

Alex Murshteyn, Site Acquisition Consultant
c/o Cellco Partnership d/b/a Verizon Wireless
Centerline Communications, LLC
750 West Center Street, Floor 3
West Bridgewater, MA 02379
Mobile: (508) 821-0159
AMurshteyn@centerlinecommunications.com

February 19, 2020

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

**RE: Notice of Exempt Modification // Site: Naugatuck West CT (ATC: 283423)
0 (aka 880) Andrew Mountain Road, Naugatuck, CT 06473
N 41.48445 // W -73.08984**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless currently maintains 9 antennas at the 106-foot level on the existing 119-foot monopole tower, located at (880) Andrew Mountain Road, Naugatuck, CT. The Council approved Verizon Wireless use of the tower in 2013. The tower is owned by American Tower. The property is owned by Franklin B. Andrew, Jr. Verizon Wireless now intends to remove 3 of its existing antennas and to update existing equipment as part of its (700/850/1900/2100 MHz) PCS/AWS/LTE upgrade. Additionally, Verizon Wireless will replace all of its remote radio head units (RRUs) with 6 new RRUs, 3 combiners, 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 Mayor N. Warren "Pete" Hess III, for the Town and Borough of Naugatuck, to its Land Use Office, including for Planning & Zoning, to American Tower, the tower owner, and to the ground owner, Franklin B. Andrew, Jr.

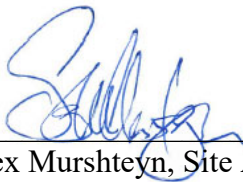
The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). Enclosed to accommodate this filing are construction drawings dated February 13, 2020, structural analysis dated November 19, 2019 and antenna mount analysis dated February 7 and stamped February 10, 2020 by A.T. Engineering Service,

PLLC, 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 by A.T. Engineering Service, PLLC, dated and stamped November 19, 2019 and mount analysis dated February 7 and stamped February 10, 2020.

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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750 West Center Street, Floor 3
West Bridgewater, MA 02379
Mobile: (508) 821-0159
AMurshteyn@centerlinecommunications.com

Attachments

cc: Pete Hess III, Mayor, Town and Borough of Naugatuck - as elected official
Land Use/Planning/Zoning Employees, Land Use Office - as P&Z official
Franklin B. Andrew, Jr. - as ground owner
American Tower Corporation - as tower owner

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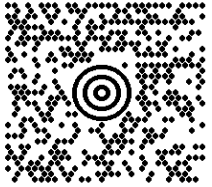

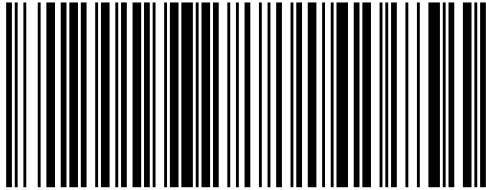

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DWT: 14,11,1		
SHIP TO: MAYOR N. WARREN "PETE" HASS III MAYOR'S OFFICE 229 CHURCH ST NAUGATUCK CT 06770-4121		
	CT 067 9-04 	
UPS GROUND TRACKING #: 1Z 9Y4 503 03 1281 5236		
		
BILLING: P/P		
Reference # 1: 283423 aka Naugatuck West CT Reference # 2: 13000540 / CSC EM - CEO		CS 22.0.11. WNTINV50 83.0A 12/2019

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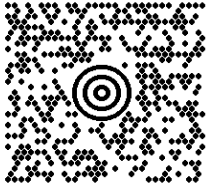

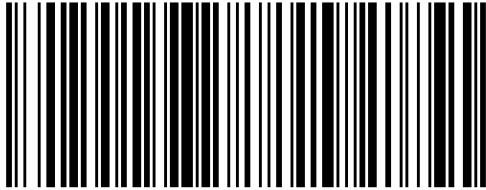

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DWT: 14,11,1		
SHIP TO: LAND USE OFFICE BOROUGH OF NAUGATUCK 229 CHURCH ST NAUGATUCK CT 06770-4121		
	CT 067 9-04 	
UPS GROUND TRACKING #: 1Z 9Y4 503 03 1586 4240		
		
BILLING: P/P		
Reference # 1: 283423 aka Naugatuck West CT Reference # 2: 13000540 / CSC EM - P&Z		
<small>CS 22.0.11. WNTINV50 83.0A 12/2019</small>		

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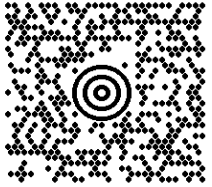

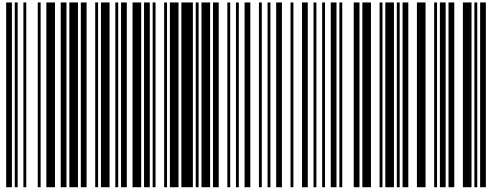

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DWT: 14,11,1		
SHIP TO: FRANKLIN B. ANDREW, JR. 325 MILLVILLE AVE NAUGATUCK CT 06770-3710		
	CT 067 9-04 	
UPS GROUND TRACKING #: 1Z 9Y4 503 03 0871 5254		
		
BILLING: P/P		
Reference # 1: 283423 aka Naugatuck West CT Reference # 2: 13000540 / CSC EM - GO		CS 22.0.11. WNTINV50 83.0A 12/2019

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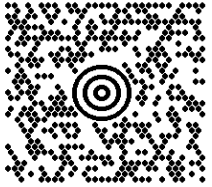

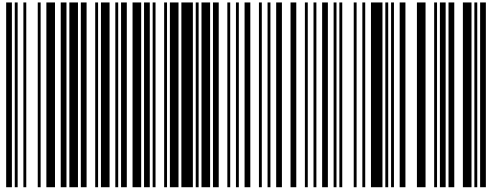

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SHIP TO: BLAKE PAYNTER AMERICAN TOWER CORP 10 PRESIDENTIAL WAY WOBURN MA 01801-1053		
	MA 018 9-04 	
UPS GROUND TRACKING #: 1Z 9Y4 503 03 1176 8263		
		
BILLING: P/P		
Reference # 1: 283423 aka Naugatuck West CT Reference # 2: 13000540 / CSC EM - TO		
<small>CS 22.0.11. WNTINV50 83.0A 12/2019</small>		

PETITION NO. 973 – North Atlantic Towers, LLC and New Cingular Wireless PCS, LLC petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required to replace and expand an existing structure located at 880 Andrew Mountain Road, Naugatuck, Connecticut.	} } }	Connecticut Siting Council April 28, 2011
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Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the installation of a telecommunications facility at 880 Andrew Mountain Road in Naugatuck, Connecticut will not have a substantial adverse environmental effect, and pursuant to General Statutes § 16-50k(a), and hereby declares that the project will not require a Certificate of Environmental Compatibility and Public Need.

Unless otherwise approved by the Council, the facility shall be constructed, operated, and maintained substantially as specified in the Council’s record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of New Cingular Wireless PCS, LLC (AT&T) and other entities, both public and private, but such tower shall not exceed a height of 120 feet above ground level. The height at the top of the AT&T’s antennas shall not exceed 120 feet above ground level.
2. The compound associated with the facility shall be constructed within a 50-foot by 50-foot area located as far south as possible within the leased area.
3. The access drive shall be constructed in the originally proposed location approximately 50 feet from the northern property boundary.
4. The Petitioner shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Naugatuck for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping;
 - b) potential tower painting or tower material options that would mitigate visual impact to the surrounding area; and
 - c) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

5. Prior to the commencement of operation, the Petitioner shall provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Petitioner shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
6. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
7. The Petitioner shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
8. The Petitioner shall provide reasonable space on the tower for no compensation for any Town of Naugatuck public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
9. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed with at least one fully operational wireless telecommunications carrier providing wireless service within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Petitioner shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Petitioner shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.
10. Any request for extension of the time period referred to in Condition 9 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Naugatuck. Any proposed modifications to this Decision and Order shall likewise be so served.
11. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Petitioner shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
12. Any nonfunctioning antenna, and associated antenna mounting equipment, on this facility shall be removed within 60 days of the date the antenna ceased to function.
13. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Petitioner shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Petitioner shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.

14. The Petitioner shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.
15. This declaratory ruling may be transferred in accordance with Conn. Gen. Stat. §16-50k(b), provided both the Petitioner/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the Petitioner/transferor and the transferee shall provide the Council a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.
16. The Petitioner shall maintain the facility and associated equipment, including but not limited to, the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line and landscaping in a reasonable physical and operational condition that is consistent with this Decision and Order and a Development and Management Plan to be approved by the Council.
17. If the Petitioner is a wholly-owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the Petitioner within 30 days of the sale and/or transfer.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Republican-American and the Citizen's News.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Petitioner

North Atlantic Towers, LLC and
New Cingular Wireless PCS LLC

Its Representative

Lucia Chiocchio, Esq.
Christopher B. Fisher, Esq.
Cuddy & Feder LLP
445 Hamilton Avenue, 14th Floor
White Plains, NY 10601



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CORPORATION

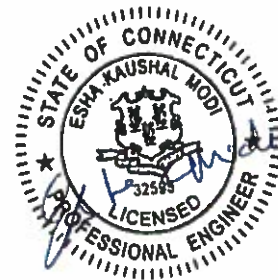
Structural Analysis Report

Structure : 119 ft Monopole
ATC Site Name : NAUGATUCK CT, CT
ATC Asset Number : 283423
Engineering Number : 13000540_C3_03
Proposed Carrier : VERIZON WIRELESS
Carrier Site Name : NAUGATUCK WEST CT
Carrier Site Number : 469151
Site Location : 880 Andrew Mountain Road
Naugatuck, CT 06770-3656
41.484500,-73.089800
County : New Haven
Date : November 19, 2019
Max Usage : 42%
Result : Pass

Prepared By:
Hussam Al Tahan, E.I.
Structural Engineer I

Hussam Al Tahan

Reviewed By:



Authorized by "EOR"
Nov 19 2019 5:27 PM **cosign**

COA: PEC.0001553



Table of Contents

Introduction	1
Supporting Documents	1
Analysis	1
Conclusion.....	1
Existing and Reserved Equipment.....	2
Equipment to be Removed.....	2
Proposed Equipment	2
Structure Usages	3
Foundations	3
Deflection and Sway	3
Standard Conditions	4
Calculations	Attached



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 119 ft monopole to reflect the change in loading by VERIZON WIRELESS.

Supporting Documents

Tower Drawings	TransAmerican DaVinci Job #11235-1298, dated June 14, 2011
Foundation Drawing	TransAmerican DaVinci Job #11235-1298, dated June 14, 2011
Geotechnical Report	Terracon Project #J2115128, dated May 10, 2011

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:	$S_s = 0.19$, $S_1 = 0.06$
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
119.0	4	Raycap DC6-48-60-18-8F	Platform with Handrails	(4) 0.39" (10mm) Fiber Trunk (2) 0.40" (10.3mm) Fiber (8) 0.78" (19.7mm) 8 AWG 6 (3) 3/8" (0.38"- 9.5mm) RET Control Cable	AT&T MOBILITY
	3	Ericsson RRUS 4478 B14 (15")			
	3	Ericsson RRUS 32 (50.8 lbs)			
	3	Ericsson RRUS 32 B66A			
	3	Ericsson RRUS 32 B2			
	9	Ericsson RRUS-11			
	3	Kathrein Scala 80010966			
	9	CCI HPA-65R-BUU-H8			
106.0	4	Commscope JAHH-65B-R3B	Low Profile Platform	(6) 1 5/8" Coax	VERIZON WIRELESS
	2	Commscope JAHH-45B-R3B			

Equipment to be Removed

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
106.0	3	Nokia B5 RRH4x40-850	-	(2) 1 5/8" (1.63"- 41.3mm) Fiber	VERIZON WIRELESS
	3	Alcatel-Lucent RRH4x30W-B25			
	3	Antel BXA-70063-6CF-EDIN-X			
	3	Alcatel-Lucent B66 RRH4x45			
	3	Alcatel-Lucent B13 RRH4x30-4R 700U			

Proposed Equipment

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
106.0	3	Commscope CBC78T-DS-43-2X	Low Profile Platform	(1) 1 5/8" Hybriflex	VERIZON WIRELESS
	3	Samsung B5/B13 RRH-BR04C			
	3	Samsung B2/B66A RRH-BR049			
	2	Raycap RCMDC-6627-PF-48			

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

Install proposed coax inside the pole shaft.



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	40%	Pass
Shaft	41%	Pass
Base Plate	15%	Pass

Foundations

Reaction Component	Original Design Reactions	Analysis Reactions	% of Design
Moment (Kips-Ft)	3,850.0	1,545.2	40%
Shear (Kips)	42.0	17.6	42%

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
106.0	Commscope CBC78T-DS-43-2X	VERIZON WIRELESS	0.395	0.410
	Samsung B5/B13 RRH-BR04C			
	Samsung B2/B66A RRH-BR049			
	Raycap RCMDC-6627-PF-48			

*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:

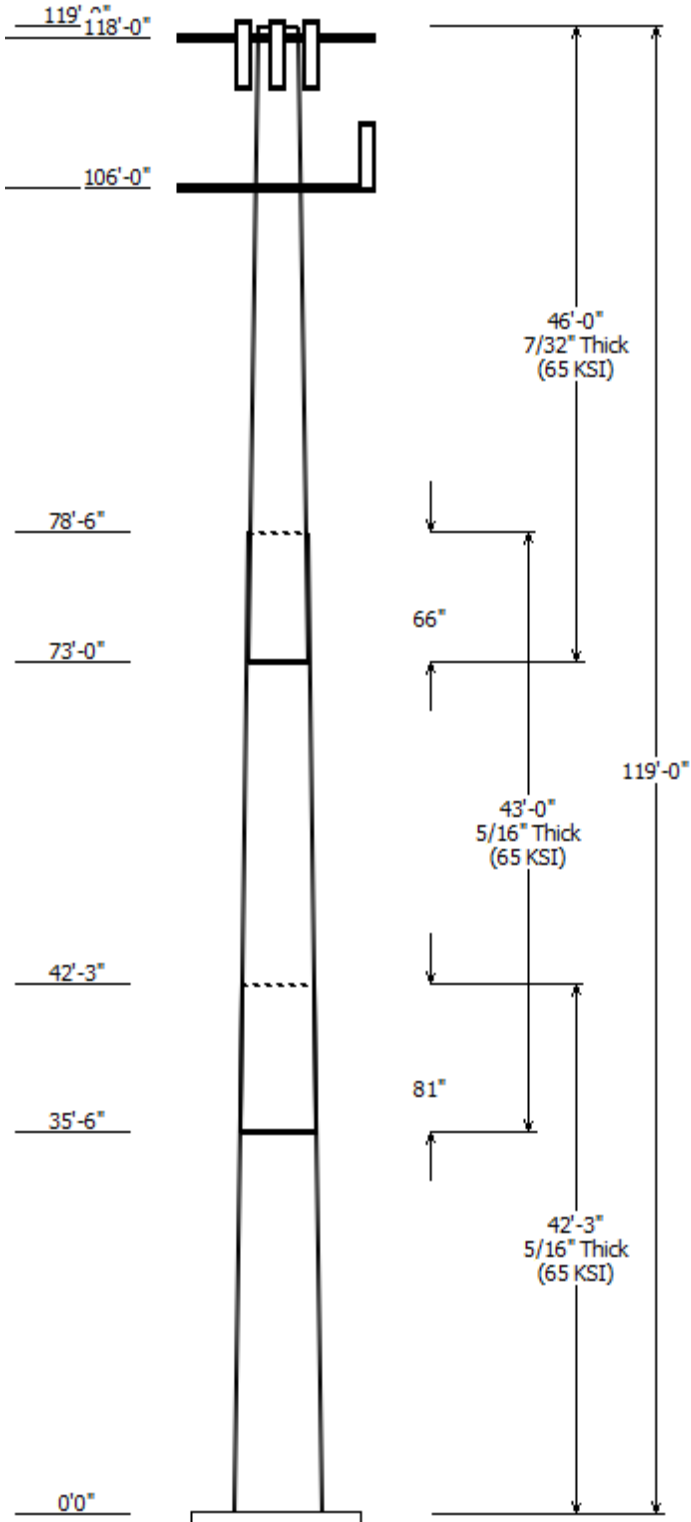
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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.



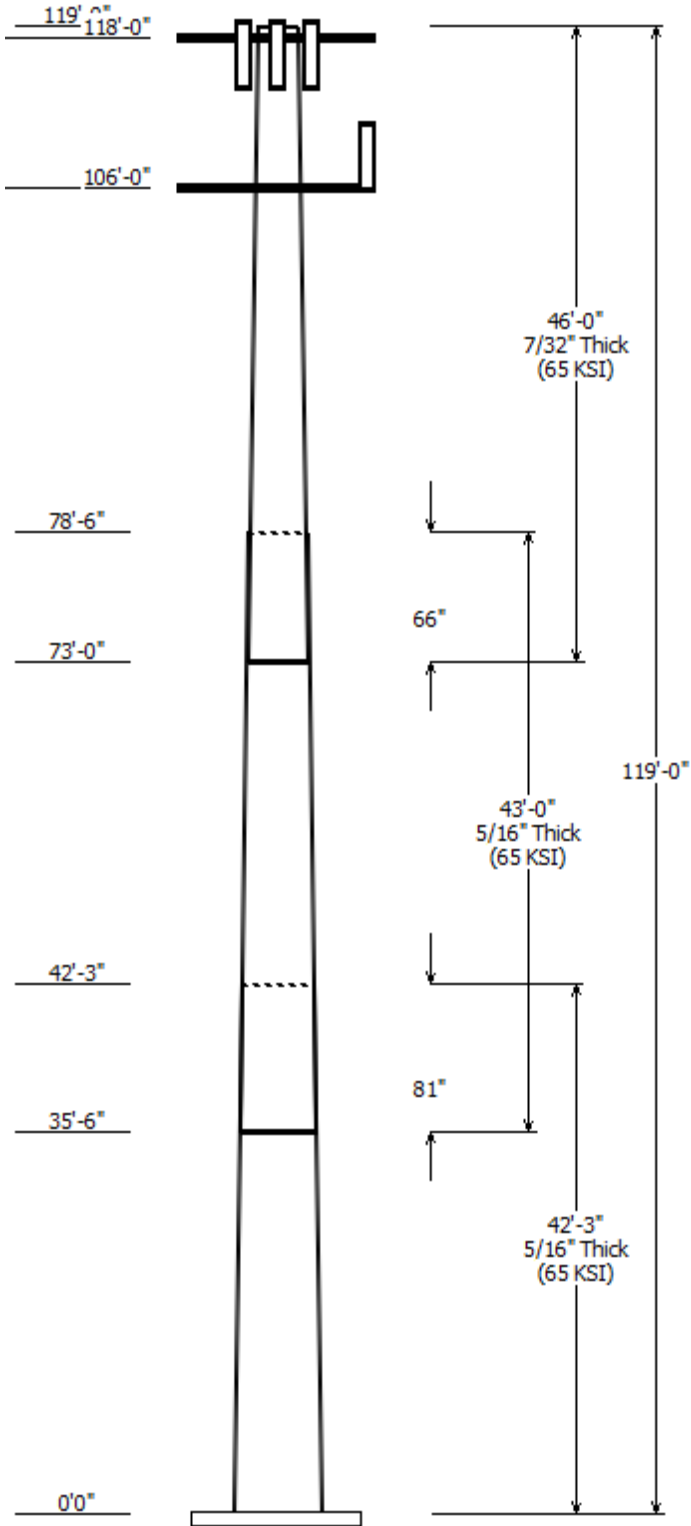
Job Information		
Client : VERIZON WIRELESS	Code: ANSI/TIA-222-G	
Pole : 283423	Location : NAUGATUCK CT, CT	
Description :	Struct Class : II	
Shape : 18 Sides	Exposure : B	
Height : 119.00 (ft)	Topo : 1	
Base Elev (ft): 0.00	Taper: 0.257182in/ft	

Sections Properties						
Shaft Section	Length (ft)	Diameter (in)		Joint Type	Overlap Length (in)	Steel Grade
		Accross Top	Flats Bottom			
1	42.250	46.13	57.00	0.313	0.000	18 Sides 65
2	43.000	37.43	48.49	0.313 Slip Joint	81.000	18 Sides 65
3	46.000	27.45	39.28	0.219 Slip Joint	66.000	18 Sides 65

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
119.000	118.000	3	Kathrein Scala 80010966
119.000	118.000	9	CCI HPA-65R-BUU-H8
119.000	118.000	9	Ericsson RRUS-11
119.000	119.000	3	Ericsson RRUS 32 B2
119.000	119.000	3	Ericsson RRUS 32 B66A
119.000	118.000	3	Ericsson RRUS 32 (50.8 lbs)
119.000	118.000	3	Ericsson RRUS 4478 B14 (15")
119.000	118.000	4	Raycap DC6-48-60-18-8F
118.000	118.000	1	Round Platform w/ Handrails
106.000	106.000	1	Round Low Profile Platform
106.000	108.000	2	Commscope JAHH-45B-R3B
106.000	108.000	4	Commscope JAHH-65B-R3B
106.000	106.000	2	Raycap RCMD-6627-PF-48
106.000	106.000	3	Samsung B2/B66A RRH-BR049
106.000	106.000	3	Samsung B5/B13 RRH-BR04C
106.000	106.000	3	Commscope CBC78T-DS-43-2X

Linear Appurtenance			
Elev (ft)		Description	Exposed To Wind
From	To		
0.000	106.0	1 5/8" Coax	No
0.000	106.0	1 5/8" Hybriflex	No
0.000	119.0	0.39" (10mm)	No
0.000	119.0	0.40" (10.3mm)	No
0.000	119.0	0.78" (19.7mm) 8	No
0.000	119.0	3/8" (0.38")	No

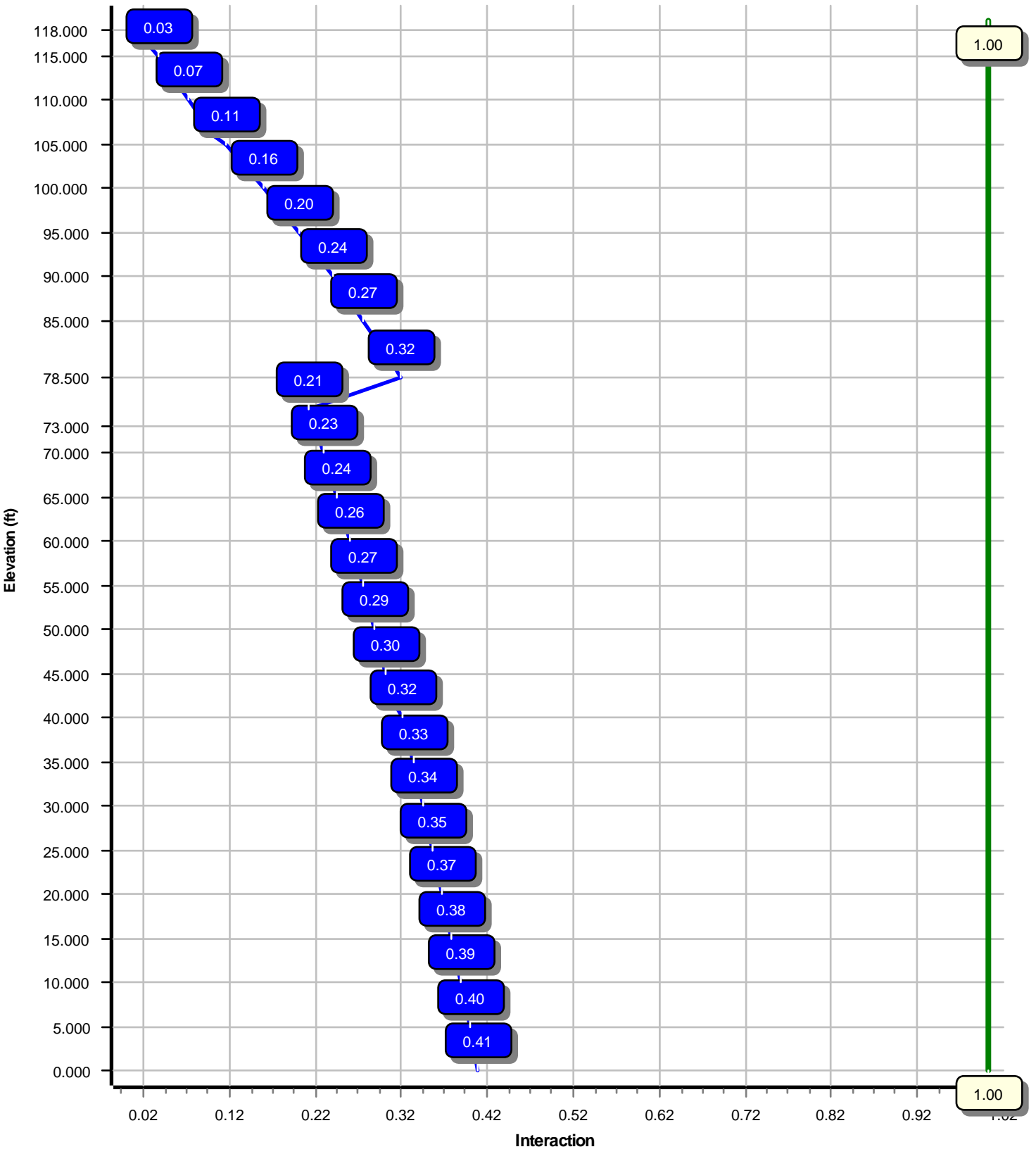
Load Cases	
1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (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	1545.21	17.58	30.14
0.9D + 1.6W	1537.48	17.57	22.60
1.2D + 1.0Di + 1.0Wi	423.06	5.00	46.04
(1.2 + 0.2Sds) * DL + E ELFM	115.44	1.20	29.93
(1.2 + 0.2Sds) * DL + E EMAM	201.20	1.94	29.93
(0.9 - 0.2Sds) * DL + E ELFM	114.74	1.20	20.72
(0.9 - 0.2Sds) * DL + E EMAM	199.90	1.94	20.72
1.0D + 1.0W	329.52	3.76	25.13

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

Load Case : 1.2D + 1.6W
Max Ratio 40.71% at 0.0 ft



Site Number: 283423

Code: ANSI/TIA-222-G

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Site Name: NAUGATUCK CT, CT

Engineering Number: 13000540_C3_03

11/19/2019 9:38:25 AM

Customer: VERIZON WIRELESS

Analysis Parameters

Location :	New Haven County, CT	Height (ft) :	119
Code :	ANSI/TIA-222-G	Base Diameter (in) :	57.00
Shape :	18 Sides	Top Diameter (in) :	27.46
Pole Type :	Taper	Taper (in/ft) :	0.257
Pole Manufacturer :	TransAmerican	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): 1.43

T_L (sec):	6	p :	1	C_s :	0.048
S_s :	0.192	S_1 :	0.064	C_s Max:	0.048
F_a :	1.600	F_v :	2.400	C_s Min:	0.030
S_{ds} :	0.205	S_{d1} :	0.102		

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 ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2Sds) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 283423

Code: ANSI/TIA-222-G

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Site Name: NAUGATUCK CT, CT

Engineering Number: 13000540_C3_03

11/19/2019 9:38:25 AM

Customer: VERIZON WIRELESS

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip 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	42.250	0.3125	65		0.00	7,309	57.00	0.00	56.22	22827.4	30.40	182.40	46.13	42.25	45.45	12056.0	24.27	147.63	0.257182
2-18	43.000	0.3125	65	Slip	81.00	6,190	48.49	35.50	47.79	14017.3	25.60	155.18	37.43	78.50	36.82	6411.4	19.36	119.80	0.257182
3-18	46.000	0.2188	65	Slip	66.00	3,604	39.28	73.00	27.13	5232.5	29.90	179.56	27.45	119.00	18.92	1773.3	20.36	125.49	0.257182
Shaft Weight						17,103													

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
119.00	Raycap DC6-48-60-18-8F	4	0.75	-1.000	20.00	1.260	0.50	71.53	1.904	0.50
119.00	Ericsson RRUS 4478 B14 (15")	3	0.75	-1.000	59.40	1.650	0.50	108.04	2.479	0.50
119.00	Ericsson RRUS 32 (50.8 lbs)	3	0.75	-1.000	50.80	2.690	0.67	120.80	3.820	0.67
119.00	Ericsson RRUS 32 B66A	3	0.75	0.000	50.70	2.720	0.67	122.43	3.859	0.67
119.00	Ericsson RRUS 32 B2	3	0.75	0.000	53.00	2.740	0.67	124.98	3.883	0.67
119.00	Ericsson RRUS-11	9	0.75	-1.000	55.00	3.790	0.61	142.86	5.046	0.61
119.00	CCI HPA-65R-BUU-H8	9	0.75	-1.000	68.00	12.980	0.67	319.48	16.485	0.67
119.00	Kathrein Scala 80010966	3	0.75	-1.000	114.60	17.360	0.63	428.87	20.970	0.63
118.00	Round Platform w/ Handrails	1	1.00	0.000	2,000.00	27.200	1.00	3,266.03	51.083	1.00
106.00	Commscope CBC78T-DS-43-2X	3	0.80	0.000	20.70	0.550	0.50	42.07	1.040	0.50
106.00	Samsung B5/B13 RRH-BR04C	3	0.80	0.000	70.30	1.880	0.50	125.64	2.756	0.50
106.00	Samsung B2/B66A RRH-BR049	3	0.80	0.000	84.40	1.880	0.50	146.12	2.756	0.50
106.00	Raycap RCMDC-6627-PF-48	2	0.80	0.000	32.00	4.060	0.79	154.95	5.382	0.79
106.00	Commscope JAHH-65B-R3B	4	0.80	2.000	60.60	9.110	0.69	256.31	11.793	0.69
106.00	Commscope JAHH-45B-R3B	2	0.80	2.000	83.80	11.400	0.73	304.85	14.097	0.73
106.00	Round Low Profile Platform	1	1.00	0.000	1,500.00	21.700	1.00	2,126.77	40.273	1.00
Totals	Num Loadings:16				56	6,672.70		15,441.69		

Linear Appurtenance Properties

Load Case Azimuth (deg) :

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Max Flat	Coax / Row	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind Carrier
0.00	119.00	4	0.39" (10mm) Fiber	0.39	0.06	N	0	0.00	0.00	0	0.00	N AT&T MOBILITY
0.00	119.00	2	0.40" (10.3mm) Fiber	0.40	0.09	N	0	0.00	0.00	0	0.00	N AT&T MOBILITY
0.00	119.00	8	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0.00	0.00	0	0.00	N AT&T MOBILITY
0.00	119.00	3	3/8" (0.38"- 9.5mm)	0.38	0.23	N	0	0.00	0.00	0	0.00	N AT&T MOBILITY
0.00	106.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N VERIZON WIRELESS
0.00	106.00	1	1 5/8" Hybriflex	1.98	1.30	N	0	0.00	0.00	0	0.00	N VERIZON WIRELESS

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		0.3125	57.000	56.225	22,827.4	30.40	182.40	65.6	788.8	0.0	0.0
5.00		0.3125	55.714	54.949	21,308.9	29.67	178.29	66.5	753.3	0.0	945.8
10.00		0.3125	54.428	53.674	19,859.3	28.95	174.17	67.4	718.7	0.0	924.1
15.00		0.3125	53.142	52.399	18,477.0	28.22	170.06	68.2	684.8	0.0	902.4
20.00		0.3125	51.856	51.123	17,160.3	27.50	165.94	69.1	651.8	0.0	880.7
25.00		0.3125	50.570	49.848	15,907.8	26.77	161.83	69.9	619.6	0.0	859.0
30.00		0.3125	49.285	48.572	14,717.7	26.05	157.71	70.8	588.2	0.0	837.3
35.00		0.3125	47.999	47.297	13,588.5	25.32	153.60	71.6	557.6	0.0	815.6
35.50	Bot - Section 2	0.3125	47.870	47.169	13,478.9	25.25	153.18	71.7	554.6	0.0	80.4
40.00		0.3125	46.713	46.022	12,518.6	24.59	149.48	72.5	527.8	0.0	1,436.5
42.25	Top - Section 1	0.3125	46.759	46.068	12,556.1	24.62	149.63	72.4	528.9	0.0	705.1
45.00		0.3125	46.052	45.366	11,991.2	24.22	147.37	72.9	512.9	0.0	427.8
50.00		0.3125	44.766	44.091	11,008.0	23.50	143.25	73.8	484.3	0.0	761.0
55.00		0.3125	43.480	42.815	10,080.1	22.77	139.14	74.6	456.6	0.0	739.3
60.00		0.3125	42.194	41.540	9,205.9	22.04	135.02	75.5	429.7	0.0	717.6
65.00		0.3125	40.908	40.264	8,383.7	21.32	130.91	76.3	403.7	0.0	695.9
70.00		0.3125	39.622	38.989	7,612.0	20.59	126.79	77.2	378.4	0.0	674.2
73.00	Bot - Section 3	0.3125	38.851	38.224	7,172.5	20.16	124.32	77.7	363.6	0.0	394.1
75.00		0.3125	38.336	37.714	6,889.1	19.87	122.68	78.0	353.9	0.0	441.8
78.50	Top - Section 2	0.2188	37.874	26.149	4,684.5	28.76	173.10	67.6	243.6	0.0	759.0
80.00		0.2188	37.488	25.882	4,542.0	28.45	171.33	67.9	238.6	0.0	132.8
85.00		0.2188	36.202	24.989	4,087.9	27.41	165.46	69.2	222.4	0.0	432.7
90.00		0.2188	34.916	24.096	3,665.1	26.38	159.58	70.4	206.7	0.0	417.6
95.00		0.2188	33.630	23.203	3,272.5	25.34	153.70	71.6	191.7	0.0	402.4
100.0		0.2188	32.344	22.310	2,909.0	24.30	147.83	72.8	177.1	0.0	387.2
105.0		0.2188	31.059	21.417	2,573.5	23.27	141.95	74.0	163.2	0.0	372.0
106.0		0.2188	30.801	21.238	2,509.6	23.06	140.77	74.3	160.5	0.0	72.6
110.0		0.2188	29.773	20.524	2,264.8	22.23	136.07	75.3	149.8	0.0	284.2
115.0		0.2188	28.487	19.631	1,981.9	21.19	130.20	76.5	137.0	0.0	341.6
118.0		0.2188	27.715	19.095	1,824.0	20.57	126.67	77.2	129.6	0.0	197.7
119.0		0.2188	27.458	18.916	1,773.3	20.36	125.49	77.4	127.2	0.0	64.7
											17,102.5

Load Case: 1.2D + 1.6W	97 mph with No Ice	19 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		218.5	0.0					0.0	0.0	218.5	0.0	0.0	0.0
5.00		431.9	1,134.9					0.0	72.3	431.9	1,207.2	0.0	0.0
10.00		422.0	1,108.9					0.0	72.3	422.0	1,181.2	0.0	0.0
15.00		412.0	1,082.8					0.0	72.3	412.0	1,155.1	0.0	0.0
20.00		402.0	1,056.8					0.0	72.3	402.0	1,129.1	0.0	0.0
25.00		392.1	1,030.7					0.0	72.3	392.1	1,103.0	0.0	0.0
30.00		386.6	1,004.7					0.0	72.3	386.6	1,077.0	0.0	0.0
35.00		212.6	978.7					0.0	72.3	212.6	1,051.0	0.0	0.0
35.50	Bot - Section 2	198.1	96.4					0.0	7.2	198.1	103.7	0.0	0.0
40.00		268.6	1,723.8					0.0	65.1	268.6	1,788.8	0.0	0.0
42.25	Top - Section 1	200.1	846.1					0.0	32.5	200.1	878.6	0.0	0.0
45.00		311.1	513.4					0.0	39.8	311.1	553.1	0.0	0.0
50.00		401.8	913.2					0.0	72.3	401.8	985.5	0.0	0.0
55.00		401.0	887.2					0.0	72.3	401.0	959.5	0.0	0.0
60.00		399.0	861.1					0.0	72.3	399.0	933.4	0.0	0.0
65.00		395.8	835.1					0.0	72.3	395.8	907.4	0.0	0.0
70.00		314.0	809.0					0.0	72.3	314.0	881.3	0.0	0.0
73.00	Bot - Section 3	195.5	472.9					0.0	43.4	195.5	516.3	0.0	0.0
75.00		214.5	530.2					0.0	28.9	214.5	559.1	0.0	0.0
78.50	Top - Section 2	194.0	910.8					0.0	50.6	194.0	961.4	0.0	0.0
80.00		248.7	159.3					0.0	21.7	248.7	181.0	0.0	0.0
85.00		378.2	519.3					0.0	72.3	378.2	591.6	0.0	0.0
90.00		370.8	501.1					0.0	72.3	370.8	573.4	0.0	0.0
95.00		362.7	482.8					0.0	72.3	362.7	555.1	0.0	0.0
100.00		353.9	464.6					0.0	72.3	353.9	536.9	0.0	0.0
105.00		209.1	446.4					0.0	72.3	209.1	518.7	0.0	0.0
106.00	Appurtenance(s)	169.9	87.1	2,655.2	0.0	2,720.2	3,000.2	0.0	14.5	2,825.1	3,101.8	0.0	0.0
110.00		300.4	341.1					0.0	28.0	300.4	369.0	0.0	0.0
115.00		261.3	409.9					0.0	35.0	261.3	444.9	0.0	0.0
118.00	Appurtenance(s)	128.1	237.2	1,135.0	0.0	0.0	2,400.0	0.0	21.0	1,263.1	2,658.2	0.0	0.0
119.00	Appurtenance(s)	31.7	77.6	4,797.2	0.0	-4,453.0	2,607.0	0.0	7.0	4,828.9	2,691.6	0.0	0.0
Totals:										17,773.2	30,153.9	0.00	0.00

Site Number: 283423

Code: ANSI/TIA-222-G

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Site Name: NAUGATUCK CT, CT

Engineering Number: 13000540_C3_03

11/19/2019 9:38:27 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W

97 mph with No Ice

19 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

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	-30.14	-17.58	0.00	-1,545.21	0.00	1,545.21	3,321.87	1,660.94	7,755.70	3,883.62	0.00	0.00	0.407
5.00	-28.90	-17.19	0.00	-1,457.31	0.00	1,457.31	3,288.72	1,644.36	7,503.17	3,757.16	0.05	-0.09	0.397
10.00	-27.70	-16.82	0.00	-1,371.34	0.00	1,371.34	3,253.61	1,626.81	7,249.81	3,630.29	0.20	-0.19	0.386
15.00	-26.52	-16.44	0.00	-1,287.27	0.00	1,287.27	3,216.54	1,608.27	6,995.93	3,503.16	0.45	-0.28	0.376
20.00	-25.36	-16.08	0.00	-1,205.06	0.00	1,205.06	3,177.52	1,588.76	6,741.83	3,375.93	0.80	-0.38	0.365
25.00	-24.24	-15.72	0.00	-1,124.68	0.00	1,124.68	3,136.53	1,568.26	6,487.84	3,248.74	1.25	-0.48	0.354
30.00	-23.14	-15.36	0.00	-1,046.09	0.00	1,046.09	3,093.58	1,546.79	6,234.27	3,121.77	1.80	-0.57	0.343
35.00	-22.07	-15.16	0.00	-969.29	0.00	969.29	3,048.68	1,524.34	5,981.43	2,995.16	2.45	-0.67	0.331
35.50	-21.96	-14.98	0.00	-961.71	0.00	961.71	3,044.08	1,522.04	5,956.20	2,982.53	2.52	-0.68	0.330
40.00	-20.16	-14.71	0.00	-894.32	0.00	894.32	3,001.81	1,500.91	5,729.64	2,869.08	3.21	-0.77	0.319
42.25	-19.27	-14.51	0.00	-861.23	0.00	861.23	3,003.54	1,501.77	5,738.69	2,873.61	3.58	-0.81	0.306
45.00	-18.70	-14.22	0.00	-821.32	0.00	821.32	2,976.96	1,488.48	5,600.73	2,804.53	4.06	-0.87	0.299
50.00	-17.70	-13.83	0.00	-750.23	0.00	750.23	2,927.13	1,463.57	5,351.11	2,679.53	5.02	-0.96	0.286
55.00	-16.73	-13.44	0.00	-681.08	0.00	681.08	2,875.34	1,437.67	5,103.32	2,555.45	6.08	-1.05	0.272
60.00	-15.78	-13.05	0.00	-613.89	0.00	613.89	2,821.60	1,410.80	4,857.67	2,432.44	7.23	-1.14	0.258
65.00	-14.86	-12.65	0.00	-548.66	0.00	548.66	2,765.89	1,382.94	4,614.48	2,310.67	8.48	-1.23	0.243
70.00	-13.97	-12.34	0.00	-485.39	0.00	485.39	2,708.22	1,354.11	4,374.05	2,190.28	9.82	-1.32	0.227
73.00	-13.45	-12.14	0.00	-448.38	0.00	448.38	2,672.68	1,336.34	4,231.26	2,118.77	10.67	-1.37	0.217
75.00	-12.89	-11.92	0.00	-424.09	0.00	424.09	2,648.59	1,324.30	4,136.71	2,071.43	11.25	-1.41	0.210
78.50	-11.92	-11.71	0.00	-382.36	0.00	382.36	1,590.36	795.18	2,465.70	1,234.68	12.31	-1.47	0.317
80.00	-11.74	-11.47	0.00	-364.79	0.00	364.79	1,582.58	791.29	2,428.36	1,215.98	12.78	-1.49	0.308
85.00	-11.13	-11.10	0.00	-307.42	0.00	307.42	1,555.39	777.69	2,303.81	1,153.62	14.40	-1.60	0.274
90.00	-10.55	-10.73	0.00	-251.92	0.00	251.92	1,526.24	763.12	2,179.35	1,091.30	16.12	-1.70	0.238
95.00	-10.00	-10.36	0.00	-198.27	0.00	198.27	1,495.12	747.56	2,055.31	1,029.18	17.95	-1.78	0.200
100.00	-9.46	-10.01	0.00	-146.45	0.00	146.45	1,462.05	731.03	1,931.99	967.43	19.86	-1.86	0.158
105.00	-8.94	-9.78	0.00	-96.42	0.00	96.42	1,427.02	713.51	1,809.71	906.20	21.84	-1.92	0.113
106.00	-5.93	-6.86	0.00	-83.92	0.00	83.92	1,419.78	709.89	1,785.41	894.03	22.24	-1.93	0.098
110.00	-5.57	-6.55	0.00	-56.49	0.00	56.49	1,390.04	695.02	1,688.79	845.65	23.87	-1.96	0.071
115.00	-5.14	-6.27	0.00	-23.74	0.00	23.74	1,351.09	675.54	1,569.52	785.93	25.94	-1.98	0.034
118.00	-2.52	-4.92	0.00	-4.92	0.00	4.92	1,326.78	663.39	1,498.89	750.56	27.19	-1.99	0.009
119.00	0.00	-4.83	0.00	0.00	0.00	0.00	1,318.52	659.26	1,475.52	738.86	27.60	-1.99	0.000

Load Case: 0.9D + 1.6W 97 mph with No Ice (Reduced DL) 19 Iterations

Gust Response Factor :1.10 Wind Importance Factor :1.00

Dead Load Factor :0.90

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		218.5	0.0					0.0	0.0	218.5	0.0	0.0	0.0
5.00		431.9	851.2					0.0	54.2	431.9	905.4	0.0	0.0
10.00		422.0	831.6					0.0	54.2	422.0	885.9	0.0	0.0
15.00		412.0	812.1					0.0	54.2	412.0	866.3	0.0	0.0
20.00		402.0	792.6					0.0	54.2	402.0	846.8	0.0	0.0
25.00		392.1	773.1					0.0	54.2	392.1	827.3	0.0	0.0
30.00		386.6	753.5					0.0	54.2	386.6	807.8	0.0	0.0
35.00		212.6	734.0					0.0	54.2	212.6	788.2	0.0	0.0
35.50	Bot - Section 2	198.1	72.3					0.0	5.4	198.1	77.7	0.0	0.0
40.00		268.6	1,292.8					0.0	48.8	268.6	1,341.6	0.0	0.0
42.25	Top - Section 1	200.1	634.6					0.0	24.4	200.1	659.0	0.0	0.0
45.00		311.1	385.0					0.0	29.8	311.1	414.8	0.0	0.0
50.00		401.8	684.9					0.0	54.2	401.8	739.1	0.0	0.0
55.00		401.0	665.4					0.0	54.2	401.0	719.6	0.0	0.0
60.00		399.0	645.8					0.0	54.2	399.0	700.1	0.0	0.0
65.00		395.8	626.3					0.0	54.2	395.8	680.5	0.0	0.0
70.00		314.0	606.8					0.0	54.2	314.0	661.0	0.0	0.0
73.00	Bot - Section 3	195.5	354.7					0.0	32.5	195.5	387.2	0.0	0.0
75.00		214.5	397.6					0.0	21.7	214.5	419.3	0.0	0.0
78.50	Top - Section 2	194.0	683.1					0.0	38.0	194.0	721.1	0.0	0.0
80.00		248.7	119.5					0.0	16.3	248.7	135.8	0.0	0.0
85.00		378.2	389.5					0.0	54.2	378.2	443.7	0.0	0.0
90.00		370.8	375.8					0.0	54.2	370.8	430.0	0.0	0.0
95.00		362.7	362.1					0.0	54.2	362.7	416.4	0.0	0.0
100.00		353.9	348.5					0.0	54.2	353.9	402.7	0.0	0.0
105.00		209.1	334.8					0.0	54.2	209.1	389.0	0.0	0.0
106.00	Appurtenance(s)	169.9	65.3	2,655.2	0.0	2,720.2	2,250.2	0.0	10.8	2,825.1	2,326.3	0.0	0.0
110.00		300.4	255.8					0.0	21.0	300.4	276.8	0.0	0.0
115.00		261.3	307.4					0.0	26.2	261.3	333.7	0.0	0.0
118.00	Appurtenance(s)	128.1	177.9	1,135.0	0.0	0.0	1,800.0	0.0	15.7	1,263.1	1,993.6	0.0	0.0
119.00	Appurtenance(s)	31.7	58.2	4,797.2	0.0	-4,453.0	1,955.2	0.0	5.2	4,828.9	2,018.7	0.0	0.0
Totals:										17,773.2	22,615.4	0.00	0.00

Site Number: 283423

Code: ANSI/TIA-222-G

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Site Name: NAUGATUCK CT, CT

Engineering Number: 13000540_C3_03

11/19/2019 9:38:28 AM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.6W

97 mph with No Ice (Reduced DL)

19 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	-22.60	-17.57	0.00	-1,537.48	0.00	1,537.48	3,321.87	1,660.94	7,755.70	3,883.62	0.00	0.00	0.403
5.00	-21.67	-17.18	0.00	-1,449.62	0.00	1,449.62	3,288.72	1,644.36	7,503.17	3,757.16	0.05	-0.09	0.393
10.00	-20.76	-16.79	0.00	-1,363.74	0.00	1,363.74	3,253.61	1,626.81	7,249.81	3,630.29	0.20	-0.19	0.382
15.00	-19.86	-16.40	0.00	-1,279.81	0.00	1,279.81	3,216.54	1,608.27	6,995.93	3,503.16	0.45	-0.28	0.372
20.00	-18.99	-16.03	0.00	-1,197.80	0.00	1,197.80	3,177.52	1,588.76	6,741.83	3,375.93	0.79	-0.38	0.361
25.00	-18.14	-15.66	0.00	-1,117.66	0.00	1,117.66	3,136.53	1,568.26	6,487.84	3,248.74	1.24	-0.47	0.350
30.00	-17.31	-15.30	0.00	-1,039.36	0.00	1,039.36	3,093.58	1,546.79	6,234.27	3,121.77	1.79	-0.57	0.339
35.00	-16.51	-15.09	0.00	-962.88	0.00	962.88	3,048.68	1,524.34	5,981.43	2,995.16	2.44	-0.67	0.327
35.50	-16.42	-14.90	0.00	-955.33	0.00	955.33	3,044.08	1,522.04	5,956.20	2,982.53	2.51	-0.68	0.326
40.00	-15.07	-14.64	0.00	-888.26	0.00	888.26	3,001.81	1,500.91	5,729.64	2,869.08	3.19	-0.76	0.315
42.25	-14.40	-14.44	0.00	-855.33	0.00	855.33	3,003.54	1,501.77	5,738.69	2,873.61	3.56	-0.81	0.303
45.00	-13.97	-14.14	0.00	-815.62	0.00	815.62	2,976.96	1,488.48	5,600.73	2,804.53	4.04	-0.86	0.296
50.00	-13.22	-13.75	0.00	-744.92	0.00	744.92	2,927.13	1,463.57	5,351.11	2,679.53	4.99	-0.96	0.283
55.00	-12.48	-13.36	0.00	-676.17	0.00	676.17	2,875.34	1,437.67	5,103.32	2,555.45	6.04	-1.05	0.269
60.00	-11.77	-12.96	0.00	-609.40	0.00	609.40	2,821.60	1,410.80	4,857.67	2,432.44	7.19	-1.14	0.255
65.00	-11.08	-12.57	0.00	-544.59	0.00	544.59	2,765.89	1,382.94	4,614.48	2,310.67	8.43	-1.23	0.240
70.00	-10.41	-12.25	0.00	-481.75	0.00	481.75	2,708.22	1,354.11	4,374.05	2,190.28	9.76	-1.31	0.224
73.00	-10.02	-12.06	0.00	-444.99	0.00	444.99	2,672.68	1,336.34	4,231.26	2,118.77	10.61	-1.37	0.214
75.00	-9.60	-11.84	0.00	-420.88	0.00	420.88	2,648.59	1,324.30	4,136.71	2,071.43	11.19	-1.40	0.207
78.50	-8.87	-11.63	0.00	-379.44	0.00	379.44	1,590.36	795.18	2,465.70	1,234.68	12.23	-1.46	0.313
80.00	-8.73	-11.39	0.00	-361.99	0.00	361.99	1,582.58	791.29	2,428.36	1,215.98	12.70	-1.48	0.303
85.00	-8.28	-11.02	0.00	-305.04	0.00	305.04	1,555.39	777.69	2,303.81	1,153.62	14.31	-1.59	0.270
90.00	-7.84	-10.65	0.00	-249.96	0.00	249.96	1,526.24	763.12	2,179.35	1,091.30	16.02	-1.68	0.234
95.00	-7.42	-10.28	0.00	-196.73	0.00	196.73	1,495.12	747.56	2,055.31	1,029.18	17.83	-1.77	0.196
100.00	-7.02	-9.92	0.00	-145.33	0.00	145.33	1,462.05	731.03	1,931.99	967.43	19.73	-1.84	0.155
105.00	-6.63	-9.70	0.00	-95.71	0.00	95.71	1,427.02	713.51	1,809.71	906.20	21.70	-1.90	0.110
106.00	-4.40	-6.81	0.00	-83.29	0.00	83.29	1,419.78	709.89	1,785.41	894.03	22.10	-1.91	0.096
110.00	-4.13	-6.50	0.00	-56.07	0.00	56.07	1,390.04	695.02	1,688.79	845.65	23.72	-1.95	0.069
115.00	-3.80	-6.23	0.00	-23.58	0.00	23.58	1,351.09	675.54	1,569.52	785.93	25.77	-1.97	0.033
118.00	-1.85	-4.90	0.00	-4.90	0.00	4.90	1,326.78	663.39	1,498.89	750.56	27.01	-1.98	0.008
119.00	0.00	-4.83	0.00	0.00	0.00	0.00	1,318.52	659.26	1,475.52	738.86	27.42	-1.98	0.000

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

18 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		69.7	0.0					0.0	0.0	69.7	0.0	0.0	0.0
5.00		138.2	1,547.8					0.0	72.3	138.2	1,620.1	0.0	0.0
10.00		135.6	1,560.4					0.0	72.3	135.6	1,632.7	0.0	0.0
15.00		132.8	1,547.6					0.0	72.3	132.8	1,619.9	0.0	0.0
20.00		129.9	1,526.5					0.0	72.3	129.9	1,598.8	0.0	0.0
25.00		127.0	1,501.1					0.0	72.3	127.0	1,573.4	0.0	0.0
30.00		125.6	1,473.0					0.0	72.3	125.6	1,545.3	0.0	0.0
35.00		69.1	1,443.0					0.0	72.3	69.1	1,515.3	0.0	0.0
35.50	Bot - Section 2	64.5	143.1					0.0	7.2	64.5	150.4	0.0	0.0
40.00		87.5	2,142.5					0.0	65.1	87.5	2,207.6	0.0	0.0
42.25	Top - Section 1	65.3	1,054.8					0.0	32.5	65.3	1,087.3	0.0	0.0
45.00		101.7	766.3					0.0	39.8	101.7	806.0	0.0	0.0
50.00		131.6	1,364.5					0.0	72.3	131.6	1,436.8	0.0	0.0
55.00		131.7	1,330.5					0.0	72.3	131.7	1,402.8	0.0	0.0
60.00		131.4	1,295.9					0.0	72.3	131.4	1,368.2	0.0	0.0
65.00		130.7	1,260.8					0.0	72.3	130.7	1,333.1	0.0	0.0
70.00		103.9	1,225.1					0.0	72.3	103.9	1,297.4	0.0	0.0
73.00	Bot - Section 3	64.8	719.4					0.0	43.4	64.8	762.8	0.0	0.0
75.00		71.2	694.8					0.0	28.9	71.2	723.7	0.0	0.0
78.50	Top - Section 2	64.5	1,193.5					0.0	50.6	64.5	1,244.1	0.0	0.0
80.00		82.9	279.7					0.0	21.7	82.9	301.4	0.0	0.0
85.00		126.3	908.9					0.0	72.3	126.3	981.2	0.0	0.0
90.00		124.3	879.8					0.0	72.3	124.3	952.1	0.0	0.0
95.00		122.0	850.3					0.0	72.3	122.0	922.6	0.0	0.0
100.00		119.6	820.7					0.0	72.3	119.6	893.0	0.0	0.0
105.00		70.8	790.8					0.0	72.3	70.8	863.1	0.0	0.0
106.00	Appurtenance(s)	57.8	155.6	656.4	0.0	574.3	4,653.3	0.0	14.5	714.1	4,823.4	0.0	0.0
110.00		102.5	607.2					0.0	28.0	102.5	635.2	0.0	0.0
115.00		89.4	730.4					0.0	35.0	89.4	765.3	0.0	0.0
118.00	Appurtenance(s)	44.0	425.2	354.0	0.0	0.0	3,266.0	0.0	21.0	397.9	3,712.3	0.0	0.0
119.00	Appurtenance(s)	10.9	139.9	1,026.6	0.0	-945.6	6,117.3	0.0	7.0	1,037.5	6,264.1	0.0	0.0
Totals:										5,064.57	46,039.3	0.00	0.00

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

18 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

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	-46.04	-5.00	0.00	-423.06	0.00	423.06	3,321.87	1,660.94	7,755.70	3,883.62	0.00	0.00	0.123
5.00	-44.42	-4.89	0.00	-398.04	0.00	398.04	3,288.72	1,644.36	7,503.17	3,757.16	0.01	-0.03	0.119
10.00	-42.78	-4.77	0.00	-373.61	0.00	373.61	3,253.61	1,626.81	7,249.81	3,630.29	0.05	-0.05	0.116
15.00	-41.16	-4.65	0.00	-349.77	0.00	349.77	3,216.54	1,608.27	6,995.93	3,503.16	0.12	-0.08	0.113
20.00	-39.56	-4.54	0.00	-326.51	0.00	326.51	3,177.52	1,588.76	6,741.83	3,375.93	0.22	-0.10	0.109
25.00	-37.98	-4.43	0.00	-303.82	0.00	303.82	3,136.53	1,568.26	6,487.84	3,248.74	0.34	-0.13	0.106
30.00	-36.44	-4.31	0.00	-281.69	0.00	281.69	3,093.58	1,546.79	6,234.27	3,121.77	0.49	-0.16	0.102
35.00	-34.92	-4.25	0.00	-260.13	0.00	260.13	3,048.68	1,524.34	5,981.43	2,995.16	0.67	-0.18	0.098
35.50	-34.77	-4.19	0.00	-258.01	0.00	258.01	3,044.08	1,522.04	5,956.20	2,982.53	0.69	-0.18	0.098
40.00	-32.56	-4.11	0.00	-239.15	0.00	239.15	3,001.81	1,500.91	5,729.64	2,869.08	0.87	-0.21	0.094
42.25	-31.47	-4.04	0.00	-229.91	0.00	229.91	3,003.54	1,501.77	5,738.69	2,873.61	0.97	-0.22	0.090
45.00	-30.67	-3.95	0.00	-218.79	0.00	218.79	2,976.96	1,488.48	5,600.73	2,804.53	1.10	-0.23	0.088
50.00	-29.23	-3.82	0.00	-199.05	0.00	199.05	2,927.13	1,463.57	5,351.11	2,679.53	1.36	-0.26	0.084
55.00	-27.82	-3.70	0.00	-179.93	0.00	179.93	2,875.34	1,437.67	5,103.32	2,555.45	1.65	-0.28	0.080
60.00	-26.46	-3.57	0.00	-161.44	0.00	161.44	2,821.60	1,410.80	4,857.67	2,432.44	1.96	-0.31	0.076
65.00	-25.12	-3.44	0.00	-143.59	0.00	143.59	2,765.89	1,382.94	4,614.48	2,310.67	2.29	-0.33	0.071
70.00	-23.82	-3.34	0.00	-126.38	0.00	126.38	2,708.22	1,354.11	4,374.05	2,190.28	2.65	-0.35	0.067
73.00	-23.06	-3.27	0.00	-116.37	0.00	116.37	2,672.68	1,336.34	4,231.26	2,118.77	2.88	-0.37	0.064
75.00	-22.34	-3.20	0.00	-109.82	0.00	109.82	2,648.59	1,324.30	4,136.71	2,071.43	3.04	-0.38	0.061
78.50	-21.09	-3.13	0.00	-98.62	0.00	98.62	1,590.36	795.18	2,465.70	1,234.68	3.32	-0.39	0.093
80.00	-20.79	-3.05	0.00	-93.92	0.00	93.92	1,582.58	791.29	2,428.36	1,215.98	3.44	-0.40	0.090
85.00	-19.81	-2.93	0.00	-78.65	0.00	78.65	1,555.39	777.69	2,303.81	1,153.62	3.88	-0.43	0.081
90.00	-18.86	-2.81	0.00	-64.00	0.00	64.00	1,526.24	763.12	2,179.35	1,091.30	4.34	-0.45	0.071
95.00	-17.93	-2.68	0.00	-49.97	0.00	49.97	1,495.12	747.56	2,055.31	1,029.18	4.82	-0.47	0.061
100.00	-17.04	-2.56	0.00	-36.56	0.00	36.56	1,462.05	731.03	1,931.99	967.43	5.33	-0.49	0.049
105.00	-16.18	-2.48	0.00	-23.76	0.00	23.76	1,427.02	713.51	1,809.71	906.20	5.85	-0.51	0.038
106.00	-11.36	-1.73	0.00	-20.70	0.00	20.70	1,419.78	709.89	1,785.41	894.03	5.96	-0.51	0.031
110.00	-10.73	-1.62	0.00	-13.78	0.00	13.78	1,390.04	695.02	1,688.79	845.65	6.38	-0.52	0.024
115.00	-9.96	-1.53	0.00	-5.67	0.00	5.67	1,351.09	675.54	1,569.52	785.93	6.93	-0.52	0.015
118.00	-6.25	-1.09	0.00	-1.09	0.00	1.09	1,326.78	663.39	1,498.89	750.56	7.26	-0.52	0.006
119.00	0.00	-1.04	0.00	0.00	0.00	0.00	1,318.52	659.26	1,475.52	738.86	7.37	-0.52	0.000

Load Case: 1.0D + 1.0W	Serviceability 60 mph	18 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		46.7	0.0					0.0	0.0	46.7	0.0	0.0	0.0
5.00		92.4	945.8					0.0	60.2	92.4	1,006.0	0.0	0.0
10.00		90.3	924.1					0.0	60.2	90.3	984.3	0.0	0.0
15.00		88.2	902.4					0.0	60.2	88.2	962.6	0.0	0.0
20.00		86.0	880.7					0.0	60.2	86.0	940.9	0.0	0.0
25.00		83.9	859.0					0.0	60.2	83.9	919.2	0.0	0.0
30.00		82.7	837.3					0.0	60.2	82.7	897.5	0.0	0.0
35.00		45.5	815.6					0.0	60.2	45.5	875.8	0.0	0.0
35.50	Bot - Section 2	42.4	80.4					0.0	6.0	42.4	86.4	0.0	0.0
40.00		57.5	1,436.5					0.0	54.2	57.5	1,490.7	0.0	0.0
42.25	Top - Section 1	42.8	705.1					0.0	27.1	42.8	732.2	0.0	0.0
45.00		66.6	427.8					0.0	33.1	66.6	460.9	0.0	0.0
50.00		86.0	761.0					0.0	60.2	86.0	821.3	0.0	0.0
55.00		85.8	739.3					0.0	60.2	85.8	799.6	0.0	0.0
60.00		85.4	717.6					0.0	60.2	85.4	777.9	0.0	0.0
65.00		84.7	695.9					0.0	60.2	84.7	756.2	0.0	0.0
70.00		67.2	674.2					0.0	60.2	67.2	734.5	0.0	0.0
73.00	Bot - Section 3	41.8	394.1					0.0	36.1	41.8	430.3	0.0	0.0
75.00		45.9	441.8					0.0	24.1	45.9	465.9	0.0	0.0
78.50	Top - Section 2	41.5	759.0					0.0	42.2	41.5	801.2	0.0	0.0
80.00		53.2	132.8					0.0	18.1	53.2	150.9	0.0	0.0
85.00		80.9	432.7					0.0	60.2	80.9	493.0	0.0	0.0
90.00		79.3	417.6					0.0	60.2	79.3	477.8	0.0	0.0
95.00		77.6	402.4					0.0	60.2	77.6	462.6	0.0	0.0
100.00		75.7	387.2					0.0	60.2	75.7	447.4	0.0	0.0
105.00		44.7	372.0					0.0	60.2	44.7	432.2	0.0	0.0
106.00	Appurtenance(s)	36.4	72.6	568.1	0.0	582.0	2,500.2	0.0	12.0	604.5	2,584.8	0.0	0.0
110.00		64.3	284.2					0.0	23.3	64.3	307.5	0.0	0.0
115.00		55.9	341.6					0.0	29.1	55.9	370.7	0.0	0.0
118.00	Appurtenance(s)	27.4	197.7	242.8	0.0	0.0	2,000.0	0.0	17.5	270.2	2,215.2	0.0	0.0
119.00	Appurtenance(s)	6.8	64.7	1,026.4	0.0	-952.8	2,172.5	0.0	5.8	1,033.2	2,243.0	0.0	0.0
Totals:										3,802.79	25,128.3	0.00	0.00

Load Case: 1.0D + 1.0W

Serviceability 60 mph

18 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load 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	-25.13	-3.76	0.00	-329.52	0.00	329.52	3,321.87	1,660.94	7,755.70	3,883.62	0.00	0.00	0.092
5.00	-24.12	-3.68	0.00	-310.72	0.00	310.72	3,288.72	1,644.36	7,503.17	3,757.16	0.01	-0.02	0.090
10.00	-23.13	-3.59	0.00	-292.34	0.00	292.34	3,253.61	1,626.81	7,249.81	3,630.29	0.04	-0.04	0.088
15.00	-22.17	-3.51	0.00	-274.38	0.00	274.38	3,216.54	1,608.27	6,995.93	3,503.16	0.10	-0.06	0.085
20.00	-21.23	-3.43	0.00	-256.82	0.00	256.82	3,177.52	1,588.76	6,741.83	3,375.93	0.17	-0.08	0.083
25.00	-20.31	-3.35	0.00	-239.66	0.00	239.66	3,136.53	1,568.26	6,487.84	3,248.74	0.27	-0.10	0.080
30.00	-19.41	-3.28	0.00	-222.89	0.00	222.89	3,093.58	1,546.79	6,234.27	3,121.77	0.38	-0.12	0.078
35.00	-18.53	-3.23	0.00	-206.50	0.00	206.50	3,048.68	1,524.34	5,981.43	2,995.16	0.52	-0.14	0.075
35.50	-18.45	-3.19	0.00	-204.89	0.00	204.89	3,044.08	1,522.04	5,956.20	2,982.53	0.54	-0.14	0.075
40.00	-16.96	-3.14	0.00	-190.51	0.00	190.51	3,001.81	1,500.91	5,729.64	2,869.08	0.68	-0.16	0.072
42.25	-16.22	-3.09	0.00	-183.46	0.00	183.46	3,003.54	1,501.77	5,738.69	2,873.61	0.76	-0.17	0.069
45.00	-15.76	-3.03	0.00	-174.95	0.00	174.95	2,976.96	1,488.48	5,600.73	2,804.53	0.87	-0.18	0.068
50.00	-14.94	-2.95	0.00	-159.79	0.00	159.79	2,927.13	1,463.57	5,351.11	2,679.53	1.07	-0.20	0.065
55.00	-14.14	-2.86	0.00	-145.06	0.00	145.06	2,875.34	1,437.67	5,103.32	2,555.45	1.30	-0.22	0.062
60.00	-13.36	-2.78	0.00	-130.74	0.00	130.74	2,821.60	1,410.80	4,857.67	2,432.44	1.54	-0.24	0.058
65.00	-12.60	-2.70	0.00	-116.84	0.00	116.84	2,765.89	1,382.94	4,614.48	2,310.67	1.81	-0.26	0.055
70.00	-11.87	-2.63	0.00	-103.36	0.00	103.36	2,708.22	1,354.11	4,374.05	2,190.28	2.09	-0.28	0.052
73.00	-11.44	-2.59	0.00	-95.48	0.00	95.48	2,672.68	1,336.34	4,231.26	2,118.77	2.27	-0.29	0.049
75.00	-10.97	-2.54	0.00	-90.31	0.00	90.31	2,648.59	1,324.30	4,136.71	2,071.43	2.40	-0.30	0.048
78.50	-10.17	-2.50	0.00	-81.42	0.00	81.42	1,590.36	795.18	2,465.70	1,234.68	2.62	-0.31	0.072
80.00	-10.02	-2.44	0.00	-77.68	0.00	77.68	1,582.58	791.29	2,428.36	1,215.98	2.72	-0.32	0.070
85.00	-9.53	-2.36	0.00	-65.46	0.00	65.46	1,555.39	777.69	2,303.81	1,153.62	3.07	-0.34	0.063
90.00	-9.05	-2.28	0.00	-53.64	0.00	53.64	1,526.24	763.12	2,179.35	1,091.30	3.44	-0.36	0.055
95.00	-8.59	-2.21	0.00	-42.22	0.00	42.22	1,495.12	747.56	2,055.31	1,029.18	3.82	-0.38	0.047
100.00	-8.14	-2.13	0.00	-31.19	0.00	31.19	1,462.05	731.03	1,931.99	967.43	4.23	-0.40	0.038
105.00	-7.71	-2.08	0.00	-20.54	0.00	20.54	1,427.02	713.51	1,809.71	906.20	4.65	-0.41	0.028
106.00	-5.13	-1.46	0.00	-17.87	0.00	17.87	1,419.78	709.89	1,785.41	894.03	4.74	-0.41	0.024
110.00	-4.82	-1.39	0.00	-12.03	0.00	12.03	1,390.04	695.02	1,688.79	845.65	5.09	-0.42	0.018
115.00	-4.45	-1.34	0.00	-5.06	0.00	5.06	1,351.09	675.54	1,569.52	785.93	5.53	-0.42	0.010
118.00	-2.24	-1.05	0.00	-1.05	0.00	1.05	1,326.78	663.39	1,498.89	750.56	5.79	-0.42	0.003
119.00	0.00	-1.03	0.00	0.00	0.00	0.00	1,318.52	659.26	1,475.52	738.86	5.88	-0.42	0.000

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.19
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):	0.05
Upper Limit C_s	0.05
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	1.43
Redundancy Factor (ρ):	1.00
Seismic Force Distribution Exponent (k):	1.46
Total Unfactored Dead Load:	25.13 k
Seismic Base Shear (E):	1.20 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)
30	118.50	71	77	0.006	7	87
29	116.50	215	229	0.017	21	267
28	112.50	371	375	0.028	34	460
27	108.00	308	293	0.022	27	382
26	105.50	85	78	0.006	7	105
25	102.50	432	381	0.029	35	536
24	97.50	447	367	0.028	33	555
23	92.50	463	351	0.027	32	574
22	87.50	478	334	0.025	30	593
21	82.50	493	317	0.024	29	612
20	79.25	151	91	0.007	8	187
19	76.75	801	463	0.035	42	994
18	74.00	466	255	0.019	23	578
17	71.50	430	224	0.017	20	534
16	67.50	734	351	0.027	32	911
15	62.50	756	323	0.024	29	938
14	57.50	778	294	0.022	27	965
13	52.50	800	265	0.020	24	992
12	47.50	821	235	0.018	21	1,019
11	43.63	461	116	0.009	11	572
10	41.13	732	170	0.013	15	909
9	37.75	1,491	304	0.023	28	1,850
8	35.25	86	16	0.001	1	107

Site Number: 283423

Code: ANSI/TIA-222-G

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Site Name: NAUGATUCK CT, CT

Engineering Number: 13000540_C3_03

11/19/2019 9:38:31 AM

Customer: VERIZON WIRELESS

7	32.50	876	144	0.011	13	1,087
6	27.50	898	115	0.009	10	1,114
5	22.50	919	88	0.007	8	1,141
4	17.50	941	62	0.005	6	1,168
3	12.50	963	39	0.003	4	1,195
2	7.50	984	19	0.001	2	1,221
1	2.50	1,006	4	0.000	0	1,248
Raycap DC6-48-60-18-	119.00	80	88	0.007	8	99
Ericsson RRUS 4478 B	119.00	178	196	0.015	18	221
Ericsson RRUS 32 (50	119.00	152	167	0.013	15	189
Ericsson RRUS 32 B66	119.00	152	167	0.013	15	189
Ericsson RRUS 32 B2	119.00	159	175	0.013	16	197
Ericsson RRUS-11	119.00	495	544	0.041	49	614
CCI HPA-65R-BUU-H8	119.00	612	672	0.051	61	759
Kathrein Scala 80010	119.00	344	378	0.028	34	427
Round Platform w/ Ha	118.00	2,000	2,169	0.164	196	2,482
Commscope CBC78T-DS-	106.00	62	58	0.004	5	77
Samsung B5/B13 RRH-B	106.00	211	195	0.015	18	262
Samsung B2/B66A RRH-	106.00	253	235	0.018	21	314
Raycap RCMDC-6627-PF	106.00	64	59	0.004	5	79
Commscope JAHH-65B-R	106.00	242	225	0.017	20	301
Commscope JAHH-45B-R	106.00	168	155	0.012	14	208
Round Low Profile PI	106.00	1,500	1,390	0.105	126	1,861
		25,128	13,254	1.000	1,200	31,183

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

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)
30	118.50	71	77	0.006	7	61
29	116.50	215	229	0.017	21	185
28	112.50	371	375	0.028	34	318
27	108.00	308	293	0.022	27	264
26	105.50	85	78	0.006	7	73
25	102.50	432	381	0.029	35	371
24	97.50	447	367	0.028	33	384
23	92.50	463	351	0.027	32	397
22	87.50	478	334	0.025	30	410
21	82.50	493	317	0.024	29	424
20	79.25	151	91	0.007	8	130
19	76.75	801	463	0.035	42	688
18	74.00	466	255	0.019	23	400
17	71.50	430	224	0.017	20	370
16	67.50	734	351	0.027	32	631
15	62.50	756	323	0.024	29	650
14	57.50	778	294	0.022	27	668
13	52.50	800	265	0.020	24	687
12	47.50	821	235	0.018	21	705
11	43.63	461	116	0.009	11	396
10	41.13	732	170	0.013	15	629
9	37.75	1,491	304	0.023	28	1,281
8	35.25	86	16	0.001	1	74
7	32.50	876	144	0.011	13	752
6	27.50	898	115	0.009	10	771
5	22.50	919	88	0.007	8	790
4	17.50	941	62	0.005	6	808
3	12.50	963	39	0.003	4	827
2	7.50	984	19	0.001	2	846
1	2.50	1,006	4	0.000	0	864
Raycap DC6-48-60-18-	119.00	80	88	0.007	8	69

Site Number: 283423

Code: ANSI/TIA-222-G

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Site Name: NAUGATUCK CT, CT

Engineering Number: 13000540_C3_03

11/19/2019 9:38:31 AM

Customer: VERIZON WIRELESS

Ericsson RRUS 4478 B	119.00	178	196	0.015	18	153
Ericsson RRUS 32 (50	119.00	152	167	0.013	15	131
Ericsson RRUS 32 B66	119.00	152	167	0.013	15	131
Ericsson RRUS 32 B2	119.00	159	175	0.013	16	137
Ericsson RRUS-11	119.00	495	544	0.041	49	425
CCI HPA-65R-BUU-H8	119.00	612	672	0.051	61	526
Kathrein Scala 80010	119.00	344	378	0.028	34	295
Round Platform w/ Ha	118.00	2,000	2,169	0.164	196	1,718
Commscope CBC78T-DS-	106.00	62	58	0.004	5	53
Samsung B5/B13 RRH-B	106.00	211	195	0.015	18	181
Samsung B2/B66A RRH-	106.00	253	235	0.018	21	218
Raycap RCMD-6627-PF	106.00	64	59	0.004	5	55
Commscope JAHH-65B-R	106.00	242	225	0.017	20	208
Commscope JAHH-45B-R	106.00	168	155	0.012	14	144
Round Low Profile PI	106.00	1,500	1,390	0.105	126	1,289
		25,128	13,254	1.000	1,200	21,586

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	-29.93	-1.20	0.00	-115.44	0.00	115.44	3,321.87	1,660.94	7,755.70	3,883.62	0.00	0.00	0.039
5.00	-28.71	-1.20	0.00	-109.44	0.00	109.44	3,288.72	1,644.36	7,503.17	3,757.16	0.00	-0.01	0.038
10.00	-27.52	-1.20	0.00	-103.43	0.00	103.43	3,253.61	1,626.81	7,249.81	3,630.29	0.01	-0.01	0.037
15.00	-26.35	-1.20	0.00	-97.42	0.00	97.42	3,216.54	1,608.27	6,995.93	3,503.16	0.03	-0.02	0.036
20.00	-25.21	-1.19	0.00	-91.43	0.00	91.43	3,177.52	1,588.76	6,741.83	3,375.93	0.06	-0.03	0.035
25.00	-24.10	-1.19	0.00	-85.46	0.00	85.46	3,136.53	1,568.26	6,487.84	3,248.74	0.09	-0.04	0.034
30.00	-23.01	-1.17	0.00	-79.53	0.00	79.53	3,093.58	1,546.79	6,234.27	3,121.77	0.14	-0.04	0.033
35.00	-22.90	-1.18	0.00	-73.65	0.00	73.65	3,048.68	1,524.34	5,981.43	2,995.16	0.18	-0.05	0.032
35.50	-21.05	-1.15	0.00	-73.07	0.00	73.07	3,044.08	1,522.04	5,956.20	2,982.53	0.19	-0.05	0.031
40.00	-20.14	-1.13	0.00	-67.90	0.00	67.90	3,001.81	1,500.91	5,729.64	2,869.08	0.24	-0.06	0.030
42.25	-19.57	-1.12	0.00	-65.35	0.00	65.35	3,003.54	1,501.77	5,738.69	2,873.61	0.27	-0.06	0.029
45.00	-18.55	-1.10	0.00	-62.27	0.00	62.27	2,976.96	1,488.48	5,600.73	2,804.53	0.31	-0.07	0.028
50.00	-17.56	-1.08	0.00	-56.75	0.00	56.75	2,927.13	1,463.57	5,351.11	2,679.53	0.38	-0.07	0.027
55.00	-16.59	-1.05	0.00	-51.36	0.00	51.36	2,875.34	1,437.67	5,103.32	2,555.45	0.46	-0.08	0.026
60.00	-15.66	-1.02	0.00	-46.09	0.00	46.09	2,821.60	1,410.80	4,857.67	2,432.44	0.55	-0.09	0.024
65.00	-14.74	-0.99	0.00	-40.97	0.00	40.97	2,765.89	1,382.94	4,614.48	2,310.67	0.64	-0.09	0.023
70.00	-14.21	-0.97	0.00	-36.00	0.00	36.00	2,708.22	1,354.11	4,374.05	2,190.28	0.74	-0.10	0.022
73.00	-13.63	-0.95	0.00	-33.08	0.00	33.08	2,672.68	1,336.34	4,231.26	2,118.77	0.81	-0.10	0.021
75.00	-12.64	-0.91	0.00	-31.18	0.00	31.18	2,648.59	1,324.30	4,136.71	2,071.43	0.85	-0.11	0.020
78.50	-12.45	-0.90	0.00	-28.00	0.00	28.00	1,590.36	795.18	2,465.70	1,234.68	0.93	-0.11	0.031
80.00	-11.84	-0.87	0.00	-26.65	0.00	26.65	1,582.58	791.29	2,428.36	1,215.98	0.97	-0.11	0.029
85.00	-11.25	-0.84	0.00	-22.30	0.00	22.30	1,555.39	777.69	2,303.81	1,153.62	1.09	-0.12	0.027
90.00	-10.67	-0.81	0.00	-18.10	0.00	18.10	1,526.24	763.12	2,179.35	1,091.30	1.22	-0.13	0.024
95.00	-10.12	-0.78	0.00	-14.06	0.00	14.06	1,495.12	747.56	2,055.31	1,029.18	1.35	-0.13	0.020
100.00	-9.58	-0.74	0.00	-10.18	0.00	10.18	1,462.05	731.03	1,931.99	967.43	1.50	-0.14	0.017
105.00	-9.47	-0.73	0.00	-6.48	0.00	6.48	1,427.02	713.51	1,809.71	906.20	1.64	-0.14	0.014
106.00	-5.99	-0.49	0.00	-5.74	0.00	5.74	1,419.78	709.89	1,785.41	894.03	1.67	-0.14	0.011
110.00	-5.53	-0.45	0.00	-3.79	0.00	3.79	1,390.04	695.02	1,688.79	845.65	1.79	-0.15	0.008
115.00	-5.26	-0.43	0.00	-1.52	0.00	1.52	1,351.09	675.54	1,569.52	785.93	1.95	-0.15	0.006
118.00	-2.70	-0.22	0.00	-0.22	0.00	0.22	1,326.78	663.39	1,498.89	750.56	2.04	-0.15	0.002
119.00	0.00	-0.22	0.00	0.00	0.00	0.00	1,318.52	659.26	1,475.52	738.86	2.07	-0.15	0.000

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	-20.72	-1.20	0.00	-114.74	0.00	114.74	3,321.87	1,660.94	7,755.70	3,883.62	0.00	0.00	0.036
5.00	-19.88	-1.20	0.00	-108.74	0.00	108.74	3,288.72	1,644.36	7,503.17	3,757.16	0.00	-0.01	0.035
10.00	-19.05	-1.20	0.00	-102.74	0.00	102.74	3,253.61	1,626.81	7,249.81	3,630.29	0.01	-0.01	0.034
15.00	-18.24	-1.20	0.00	-96.75	0.00	96.75	3,216.54	1,608.27	6,995.93	3,503.16	0.03	-0.02	0.033
20.00	-17.45	-1.19	0.00	-90.77	0.00	90.77	3,177.52	1,588.76	6,741.83	3,375.93	0.06	-0.03	0.032
25.00	-16.68	-1.18	0.00	-84.82	0.00	84.82	3,136.53	1,568.26	6,487.84	3,248.74	0.09	-0.04	0.031
30.00	-15.93	-1.17	0.00	-78.92	0.00	78.92	3,093.58	1,546.79	6,234.27	3,121.77	0.13	-0.04	0.030
35.00	-15.85	-1.17	0.00	-73.07	0.00	73.07	3,048.68	1,524.34	5,981.43	2,995.16	0.18	-0.05	0.030
35.50	-14.57	-1.14	0.00	-72.49	0.00	72.49	3,044.08	1,522.04	5,956.20	2,982.53	0.19	-0.05	0.029
40.00	-13.94	-1.13	0.00	-67.36	0.00	67.36	3,001.81	1,500.91	5,729.64	2,869.08	0.24	-0.06	0.028
42.25	-13.55	-1.12	0.00	-64.82	0.00	64.82	3,003.54	1,501.77	5,738.69	2,873.61	0.27	-0.06	0.027
45.00	-12.84	-1.10	0.00	-61.75	0.00	61.75	2,976.96	1,488.48	5,600.73	2,804.53	0.30	-0.07	0.026
50.00	-12.15	-1.07	0.00	-56.27	0.00	56.27	2,927.13	1,463.57	5,351.11	2,679.53	0.38	-0.07	0.025
55.00	-11.49	-1.05	0.00	-50.91	0.00	50.91	2,875.34	1,437.67	5,103.32	2,555.45	0.46	-0.08	0.024
60.00	-10.84	-1.02	0.00	-45.68	0.00	45.68	2,821.60	1,410.80	4,857.67	2,432.44	0.54	-0.09	0.023
65.00	-10.21	-0.99	0.00	-40.60	0.00	40.60	2,765.89	1,382.94	4,614.48	2,310.67	0.64	-0.09	0.021
70.00	-9.84	-0.97	0.00	-35.67	0.00	35.67	2,708.22	1,354.11	4,374.05	2,190.28	0.74	-0.10	0.020
73.00	-9.44	-0.94	0.00	-32.77	0.00	32.77	2,672.68	1,336.34	4,231.26	2,118.77	0.80	-0.10	0.019
75.00	-8.75	-0.90	0.00	-30.89	0.00	30.89	2,648.59	1,324.30	4,136.71	2,071.43	0.84	-0.11	0.018
78.50	-8.62	-0.89	0.00	-27.74	0.00	27.74	1,590.36	795.18	2,465.70	1,234.68	0.92	-0.11	0.028
80.00	-8.19	-0.86	0.00	-26.40	0.00	26.40	1,582.58	791.29	2,428.36	1,215.98	0.96	-0.11	0.027
85.00	-7.78	-0.83	0.00	-22.09	0.00	22.09	1,555.39	777.69	2,303.81	1,153.62	1.08	-0.12	0.024
90.00	-7.39	-0.80	0.00	-17.92	0.00	17.92	1,526.24	763.12	2,179.35	1,091.30	1.21	-0.13	0.021
95.00	-7.00	-0.77	0.00	-13.92	0.00	13.92	1,495.12	747.56	2,055.31	1,029.18	1.34	-0.13	0.018
100.00	-6.63	-0.73	0.00	-10.08	0.00	10.08	1,462.05	731.03	1,931.99	967.43	1.48	-0.14	0.015
105.00	-6.56	-0.73	0.00	-6.42	0.00	6.42	1,427.02	713.51	1,809.71	906.20	1.63	-0.14	0.012
106.00	-4.15	-0.48	0.00	-5.69	0.00	5.69	1,419.78	709.89	1,785.41	894.03	1.66	-0.14	0.009
110.00	-3.83	-0.45	0.00	-3.75	0.00	3.75	1,390.04	695.02	1,688.79	845.65	1.78	-0.14	0.007
115.00	-3.64	-0.43	0.00	-1.51	0.00	1.51	1,351.09	675.54	1,569.52	785.93	1.93	-0.15	0.005
118.00	-1.87	-0.22	0.00	-0.22	0.00	0.22	1,326.78	663.39	1,498.89	750.56	2.03	-0.15	0.002
119.00	0.00	-0.22	0.00	0.00	0.00	0.00	1,318.52	659.26	1,475.52	738.86	2.06	-0.15	0.000

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):	0.19
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):	1.43
Redundancy Factor (ρ):	1.00

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)
30	118.50	71	1.874	1.897	1.110	0.392	18	87
29	116.50	215	1.811	1.591	0.997	0.351	50	267
28	112.50	371	1.689	1.082	0.798	0.275	68	460
27	108.00	308	1.557	0.651	0.613	0.201	41	382
26	105.50	85	1.486	0.466	0.526	0.165	9	105
25	102.50	432	1.402	0.288	0.434	0.126	36	536
24	97.50	447	1.269	0.080	0.309	0.073	22	555
23	92.50	463	1.142	-0.043	0.214	0.034	11	574
22	87.50	478	1.022	-0.104	0.142	0.008	3	593
21	82.50	493	0.908	-0.122	0.091	-0.005	-2	612
20	79.25	151	0.838	-0.118	0.065	-0.007	-1	187
19	76.75	801	0.786	-0.109	0.050	-0.006	-3	994
18	74.00	466	0.731	-0.096	0.036	-0.003	-1	578
17	71.50	430	0.682	-0.081	0.027	0.001	0	534
16	67.50	734	0.608	-0.056	0.015	0.010	5	911
15	62.50	756	0.521	-0.024	0.008	0.023	11	938
14	57.50	778	0.441	0.005	0.006	0.033	17	965
13	52.50	800	0.368	0.028	0.008	0.041	22	992
12	47.50	821	0.301	0.045	0.012	0.046	25	1,019
11	43.63	461	0.254	0.055	0.017	0.047	14	572
10	41.13	732	0.226	0.059	0.020	0.047	23	909
9	37.75	1,491	0.190	0.064	0.024	0.047	46	1,850
8	35.25	86	0.166	0.067	0.028	0.046	3	107
7	32.50	876	0.141	0.069	0.031	0.045	26	1,087
6	27.50	898	0.101	0.071	0.037	0.043	26	1,114
5	22.50	919	0.068	0.072	0.041	0.041	25	1,141
4	17.50	941	0.041	0.070	0.042	0.038	24	1,168
3	12.50	963	0.021	0.065	0.038	0.034	22	1,195
2	7.50	984	0.008	0.051	0.029	0.027	18	1,221
1	2.50	1,006	0.001	0.022	0.012	0.013	8	1,248
Raycap DC6-48-60-18-	119.00	80	1.890	1.980	1.140	0.403	21	99
Ericsson RRUS 4478 B	119.00	178	1.890	1.980	1.140	0.403	48	221
Ericsson RRUS 32 (50	119.00	152	1.890	1.980	1.140	0.403	41	189
Ericsson RRUS 32 B66	119.00	152	1.890	1.980	1.140	0.403	41	189

Ericsson RRUS 32 B2	119.00	159	1.890	1.980	1.140	0.403	43	197
Ericsson RRUS-11	119.00	495	1.890	1.980	1.140	0.403	133	614
CCI HPA-65R-BUU-H8	119.00	612	1.890	1.980	1.140	0.403	164	759
Kathrein Scala 80010	119.00	344	1.890	1.980	1.140	0.403	92	427
Round Platform w/ Ha	118.00	2,000	1.858	1.817	1.081	0.382	509	2,482
Commscope CBC78T-	106.00	62	1.500	0.500	0.542	0.172	7	77
Samsung B5/B13 RRH-B	106.00	211	1.500	0.500	0.542	0.172	24	262
Samsung B2/B66A RRH-	106.00	253	1.500	0.500	0.542	0.172	29	314
Raycap RCMD-6627-PF	106.00	64	1.500	0.500	0.542	0.172	7	79
Commscope JAHH-65B-	106.00	242	1.500	0.500	0.542	0.172	28	301
Commscope JAHH-45B-	106.00	168	1.500	0.500	0.542	0.172	19	208
Round Low Profile PI	106.00	1,500	1.500	0.500	0.542	0.172	172	1,861
		25,128	48.128	27.200	19.778	6.993	1,947	31,183

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)
30	118.50	71	1.874	1.897	1.110	0.392	18	61
29	116.50	215	1.811	1.591	0.997	0.351	50	185
28	112.50	371	1.689	1.082	0.798	0.275	68	318
27	108.00	308	1.557	0.651	0.613	0.201	41	264
26	105.50	85	1.486	0.466	0.526	0.165	9	73
25	102.50	432	1.402	0.288	0.434	0.126	36	371
24	97.50	447	1.269	0.080	0.309	0.073	22	384
23	92.50	463	1.142	-0.043	0.214	0.034	11	397
22	87.50	478	1.022	-0.104	0.142	0.008	3	410
21	82.50	493	0.908	-0.122	0.091	-0.005	-2	424
20	79.25	151	0.838	-0.118	0.065	-0.007	-1	130
19	76.75	801	0.786	-0.109	0.050	-0.006	-3	688
18	74.00	466	0.731	-0.096	0.036	-0.003	-1	400
17	71.50	430	0.682	-0.081	0.027	0.001	0	370
16	67.50	734	0.608	-0.056	0.015	0.010	5	631
15	62.50	756	0.521	-0.024	0.008	0.023	11	650
14	57.50	778	0.441	0.005	0.006	0.033	17	668
13	52.50	800	0.368	0.028	0.008	0.041	22	687
12	47.50	821	0.301	0.045	0.012	0.046	25	705
11	43.63	461	0.254	0.055	0.017	0.047	14	396
10	41.13	732	0.226	0.059	0.020	0.047	23	629
9	37.75	1,491	0.190	0.064	0.024	0.047	46	1,281
8	35.25	86	0.166	0.067	0.028	0.046	3	74
7	32.50	876	0.141	0.069	0.031	0.045	26	752
6	27.50	898	0.101	0.071	0.037	0.043	26	771
5	22.50	919	0.068	0.072	0.041	0.041	25	790
4	17.50	941	0.041	0.070	0.042	0.038	24	808
3	12.50	963	0.021	0.065	0.038	0.034	22	827
2	7.50	984	0.008	0.051	0.029	0.027	18	846
1	2.50	1,006	0.001	0.022	0.012	0.013	8	864
Raycap DC6-48-60-18-	119.00	80	1.890	1.980	1.140	0.403	21	69
Ericsson RRUS 4478 B	119.00	178	1.890	1.980	1.140	0.403	48	153
Ericsson RRUS 32 (50	119.00	152	1.890	1.980	1.140	0.403	41	131
Ericsson RRUS 32 B66	119.00	152	1.890	1.980	1.140	0.403	41	131
Ericsson RRUS 32 B2	119.00	159	1.890	1.980	1.140	0.403	43	137
Ericsson RRUS-11	119.00	495	1.890	1.980	1.140	0.403	133	425
CCI HPA-65R-BUU-H8	119.00	612	1.890	1.980	1.140	0.403	164	526
Kathrein Scala 80010	119.00	344	1.890	1.980	1.140	0.403	92	295
Round Platform w/ Ha	118.00	2,000	1.858	1.817	1.081	0.382	509	1,718
Commscope CBC78T-	106.00	62	1.500	0.500	0.542	0.172	7	53
Samsung B5/B13 RRH-B	106.00	211	1.500	0.500	0.542	0.172	24	181

Site Number: 283423

Code: ANSI/TIA-222-G

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Site Name: NAUGATUCK CT, CT

Engineering Number: 13000540_C3_03

11/19/2019 9:38:31 AM

Customer: VERIZON WIRELESS

Samsung B2/B66A RRH-	106.00	253	1.500	0.500	0.542	0.172	29	218
Raycap RCMD-6627-PF	106.00	64	1.500	0.500	0.542	0.172	7	55
Commscope JAHH-65B-	106.00	242	1.500	0.500	0.542	0.172	28	208
Commscope JAHH-45B-	106.00	168	1.500	0.500	0.542	0.172	19	144
Round Low Profile PI	106.00	1,500	1.500	0.500	0.542	0.172	172	1,289
		25,128	48.128	27.200	19.778	6.993	1,947	21,586

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	-29.93	-1.94	0.00	-201.20	0.00	201.20	3,321.87	1,660.94	7,755.70	3,883.62	0.00	0.00	0.061
5.00	-28.71	-1.93	0.00	-191.50	0.00	191.50	3,288.72	1,644.36	7,503.17	3,757.16	0.01	-0.01	0.060
10.00	-27.52	-1.91	0.00	-181.85	0.00	181.85	3,253.61	1,626.81	7,249.81	3,630.29	0.03	-0.02	0.059
15.00	-26.35	-1.89	0.00	-172.28	0.00	172.28	3,216.54	1,608.27	6,995.93	3,503.16	0.06	-0.04	0.057
20.00	-25.21	-1.87	0.00	-162.81	0.00	162.81	3,177.52	1,588.76	6,741.83	3,375.93	0.10	-0.05	0.056
25.00	-24.09	-1.85	0.00	-153.44	0.00	153.44	3,136.53	1,568.26	6,487.84	3,248.74	0.16	-0.06	0.055
30.00	-23.01	-1.83	0.00	-144.17	0.00	144.17	3,093.58	1,546.79	6,234.27	3,121.77	0.24	-0.08	0.054
35.00	-22.90	-1.83	0.00	-135.01	0.00	135.01	3,048.68	1,524.34	5,981.43	2,995.16	0.33	-0.09	0.053
35.50	-21.05	-1.78	0.00	-134.09	0.00	134.09	3,044.08	1,522.04	5,956.20	2,982.53	0.34	-0.09	0.052
40.00	-20.14	-1.76	0.00	-126.06	0.00	126.06	3,001.81	1,500.91	5,729.64	2,869.08	0.43	-0.10	0.051
42.25	-19.57	-1.75	0.00	-122.09	0.00	122.09	3,003.54	1,501.77	5,738.69	2,873.61	0.48	-0.11	0.049
45.00	-18.55	-1.73	0.00	-117.28	0.00	117.28	2,976.96	1,488.48	5,600.73	2,804.53	0.54	-0.12	0.048
50.00	-17.56	-1.71	0.00	-108.65	0.00	108.65	2,927.13	1,463.57	5,351.11	2,679.53	0.68	-0.13	0.047
55.00	-16.59	-1.69	0.00	-100.11	0.00	100.11	2,875.34	1,437.67	5,103.32	2,555.45	0.82	-0.14	0.045
60.00	-15.65	-1.68	0.00	-91.66	0.00	91.66	2,821.60	1,410.80	4,857.67	2,432.44	0.98	-0.16	0.043
65.00	-14.74	-1.68	0.00	-83.25	0.00	83.25	2,765.89	1,382.94	4,614.48	2,310.67	1.15	-0.17	0.041
70.00	-14.21	-1.68	0.00	-74.87	0.00	74.87	2,708.22	1,354.11	4,374.05	2,190.28	1.34	-0.19	0.039
73.00	-13.63	-1.68	0.00	-69.84	0.00	69.84	2,672.68	1,336.34	4,231.26	2,118.77	1.46	-0.19	0.038
75.00	-12.63	-1.68	0.00	-66.48	0.00	66.48	2,648.59	1,324.30	4,136.71	2,071.43	1.54	-0.20	0.037
78.50	-12.45	-1.68	0.00	-60.60	0.00	60.60	1,590.36	795.18	2,465.70	1,234.68	1.69	-0.21	0.057
80.00	-11.83	-1.68	0.00	-58.08	0.00	58.08	1,582.58	791.29	2,428.36	1,215.98	1.76	-0.21	0.055
85.00	-11.24	-1.68	0.00	-49.67	0.00	49.67	1,555.39	777.69	2,303.81	1,153.62	1.99	-0.23	0.050
90.00	-10.67	-1.67	0.00	-41.26	0.00	41.26	1,526.24	763.12	2,179.35	1,091.30	2.24	-0.24	0.045
95.00	-10.11	-1.65	0.00	-32.91	0.00	32.91	1,495.12	747.56	2,055.31	1,029.18	2.50	-0.26	0.039
100.00	-9.57	-1.61	0.00	-24.66	0.00	24.66	1,462.05	731.03	1,931.99	967.43	2.78	-0.27	0.032
105.00	-9.47	-1.60	0.00	-16.60	0.00	16.60	1,427.02	713.51	1,809.71	906.20	3.07	-0.28	0.025
106.00	-5.99	-1.26	0.00	-15.00	0.00	15.00	1,419.78	709.89	1,785.41	894.03	3.13	-0.28	0.021
110.00	-5.53	-1.19	0.00	-9.96	0.00	9.96	1,390.04	695.02	1,688.79	845.65	3.37	-0.29	0.016
115.00	-5.26	-1.14	0.00	-4.01	0.00	4.01	1,351.09	675.54	1,569.52	785.93	3.68	-0.29	0.009
118.00	-2.69	-0.60	0.00	-0.60	0.00	0.60	1,326.78	663.39	1,498.89	750.56	3.86	-0.29	0.003
119.00	0.00	-0.58	0.00	0.00	0.00	0.00	1,318.52	659.26	1,475.52	738.86	3.92	-0.29	0.000

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	-20.72	-1.94	0.00	-199.90	0.00	199.90	3,321.87	1,660.94	7,755.70	3,883.62	0.00	0.00	0.058
5.00	-19.88	-1.93	0.00	-190.20	0.00	190.20	3,288.72	1,644.36	7,503.17	3,757.16	0.01	-0.01	0.057
10.00	-19.05	-1.91	0.00	-180.56	0.00	180.56	3,253.61	1,626.81	7,249.81	3,630.29	0.03	-0.02	0.056
15.00	-18.24	-1.89	0.00	-171.02	0.00	171.02	3,216.54	1,608.27	6,995.93	3,503.16	0.06	-0.04	0.054
20.00	-17.45	-1.87	0.00	-161.58	0.00	161.58	3,177.52	1,588.76	6,741.83	3,375.93	0.10	-0.05	0.053
25.00	-16.68	-1.84	0.00	-152.25	0.00	152.25	3,136.53	1,568.26	6,487.84	3,248.74	0.16	-0.06	0.052
30.00	-15.93	-1.82	0.00	-143.02	0.00	143.02	3,093.58	1,546.79	6,234.27	3,121.77	0.24	-0.08	0.051
35.00	-15.85	-1.82	0.00	-133.92	0.00	133.92	3,048.68	1,524.34	5,981.43	2,995.16	0.32	-0.09	0.050
35.50	-14.57	-1.77	0.00	-133.01	0.00	133.01	3,044.08	1,522.04	5,956.20	2,982.53	0.33	-0.09	0.049
40.00	-13.94	-1.75	0.00	-125.03	0.00	125.03	3,001.81	1,500.91	5,729.64	2,869.08	0.42	-0.10	0.048
42.25	-13.55	-1.74	0.00	-121.09	0.00	121.09	3,003.54	1,501.77	5,738.69	2,873.61	0.47	-0.11	0.047
45.00	-12.84	-1.71	0.00	-116.31	0.00	116.31	2,976.96	1,488.48	5,600.73	2,804.53	0.54	-0.12	0.046
50.00	-12.15	-1.69	0.00	-107.73	0.00	107.73	2,927.13	1,463.57	5,351.11	2,679.53	0.67	-0.13	0.044
55.00	-11.48	-1.68	0.00	-99.27	0.00	99.27	2,875.34	1,437.67	5,103.32	2,555.45	0.81	-0.14	0.043
60.00	-10.83	-1.67	0.00	-90.88	0.00	90.88	2,821.60	1,410.80	4,857.67	2,432.44	0.97	-0.16	0.041
65.00	-10.20	-1.66	0.00	-82.55	0.00	82.55	2,765.89	1,382.94	4,614.48	2,310.67	1.14	-0.17	0.039
70.00	-9.83	-1.66	0.00	-74.24	0.00	74.24	2,708.22	1,354.11	4,374.05	2,190.28	1.33	-0.18	0.038
73.00	-9.43	-1.66	0.00	-69.25	0.00	69.25	2,672.68	1,336.34	4,231.26	2,118.77	1.45	-0.19	0.036
75.00	-8.74	-1.67	0.00	-65.92	0.00	65.92	2,648.59	1,324.30	4,136.71	2,071.43	1.53	-0.20	0.035
78.50	-8.61	-1.67	0.00	-60.09	0.00	60.09	1,590.36	795.18	2,465.70	1,234.68	1.68	-0.21	0.054
80.00	-8.19	-1.67	0.00	-57.59	0.00	57.59	1,582.58	791.29	2,428.36	1,215.98	1.74	-0.21	0.053
85.00	-7.78	-1.67	0.00	-49.25	0.00	49.25	1,555.39	777.69	2,303.81	1,153.62	1.97	-0.23	0.048
90.00	-7.38	-1.66	0.00	-40.92	0.00	40.92	1,526.24	763.12	2,179.35	1,091.30	2.22	-0.24	0.042
95.00	-7.00	-1.63	0.00	-32.63	0.00	32.63	1,495.12	747.56	2,055.31	1,029.18	2.48	-0.26	0.036
100.00	-6.63	-1.60	0.00	-24.46	0.00	24.46	1,462.05	731.03	1,931.99	967.43	2.76	-0.27	0.030
105.00	-6.55	-1.59	0.00	-16.47	0.00	16.47	1,427.02	713.51	1,809.71	906.20	3.05	-0.28	0.023
106.00	-4.14	-1.25	0.00	-14.88	0.00	14.88	1,419.78	709.89	1,785.41	894.03	3.10	-0.28	0.020
110.00	-3.82	-1.18	0.00	-9.89	0.00	9.89	1,390.04	695.02	1,688.79	845.65	3.34	-0.29	0.014
115.00	-3.64	-1.13	0.00	-3.98	0.00	3.98	1,351.09	675.54	1,569.52	785.93	3.65	-0.29	0.008
118.00	-1.86	-0.59	0.00	-0.59	0.00	0.59	1,326.78	663.39	1,498.89	750.56	3.83	-0.29	0.002
119.00	0.00	-0.58	0.00	0.00	0.00	0.00	1,318.52	659.26	1,475.52	738.86	3.89	-0.29	0.000

Site Number: 283423

Code: ANSI/TIA-222-G

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Site Name: NAUGATUCK CT, CT

Engineering Number: 13000540_C3_03

11/19/2019 9:38:31 AM

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	17.58	0.00	30.14	0.00	0.00	1545.21	0.00	0.41
0.9D + 1.6W	17.57	0.00	22.60	0.00	0.00	1537.48	0.00	0.40
1.2D + 1.0Di + 1.0Wi	5.00	0.00	46.04	0.00	0.00	423.06	0.00	0.12
(1.2 + 0.2Sds) * DL + E ELFM	1.20	0.00	29.93	0.00	0.00	115.44	0.00	0.04
(1.2 + 0.2Sds) * DL + E EMAM	1.94	0.00	29.93	0.00	0.00	201.20	0.00	0.06
(0.9 - 0.2Sds) * DL + E ELFM	1.20	0.00	20.72	0.00	0.00	114.74	0.00	0.04
(0.9 - 0.2Sds) * DL + E EMAM	1.94	0.00	20.72	0.00	0.00	199.90	0.00	0.06
1.0D + 1.0W	3.76	0.00	25.13	0.00	0.00	329.52	0.00	0.09



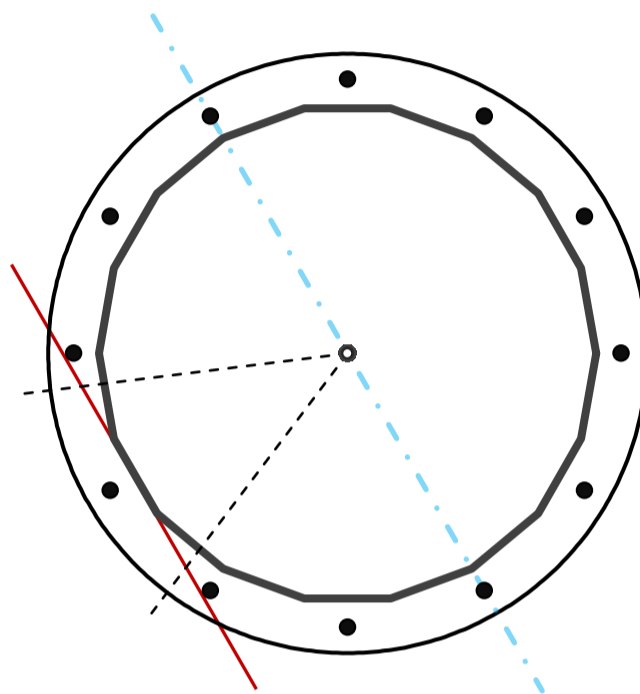
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	18	-
Diameter	57	in
Thickness	0.3125	in
Orientation Offset		°

Base Reactions		
Moment, Mu	1545.2	k-ft
Axial, Pu	30.1	k
Shear, Vu	17.6	k
Neutral Axis	120	°

Report Capacities		
Component	Capacity	Result
Base Plate	15%	Pass
Anchor Rods	40%	Pass
Dwyidag	-	-

Base Plate		
Shape	Round	-
Diameter, ϕ	70	in
Thickness	2	in
Grade	A572-60	
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Clip	N/A	in
Orientation Offset		°
Anchor Rod Detail	d	$\eta=0.5$
Clear Distance	3	in
Applied Moment, Mu	224.8	k
Bending Stress, ϕMn	1517.2	k



Original Anchor Rods		
Arrangement	Radial	-
Quantity	12	-
Diameter, ϕ	2 1/4	in
Bolt Circle	64	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	16.8	in
Orientation Offset		°
Applied Force, Pu	102.8	k
Anchor Rods, ϕPn	259.8	k

Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	17.6	1545.2	1.00
Anchor Rod Forces	17.6	1545.2	1.00
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	0.0	0.00
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in ²	in ²	in ⁴	#	in ⁴
Pole	55.3707	3.0762	0.1004		22243.34
Bolt	3.9761	3.2477	0.8393	4.5	18510.41
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	0.0000	0.0000	0.0000		0.00
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate

Shape	Round	-
Diameter, D	70	in
Thickness, t	2	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Base Plate Chord	40.632	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

Anchor Rods

Anchor Rod Quantity, N	12	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	64	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	102.8	k
Applied Shear, Vu	1.2	k
Compressive Capacity, ϕP_n	259.8	k
Tensile Capacity, ϕR_n	0.395	OK
Interaction Capacity	0.405	OK

External Base Plate

Chord Length AA	33.833	in
Additional AA	4.000	in
Section Modulus, Z	37.833	in ³
Applied Moment, Mu	224.8	k-ft
Bending Capacity, ϕM_n	2043.0	k-ft
Capacity, Mu/ ϕM_n	0.110	OK

Chord Length AB	32.292	in
Additional AB	4.000	in
Section Modulus, Z	36.292	in ³
Applied Moment, Mu	179.4	k-ft
Bending Capacity, ϕM_n	1959.8	k-ft
Capacity, Mu/ ϕM_n	0.092	OK

Bend Line Length	28.096	in
Additional Bend Line	0.000	in
Section Modulus, Z	28.096	in ³
Applied Moment, Mu	224.8	k-ft
Bending Capacity, ϕM_n	1517.2	k-ft
Capacity, Mu/ ϕM_n	0.148	OK

Internal Base Plate

Arc Length	0.000	in
Section Modulus, Z	0.000	in ³
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕM_n	0.0	k-ft
Capacity, Mu/ ϕM_n		



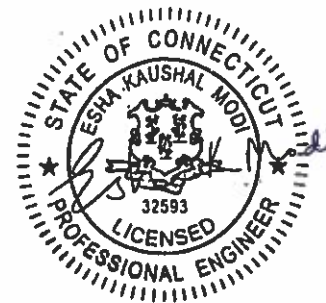
AMERICAN TOWER®
CORPORATION

Antenna Mount Analysis Report

ATC Site Name : NAUGATUCK CT, CT
ATC Site Number : 283423
Engineering Number : 13000540_C8_04
Mount Elevation : 104 ft
Carrier : Verizon Wireless
Carrier Site Name : NAUGATUCK WEST CT
Carrier Site Number : 469151
Site Location : 880 Andrew Mountain Road
Naugatuck, CT 06770-3656
41.484453 , -73.089844
County : New Haven
Date : February 7, 2020
Max Usage : 86%
Result : Pass

Prepared By:
Steven McGinnis
Structural Engineer II

Reviewed By:



Authorized by "EOR"
10 Feb 2020 08:54:30

COA: PEC.0001553



Table of Contents

Introduction 1

Supporting Documents 1

Analysis 1

Conclusion 1

Antenna Loading..... 2

Structure Usages..... 2

Mount Layout 3

Equipment Layout 4

Standard Conditions..... 6

Calculations Attached



Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for Verizon Wireless at 104 ft.

Supporting Documents

Mount Mapping	Tower Engineering Professionals Project, dated November 13, 2019
RFDS	RFDS dated November 7, 2019
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:	96.82 mph (3-Second Gust, Vasd) / 125 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 / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.192$, $S_1 = 0.064$
Site Class:	D - Stiff Soil
Live Loads:	$L_m = 500$ lbs, $L_v = 250$ 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.



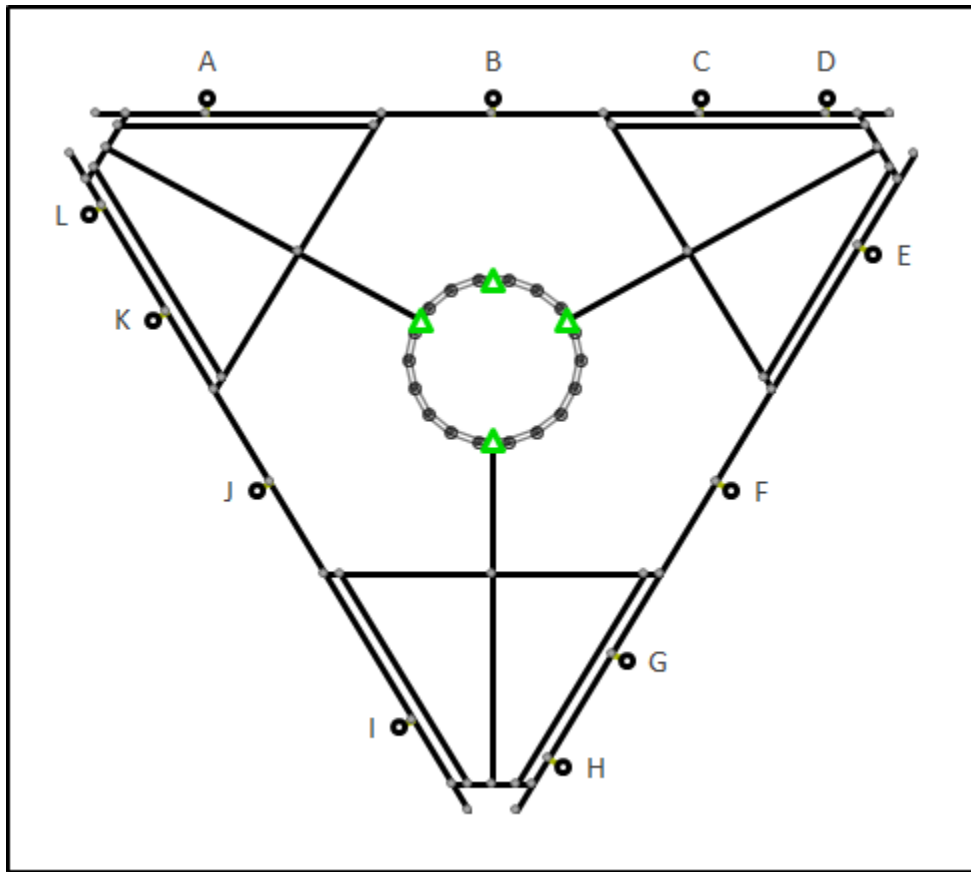
Application Loading

Mount Centerline (ft)	Antenna Centerline (ft)	Qty	Antenna Model
104.0	106.0	4	Commscope JAHH-65B-R3B
		2	Commscope JAHH-45B-R3B
		3	Commscope CBC78T-DS-43-2X
		2	Raycap RCMDC-6627-PF-48
		3	Samsung B5/B13 RRH-BR04C
		3	Samsung B2/B66A RRH-BR049

Structure Usages

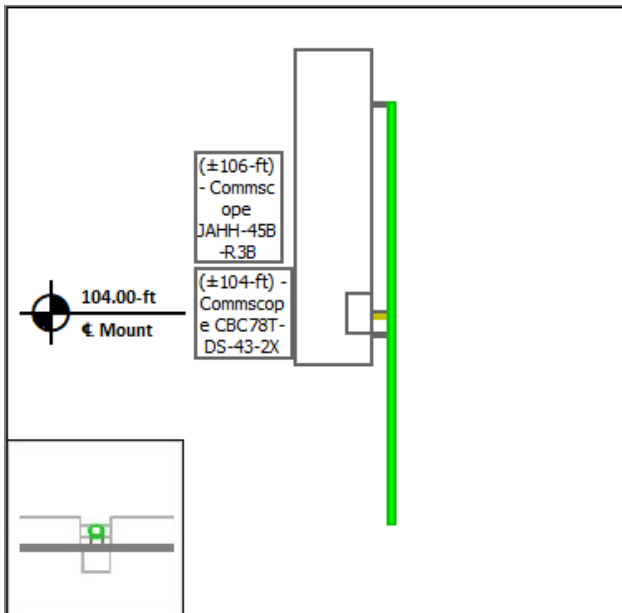
Structural Component	Controlling Usage	Pass/Fail
Horizontals	53%	Pass
Mount Pipes	86%	Pass

Mount Layout

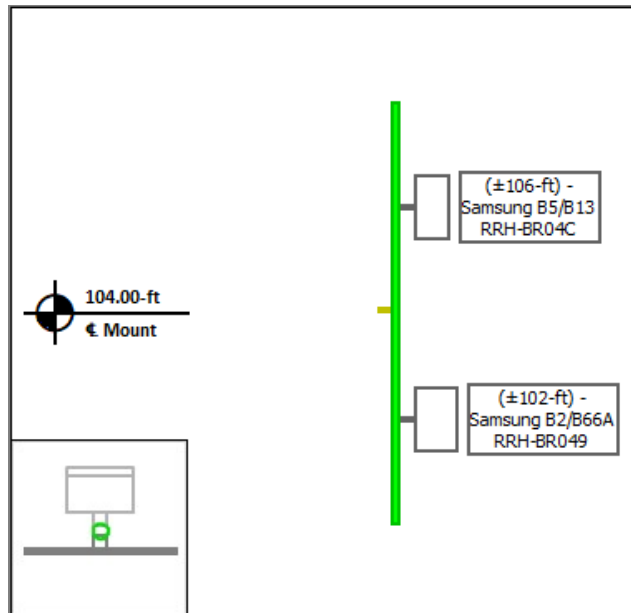


Equipment Layout

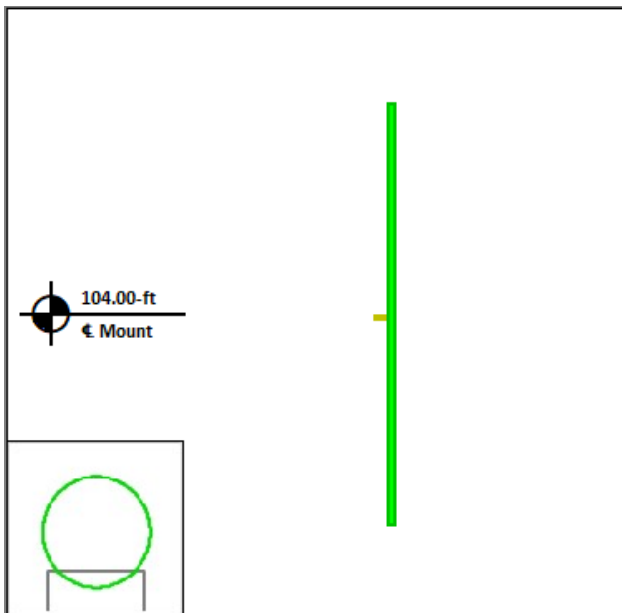
Mount Pipe A



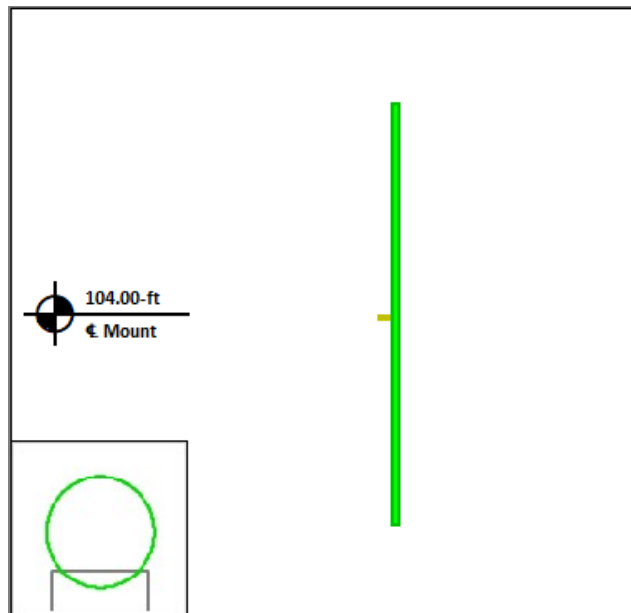
Mount Pipe B



Mount Pipe C

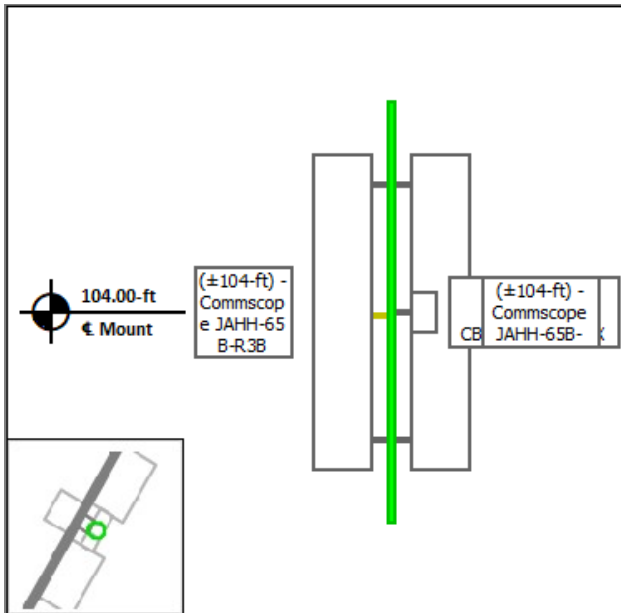


Mount Pipe D

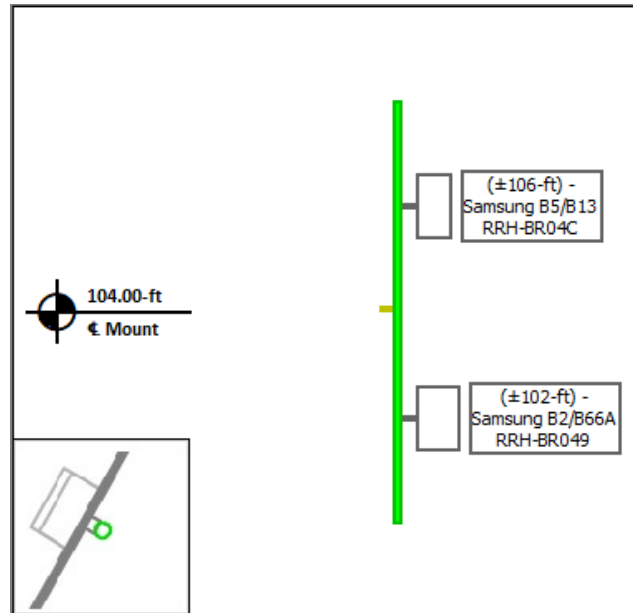


Equipment Layout Cont'd.

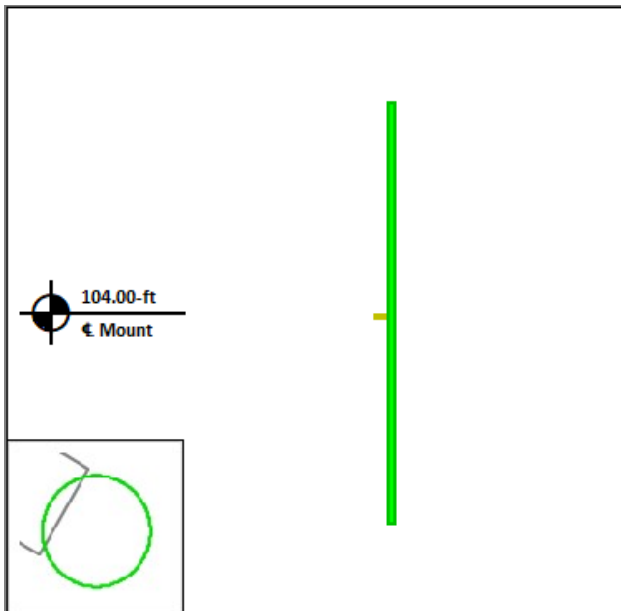
Mount Pipe E



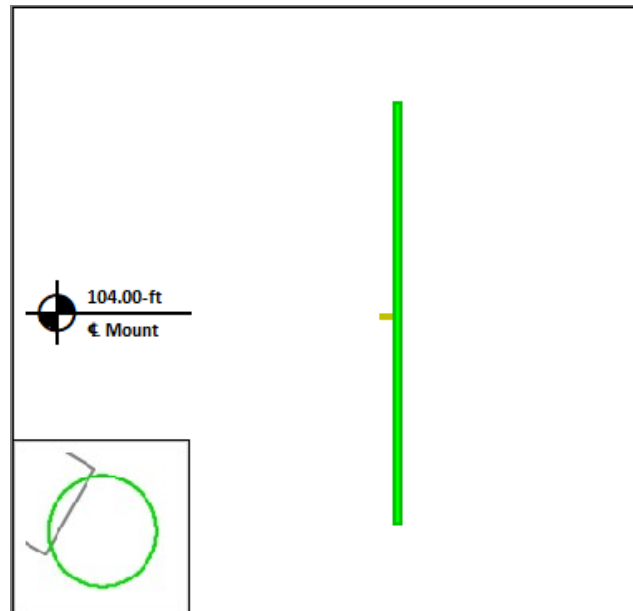
Mount Pipe F



Mount Pipe G

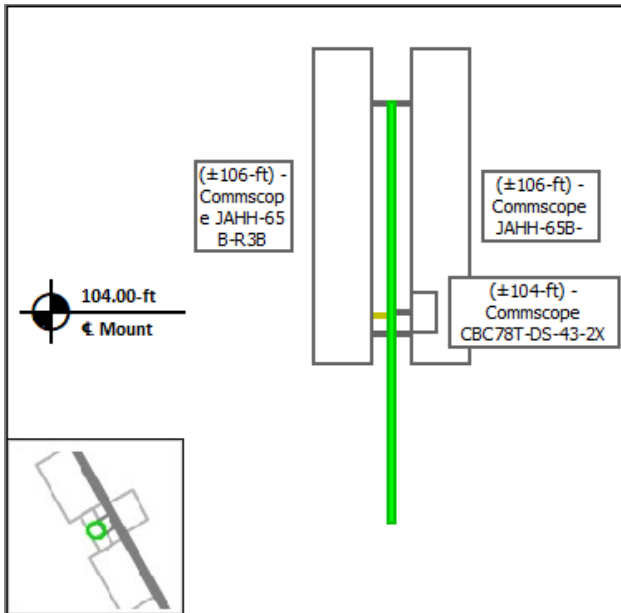


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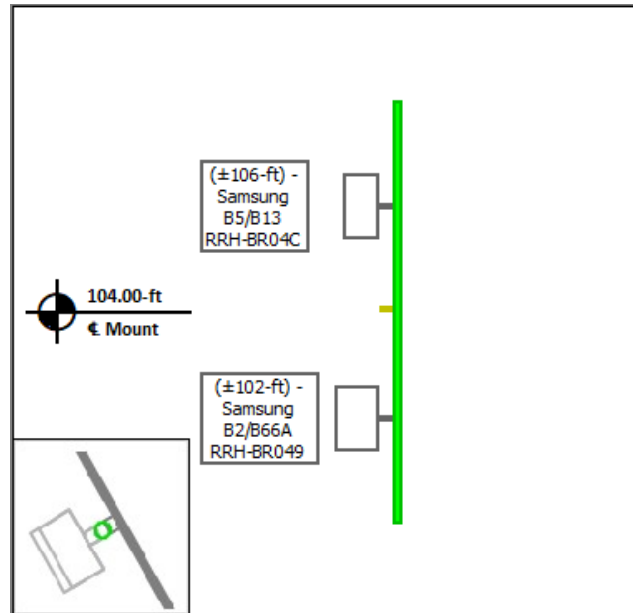


Equipment Layout Cont'd.

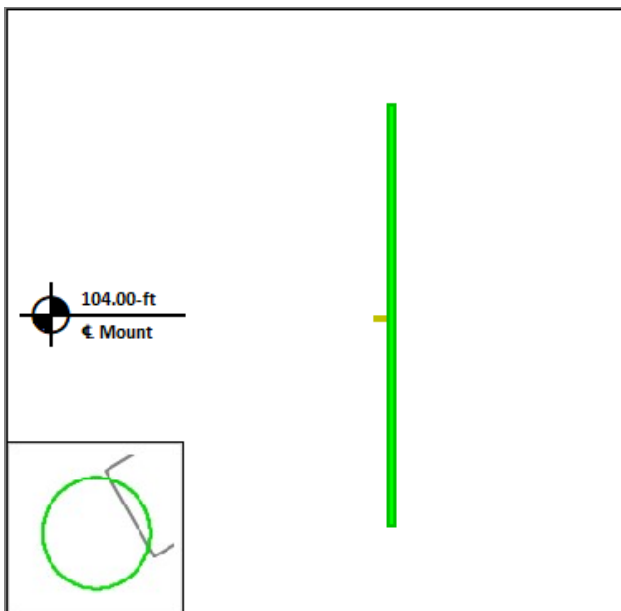
Mount Pipe I



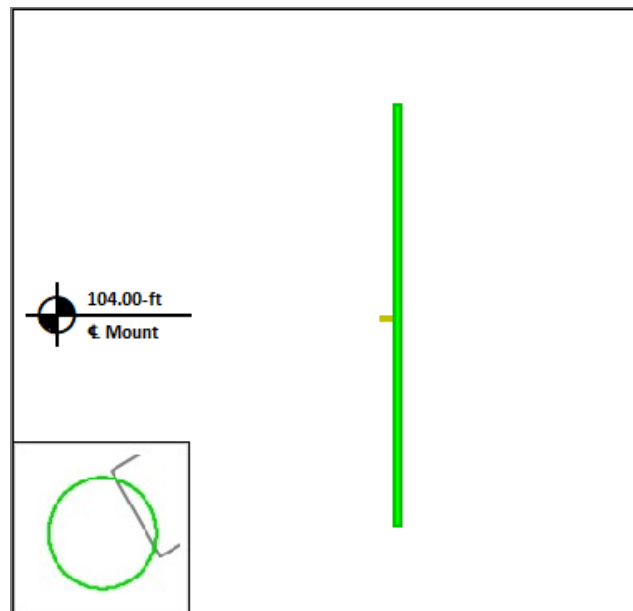
Mount Pipe J



Mount Pipe K



Mount Pipe L





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: 283423
Project Number: 13000540_C8_04
Carrier: Verizon Wireless
Mount Elevation: 104 ft
Date: 2/7/2020

Mount Analysis Force Calculations

Wind & Ice Load Calculations

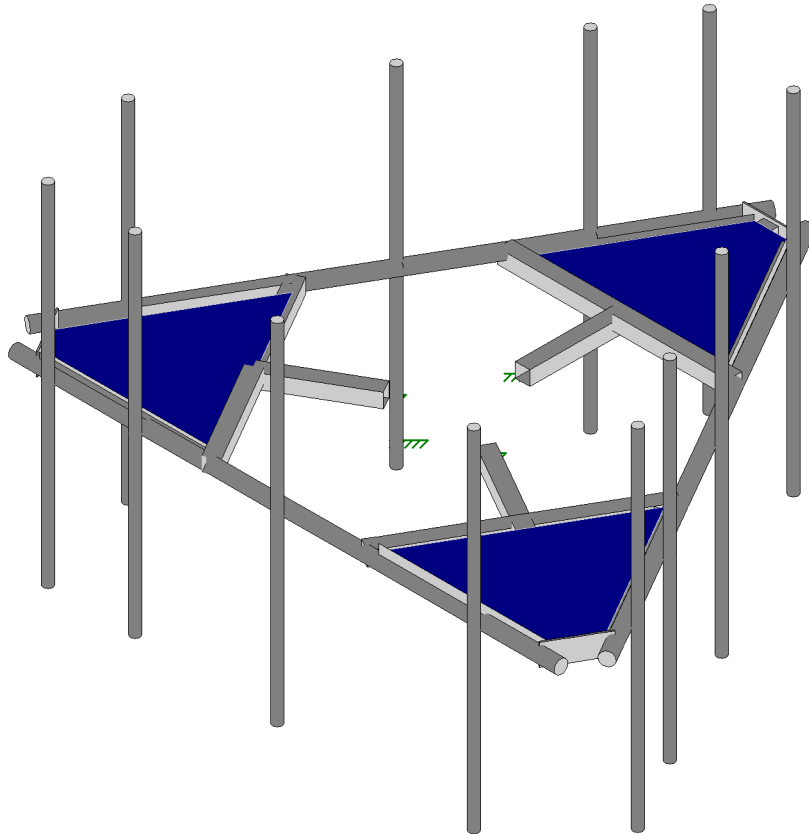
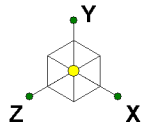
Shielding Factor	K_z	1.00	
Topographic Factor	K_{zt}	1.00	
Rooftop Wind Speed-up Factor	K_s	1.00	
Shielding Factor	K_a	0.90	
Ground Elevation Factor	K_e	1.00	
Wind Direction Probability Factor	K_d	0.95	
Basic Wind Speed	V	97	mph
Velocity Pressure	q_z	22.8	psf
Height Escalation Factor	K_{iz}	1.12	
Thickness of Radial Glaze Ice	T_{iz}	1.68	in

Seismic Load Calculations

Short Period DSRAP	S_{DS}	0.205	
1 Second DSRAP	S_{D1}	0.102	
Importance Factor	I	1.0	
Response Modification Coefficient	R	2.0	
Seismic Response Coefficient	C_s	0.102	
Amplification Factor	A	1.0	
Total Weight	W	1881.5	lbs
Total Shear Force	V_s	192.7	lbs
Horizontal Seismic Load	E_h	192.7	lbs
Vertical Seismic Load	E_v	77.1	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
Commscope JAHH-65B-R3B	72.0	13.8	8.2	60.6	9.11	2.66	11.87	3.92
Commscope JAHH-45B-R3B	72.0	18.0	7.0	83.8	11.40	2.49	14.16	3.86
Commscope CBC78T-DS-43-2X	9.6	6.9	6.4	20.7	0.55	0.51	1.11	1.06
Raycap RCMDC-6627-PF-48	29.5	16.5	12.6	32.0	N/A	N/A		
Samsung B5/B13 RRH-BR04C	15.0	15.0	8.1	70.3	1.88	1.01	2.81	1.75
Samsung B2/B66A RRH-BR049	15.0	15.0	10.0	84.4	1.88	1.25	2.81	2.05



American Tower Corp.

Steven.McGinnis

13000540_C8_04

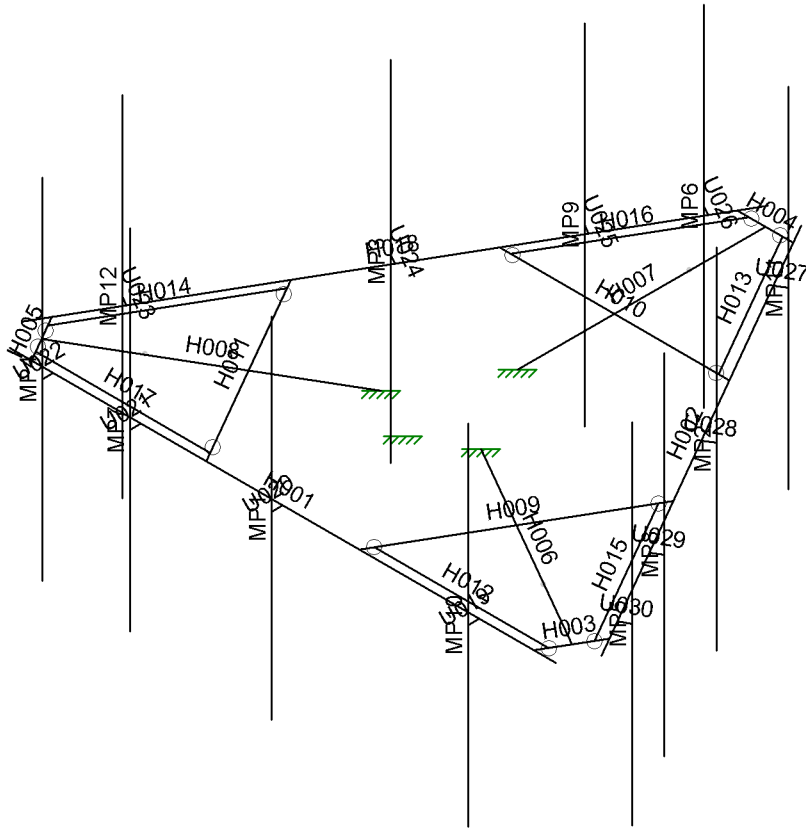
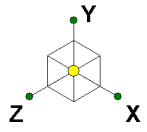
283423, NAUGATUCK CT

3D Rendering

SK - 1

Feb 7, 2020 at 5:59 PM

R3D. VERIZON WIRELESS @ 283...



American Tower Corp.

Steven.McGinnis

13000540_C8_04

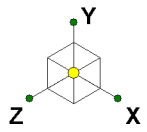
283423, NAUGATUCK CT

Member Labels

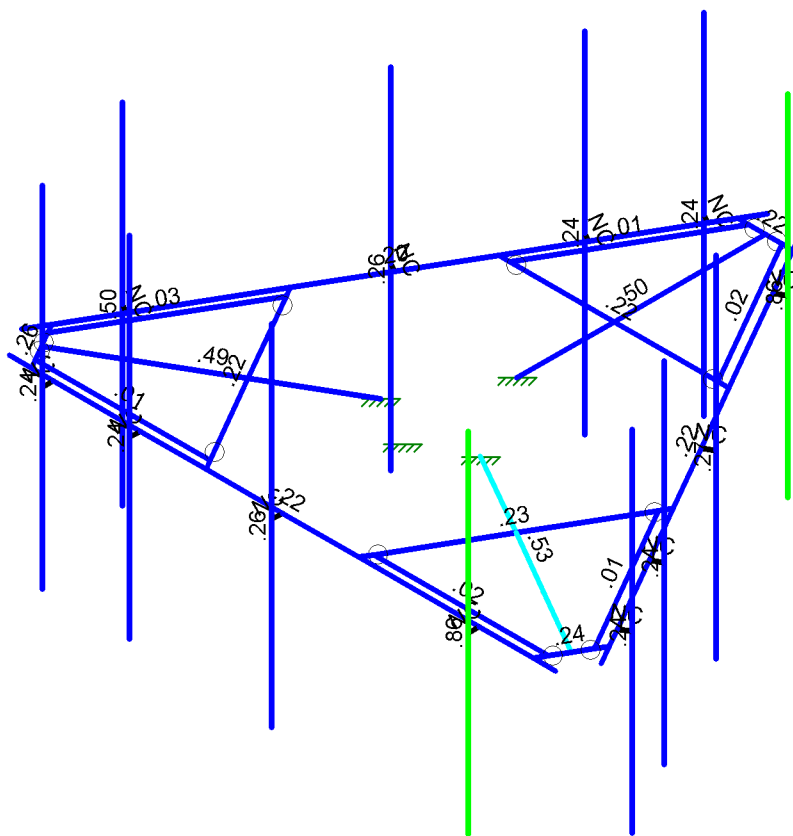
SK - 2

Feb 7, 2020 at 5:59 PM

R3D. VERIZON WIRELESS @ 283...

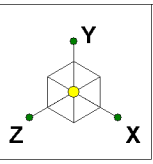


Code Check (Env)	
Black	No Calc
Red	> 1.0
Magenta	.90-1.0
Green	.75-.90
Cyan	.50-.75
Blue	0-.50



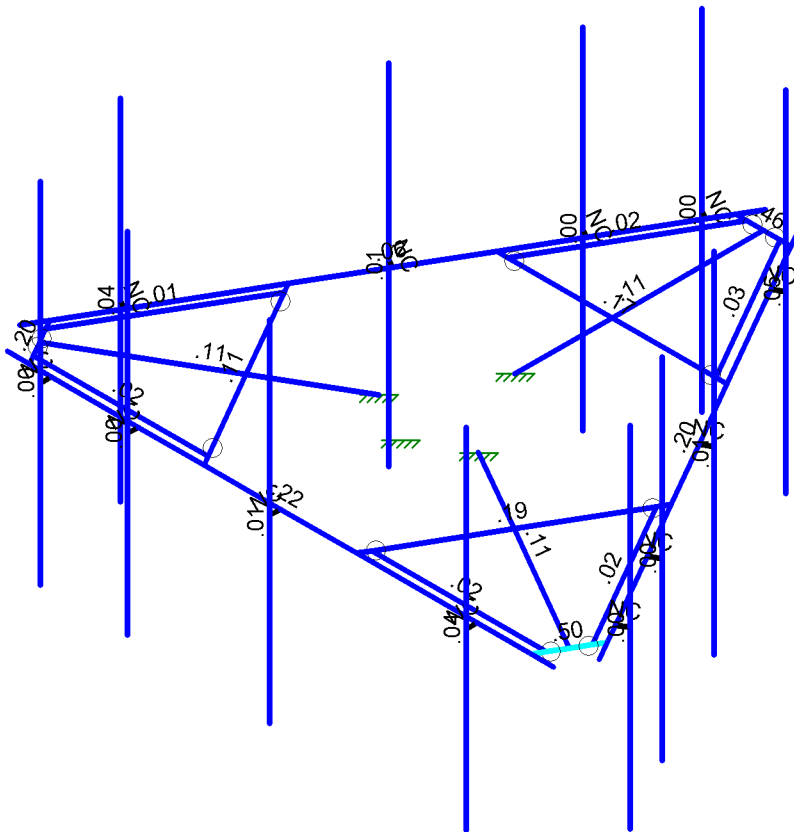
Member Code Checks Displayed (Enveloped)
Results for LC 1, 1.4D

American Tower Corp.	283423, NAUGATUCK CT	SK - 3
Steven.McGinnis	Unity Bending Checks	Feb 7, 2020 at 5:59 PM
13000540_C8_04		R3D. VERIZON WIRELESS @ 283...



Shear Check
(Env)

- No Calc
- > 1.0
- .90-1.0
- .75-.90
- .50-.75
- 0-.50



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

American Tower Corp.	283423, NAUGATUCK CT	SK - 4
Steven.McGinnis	Shear Checks	Feb 7, 2020 at 6:00 PM
13000540_C8_04		R3D. VERIZON WIRELESS @ 283...



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F1I	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
F1J	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
F1K	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
F1L	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
F1M	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
F1N	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
F1O	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
F1P	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
F1Q	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
F1R	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
F1S	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
F1T	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
F1U	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
F1V	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
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F1X	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
F1Y	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
F1Z	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
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F2I	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
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F2N	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
F2O	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
F2P	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
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F2R	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE
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F2Z	FEGOAEFE S QIDEAFBEE^	Y	OS	FEG	GE	FE	Y	EE	EE	Y	EE	EE	EE	EE	EE	EE	EE	EE	EE

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F I	P e e i	S A G E c F E E	E F F	e	J	E F I	e :	G	F I H I E J I	I I G G	H I I E J H	G H I E I G	G E I I P G E E
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G	T U I	U O O ' G E	E G F	I I	F G H	E E H	I I	H	H I I E J	H G F H E	F I I F E G	F I I F E G	F E I I P F E a
G	T U I	U O O ' G E	E G H	I I	F H U	E E H	I I	I	H I I E J	H G F H E	F I I F E G	F I I F E G	F E I I P F E a
G	T U I	U O O ' G E	E G H	I I	F I I	E E H	I I	F G	H I I E J	H G F H E	F I I F E G	F I I F E G	F E I I P F E a
G	T U I	U O O ' G E	E G H	I I	F I J	E E H	I I	H	H I I E J	H G F H E	F I I F E G	F I I F E G	F E I I P F E a
G	T U F e	U O O ' G E	E I I	I I	I	E H	I I	I	H I I E J	H G F H E	F I I F E G	F I I F E G	F E e P F E a
G J	T U F F	U O O ' G E	E I J	I I	F F	E I	I I	F F	H I I E J	H G F H E	F I I F E G	F I I F E G	F E I G P F E a
H E	T U F G	U O O ' G E	E J I	I I	I	E F	I I	I	H I I E J	H G F H E	F I I F E G	F I I F E G	F E I I P F E a

Mount-to-Tower Connection Analysis

Applied Loads from RISA 3D

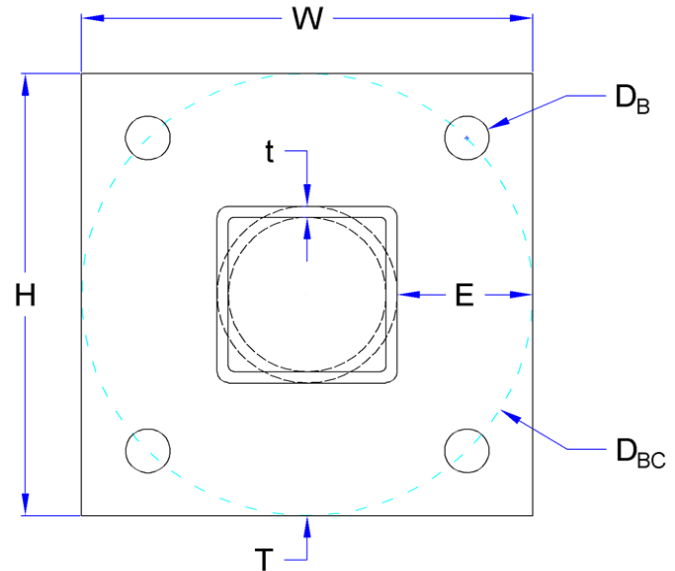
Controlling Load Combination		36	
Node Label		N014	
Force in X	F _x	-278.0	lbs
Force in Y	F _y	2144.6	lbs
Force in Z	F _z	417.3	lbs
Moment about X	M _x	5866.2	lb-ft
Moment about Y	M _y	390.4	lb-ft
Moment about Z	M _z	191.5	lb-ft

Bolt Shear and Tensile Capacity

Bolt Quantity	n	4	
Bolt Diameter	D _B	5/8	in
Bolt Circle	D _{BC}	9.9	in
Bolt Grade		A325	
Bolt F _y	F _{yB}	92	ksi
Bolt F _u	F _{uB}	120	ksi
Applied Shear	V _u	0.57	k
Applied Tension	T _u	5.47	k
Tensile Strength	φT _n	20.3	k
Interaction Capacity	(T _u +V _u)/φT _n	30%	Pass

Plate Flexural Capacity

Plate Height	H	10	in
Plate Width	W	10	in
Plate Thickness	T	5/8	in
Plate Grade		A36	
Plate F _y	F _{yP}	36	ksi
Plate F _u	F _{uP}	58	ksi
Applied Moment	M _u	12.3	k-in
Flexural Strength	φM _n	31.6	k-in
Flexural Capacity	M _u /φM _n	39%	Pass



Weld and Base Metal Capacity

Standoff Type		Tube	
Standoff Member		HSS4x4x4	
Member Edge Distance	E	3	in
Member Width	w	4	in
Member Thickness	t	0.250	in
Member Grade		A500 Gr. B	
Member F _y	F _{yM}	42	ksi
Member F _u	F _{uM}	58	ksi
Weld Size	a	3/16	in
Weld Length	l	16.0	in
Applied Load	P _u	10.9	k
Weld Strength	φR _n	33.4	k
Weld Capacity	P _u /φR _n	33%	Pass
Minimum Base Metal Thickness		0.160	in
Controlling Base Metal Thickness		0.250	in
Base Metal Result			Acceptable

Site Name: Naugatuck West CT
Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm ²)	(mW/cm ²)	(%)
VZW 700	746	4	962	3846.44	106	0.1231	0.4973333333	24.75%
VZW Cellular	880	4	457	1828.32	106	0.0585	0.5866666667	9.97%
VZW PCS	1970	4	2201	8803.56	106	0.2818	1.0	28.18%
VZW AWS	2145	4	2576	10302.88	106	0.3298	1.0	32.98%

Total Percentage of Maximum Permissible Exposure 95.88%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Section 1.13101 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

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.



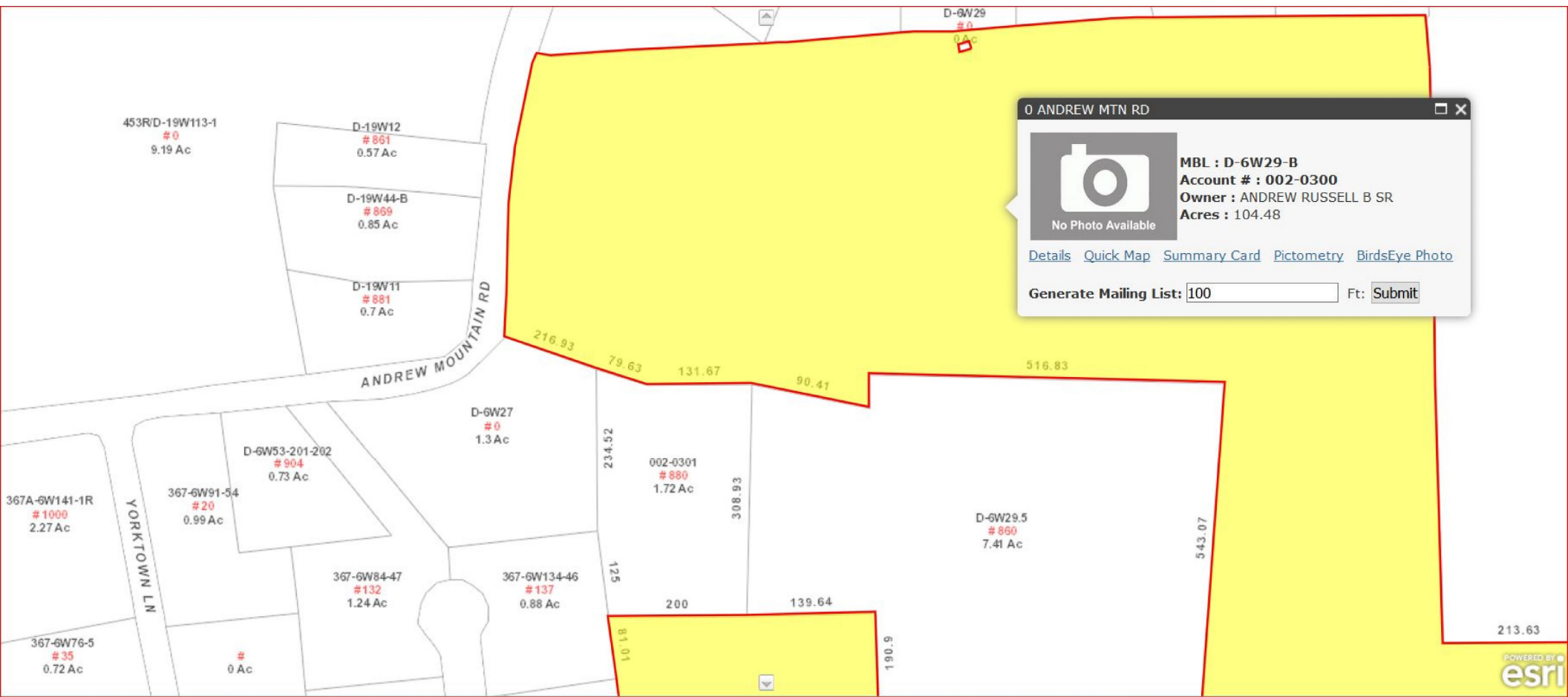
0 ANDREW MTN RD

 No Photo Available

MBL : D-6W29-B
Account # : 002-0300
Owner : ANDREW RUSSELL B SR
Acres : 104.48

[Details](#) [Quick Map](#) [Summary Card](#) [Pictometry](#) [BirdsEye Photo](#)

Generate Mailing List: Ft:



0 ANDREW MTN RD

MBL : D-6W29-B
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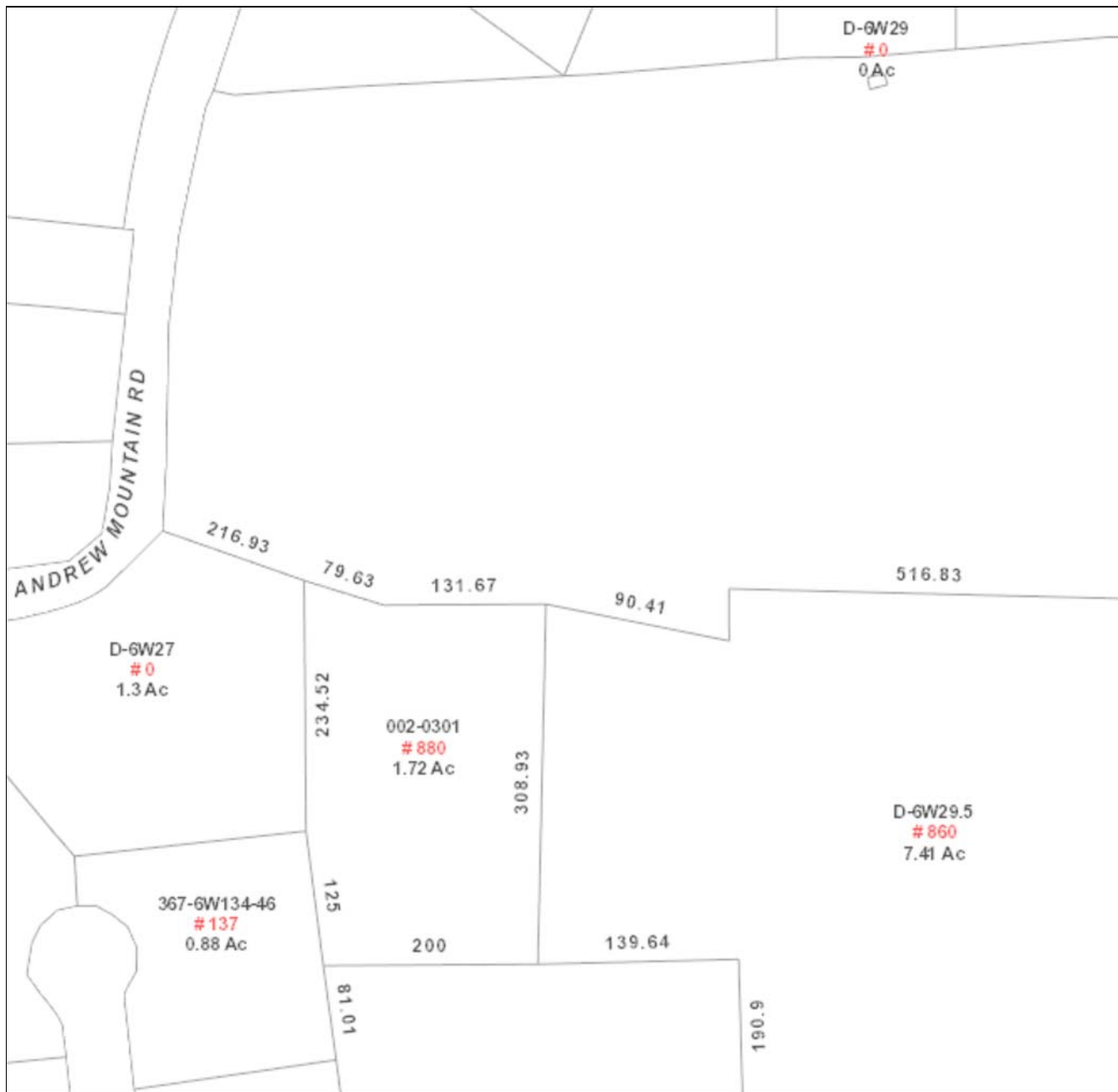
Generate Mailing List: Ft:

The Borough of Naugatuck

Geographic Information System (GIS)



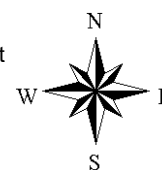
Date Printed: 12/14/2017



MAP DISCLAIMER - NOTICE OF LIABILITY

This map is for assessment purposes only. It is not for legal description or conveyances. All information is subject to verification by any user. The Borough of Naugatuck and its mapping contractors assume no legal responsibility for the information contained herein.

Approximate Scale: 1 inch = 150 feet





Borough of Naugatuck, CT

Property Listing Report

Map Block Lot

D-6W29-B

Account

002-0300

Property Information

Property Location	0 ANDREW MTN RD
Owner	ANDREW RUSSELL B SR
Co-Owner	
Mailing Address	861 ANDREW MTN RD NAUGATUCK CT 06770
Land Use	6100 Forest 490
Land Class	S
Zoning Code	
Census Tract	
Sub Lot	
Neighborhood	7
Acreage	104.48
Utilities	
Lot Setting/Desc	
Survey Map	
Additional Info	

Photo



Sketch

Primary Construction Details

Year Built	
Stories	
Building Style	
Building Use	
Building Condition	
Floors	
Total Rooms	

Bedrooms	
Full Bathrooms	
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	
Roof Cover	

Exterior Walls	
Interior Walls	
Heating Type	
Heating Fuel	
AC Type	
Gross Bldg Area	
Total Living Area	



Borough of Naugatuck, CT

Property Listing Report

Map Block Lot

D-6W29-B

Account

002-0300

Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings		
Extras		
Outbuildings		
Land		
Total		

Outbuilding and Extra Items

Type	Description
CANOPY-AVE	800 S.F.
Fireplace 1 STY	1 UNITS
Shed	224 S.F.
Shed	224 S.F.
CELL TOWER	120 HEIGHT

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area		0

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
ANDREW RUSSELL B SR	954/ 260	12/17/2014	0
ANDREW FRANKLIN B JR + PIERCE MARJORIE	954/ 258	12/17/2014	0
ANDREW FRANKLIN B JR	954/ 256	12/17/2014	0
ANDREW FRANKLIN BROOKS EST	932/ 275	8/8/2013	
ANDREW FRANKLIN B	684/ 440	10/28/2004	
ANDREW FRANKLIN B	467/ 103	6/29/1998	0
ANDREW FRANKLIN B	339/ 202	12/27/1989	0
ANDREW FRANKLIN B	134/ 531	6/24/1965	0



Borough of Naugatuck, CT

Property Listing Report

Map Block Lot

002-0301

Account

002-0301

Property Information

Property Location	880 ANDREW MTN RD
Owner	PIERCE MARJORIE
Co-Owner	
Mailing Address	111 BIRCH LA NAUGATUCK CT 06770
Land Use	1010 Single Fam
Land Class	R
Zoning Code	
Census Tract	
Sub Lot	
Neighborhood	7
Acreage	1.72
Utilities	
Lot Setting/Desc	
Survey Map	
Additional Info	

Photo



Sketch



Primary Construction Details

Year Built	2000
Stories	1
Building Style	Ranch
Building Use	Residential
Building Condition	C
Floors	Hardwood
Total Rooms	3

Bedrooms	2 Bedrooms
Full Bathrooms	1
Half Bathrooms	
Bath Style	Average
Kitchen Style	Average
Roof Style	Gable
Roof Cover	Asphalt

Exterior Walls	Logs
Interior Walls	Drywall
Heating Type	Hot Water
Heating Fuel	Oil
AC Type	None
Gross Bldg Area	2424
Total Living Area	792



Borough of Naugatuck, CT

Property Listing Report

Map Block Lot 002-0301

Account 002-0301

Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	91710	64200
Extras	2330	1630
Outbuildings	0	0
Land	96330	67430
Total	0	

Outbuilding and Extra Items

Type	Description
Fireplace	1 UNITS

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Garage	576	0
First Floor	792	792
Basement, Unfinished	792	0
Porch, Open	264	0
Total Area	2424	792

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
PIERCE MARJORIE	954/ 258	12/17/2014	0
ANDREW FRANKLIN BROOKS EST	932/ 275	8/8/2013	0



Town of Naugatuck, CT

Property Listing Report

Map Block Lot

002-0302

Building # **1**

PID **129167**

Account

002-0302

Property Information

Property Location	0 ANDREW MOUNTAIN RD
Owner	ANDREW FRANKLIN B JR
Co-Owner	
Mailing Address	325 MILLVILLE AVE NAUGATUCK CT 06770
Land Use	3920 VACANT UNB
Land Class	C
Zoning Code	
Census Tract	

Neighborhood	7
Acreage	14.91
Utilities	
Lot Setting/Desc	
Book / Page	0954/0256
Additional Info	

Photo



Sketch



Primary Construction Details

Year Built	0
Building Desc.	VACANT UNB
Building Style	UNKNOWN
Building Grade	
Stories	
Occupancy	
Exterior Walls	
Exterior Walls 2	NA
Roof Style	
Roof Cover	
Interior Walls	
Interior Walls 2	NA
Interior Floors 1	
Interior Floors 2	

Heating Fuel	
Heating Type	
AC Type	
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	0
Fireplaces	0

(*Industrial / Commercial Details)

Building Use	Vacant
Building Condition	
Sprinkler %	NA
Heat / AC	NA
Frame Type	NA
Baths / Plumbing	NA
Ceiling / Wall	NA
Rooms / Prtns	NA
Wall Height	NA
First Floor Use	NA
Foundation	NA



Town of Naugatuck, CT

Property Listing Report

Map Block Lot **002-0302**

Building # **1** PID **129167** Account **002-0302**

Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	0	0
Extras	0	0
Improvements		
Outbuildings	105750	74030
Land	217940	90580
Total	323690	164610

Sub Areas

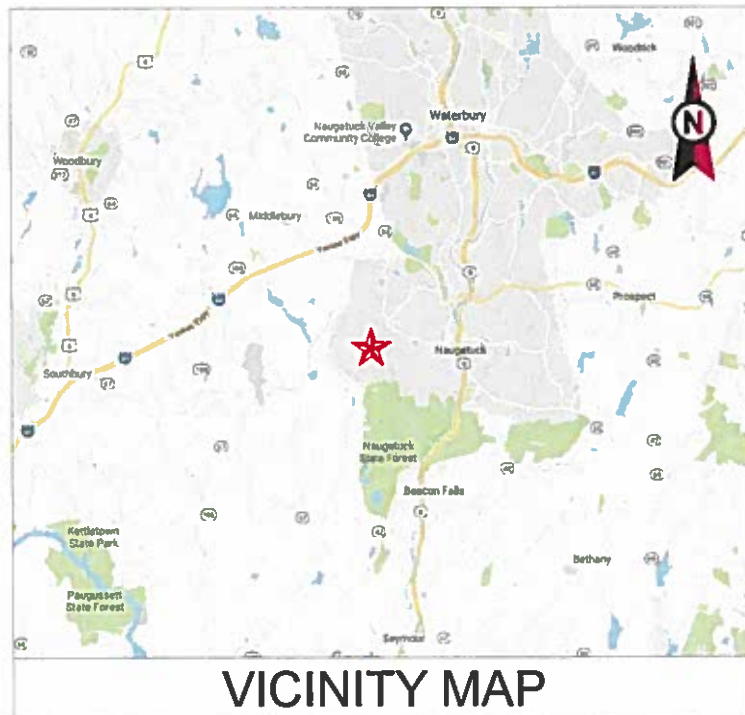
Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	0	0

Outbuilding and Extra Features

Type	Description
Shed	224 S.F.
Shed	224 S.F.
CELL TOWER	120 HEIGHT
Shed	224 S.F.
Shed	224 S.F.
Shed	224 S.F.
Shed	224 S.F.
CELL TOWER	120 HEIGHT

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
ANDREW FRANKLIN B JR	0954/0256	2014-12-17	0
ANDREW FRANKLIN BROOKS EST	0932/0275	2013-08-08	0



VICINITY MAP



AMERICAN TOWER®

ATC SITE NAME: NAUGATUCK CT
 ATC SITE NUMBER: 283423
 VERIZON SITE NAME: NAUGATUCK WEST CT
 VERIZON SITE NUMBER: 469151
 SITE ADDRESS: 880 ANDREW MOUNTAIN RD
 NAUGATUCK, CT 06770



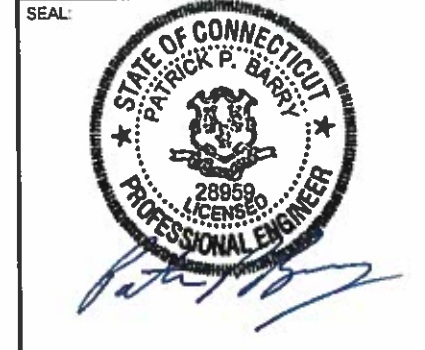
LOCATION MAP

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
 3500 REGENCY PARKWAY
 SUITE 100
 CARY, NC 27518
 PHONE: (919) 468-0112
 COA: PEC.0001553

THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OR SERVICE ARE THE EXCLUSIVE PROPERTY OF AMERICAN TOWER. THEIR USE AND PUBLICATION SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. TITLE TO THESE DOCUMENTS SHALL REMAIN THE PROPERTY OF AMERICAN TOWER WHETHER OR NOT THE PROJECT IS EXECUTED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OF ANY DISCREPANCIES ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION ON FILE WITH AMERICAN TOWER.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MR	12/24/19
1	UPDATED MA	MR	02/13/20

ATC SITE NUMBER:
283423
 ATC SITE NAME:
NAUGATUCK CT
 SITE ADDRESS:
 880 ANDREW MOUNTAIN RD
 NAUGATUCK, CT 06770



Authorized by "EOR"
 Verizon design

DRAWN BY:	MR
APPROVED BY:	PPB
DATE DRAWN:	12/24/19
ATC JOB NO:	13000540
CUSTOMER ID:	NAUGATUCK WEST CT
CUSTOMER #:	469151

COVER SHEET

SHEET NUMBER:	REVISION:
G-001	1

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX					
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES. 1. INTERNATIONAL BUILDING CODE (IBC) 2. NATIONAL ELECTRIC CODE (NEC) 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 880 ANDREW MOUNTAIN RD NAUGATUCK, CT 06770 COUNTY: NEW HAVEN <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41.484453 LONGITUDE: -73.089844 GROUND ELEVATION: 855' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: REMOVE (3) PANELS, (12) RRU's INSTALL (6) RRU's, (3) COMBINERS EXISTING (6) PANELS, (6) 1-5/8" COAX CABLES, (1) 1-5/8" HYBRID CABLE, AND (2) OVP's TO REMAIN	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:	
	<u>PROJECT TEAM</u> <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801 <u>ENGINEER:</u> ATC TOWER SERVICES, LLC 3500 REGENCY PKWY STE 100 CARY, NC 27518 <u>PROPERTY OWNER:</u> FRANKLIN B ANDREW JR 325 MILLVILLE AVE NAUGATUCK, CT 06770 <u>APPLICANT:</u> VERIZON WIRELESS 20 ALEXANDER DRIVE, 2ND FLOOR WALLINGFORD, CT 06492	<u>PROJECT NOTES</u> 1. THE FACILITY IS UNMANNED. 2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. 3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. 4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. 5. HANDICAP ACCESS IS NOT REQUIRED.	G-001 COVER SHEET G-002 GENERAL NOTES C-101 DETAILED SITE PLAN C-102 TOWER ELEVATION C-501 RF SCHEDULE AND ANTENNA INSTALLATION C-502 CONSTRUCTION DETAILS R-601 SUPPLEMENTAL					
	<u>UTILITY COMPANIES</u> POWER COMPANY: EVERSOURCE PHONE: (877) 659-6326 TELEPHONE COMPANY: FRONTIER COMMUNICATIONS PHONE: (800) 376-6843	<u>PROJECT LOCATION DIRECTIONS</u> FROM DOWNTOWN NEW HAVEN CT START OUT GOING NORTHEAST ON CHURCH ST TOWARD WALL ST. TURN LEFT ONTO GROVE ST. GROVE ST BECOMES TOWER PKWY. TOWER PKWY BECOMES WHALLEY AVE. TURN SLIGHT LEFT ONTO AMITY RD/CT-63. CONTINUE TO FOLLOW CT-63. TURN LEFT TO STAY ON CT-63. TURN LEFT ONTO SCOTT ST. TAKE THE 3RD LEFT ONTO ANDREW AVE. TURN RIGHT ONTO ANDREW MOUNTAIN RD. 946 ANDREW MOUNTAIN RD. NAUGATUCK, CT 06770-3643. 946 ANDREW MOUNTAIN RD IS ON THE LEFT.						



Know what's below.
 Call before you dig.

GENERAL CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
2. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
4. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
5. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
6. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
7. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
9. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
10. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE VERIZON WIRELESS REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE VERIZON WIRELESS REP PRIOR TO PROCEEDING.
11. EACH CONTRACTOR SHALL COOPERATE WITH THE VERIZON WIRELESS REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
12. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE VERIZON WIRELESS CONSTRUCTION MANAGER.
13. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
14. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE VERIZON WIRELESS REP IMMEDIATELY.
15. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
16. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
17. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH LANDLORD AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
18. CONTRACTOR SHALL FURNISH VERIZON WIRELESS WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
19. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON WIRELESS REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
20. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON WIRELESS REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY VERIZON WIRELESS MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
21. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH VERIZON WIRELESS SPECIFICATIONS AND REQUIREMENTS.
22. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO VERIZON WIRELESS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
23. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO VERIZON WIRELESS SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
24. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
25. CONTRACTOR SHALL NOTIFY VERIZON WIRELESS REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.

27. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
28. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE VERIZON WIRELESS REP. ANY WORK FOUND BY THE VERIZON WIRELESS REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
29. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
 - A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
 - B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE
 - C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
 - D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
 - E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
 - A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
 - B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
 - C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
 - D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
 - E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
 - F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
 - G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING 1/2" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.



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 SUITE 100
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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MR.	12/24/19

ATC SITE NUMBER:
283423

ATC SITE NAME:
NAUGATUCK CT

SITE ADDRESS:
 880 ANDREW MOUNTAIN RD
 NAUGATUCK, CT 06770



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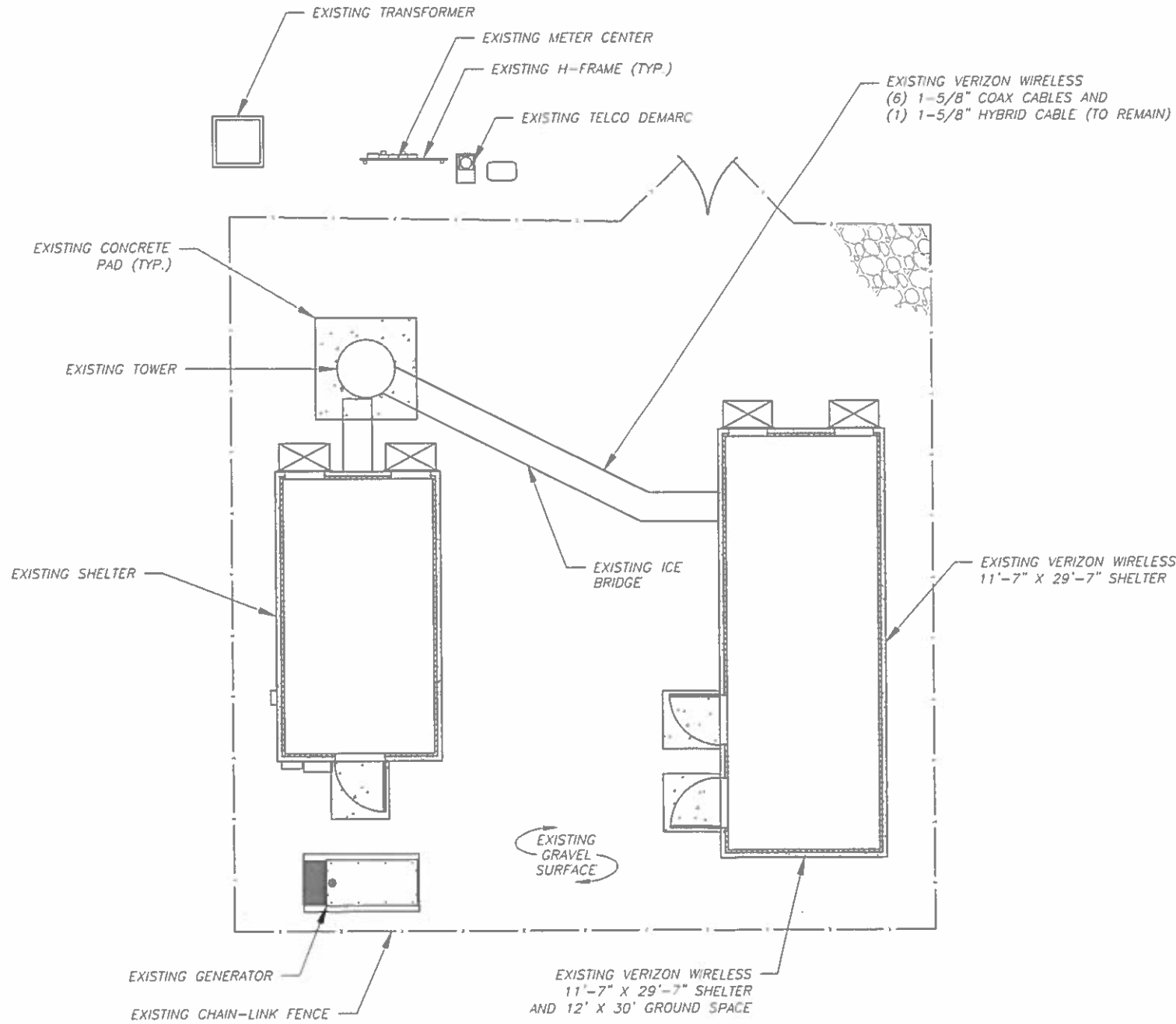
DRAWN BY:	MR
APPROVED BY:	PPB
DATE DRAWN:	12/24/19
ATC JOB NO:	13000540
CUSTOMER ID:	NAUGATUCK WEST CT
CUSTOMER #:	469151

GENERAL NOTES	
SHEET NUMBER: G-002	REVISION: 0

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SITE PLAN NOTES:

1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, CABLE SUPPORTS, AND CABLES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE INSTALLING NEW CABLE SUPPORT STRUCTURES, COAX PORTS, OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.



1 DETAILED SITE PLAN

0 10' 20'

SCALE: 1"=10' (11X17)
1"=5' (22X34)



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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MR	12/24/19

ATC SITE NUMBER:
283423
 ATC SITE NAME:
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 NAUGATUCK, CT 06770

SEAL:



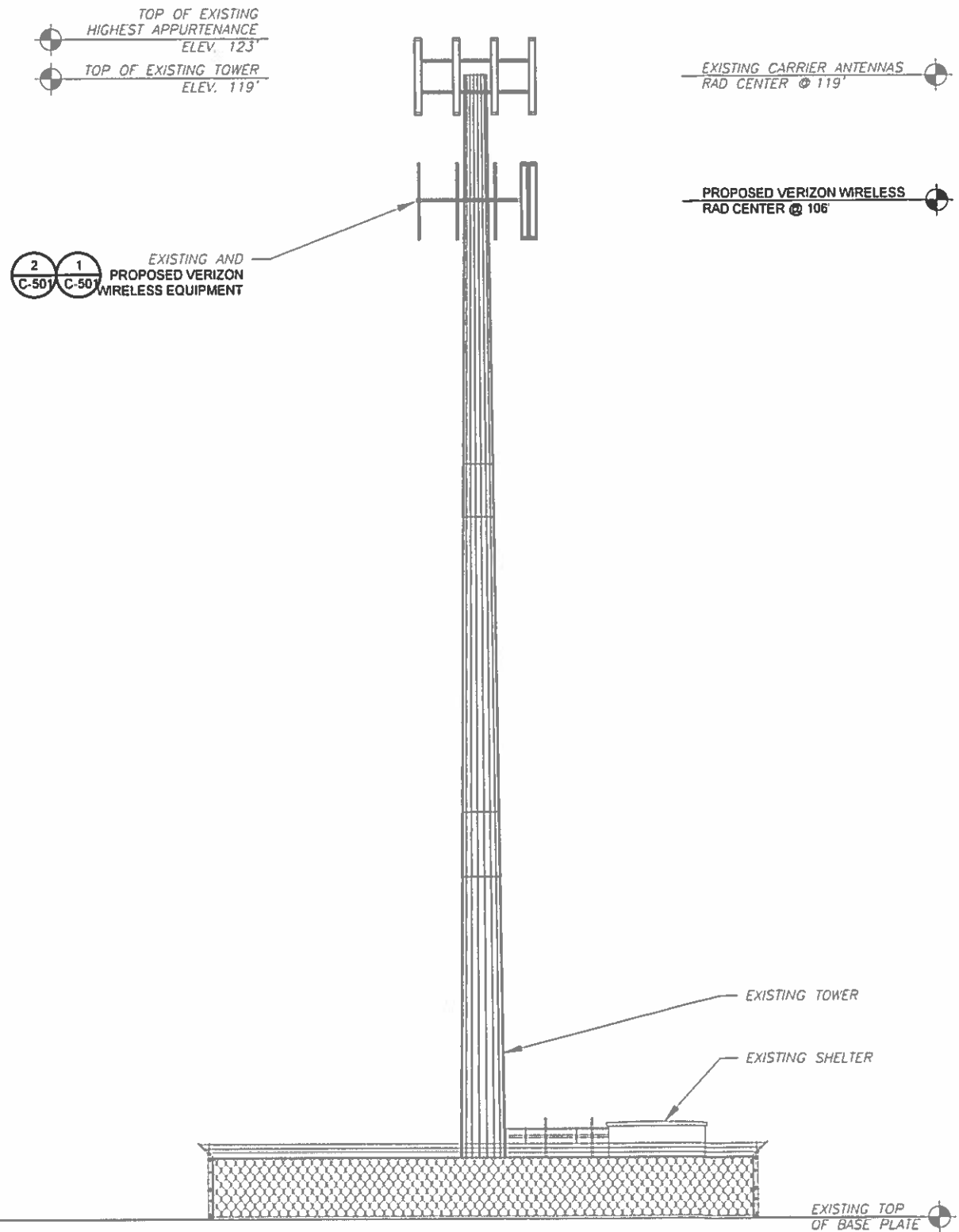
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DRAWN BY:	MR
APPROVED BY:	PPB
DATE DRAWN:	12/24/19
ATC JOB NO:	13000540
CUSTOMER ID:	NAUGATUCK WEST CT
CUSTOMER #:	469151

DETAILED SITE PLAN

SHEET NUMBER: **C-101** REVISION: **0**

PER MOUNT ANALYSIS COMPLETED BY AMERICAN TOWER, DATED 02/10/20. THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING



1 TOWER ELEVATION
SCALE: NOT TO SCALE

TOWER NOTE:

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE AMERICAN TOWER CONSTRUCTION MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
- ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA HEIGHTS, ANTENNA AZIMUTHS AND MOUNT CONFIGURATIONS.
- TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)

ANTENNA NOTES:

- ALL ANTENNAS TO BE FURNISHED WITH DOWNTILT BRACKETS. CONTRACTOR TO COORDINATE REQUIRED MECHANICAL DOWNTILT FOR EACH ANTENNA WITH VERIZON RF ENGINEER.
- ANTENNA CENTERLINE HEIGHT IS ABOVE GROUND LEVEL (AGL).
- CONTRACTOR SHALL VERIFY ANTENNA TYPE, AZIMUTH, DOWNTILT, AND ANTENNA NUMBER PER SECTOR WITH CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
- ALL PERSONNEL WORKING ON THE TOWER MUST COMPLY WITH VERIZON'S RF EMISSIONS GUIDELINE POLICY.
- CHECK WITH RF ENGINEER FOR LATEST ANTENNA TYPE AND AZIMUTH.
- CONTRACTOR SHALL NOT INSTALL SHRINK WRAP UNTIL AFTER CABLES HAVE BEEN SWEEP.
- THE USE OF ALTERNATE GROUNDING MEANS (SUCH AS LYNCOLE XIT) SHALL COMPLY WITH O.C.E.I. CONSTRUCTION SPECIFICATIONS AND BUILDING PRACTICES.



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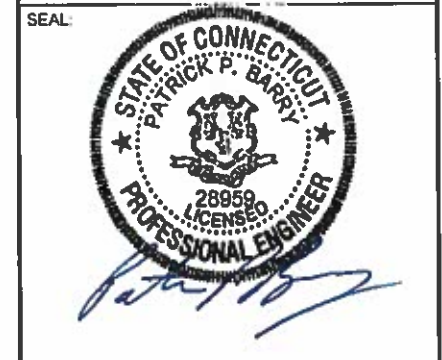
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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MR	12/24/19
1	UPDATED MA	MR	02/13/20

ATC SITE NUMBER:
283423

ATC SITE NAME:
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SITE ADDRESS:
 880 ANDREW MOUNTAIN RD
 NAUGATUCK, CT 06770



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APPROVED BY:	PPB
DATE DRAWN:	12/24/19
ATC JOB NO:	13000540
CUSTOMER ID:	NAUGATUCK WEST CT
CUSTOMER #:	469151

TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-102	1

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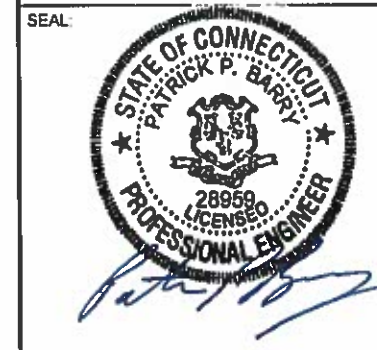
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0	FOR CONSTRUCTION	MR	12/24/19
1	UPDATED MA	MR	02/13/20

ATC SITE NUMBER:
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 880 ANDREW MOUNTAIN RD
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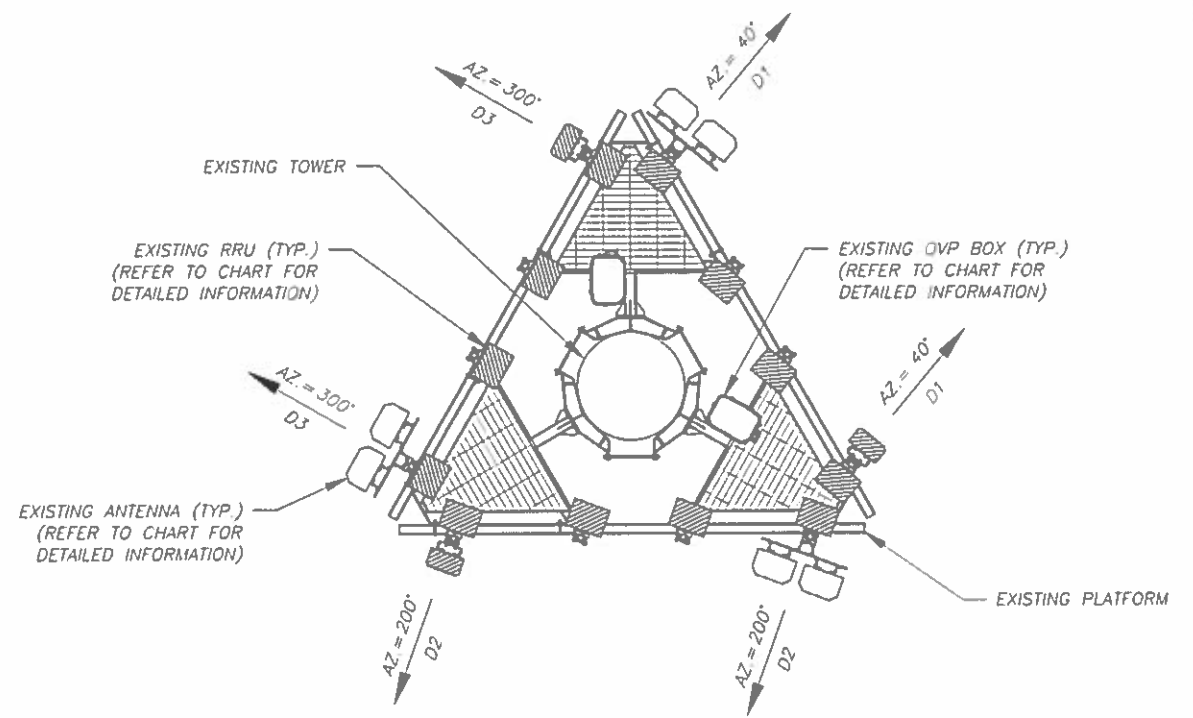
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DRAWN BY:	MR
APPROVED BY:	PPB
DATE DRAWN:	12/24/19
ATC JOB NO:	13000540
CUSTOMER ID:	NAUGATUCK WEST CT
CUSTOMER #:	469151

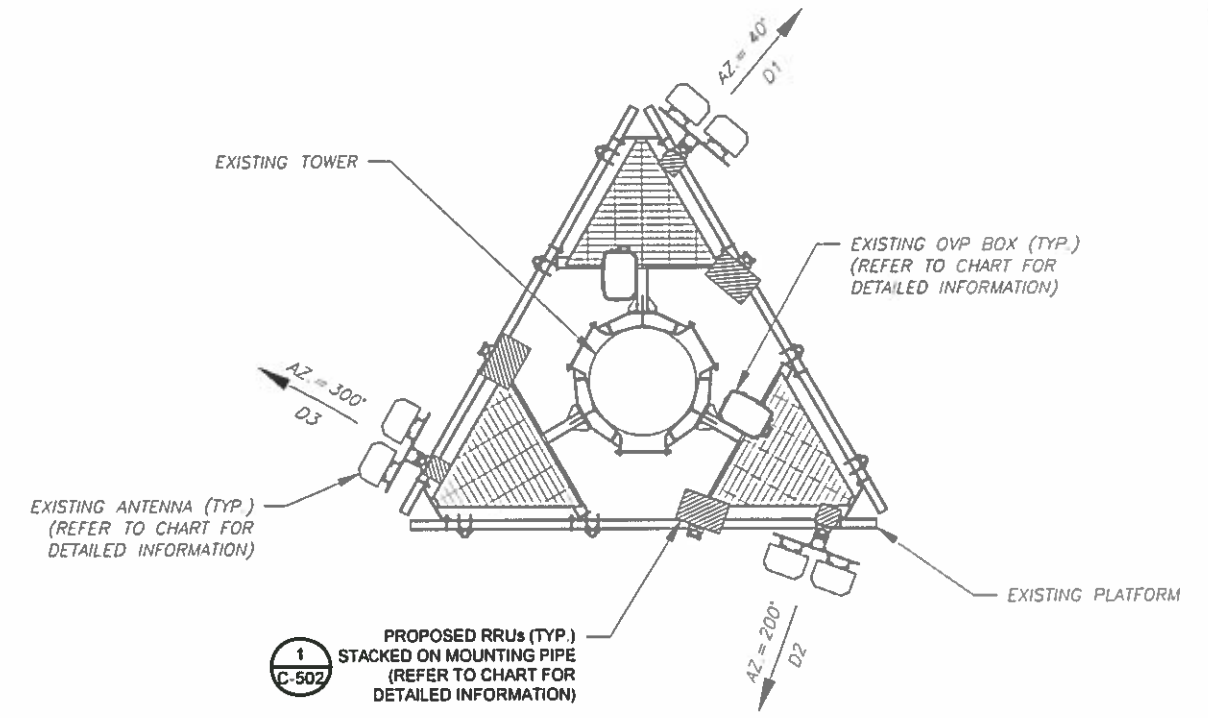
RF SCHEDULE AND ANTENNA INSTALLATION

SHEET NUMBER: **C-501** REVISION: **1**

PER MOUNT ANALYSIS COMPLETED BY AMERICAN TOWER, DATED 02/10/20. THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING



1 CURRENT ANTENNA PLAN



2 FINAL ANTENNA PLAN

EXISTING ANTENNA SCHEDULE							
LOCATION			ANTENNA SUMMARY			NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT STATUS
D1	106'	40°	A1	(2) JAHH-45B-R3B	700/850/1900/2100 LTE	RMN	B66 RRH4X45 RMV
			A2	-	-	-	RRH4X30W-B25 RMV
			A3	-	-	-	B5 RRH4X40-850 RMV
			A4	BXA-70063-6CF-EDIN-X	-	RMV	B13 RRH4x30-4R 700U RMV
D2	106'	200°	B1	(2) JAHH-65B-R3B	700/850/1900/2100 LTE	RMN	B66 RRH4X45 RMV
			B2	-	-	-	RRH4X30W-B25 RMV
			B3	-	-	-	B5 RRH4X40-850 RMV
			B4	BXA-70063-6CF-EDIN-X	-	RMV	B13 RRH4x30-4R 700U RMV
D3	106'	300°	C1	(2) JAHH-65B-R3B	700/850/1900/2100 LTE	RMN	B66 RRH4X45 RMV
			C2	-	-	-	RRH4X30W-B25 RMV
			C3	-	-	-	B5 RRH4X40-850 RMV
			C4	BXA-70063-6CF-EDIN-X	-	RMV	B13 RRH4x30-4R 700U RMV

NOTES

- BASED ON APPROVED ATC APPLICATION 13000540, DATED 11/08/19. CONFIRM WITH VERIZON WIRELESS REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
- ATC HAS NOT YET VERIFIED ANY EXISTING ANTENNA CONFIG OR MOUNT CONFIG. CONTRACTOR TO VERIFY MOUNT CONFIG HAS SUFFICIENT SPACE FOR PROPOSED LESSEE EQUIPMENT (EQUIP) (I.E. CLEARANCES, MOUNT PIPE, SUFFICIENT LENGTH, ETC.)
- ALL PROPOSED EQUIP INCLUDING ANTENNAS, COAX, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS ON FILE WITH ATC'S CM.
- CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
- POSITIONS START WITH FIRST PIPE ON THE LEFT SIDE (AS VIEWED FROM BEHIND THE MOUNT).

FINAL ANTENNA SCHEDULE										
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY			
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS		
D1	106'	40°	A1	(2) JAHH-45B-R3B	700/850/1900/2100 LTE	RMN	CBC78T-DS-43-2X	ADD		
			A2	-	-	-	B5/B13 RRH-BR04C	ADD		
			A3	-	-	-	-	-	-	
			A4	-	-	-	-	-	-	-
D2	106'	200°	B1	(2) JAHH-65B-R3B	700/850/1900/2100 LTE	RMN	CBC78T-DS-43-2X	ADD		
			B2	-	-	-	B5/B13 RRH-BR04C	ADD		
			B3	-	-	-	-	-	-	
			B4	-	-	-	-	-	-	-
D3	106'	300°	C1	(2) JAHH-65B-R3B	700/850/1900/2100 LTE	RMN	CBC78T-DS-43-2X	ADD		
			C2	-	-	-	B5/B13 RRH-BR04C	ADD		
			C3	-	-	-	-	-	-	
			C4	-	-	-	-	-	-	-

EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
(2) RCMDC-6627-PF-48	RMN	(6) 1-5/8"	(1) 1-5/8"	RMN

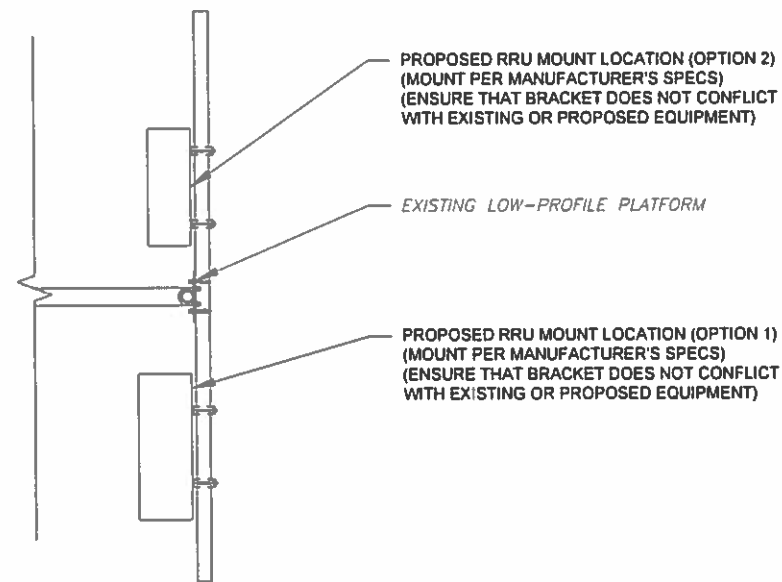
STATUS ABBREVIATIONS
 RMV: TO BE REMOVED
 RMN: TO REMAIN
 REL: TO BE RELOCATED
 DSC: TO BE DISCONNECTED & REMAIN
 ADD: TO BE ADDED

3 EQUIPMENT SCHEDULES

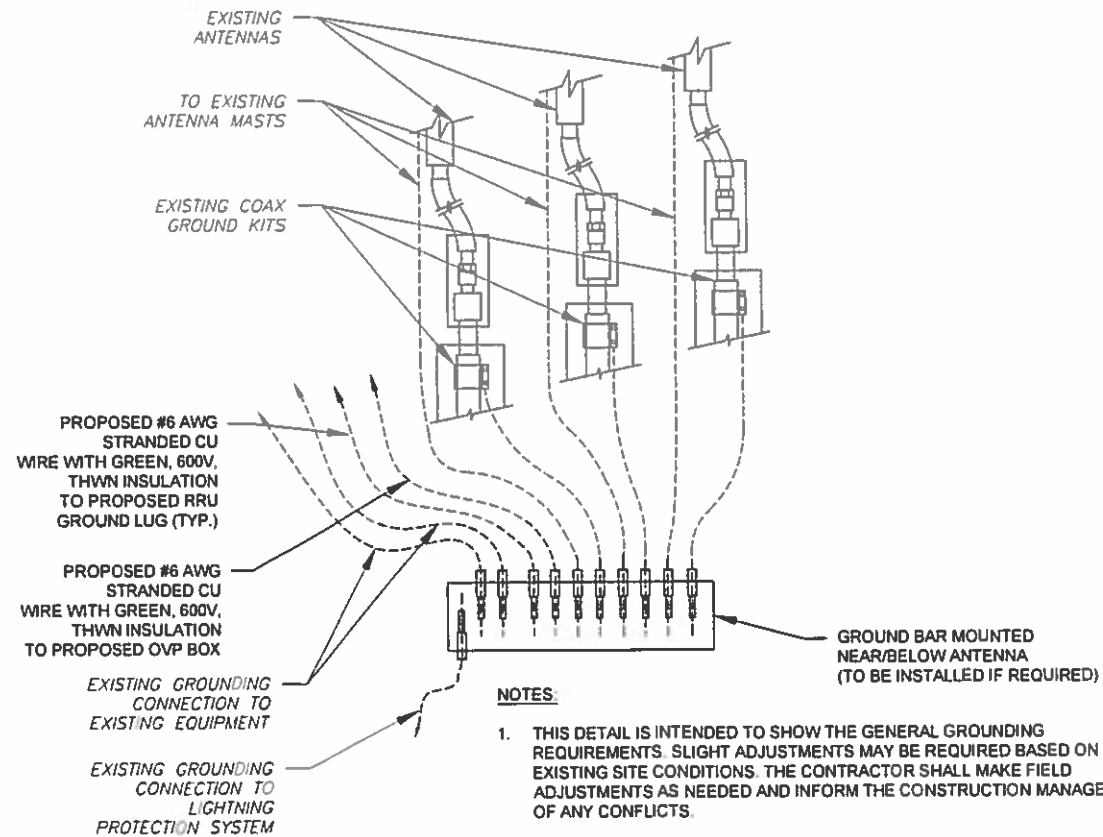
CABLE LENGTHS FOR JUMPERS
 FIBER DISTRIBUTION/OVP TO RRU: 15'
 RRU TO COMBINER: 10'
 COMBINER TO ANTENNA: 10'

FINAL FIBER DISTRIBUTION/OVP BOX		FINAL CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
(2) RCMDC-6627-PF-48	RMN	(6) 1-5/8"	(1) 1-5/8"	RMN

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1 PROPOSED RRU MOUNTING DETAIL - TYPICAL
SCALE: NOT TO SCALE



NOTES:

1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH VERIZON WIRELESS GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH VERIZON WIRELESS GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

2 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE



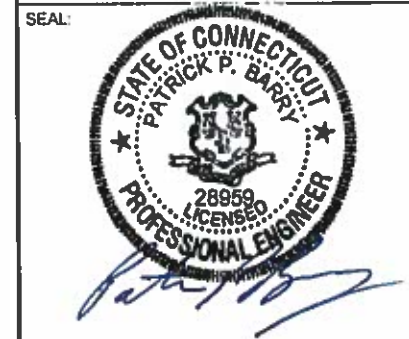
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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MR	12/24/19

ATC SITE NUMBER:
283423
ATC SITE NAME:
NAUGATUCK CT

SITE ADDRESS:
880 ANDREW MOUNTAIN RD
NAUGATUCK, CT 06770



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Verizon Design

DRAWN BY:	MR
APPROVED BY:	PPB
DATE DRAWN:	12/24/19
ATC JOB NO:	13000540
CUSTOMER ID:	NAUGATUCK WEST CT
CUSTOMER #:	469151

**CONSTRUCTION
DETAILS**

SHEET NUMBER:	REVISION:
C-502	0



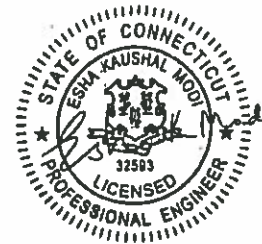
Antenna Mount Analysis Report

ATC Site Name : NAUGATUCK CT, CT
ATC Site Number : 283423
Engineering Number : 13000540_C8_04
Mount Elevation : 104 ft
Carrier : Verizon Wireless
Carrier Site Name : NAUGATUCK WEST CT
Carrier Site Number : 469151
Site Location : 880 Andrew Mountain Road
 Naugatuck, CT 06770-3656
 41.484453 , -73.089844

County : New Haven
Date : February 7, 2020
Max Usage : 86%
Result : Pass

Prepared By:
Steven McGinnis
Structural Engineer II

Reviewed By:



Authorized by "EOR"
10 Feb 2020 08:54:30

COA: PEC.0001553

Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for Verizon Wireless at 104 ft.

Supporting Documents

Mount Mapping	Tower Engineering Professionals Project, dated November 13, 2019
RFDS	RFDS dated November 7, 2019
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:	96.82 mph (3-Second Gust, Vasd) / 125 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 / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	S _z = 0.192, S _y = 0.064
Site Class:	D - Stiff Soil
Live Loads:	L _m = 500 lbs, L _v = 250 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.

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. PLEASE REFERENCE THE MOUNT ANALYSIS REPORT FOR COMPLETE MOUNT ANALYSIS CALCULATIONS AND DETAILS. SUPPLEMENTAL PAGES INCLUDED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY. GENERAL CONTRACTOR IS TO VERIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONSTRUCTION.

SUPPLEMENTAL

SHEET NUMBER:
R-601

REVISION:
1