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

GENERAL NOTES

SHEET NUMBER: **SGN-I**



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

STRUCTURAL NOTES:

- PER THE MOUNT MAPPING COMPLETED BY HUDSON DESIGN GROUP, LLC. ON 6/2/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (88'-6") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.
- 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.



Existing Climbing Facility

CLIMBING FACILITY PHOTO

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Doing Business as **MASER**



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ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
Know what's below. Call before you dig.
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SCALE:	AS SHOWN	JOB NUMBER:	21777972A
REV	DATE	DESCRIPTION	DRAWN BY / CHECKED BY
0	04/28/22	ISSUED FOR CONSTRUCTION	AE / DX

STATE OF CONNECTICUT
DEJIAN XU
No. 33733
LICENSED PROFESSIONAL ENGINEER
04/28/2022

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

SITE NAME:
WESTVILLE WEST CT
468541
50 WOODFIELD RD.
WOODBIDGE, CT 06525
NEW HAVEN COUNTY

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

SHEET TITLE:
CLIMBING FACILITY DETAIL

SHEET NUMBER:
SCF-1

LEGEND:

- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE

NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1		1	PROPOSED SUPPORT RAIL KIT (PART #: VZWSMART-PLK1)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. RADIO AND/OR TME POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN.
2	88'-6"	1	PROPOSED KICKER KIT (PART #: VZWSMART-PLK5)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. CONNECT OTHER END OF KICKER KIT TO MONOPOLE COLLAR MOUNT ASSEMBLY (PART #: VZWSMART-PLK7).
3		1	PROPOSED 48" LONG, P2 STD (PART #: VZWSMART-P40-238X048)	CONNECT NEW OVP PIPE TO EXISTING STANDOFF HORIZONTAL WITH CROSSOVER PLATES (PART #: VZWSMART-MSK6).
4		6	EXISTING RELOCATED 72" LONG P2 STD PIPE	RECONNECT MOUNT PIPES TO EXISTING FACE HORIZONTAL WITH EXISTING CROSSOVER PLATES AND NEW BOLTING HARDWARE.

NOTES:

MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.
 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 (ZINGA OR ZINC KOTE).
 CONTRACTOR SHALL CUT BACK GRATING TO 1" BEYOND THE PLATE WHEN INSTALLING PROPOSED OVP PIPE. PROTECT CUT ENDS WITH TWO (2) COATS OF COLD GALVANIZATION (ZINGA OR ZINC KOTE).



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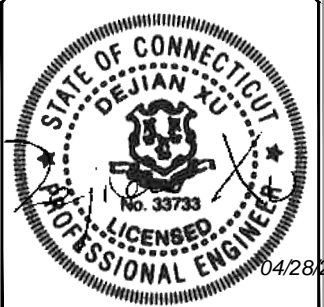
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REV	DATE	DESCRIPTION	DRAWN BY CHECKED BY



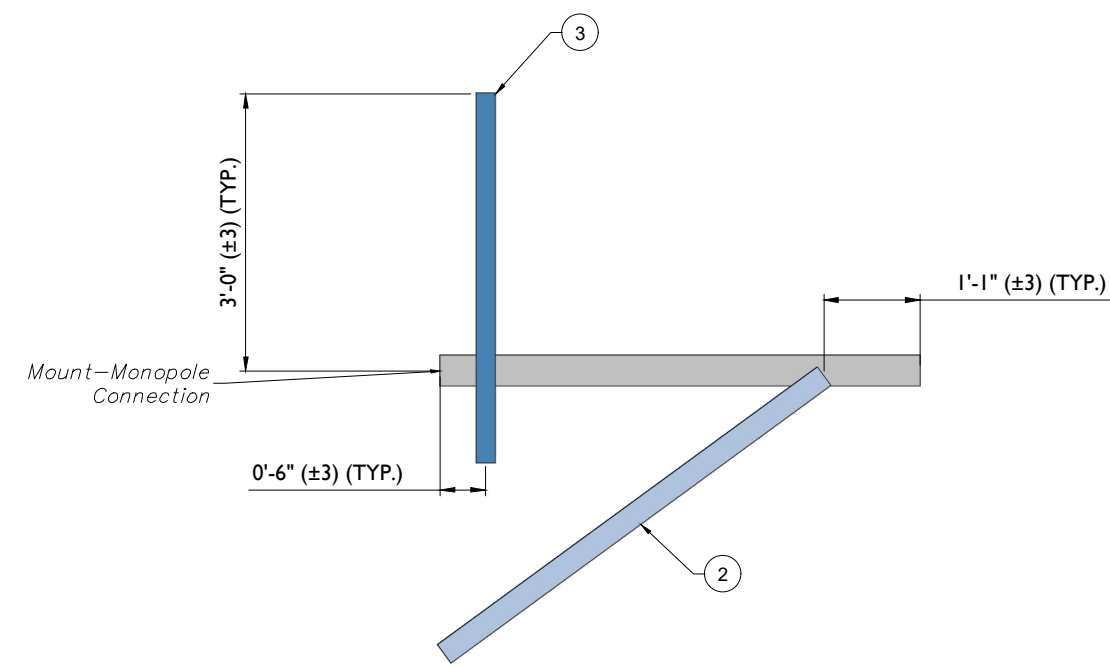
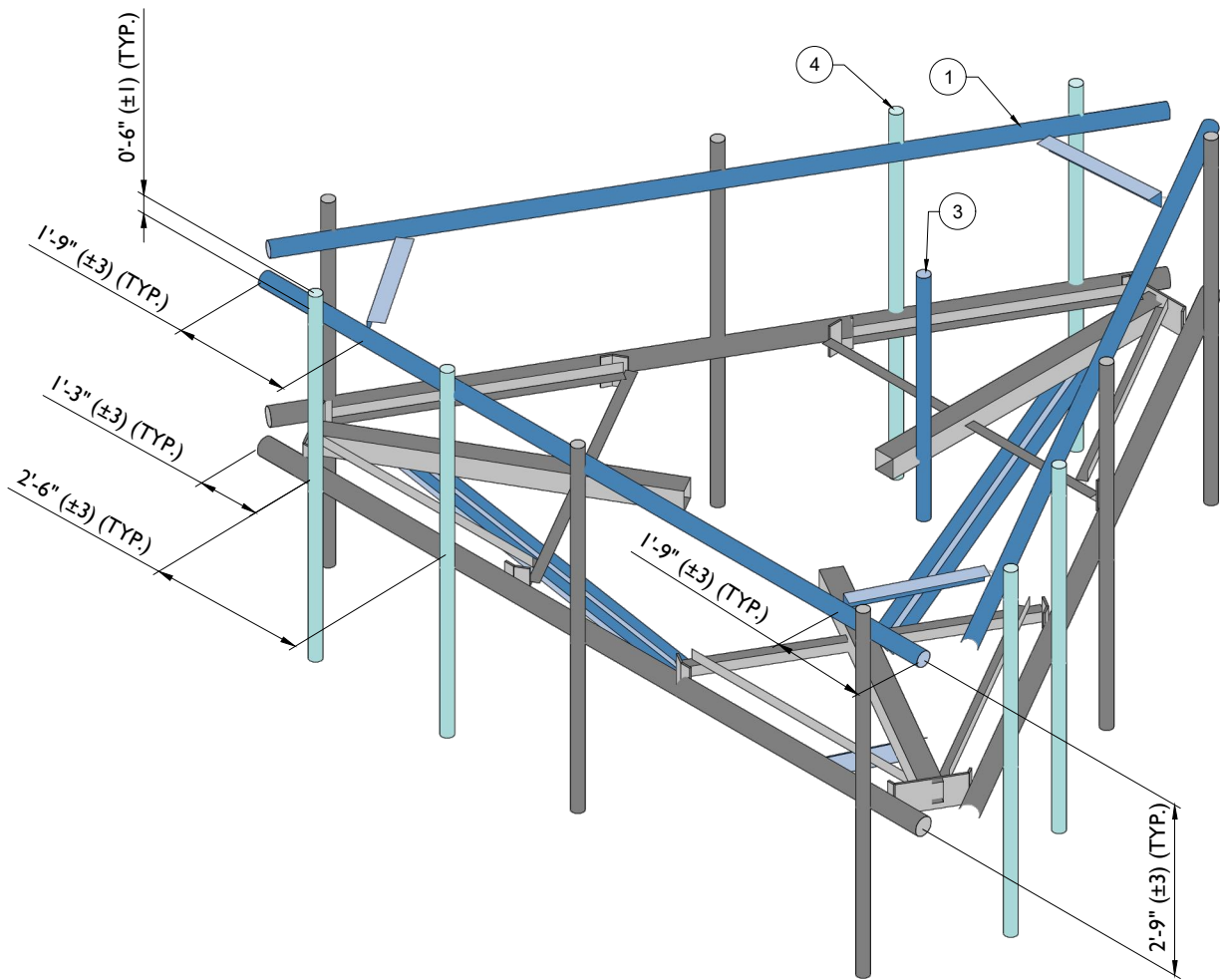
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 NEW HAVEN COUNTY

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 1055 Washington Boulevard
 Stamford, CT 06901
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SHEET TITLE:
 MODIFICATION DETAILS

SHEET NUMBER:
 SS-1

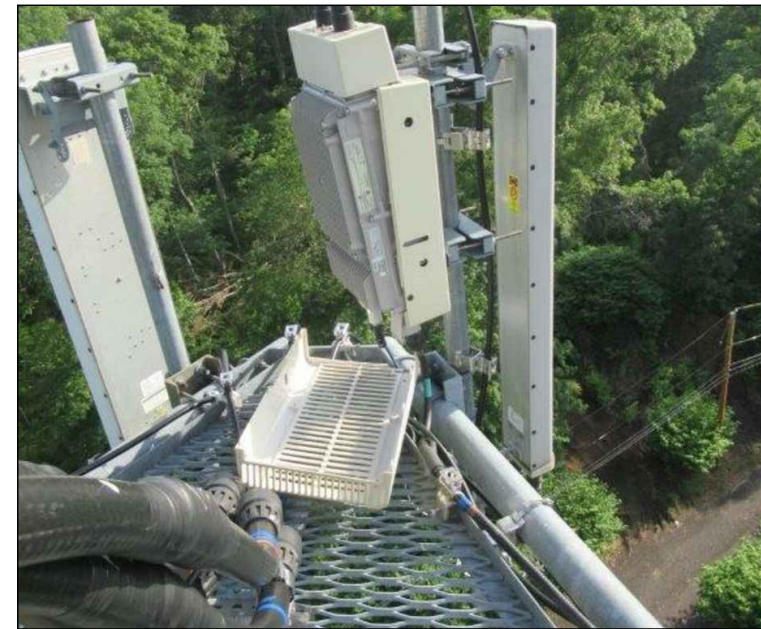


1 PROPOSED ISOMETRIC VIEW
 SCALE : N.T.S.

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



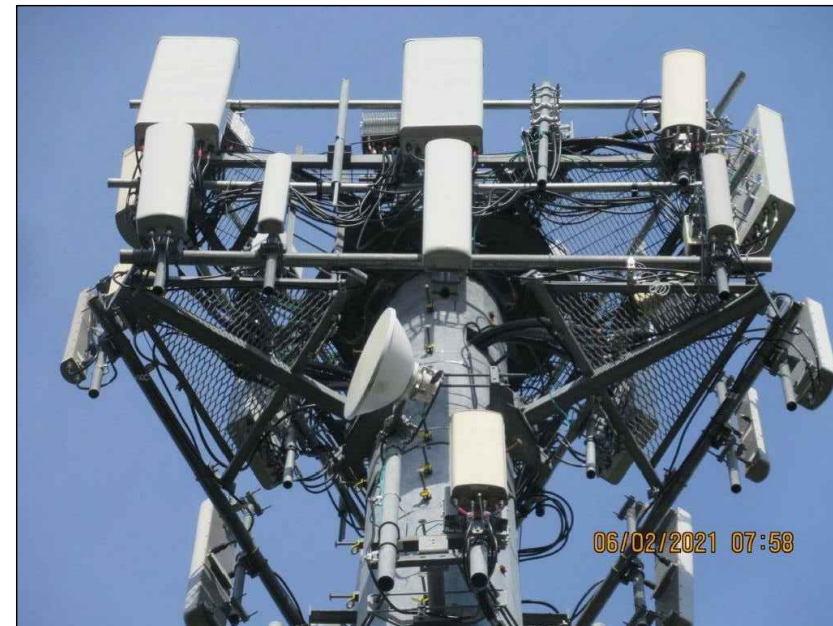
MOUNT PHOTO 1



MOUNT PHOTO 2



MOUNT PHOTO 3



MOUNT PHOTO 4



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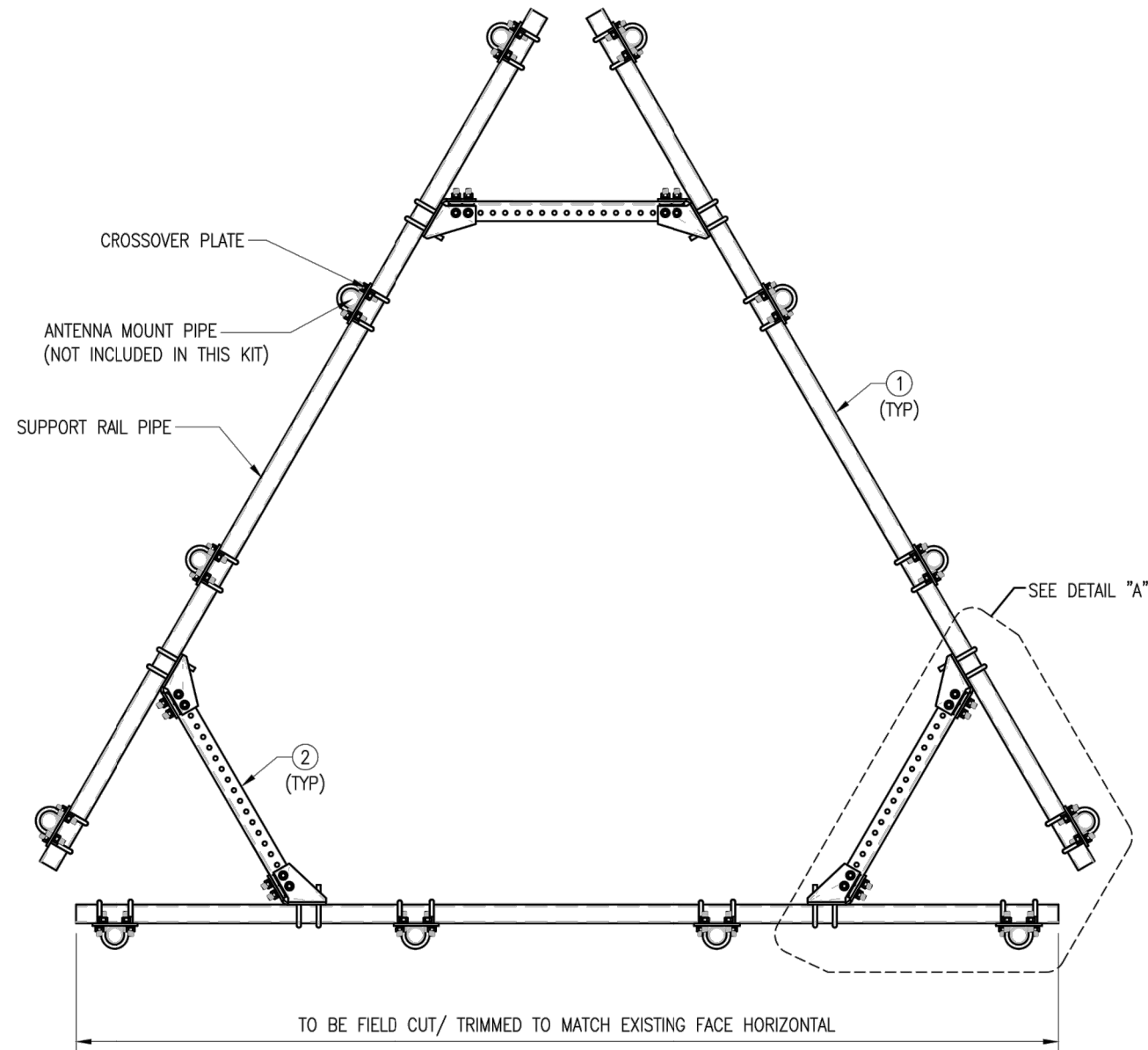
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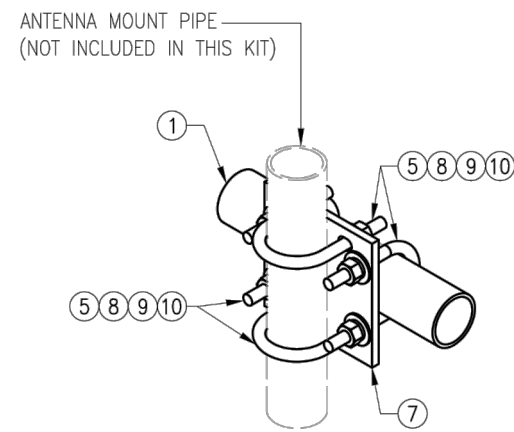
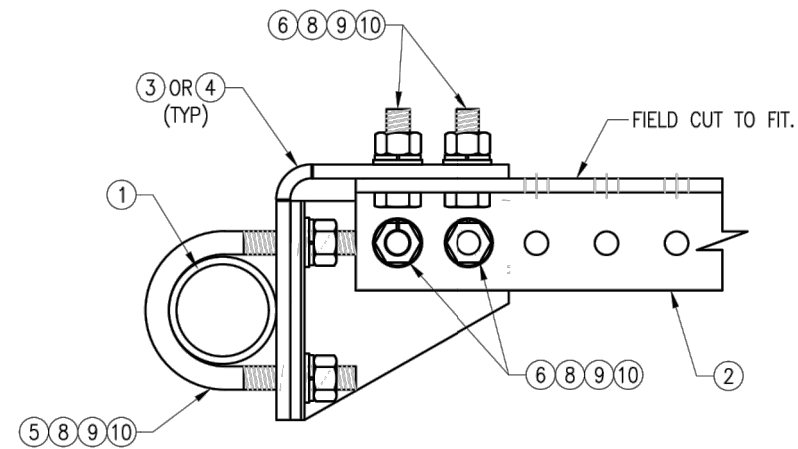
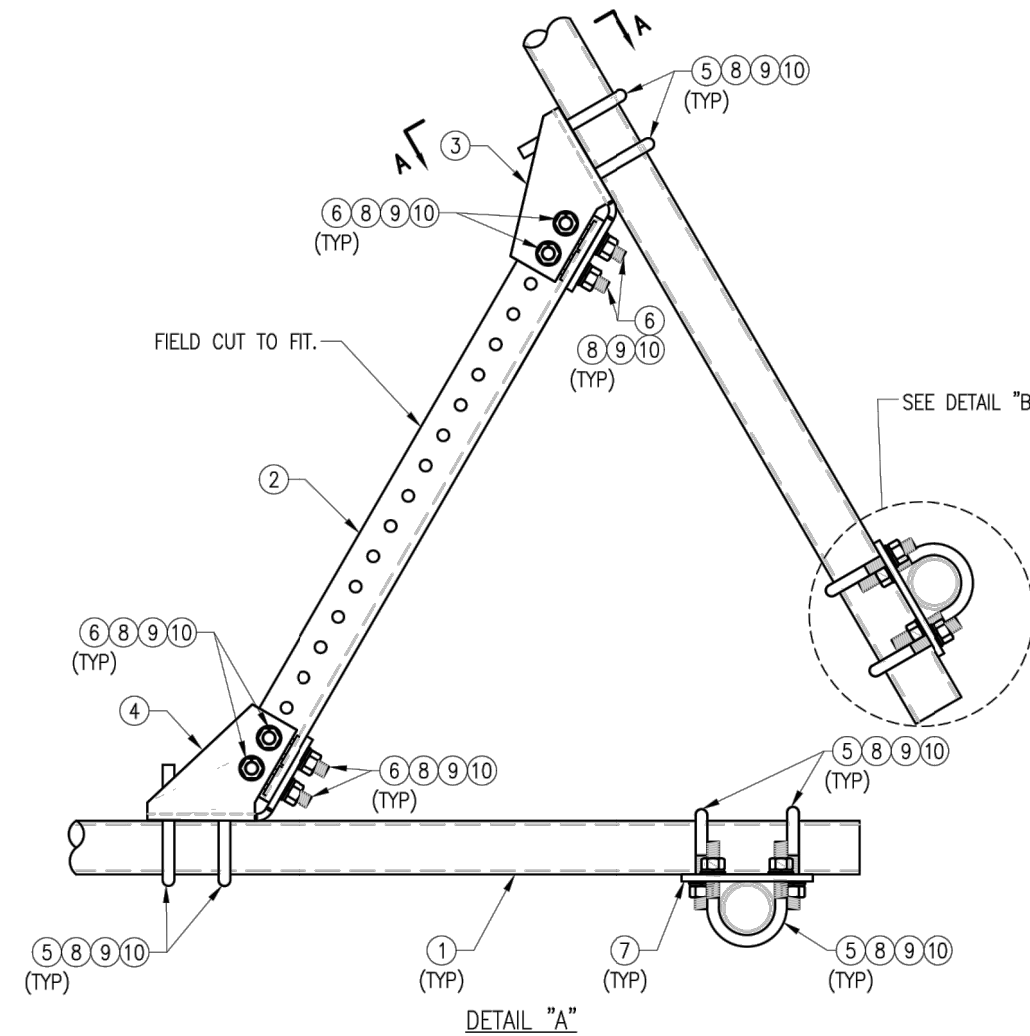
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SHEET TITLE:
MOUNT PHOTOS

SHEET NUMBER:
 SS-2



PLAN VIEW



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

DRAWN BY: H.R. CHECKED BY: HMA

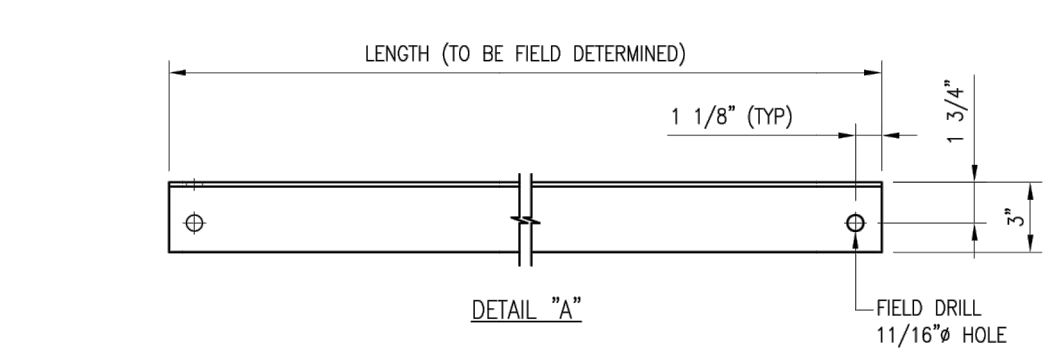
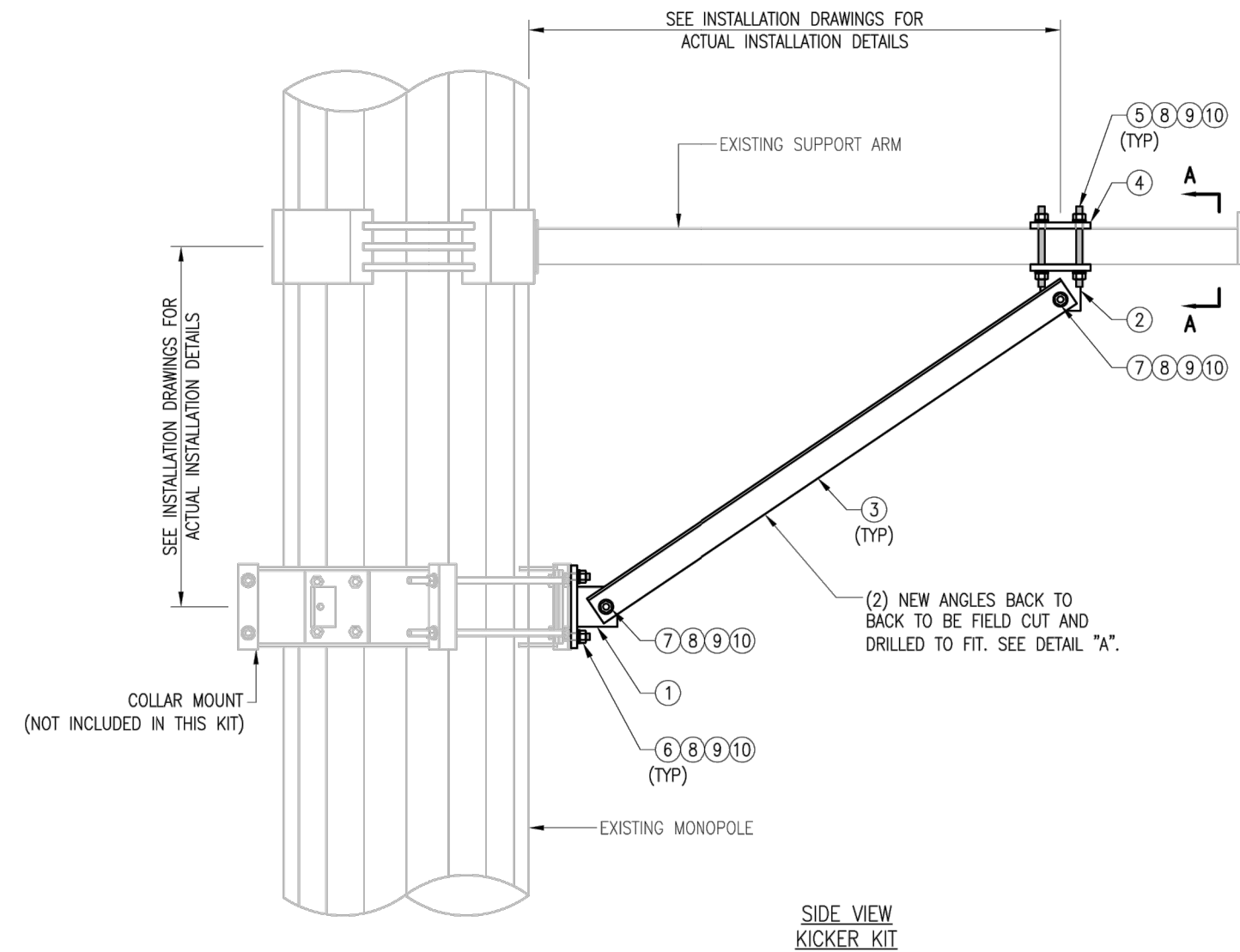
REV.	DESCRIPTION	BY	DATE
△	FIRST ISSUE	H.R.	05/08/20
△			
△			
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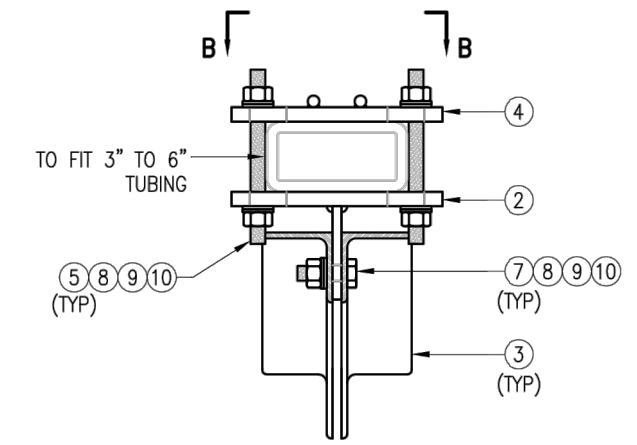
VZWSMART-PLK1
 SUPPORT RAIL KIT

SHEET NUMBER: VZWSMART-PLK1 REV #: 0

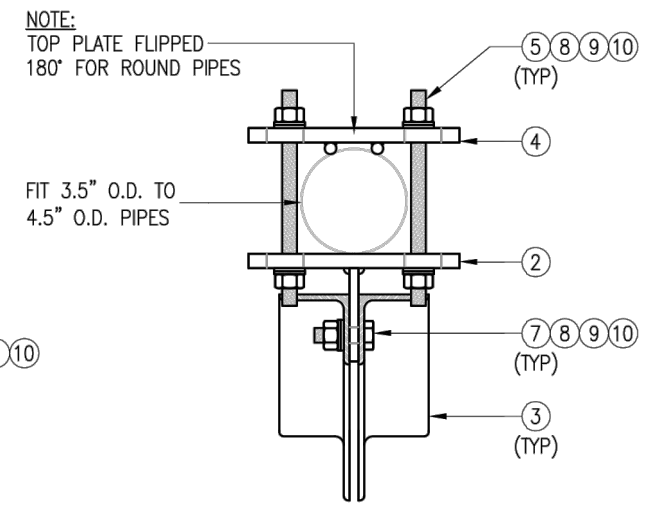
NOTE:
THE LOCATION OF KICKER AND EXISTING ANTENNA MOUNT SHOWN ON THE DRAWING IS FOR REPRESENTATION PURPOSE ONLY. SEE INSTALLATION DRAWINGS FOR ACTUAL INSTALLATION OF DETAILS.



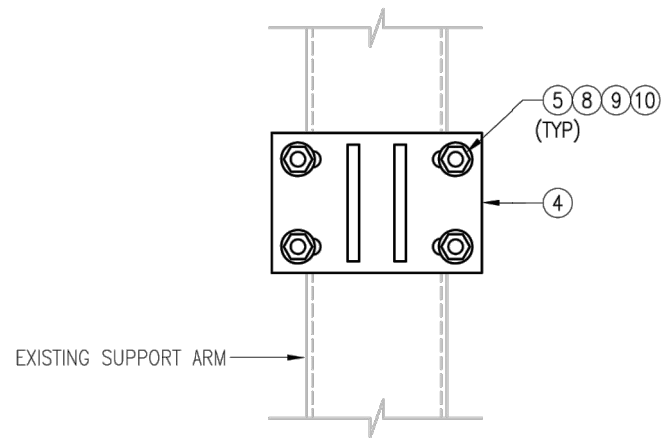
NOTES:
1. ALL HOLES ARE 11/16" DIA. U.N.O
2. HOT-DIPPED GALVANIZED PER ASTM A123.
3. FIT UP TO 6" SQ. TUBING OR 4 1/2" O.D. PIPE



SECTION "A-A"
RECT. HSS MOUNTING



SECTION "A-A"
ROUND PIPE MOUNTING



SECTION "B-B"

VZSMART-PLK5 (KICKER KIT)						
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT	
1	3	BRKW-XXX	BRACKET WELDMENT A36	PLK5-F3	43.8	
2	3	BRKW-XXXX	BRACKET WELDMENT A36	PLK5-F2	35.7	
3	6	L331875-8	L 3" X 3" X 3/16" X 8'-0" A36	PLK5-F4	182.9	
4	3	PL-KI	PL 5/8" X 6" X 9" A36	PLK5-F1	29.0	
5	12	---	THREADED ROD 5/8" DIA. X 1'-0" F1554-36 HDG	---	---	
6	6	---	BOLT 5/8" X 2" A325	---	---	
7	12	---	BOLT 5/8" X 2 1/2" A325	---	---	
8	42	FW-625	5/8" HDG USS FLAT WASHER	---	3	
9	42	LW-625	5/8" HDG LOCK WASHER	---	1	
10	42	NUT-625	5/8" HDG HEX NUT	---	5	
					GALVANIZED WT	291

VzW
SMART Tool[®]
Vendor



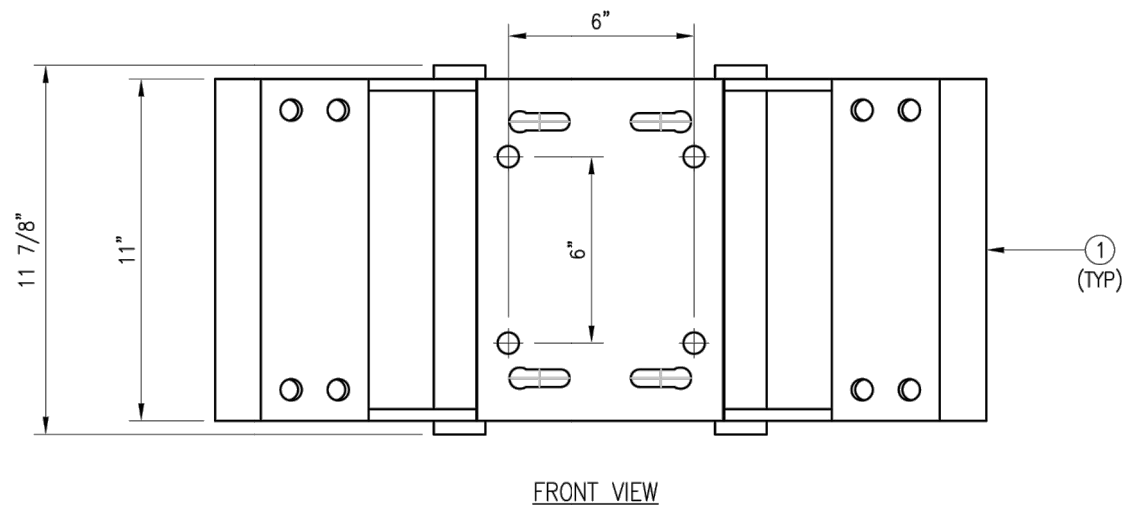
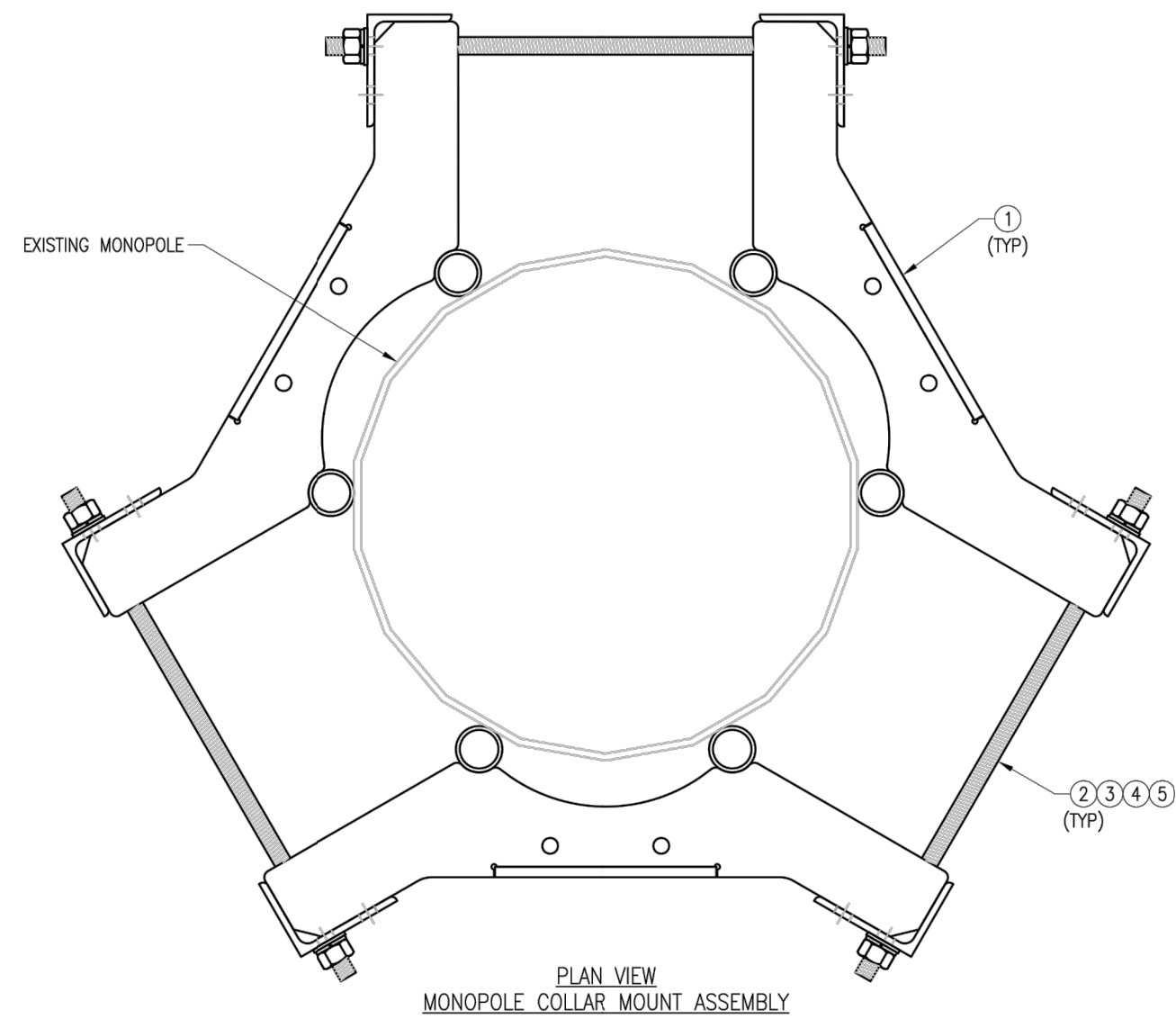
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REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	MN	05/08/20

SHEET TITLE:

VZSMART-PLK5
KICKER KIT

SHEET NUMBER: VZSMART-PLK5 REV #: 0



NOTES:
 1. FIT 12" TO 45" DIA MONOPOLE.
 2. HOT-DIPPED GALVANIZED PER ASTM A123.

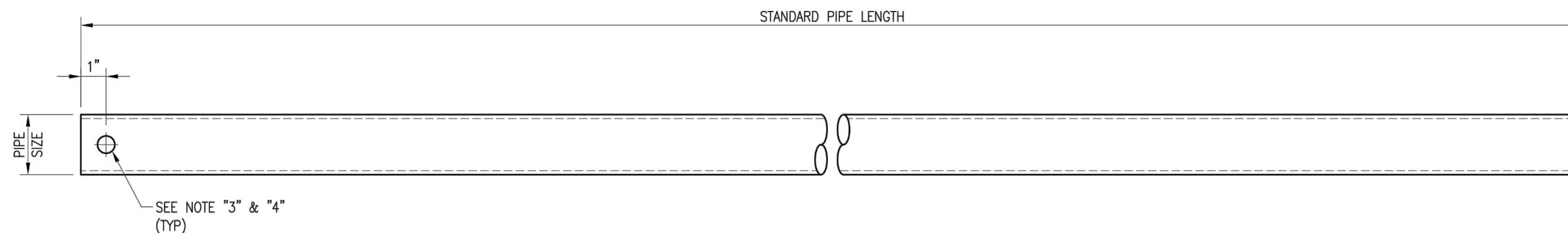
VZSMART-PLK7 (MONOPOLE COLLAR MOUNT ASSEMBLY)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	CM-1245	COLLAR MOUNT ASSEMBLY	PLK7-F1	147
2	6	---	THREADED ROD 5/8" X 4'-0" A193-B7	---	---
3	12	FW-625	5/8" HDG USS FLAT WASHER	---	1
4	12	LW-625	5/8" HDG LOCK WASHER	---	0
5	12	NUT-625	5/8" HDG HEX NUT	---	1
GALVANIZED WT					150

DRAWN BY: BT CHECKED BY: HMA/KW

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	BT	05/11/20

SHEET TITLE:
 VZSMART-PLK7
 MONOPOLE COLLAR
 MOUNT ASSEMBLY

SHEET NUMBER: VZSMART-PLK7 REV #: 0



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

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

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

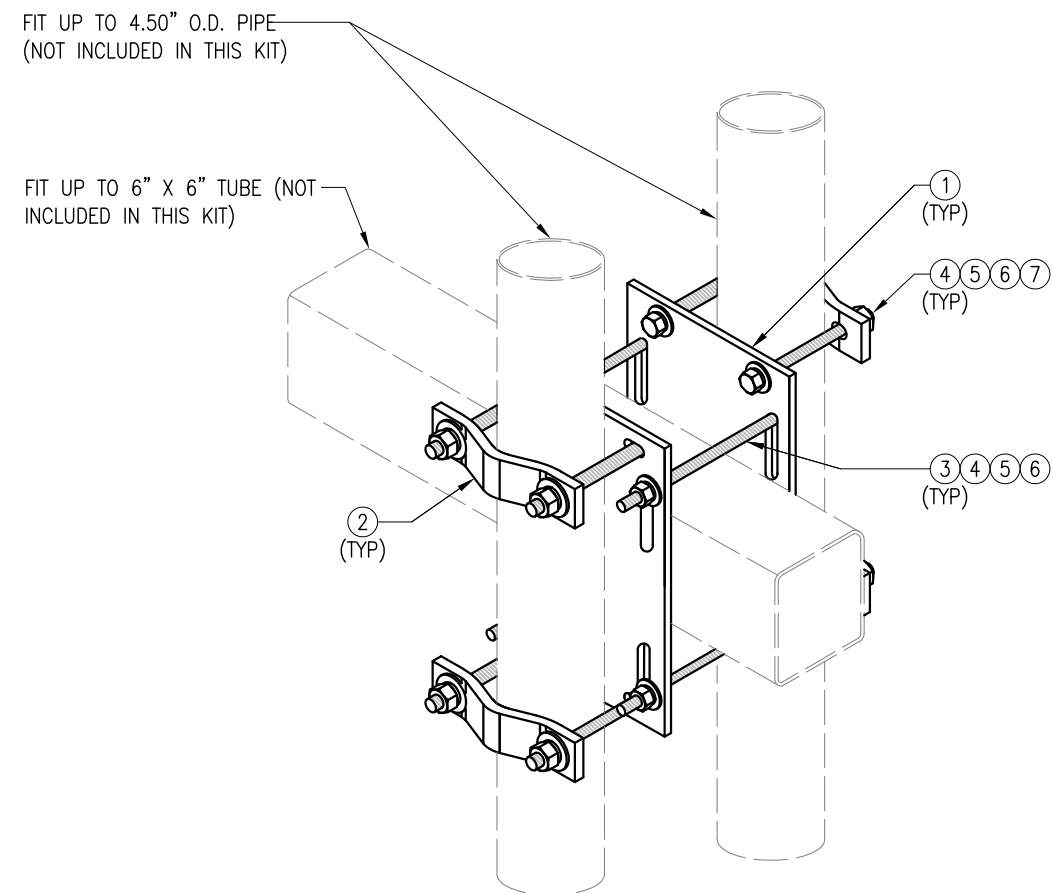
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REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	BT	08/04/21

SHEET TITLE:

VZWSMART
 STANDARD PIPE

SHEET NUMBER: VZWSMART-PIPE | REV #: 0



ISOMETRIC VIEW
 BACK TO BACK CROSSOVER

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

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

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

SHEET TITLE:
 VZWSMART-MSK6
 BACK TO BACK
 CROSSOVER

SHEET NUMBER: VZWSMART-MSK6 REV #: 0