



Alex Murshteyn, Site Acquisition Consultant
c/o Cellco Partnership d/b/a Verizon Wireless
Centerline Communications, LLC
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April 29, 2020

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

**RE: Notice of Exempt Modification // Site: Meriden North CT (ATC: 383657)
119 Empire Avenue, Meriden, CT 06450
N 41.5730 // W -72.7791**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless currently maintains 12 antennas at the 124-foot mount on the existing 125-foot monopole tower, located at 119 Empire Avenue, Meriden, CT. The tower is owned by American Tower. The Council approved Verizon Wireless use of this tower in 2005. Verizon Wireless now intends to add 3 new antennas at 128-foot level on the existing mounts and update existing equipment as part of its CBRS (3500 MHz) upgrade. Additionally, Verizon Wireless will replace all of its remaining remote radio head units (RRUs) with 6 other new RRUs and 3 new diplexers, and remove and upgrade certain cabling; altogether updating leased equipment rights, as reflected by the final configuration outlined in the structural analysis and proposed hereby.

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, which is also the ground owner, its Director of Planning, Development & Enforcement Renata Bertotti and American Tower, the current tower owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). Enclosed to accommodate this filing are construction drawings by dated April 28, 2020, structural analysis dated April 10, 2020 and antenna mount analysis dated March 30 and stamped April 3, 2020, as well as radio frequency (RF) analysis table showing worst-case RF emission calculation by Verizon Wireless RF Design Engineering.

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modifications 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 new antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications 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, as shown in the attached structural analysis dated and stamped April 10, and antenna mount analysis dated March 30 and stamped April 3, 2020, both by A.T. Engineering Service, PLLC.

For the foregoing reasons, Verizon Wireless respectfully submits that the proposed modifications to the above referenced telecommunications facility constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,



Alex Murshteyn, Site Acquisition Consultant
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Attachments

cc: Kevin Scarpati, Mayor - as elected official & ground owner
Renata Bertotti, Director of Planning, Development & Enforcement - as P&Z official
American Tower Corporation - as tower owner



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Petition Staff Reports

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Petition No. 727
 Cellco/Verizon
 Meriden, Connecticut
 Staff Report
 August 24, 2005

Verizon seeks to add antennas to an existing water tank to which four carriers have previously attached antennas and one carrier, T-Mobile, has been granted permission to add its antennas as well. Council member Phil Ashton and staff person David Martin met with Verizon representative, Ken Baldwin, to conduct a field review of this petition.

At this site, Nextel has attached its antennas to the legs of the water tank at the 75 foot level. Cingular's antennas are attached to the body of the tank at 95 feet. AT&T's antennas are at 85 feet behind a RF transparent shroud. Sprint's antennas are at 105 feet, on top of the water tank also behind a RF transparent shroud. T-Mobile has received permission from the City of Meriden to install antennas at 115 feet.

Verizon identified this site as suitable for filling coverage gaps on the nearby Berlin Turnpike and determined that its antennas would need to be located at 125 feet. To maintain consistency with the other carriers whose antennas are behind RF transparent shrouds, Verizon proposed to erect a shroud to shield the view of its antennas. The additional wind load of this shroud, however, would overstress the structural capacity of the water tank. Verizon's solution would be to build a new monopole tower through the center of the water tank that would extend above it to allow Verizon and T-Mobile to install antennas at their respective heights. The monopole would not compromise the structural capacity of the water tank for the four carriers whose antennas were already installed.

The water tank is a significant visual presence within the small residential and industrial neighborhood in which it is located. Adding 20 to 25 feet of RF transparent shroud to the top of it will increase its visibility.

During the field review Council member Ashton suggested replacing the water tank with a monopole in lieu of erecting a monopole through the existing tank. The tank is no longer used for water storage and a monopole will have less of a visual presence in the landscape. Mr. Ashton discussed this idea with the Meriden city planner who was amenable to the suggestion. Attorney Baldwin had discussions with the water tank's owner who described several practical impediments to replacing the water tank.

View of Existing Water Tank from Parking Lot of Atlas Container

Melanie Bachman,
 Executive Director

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Close up View of Existing Water Tank



View of Existing Tank from Empire Avenue



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Ten Franklin Square New Britain, CT 06051 / 860- 827-2935

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PROPERTY INFORMATION

Location: **119 EMPIRE AVE** Map/Lot: 0417-0154-0007-0000

OWNER INFORMATION

Owner(s): 119 EMPIRE AVENUE LLC Owner Address: 119 EMPIRE AVE MERIDEN, CT 06450

BUILDING INFORMATION

Card Number: 1

Total Units: 1

Table with 2 columns: Field Name, Value. Fields include Building ID (7429), Finished Area (160,720), Comm/Rental Units (1), Living Units (0), Building Type (Ind Mfg (L)), Year Built (1976), Effective Yr Built, Condo Name.

Table with 2 columns: Field Name, Value. Fields include Rooms, BedRooms, Full Bath (0), Full Bath Rating, Half Bath (0), Half Bath Rating, Kitchens (0), Kitchen Rating, Fireplaces (0).

Table with 2 columns: Field Name, Value. Fields include Exterior, Roof Structure, Roof Cover, Quality (C), Heat Fuel (Oil), Heat Type (Steam w/Boil), Prcnt. Heated (6.00), Prcnt. AC (6.00), Stories (1 story), Foundation.

Sub Area Summary

Building ID	Description	Total Area	Fin. Area	Perimeter
7429	1st FLOOR	38,400	38,400	880
7429	1st FLOOR	12,000	12,000	520
7429	1st FLOOR	63,200	63,200	1,120
7429	1st FLOOR	40,560	40,560	972
7429	1st FLOOR	1,120	1,120	136
7429	1st FLOOR	400	400	80
7429	1st FLOOR	480	480	88
7429	1st FLOOR	4,560	4,560	272
7429	CANOPY	10,266	0	734
7429	LOAD DOCK	10,266	0	734

Special Features

No Special Features found.

APPRAISAL INFORMATION

Tax District: 1 District Name: OUTER DISTRICT District Mill Rate: 41.04

Grand List
Year: 2018

Value Option	Land Appraised	Building Appraised	Yard Items Appraised	Total Appraised	Land Assessed	Building Assessed	Yard Items Assessed	Total Assessed
Mkt Adj Cost	\$714,100	\$2,083,900	\$129,800	\$2,927,800	\$499,870	\$1,458,730	\$90,860	\$2,049,460
TOTALS	\$714,100	\$2,083,900	\$129,800	\$2,927,800	\$499,870	\$1,458,730	\$90,860	\$2,049,460

Previous
Year: 2017

Land Value	Building Value	Yard Items	Appraised Value	Land Value	Building Value	Yard Items	Assessed Value
\$713,800	\$1,856,400	\$129,800	\$2,700,000	\$499,660	\$1,299,480	\$90,860	\$1,890,000

LAND INFORMATION

Land Use	Zoning	Land Area	Neighborhood Description
Comm Bldg	M-2	12.42000	NORTH COLONY AREA, NORTH OF RR

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

SALES INFORMATION

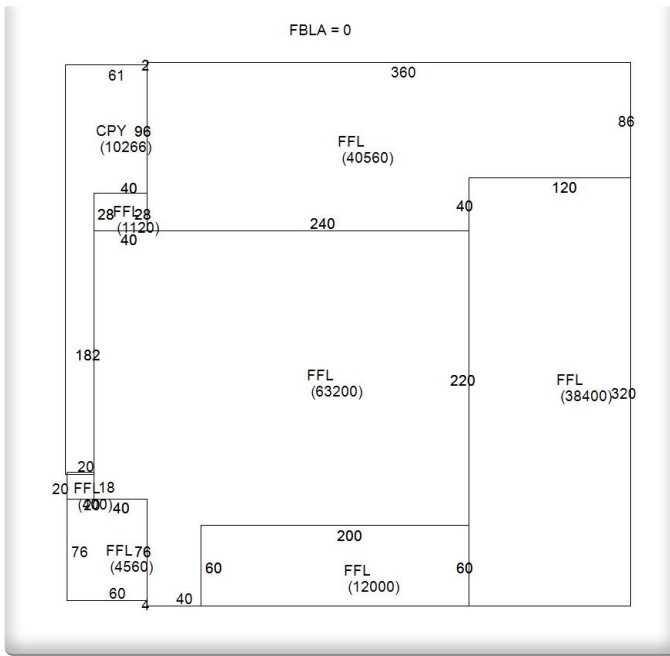
Sale Date	Sale Price	Book	Page	Grantor	Grantee	Deed Type
4/8/2016	\$1,200,000	4985	258	ATLAS CONTAINER LLC,	119 EMPIRE AVE LLC	Warranty Deed
4/8/2016	\$1,200,000	4985	258	ATLAS CONTAINER LLC,	119 EMPIRE AVE LLC	Warranty Deed
4/8/2016	\$1,200,000	4985	258	ATLAS CONTAINER LLC,	119 EMPIRE AVE LLC	Warranty Deed
4/8/2016	\$1,200,000	4985	258	ATLAS CONTAINER LLC,	119 EMPIRE AVE LLC	Warranty Deed
4/2/2015	\$1,200,000	4985	258	ATLAS CONTAINER LLC,	119 EMPIRE AVE LLC	Warranty Deed
4/2/2015	\$1,200,000	4985	258	ATLAS CONTAINER LLC,	119 EMPIRE AVE LLC	Warranty Deed
4/2/2015	\$1,200,000	4985	258	ATLAS CONTAINER LLC,	119 EMPIRE AVE LLC	Warranty Deed
4/2/2015	\$1,200,000	4985	258	ATLAS CONTAINER LLC,	119 EMPIRE AVE LLC	Warranty Deed
4/2/2015	\$1,200,000	4985	258	ATLAS CONTAINER LLC,	119 EMPIRE AVE LLC	Warranty Deed
4/2/2015	\$1,200,000	4985	258	ATLAS CONTAINER LLC,	119 EMPIRE AVE LLC	Warranty Deed
4/2/2015	\$1,200,000	4985	258	ATLAS CONTAINER LLC,	119 EMPIRE AVE LLC	Warranty Deed
4/2/2015	\$1,200,000	4985	258	ATLAS CONTAINER LLC,	119 EMPIRE AVE LLC	Warranty Deed
4/2/2015	\$1,200,000	4985	258	ATLAS CONTAINER LLC,	119 EMPIRE AVE LLC	Warranty Deed
10/19/2001	\$2,450,000	2756	182	WEYERHAEUSER COMPANY		
12/2/1995	\$0	2142	136			

ASSESSOR'S PERMIT HISTORY

No data found.

PROPERTY IMAGES





7431
 0417-0154-0007-0000
 1



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 125 ft Monopole & 95 ft Water Tower
ATC Site Name : Atlas Container, CT
ATC Asset Number : 383657
Engineering Number : 13000519_C3_07
Proposed Carrier : Verizon Wireless
Carrier Site Name : Meriden North CT
Carrier Site Number : 468208
Site Location : 119 Empire Avenue
Meriden, CT 06450
41.57305556, -72.77916667
County : New Haven
Date : April 10, 2020
Max Usage : Monopole - 44%
Water Tower - 77%
Result : Pass



Prepared By:
Timothy Kassakatis
Structural Engineer II

Reviewed By:

COA: PEC.0001553



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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 125 ft monopole & 95 ft water tower to reflect the change in loading by Verizon Wireless.

Supporting Documents

Tower Drawings	EI Project #13454, dated October 20, 2005 Mapping by ETS Job #141008, dated November 14, 2014
Foundation Drawing	Mapping by ETS Job #141008, dated November 17, 2014

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	97 mph (3-Second Gust, V_{asd}) / 125 mph (3-Second Gust, V_{ult})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.18$, $S_1 = 0.06$
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



Existing and Reserved Equipment

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
124.0	2	RFS DB-T1-6Z-8AB-0Z	Low Profile Platform	(2) 1 5/8" Hybriflex	Verizon Wireless
	6	Commscope JAHH-65B-R3B (63.3 lb)			
	3	Antel LPA-80080/4CF ____			
115.0	3	RFS APXVAARR24_43-U-NA20	Low Profile Platform	(1) 1 1/4" Hybriflex Cable (4) 1 5/8" Fiber (6) 1 5/8" Coax	T-Mobile
	3	Ericsson AIR 21, 1.3M, B4A B2P			
	3	Ericsson AIR 21, 1.3M, B2A B4P (91.5 lbs)			
	3	Ericsson KRY 112 144/1			
106.0	3	RFS APXVSP18-C	Flush	(3) 1 1/4" Hybriflex Cable (2) 2" Carflex Non-Metallic Conduit	Sprint Nextel
	3	Commscope LLPX310R-V1			
	3	Alcatel-Lucent 800MHz RRH and Type 1 Notch Filter			
	3	Samsung SPI-2213 RRH			
	3	Alcatel-Lucent RRH4x45-1900			
95.0	6	Powerwave Allgon LGP13908	Flush	(12) 1 5/8" Coax (2) 3/4" Carflex Non-Metallic Conduit (1) 3/8" Coax	AT&T Mobility
	3	Generic 10" x 10" x 6" Junction Box			
	6	Ericsson RRUS 11 (Band 12)			
	1	Generic 2' HP Dish			
	3	Kathrein Scala 800 10121			
	6	KMW AM-X-CD-16-65-00T-RET			
	1	Generic 6.75" x 4.7" Radio			
47.0	1	Generic GPS	Flush	(1) 1/2" Coax	Sprint Nextel

Equipment to be Removed

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
124.0	3	Nokia AirScale RRH 4T4R B5 160W AHCA	-	(6) 1 5/8" Coax	Verizon Wireless
	3	Antel LPA-80080/4CF ____			
	3	Alcatel-Lucent B66A RRH4x45-4R w/ Solar Shield			
	3	Alcatel-Lucent B25 RRH4x30			

Proposed Equipment

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
124.0	3	JMA Wireless DX12FRO260-20/26	Low Profile Platform	-	Verizon Wireless
	3	Commscope CBC78T-DS-43-2X			
	3	Samsung B2/B66A RRH-BR049			
	3	Samsung B5/B13 RRH-BR04C			
	3	Commscope JAHH-65B-R3B (63.3 lb)			

¹ Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.



Monopole Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	32%	Pass
Shaft	19%	Pass
Base Plate	44%	Pass

Water Tower Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	15%	Pass
Diagonals	77%	Pass
Horizontals	40%	Pass
Anchor Bolts	18%	Pass

Foundations

Reaction Component	Monopole Analysis Reactions	Water Tower Analysis Reactions	Combined Analysis Reactions	% of Usage
Moment (Kips-Ft)	1,604.8	2,426.8	4,031.6	6%
Axial (Kips)	44.4	91.9	136.3	8%
Shear (Kips)	18.8	33.9	52.7	4%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
124.0	Samsung Outdoor CBRS 20W RRH	Verizon Wireless	0.233	0.194
	Commscope SSPX310R			
	Commscope CBC78T-DS-43-2X			
	Samsung B2/B66A RRH-BR049			
	Samsung B5/B13 RRH-BR04C			

*Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G



Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

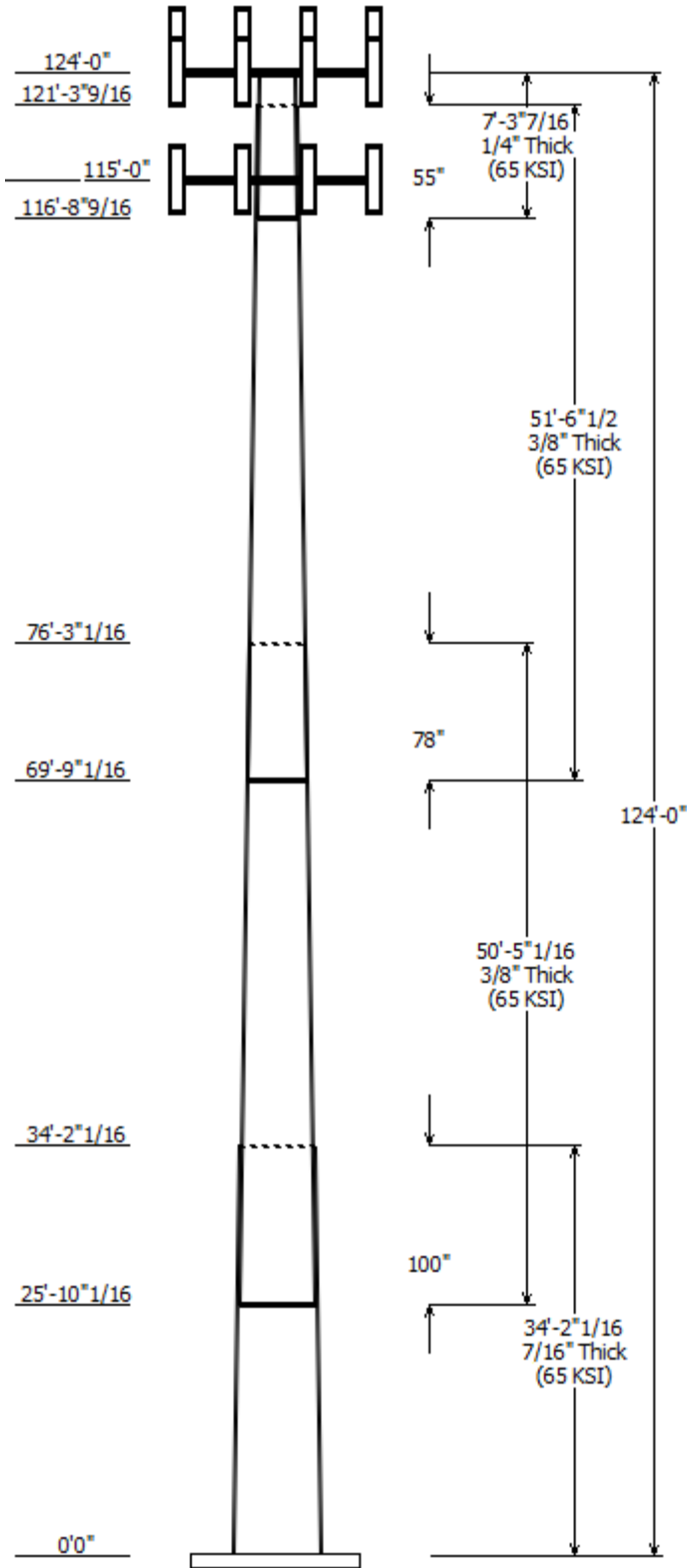
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

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Job Information		
Client : Verizon Wireless	Code: ANSI/TIA-222-G	
Pole : 383657-Monopole	Struct Class : II	
Location : Atlas Container, CT	Exposure : B	
Description : 125' EEI Monopole	Height : 124.00 (ft)	
Shape : 18 Sides	Topo : 1	
Base Elev (ft): 1.00		
Taper: 0.33870(in/ft)		

Sections Properties							
Shaft Section	Length (ft)	Diameter (in)		Thick (in)	Joint Type	Overlap Length (in)	Steel Grade
		Top	Bottom				
1	34.170	58.42	70.00	0.438		0.000	18 Sides 65
2	50.420	44.92	61.99	0.375	Slip Joint	100.000	18 Sides 65
3	51.540	30.41	47.87	0.375	Slip Joint	78.000	18 Sides 65
4	7.287	30.00	32.46	0.250	Slip Joint	55.000	18 Sides 65

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
124.000	124.000	9	Commscope JAHH-65B-R3B
124.000	125.000	3	Antel LPA-80080/4CF
124.000	125.000	2	RFS DB-T1-6Z-8AB-OZ
124.000	124.000	3	Samsung B5/B13 RRH-BR04C
124.000	124.000	3	Samsung B2/B66A RRH-BR049
124.000	124.000	3	Commscope CBC78T-DS-43-2X
124.000	128.000	3	JMA Wireless DX12FRO260-
124.000	124.000	1	Flat Low Profile Platform
115.000	115.000	3	Ericsson AIR 21, 1.3M, B2A B4P
115.000	115.000	3	RFS APXVAARR24_43-U-NA20
115.000	115.000	3	Ericsson Radio 4449 B12,B71
115.000	115.000	1	Flat Low Profile Platform
115.000	115.000	3	Ericsson AIR 21, 1.3M, B4A B2P
115.000	115.000	3	Ericsson KRY 112 144/1

Linear Appurtenance				
Elev (ft)	From	To	Description	Exposed To Wind
0.000	0.000	115.0	1 5/8" Coax	No
0.000	0.000	115.0	1 5/8" Fiber	No
0.000	0.000	117.0	1 1/4" Hybriflex	No
0.000	0.000	124.0	1 5/8" Hybriflex	No

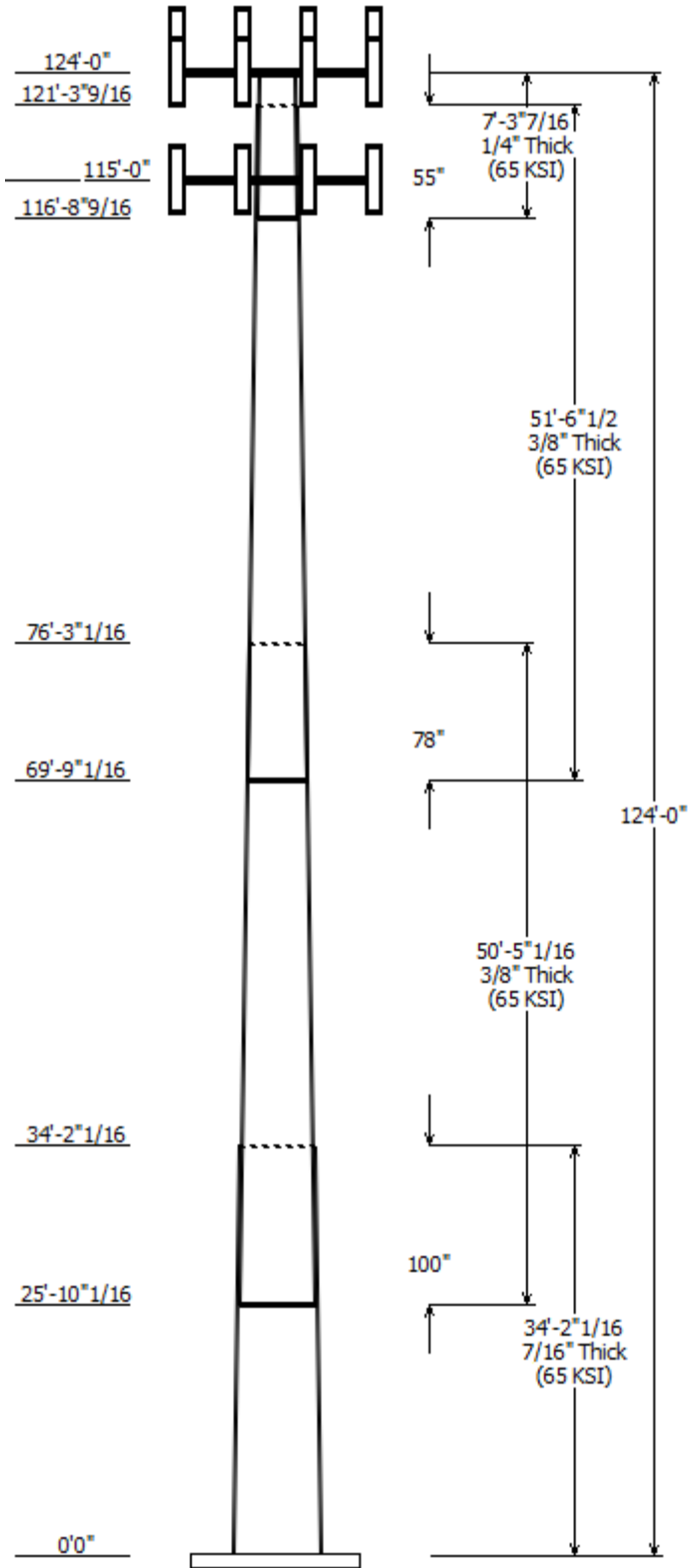
Load Cases	
1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	1604.81	18.80	44.44
0.9D + 1.6W	1600.32	18.80	33.33

1.2D + 1.0Di + 1.0Wi	670.91	7.29	70.05
(1.2 + 0.2Sds) * DL + E ELFM	273.93	3.00	43.79
(1.2 + 0.2Sds) * DL + E EMAM	308.50	3.07	43.79
(0.9 - 0.2Sds) * DL + E ELFM	273.04	3.00	30.43
(0.9 - 0.2Sds) * DL + E EMAM	307.42	3.07	30.43
1.0D + 1.0W	342.71	4.02	37.04

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
	0.00	0.000	0.000



Site Number: 383657-Monopole
Site Name: Atlas Container, CT
Customer: Verizon Wireless

Code: ANSI/TIA-222-G
Engineering Number: 13000519_C3_04

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4/10/2020 10:48:32 AM

Analysis Parameters

Location :	New Haven County, CT	Height (ft) :	124
Code :	ANSI/TIA-222-G	Base Diameter (in) :	70.00
Shape :	18 Sides	Top Diameter (in) :	30.00
Pole Type :	Taper	Taper (in/ft) :	0.339
Pole Manufacturer :	EEl	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	97 mph
Exposure Category:	B	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.75 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	1.08		
T_L (sec):	6	p :	1.3
S_s :	0.183	S_1 :	0.063
F_a :	1.600	F_v :	2.400
S_{ds} :	0.195	S_{d1} :	0.101
		C_s :	0.062
		C_s Max:	0.062
		C_s Min:	0.030

Load Cases

1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2S _{ds}) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2S _{ds}) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2S _{ds}) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2S _{ds}) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 383657-Monopole

Code: ANSI/TIA-222-G

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Site Name: Atlas Container, CT

Engineering Number: 13000519_C3_04

4/10/2020 10:48:32 AM

Customer: Verizon Wireless

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Joint Len (in)	Weight (lb)	Bottom						Top						
							Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18	34.170	0.4375	65		0.00	10,297	70.00	0.00	96.59	59053.8	26.80	160.00	58.42	34.17	80.52	34210.7	22.14	133.55	0.338701
2-18	50.420	0.3750	65	Slip	100.00	10,840	61.99	25.84	73.35	35190.7	27.74	165.33	44.92	76.26	53.02	13293.1	19.71	119.79	0.338701
3-18	51.540	0.3750	65	Slip	78.00	8,093	47.87	69.76	56.53	16114.3	21.10	127.66	30.41	121.30	35.76	4077.1	12.89	81.11	0.338701
4-18	7.287	0.2500	65	Slip	55.00	610	32.46	116.71	25.56	3352.9	21.49	129.88	30.00	124.00	23.61	2639.9	19.75	120.00	0.338701
Shaft Weight						29,839													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor	Weight (lb)	Ice EPAa (sf)	Orientation Factor
124.00	Commscope CBC78T-DS-43-2X	3	0.80	0.000	20.70	0.550	0.50	49.77	0.884	0.50
124.00	Samsung B2/B66A RRH-BR049	3	0.80	0.000	84.40	1.880	0.50	159.14	2.431	0.50
124.00	Samsung B5/B13 RRH-BR04C	3	0.80	0.000	84.40	1.880	0.50	152.10	2.431	0.50
124.00	RFS DB-T1-6Z-8AB-OZ	2	0.80	1.000	44.00	2.930	0.67	135.80	3.150	0.67
124.00	JMA Wireless DX12FRO260-	3	0.80	4.000	12.30	3.000	0.61	788.20	58.074	0.61
124.00	Antel LPA-80080/4CF	3	0.80	1.000	12.00	5.400	0.62	144.32	6.377	0.62
124.00	Commscope JAHH-65B-R3B	9	0.80	0.000	63.30	9.660	0.69	288.61	10.430	0.69
124.00	Flat Low Profile Platform	1	1.00	0.000	1,500.00	26.100	1.00	2,136.80	44.865	1.00
115.00	Ericsson KRY 112 144/1	3	0.80	0.000	11.00	0.350	0.50	26.70	0.625	0.50
115.00	Ericsson Radio 4449 B12,B71	3	0.80	0.000	74.00	1.640	0.50	139.56	2.156	0.50
115.00	Ericsson AIR 21, 1.3M, B2A B4P	3	0.80	0.000	91.50	6.040	0.70	1,822.01	131.210	0.70
115.00	Ericsson AIR 21, 1.3M, B4A B2P	3	0.80	0.000	81.50	6.090	0.70	244.97	7.161	0.70
115.00	RFS APXVAARR24_43-U-NA20	3	0.80	0.000	127.90	20.240	0.80	545.05	22.081	0.80
115.00	Flat Low Profile Platform	1	1.00	0.000	1,500.00	26.100	1.00	2,131.37	44.705	1.00
Totals	Num Loadings:14	43			5,456.80			19,352.69		

Linear Appurtenance Properties

Load Case Azimuth (deg) :

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Max Coax / Flat Row	Dist Between Rows (in)	Dist Between Cols (in)	Dist Azimuth (deg)	Dist From Face (in)	Exposed To Wind Carrier
0.00	124.00	2	1 5/8" Hybriflex	1.98	1.30	N 0	0.00	0.00	0	0.00	N Verizon Wireless
0.00	117.00	1	1 1/4" Hybriflex	1.54	1.00	N 0	0.00	0.00	0	0.00	N T-Mobile
0.00	115.00	6	1 5/8" Coax	1.98	0.82	N 0	0.00	0.00	0	0.00	N T-Mobile
0.00	115.00	4	1 5/8" Fiber	1.63	1.61	N 0	0.00	0.00	0	0.00	N T-Mobile

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in ³)	Z (in ³)	Weight (lb)
0.00		0.4375	70.000	96.593	59,053.8	26.80	160.00	69.9	1661.	0.0	0.0
5.00		0.4375	68.306	94.241	54,845.0	26.12	156.13	70.7	1581.	0.0	1,623.4
10.00		0.4375	66.613	91.890	50,841.0	25.44	152.26	71.5	1503.	0.0	1,583.4
15.00		0.4375	64.919	89.538	47,036.8	24.75	148.39	72.3	1427.	0.0	1,543.4
20.00		0.4375	63.226	87.187	43,427.3	24.07	144.52	73.1	1352.	0.0	1,503.4
25.00		0.4375	61.532	84.835	40,007.3	23.39	140.65	73.9	1280.	0.0	1,463.4
25.84	Bot - Section 2	0.4375	61.249	84.441	39,453.2	23.27	140.00	74.0	1268.	0.0	241.0
30.00		0.4375	59.839	82.483	36,771.7	22.71	136.77	74.7	1210.	0.0	2,209.6
34.17	Top - Section 1	0.3750	59.177	69.986	30,573.4	26.41	157.80	70.3	1017.	0.0	2,161.5
35.00		0.3750	58.895	69.651	30,137.0	26.28	157.05	70.5	1007.	0.0	197.2
40.00		0.3750	57.202	67.636	27,595.6	25.49	152.54	71.4	950.2	0.0	1,167.9
45.00		0.3750	55.508	65.620	25,201.2	24.69	148.02	72.4	894.2	0.0	1,133.6
50.00		0.3750	53.815	63.605	22,949.6	23.89	143.51	73.3	839.9	0.0	1,099.3
55.00		0.3750	52.121	61.589	20,836.2	23.10	138.99	74.2	787.4	0.0	1,065.0
60.00		0.3750	50.428	59.573	18,856.7	22.30	134.47	75.2	736.5	0.0	1,030.7
65.00		0.3750	48.734	57.558	17,006.7	21.50	129.96	76.1	687.3	0.0	996.4
69.76	Bot - Section 3	0.3750	47.123	55.640	15,363.0	20.75	125.66	77.0	642.1	0.0	916.1
70.00		0.3750	47.041	55.542	15,281.9	20.71	125.44	77.0	639.9	0.0	92.8
75.00		0.3750	45.347	53.527	13,677.8	19.91	120.93	78.0	594.1	0.0	1,870.9
76.26	Top - Section 2	0.3750	45.672	53.913	13,975.9	20.06	121.79	77.8	602.7	0.0	459.4
80.00		0.3750	44.404	52.404	12,834.8	19.47	118.41	78.5	569.3	0.0	677.1
85.00		0.3750	42.710	50.388	11,410.1	18.67	113.89	79.4	526.2	0.0	874.4
90.00		0.3750	41.017	48.372	10,094.8	17.88	109.38	80.4	484.7	0.0	840.1
95.00		0.3750	39.323	46.357	8,884.8	17.08	104.86	81.3	445.0	0.0	805.9
100.0		0.3750	37.630	44.341	7,775.5	16.28	100.35	82.2	407.0	0.0	771.6
105.0		0.3750	35.936	42.325	6,762.6	15.49	95.83	82.6	370.6	0.0	737.3
110.0		0.3750	34.243	40.310	5,841.7	14.69	91.31	82.6	336.0	0.0	703.0
115.0		0.3750	32.549	38.294	5,008.5	13.89	86.80	82.6	303.1	0.0	668.7
116.7	Bot - Section 4	0.3750	31.969	37.604	4,742.4	13.62	85.25	82.6	292.2	0.0	221.2
120.0		0.3750	30.856	36.279	4,258.5	13.10	82.28	82.6	271.8	0.0	694.1
121.3	Top - Section 3	0.2500	30.917	24.333	2,891.3	20.40	123.67	77.4	184.2	0.0	267.1
124.0		0.2500	30.001	23.607	2,639.9	19.75	120.00	78.2	173.3	0.0	220.5
29,839.3											

Load Case: 1.2D + 1.6W

97 mph with No Ice

17 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		268.1	0.0					0.0	0.0	268.1	0.0	0.0	0.0
5.00		529.6	1,948.1					0.0	89.8	529.6	2,037.9	0.0	0.0
10.00		516.4	1,900.1					0.0	89.8	516.4	1,989.8	0.0	0.0
15.00		503.3	1,852.1					0.0	89.8	503.3	1,941.8	0.0	0.0
20.00		490.2	1,804.1					0.0	89.8	490.2	1,893.8	0.0	0.0
25.00		281.6	1,756.1					0.0	89.8	281.6	1,845.8	0.0	0.0
25.84	Bot - Section 2	237.7	289.2					0.0	15.0	237.7	304.2	0.0	0.0
30.00		397.1	2,651.5					0.0	74.7	397.1	2,726.3	0.0	0.0
34.17	Top - Section 1	239.2	2,593.8					0.0	74.9	239.2	2,668.6	0.0	0.0
35.00		281.8	236.6					0.0	14.9	281.8	251.5	0.0	0.0
40.00		485.0	1,401.5					0.0	89.8	485.0	1,491.2	0.0	0.0
45.00		486.4	1,360.3					0.0	89.8	486.4	1,450.1	0.0	0.0
50.00		485.7	1,319.2					0.0	89.8	485.7	1,408.9	0.0	0.0
55.00		483.2	1,278.0					0.0	89.8	483.2	1,367.8	0.0	0.0
60.00		479.1	1,236.9					0.0	89.8	479.1	1,326.6	0.0	0.0
65.00		462.2	1,195.7					0.0	89.8	462.2	1,285.5	0.0	0.0
69.76	Bot - Section 3	235.4	1,099.3					0.0	85.4	235.4	1,184.7	0.0	0.0
70.00		246.8	111.4					0.0	4.4	246.8	115.7	0.0	0.0
75.00		293.8	2,245.0					0.0	89.8	293.8	2,334.8	0.0	0.0
76.26	Top - Section 2	231.1	551.3					0.0	22.6	231.1	573.9	0.0	0.0
80.00		399.0	812.5					0.0	67.2	399.0	879.7	0.0	0.0
85.00		447.7	1,049.3					0.0	89.8	447.7	1,139.1	0.0	0.0
90.00		436.9	1,008.2					0.0	89.8	436.9	1,097.9	0.0	0.0
95.00		425.3	967.0					0.0	89.8	425.3	1,056.8	0.0	0.0
100.00		413.0	925.9					0.0	89.8	413.0	1,015.6	0.0	0.0
105.00		399.9	884.7					0.0	89.8	399.9	974.5	0.0	0.0
110.00		386.1	843.6					0.0	89.8	386.1	933.3	0.0	0.0
115.00	Appurtenance(s)	252.7	802.4	3,642.7	0.0	0.0	3,189.2	0.0	89.8	3,895.5	4,081.4	0.0	0.0
116.71	Bot - Section 4	184.0	265.5					0.0	7.4	184.0	272.9	0.0	0.0
120.00		167.5	832.9					0.0	10.6	167.5	843.5	0.0	0.0
121.30	Top - Section 3	142.5	320.5					0.0	4.0	142.5	324.5	0.0	0.0
124.00	Appurtenance(s)	95.8	264.6	4,025.5	0.0	1,227.1	3,358.9	0.0	8.4	4,121.2	3,631.9	0.0	0.0
Totals:										19,052.0	44,450.3	0.00	0.00

Site Number: 383657-Monopole
 Site Name: Atlas Container, CT
 Customer: Verizon Wireless

Code: ANSI/TIA-222-G
 Engineering Number: 13000519_C3_04

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4/10/2020 10:48:33 AM

Load Case: 1.2D + 1.6W

97 mph with No Ice

17 Iterations

Gust Response Factor :1.10
 Dead Load Factor :1.20
 Wind Load Factor :1.60

Wind Importance Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-44.44	-18.80	0.00	-1,604.81	0.00	1,604.81	6,074.67	3,037.34	17,390.5	8,708.20	0.00	0.00	0.192
5.00	-42.39	-18.30	0.00	-1,510.81	0.00	1,510.81	5,994.87	2,997.44	16,741.6	8,383.28	0.02	-0.04	0.187
10.00	-40.39	-17.81	0.00	-1,419.33	0.00	1,419.33	5,911.67	2,955.84	16,094.7	8,059.33	0.08	-0.08	0.183
15.00	-38.44	-17.32	0.00	-1,330.30	0.00	1,330.30	5,825.08	2,912.54	15,450.4	7,736.72	0.18	-0.11	0.179
20.00	-36.54	-16.85	0.00	-1,243.68	0.00	1,243.68	5,735.08	2,867.54	14,809.5	7,415.79	0.32	-0.15	0.174
25.00	-34.68	-16.58	0.00	-1,159.41	0.00	1,159.41	5,641.69	2,820.85	14,172.7	7,096.91	0.50	-0.19	0.170
25.84	-34.38	-16.36	0.00	-1,145.54	0.00	1,145.54	5,625.73	2,812.87	14,066.6	7,043.78	0.54	-0.20	0.169
30.00	-31.64	-15.97	0.00	-1,077.45	0.00	1,077.45	5,544.90	2,772.45	13,540.7	6,780.44	0.73	-0.23	0.165
34.17	-28.97	-15.73	0.00	-1,010.87	0.00	1,010.87	4,430.07	2,215.04	10,719.5	5,367.75	0.95	-0.27	0.195
35.00	-28.71	-15.46	0.00	-997.82	0.00	997.82	4,418.64	2,209.32	10,640.4	5,328.14	0.99	-0.27	0.194
40.00	-27.21	-14.98	0.00	-920.54	0.00	920.54	4,347.78	2,173.89	10,164.9	5,090.01	1.30	-0.32	0.187
45.00	-25.75	-14.51	0.00	-845.61	0.00	845.61	4,273.52	2,136.76	9,691.61	4,853.01	1.66	-0.36	0.180
50.00	-24.33	-14.03	0.00	-773.07	0.00	773.07	4,195.87	2,097.93	9,221.24	4,617.48	2.07	-0.41	0.173
55.00	-22.96	-13.56	0.00	-702.89	0.00	702.89	4,114.82	2,057.41	8,754.54	4,383.78	2.52	-0.46	0.166
60.00	-21.63	-13.09	0.00	-635.10	0.00	635.10	4,030.37	2,015.18	8,292.22	4,152.27	3.02	-0.50	0.158
65.00	-20.34	-12.63	0.00	-569.67	0.00	569.67	3,942.52	1,971.26	7,834.99	3,923.32	3.57	-0.55	0.150
69.76	-19.15	-12.39	0.00	-509.60	0.00	509.60	3,855.79	1,927.90	7,405.40	3,708.20	4.14	-0.59	0.142
70.00	-19.03	-12.15	0.00	-506.59	0.00	506.59	3,851.27	1,925.64	7,383.57	3,697.27	4.17	-0.59	0.142
75.00	-16.69	-11.84	0.00	-445.85	0.00	445.85	3,756.63	1,878.31	6,938.67	3,474.49	4.82	-0.64	0.133
76.26	-16.12	-11.61	0.00	-430.97	0.00	430.97	3,775.02	1,887.51	7,023.35	3,516.89	4.98	-0.65	0.127
80.00	-15.24	-11.21	0.00	-387.53	0.00	387.53	3,702.42	1,851.21	6,693.90	3,351.93	5.51	-0.68	0.120
85.00	-14.09	-10.75	0.00	-331.50	0.00	331.50	3,602.49	1,801.24	6,260.58	3,134.95	6.24	-0.72	0.110
90.00	-13.00	-10.31	0.00	-277.72	0.00	277.72	3,499.15	1,749.58	5,835.62	2,922.15	7.02	-0.76	0.099
95.00	-11.94	-9.88	0.00	-226.16	0.00	226.16	3,392.42	1,696.21	5,419.72	2,713.89	7.83	-0.79	0.087
100.00	-10.92	-9.46	0.00	-176.77	0.00	176.77	3,282.29	1,641.15	5,013.60	2,510.53	8.68	-0.83	0.074
105.00	-9.95	-9.05	0.00	-129.48	0.00	129.48	3,144.57	1,572.29	4,582.72	2,294.77	9.56	-0.85	0.060
110.00	-9.02	-8.65	0.00	-84.24	0.00	84.24	2,994.82	1,497.41	4,154.47	2,080.32	10.47	-0.88	0.044
115.00	-5.00	-4.69	0.00	-40.98	0.00	40.98	2,845.07	1,422.54	3,747.22	1,876.40	11.40	-0.89	0.024
116.71	-4.73	-4.51	0.00	-32.94	0.00	32.94	2,793.76	1,396.88	3,612.51	1,808.94	11.72	-0.90	0.020
120.00	-3.89	-4.33	0.00	-18.13	0.00	18.13	2,695.32	1,347.66	3,360.98	1,682.99	12.34	-0.90	0.012
121.30	-3.57	-4.18	0.00	-12.52	0.00	12.52	1,695.32	847.66	2,135.65	1,069.41	12.58	-0.90	0.014
124.00	0.00	-4.12	0.00	-1.23	0.00	1.23	1,660.84	830.42	2,029.25	1,016.13	13.09	-0.90	0.001

Site Number: 383657-Monopole
 Site Name: Atlas Container, CT
 Customer: Verizon Wireless

Code: ANSI/TIA-222-G
 Engineering Number: 13000519_C3_04

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 4/10/2020 10:48:34 AM

Load Case: 0.9D + 1.6W 97 mph with No Ice (Reduced DL) 17 Iterations

Gust Response Factor :1.10 Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-33.33	-18.80	0.00	-1,600.32	0.00	1,600.32	6,074.67	3,037.34	17,390.5	8,708.20	0.00	0.00	0.189
5.00	-31.79	-18.29	0.00	-1,506.34	0.00	1,506.34	5,994.87	2,997.44	16,741.6	8,383.28	0.02	-0.04	0.185
10.00	-30.29	-17.79	0.00	-1,414.91	0.00	1,414.91	5,911.67	2,955.84	16,094.7	8,059.33	0.08	-0.08	0.181
15.00	-28.82	-17.30	0.00	-1,325.97	0.00	1,325.97	5,825.08	2,912.54	15,450.4	7,736.72	0.18	-0.11	0.176
20.00	-27.39	-16.83	0.00	-1,239.47	0.00	1,239.47	5,735.08	2,867.54	14,809.5	7,415.79	0.32	-0.15	0.172
25.00	-26.00	-16.55	0.00	-1,155.33	0.00	1,155.33	5,641.69	2,820.85	14,172.7	7,096.91	0.50	-0.19	0.167
25.84	-25.77	-16.32	0.00	-1,141.48	0.00	1,141.48	5,625.73	2,812.87	14,066.6	7,043.78	0.54	-0.20	0.167
30.00	-23.71	-15.93	0.00	-1,073.53	0.00	1,073.53	5,544.90	2,772.45	13,540.7	6,780.44	0.72	-0.23	0.163
34.17	-21.71	-15.69	0.00	-1,007.10	0.00	1,007.10	4,430.07	2,215.04	10,719.5	5,367.75	0.94	-0.27	0.193
35.00	-21.51	-15.42	0.00	-994.07	0.00	994.07	4,418.64	2,209.32	10,640.4	5,328.14	0.99	-0.27	0.191
40.00	-20.39	-14.94	0.00	-916.98	0.00	916.98	4,347.78	2,173.89	10,164.9	5,090.01	1.30	-0.32	0.185
45.00	-19.29	-14.47	0.00	-842.27	0.00	842.27	4,273.52	2,136.76	9,691.61	4,853.01	1.66	-0.36	0.178
50.00	-18.23	-13.99	0.00	-769.94	0.00	769.94	4,195.87	2,097.93	9,221.24	4,617.48	2.06	-0.41	0.171
55.00	-17.19	-13.51	0.00	-700.00	0.00	700.00	4,114.82	2,057.41	8,754.54	4,383.78	2.51	-0.45	0.164
60.00	-16.19	-13.04	0.00	-632.45	0.00	632.45	4,030.37	2,015.18	8,292.22	4,152.27	3.01	-0.50	0.156
65.00	-15.22	-12.58	0.00	-567.27	0.00	567.27	3,942.52	1,971.26	7,834.99	3,923.32	3.56	-0.54	0.148
69.76	-14.33	-12.34	0.00	-507.45	0.00	507.45	3,855.79	1,927.90	7,405.40	3,708.20	4.13	-0.59	0.141
70.00	-14.24	-12.10	0.00	-504.45	0.00	504.45	3,851.27	1,925.64	7,383.57	3,697.27	4.16	-0.59	0.140
75.00	-12.49	-11.79	0.00	-443.97	0.00	443.97	3,756.63	1,878.31	6,938.67	3,474.49	4.80	-0.63	0.131
76.26	-12.06	-11.56	0.00	-429.15	0.00	429.15	3,775.02	1,887.51	7,023.35	3,516.89	4.97	-0.65	0.125
80.00	-11.39	-11.16	0.00	-385.88	0.00	385.88	3,702.42	1,851.21	6,693.90	3,351.93	5.49	-0.68	0.118
85.00	-10.54	-10.71	0.00	-330.09	0.00	330.09	3,602.49	1,801.24	6,260.58	3,134.95	6.22	-0.72	0.108
90.00	-9.71	-10.27	0.00	-276.55	0.00	276.55	3,499.15	1,749.58	5,835.62	2,922.15	6.99	-0.76	0.097
95.00	-8.92	-9.84	0.00	-225.21	0.00	225.21	3,392.42	1,696.21	5,419.72	2,713.89	7.80	-0.79	0.086
100.00	-8.16	-9.42	0.00	-176.03	0.00	176.03	3,282.29	1,641.15	5,013.60	2,510.53	8.65	-0.82	0.073
105.00	-7.43	-9.01	0.00	-128.95	0.00	128.95	3,144.57	1,572.29	4,582.72	2,294.77	9.53	-0.85	0.059
110.00	-6.73	-8.62	0.00	-83.90	0.00	83.90	2,994.82	1,497.41	4,154.47	2,080.32	10.43	-0.87	0.043
115.00	-3.73	-4.67	0.00	-40.82	0.00	40.82	2,845.07	1,422.54	3,747.22	1,876.40	11.35	-0.89	0.023
116.71	-3.53	-4.49	0.00	-32.82	0.00	32.82	2,793.76	1,396.88	3,612.51	1,808.94	11.67	-0.89	0.019
120.00	-2.90	-4.31	0.00	-18.07	0.00	18.07	2,695.32	1,347.66	3,360.98	1,682.99	12.29	-0.90	0.012
121.30	-2.66	-4.16	0.00	-12.48	0.00	12.48	1,695.32	847.66	2,135.65	1,069.41	12.53	-0.90	0.013
124.00	0.00	-4.12	0.00	-1.23	0.00	1.23	1,660.84	830.42	2,029.25	1,016.13	13.04	-0.90	0.001

Load Case: 1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice	16 Iterations
Gust Response Factor :1.10	Ice Dead Load Factor :1.00	Wind Importance Factor :1.00
Dead Load Factor :1.20		Ice Importance Factor :1.00
Wind Load Factor :1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		85.0	0.0					0.0	0.0	85.0	0.0	0.0	0.0
5.00		168.2	2,470.0					0.0	89.8	168.2	2,559.8	0.0	0.0
10.00		164.6	2,457.4					0.0	89.8	164.6	2,547.2	0.0	0.0
15.00		160.8	2,421.8					0.0	89.8	160.8	2,511.5	0.0	0.0
20.00		157.0	2,377.3					0.0	89.8	157.0	2,467.1	0.0	0.0
25.00		90.3	2,328.1					0.0	89.8	90.3	2,417.9	0.0	0.0
25.84	Bot - Section 2	76.3	385.6					0.0	15.0	76.3	400.6	0.0	0.0
30.00		127.6	3,130.8					0.0	74.7	127.6	3,205.5	0.0	0.0
34.17	Top - Section 1	77.0	3,069.4					0.0	74.9	77.0	3,144.3	0.0	0.0
35.00		90.8	331.6					0.0	14.9	90.8	346.5	0.0	0.0
40.00		156.5	1,961.8					0.0	89.8	156.5	2,051.6	0.0	0.0
45.00		157.3	1,911.4					0.0	89.8	157.3	2,001.2	0.0	0.0
50.00		157.4	1,859.9					0.0	89.8	157.4	1,949.6	0.0	0.0
55.00		157.0	1,807.5					0.0	89.8	157.0	1,897.3	0.0	0.0
60.00		156.0	1,754.4					0.0	89.8	156.0	1,844.1	0.0	0.0
65.00		150.9	1,700.6					0.0	89.8	150.9	1,790.4	0.0	0.0
69.76	Bot - Section 3	77.0	1,567.9					0.0	85.4	77.0	1,653.2	0.0	0.0
70.00		80.8	135.7					0.0	4.4	80.8	140.1	0.0	0.0
75.00		96.2	2,730.8					0.0	89.8	96.2	2,820.5	0.0	0.0
76.26	Top - Section 2	75.9	672.8					0.0	22.6	75.9	695.4	0.0	0.0
80.00		131.3	1,166.0					0.0	67.2	131.3	1,233.2	0.0	0.0
85.00		147.7	1,506.6					0.0	89.8	147.7	1,596.3	0.0	0.0
90.00		144.6	1,450.6					0.0	89.8	144.6	1,540.4	0.0	0.0
95.00		141.3	1,394.3					0.0	89.8	141.3	1,484.1	0.0	0.0
100.00		137.7	1,337.7					0.0	89.8	137.7	1,427.5	0.0	0.0
105.00		133.9	1,280.9					0.0	89.8	133.9	1,370.6	0.0	0.0
110.00		129.9	1,223.8					0.0	89.8	129.9	1,313.5	0.0	0.0
115.00	Appurtenance(s)	85.3	1,166.4	2,226.6	0.0	0.0	10,797.8	0.0	89.8	2,311.9	12,053.9	0.0	0.0
116.71	Bot - Section 4	62.3	388.5					0.0	7.4	62.3	395.9	0.0	0.0
120.00		56.8	1,065.1					0.0	10.6	56.8	1,075.7	0.0	0.0
121.30	Top - Section 3	48.5	411.0					0.0	4.0	48.5	415.0	0.0	0.0
124.00	Appurtenance(s)	32.6	448.4	1,424.8	0.0	2,508.2	9,246.3	0.0	8.4	1,457.4	9,703.1	0.0	0.0
Totals:										7,366.21	70,053.0	0.00	0.00

Load Case: 1.0D + 1.0W

Serviceability 60 mph

16 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		57.4	0.0					0.0	0.0	57.4	0.0	0.0	0.0
5.00		113.3	1,623.4					0.0	74.8	113.3	1,698.2	0.0	0.0
10.00		110.5	1,583.4					0.0	74.8	110.5	1,658.2	0.0	0.0
15.00		107.7	1,543.4					0.0	74.8	107.7	1,618.2	0.0	0.0
20.00		104.9	1,503.4					0.0	74.8	104.9	1,578.2	0.0	0.0
25.00		60.3	1,463.4					0.0	74.8	60.3	1,538.2	0.0	0.0
25.84	Bot - Section 2	50.9	241.0					0.0	12.5	50.9	253.5	0.0	0.0
30.00		85.0	2,209.6					0.0	62.3	85.0	2,271.9	0.0	0.0
34.17	Top - Section 1	51.2	2,161.5					0.0	62.4	51.2	2,223.9	0.0	0.0
35.00		60.3	197.2					0.0	12.4	60.3	209.6	0.0	0.0
40.00		103.8	1,167.9					0.0	74.8	103.8	1,242.7	0.0	0.0
45.00		104.1	1,133.6					0.0	74.8	104.1	1,208.4	0.0	0.0
50.00		103.9	1,099.3					0.0	74.8	103.9	1,174.1	0.0	0.0
55.00		103.4	1,065.0					0.0	74.8	103.4	1,139.8	0.0	0.0
60.00		102.5	1,030.7					0.0	74.8	102.5	1,105.5	0.0	0.0
65.00		98.9	996.4					0.0	74.8	98.9	1,071.2	0.0	0.0
69.76	Bot - Section 3	50.4	916.1					0.0	71.2	50.4	987.3	0.0	0.0
70.00		52.8	92.8					0.0	3.6	52.8	96.4	0.0	0.0
75.00		62.9	1,870.9					0.0	74.8	62.9	1,945.7	0.0	0.0
76.26	Top - Section 2	49.4	459.4					0.0	18.8	49.4	478.2	0.0	0.0
80.00		85.4	677.1					0.0	56.0	85.4	733.1	0.0	0.0
85.00		95.8	874.4					0.0	74.8	95.8	949.2	0.0	0.0
90.00		93.5	840.1					0.0	74.8	93.5	914.9	0.0	0.0
95.00		91.0	805.9					0.0	74.8	91.0	880.7	0.0	0.0
100.00		88.4	771.6					0.0	74.8	88.4	846.4	0.0	0.0
105.00		85.6	737.3					0.0	74.8	85.6	812.1	0.0	0.0
110.00		82.6	703.0					0.0	74.8	82.6	777.8	0.0	0.0
115.00	Appurtenance(s)	54.1	668.7	779.4	0.0	0.0	2,657.7	0.0	74.8	833.5	3,401.2	0.0	0.0
116.71	Bot - Section 4	39.4	221.2					0.0	6.2	39.4	227.4	0.0	0.0
120.00		35.8	694.1					0.0	8.8	35.8	702.9	0.0	0.0
121.30	Top - Section 3	30.5	267.1					0.0	3.4	30.5	270.4	0.0	0.0
124.00	Appurtenance(s)	20.5	220.5	861.3	0.0	262.6	2,799.1	0.0	7.0	881.8	3,026.6	0.0	0.0
Totals:										4,076.39	37,041.9	0.00	0.00

Site Number: 383657-Monopole
 Site Name: Atlas Container, CT
 Customer: Verizon Wireless

Code: ANSI/TIA-222-G
 Engineering Number: 13000519_C3_04

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Load Case: 1.0D + 1.0W

Serviceability 60 mph

16 Iterations

Gust Response Factor :1.10
 Dead Load Factor :1.00
 Wind Load Factor :1.00

Wind Importance Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-37.04	-4.02	0.00	-342.71	0.00	342.71	6,074.67	3,037.34	17,390.5	8,708.20	0.00	0.00	0.045
5.00	-35.34	-3.91	0.00	-322.61	0.00	322.61	5,994.87	2,997.44	16,741.6	8,383.28	0.00	-0.01	0.044
10.00	-33.68	-3.81	0.00	-303.04	0.00	303.04	5,911.67	2,955.84	16,094.7	8,059.33	0.02	-0.02	0.043
15.00	-32.07	-3.70	0.00	-284.01	0.00	284.01	5,825.08	2,912.54	15,450.4	7,736.72	0.04	-0.02	0.042
20.00	-30.49	-3.60	0.00	-265.49	0.00	265.49	5,735.08	2,867.54	14,809.5	7,415.79	0.07	-0.03	0.041
25.00	-28.95	-3.54	0.00	-247.48	0.00	247.48	5,641.69	2,820.85	14,172.7	7,096.91	0.11	-0.04	0.040
25.84	-28.69	-3.49	0.00	-244.52	0.00	244.52	5,625.73	2,812.87	14,066.6	7,043.78	0.11	-0.04	0.040
30.00	-26.42	-3.41	0.00	-229.97	0.00	229.97	5,544.90	2,772.45	13,540.7	6,780.44	0.16	-0.05	0.039
34.17	-24.20	-3.36	0.00	-215.75	0.00	215.75	4,430.07	2,215.04	10,719.5	5,367.75	0.20	-0.06	0.046
35.00	-23.99	-3.30	0.00	-212.96	0.00	212.96	4,418.64	2,209.32	10,640.4	5,328.14	0.21	-0.06	0.045
40.00	-22.75	-3.20	0.00	-196.45	0.00	196.45	4,347.78	2,173.89	10,164.9	5,090.01	0.28	-0.07	0.044
45.00	-21.54	-3.10	0.00	-180.45	0.00	180.45	4,273.52	2,136.76	9,691.61	4,853.01	0.35	-0.08	0.042
50.00	-20.36	-3.00	0.00	-164.96	0.00	164.96	4,195.87	2,097.93	9,221.24	4,617.48	0.44	-0.09	0.041
55.00	-19.22	-2.89	0.00	-149.98	0.00	149.98	4,114.82	2,057.41	8,754.54	4,383.78	0.54	-0.10	0.039
60.00	-18.12	-2.79	0.00	-135.51	0.00	135.51	4,030.37	2,015.18	8,292.22	4,152.27	0.65	-0.11	0.037
65.00	-17.04	-2.69	0.00	-121.55	0.00	121.55	3,942.52	1,971.26	7,834.99	3,923.32	0.76	-0.12	0.035
69.76	-16.06	-2.64	0.00	-108.73	0.00	108.73	3,855.79	1,927.90	7,405.40	3,708.20	0.88	-0.13	0.033
70.00	-15.96	-2.59	0.00	-108.09	0.00	108.09	3,851.27	1,925.64	7,383.57	3,697.27	0.89	-0.13	0.033
75.00	-14.01	-2.53	0.00	-95.13	0.00	95.13	3,756.63	1,878.31	6,938.67	3,474.49	1.03	-0.14	0.031
76.26	-13.54	-2.48	0.00	-91.95	0.00	91.95	3,775.02	1,887.51	7,023.35	3,516.89	1.06	-0.14	0.030
80.00	-12.80	-2.39	0.00	-82.68	0.00	82.68	3,702.42	1,851.21	6,693.90	3,351.93	1.18	-0.15	0.028
85.00	-11.85	-2.29	0.00	-70.73	0.00	70.73	3,602.49	1,801.24	6,260.58	3,134.95	1.33	-0.15	0.026
90.00	-10.94	-2.20	0.00	-59.26	0.00	59.26	3,499.15	1,749.58	5,835.62	2,922.15	1.50	-0.16	0.023
95.00	-10.06	-2.11	0.00	-48.26	0.00	48.26	3,392.42	1,696.21	5,419.72	2,713.89	1.67	-0.17	0.021
100.00	-9.21	-2.02	0.00	-37.72	0.00	37.72	3,282.29	1,641.15	5,013.60	2,510.53	1.85	-0.18	0.018
105.00	-8.40	-1.93	0.00	-27.63	0.00	27.63	3,144.57	1,572.29	4,582.72	2,294.77	2.04	-0.18	0.015
110.00	-7.62	-1.85	0.00	-17.98	0.00	17.98	2,994.82	1,497.41	4,154.47	2,080.32	2.23	-0.19	0.011
115.00	-4.22	-1.00	0.00	-8.75	0.00	8.75	2,845.07	1,422.54	3,747.22	1,876.40	2.43	-0.19	0.006
116.71	-4.00	-0.96	0.00	-7.03	0.00	7.03	2,793.76	1,396.88	3,612.51	1,808.94	2.50	-0.19	0.005
120.00	-3.29	-0.92	0.00	-3.87	0.00	3.87	2,695.32	1,347.66	3,360.98	1,682.99	2.63	-0.19	0.004
121.30	-3.02	-0.89	0.00	-2.67	0.00	2.67	1,695.32	847.66	2,135.65	1,069.41	2.68	-0.19	0.004
124.00	0.00	-0.88	0.00	-0.26	0.00	0.26	1,660.84	830.42	2,029.25	1,016.13	2.79	-0.19	0.000

Site Number: 383657-Monopole
 Site Name: Atlas Container, CT
 Customer: Verizon Wireless

Code: ANSI/TIA-222-G
 Engineering Number: 13000519_C3_04

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Equivalent Lateral Forces Method Analysis

(Based on ASCE7-10 Chapters 11, 12, 15)

Spectral Response Acceleration for Short Period (S_s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.06
Upper Limit C_s	0.06
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	1.08
Redundancy Factor (ρ):	1.30
Seismic Force Distribution Exponent (k):	1.29
Total Unfactored Dead Load:	37.04 k
Seismic Base Shear (E):	3.00 k

Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
31	122.65	228	112	0.014	41	282
30	120.65	270	131	0.016	48	335
29	118.36	703	331	0.040	121	871
28	115.86	227	104	0.013	38	282
27	112.50	743	328	0.040	120	921
26	107.50	778	323	0.040	119	964
25	102.50	812	318	0.039	116	1,006
24	97.50	846	310	0.038	114	1,049
23	92.50	881	302	0.037	111	1,091
22	87.50	915	292	0.036	107	1,134
21	82.50	949	281	0.034	103	1,176
20	78.13	733	202	0.025	74	908
19	75.63	478	126	0.015	46	593
18	72.50	1,946	487	0.059	179	2,411
17	69.88	96	23	0.003	8	119
16	67.38	987	225	0.027	82	1,223
15	62.50	1,071	221	0.027	81	1,327
14	57.50	1,106	205	0.025	75	1,370
13	52.50	1,140	188	0.023	69	1,412
12	47.50	1,174	170	0.021	62	1,455
11	42.50	1,208	152	0.019	56	1,497
10	37.50	1,243	133	0.016	49	1,540
9	34.58	210	20	0.002	7	260

Site Number: 383657-Monopole

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Site Name: Atlas Container, CT

Engineering Number: 13000519_C3_04

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Customer: Verizon Wireless

8	32.08	2,224	195	0.024	71	2,755
7	27.92	2,272	166	0.020	61	2,815
6	25.42	253	16	0.002	6	314
5	22.50	1,538	85	0.010	31	1,906
4	17.50	1,578	63	0.008	23	1,955
3	12.50	1,618	42	0.005	15	2,005
2	7.50	1,658	22	0.003	8	2,055
1	2.50	1,698	6	0.001	2	2,104
Commscope CBC78T-DS-	124.00	62	31	0.004	11	77
Samsung B2/B66A RRH-	124.00	253	127	0.015	46	314
Samsung B5/B13 RRH-B	124.00	253	127	0.015	46	314
RFS DB-T1-6Z-8AB-OZ	124.00	88	44	0.005	16	109
JMA Wireless DX12FRO	124.00	37	18	0.002	7	46
Antel LPA-80080/4CF	124.00	36	18	0.002	7	45
Commscope JAHH-65B-R	124.00	570	285	0.035	104	706
Flat Low Profile Pla	124.00	1,500	750	0.092	275	1,859
Ericsson KRY 112 144	115.00	33	15	0.002	5	41
Ericsson Radio 4449	115.00	222	101	0.012	37	275
Ericsson AIR 21, 1.3	115.00	275	125	0.015	46	340
Ericsson AIR 21, 1.3	115.00	244	111	0.014	41	303
RFS APXVAARR24_43-U-	115.00	384	174	0.021	64	475
Flat Low Profile Pla	115.00	1,500	681	0.083	249	1,859
		37,042	8,186	1.000	3,000	45,896

Load Case (0.9 - 0.2Sds) * DL + E EFLM

Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
31	122.65	228	112	0.014	41	196
30	120.65	270	131	0.016	48	233
29	118.36	703	331	0.040	121	605
28	115.86	227	104	0.013	38	196
27	112.50	743	328	0.040	120	640
26	107.50	778	323	0.040	119	670
25	102.50	812	318	0.039	116	699
24	97.50	846	310	0.038	114	729
23	92.50	881	302	0.037	111	758
22	87.50	915	292	0.036	107	788
21	82.50	949	281	0.034	103	817
20	78.13	733	202	0.025	74	631
19	75.63	478	126	0.015	46	412
18	72.50	1,946	487	0.059	179	1,675
17	69.88	96	23	0.003	8	83
16	67.38	987	225	0.027	82	850
15	62.50	1,071	221	0.027	81	922
14	57.50	1,106	205	0.025	75	952
13	52.50	1,140	188	0.023	69	981
12	47.50	1,174	170	0.021	62	1,011
11	42.50	1,208	152	0.019	56	1,040
10	37.50	1,243	133	0.016	49	1,070
9	34.58	210	20	0.002	7	180
8	32.08	2,224	195	0.024	71	1,915
7	27.92	2,272	166	0.020	61	1,956
6	25.42	253	16	0.002	6	218
5	22.50	1,538	85	0.010	31	1,324
4	17.50	1,578	63	0.008	23	1,359
3	12.50	1,618	42	0.005	15	1,393
2	7.50	1,658	22	0.003	8	1,428
1	2.50	1,698	6	0.001	2	1,462
Commscope CBC78T-DS-	124.00	62	31	0.004	11	53

Site Number: 383657-Monopole

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Site Name: Atlas Container, CT

Engineering Number: 13000519_C3_04

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Customer: Verizon Wireless

Samsung B2/B66A RRH-	124.00	253	127	0.015	46	218
Samsung B5/B13 RRH-B	124.00	253	127	0.015	46	218
RFS DB-T1-6Z-8AB-OZ	124.00	88	44	0.005	16	76
JMA Wireless DX12FRO	124.00	37	18	0.002	7	32
Antel LPA-80080/4CF	124.00	36	18	0.002	7	31
Commscope JAHH-65B-R	124.00	570	285	0.035	104	490
Flat Low Profile Pla	124.00	1,500	750	0.092	275	1,291
Ericsson KRY 112 144	115.00	33	15	0.002	5	28
Ericsson Radio 4449	115.00	222	101	0.012	37	191
Ericsson AIR 21, 1.3	115.00	275	125	0.015	46	236
Ericsson AIR 21, 1.3	115.00	244	111	0.014	41	211
RFS APXVAARR24_43-U-	115.00	384	174	0.021	64	330
Flat Low Profile Pla	115.00	1,500	681	0.083	249	1,291
		37,042	8,186	1.000	3,000	31,892

Site Number: 383657-Monopole
 Site Name: Atlas Container, CT
 Customer: Verizon Wireless

Code: ANSI/TIA-222-G

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Engineering Number: 13000519_C3_04

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Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-43.79	-3.00	0.00	-273.93	0.00	273.93	6,074.67	3,037.34	17,390.5	8,708.20	0.00	0.00	0.039
5.00	-41.74	-3.00	0.00	-258.93	0.00	258.93	5,994.87	2,997.44	16,741.6	8,383.28	0.00	-0.01	0.038
10.00	-39.73	-2.99	0.00	-243.95	0.00	243.95	5,911.67	2,955.84	16,094.7	8,059.33	0.01	-0.01	0.037
15.00	-37.78	-2.97	0.00	-229.02	0.00	229.02	5,825.08	2,912.54	15,450.4	7,736.72	0.03	-0.02	0.036
20.00	-35.87	-2.94	0.00	-214.19	0.00	214.19	5,735.08	2,867.54	14,809.5	7,415.79	0.06	-0.03	0.035
25.00	-35.56	-2.93	0.00	-199.50	0.00	199.50	5,641.69	2,820.85	14,172.7	7,096.91	0.09	-0.03	0.034
25.84	-32.74	-2.87	0.00	-197.05	0.00	197.05	5,625.73	2,812.87	14,066.6	7,043.78	0.09	-0.03	0.034
30.00	-29.98	-2.80	0.00	-185.09	0.00	185.09	5,544.90	2,772.45	13,540.7	6,780.44	0.12	-0.04	0.033
34.17	-29.72	-2.80	0.00	-173.39	0.00	173.39	4,430.07	2,215.04	10,719.5	5,367.75	0.16	-0.05	0.039
35.00	-28.19	-2.75	0.00	-171.07	0.00	171.07	4,418.64	2,209.32	10,640.4	5,328.14	0.17	-0.05	0.038
40.00	-26.69	-2.70	0.00	-157.32	0.00	157.32	4,347.78	2,173.89	10,164.9	5,090.01	0.22	-0.05	0.037
45.00	-25.23	-2.64	0.00	-143.84	0.00	143.84	4,273.52	2,136.76	9,691.61	4,853.01	0.29	-0.06	0.036
50.00	-23.82	-2.57	0.00	-130.66	0.00	130.66	4,195.87	2,097.93	9,221.24	4,617.48	0.36	-0.07	0.034
55.00	-22.45	-2.49	0.00	-117.81	0.00	117.81	4,114.82	2,057.41	8,754.54	4,383.78	0.43	-0.08	0.032
60.00	-21.12	-2.41	0.00	-105.34	0.00	105.34	4,030.37	2,015.18	8,292.22	4,152.27	0.52	-0.09	0.031
65.00	-19.90	-2.33	0.00	-93.27	0.00	93.27	3,942.52	1,971.26	7,834.99	3,923.32	0.61	-0.09	0.029
69.76	-19.78	-2.33	0.00	-82.17	0.00	82.17	3,855.79	1,927.90	7,405.40	3,708.20	0.71	-0.10	0.027
70.00	-17.37	-2.14	0.00	-81.61	0.00	81.61	3,851.27	1,925.64	7,383.57	3,697.27	0.71	-0.10	0.027
75.00	-16.78	-2.10	0.00	-70.89	0.00	70.89	3,756.63	1,878.31	6,938.67	3,474.49	0.82	-0.11	0.025
76.26	-15.87	-2.02	0.00	-68.25	0.00	68.25	3,775.02	1,887.51	7,023.35	3,516.89	0.85	-0.11	0.024
80.00	-14.69	-1.92	0.00	-60.68	0.00	60.68	3,702.42	1,851.21	6,693.90	3,351.93	0.94	-0.11	0.022
85.00	-13.56	-1.81	0.00	-51.08	0.00	51.08	3,602.49	1,801.24	6,260.58	3,134.95	1.06	-0.12	0.020
90.00	-12.47	-1.70	0.00	-42.02	0.00	42.02	3,499.15	1,749.58	5,835.62	2,922.15	1.19	-0.13	0.018
95.00	-11.42	-1.58	0.00	-33.53	0.00	33.53	3,392.42	1,696.21	5,419.72	2,713.89	1.33	-0.13	0.016
100.00	-10.41	-1.47	0.00	-25.60	0.00	25.60	3,282.29	1,641.15	5,013.60	2,510.53	1.47	-0.14	0.013
105.00	-9.45	-1.35	0.00	-18.27	0.00	18.27	3,144.57	1,572.29	4,582.72	2,294.77	1.61	-0.14	0.011
110.00	-8.53	-1.22	0.00	-11.54	0.00	11.54	2,994.82	1,497.41	4,154.47	2,080.32	1.76	-0.14	0.008
115.00	-4.95	-0.74	0.00	-5.41	0.00	5.41	2,845.07	1,422.54	3,747.22	1,876.40	1.91	-0.15	0.005
116.71	-4.08	-0.61	0.00	-4.15	0.00	4.15	2,793.76	1,396.88	3,612.51	1,808.94	1.97	-0.15	0.004
120.00	-3.75	-0.56	0.00	-2.14	0.00	2.14	2,695.32	1,347.66	3,360.98	1,682.99	2.07	-0.15	0.003
121.30	-3.47	-0.52	0.00	-1.41	0.00	1.41	1,695.32	847.66	2,135.65	1,069.41	2.11	-0.15	0.003
124.00	0.00	-0.51	0.00	0.00	0.00	0.00	1,660.84	830.42	2,029.25	1,016.13	2.19	-0.15	0.000

Site Number: 383657-Monopole
 Site Name: Atlas Container, CT
 Customer: Verizon Wireless

Code: ANSI/TIA-222-G

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Engineering Number: 13000519_C3_04

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Load Case (0.9 - 0.2Sds) * DL + E ELMF

Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-30.43	-3.00	0.00	-273.04	0.00	273.04	6,074.67	3,037.34	17,390.5	8,708.20	0.00	0.00	0.036
5.00	-29.00	-2.99	0.00	-258.05	0.00	258.05	5,994.87	2,997.44	16,741.6	8,383.28	0.00	-0.01	0.036
10.00	-27.61	-2.98	0.00	-243.08	0.00	243.08	5,911.67	2,955.84	16,094.7	8,059.33	0.01	-0.01	0.035
15.00	-26.25	-2.96	0.00	-228.17	0.00	228.17	5,825.08	2,912.54	15,450.4	7,736.72	0.03	-0.02	0.034
20.00	-24.92	-2.93	0.00	-213.36	0.00	213.36	5,735.08	2,867.54	14,809.5	7,415.79	0.05	-0.03	0.033
25.00	-24.71	-2.93	0.00	-198.70	0.00	198.70	5,641.69	2,820.85	14,172.7	7,096.91	0.09	-0.03	0.032
25.84	-22.75	-2.87	0.00	-196.25	0.00	196.25	5,625.73	2,812.87	14,066.6	7,043.78	0.09	-0.03	0.032
30.00	-20.83	-2.80	0.00	-184.32	0.00	184.32	5,544.90	2,772.45	13,540.7	6,780.44	0.12	-0.04	0.031
34.17	-20.65	-2.79	0.00	-172.65	0.00	172.65	4,430.07	2,215.04	10,719.5	5,367.75	0.16	-0.05	0.037
35.00	-19.58	-2.74	0.00	-170.34	0.00	170.34	4,418.64	2,209.32	10,640.4	5,328.14	0.17	-0.05	0.036
40.00	-18.54	-2.69	0.00	-156.63	0.00	156.63	4,347.78	2,173.89	10,164.9	5,090.01	0.22	-0.05	0.035
45.00	-17.53	-2.63	0.00	-143.19	0.00	143.19	4,273.52	2,136.76	9,691.61	4,853.01	0.28	-0.06	0.034
50.00	-16.55	-2.56	0.00	-130.05	0.00	130.05	4,195.87	2,097.93	9,221.24	4,617.48	0.35	-0.07	0.032
55.00	-15.60	-2.48	0.00	-117.25	0.00	117.25	4,114.82	2,057.41	8,754.54	4,383.78	0.43	-0.08	0.031
60.00	-14.68	-2.40	0.00	-104.83	0.00	104.83	4,030.37	2,015.18	8,292.22	4,152.27	0.52	-0.09	0.029
65.00	-13.83	-2.32	0.00	-92.81	0.00	92.81	3,942.52	1,971.26	7,834.99	3,923.32	0.61	-0.09	0.027
69.76	-13.74	-2.31	0.00	-81.76	0.00	81.76	3,855.79	1,927.90	7,405.40	3,708.20	0.71	-0.10	0.026
70.00	-12.07	-2.13	0.00	-81.20	0.00	81.20	3,851.27	1,925.64	7,383.57	3,697.27	0.71	-0.10	0.025
75.00	-11.66	-2.09	0.00	-70.53	0.00	70.53	3,756.63	1,878.31	6,938.67	3,474.49	0.82	-0.11	0.023
76.26	-11.02	-2.01	0.00	-67.90	0.00	67.90	3,775.02	1,887.51	7,023.35	3,516.89	0.85	-0.11	0.022
80.00	-10.21	-1.91	0.00	-60.37	0.00	60.37	3,702.42	1,851.21	6,693.90	3,351.93	0.94	-0.11	0.021
85.00	-9.42	-1.80	0.00	-50.82	0.00	50.82	3,602.49	1,801.24	6,260.58	3,134.95	1.06	-0.12	0.019
90.00	-8.66	-1.69	0.00	-41.80	0.00	41.80	3,499.15	1,749.58	5,835.62	2,922.15	1.19	-0.13	0.017
95.00	-7.93	-1.58	0.00	-33.35	0.00	33.35	3,392.42	1,696.21	5,419.72	2,713.89	1.32	-0.13	0.015
100.00	-7.23	-1.46	0.00	-25.47	0.00	25.47	3,282.29	1,641.15	5,013.60	2,510.53	1.46	-0.14	0.012
105.00	-6.56	-1.34	0.00	-18.17	0.00	18.17	3,144.57	1,572.29	4,582.72	2,294.77	1.61	-0.14	0.010
110.00	-5.92	-1.22	0.00	-11.47	0.00	11.47	2,994.82	1,497.41	4,154.47	2,080.32	1.76	-0.14	0.007
115.00	-3.44	-0.73	0.00	-5.38	0.00	5.38	2,845.07	1,422.54	3,747.22	1,876.40	1.91	-0.15	0.004
116.71	-2.84	-0.61	0.00	-4.13	0.00	4.13	2,793.76	1,396.88	3,612.51	1,808.94	1.96	-0.15	0.003
120.00	-2.60	-0.56	0.00	-2.13	0.00	2.13	2,695.32	1,347.66	3,360.98	1,682.99	2.06	-0.15	0.002
121.30	-2.41	-0.52	0.00	-1.40	0.00	1.40	1,695.32	847.66	2,135.65	1,069.41	2.10	-0.15	0.003
124.00	0.00	-0.51	0.00	0.00	0.00	0.00	1,660.84	830.42	2,029.25	1,016.13	2.18	-0.15	0.000

Site Number: 383657-Monopole
 Site Name: Atlas Container, CT
 Customer: Verizon Wireless

Code: ANSI/TIA-222-G
 Engineering Number: 13000519_C3_04

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Equivalent Modal Analysis Method

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	1.08
Redundancy Factor (ρ):	1.30

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
31	122.65	228	1.849	1.771	1.064	0.377	74	282
30	120.65	270	1.789	1.490	0.959	0.340	80	335
29	118.36	703	1.722	1.207	0.849	0.301	183	871
28	115.86	227	1.650	0.941	0.740	0.262	52	282
27	112.50	743	1.556	0.648	0.612	0.214	138	921
26	107.50	778	1.420	0.324	0.453	0.153	103	964
25	102.50	812	1.291	0.109	0.329	0.106	74	1,006
24	97.50	846	1.168	-0.023	0.232	0.070	52	1,049
23	92.50	881	1.052	-0.093	0.159	0.046	35	1,091
22	87.50	915	0.941	-0.120	0.104	0.032	26	1,134
21	82.50	949	0.837	-0.118	0.065	0.027	22	1,176
20	78.13	733	0.750	-0.101	0.041	0.027	17	908
19	75.63	478	0.703	-0.088	0.030	0.028	12	593
18	72.50	1,946	0.646	-0.069	0.021	0.031	52	2,411
17	69.88	96	0.600	-0.053	0.015	0.033	3	119
16	67.38	987	0.558	-0.038	0.011	0.036	31	1,223
15	62.50	1,071	0.480	-0.009	0.006	0.041	38	1,327
14	57.50	1,106	0.406	0.016	0.006	0.044	42	1,370
13	52.50	1,140	0.339	0.036	0.009	0.045	45	1,412
12	47.50	1,174	0.277	0.050	0.014	0.045	46	1,455
11	42.50	1,208	0.222	0.060	0.020	0.043	45	1,497
10	37.50	1,243	0.173	0.066	0.027	0.041	44	1,540
9	34.58	210	0.147	0.068	0.031	0.039	7	260
8	32.08	2,224	0.127	0.070	0.033	0.038	72	2,755
7	27.92	2,272	0.096	0.071	0.038	0.035	69	2,815
6	25.42	253	0.079	0.072	0.040	0.034	7	314
5	22.50	1,538	0.062	0.072	0.041	0.032	43	1,906
4	17.50	1,578	0.038	0.070	0.041	0.029	40	1,955
3	12.50	1,618	0.019	0.064	0.038	0.026	36	2,005
2	7.50	1,658	0.007	0.049	0.028	0.020	28	2,055
1	2.50	1,698	0.001	0.022	0.012	0.009	13	2,104
Commscope CBC78T-	124.00	62	1.890	1.980	1.140	0.403	22	77
Samsung B2/B66A RRH-	124.00	253	1.890	1.980	1.140	0.403	88	314
Samsung B5/B13 RRH-B	124.00	253	1.890	1.980	1.140	0.403	88	314

RFS DB-T1-6Z-8AB-OZ	124.00	88	1.890	1.980	1.140	0.403	31	109
JMA Wireless DX12FRO	124.00	37	1.890	1.980	1.140	0.403	13	46
Antel LPA-80080/4CF	124.00	36	1.890	1.980	1.140	0.403	13	45
Commscope JAHH-65B-	124.00	570	1.890	1.980	1.140	0.403	199	706
Flat Low Profile Pla	124.00	1,500	1.890	1.980	1.140	0.403	523	1,859
Ericsson KRY 112 144	115.00	33	1.626	0.860	0.705	0.249	7	41
Ericsson Radio 4449	115.00	222	1.626	0.860	0.705	0.249	48	275
Ericsson AIR 21, 1.3	115.00	275	1.626	0.860	0.705	0.249	59	340
Ericsson AIR 21, 1.3	115.00	244	1.626	0.860	0.705	0.249	53	303
RFS APXVAARR24_43-U-	115.00	384	1.626	0.860	0.705	0.249	83	475
Flat Low Profile Pla	115.00	1,500	1.626	0.860	0.705	0.249	324	1,859
		37,042	45.880	27.562	19.418	7.318	3,079	45,896

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
31	122.65	228	1.849	1.771	1.064	0.377	74	196
30	120.65	270	1.789	1.490	0.959	0.340	80	233
29	118.36	703	1.722	1.207	0.849	0.301	183	605
28	115.86	227	1.650	0.941	0.740	0.262	52	196
27	112.50	743	1.556	0.648	0.612	0.214	138	640
26	107.50	778	1.420	0.324	0.453	0.153	103	670
25	102.50	812	1.291	0.109	0.329	0.106	74	699
24	97.50	846	1.168	-0.023	0.232	0.070	52	729
23	92.50	881	1.052	-0.093	0.159	0.046	35	758
22	87.50	915	0.941	-0.120	0.104	0.032	26	788
21	82.50	949	0.837	-0.118	0.065	0.027	22	817
20	78.13	733	0.750	-0.101	0.041	0.027	17	631
19	75.63	478	0.703	-0.088	0.030	0.028	12	412
18	72.50	1,946	0.646	-0.069	0.021	0.031	52	1,675
17	69.88	96	0.600	-0.053	0.015	0.033	3	83
16	67.38	987	0.558	-0.038	0.011	0.036	31	850
15	62.50	1,071	0.480	-0.009	0.006	0.041	38	922
14	57.50	1,106	0.406	0.016	0.006	0.044	42	952
13	52.50	1,140	0.339	0.036	0.009	0.045	45	981
12	47.50	1,174	0.277	0.050	0.014	0.045	46	1,011
11	42.50	1,208	0.222	0.060	0.020	0.043	45	1,040
10	37.50	1,243	0.173	0.066	0.027	0.041	44	1,070
9	34.58	210	0.147	0.068	0.031	0.039	7	180
8	32.08	2,224	0.127	0.070	0.033	0.038	72	1,915
7	27.92	2,272	0.096	0.071	0.038	0.035	69	1,956
6	25.42	253	0.079	0.072	0.040	0.034	7	218
5	22.50	1,538	0.062	0.072	0.041	0.032	43	1,324
4	17.50	1,578	0.038	0.070	0.041	0.029	40	1,359
3	12.50	1,618	0.019	0.064	0.038	0.026	36	1,393
2	7.50	1,658	0.007	0.049	0.028	0.020	28	1,428
1	2.50	1,698	0.001	0.022	0.012	0.009	13	1,462
Commscope CBC78T-	124.00	62	1.890	1.980	1.140	0.403	22	53
Samsung B2/B66A RRH-	124.00	253	1.890	1.980	1.140	0.403	88	218
Samsung B5/B13 RRH-B	124.00	253	1.890	1.980	1.140	0.403	88	218
RFS DB-T1-6Z-8AB-OZ	124.00	88	1.890	1.980	1.140	0.403	31	76
JMA Wireless DX12FRO	124.00	37	1.890	1.980	1.140	0.403	13	32
Antel LPA-80080/4CF	124.00	36	1.890	1.980	1.140	0.403	13	31
Commscope JAHH-65B-	124.00	570	1.890	1.980	1.140	0.403	199	490
Flat Low Profile Pla	124.00	1,500	1.890	1.980	1.140	0.403	523	1,291
Ericsson KRY 112 144	115.00	33	1.626	0.860	0.705	0.249	7	28
Ericsson Radio 4449	115.00	222	1.626	0.860	0.705	0.249	48	191
Ericsson AIR 21, 1.3	115.00	275	1.626	0.860	0.705	0.249	59	236

Site Number: 383657-Monopole

Code: ANSI/TIA-222-G

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Site Name: Atlas Container, CT

Engineering Number: 13000519_C3_04

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Customer: Verizon Wireless

Ericsson AIR 21, 1.3	115.00	244	1.626	0.860	0.705	0.249	53	211
RFS APXVAARR24_43-U-	115.00	384	1.626	0.860	0.705	0.249	83	330
Flat Low Profile Pla	115.00	1,500	1.626	0.860	0.705	0.249	324	1,291
		37,042	45.880	27.562	19.418	7.318	3,079	31,892

Site Number: 383657-Monopole
 Site Name: Atlas Container, CT
 Customer: Verizon Wireless

Code: ANSI/TIA-222-G

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Engineering Number: 13000519_C3_04

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Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-43.79	-3.07	0.00	-308.50	0.00	308.50	6,074.67	3,037.34	17,390.55	8,708.20	0.00	0.00	0.043
5.00	-41.74	-3.05	0.00	-293.15	0.00	293.15	5,994.87	2,997.44	16,741.68	8,383.28	0.00	-0.01	0.042
10.00	-39.73	-3.01	0.00	-277.92	0.00	277.92	5,911.67	2,955.84	16,094.74	8,059.33	0.02	-0.01	0.041
15.00	-37.78	-2.98	0.00	-262.85	0.00	262.85	5,825.08	2,912.54	15,450.47	7,736.72	0.04	-0.02	0.040
20.00	-35.87	-2.94	0.00	-247.95	0.00	247.95	5,735.08	2,867.54	14,809.57	7,415.79	0.06	-0.03	0.040
25.00	-35.56	-2.94	0.00	-233.25	0.00	233.25	5,641.69	2,820.85	14,172.76	7,096.91	0.10	-0.04	0.039
25.84	-32.74	-2.87	0.00	-230.80	0.00	230.80	5,625.73	2,812.87	14,066.65	7,043.78	0.10	-0.04	0.039
30.00	-29.98	-2.80	0.00	-218.86	0.00	218.86	5,544.90	2,772.45	13,540.74	6,780.44	0.14	-0.05	0.038
34.17	-29.72	-2.79	0.00	-207.21	0.00	207.21	4,430.07	2,215.04	10,719.57	5,367.75	0.19	-0.05	0.045
35.00	-28.18	-2.75	0.00	-204.89	0.00	204.89	4,418.64	2,209.32	10,640.47	5,328.14	0.19	-0.05	0.045
40.00	-26.69	-2.71	0.00	-191.15	0.00	191.15	4,347.78	2,173.89	10,164.92	5,090.01	0.26	-0.06	0.044
45.00	-25.23	-2.66	0.00	-177.62	0.00	177.62	4,273.52	2,136.76	9,691.61	4,853.01	0.33	-0.07	0.043
50.00	-23.82	-2.62	0.00	-164.31	0.00	164.31	4,195.87	2,097.93	9,221.24	4,617.48	0.41	-0.08	0.041
55.00	-22.45	-2.58	0.00	-151.21	0.00	151.21	4,114.82	2,057.41	8,754.54	4,383.78	0.50	-0.09	0.040
60.00	-21.12	-2.54	0.00	-138.32	0.00	138.32	4,030.37	2,015.18	8,292.22	4,152.27	0.60	-0.10	0.039
65.00	-19.90	-2.51	0.00	-125.60	0.00	125.60	3,942.52	1,971.26	7,834.99	3,923.32	0.72	-0.11	0.037
69.76	-19.78	-2.51	0.00	-113.65	0.00	113.65	3,855.79	1,927.90	7,405.40	3,708.20	0.83	-0.12	0.036
70.00	-17.37	-2.46	0.00	-113.04	0.00	113.04	3,851.27	1,925.64	7,383.57	3,697.27	0.84	-0.12	0.035
75.00	-16.77	-2.45	0.00	-100.76	0.00	100.76	3,756.63	1,878.31	6,938.67	3,474.49	0.97	-0.13	0.033
76.26	-15.87	-2.43	0.00	-97.68	0.00	97.68	3,775.02	1,887.51	7,023.35	3,516.89	1.01	-0.13	0.032
80.00	-14.69	-2.40	0.00	-88.60	0.00	88.60	3,702.42	1,851.21	6,693.90	3,351.93	1.12	-0.14	0.030
85.00	-13.56	-2.38	0.00	-76.57	0.00	76.57	3,602.49	1,801.24	6,260.58	3,134.95	1.27	-0.15	0.028
90.00	-12.46	-2.34	0.00	-64.68	0.00	64.68	3,499.15	1,749.58	5,835.62	2,922.15	1.44	-0.16	0.026
95.00	-11.42	-2.29	0.00	-52.97	0.00	52.97	3,392.42	1,696.21	5,419.72	2,713.89	1.61	-0.17	0.023
100.00	-10.41	-2.21	0.00	-41.53	0.00	41.53	3,282.29	1,641.15	5,013.60	2,510.53	1.79	-0.18	0.020
105.00	-9.45	-2.11	0.00	-30.46	0.00	30.46	3,144.57	1,572.29	4,582.72	2,294.77	1.98	-0.18	0.016
110.00	-8.52	-1.97	0.00	-19.93	0.00	19.93	2,994.82	1,497.41	4,154.47	2,080.32	2.17	-0.19	0.012
115.00	-4.95	-1.33	0.00	-10.09	0.00	10.09	2,845.07	1,422.54	3,747.22	1,876.40	2.37	-0.19	0.007
116.71	-4.08	-1.14	0.00	-7.81	0.00	7.81	2,793.76	1,396.88	3,612.51	1,808.94	2.44	-0.19	0.006
120.00	-3.75	-1.06	0.00	-4.05	0.00	4.05	2,695.32	1,347.66	3,360.98	1,682.99	2.57	-0.19	0.004
121.30	-3.46	-0.99	0.00	-2.67	0.00	2.67	1,695.32	847.66	2,135.65	1,069.41	2.63	-0.19	0.005
124.00	0.00	-0.98	0.00	0.00	0.00	0.00	1,660.84	830.42	2,029.25	1,016.13	2.74	-0.19	0.000

Site Number: 383657-Monopole
 Site Name: Atlas Container, CT
 Customer: Verizon Wireless

Code: ANSI/TIA-222-G
 Engineering Number: 13000519_C3_04

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Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-30.43	-3.07	0.00	-307.42	0.00	307.42	6,074.67	3,037.34	17,390.55	8,708.20	0.00	0.00	0.040
5.00	-29.00	-3.04	0.00	-292.08	0.00	292.08	5,994.87	2,997.44	16,741.68	8,383.28	0.00	-0.01	0.040
10.00	-27.61	-3.01	0.00	-276.86	0.00	276.86	5,911.67	2,955.84	16,094.74	8,059.33	0.02	-0.01	0.039
15.00	-26.25	-2.97	0.00	-261.81	0.00	261.81	5,825.08	2,912.54	15,450.47	7,736.72	0.03	-0.02	0.038
20.00	-24.92	-2.93	0.00	-246.94	0.00	246.94	5,735.08	2,867.54	14,809.57	7,415.79	0.06	-0.03	0.038
25.00	-24.71	-2.93	0.00	-232.27	0.00	232.27	5,641.69	2,820.85	14,172.76	7,096.91	0.10	-0.04	0.037
25.84	-22.75	-2.86	0.00	-229.82	0.00	229.82	5,625.73	2,812.87	14,066.65	7,043.78	0.10	-0.04	0.037
30.00	-20.83	-2.79	0.00	-217.92	0.00	217.92	5,544.90	2,772.45	13,540.74	6,780.44	0.14	-0.05	0.036
34.17	-20.65	-2.78	0.00	-206.29	0.00	206.29	4,430.07	2,215.04	10,719.57	5,367.75	0.18	-0.05	0.043
35.00	-19.58	-2.74	0.00	-203.98	0.00	203.98	4,418.64	2,209.32	10,640.47	5,328.14	0.19	-0.05	0.043
40.00	-18.54	-2.70	0.00	-190.29	0.00	190.29	4,347.78	2,173.89	10,164.92	5,090.01	0.26	-0.06	0.042
45.00	-17.53	-2.65	0.00	-176.81	0.00	176.81	4,273.52	2,136.76	9,691.61	4,853.01	0.33	-0.07	0.041
50.00	-16.55	-2.61	0.00	-163.55	0.00	163.55	4,195.87	2,097.93	9,221.24	4,617.48	0.41	-0.08	0.039
55.00	-15.60	-2.57	0.00	-150.51	0.00	150.51	4,114.82	2,057.41	8,754.54	4,383.78	0.50	-0.09	0.038
60.00	-14.67	-2.53	0.00	-137.67	0.00	137.67	4,030.37	2,015.18	8,292.22	4,152.27	0.60	-0.10	0.037
65.00	-13.82	-2.50	0.00	-125.02	0.00	125.02	3,942.52	1,971.26	7,834.99	3,923.32	0.71	-0.11	0.035
69.76	-13.74	-2.50	0.00	-113.13	0.00	113.13	3,855.79	1,927.90	7,405.40	3,708.20	0.83	-0.12	0.034
70.00	-12.07	-2.44	0.00	-112.52	0.00	112.52	3,851.27	1,925.64	7,383.57	3,697.27	0.84	-0.12	0.034
75.00	-11.65	-2.43	0.00	-100.30	0.00	100.30	3,756.63	1,878.31	6,938.67	3,474.49	0.97	-0.13	0.032
76.26	-11.02	-2.42	0.00	-97.24	0.00	97.24	3,775.02	1,887.51	7,023.35	3,516.89	1.01	-0.13	0.031
80.00	-10.21	-2.39	0.00	-88.20	0.00	88.20	3,702.42	1,851.21	6,693.90	3,351.93	1.11	-0.14	0.029
85.00	-9.42	-2.37	0.00	-76.23	0.00	76.23	3,602.49	1,801.24	6,260.58	3,134.95	1.27	-0.15	0.027
90.00	-8.66	-2.33	0.00	-64.39	0.00	64.39	3,499.15	1,749.58	5,835.62	2,922.15	1.43	-0.16	0.025
95.00	-7.93	-2.28	0.00	-52.74	0.00	52.74	3,392.42	1,696.21	5,419.72	2,713.89	1.60	-0.17	0.022
100.00	-7.23	-2.20	0.00	-41.35	0.00	41.35	3,282.29	1,641.15	5,013.60	2,510.53	1.78	-0.18	0.019
105.00	-6.56	-2.10	0.00	-30.34	0.00	30.34	3,144.57	1,572.29	4,582.72	2,294.77	1.97	-0.18	0.015
110.00	-5.92	-1.96	0.00	-19.85	0.00	19.85	2,994.82	1,497.41	4,154.47	2,080.32	2.16	-0.19	0.012
115.00	-3.44	-1.33	0.00	-10.05	0.00	10.05	2,845.07	1,422.54	3,747.22	1,876.40	2.36	-0.19	0.007
116.71	-2.83	-1.14	0.00	-7.78	0.00	7.78	2,793.76	1,396.88	3,612.51	1,808.94	2.43	-0.19	0.005
120.00	-2.60	-1.06	0.00	-4.04	0.00	4.04	2,695.32	1,347.66	3,360.98	1,682.99	2.56	-0.19	0.003
121.30	-2.41	-0.98	0.00	-2.66	0.00	2.66	1,695.32	847.66	2,135.65	1,069.41	2.62	-0.19	0.004
124.00	0.00	-0.98	0.00	0.00	0.00	0.00	1,660.84	830.42	2,029.25	1,016.13	2.73	-0.19	0.000

Site Number: 383657-Monopole

Code: ANSI/TIA-222-G

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Site Name: Atlas Container, CT

Engineering Number: 13000519_C3_04

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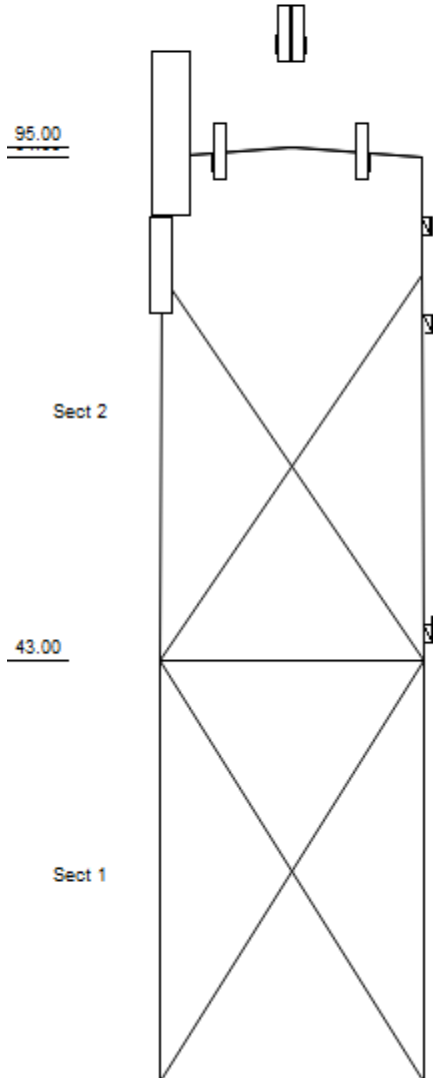
Customer: Verizon Wireless

Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	18.80	0.00	44.44	0.00	0.00	1604.81	34.17	0.19
0.9D + 1.6W	18.80	0.00	33.33	0.00	0.00	1600.32	34.17	0.19
1.2D + 1.0Di + 1.0Wi	7.29	0.00	70.05	0.00	0.00	670.91	34.17	0.09
(1.2 + 0.2Sds) * DL + E ELFM	3.00	0.00	43.79	0.00	0.00	273.93	34.17	0.04
(1.2 + 0.2Sds) * DL + E EMAM	3.07	0.00	43.79	0.00	0.00	308.50	34.17	0.05
(0.9 - 0.2Sds) * DL + E ELFM	3.00	0.00	30.43	0.00	0.00	273.04	34.17	0.04
(0.9 - 0.2Sds) * DL + E EMAM	3.07	0.00	30.43	0.00	0.00	307.42	34.17	0.04
1.0D + 1.0W	4.02	0.00	37.04	0.00	0.00	342.71	34.17	0.05

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Loads: 97 mph no ice
 50 mph w/ 3/4" radial ice
 Site Class: D Ss: 0.18 S1: 0.06
 60 mph Serviceability



Job Information			
Client : VERIZON WIRELSS			
Tower : 383657-Tower	Location : Atlas Container,	Base Width : 27.00 ft	
Code : ANSI/TIA-222-G		Top Width : 1.00 ft	
		Tower Ht : 95.00 ft	
		Shape : Square	

Sections Properties			
Section	Leg Members	Diagonal Members	Horizontal Members
1	PSP 36 ksi 22" OD x 0.3125"	SOL 36 ksi 1 1/4" SOLID	W 50 ksi W8x24
2	PSP 36 ksi 22" OD x 0.3125"	SOL 36 ksi 1 1/8" SOLID	
3	PSP 36 ksi 22" OD x 0.3125"	CHN 36 ksi C8 x 11.5	CHN 50 ksi C8 x 11.5

Discrete Appurtenance			
Elev (ft)	Type	Qty	Description
106.50	Panel	3	Samsung SPI-2213825WB
106.50	Panel	3	Alcatel-Lucent 800MHz RRH w/ T
106.50	Panel	3	Alcatel-Lucent RRH4x45-1900
106.50	Panel	3	Argus LLPX310R-V1
106.50	Panel	3	RFS APXVSP18
94.50	Panel	3	Strikesorb 10.25"x10.25"x6.25"
94.50	Panel	3	Ericsson RRUS 11 Band 12
94.50	Panel	6	Powerwave LGP139nn
94.50	Panel	3	CCI TMA 11" x 11" x 3.5"
94.50	Dish	1	2' Std. Dish
94.50	Panel	6	KMW AM-X-CD-16-65-00T-RET
94.50	Panel	3	Kathrein 800 10121
88.00	Panel	1	Water Tank
78.00	Panel	1	Water Tank
46.50	Whip	1	GPS

Linear Appurtenance			
Elev (ft)	From	To	Qty Description
	0.00	114.00	1 Climbing Ladder
	0.00	106.50	2 2" Conduit
	0.00	106.50	3 1 1/4" Hybriflex
	0.00	94.50	1 3/8" Coax
	0.00	94.50	2 3/4" Conduit
	0.00	94.50	12 1 5/8" Coax
	0.00	46.50	1 1/2" Coax

Global Base Foundation Design Loads			
Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL + WL	2,426.82	91.90	33.93
DL + WL + IL	748.41	148.93	10.81

Individual Base Foundation Design Loads		
Vertical (kip)	Uplift (kip)	Horizontal (kip)
86.09	44.67	15.26

Site Number: 383657-Tower
Site Name: Atlas Container, CT
Customer: VERIZON WIRELSS

Code: ANSI/TIA-222-G
Engineering Number: 13000519_C3_04

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Analysis Parameters

Location:	New Haven County, CT	Height (ft):	95
Code:	ANSI/TIA-222-G	Base Elevation (ft):	0.00
Shape:	Square	Bottom Face Width (ft):	27.00
Tower Manufacturer:		Top Face Width (ft):	1.00
Tower Type:	Self Support	Anchor Bolt Detail Type	b
Kd:			
Ke:			

Ice & Wind Parameters

Structure Class:	II	Design Windspeed Without Ice:	97 mph
Exposure Category:	B	Design Windspeed With Ice:	50 mph
Topographic Category:	1	Operational Windspeed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.75 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods				
Site Class:	D - Stiff Soil				
Period Based on Rayleigh Method (sec):	0.75				
T_L (sec):	6	p:	1.3	C_S :	0.045
S_S :	0.183	S_1 :	0.063	$C_{S, Max}$:	0.045
F_a :	1.600	F_v :	2.400	$C_{S, Min}$:	0.030
S_{ds} :	0.195	S_{d1} :	0.101		

Load Cases

1.2D + 1.6W Normal	97 mph Normal with No Ice
1.2D + 1.6W 45 deg	97 mph 45 degree with No Ice
0.9D + 1.6W Normal	97 mph Normal with No Ice (Reduced DL)
0.9D + 1.6W 45 deg	97 mph 45 deg with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	50 mph Normal with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 45 deg	50 mph 45 deg with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E Normal	Seismic Normal
(1.2 + 0.2Sds) * DL + E 45 deg	Seismic 45 deg
(0.9 - 0.2Sds) * DL + E Normal	Seismic (Reduced DL) Normal
(0.9 - 0.2Sds) * DL + E 45 deg	Seismic (Reduced DL) 45 deg
1.0D + 1.0W Service Normal	Serviceability - 60 mph Wind Normal
1.0D + 1.0W Service 45 deg	Serviceability - 60 mph Wind 45 deg

Site Number: 383657-Tower
 Site Name: Atlas Container, CT
 Customer: VERIZON WIRELESS

Code: ANSI/TIA-222-G
 Engineering Number: 13000519_C3_04

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Tower Loading

Discrete Appurtenance Properties 1.2D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
106.5	Samsung SPI-	3	33	1.8	1.3	11.6	6.0	1.00	0.67	0.0	0.0	20.60	102	119
106.5	Alcatel-Lucent	3	64	2.2	1.3	14.0	13.0	1.00	0.67	0.0	0.0	20.60	121	230
106.5	Alcatel-Lucent	3	60	2.8	2.1	11.1	11.4	1.00	0.67	0.0	0.0	20.60	157	216
106.5	Argus LLPX310R-V1	3	29	4.8	3.5	11.8	4.5	1.00	0.67	0.0	0.0	20.60	272	103
106.5	RFS APXVSPP18	3	57	8.3	6.0	11.8	7.0	1.00	0.67	0.0	0.0	20.60	465	205
94.50	Powerwave	6	10	0.6	0.8	6.7	3.2	1.00	0.67	0.0	0.0	19.91	64	71
94.50	Strikesorb	3	11	1.0	0.9	10.4	4.9	1.00	0.67	0.0	0.0	19.91	57	40
94.50	CCI TMA 11" x 11" x	3	39	1.7	1.1	13.6	11.0	1.00	0.67	0.0	0.0	19.91	94	140
94.50	Ericsson RRUS 11	3	55	2.9	1.5	17.0	7.2	1.00	0.67	0.0	0.0	19.91	160	198
94.50	2' Std. Dish	1	14	5.2	2.0	0.0	0.0	1.00	0.67	0.0	0.0	19.91	95	17
94.50	Kathrein 800 10121	3	44	5.5	4.5	10.3	5.9	1.00	0.67	0.0	0.0	19.91	297	159
94.50	KMW AM-X-CD-16-	6	49	8.3	6.0	11.8	5.9	1.00	0.67	0.0	0.0	19.91	899	349
88.00	Water Tank	1	23743	330.7	17.0	320.9	0.3	1.00	1.00	8.5	76558.4	20.03	9007	28492
78.00	Water Tank	1	8629	165.3	10.0	320.9	0.3	1.00	1.00	5.0	21567.6	19.18	4314	10355
46.50	GPS	1	10	1.0	1.0	9.0	6.0	1.00	0.67	0.5	7.4	16.31	15	12
Totals		43	33922	648.4									16119	40706

Discrete Appurtenance Properties 0.9D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
106.5	Samsung SPI-	3	33	1.8	1.3	11.6	6.0	1.00	0.67	0.0	0.0	20.60	102	89
106.5	Alcatel-Lucent	3	64	2.2	1.3	14.0	13.0	1.00	0.67	0.0	0.0	20.60	121	173
106.5	Alcatel-Lucent	3	60	2.8	2.1	11.1	11.4	1.00	0.67	0.0	0.0	20.60	157	162
106.5	Argus LLPX310R-V1	3	29	4.8	3.5	11.8	4.5	1.00	0.67	0.0	0.0	20.60	272	77
106.5	RFS APXVSPP18	3	57	8.3	6.0	11.8	7.0	1.00	0.67	0.0	0.0	20.60	465	154
94.50	Powerwave	6	10	0.6	0.8	6.7	3.2	1.00	0.67	0.0	0.0	19.91	64	53
94.50	Strikesorb	3	11	1.0	0.9	10.4	4.9	1.00	0.67	0.0	0.0	19.91	57	30
94.50	CCI TMA 11" x 11" x	3	39	1.7	1.1	13.6	11.0	1.00	0.67	0.0	0.0	19.91	94	105
94.50	Ericsson RRUS 11	3	55	2.9	1.5	17.0	7.2	1.00	0.67	0.0	0.0	19.91	160	149
94.50	2' Std. Dish	1	14	5.2	2.0	0.0	0.0	1.00	0.67	0.0	0.0	19.91	95	13
94.50	Kathrein 800 10121	3	44	5.5	4.5	10.3	5.9	1.00	0.67	0.0	0.0	19.91	297	119
94.50	KMW AM-X-CD-16-	6	49	8.3	6.0	11.8	5.9	1.00	0.67	0.0	0.0	19.91	899	262
88.00	Water Tank	1	23743	330.7	17.0	320.9	0.3	1.00	1.00	8.5	76558.4	20.03	9007	21369
78.00	Water Tank	1	8629	165.3	10.0	320.9	0.3	1.00	1.00	5.0	21567.6	19.18	4314	7766
46.50	GPS	1	10	1.0	1.0	9.0	6.0	1.00	0.67	0.5	7.4	16.31	15	9
Totals		43	33922	648.4									16119	30529

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elevation (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
106.5	Samsung SPI-	3	85	2.1	1.3	11.6	6.0	1.00	0.67	0.0	0.0	5.47	19	273
106.5	Alcatel-Lucent	3	146	2.4	1.3	14.0	13.0	1.00	0.67	0.0	0.0	5.47	22	478
106.5	Alcatel-Lucent	3	140	4.0	2.1	11.1	11.4	1.00	0.67	0.0	0.0	5.47	37	456
106.5	Argus LLPX310R-V1	3	130	5.1	3.5	11.8	4.5	1.00	0.67	0.0	0.0	5.47	48	409
106.5	RFS APXVSPP18	3	246	9.3	6.0	11.8	7.0	1.00	0.67	0.0	0.0	5.47	87	772
94.50	Powerwave	6	29	0.8	0.8	6.7	3.2	1.00	0.67	0.0	0.0	5.29	14	185
94.50	Strikesorb	3	43	1.3	0.9	10.4	4.9	1.00	0.67	0.0	0.0	5.29	12	135
94.50	CCI TMA 11" x 11" x	3	102	1.9	1.1	13.6	11.0	1.00	0.67	0.0	0.0	5.29	18	329

Site Number: 383657-Tower
 Site Name: Atlas Container, CT
 Customer: VERIZON WIRELSS

Code: ANSI/TIA-222-G
 Engineering Number: 13000519_C3_04

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Tower Loading

94.50	Ericsson RRUS 11	3	128	3.1	1.5	17.0	7.2	1.00	0.67	0.0	0.0	5.29	28	417
94.50	2' Std. Dish	1	65	6.7	2.0	0.0	0.0	1.00	0.67	0.0	0.0	5.29	20	68
94.50	Kathrein 800 10121	3	168	6.1	4.5	10.3	5.9	1.00	0.67	0.0	0.0	5.29	55	530
94.50	KMW AM-X-CD-16-	6	220	9.2	6.0	11.8	5.9	1.00	0.67	0.0	0.0	5.29	166	1381
88.00	Water Tank	1	30782	553.7	17.0	320.9	0.3	1.00	1.00	8.5	21289.8	5.32	2505	35530
78.00	Water Tank	1	12818	327.8	10.0	320.9	0.3	1.00	1.00	5.0	7101.6	5.10	1420	14544
46.50	GPS	1	40	0.9	1.0	9.0	6.0	1.00	0.67	0.5	1.1	4.33	2	42
	Totals	43	48765	1055.0									4454	55549

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	O _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
106.5	Samsung SPI-	3	33	1.8	1.3	11.6	6.0	1.00	0.67	0.0	0.0	7.88	25	99
106.5	Alcatel-Lucent	3	64	2.2	1.3	14.0	13.0	1.00	0.67	0.0	0.0	7.88	29	192
106.5	Alcatel-Lucent	3	60	2.8	2.1	11.1	11.4	1.00	0.67	0.0	0.0	7.88	37	180
106.5	Argus LLPX310R-V1	3	29	4.8	3.5	11.8	4.5	1.00	0.67	0.0	0.0	7.88	65	86
106.5	RFS APXVSP18	3	57	8.3	6.0	11.8	7.0	1.00	0.67	0.0	0.0	7.88	111	171
94.50	Powerwave	6	10	0.6	0.8	6.7	3.2	1.00	0.67	0.0	0.0	7.62	15	59
94.50	Strikesorb	3	11	1.0	0.9	10.4	4.9	1.00	0.67	0.0	0.0	7.62	14	33
94.50	CCI TMA 11" x 11" x	3	39	1.7	1.1	13.6	11.0	1.00	0.67	0.0	0.0	7.62	22	117
94.50	Ericsson RRUS 11	3	55	2.9	1.5	17.0	7.2	1.00	0.67	0.0	0.0	7.62	38	165
94.50	2' Std. Dish	1	14	5.2	2.0	0.0	0.0	1.00	0.67	0.0	0.0	7.62	23	14
94.50	Kathrein 800 10121	3	44	5.5	4.5	10.3	5.9	1.00	0.67	0.0	0.0	7.62	71	132
94.50	KMW AM-X-CD-16-	6	49	8.3	6.0	11.8	5.9	1.00	0.67	0.0	0.0	7.62	215	291
88.00	Water Tank	1	23743	330.7	17.0	320.9	0.3	1.00	1.00	8.5	18307.6	7.66	2154	23743
78.00	Water Tank	1	8629	165.3	10.0	320.9	0.3	1.00	1.00	5.0	5157.5	7.34	1032	8629
46.50	GPS	1	10	1.0	1.0	9.0	6.0	1.00	0.67	0.5	1.8	6.24	4	10
	Totals	43	33922	648.4									3854	33922

Site Number: 383657-Tower
 Site Name: Atlas Container, CT
 Customer: VERIZON WIRELSS

Code: ANSI/TIA-222-G
 Engineering Number: 13000519_C3_04

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Tower Loading

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	114.0	Climbing Ladder	1	2.00	6.90	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	106.5	1 1/4" Hybriflex	3	1.54	1.00	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	106.5	2" Conduit	2	2.38	3.65	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	94.50	1 5/8" Coax	12	1.98	0.82	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	94.50	3/4" Conduit	2	1.05	1.13	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	94.50	3/8" Coax	1	0.44	0.08	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	46.50	1/2" Coax	1	0.63	0.15	0	3	Individual	0.00	N	1.00	1.00	0.00

Site Number: 383657-Tower
 Site Name: Atlas Container, CT
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Equivalent Lateral Force Method

(Based on ASCE7-10 Chapters 11, 12 & 15)

Spectral Response Acceleration for Short Period (S_s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L - Seconds):	6
Importance Factor (I_p):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.04
Upper Limit C_s :	0.04
Lower Limit C_s :	0.03
Period based on Rayleigh Method (sec):	0.75
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.13
Total Unfactored Dead Load:	76.58 k
Seismic Base Shear (E):	4.45 k

LoadCase (1.2 + 0.2Sds) * DL + E

Seismic

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
3	94.50	7,095	1,188,45	0.134	594	8,791
2	68.50	17,559	2,047,43	0.230	1,024	21,757
1	21.50	18,007	569,581	0.064	285	22,311
Samsung SPI-2213825WB	95.00	99	16,732	0.002	8	123
Alcatel-Lucent 800MHz RRH w/ Type 1	95.00	192	32,352	0.004	16	238
Alcatel-Lucent RRH4x45-1900	95.00	180	30,330	0.003	15	223
Argus LLPX310R-V1	95.00	86	14,457	0.002	7	106
RFS APXVSP18	95.00	171	28,814	0.003	14	212
Powerwave LGP139nn	94.50	59	9,950	0.001	5	74
Strikesorb 10.25"x10.25"x6.25"	94.50	33	5,528	0.001	3	41
CCI TMA 11" x 11" x 3.5"	94.50	117	19,598	0.002	10	145
Ericsson RRUS 11 Band 12	94.50	165	27,638	0.003	14	204
2' Std. Dish	94.50	14	2,345	0.000	1	17
Kathrein 800 10121	94.50	132	22,161	0.002	11	164
KMW AM-X-CD-16-65-00T-RET	94.50	291	48,744	0.005	24	361
Water Tank	88.00	23,743	3,670,43	0.412	1,835	29,419
Water Tank	78.00	8,629	1,164,53	0.131	582	10,691
GPS	46.50	10	754	0.000	0	12
		76,583	8,899,838	1.000	4,450	94,889

LoadCase (0.9 - 0.2Sds) * DL + E

Seismic (Reduced DL)

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
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Site Number: 383657-Tower
 Site Name: Atlas Container, CT
 Customer: VERIZON WIRELSS

Code: ANSI/TIA-222-G
 Engineering Number: 13000519_C3_04

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Equivalent Lateral Force Method

3	94.50	7,095	1,188,45	0.134	594	6,109
2	68.50	17,559	2,047,43	0.230	1,024	15,118
1	21.50	18,007	569,581	0.064	285	15,503
Samsung SPI-2213825WB	95.00	99	16,732	0.002	8	85
Alcatel-Lucent 800MHz RRH w/ Type 1	95.00	192	32,352	0.004	16	165
Alcatel-Lucent RRH4x45-1900	95.00	180	30,330	0.003	15	155
Argus LLPX310R-V1	95.00	86	14,457	0.002	7	74
RFS APXVSP18	95.00	171	28,814	0.003	14	147
Powerwave LGP139nn	94.50	59	9,950	0.001	5	51
Strikesorb 10.25"x10.25"x6.25"	94.50	33	5,528	0.001	3	28
CCI TMA 11" x 11" x 3.5"	94.50	117	19,598	0.002	10	101
Ericsson RRUS 11 Band 12	94.50	165	27,638	0.003	14	142
2' Std. Dish	94.50	14	2,345	0.000	1	12
Kathrein 800 10121	94.50	132	22,161	0.002	11	114
KMW AM-X-CD-16-65-00T-RET	94.50	291	48,744	0.005	24	251
Water Tank	88.00	23,743	3,670,43	0.412	1,835	20,442
Water Tank	78.00	8,629	1,164,53	0.131	582	7,429
GPS	46.50	10	754	0.000	0	9
		76,583	8,899,838	1.000	4,450	65,935

Site Number: 383657-Tower
 Site Name: Atlas Container, CT
 Customer: VERIZON WIRELSS

Code: ANSI/TIA-222-G
 Engineering Number: 13000519_C3_04

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Equivalent Modal Analysis Method

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_{s1}):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_{s1}):	0.06
Importance Factor (I_p):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	0.75
Redundancy Factor (ρ):	1.30

LoadCase (1.2 + 0.2Sds) * DL + E

Seismic

Section	Height Above Base (ft)	Weight (lb)	a	b	c	S_{az}	Horizontal Force (lb)	Vertical Force (lb)
3	94.50	7,095	1.870	1.877	1.103	0.429	1,320	8,791
2	68.50	17,559	0.983	-0.114	0.123	0.089	674	21,757
1	21.50	18,007	0.097	0.071	0.038	0.032	249	22,311
Samsung SPI-2213825WB	95.00	99	1.890	1.980	1.140	0.442	19	123
Alcatel-Lucent 800MHz RRH w/	95.00	192	1.890	1.980	1.140	0.442	37	238
Alcatel-Lucent RRH4x45-1900	95.00	180	1.890	1.980	1.140	0.442	34	223
Argus LLPX310R-V1	95.00	86	1.890	1.980	1.140	0.442	16	106
RFS APXVSP18	95.00	171	1.890	1.980	1.140	0.442	33	212
Powerwave LGP139nn	94.50	59	1.870	1.877	1.103	0.429	11	74
Strikesorb 10.25"x10.25"x6.25"	94.50	33	1.870	1.877	1.103	0.429	6	41
CCI TMA 11" x 11" x 3.5"	94.50	117	1.870	1.877	1.103	0.429	22	145
Ericsson RRUS 11 Band 12	94.50	165	1.870	1.877	1.103	0.429	31	204
2' Std. Dish	94.50	14	1.870	1.877	1.103	0.429	3	17
Kathrein 800 10121	94.50	132	1.870	1.877	1.103	0.429	25	164
KMW AM-X-CD-16-65-00T-RET	94.50	291	1.870	1.877	1.103	0.429	54	361
Water Tank	88.00	23,743	1.622	0.847	0.700	0.291	2,992	29,419
Water Tank	78.00	8,629	1.274	0.086	0.314	0.151	566	10,691
GPS	46.50	10	0.453	0.001	0.006	0.061	0	12
		76,583	28.839	25.807	15.702	6.265	6,092	94,889

LoadCase (0.9 - 0.2Sds) * DL + E

Seismic (Reduced DL)

Section	Height Above Base (ft)	Weight (lb)	a	b	c	S_{az}	Horizontal Force (lb)	Vertical Force (lb)
3	94.50	7,095	1.870	1.877	1.103	0.429	1,320	6,109
2	68.50	17,559	0.983	-0.114	0.123	0.089	674	15,118
1	21.50	18,007	0.097	0.071	0.038	0.032	249	15,503
Samsung SPI-2213825WB	95.00	99	1.890	1.980	1.140	0.442	19	85
Alcatel-Lucent 800MHz RRH w/	95.00	192	1.890	1.980	1.140	0.442	37	165
Alcatel-Lucent RRH4x45-1900	95.00	180	1.890	1.980	1.140	0.442	34	155
Argus LLPX310R-V1	95.00	86	1.890	1.980	1.140	0.442	16	74
RFS APXVSP18	95.00	171	1.890	1.980	1.140	0.442	33	147
Powerwave LGP139nn	94.50	59	1.870	1.877	1.103	0.429	11	51
Strikesorb 10.25"x10.25"x6.25"	94.50	33	1.870	1.877	1.103	0.429	6	28
CCI TMA 11" x 11" x 3.5"	94.50	117	1.870	1.877	1.103	0.429	22	101
Ericsson RRUS 11 Band 12	94.50	165	1.870	1.877	1.103	0.429	31	142
2' Std. Dish	94.50	14	1.870	1.877	1.103	0.429	3	12
Kathrein 800 10121	94.50	132	1.870	1.877	1.103	0.429	25	114

Site Number: 383657-Tower
Site Name: Atlas Container, CT
Customer: VERIZON WIRELSS

Code: ANSI/TIA-222-G
Engineering Number: 13000519_C3_04

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Equivalent Modal Analysis Method

KMW AM-X-CD-16-65-00T-RET	94.50	291	1.870	1.877	1.103	0.429	54	251
Water Tank	88.00	23,743	1.622	0.847	0.700	0.291	2,992	20,442
Water Tank	78.00	8,629	1.274	0.086	0.314	0.151	566	7,429
GPS	46.50	10	0.453	0.001	0.006	0.061	0	9
		76,583	28.839	25.807	15.702	6.265	6,092	65,935

Force/Stress Summary

Section: 1		1		Bot Elev (ft): 0.00				Height (ft): 43.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PSP - 22" OD x 0.312	-83.39	1.2D + 1.6W 45 deg	43.00	100	100	100	67.3	36.0	543.53	0	0	0.00	0.00	15 Member X
HORIZ	W - W8x24	-16.07	1.2D + 1.6W Normal	26.88	100	100	100	200.4	50.0	39.85	0	0	0.00	0.00	40 Member Y
DIAG	SOL - 1 1/4" SOLID	-0.14	1.2D + 1.0Di + 1.0Wi	50.74	50	50	50	974.3	36.0	0.29	0	0	0.00	0.00	Member X

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	PSP - 22" OD x 0.312	15.11	0.9D + 1.6W 45 deg	36	58	689.85	0	0	0.00	0.00		2	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SOL - 1 1/4" SOLID	25.58	1.2D + 1.6W Normal	36	58	39.76	0	0	0.00	0.00	0.00	64	Member

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		15.08	0.9D + 1.6W 45 deg	0.00	0	0	
Top Compression		52.56	1.2D + 1.6W 45 deg	0.00	0		
Bot Tension		46.74	0.9D + 1.6W 45 deg	379.89	17	2	1 3/4 A354 GR BC
Bot Compression		83.39	1.2D + 1.6W 45 deg	0.00	0		

Section: 2		1		Bot Elev (ft): 43.00				Height (ft): 51.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PSP - 22" OD x 0.312	-49.66	1.2D + 1.6W 45 deg	39.00	100	100	100	61.0	36.0	567.01	0	0	0.00	0.00	8 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SOL - 1 1/8" SOLID	-0.04	(1.2 + 0.2Sds) * DL	47.33	50	50	50	1009.	36.0	0.22	0	0	0.00	0.00	Member X

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG		0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SOL - 1 1/8" SOLID	24.82	1.2D + 1.6W Normal	36	58	32.21	0	0	0.00	0.00	0.00	77	Member

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		0.00		0.00	0	0	
Top Compression		10.94	(1.2 + 0.2Sds) * DL	0.00	0		
Bot Tension		15.08	0.9D + 1.6W 45 deg	0.00	0		
Bot Compression		0.00		0.00	0		

Site Number: 383657-Tower
 Site Name: Atlas Container, CT
 Customer: VERIZON WIRELSS

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 Engineering Number: 13000519_C3_04

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Force/Stress Summary

Section: 3		1		Bot Elev (ft): 94.00				Height (ft): 1.000									
		Pu	Load Case	Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use		
		(kip)		(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls	
Max Compression Member																	
LEG	PSP - 22" OD x 0.312	-5.01	1.2D + 1.6W Normal	18.23	100	100	100	28.5	36.0	660.92	0	0	0.00	0.00	0	Member X	
HORIZ	CHN - C8 x 11.5	-15.07	0.9D + 1.6W Normal	1.000	100	100	100	19.2	50.0	148.05	0	0	0.00	0.00	10	Member Y	
DIAG	CHN - C8 x 11.5	-5.73	1.2D + 1.6W Normal	18.94	50	50	50	181.9	36.0	23.08	0	0	0.00	0.00		Member Y	
Max Tension Member																	
		Pu	Load Case	Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use		Controls	
		(kip)		(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phit	Pn	%			
										(kip)	(kip)	(kip)					
LEG		0.00		0	0	0.00	0	0	0	0.00	0.00			0			
HORIZ	CHN - C8 x 11.5	3.77	1.2D + 1.6W Normal	50	65	152.10	0	0	0	0.00	0.00	0.00		2	Member		
DIAG	CHN - C8 x 11.5	6.00	1.2D + 1.6W Normal	36	58	109.51	0	0	0	0.00	0.00	0.00		5	Member		
Max Splice Forces																	
		Pu	Load Case	phiRnt	Use	Num											
		(kip)		(kip)	%	Bolts	Bolt Type										
Top Tension		0.00		0.00	0	0											
Top Compression		15.82	1.2D + 1.6W Normal	0.00	0												
Bot Tension		0.00		0.00	0												
Bot Compression		0.00		0.00	0												

Site Number: 383657-Tower
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Detailed Reactions

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal	19.09	00.00	45	1	0.18	67.92	-2.35	
	19.09	00.00	135	1a	0.05	-21.97	-14.62	
	19.09	00.00	225	1b	-0.05	-21.97	-14.62	
	19.09	00.00	315	1c	-0.18	67.92	-2.35	
1.2D + 1.6W 45 deg	19.09	00.00	45	1	-1.50	86.09	-1.73	
	19.09	00.00	135	1a	-1.60	19.87	-10.68	
	19.09	00.00	225	1b	-10.85	-38.99	-10.73	
	19.09	00.00	315	1c	-10.93	24.93	-1.74	
0.9D + 1.6W Normal	19.09	00.00	45	1	0.15	62.16	-2.39	
	19.09	00.00	135	1a	0.12	-27.70	-14.58	
	19.09	00.00	225	1b	-0.12	-27.70	-14.58	
	19.09	00.00	315	1c	-0.15	62.16	-2.39	
0.9D + 1.6W 45 deg	19.09	00.00	45	1	-1.54	80.40	-1.77	
	19.09	00.00	135	1a	-1.64	14.08	-10.65	
	19.09	00.00	225	1b	-10.80	-44.67	-10.69	
	19.09	00.00	315	1c	-10.90	19.12	-1.78	
1.2D + 1.0Di + 1.0Wi Normal	19.09	00.00	45	1	0.31	51.09	-0.47	
	19.09	00.00	135	1a	0.21	23.37	-4.94	
	19.09	00.00	225	1b	-0.21	23.37	-4.94	
	19.09	00.00	315	1c	-0.31	51.09	-0.47	
1.2D + 1.0Di + 1.0Wi 45 deg	19.09	00.00	45	1	-0.23	56.18	-0.28	
	19.09	00.00	135	1a	-0.23	36.97	-3.61	
	19.09	00.00	225	1b	-3.82	17.39	-3.78	
	19.09	00.00	315	1c	-3.67	38.39	-0.26	
(1.2 + 0.2Sds) * DL + E Normal M1	19.09	00.00	45	1	0.15	27.47	-0.09	
	19.09	00.00	135	1a	0.13	14.40	-2.07	
	19.09	00.00	225	1b	-0.13	14.40	-2.07	
	19.09	00.00	315	1c	-0.15	27.47	-0.09	
(1.2 + 0.2Sds) * DL + E Normal M2	19.09	00.00	45	1	0.15	30.20	-0.18	
	19.09	00.00	135	1a	0.12	11.67	-2.80	
	19.09	00.00	225	1b	-0.12	11.67	-2.80	
	19.09	00.00	315	1c	-0.15	30.20	-0.18	
(1.2 + 0.2Sds) * DL + E 45 deg M1	19.09	00.00	45	1	-0.03	29.90	-0.03	
	19.09	00.00	135	1a	-0.04	21.16	-1.45	
	19.09	00.00	225	1b	-1.52	11.52	-1.52	
	19.09	00.00	315	1c	-1.45	21.16	-0.04	
(1.2 + 0.2Sds) * DL + E 45 deg M2	19.09	00.00	45	1	-0.09	34.12	-0.09	
	19.09	00.00	135	1a	-0.09	20.74	-2.04	
	19.09	00.00	225	1b	-2.00	8.14	-2.00	
	19.09	00.00	315	1c	-2.04	20.74	-0.09	
(0.9 - 0.2Sds) * DL + E Normal M1	19.09	00.00	45	1	0.10	21.13	-0.13	
	19.09	00.00	135	1a	0.08	7.96	-2.02	
	19.09	00.00	225	1b	-0.08	7.96	-2.02	
	19.09	00.00	315	1c	-0.10	21.13	-0.13	
(0.9 - 0.2Sds) * DL + E Normal M2	19.09	00.00	45	1	0.11	23.85	-0.22	
	19.09	00.00	135	1a	0.07	5.24	-2.76	
	19.09	00.00	225	1b	-0.07	5.24	-2.76	
	19.09	00.00	315	1c	-0.11	23.85	-0.22	

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(0.9 - 0.2Sds) * DL + E 45 deg M1	19.09	00.00	45	1	-0.07	23.89	-0.07
	19.09	00.00	135	1a	-0.07	14.44	-1.46
	19.09	00.00	225	1b	-1.44	5.42	-1.44
	19.09	00.00	315	1c	-1.46	14.44	-0.07
(0.9 - 0.2Sds) * DL + E 45 deg M2	19.09	00.00	45	1	-0.14	28.09	-0.14
	19.09	00.00	135	1a	-0.13	14.06	-2.04
	19.09	00.00	225	1b	-1.91	1.96	-1.91
	19.09	00.00	315	1c	-2.04	14.06	-0.13
1.0D + 1.0W Service Normal	19.09	00.00	45	1	0.12	29.77	-0.50
	19.09	00.00	135	1a	0.09	8.52	-3.56
	19.09	00.00	225	1b	-0.09	8.52	-3.56
	19.09	00.00	315	1c	-0.12	29.77	-0.50
1.0D + 1.0W Service 45 deg	19.09	00.00	45	1	-0.30	34.05	-0.36
	19.09	00.00	135	1a	-0.30	18.38	-2.63
	19.09	00.00	225	1b	-2.66	4.56	-2.63
	19.09	00.00	315	1c	-2.70	19.59	-0.33

Max Uplift:	44.67 (kip)	Moment Ice:	748.41 (kip-ft)	Moment:	2,426.82 (kip-ft)	1.2D + 1.6W Normal
Max Down:	86.09 (kip)	Total Down Ice:	148.93 (kip)	Total Down:	91.90 (kip)	
Max Shear:	15.26 (kip)	Total Shear Ice:	10.81 (kip)	Total Shear:	33.93 (kip)	

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Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
97 mph Normal with No Ice	43.00	0.078	0.0438	0.2021	0.2068
97 mph Normal with No Ice	82.00	0.232	0.1086	0.2612	0.2704
97 mph Normal with No Ice	94.00	0.260	0.1286	0.2293	0.2434
97 mph Normal with No Ice	95.00	0.234	0.0726	0.1674	0.1732
97 mph 45 degree with No Ice	43.00	0.082	0.0071	0.1924	0.1925
97 mph 45 degree with No Ice	82.00	0.201	0.0166	0.2019	0.2019
97 mph 45 degree with No Ice	94.00	0.214	0.0193	0.1848	0.1852
97 mph 45 degree with No Ice	95.00	0.209	0.0087	0.1327	0.1330
97 mph Normal with No Ice (Reduced DL)	43.00	0.078	0.0454	0.2093	0.2142
97 mph Normal with No Ice (Reduced DL)	82.00	0.238	0.1124	0.2694	0.2791
97 mph Normal with No Ice (Reduced DL)	94.00	0.264	0.1330	0.2466	0.2610
97 mph Normal with No Ice (Reduced DL)	95.00	0.237	0.0746	0.1655	0.1721
97 mph 45 deg with No Ice (Reduced DL)	43.00	0.082	0.0070	0.2021	0.2022
97 mph 45 deg with No Ice (Reduced DL)	82.00	0.209	0.0163	0.2133	0.2133
97 mph 45 deg with No Ice (Reduced DL)	94.00	0.218	0.0190	0.2016	0.2020
97 mph 45 deg with No Ice (Reduced DL)	95.00	0.213	0.0083	0.1337	0.1340
50 mph Normal with 0.75 in Radial Ice	43.00	0.026	0.0033	0.0502	0.0502
50 mph Normal with 0.75 in Radial Ice	82.00	0.052	0.0088	0.0559	0.0566
50 mph Normal with 0.75 in Radial Ice	94.00	0.051	0.0105	0.1614	0.1617
50 mph Normal with 0.75 in Radial Ice	95.00	0.049	0.0067	0.2887	0.2887
50 mph 45 deg with 0.75 in Radial Ice	43.00	0.027	0.0011	0.0600	0.0600
50 mph 45 deg with 0.75 in Radial Ice	82.00	0.056	0.0029	0.0467	0.0468
50 mph 45 deg with 0.75 in Radial Ice	94.00	0.044	0.0034	0.1662	0.1663
50 mph 45 deg with 0.75 in Radial Ice	95.00	0.044	0.0026	0.2957	0.2957
Seismic Normal M1	43.00	0.012	0.0001	0.0298	0.0298
Seismic Normal M1	82.00	0.029	0.0002	0.0275	0.0275
Seismic Normal M1	94.00	0.025	0.0003	0.0959	0.0959
Seismic Normal M1	95.00	0.023	-0.0001	0.1690	0.1690
Seismic Normal M2	43.00	0.016	0.0033	0.0345	0.0347
Seismic Normal M2	82.00	0.038	0.0082	0.0378	0.0382
Seismic Normal M2	94.00	0.039	0.0097	0.0934	0.0936
Seismic Normal M2	95.00	0.039	0.0052	0.1616	0.1616
Seismic 45 deg M1	43.00	0.013	0.0001	0.0340	0.0340
Seismic 45 deg M1	82.00	0.032	0.0003	0.0294	0.0294
Seismic 45 deg M1	94.00	0.026	0.0003	0.0979	0.0979
Seismic 45 deg M1	95.00	0.024	0.0001	0.1689	0.1689
Seismic 45 deg M2	43.00	0.017	0.0020	0.0401	0.0401
Seismic 45 deg M2	82.00	0.041	0.0057	0.0379	0.0379
Seismic 45 deg M2	94.00	0.037	0.0069	0.1007	0.1007
Seismic 45 deg M2	95.00	0.035	0.0037	0.1673	0.1673
Seismic (Reduced DL) Normal M1	43.00	0.012	0.0022	0.0245	0.0245
Seismic (Reduced DL) Normal M1	82.00	0.027	0.0055	0.0260	0.0265
Seismic (Reduced DL) Normal M1	94.00	0.028	0.0065	0.0640	0.0643
Seismic (Reduced DL) Normal M1	95.00	0.028	0.0038	0.1115	0.1116
Seismic (Reduced DL) Normal M2	43.00	0.016	0.0050	0.0292	0.0297
Seismic (Reduced DL) Normal M2	82.00	0.036	0.0123	0.0370	0.0388
Seismic (Reduced DL) Normal M2	94.00	0.045	0.0145	0.0629	0.0641
Seismic (Reduced DL) Normal M2	95.00	0.043	0.0079	0.1058	0.1061
Seismic (Reduced DL) 45 deg M1	43.00	0.012	0.0006	0.0284	0.0284
Seismic (Reduced DL) 45 deg M1	82.00	0.029	0.0017	0.0253	0.0253
Seismic (Reduced DL) 45 deg M1	94.00	0.026	0.0020	0.0693	0.0693
Seismic (Reduced DL) 45 deg M1	95.00	0.024	0.0010	0.1162	0.1162
Seismic (Reduced DL) 45 deg M2	43.00	0.017	0.0022	0.0345	0.0345
Seismic (Reduced DL) 45 deg M2	82.00	0.039	0.0062	0.0334	0.0334
Seismic (Reduced DL) 45 deg M2	94.00	0.041	0.0075	0.0653	0.0653

Site Number: 383657-Tower

Code:

ANSI/TIA-222-G

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Site Name: Atlas Container, CT

Engineering Number: 13000519_C3_04

4/10/2020 10:46:36 AM

Customer: VERIZON WIRELSS

Seismic (Reduced DL) 45 deg M2	95.00	0.039	0.0042	0.1081	0.1082
Serviceability - 60 mph Wind Normal	43.00	0.019	0.0063	0.0336	0.0338
Serviceability - 60 mph Wind Normal	82.00	0.042	0.0159	0.0434	0.0462
Serviceability - 60 mph Wind Normal	94.00	0.050	0.0188	0.0702	0.0726
Serviceability - 60 mph Wind Normal	95.00	0.048	0.0109	0.1223	0.1225
Serviceability - 60 mph Wind 45 deg	43.00	0.020	0.0014	0.0417	0.0417
Serviceability - 60 mph Wind 45 deg	82.00	0.044	0.0030	0.0319	0.0323
Serviceability - 60 mph Wind 45 deg	94.00	0.042	0.0035	0.0732	0.0733
Serviceability - 60 mph Wind 45 deg	95.00	0.040	-0.0009	0.1287	0.1288

Maximum Reactions Summary

Anchor Group	Vertical (kip)				Horizontal (kip)		Moment (kip-ft)	
	DL+WL	DL+WL+IL	UpLift	Shear	DL+WL	DL+WL+IL	DL+WL	DL+WL+IL
Base	91.90	148.93	86.09	15.26	33.93	10.81	2426.82	748.41



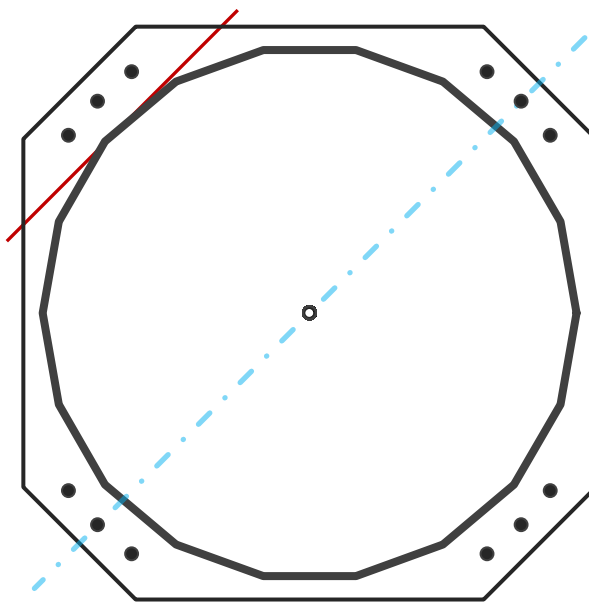
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	18	-
Diameter	70	in
Thickness	0.4375	in
Orientation Offset	0	°

Base Reactions		
Moment, Mu	1604.8	k-ft
Axial, Pu	44.4	k
Shear, Vu	18.8	k
Neutral Axis	45	°

Report Capacities		
Component	Capacity	Result
Base Plate	44%	Pass
Anchor Rods	32%	Pass
Dwyidag	-	-

Base Plate		
Shape	Square	-
Width	76.5	in
Thickness	2 1/4	in
Grade	A572-60	
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Clip	15	in
Orientation Offset	0	°
Anchor Rod Detail	c	$\eta=0.55$
Clear Distance	N/A	in
Applied Moment, Mu	1143.9	k
Bending Stress, ϕMn	2592.8	k



Original Anchor Rods		
Arrangement	Cluster	-
Quantity	12	-
Diameter, ϕ	2 1/4	in
Bolt Circle	80	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	6.0	in
Orientation Offset	0	°
Applied Force, Pu	83.9	k
Anchor Rods, ϕPn	259.8	k

Site Name: Atlas Container, CT
Site Number: 383657
Tower Type: SST w/4 Legs
Design Loads (Factored) - Analysis per TIA-222-G Standards

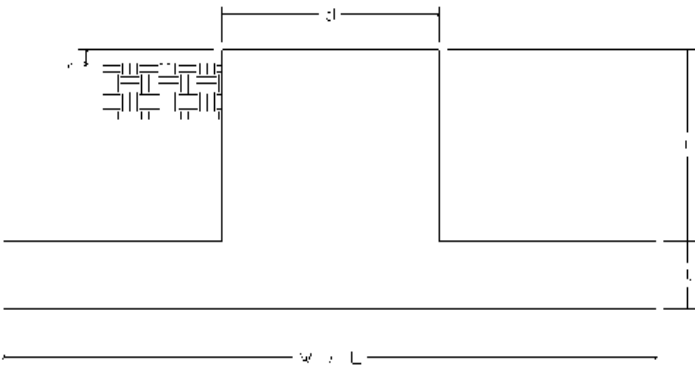
Monolithic Mat & Pier Foundation Analysis

Foundation Analysis Parameters		
Design / Analysis / Mapping:	Mapping	-
Compression/Leg:	0.0	k
Uplift/Leg:	0.0	k
Total Shear:	52.7	k
Moment:	4,031.6	k-ft
Tower + Appurtenance Weight:	136.3	k
Depth to Base of Foundation (l + t - h):	9.5	ft
Diameter of Pier (d):	3.666667	ft
Length of Pier (l):	7.5	ft
Height of Pier above Ground (h):	0.5	ft
Width of Pad (W):	50.66667	ft
Length of Pad (L):	50.41667	ft
Thickness of Pad (t):	2.5	ft
Tower Leg Center to Center:	27	ft
Number of Tower Legs:	4	-
Tower Center from Mat Center:	0	ft
Depth Below Ground Surface to Water Table:	10	ft
Unit Weight of Concrete:	150	pcf
Unit Weight of Soil Above Water Table:	120	pcf
Unit Weight of Water:	62.4	pcf
Unit Weight of Soil Below Water Table:	57.6	pcf
Friction Angle of Uplift:	0	°
Coefficient of Shear Friction:	0.35	-
Ultimate Compressive Bearing Pressure:	6,000	psf
Ultimate Passive Pressure on Pad Face:	4,000	psf
$f_{\text{Soil and Concrete Weight}}$:	0.9	-
f_{Soil} :	0.75	-

Overturning Moment Usage		
Design OTM:	4558.9	k-ft
OTM Resistance:	73777.8	k-ft
Design OTM / OTM Resistance:	6%	Pass

Soil Bearing Pressure Usage		
Net Bearing Pressure:	381	psf
Factored Nominal Bearing Pressure:	4500	psf
Factored Nominal (Net) Bearing Pressure:	8%	Pass
Load Direction Controlling Design Bearing Pressure:	<i>Diagonal to Pad Edge</i>	

Sliding Factor of Safety		
Ultimate Friction Resistance:	1130.3	k
Ultimate Passive Pressure Resistance:	456.0	k
Total Factored Sliding Resistance:	1189.7	k
Sliding Design / Sliding Resistance:	4%	Pass





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CORPORATION

Antenna Mount Analysis Report

ATC Site Name : Atlas Container, CT
ATC Site Number : 383657
Engineering Number : 13000519_C8_06
Mount Elevation : 124 ft
Carrier : Verizon Wireless
Carrier Site Name : MERIDEN NORTH CT
Carrier Site Number : 468208
Site Location : 119 Empire Avenue
Meriden, CT 6450
41.57305556 , -72.77916667
County : New Haven
Date : March 30, 2020
Max Usage : 70%
Result : Pass

Prepared By:
Mitchell Chen
Structural Engineer I

Reviewed By:



COA: PEC.0001553



Table of Contents

Introduction 1

Supporting Documents 1

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Antenna Loading..... 2

Structure Usages..... 2

Mount Layout 3

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Calculations Attached



Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for Verizon Wireless at 124 ft.

Supporting Documents

Mount Mapping	Infinigy Project #1009-Z0003-H/317-505, dated November 14, 2019
Radio Frequency Data Sheet	RFDS ID #468208, dated January 2, 2020
Reference Photos	Site photos from 2019

Analysis

This antenna mount was analyzed using American Tower Corporation's Mount Analysis Program and RISA-3D

Basic Wind Speed:	96 mph (3-Second Gust, Vasd) / 123 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Codes:	ANSI/TIA-222-G/ 2015 IBC/ 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.183, S1 = 0.063
Site Class:	D - Stiff Soil
Live Loads:	Lm = 500 lbs

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above. The mount can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



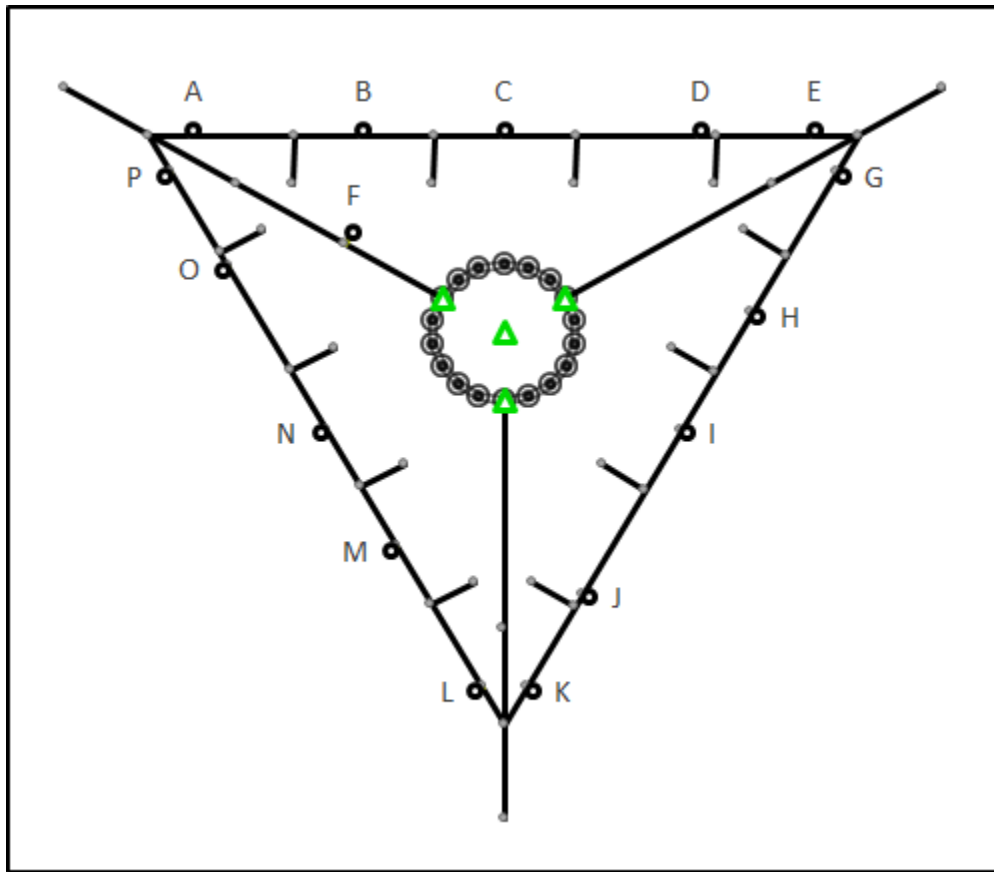
Application Loading

Mount Centerline (ft)	Antenna Centerline (ft)	Qty	Antenna Model
124.0	128.0	3	JMA Wireless DX12FRO260-20/26
	125.0	3	Antel LPA-80080/4CF ___
		9	Commscope JAHH-65B-R3B (63.3 lb)
		3	Commscope CBC78T-DS-43-2X
		2	RFS DB-T1-6Z-8AB-0Z
		3	Samsung B2/B66A RRH-BR049
		3	Samsung B5/B13 RRH-BR04C

Structure Usages

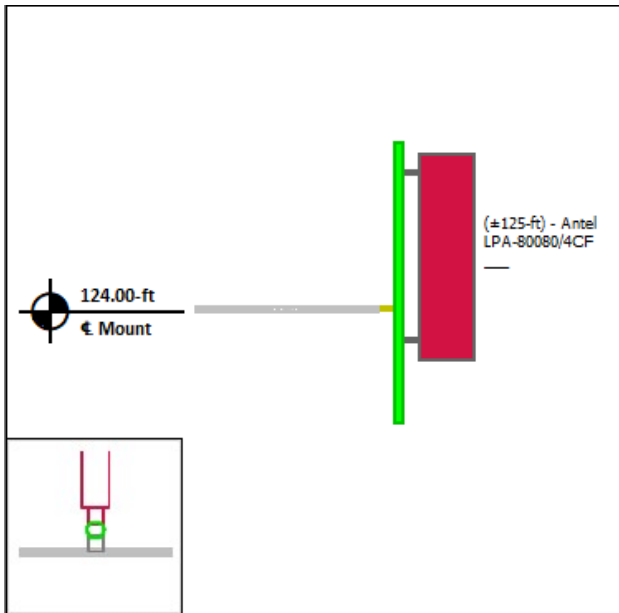
Structural Component	Controlling Usage	Pass/Fail
Horizontals	70%	Pass
Mount Pipes	66%	Pass

Mount Layout

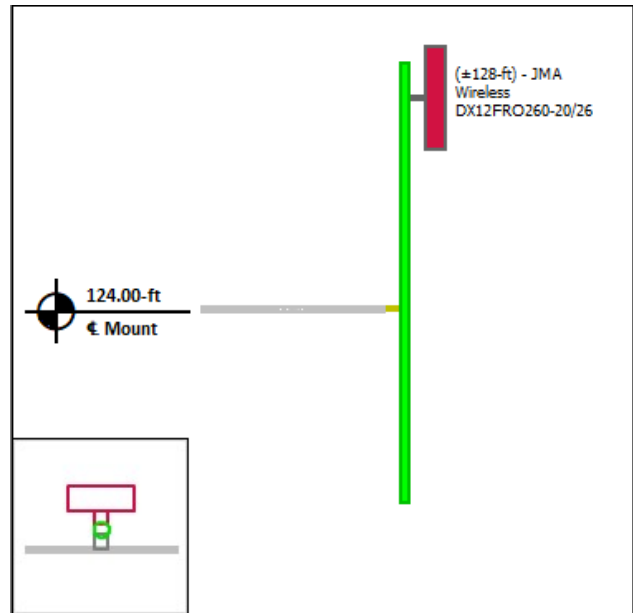


Equipment Layout

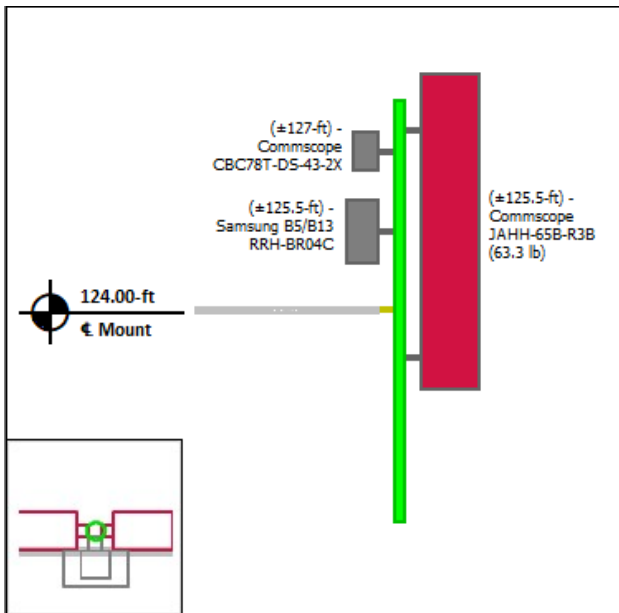
Mount Pipe A



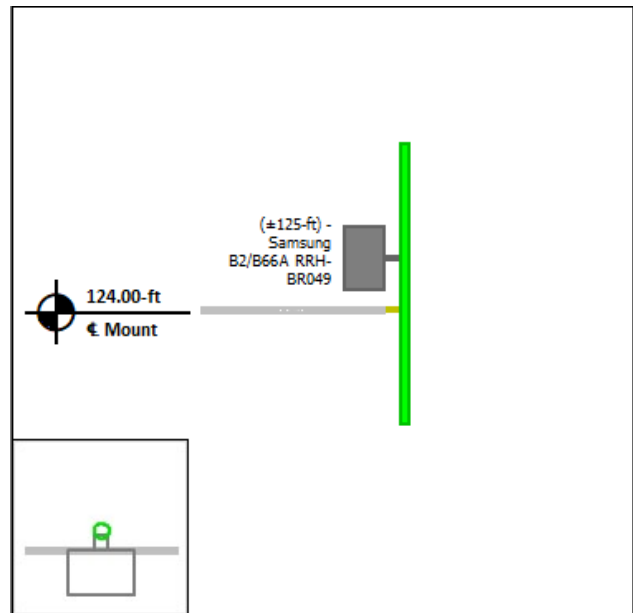
Mount Pipe B



Mount Pipe C

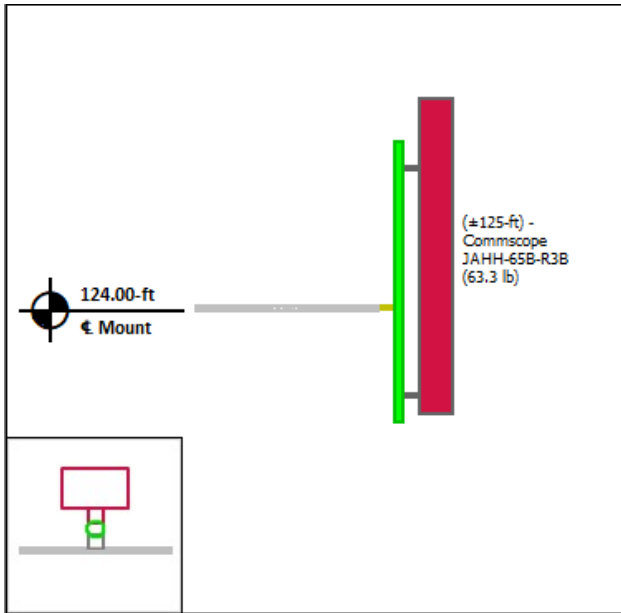


Mount Pipe D

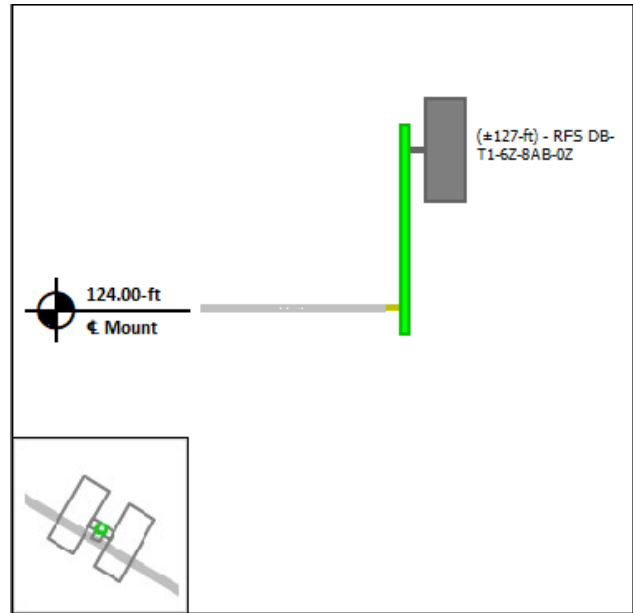


Equipment Layout Cont'd.

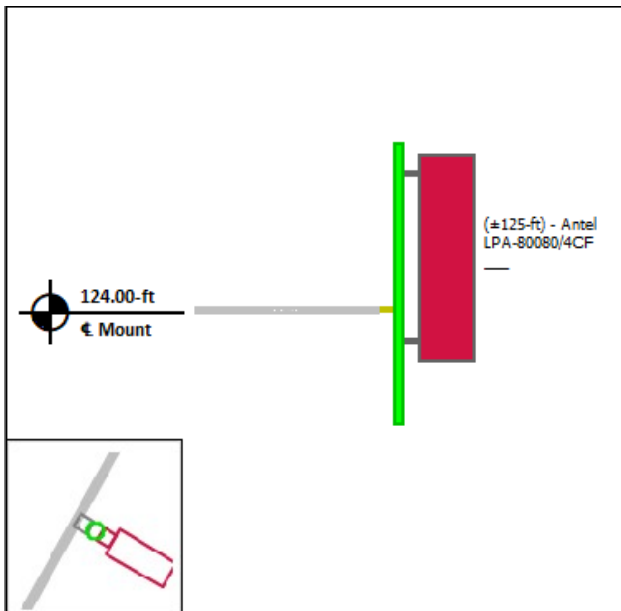
Mount Pipe E



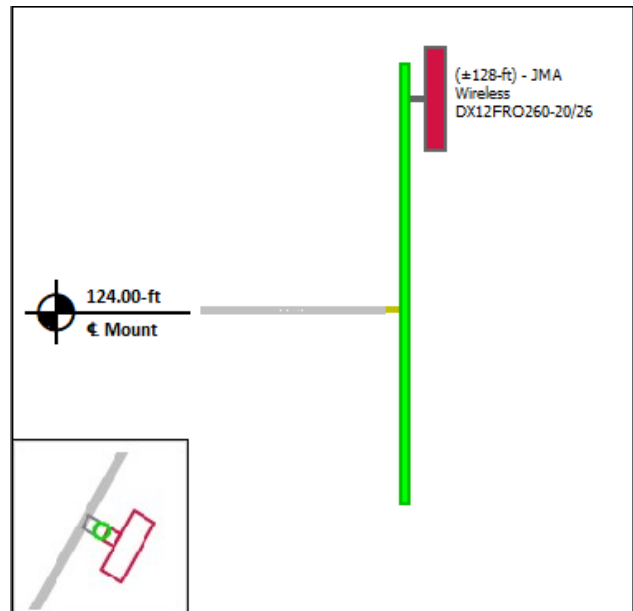
Mount Pipe F



Mount Pipe G

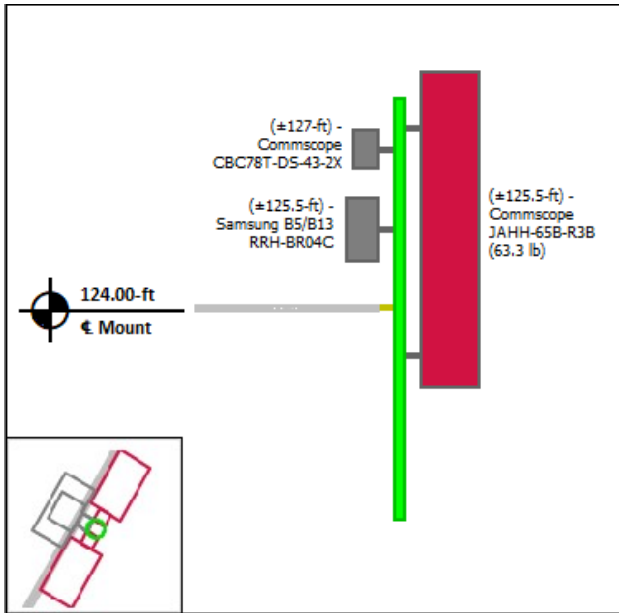


Mount Pipe H

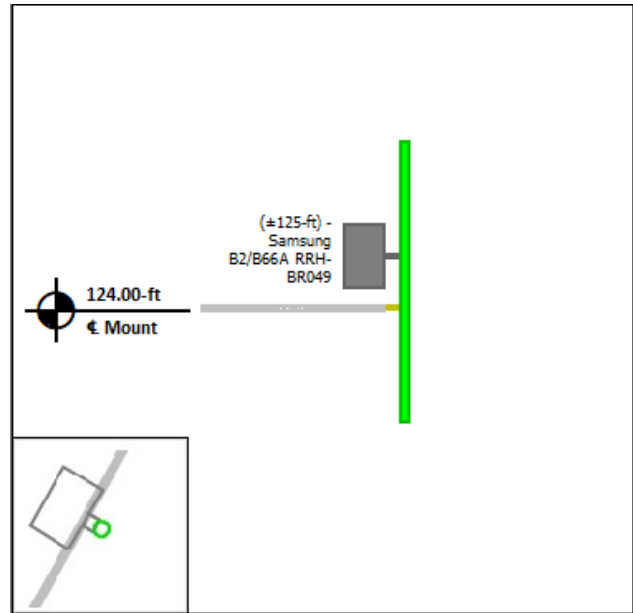


Equipment Layout Cont'd.

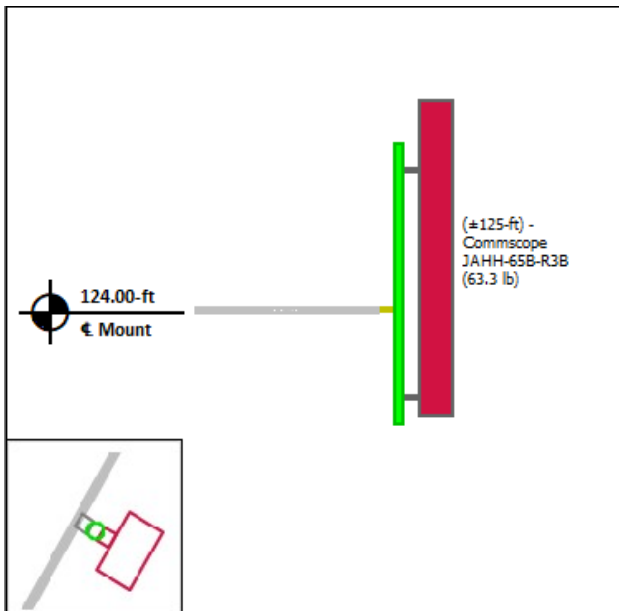
Mount Pipe I



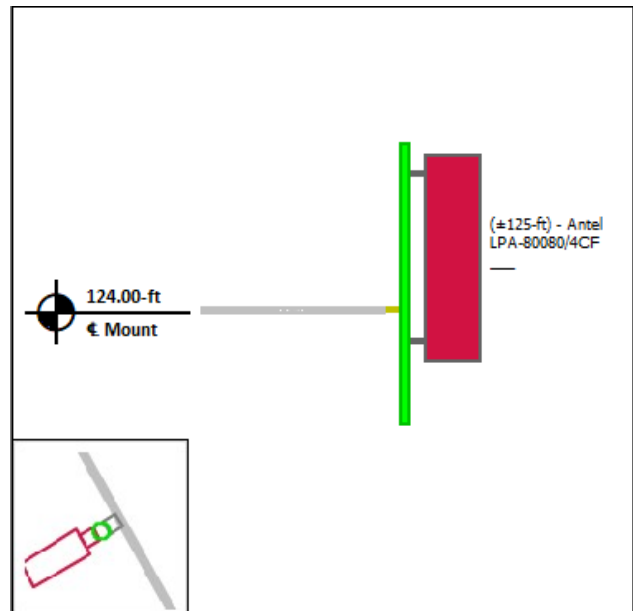
Mount Pipe J



Mount Pipe K

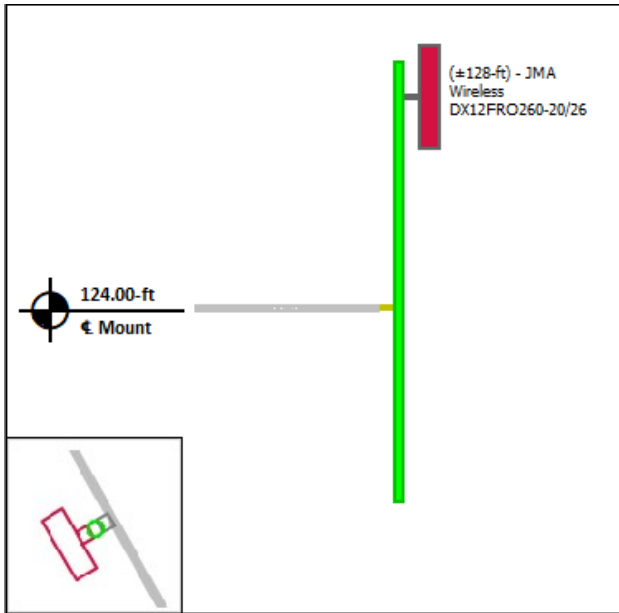


Mount Pipe L

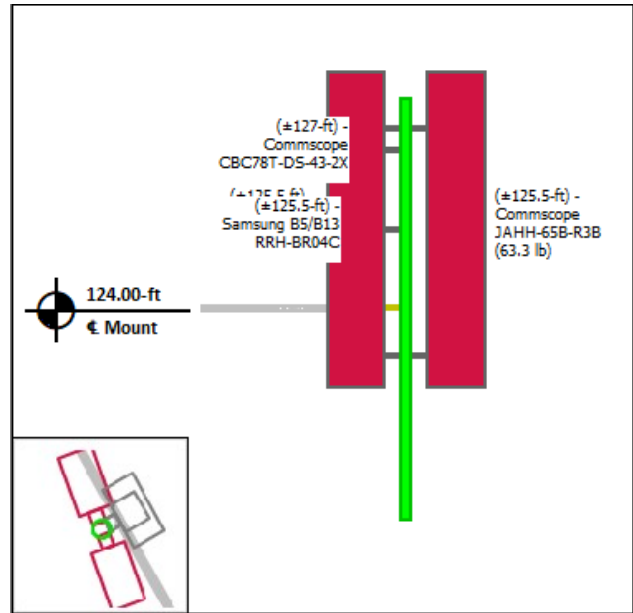


Equipment Layout Cont'd.

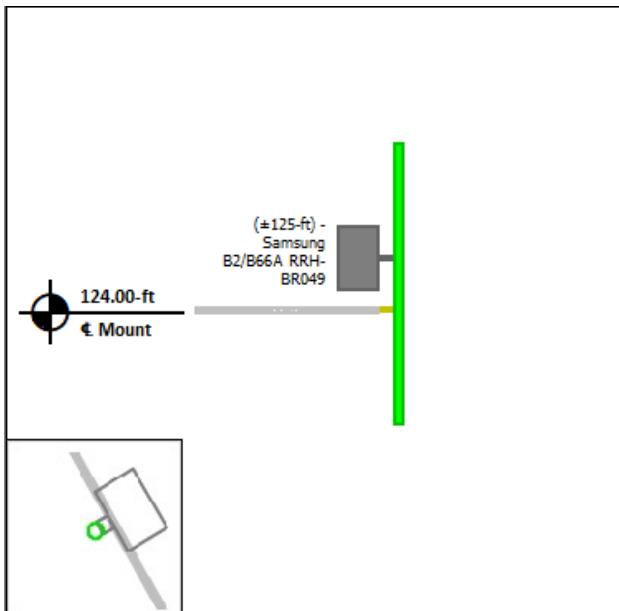
Mount Pipe M



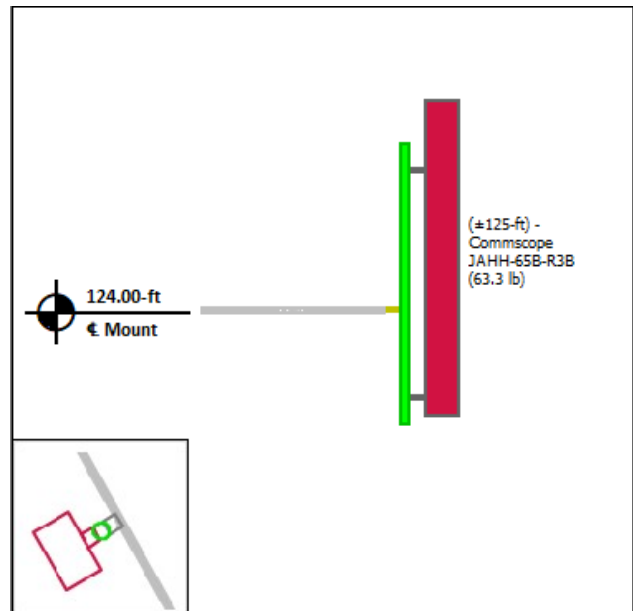
Mount Pipe N



Mount Pipe O



Mount Pipe P





Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

All connections are to be verified for condition and tightness by the installation contractor preceding any changes to the appurtenance mounting system and/or equipment attached to it.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



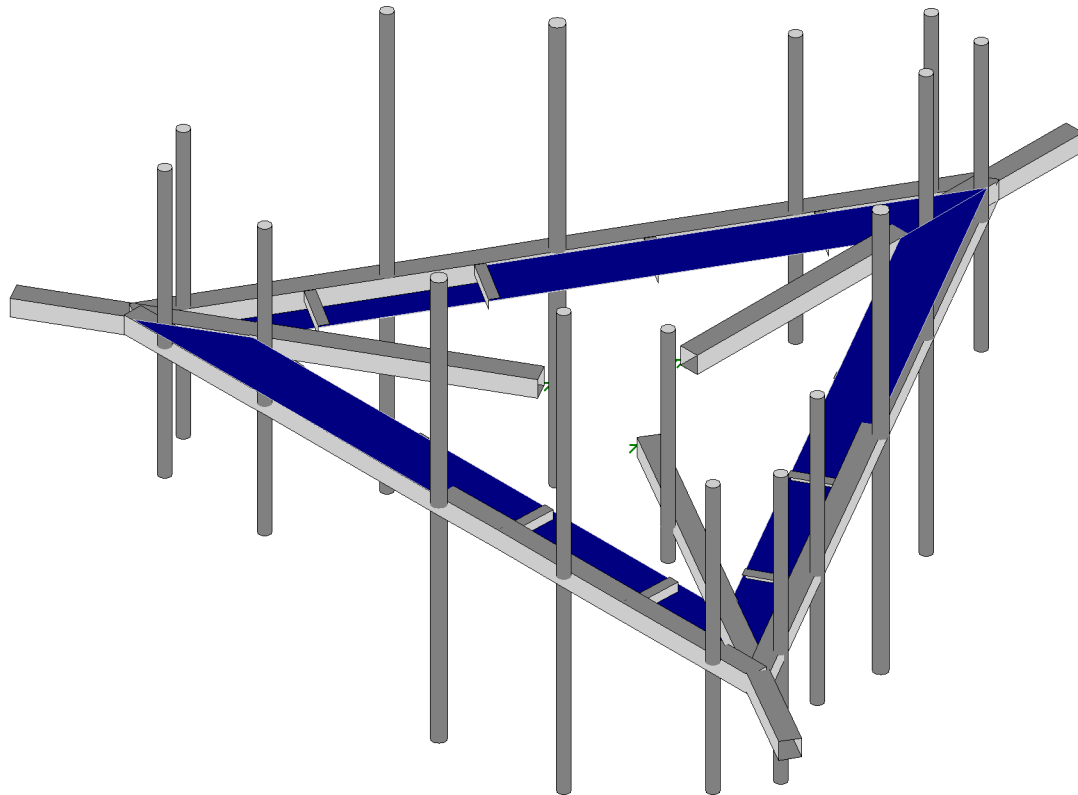
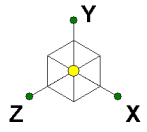
Site Number: 383657
Project Number: 13000519_C8_06
Carrier: Verizon Wireless
Mount Elevation: 124 ft
Date: 3/30/2020

Mount Analysis Force Calculations

Wind & Ice Load Calculations			
Velocity Pressure Coefficient	K_z	1.05	
Topographic Factor	K_{zt}	1.00	
Rooftop Wind Speed-up Factor	K_s	1.00	
Shielding Factor	K_a	0.90	
Ground Elevation Factor	K_e	1.00	
Wind Direction Probability Factor	K_d	0.95	
Basic Wind Speed	V	96	mph
Velocity Pressure	q_z	23.6	psf
Height Escalation Factor	K_{iz}	1.14	
Thickness of Radial Glaze Ice	T_{iz}	1.71	in

Seismic Load Calculations			
Short Period DSRAP	S_{DS}	0.195	
1 Second DSRAP	S_{D1}	0.101	
Importance Factor	I	1.0	
Response Modification Coefficient	R	2.0	
Seismic Response Coefficient	C_s	0.098	
Amplification Factor	A	1.0	
Total Weight	W	1443.4	lbs
Total Shear Force	V_s	140.9	lbs
Horizontal Seismic Load	E_h	140.9	lbs
Vertical Seismic Load	E_v	56.3	lbs

Antenna Calculations									
Equipment	Height	Width	Depth	Weight	EPA_N	EPA_T	EPA_{Ni}	EPA_{Ti}	
Model #	in	in	in	lbs	sqft	sqft	sqft	sqft	
JMA Wireless DX12FRO260-20/26	24.0	15.0	5.3	12.3	3.00	0.63	4.21	1.18	
Antel LPA-80080/4CF ___	47.2	5.5	13.2	12.0	2.62	3.34	4.56	4.51	
Commscope JAHH-65B-R3B (63.3 lb)	72.0	13.8	8.2	63.3	9.11	2.64	11.92	3.92	
Commscope CBC78T-DS-43-2X	9.6	6.9	6.4	20.7	0.55	0.51	1.12	1.07	
RFS DB-T1-6Z-8AB-0Z	24.0	24.0	10.0	44.0	4.80	2.00	6.27	3.07	
Samsung B2/B66A RRH-BR049	15.0	15.0	10.0	84.4	1.88	1.25	2.83	2.06	
Samsung B5/B13 RRH-BR04C	15.0	15.0	8.1	70.3	1.88	0.46	2.83	0.80	



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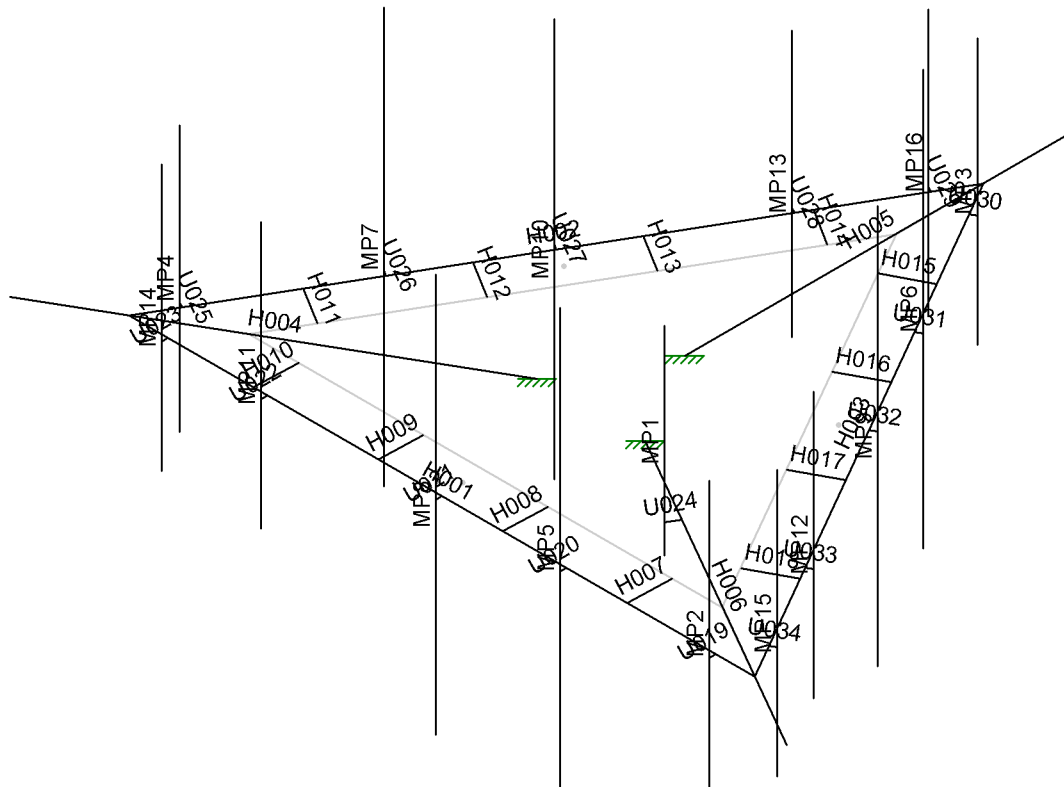
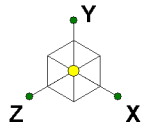
13000519_C8_06

383657, Atlas Container
3D Rendering

SK - 1

Mar 30, 2020 at 3:37 PM

R3D. VERIZON WIRELESS @ 383...



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13000519_C8_06

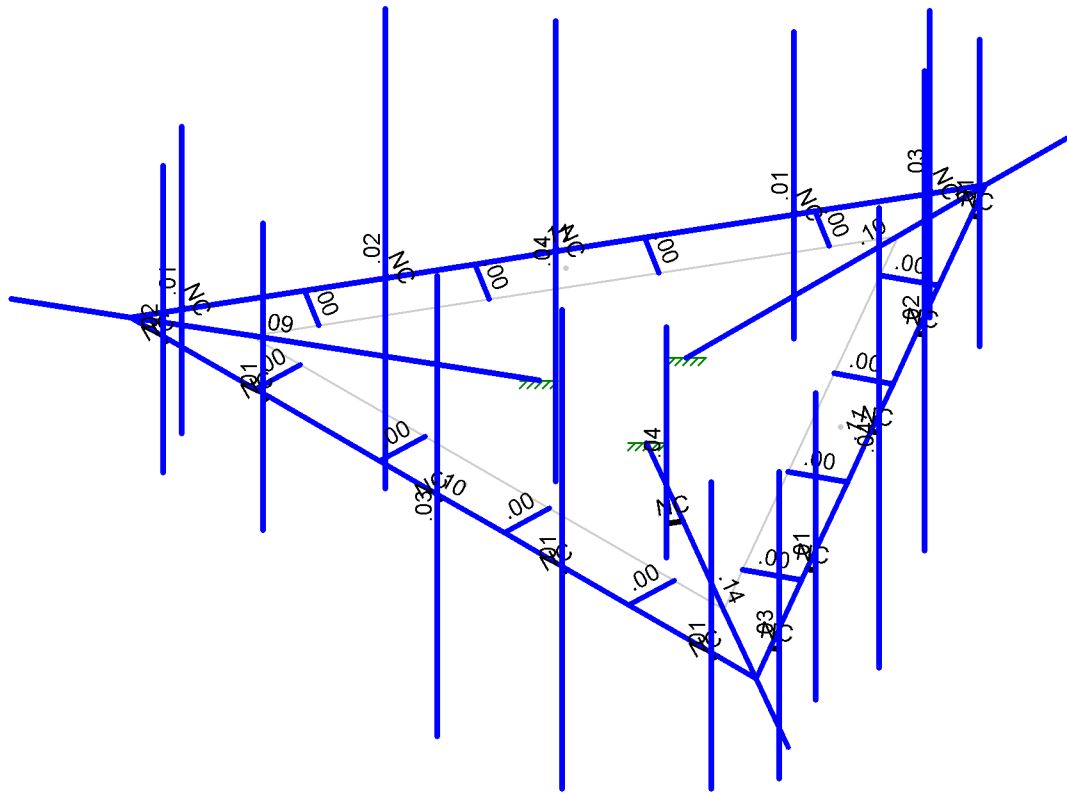
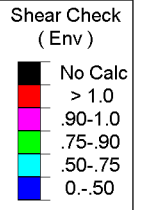
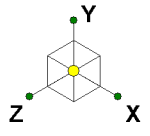
383657, Atlas Container

Member Labels

SK - 2

Mar 30, 2020 at 3:37 PM

R3D. VERIZON WIRELESS @ 383...



Member Shear Checks Displayed (Enveloped)
Results for LC 1, 1.4D

American Tower Corp.	383657, Atlas Container Shear Checks	SK - 4
Mitchell.Chen		Mar 30, 2020 at 3:37 PM
13000519_C8_06		R3D. VERIZON WIRELESS @ 383...



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>c]bh@UXg'UbX'9bZfWYX'8]gd'UMWa YbHg f6 @ '%':.'@ 'f] 比

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>c]bh@UXg'UbX'9bZfWYX'8]gd'UMWa YbHg f6 @ '&%.':.'@ 'f] 比

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>c]bh@UXg'UbX'9bZfWYX'8]gd'UMWa YbHg f6 @ '&&':.'@ 'f] 比

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>c]bh@UXg'UbX'9bZfWYX'8]gd'UMWa YbHg f6 @ '&':.'@ 'f] 比

F	R a o S a a ^ T U f g c	S S O E i	O a ^ & c a }	T a e } a e a ^ Z a f a E o D a g E e a a D a e a e a e e
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>c]bh@UXg'UbX'9bZfWYX'8]gd'UMWa YbHg f6 @ '&(:.'@ 'f] 比

F	R a o S a a ^ T U f h c	S S O E i	O a ^ & c a }	T a e } a e a ^ Z a f a E o D a g E e a a D a e a e a e e
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>c]bh@UXg'UbX'9bZfWYX'8]gd'UMWa YbHg f6 @ '&):.'@ 'f] 比

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F	R a o S a a ^ T U f i c	S S O E i	O a ^ & c a }	T a e } a e a ^ Z a f a E o D a g E e a a D a e a e a e e
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>c]bh@UXg'UbX'9bz'fWYX'8]gd'UWwA Yb]g'f6 @ '&+.'@ 'f% 'L

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F	T U F i c	S	Y	E E

A Ya Vyf'Dc]bh@UXg'f6 @ '% '8 YUKL

	T ^ { a ^ A a ^ }	O a ^ & c a }	T a e } a ^ a ^ Z a f a E c a	S & c a } Z a f a a
F	T U F	Y	E I	I E
G	T U F	Y	E I	I E
H	T U G	Y	E	I E
I	T U G	Y	E	I I E
I	T U H	Y	E	I E
I	T U H	Y	E	I I E
I	T U I	Y	E	I E
I	T U I	Y	E	I I E
J	T U I	Y	E G H	I E
F€	T U I	Y	E G H	I E
FF	T U I	Y	E G H	I E
FG	T U I	Y	E F E I	I E I
FH	T U I	Y	E F E I	I I E
FI	T U I	Y	E F E I	I E I
FÍ	T U I	Y	E F E I	I I E
Fî	T U I	Y	E E H	G E
Fï	T U I	Y	E E I	F F E
Fì	T U J	Y	E F E I	I E I
FJ	T U J	Y	E F E I	I I E
G€	T U J	Y	E F E I	I E I
GF	T U J	Y	E F E I	I I E
GG	T U J	Y	E E H	G E
GH	T U J	Y	E E I	F F E
G	T U F€	Y	E F E I	I E I
G	T U F€	Y	E F E I	I I E
G	T U F€	Y	E F E I	I E I
G	T U F€	Y	E F E I	I I E
G	T U F€	Y	E E H	G E
GJ	T U F€	Y	E E I	F F E
H€	T U F F	Y	E I E	G E
HF	T U F G	Y	E I E	G E
HG	T U F H	Y	E I E	G E
HH	T U F I	Y	E F E I	I E I
HJ	T U F I	Y	E F E I	I I E
HÍ	T U F Í	Y	E F E I	I E I
Hî	T U F î	Y	E F E I	I I E
Hì	T U F ì	Y	E F E I	I E I
H	T U F î	Y	E F E I	I I E

A Ya Vyf'Dc]bh@UXg'f6 @ '&.'@ 'f% 'L

	T ^ { a ^ A a ^ }	O a ^ & c a }	T a e } a ^ a ^ Z a f a E c a	S & c a } Z a f a a
F	T U F	Y	E I H E J F	I E
G	T U F	Y	E I H E J F	I E
H	T U G	Y	E I E I I	I E
I	T U G	Y	E I E I I	I I E
I	T U H	Y	E I E I I	I E



Ô{ } a^ ^ K Q^ A{ } A{ } A{ } E
 Ô^ a } A K T a @ | | E @ }
 R{ a A^ { a^ K F H E E F J ' Ô | ' E
 T{ a^ / a^ A K H H I I E O a A O { } c a a^ A

T a A H E A G E G E
 H H I A U T
 Ô @ & ^ a A O k E

A Ya Vyf Dc] b h i @ U X g f 6 @ ; : ' K j b X ' ! L f K c f _] b [t L f 7 c b h j b i Y X L

	T ^ { a ^ / A c a a ^ }	O a ^ & c a }	T a e } a ^ a ^ Z a B a E c a	S } & c a } Z a E a
FÍ	T ÚÌ	Ý	ÈÈÌÌ	ÌÌÈÈ
FÌ	T ÚÌ	Ý	ÈÈÌ G	GÌÈÈ
FÌ	T ÚÌ	Ý	ÈÈÌ	FFÈÈ
FÌ	T ÚJ	Ý	ÈÈÌ F	ÌÈÈÌ
FJ	T ÚJ	Ý	ÈÈÌ H	ÌÌÈÈ
G€	T ÚJ	Ý	ÈÈÌ F	ÌÈÈÌ
GF	T ÚJ	Ý	ÈÈÌ H	ÌÌÈÈ
GG	T ÚJ	Ý	ÈÈÌ J	GÌÈÈ
GH	T ÚJ	Ý	ÈÈÌ JG	FFÈÈ
G	T ÚF€	Ý	ÈÈÌ H	ÌÈÈÌ
GÌ	T ÚF€	Ý	ÈÈÌ I	ÌÌÈÈ
GÌ	T ÚF€	Ý	ÈÈÌ H	ÌÈÈÌ
GÌ	T ÚF€	Ý	ÈÈÌ I	ÌÌÈÈ
GÌ	T ÚF€	Ý	ÈÈÌ J	GÌÈÈ
GJ	T ÚF€	Ý	ÈÈÌ JG	FFÈÈ
H€	T ÚFF	Ý	ÈÈÌ G	GÌÈÈ
HF	T ÚFG	Ý	ÈÈÌ I	GÌÈÈ
HG	T ÚFH	Ý	ÈÈÌ I	GÌÈÈ
HH	T ÚFI	Ý	ÈÈÌ I	ÌÈÈÌ
HÌ	T ÚFI	Ý	ÈÈÌ J	ÌÌÈÈ
HÌ	T ÚFÌ	Ý	ÈÈÌ E	ÌÈÈÌ
HÌ	T ÚFÌ	Ý	ÈÈÌ H	ÌÌÈÈ
HÌ	T ÚFÌ	Ý	ÈÈÌ E	ÌÈÈÌ
HÌ	T ÚFÌ	Ý	ÈÈÌ H	ÌÌÈÈ

A Ya Vyf 8] g h i v i h y X ' @ U X g f 6 @ ' & : = Y X L

	T ^ { a ^ / A c a a ^ }	O a ^ & c a }	U c a o A a e } a ^ a ^ Z a B a E c a	a A a e } a ^ a ^ Z a B a E c a	U c a o S } & c a } Z a E a	O) a S } & c a } Z a E a
F	P € € F	Ý	ÈÈÌ È € G	ÈÈÌ È € G	€	À F € €
G	P € € G	Ý	ÈÈÌ È € G	ÈÈÌ È € G	€	À F € €
H	P € € H	Ý	ÈÈÌ È € G	ÈÈÌ È € G	€	À F € €
I	P € € I	Ý	ÈÈÌ È € G	ÈÈÌ È € G	€	À F € €
Í	P € € Í	Ý	ÈÈÌ È € G	ÈÈÌ È € G	€	À F € €
Î	P € € Î	Ý	ÈÈÌ È € G	ÈÈÌ È € G	€	À F € €
Ì	P € € Ì	Ý	ÈÈÌ È È Ì	ÈÈÌ È È Ì	€	À F € €
Ì	P € € Ì	Ý	ÈÈÌ È È Ì	ÈÈÌ È È Ì	€	À F € €
J	P € € J	Ý	ÈÈÌ È È Ì	ÈÈÌ È È Ì	€	À F € €
F€	P € € €	Ý	ÈÈÌ È È Ì	ÈÈÌ È È Ì	€	À F € €
FF	P € € F	Ý	ÈÈÌ È È Ì	ÈÈÌ È È Ì	€	À F € €
FG	P € € G	Ý	ÈÈÌ È È Ì	ÈÈÌ È È Ì	€	À F € €
FH	P € € H	Ý	ÈÈÌ È È Ì	ÈÈÌ È È Ì	€	À F € €
FÌ	P € € Í	Ý	ÈÈÌ È È Ì	ÈÈÌ È È Ì	€	À F € €
FÌ	P € € Í	Ý	ÈÈÌ È È Ì	ÈÈÌ È È Ì	€	À F € €
FÌ	P € € Í	Ý	ÈÈÌ È È Ì	ÈÈÌ È È Ì	€	À F € €
FÌ	P € € Í	Ý	ÈÈÌ È È Ì	ÈÈÌ È È Ì	€	À F € €
FÌ	P € € Í	Ý	ÈÈÌ È È Ì	ÈÈÌ È È Ì	€	À F € €
FJ	T Ú F	Ý	ÈÈÌ È È Ì	ÈÈÌ È È Ì	€	À F € €
G€	T Ú G	Ý	ÈÈÌ È È Ì	ÈÈÌ È È Ì	€	À F € €
GF	T Ú H	Ý	ÈÈÌ È È Ì	ÈÈÌ È È Ì	€	À F € €
GG	T Ú I	Ý	ÈÈÌ È È Ì	ÈÈÌ È È Ì	€	À F € €
GH	T Ú Í	Ý	ÈÈÌ È È Ì	ÈÈÌ È È Ì	€	À F € €



Ô[{] æ ^ K QÆ ^ Á[, ^ Á[Ô[] È
 Ô ^ a } ^ K T æ @ | | | | |
 R à Á ^ { à ^ K F H E E F J ' Ô | : €
 T [à ^ / P æ ^ K H H Í Í È Q æ Á[] cæ ^

T æ Á H E E E E
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 Ô @ & ^ á Á[K E

A Ya Vyf'8 jgfvI hYX' @ UXg'f6 @ '%\$. '9\ 'N'fGY]ga]WŁ'f7 cb]bi YXL

	T ^ { à ^ / Á cæ ^ }	Ö ä ^ & cä }	Ú cæ Á æ } æ á ^ Ž a D e H E O) á Á æ } æ á ^ Ž a D e H E Ú cæ Á Š & cæ } Ž Ě á	Ò) á Š & cæ } Ž Ě á		
GJ	T ÚFF	Z	È È È Ú	È È È Ú	€	À F E E
H€	T ÚFG	Z	È È È Ú	È È È Ú	€	À F E E
HF	T ÚFH	Z	È È È Ú	È È È Ú	€	À F E E
HG	T ÚFI	Z	È È È Ú	È È È Ú	€	À F E E
HH	T ÚFÍ	Z	È È È Ú	È È È Ú	€	À F E E
HI	T ÚFÎ	Z	È È È Ú	È È È Ú	€	À F E E

A Ya Vyf'8 jgfvI hYX' @ UXg'f6 @ '%. '9\ 'L'fGY]ga]WŁ

	T ^ { à ^ / Á cæ ^ }	Ö ä ^ & cä }	Ú cæ Á æ } æ á ^ Ž a D e H E O) á Á æ } æ á ^ Ž a D e H E Ú cæ Á Š & cæ } Ž Ě á	Ò) á Š & cæ } Ž Ě á		
F	P EEF	Y	È È È Ú	È È È Ú	€	À F E E
G	P EEG	Y	È È È Ú	È È È Ú	€	À F E E
H	P EEH	Y	È È È Ú	È È È Ú	€	À F E E
I	P EEI	Y	È È È Ú	È È È Ú	€	À F E E
Í	P EEÍ	Y	È È È Ú	È È È Ú	€	À F E E
Î	P EEÎ	Y	È È È Ú	È È È Ú	€	À F E E
J	P EEJ	Y	È È È Ú	È È È Ú	€	À F E E
F€	P E€E	Y	È È È Ú	È È È Ú	€	À F E E
FF	P EFF	Y	È È È Ú	È È È Ú	€	À F E E
FG	P EFG	Y	È È È Ú	È È È Ú	€	À F E E
FH	P EFH	Y	È È È Ú	È È È Ú	€	À F E E
FI	P EFI	Y	È È È Ú	È È È Ú	€	À F E E
FÍ	P EFÍ	Y	È È È Ú	È È È Ú	€	À F E E
FÎ	P EFÎ	Y	È È È Ú	È È È Ú	€	À F E E
FÏ	P EFÏ	Y	È È È Ú	È È È Ú	€	À F E E
FJ	T ÚF	Y	È È È Ú	È È È Ú	€	À F E E
G€	T ÚG	Y	È È È Ú	È È È Ú	€	À F E E
G€	T ÚG	Y	È È È Ú	È È È Ú	€	À F E E
GF	T ÚH	Y	È È È Ú	È È È Ú	€	À F E E
GG	T ÚI	Y	È È È Ú	È È È Ú	€	À F E E
GH	T ÚÍ	Y	È È È Ú	È È È Ú	€	À F E E
GI	T ÚÎ	Y	È È È Ú	È È È Ú	€	À F E E
GJ	T ÚJ	Y	È È È Ú	È È È Ú	€	À F E E
GK	T ÚK	Y	È È È Ú	È È È Ú	€	À F E E
GL	T ÚL	Y	È È È Ú	È È È Ú	€	À F E E
GM	T ÚM	Y	È È È Ú	È È È Ú	€	À F E E
GN	T ÚN	Y	È È È Ú	È È È Ú	€	À F E E
GO	T ÚO	Y	È È È Ú	È È È Ú	€	À F E E
GP	T ÚP	Y	È È È Ú	È È È Ú	€	À F E E
GQ	T ÚQ	Y	È È È Ú	È È È Ú	€	À F E E
GR	T ÚR	Y	È È È Ú	È È È Ú	€	À F E E
GS	T ÚS	Y	È È È Ú	È È È Ú	€	À F E E
GT	T ÚT	Y	È È È Ú	È È È Ú	€	À F E E
GU	T ÚU	Y	È È È Ú	È È È Ú	€	À F E E
GV	T ÚV	Y	È È È Ú	È È È Ú	€	À F E E
GW	T ÚW	Y	È È È Ú	È È È Ú	€	À F E E
GX	T ÚX	Y	È È È Ú	È È È Ú	€	À F E E
GY	T ÚY	Y	È È È Ú	È È È Ú	€	À F E E
H€	T ÚFG	Y	È È È Ú	È È È Ú	€	À F E E
HF	T ÚFH	Y	È È È Ú	È È È Ú	€	À F E E
HG	T ÚFI	Y	È È È Ú	È È È Ú	€	À F E E
HH	T ÚFÍ	Y	È È È Ú	È È È Ú	€	À F E E
HI	T ÚFÎ	Y	È È È Ú	È È È Ú	€	À F E E

A Ya Vyf'8 jgfvI hYX' @ UXg'f6 @ '& : '6 @ ' 'HfUbg]Ybh5 fYU @ UXgŁ

	T ^ { à ^ / Á cæ ^ }	Ö ä ^ & cä }	Ú cæ Á æ } æ á ^ Ž a D e H E O) á Á æ } æ á ^ Ž a D e H E Ú cæ Á Š & cæ } Ž Ě á	Ò) á Š & cæ } Ž Ě á		
F	P EEF	Z	È È È Ú	È È È Ú	€	F I È È I I
G	P EEG	Z	È È È Ú	È È È Ú	€	F I È È I I
H	P EEH	Z	È È È Ú	È È È Ú	€	F I È È I I
I	P EEI	Z	È È È Ú	È È È Ú	€	J H
Í	P EEÍ	Z	È È È Ú	È È È Ú	€	J H



Ô{ }] a^ ^ K Q E A{ a a A[, A{ A{ O[] E
 Ô• a } A K T a & @] E @ }
 R{ a A^ { a^ K F H E E F J' Ô{ ' e
 T{ a^ A p a^ A K H H I I E O p a A{ } c a a^ A

T a A H E O E E
 H H I A U T
 Ô @ & ^ a A O k E

A Ya Vyf'8]gfh]Vi hYX' @ UXg'f6 @ ' " & : '6 @ ' +HfUbg]Ybh5 f YU' @ UXgk'f7 c bhbi YXL

	T^{ a^ / A a^ A }	Oã^ & cã }	Ù c a O A a e } a^ a^ Z a D a H H O) a A a e } a^ a^ Z a D a H H O Ù c a O A a e } a e a }	Zã Eã á	O) a A A a e a e }	Zã Eã á
FG	P E F H	Z	H H I	H H I	€	F E H I
FH	P E F I	Z	H H I	H H I	€	F E H I
FI	P E F Í	Z	H H I I	H H I I	€	F E H I
FÍ	P E F Í	Z	H H I I	H H I I	€	F E H I
FÌ	P E F Ì	Z	H H I I	H H I I	€	F E H I
FÌ	P E F Ì	Z	H H I I	H H I I	€	F E H I
FÌ	W E G	Z	H H H	H H H	€	H
FJ	W E G J	Z	H H O	H H O	€	F E
G E	W E G	Z	H H O	H H O	€	F E
GF	W E G	Z	H H O	H H O	€	F E
GG	W E G	Z	H H O	H H O	€	F E
GH	W E G J	Z	H H O	H H O	€	F E
G	W E H E	Z	H H O	H H O	€	F E
G	W E H F	Z	H H O	H H O	€	F E
G	W E H G	Z	H H O	H H O	€	F E
G	W E H H	Z	H H O	H H O	€	F E
G	W E H I	Z	H H O	H H O	€	F E
GJ	T U F	Z	H H I I	H H I I	€	I I
H E	T U G	Z	H H I I	H H I I	€	I I
HF	T U H	Z	H H I I	H H I I	€	I I
HG	T U I	Z	H H I I	H H I I	€	I I
HH	T U J	Z	H H I I	H H I I	€	F E E
HI	T U J	Z	H H I I	H H I I	€	F E E
HÍ	T U Í	Z	H H I I	H H I I	€	F E E
HÌ	T U Ì	Z	H H J I	H H J I	€	J I
HÌ	T U J	Z	H H J I	H H J I	€	J I
HÌ	T U F E	Z	H H J I	H H J I	€	J I
HJ	T U F F	Z	H H I I	H H I I	€	I I
I E	T U F G	Z	H H I I	H H I I	€	I I
IF	T U F H	Z	H H I I	H H I I	€	I I
IG	T U F I	Z	H H I I	H H I I	€	I I
I H	T U F Í	Z	H H I I	H H I I	€	I I
II	T U F Ì	Z	H H I I	H H I I	€	I I

A Ya Vyf'8]gfh]Vi hYX' @ UXg'f6 @ ' " : '6 @ ' , HfUbg]Ybh5 f YU' @ UXgk

	T^{ a^ / A a^ A }	Oã^ & cã }	Ù c a O A a e } a^ a^ Z a D a H H O) a A a e } a^ a^ Z a D a H H O Ù c a O A a e } a e a }	Zã Eã á	O) a A A a e a e }	Zã Eã á
F	P E E G	Y	H H I I	H H I I	€	F I E H I I
G	P E E H	Y	H H I I	H H I I	€	F I E H I I
H	P E E I	Y	H H I H	H H I H	€	J H
I	P E E Í	Y	H H E E	H H E E	€	J H
Í	P E E Í	Y	H H I H	H H I H	€	J H
Ì	P E E Ì	Y	H H I H	H H I H	€	F E H I
Ì	P E E Ì	Y	H H I H	H H I H	€	F E H I
Ì	P E E J	Y	H H I H	H H I H	€	F E H I
J	P E E E	Y	H H I H	H H I H	€	F E H I
F E	P E F F	Y	H H G G	H H G G	€	F E H I
FF	P E F G	Y	H H G G	H H G G	€	F E H I
FG	P E F H	Y	H H G G	H H G G	€	F E H I
FH	P E F I	Y	H H G G	H H G G	€	F E H I
FI	P E F Í	Y	H H O F	H H O F	€	F E H I
FÍ	P E F Í	Y	H H O F	H H O F	€	F E H I



0[{] a^ ^ K Oe ^ i aae A[, ^ i A[] i E
 O^ a } ^ K T a & @] i O @)
 R a A b ^ { a ^ K F H e e e F J ' O i ' e i
 T [a ^ i p a e ^ K H H i i i e O c a e A O [] c a e ^ i

T a e A H e e e e e
 H H i A U T
 O @ & ^ a A O ^ k e e

A Ya Vyf'8]g]f]Vi hYX' @ UXg'f6 @ ' ' : '6 @ ; 'HfUbg]Ybh5 f YU @ UXg'f7 c bh]bi YXL

	T ^ { a ^ i A e a ^ i }	O a ^ & c a }	U c e o A e } a e a ^ z a D e i i e O) a A T e e } a e a ^ z a D e i i e U c e o A e } e a e } z a e a a	O) a A e } e a e } z a e a a	O) a A e } e a e } z a e a a	O) a A e } e a e } z a e a a
F i	P e f i	Y	e e e F	e e e F	e	F e e e i
F i	P e f i	Y	e e e F	e e e F	e	F e e e i
F i	w e f j	Y	e e e i	e e e i	e	F e e
F j	w e g e	Y	e e e i	e e e i	e	F e e
G e	w e g f	Y	e e e i	e e e i	e	F e e
G f	w e g g	Y	e e e i	e e e i	e	F e e
G g	w e g h	Y	e e e i	e e e i	e	F e e
G h	w e g i	Y	e e e	e e e	e	H
G	w e g i	Y	e e e h	e e e h	e	F e e
G	w e g i	Y	e e e h	e e e h	e	F e e
G	w e g i	Y	e e e h	e e e h	e	F e e
G	w e g i	Y	e e e h	e e e h	e	F e e
G	w e g i	Y	e e e h	e e e h	e	F e e
G	w e g j	Y	e e e h	e e e h	e	F e e
G j	w e h e	Y	e e e h	e e e h	e	F e e
H e	w e h f	Y	e e e h	e e e h	e	F e e
H f	w e h g	Y	e e e h	e e e h	e	F e e
H g	w e h h	Y	e e e h	e e e h	e	F e e
H h	w e h i	Y	e e e h	e e e h	e	F e e
H	T u f	Y	e e e i i	e e e i i	e	i i
H	T u g	Y	e e e i i	e e e i i	e	i i
H	T u h	Y	e e e i i	e e e i i	e	i i
H	T u i	Y	e e e i i	e e e i i	e	i i
H	T u j	Y	e e e i i	e e e i i	e	F e e
H j	T u j	Y	e e e i i	e e e i i	e	F e e
I e	T u j	Y	e e e i i	e e e i i	e	F e e
I f	T u i	Y	e e e j i	e e e j i	e	J i
I g	T u j	Y	e e e j i	e e e j i	e	J i
I h	T u f e	Y	e e e j i	e e e j i	e	J i
I i	T u f f	Y	e e e i i	e e e i i	e	i i
I i	T u f g	Y	e e e i i	e e e i i	e	i i
I i	T u f h	Y	e e e i i	e e e i i	e	i i
I i	T u f i	Y	e e e i i	e e e i i	e	i i
I i	T u f i	Y	e e e i i	e e e i i	e	i i
I j	T u f i	Y	e e e i i	e e e i i	e	i i

A Ya Vyf'5 f YU @ UXg'f6 @ ' ' : 'K j b X' i N L

	R a o e	R a o o	R a o o	R a o o	O a ^ & c a }	O a d a e c a }	T a e } a e a ^ z a e a a
F	P O S F	P O S G	P O S I	P O S H	U Z	U J ^) A J c ^ & c i ^	E H E J I i

A Ya Vyf'5 f YU @ UXg'f6 @ (: 'K j b X' i L L

	R a o e	R a o o	R a o o	R a o o	O a ^ & c a }	O a d a e c a }	T a e } a e a ^ z a e a a
F	P O S H	P O S I	P O S I	P O S I	U Y	U J ^) A J c ^ & c i ^	E H E J I i

A Ya Vyf'5 f YU @ UXg'f6 @) : 'K j b X' i N f H V L L

	R a o e	R a o o	R a o o	R a o o	O a ^ & c a }	O a d a e c a }	T a e } a e a ^ z a e a a
F	P O S F	P O S G	P O S I	P O S H	U Z	U J ^) A J c ^ & c i ^	E J E F J

A Ya Vyf'5 f YU @ UXg'f6 @ * : 'K j b X' i L f H V L L

	R a o e	R a o o	R a o o	R a o o	O a ^ & c a }	O a d a e c a }	T a e } a e a ^ z a e a a

Site Name: Meriden North CT
Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*
	(MHz)		(watts)	(watts)	(feet)	(mW/cm ²)	(mW/cm ²)
VZW 700	746	4	648	2,593	125	0.0597	0.497333333
VZW Cellular	869	2	256	512	125	0.0118	0.579333333
VZW Cellular	880	4	372	1,488	125	0.0343	0.586666667
VZW PCS	1970	4	1,528	6,112	125	0.1407	1.0
VZW AWS	2145	4	1,528	6,112	125	0.1407	1.0
VZW CBRS	3550	4	55	220	125	0.0051	1.0

Total Percentage of Maximum Permissible Exposure

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Section 1.13101 based on NCRP Report 86, 19

MHz = Megahertz

mW/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used, including the following assumptions:

1. closest accessible point is distance from antenna to base of pole;
2. continuous transmission from all available channels at full power for indefinite time period; and,
3. all RF energy is assumed to be directed solely to the base of the pole.

Fraction of MPE
(%)
12.00%
2.03%
5.84%
14.07%
14.07%
0.51%
48.51%

86 and generally on ANSI/IEEE C95.1-1992



PROJECT NOTES:

1. ALL REFERENCES TO THE OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED VERIZON WIRELESS OR ITS DESIGNATED REPRESENTATIVE.
2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF CONNECTICUT.
3. WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE 2018 CONNECTICUT STATE BUILDING CODE.
4. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
5. ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERSEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
6. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND IT'S COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
7. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATIONS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES.
8. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
10. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.
11. ALL PERMITS THAT MUST BE OBTAINED ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
12. IF APPLICABLE, ALL CONCRETE WORK SHALL COMPLY TO LOCAL CODES AND THE ACI 318-11, "BUILDING REQUIREMENTS FOR STRUCTURAL CONCRETE".
13. ALL TOWER DIMENSIONS SHALL BE VERIFIED WITH THE PLANS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE ENGINEER IMMEDIATELY IF ANY DISCREPANCIES ARE DISCOVERED. THE OWNER SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.
14. ALL TOWER MODIFICATION WORK SHALL BE IN ACCORDANCE WITH TIA-1019-A STANDARD FOR INSTALLATION, ALTERATION AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

PLANS PREPARED FOR:

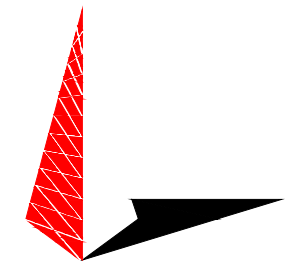


3500 REGENCY PKWY #100
CARY, NC 27518

PROJECT INFORMATION:

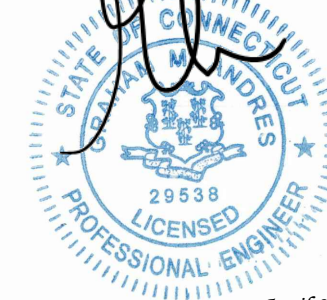
**VZW LOCATION
CODE: 468208
VZW SITE NAME:
MERIDEN NORTH CT**
119 EMPIRE AVE
MERIDEN, CT 06450
(NEW HAVEN COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



April 28, 2020

O	04-28-20	100% CONSTRUCTION
B	02-03-20	90% CONSTRUCTION
A	12-18-19	PRELIMINARY
REV	DATE	ISSUED FOR:

DRAWN BY: KMH | CHECKED BY: DEL

SHEET TITLE:

**PROJECT
NOTES**

SHEET NUMBER:

N-1

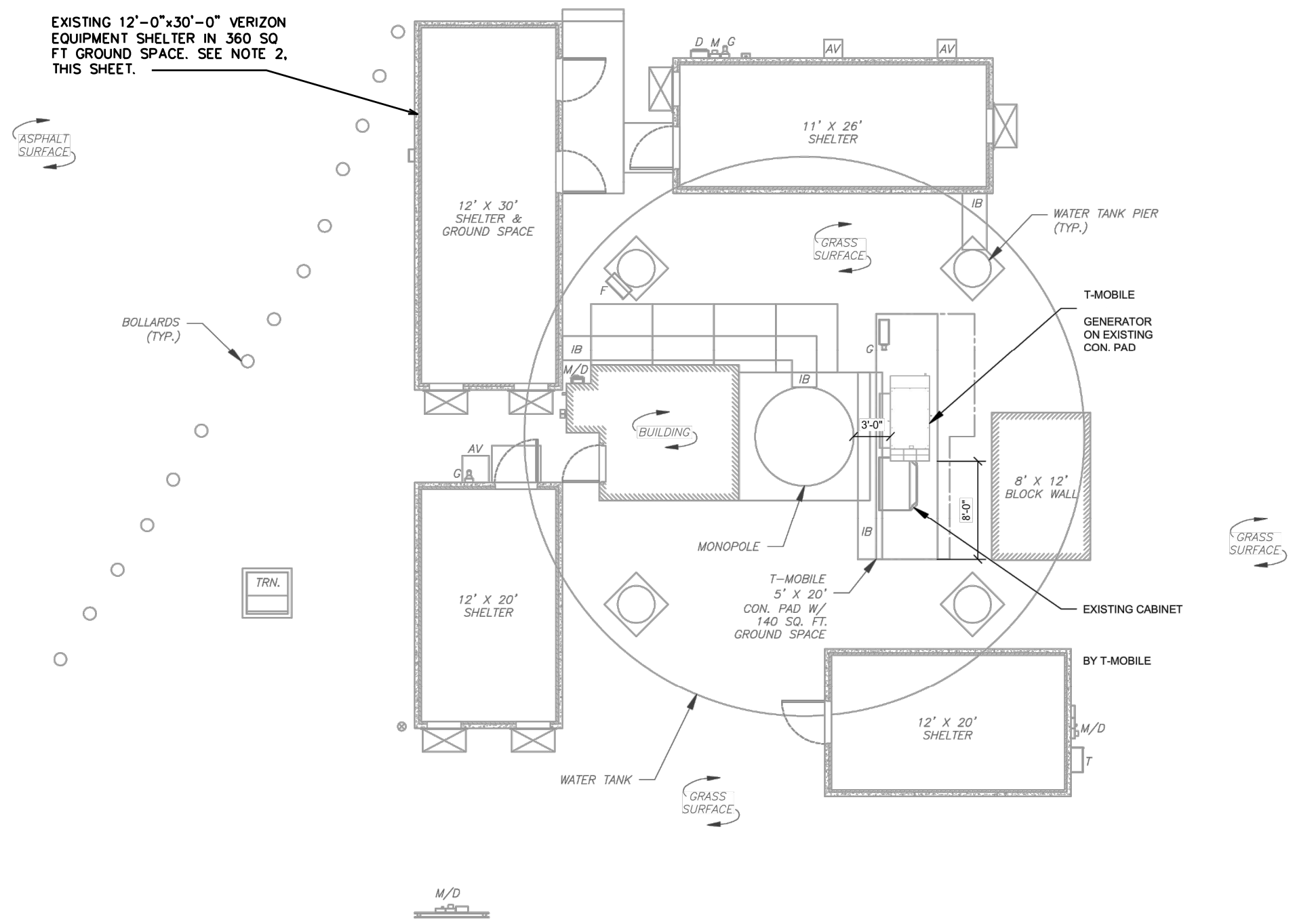
REVISION:

0

TEP#: 132182.207362

NOTES:

1. COMPOUND DETAIL SHOWN BELOW TAKEN FROM INFORMATION PROVIDED BY ATC. CONTRACTOR TO VERIFY ALL EXISTING INFORMATION IS AS INDICATED ON SITE PLAN. CONTRACTOR IS TO ESTABLISH THE EXISTENCE AND LOCATION OF ALL EXISTING OVERHEAD AND UNDERGROUND UTILITIES. IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES.
2. ALL GROUNDWORK TO BE PERFORMED WITHIN EXISTING VERIZON GROUND SPACE. NO PROPOSED ADDITIONS TO EXISTING SITE FOOTPRINT.

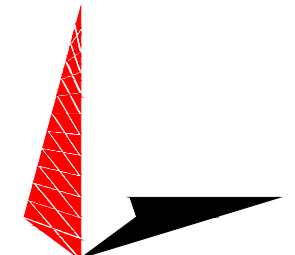


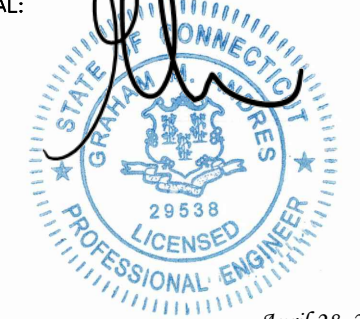
EXISTING 12'-0"x30'-0" VERIZON EQUIPMENT SHELTER IN 360 SQ FT GROUND SPACE. SEE NOTE 2, THIS SHEET.



PLANS PREPARED FOR:
verizon
 3500 REGENCY PKWY #100
 CARY, NC 27518

PROJECT INFORMATION:
VZW LOCATION CODE: 468208
VZW SITE NAME: MERIDEN NORTH CT
 119 EMPIRE AVE
 MERIDEN, CT 06450
 (NEW HAVEN COUNTY)

PLANS PREPARED BY:

TOWER ENGINEERING PROFESSIONALS
 326 TRYON ROAD
 RALEIGH, NC 27603-3530
 OFFICE: (919) 661-6351
 www.togroup.net

SEAL:

 April 28, 2020

REV	DATE	ISSUED FOR:
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A	12-18-19	PRELIMINARY

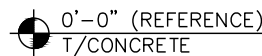
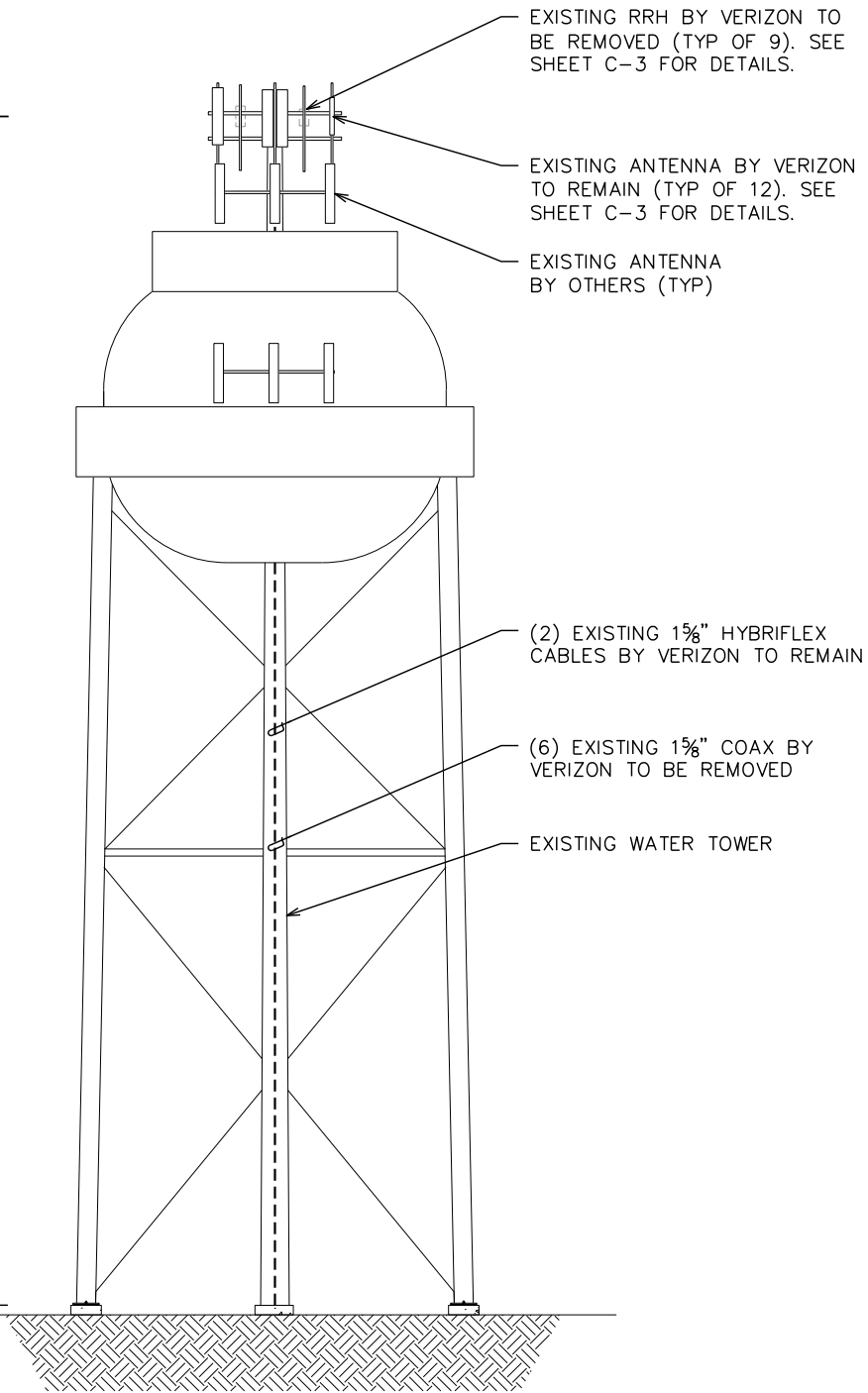
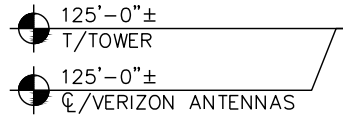
DRAWN BY: KMH | CHECKED BY: DEL

SHEET TITLE:
COMPOUND DETAIL

SHEET NUMBER: **C-1** | REVISION: **0**
 TEP#: 132182.207362

NOTE:

TOWER ELEVATION IS FOR SCHEMATIC PURPOSES ONLY. TEP DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA HEIGHTS, ANTENNA AZIMUTHS, AND MOUNT CONFIGURATIONS.



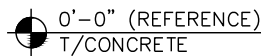
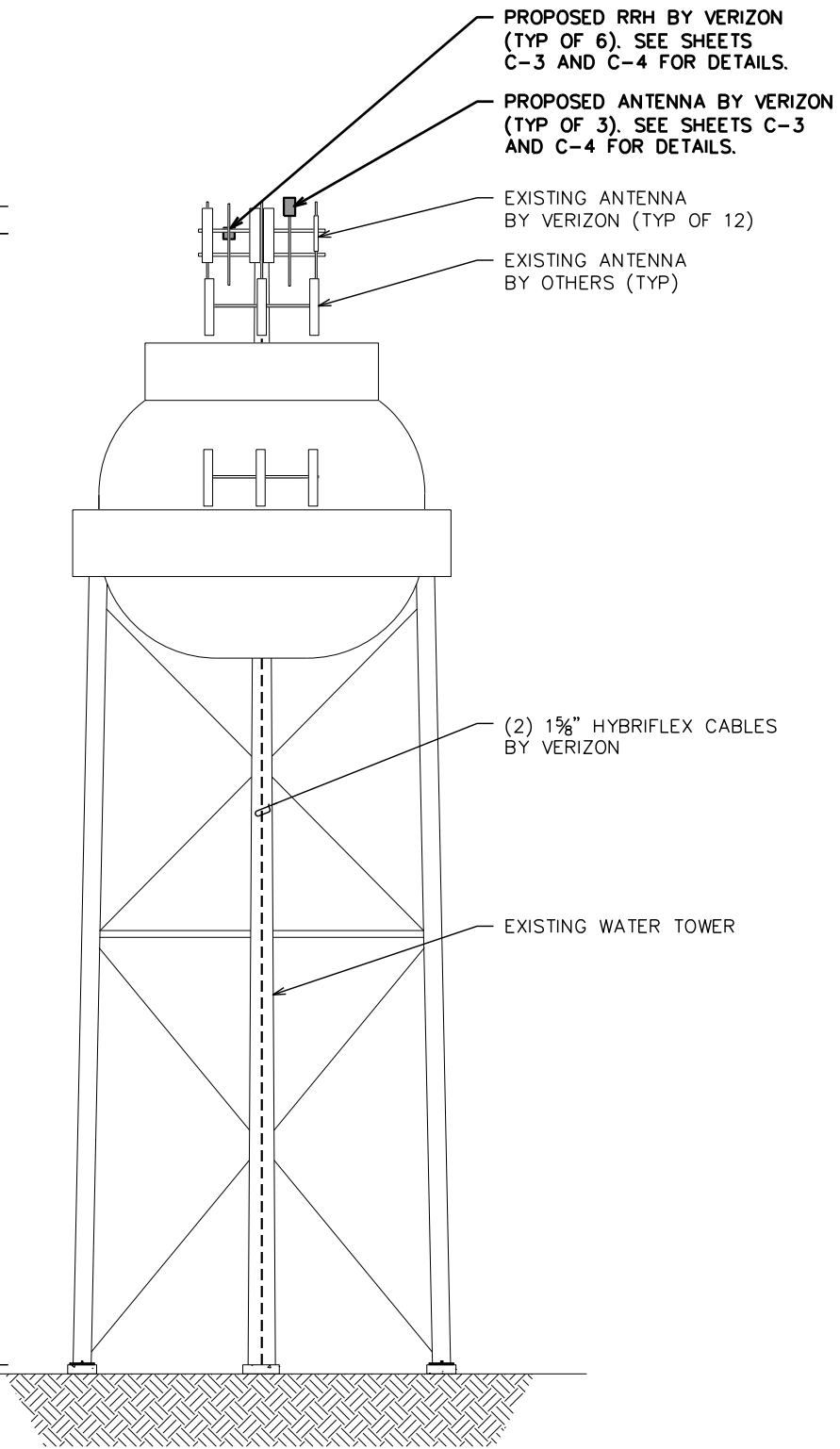
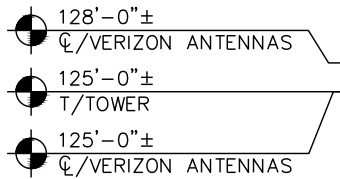
EXISTING TOWER ELEVATION

SCALE: 1" = 20'



NOTE:

TOWER ELEVATION IS FOR SCHEMATIC PURPOSES ONLY. TEP DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA HEIGHTS, ANTENNA AZIMUTHS, AND MOUNT CONFIGURATIONS.



PROPOSED TOWER ELEVATION

SCALE: 1" = 20'



PLANS PREPARED FOR:

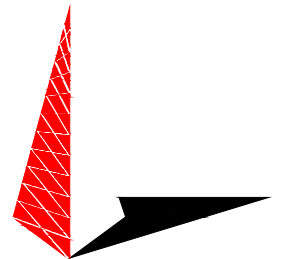


3500 REGENCY PKWY #100
CARY, NC 27518

PROJECT INFORMATION:

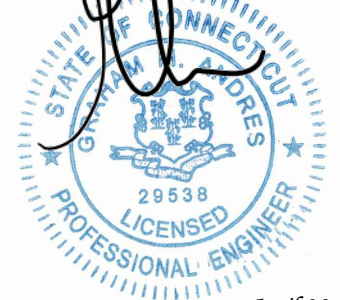
VZW LOCATION CODE: 468208
VZW SITE NAME: MERIDEN NORTH CT
119 EMPIRE AVE
MERIDEN, CT 06450
(NEW HAVEN COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



April 28, 2020

0	04-28-20	100% CONSTRUCTION
B	02-03-20	90% CONSTRUCTION
A	12-18-19	PRELIMINARY
REV	DATE	ISSUED FOR:

DRAWN BY: KMH CHECKED BY: DEL

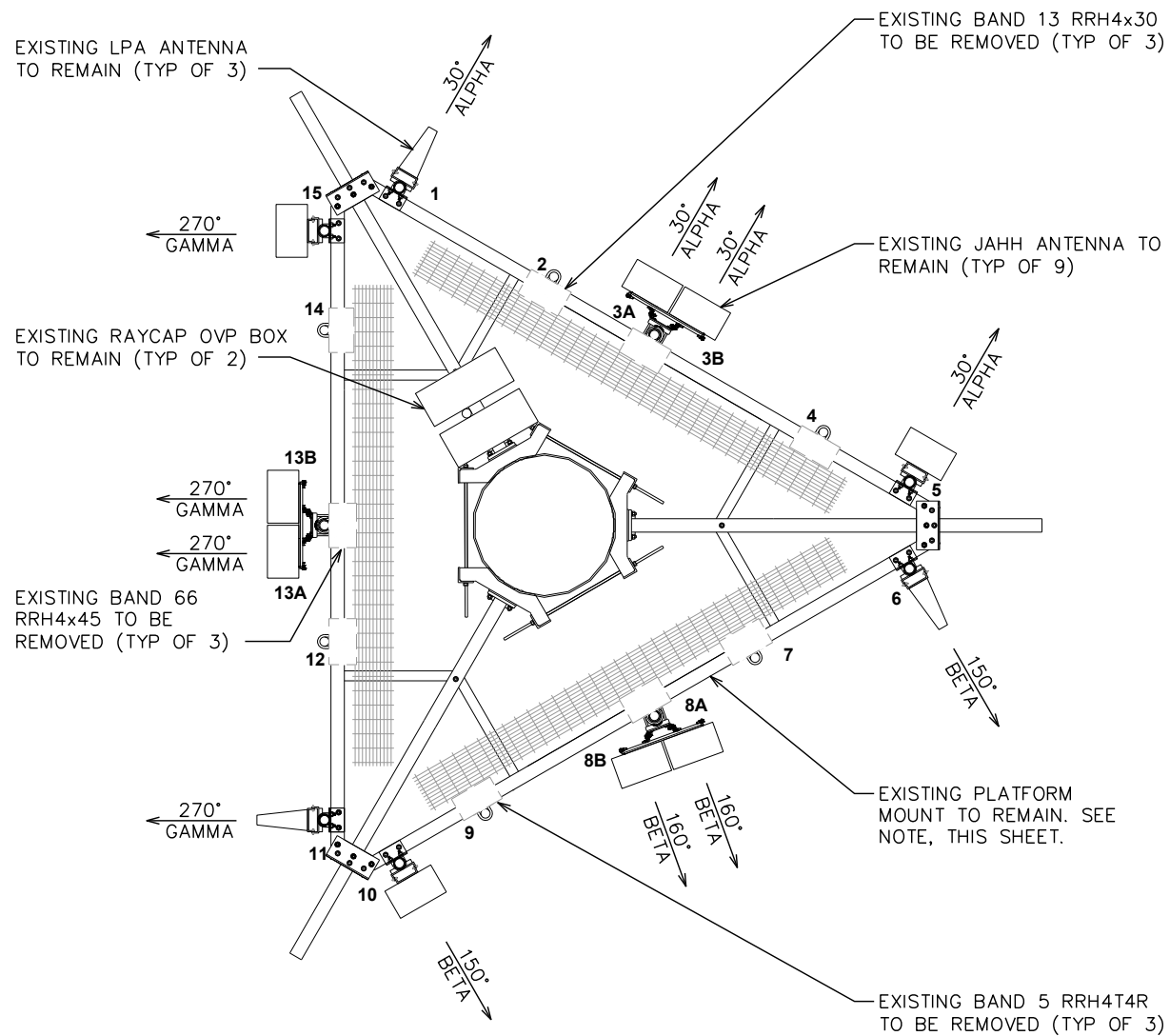
SHEET TITLE:

TOWER ELEVATION

SHEET NUMBER: C-2	REVISION: 0
TEP#: 132182.207362	

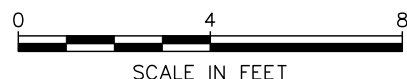
NOTE:

TEP HAS NOT VERIFIED ANY EXISTING ANTENNA CONFIGURATION OR MOUNT CONFIGURATION. CONTRACTOR TO VERIFY MOUNT CONFIGURATION HAS SUFFICIENT SPACE FOR PROPOSED LESSEE EQUIPMENT (I.E. CLEARANCES, MOUNT PIPE OF SUFFICIENT LENGTH, ETC.). TEP DID NOT ANALYZE ANTENNA MOUNT TO DETERMINE ADEQUATE STRUCTURAL CAPACITY FOR ANY LESSEE LOADING.



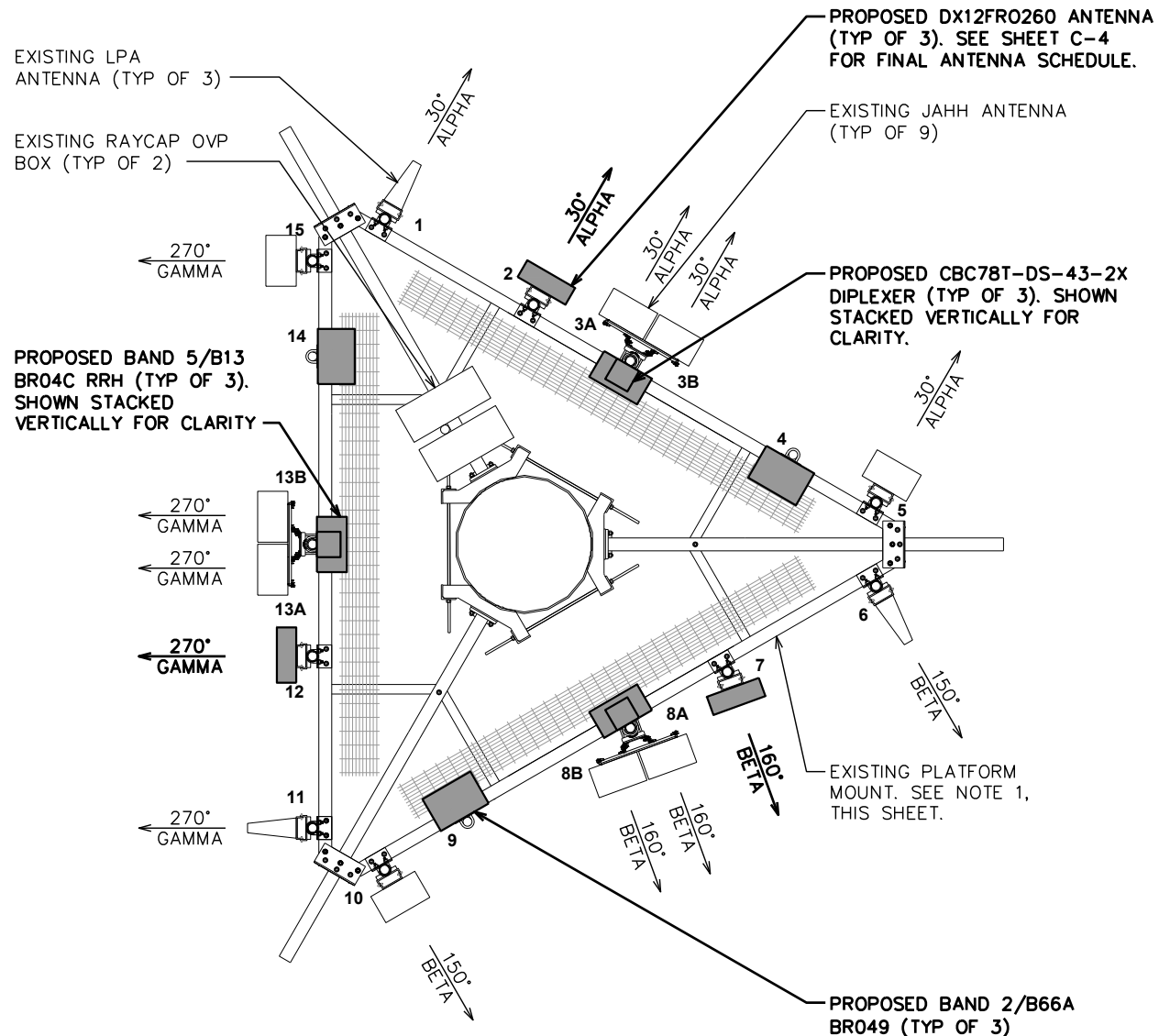
EXISTING ANTENNA PLAN

SCALE: 1/4" = 1'-0"



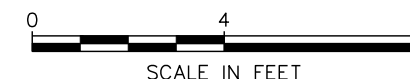
NOTES:

1. TEP HAS NOT VERIFIED ANY EXISTING ANTENNA CONFIGURATION OR MOUNT CONFIGURATION. CONTRACTOR TO VERIFY MOUNT CONFIGURATION HAS SUFFICIENT SPACE FOR PROPOSED LESSEE EQUIPMENT (I.E. CLEARANCES, MOUNT PIPE OF SUFFICIENT LENGTH, ETC.). TEP DID NOT ANALYZE ANTENNA MOUNT TO DETERMINE ADEQUATE STRUCTURAL CAPACITY FOR ANY LESSEE LOADING.
2. CONTRACTOR TO VERIFY PROPOSED LOADING WITH TOWER STRUCTURAL ANALYSIS PRIOR TO CONSTRUCTION.
3. EXISTING MOUNT HAS SUFFICIENT STRUCTURAL CAPACITY. SEE PASSING ANTENNA MOUNT ANALYSIS REPORT BY AMERICAN TOWER CORPORATION, DATED APRIL 03, 2020 FOR DETAILS.



PROPOSED ANTENNA PLAN

SCALE: 1/4" = 1'-0"



PLANS PREPARED FOR:

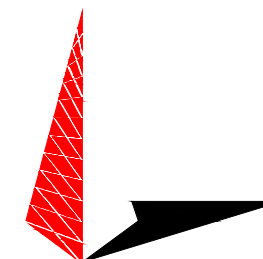


3500 REGENCY PKWY #100
CARY, NC 27518

PROJECT INFORMATION:

**VZW LOCATION
CODE: 468208
VZW SITE NAME:
MERIDEN NORTH CT**
119 EMPIRE AVE
MERIDEN, CT 06450
(NEW HAVEN COUNTY)

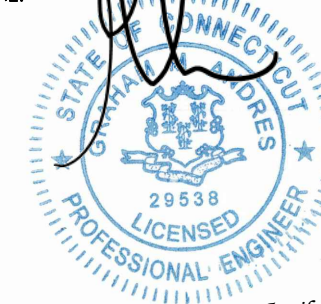
PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS

326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



April 28, 2020

0	04-28-20	100% CONSTRUCTION
B	02-03-20	90% CONSTRUCTION
A	12-18-19	PRELIMINARY
REV	DATE	ISSUED FOR:

DRAWN BY: KMH | CHECKED BY: DEL

SHEET TITLE:

ANTENNA LAYOUT

SHEET NUMBER:

C-3

REVISION:

0

TEP#: 132182.207362

NOTES:

1. CONTRACTOR TO REFERENCE VERIZON ISSUED RFDS AND GIVE PRECEDENCE TO INFORMATION PROVIDED IN RFDS OVER INFORMATION PROVIDED IN THIS TABLE.
2. VERIFY LOADING WITH STRUCTURAL ANALYSIS PRIOR TO CONSTRUCTION.
3. IF STRUCTURAL ANALYSIS AND RFDS DO NOT MATCH CONTRACTOR IS TO CONTACT AMERICAN TOWER CORPORATION IMMEDIATELY.

PROPOSED EQUIPMENT IN BOLD

FINAL ANTENNA/FEEDLINE SCHEDULE							
SECTOR	POS.	MANUFACTURER MODEL #	MOUNTING HEIGHT	CABLE SIZE	AZIMUTH (TN)	*CABLE LENGTH	OVP/RRH/TMA/DIPLEXER [MODEL #]
ALPHA	1	ANTEL LPA-80080/4CF	☉ @ 125'-0"±	(2) 1 5/8" HYBRIFLEX	30°	-	(2) RAYCAP OVP BOX [DB-T1-6Z-8AB-OZ] (1) SAMSUNG RRH [B5/B13 RRH-BR04C] (1) SAMSUNG RRH [B2/B66A RRH-BR049] (1) COMMSCOPE DIPLEXER [CBC78T-DS-43-2X]
ALPHA	2	JMA WIRELESS DX12FRO260-20	☉ @ 128'-0"±		30°		
ALPHA	3A	COMMSCOPE JAHH-65B-R3B	☉ @ 125'-0"±		30°		
ALPHA	3B	COMMSCOPE JAHH-65B-R3B	☉ @ 125'-0"±		30°		
ALPHA	4	-	-		-		
ALPHA	5	COMMSCOPE JAHH-65B-R3B	☉ @ 125'-0"±		30°		
BETA	6	ANTEL LPA-80080/4CF	☉ @ 125'-0"±		150°		(1) SAMSUNG RRH [B5/B13 RRH-BR04C] (1) SAMSUNG RRH [B2/B66A RRH-BR049] (1) COMMSCOPE DIPLEXER [CBC78T-DS-43-2X]
BETA	7	JMA WIRELESS DX12FRO260-20	☉ @ 128'-0"±		150°		
BETA	8A	COMMSCOPE JAHH-65B-R3B	☉ @ 125'-0"±		160°		
BETA	8B	COMMSCOPE JAHH-65B-R3B	☉ @ 125'-0"±		160°		
BETA	9	-	-		-		
BETA	10	COMMSCOPE JAHH-65B-R3B	☉ @ 125'-0"±		160°		
GAMMA	11	ANTEL LPA-80080/4CF	☉ @ 125'-0"±		270°		(1) SAMSUNG RRH [B5/B13 RRH-BR04C] (1) SAMSUNG RRH [B2/B66A RRH-BR049] (1) COMMSCOPE DIPLEXER [CBC78T-DS-43-2X]
GAMMA	12	JMA WIRELESS DX12FRO260-20	☉ @ 128'-0"±		270°		
GAMMA	13A	COMMSCOPE JAHH-65B-R3B	☉ @ 125'-0"±		270°		
GAMMA	13B	COMMSCOPE JAHH-65B-R3B	☉ @ 125'-0"±	270°			
GAMMA	14	-	-	-			
GAMMA	15	COMMSCOPE JAHH-65B-R3B	☉ @ 125'-0"±	270°			

*CONTRACTOR TO VERIFY CABLE LENGTH PRIOR TO CONSTRUCTION.

**ANTENNA DESIGN BASED ON INFORMATION PROVIDED BY AMERICAN TOWER CORPORATION IN THE FORM OF AN APPLICATION (ID: 13000519).

PLANS PREPARED FOR:

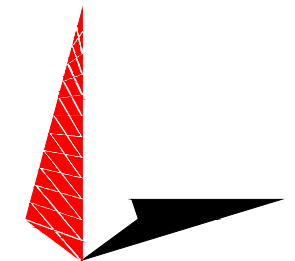


3500 REGENCY PKWY #100
CARY, NC 27518

PROJECT INFORMATION:

**VZW LOCATION
CODE: 468208
VZW SITE NAME:
MERIDEN NORTH CT**
119 EMPIRE AVE
MERIDEN, CT 06450
(NEW HAVEN COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS

326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



April 28, 2020

O	04-28-20	100% CONSTRUCTION
B	02-03-20	90% CONSTRUCTION
A	12-18-19	PRELIMINARY
REV	DATE	ISSUED FOR:

DRAWN BY: KMH | CHECKED BY: DEL

SHEET TITLE:

**FINAL ANTENNA
SCHEDULE**

SHEET NUMBER:

C-4

REVISION:

0

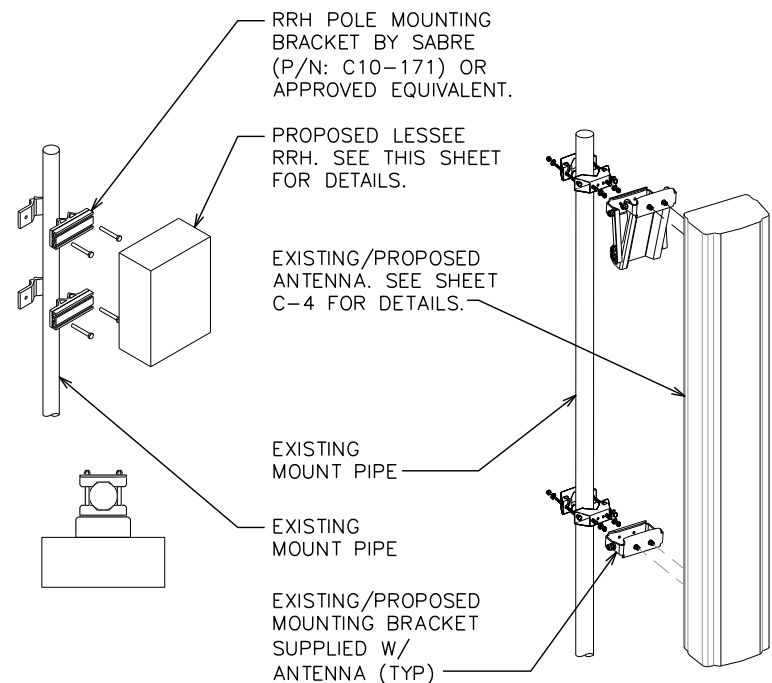
TEP#: 132182.207362

FINAL ANTENNA SCHEDULE

SCALE: N.T.S.

RRH

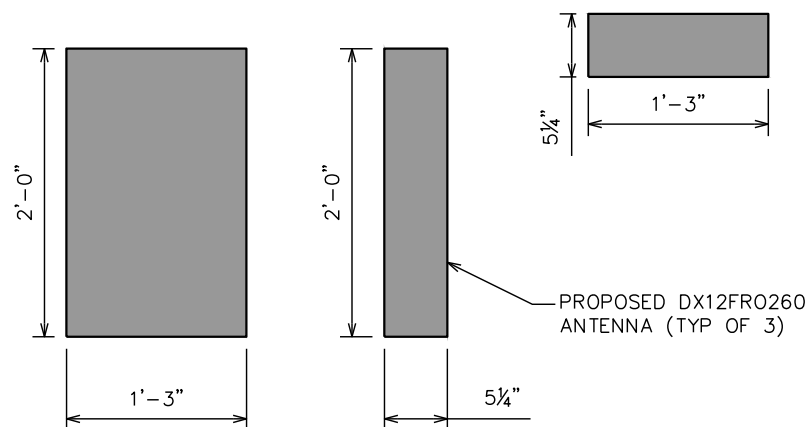
ANTENNA



FRONT

SIDE

TOP



EQUIPMENT MOUNTING DETAIL

SCALE: N.T.S.

PROPOSED DX12FRO260 ANTENNA DETAIL

SCALE: N.T.S.

PLANS PREPARED FOR:

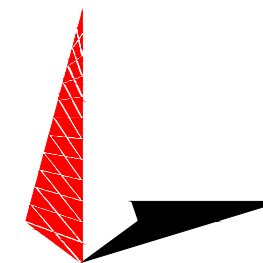


3500 REGENCY PKWY #100
CARY, NC 27518

PROJECT INFORMATION:

VZW LOCATION CODE: 468208
VZW SITE NAME: MERIDEN NORTH CT
119 EMPIRE AVE
MERIDEN, CT 06450
(NEW HAVEN COUNTY)

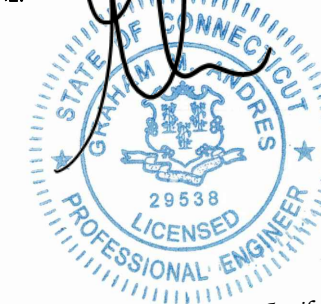
PLANS PREPARED BY:



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A	12-18-19	PRELIMINARY

DRAWN BY: KMH CHECKED BY: DEL

SHEET TITLE:

EQUIPMENT DETAILS

SHEET NUMBER:

C-5

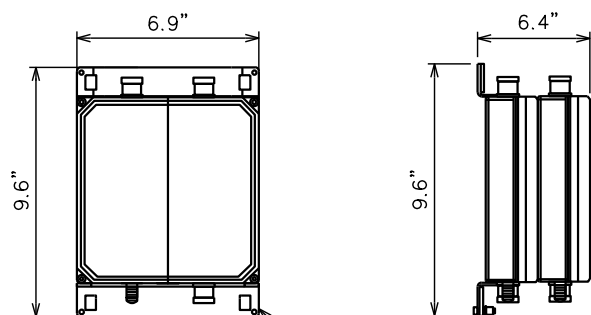
REVISION:

0

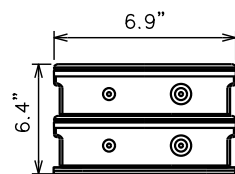
TEP#: 132182.207362

FRONT

SIDE



TOP



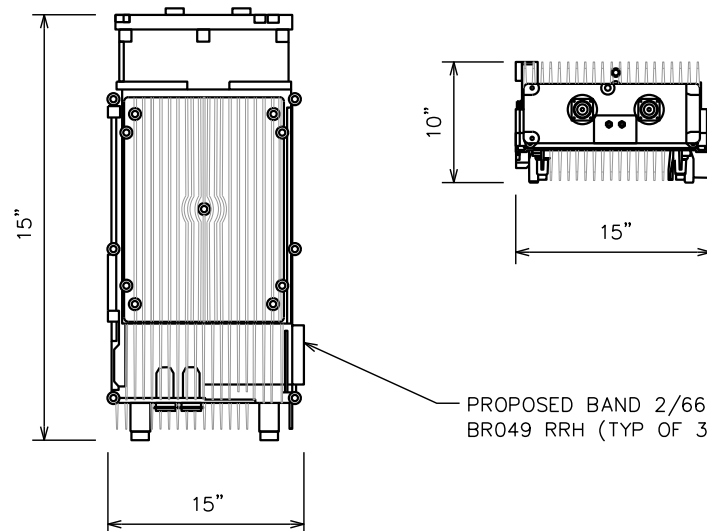
PROPOSED CBC78T-DS-43-2X DIPLEXER (TYP OF 3)

PROPOSED COMMSCOPE DIPLEXER DETAIL

SCALE: N.T.S.

FRONT

TOP



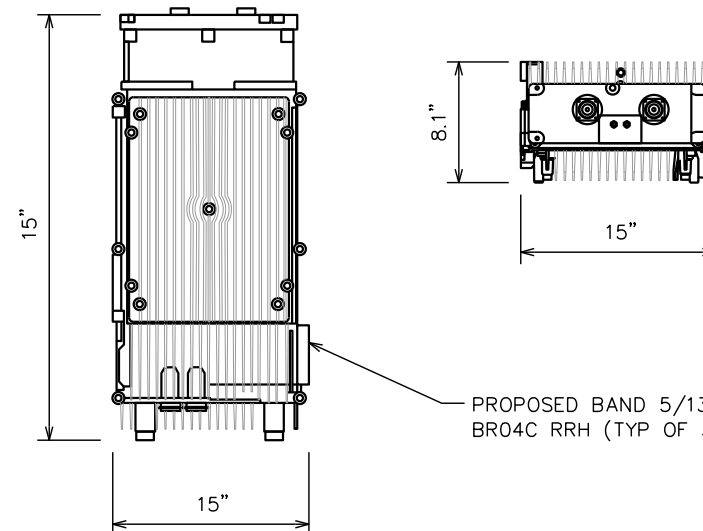
PROPOSED BAND 2/66A BR049 RRH (TYP OF 3)

PROPOSED BAND 2/66A BR049 RRH DETAIL

SCALE: N.T.S.

FRONT

TOP



PROPOSED BAND 5/13 BR04C RRH (TYP OF 3)

PROPOSED BAND B5/B13 RRH DETAIL

SCALE: N.T.S.