



May 15, 2017

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

Re: **Notice of Exempt Modification – Facility Modification  
188 Route 7, Canaan (Falls Village), Connecticut**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains twelve (12) antennas at the top of an existing 149-foot tree tower at 188 Route 7 in Canaan, Connecticut (the “Property”). The tower is owned by American Tower Corporation (“ATC”). The Council approved Cellco’s use of this tower in 2009 (Docket No. 360). Cellco now intends to replace all of its existing antennas with six (6) model SBNHH-1D65B, 700 MHz antennas and six (6) model SBNHH-1D65B, 2100 MHz antennas, and replace six (6) remote radio heads (“RRHs”) with six (6) newer model RRHs, installed behind its existing antennas, all at the same level on the tower. Included in Attachment 1 are specifications for Cellco’s new antennas and RRHs.

Please accept this letter as notification pursuant to R.C.S.A. § 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 Patricia Allyn Mechare, First Selectman of the Town of Canaan; Mike Oniel, Canaan Zoning Official; Falls Village Fire Department, the Property owner; and ATC, the tower owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing structure. Cellco’s replacement antennas and RRHs will be attached to the existing T-arm structure at the top of the tower.

# Robinson+Cole

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2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, 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 installation of new antennas and RRHs will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative General Power Density table for Cellco's modified facility is included in Attachment 2.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The tower and its foundation can support Cellco's proposed modifications. (*See* Structural Analysis Report included in Attachment 3).

A copy of the Canaan parcel map and property owner information is included in Attachment 4.

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

Sincerely,



Kenneth C. Baldwin

Enclosures

Copy to:

Patricia Allyn Mechare, Town of Canaan First Selectman  
Mike Oniel, Canaan Zoning Official  
Falls Village Fire Department  
ATC  
Tim Parks

# **ATTACHMENT 1**



## SBNHH-1D65B

**Multiband Antenna, 698–896 and 2x 1695–2360 MHz, 65° horizontal beamwidth, internal RET. Both high bands share the same electrical tilt.**

- Interleaved dipole technology providing for attractive, low wind load mechanical package

### Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	14.9	14.7	17.7	18.2	18.6	18.6
Beamwidth, Horizontal, degrees	68	66	69	66	63	58
Beamwidth, Vertical, degrees	12.1	10.7	5.6	5.2	5.0	4.5
Beam Tilt, degrees	0–14	0–14	0–7	0–7	0–7	0–7
USLS (First Lobe), dB	14	13	15	15	15	13
Front-to-Back Ratio at 180°, dB	27	29	28	28	28	27
Isolation, dB	25	25	25	25	25	25
Isolation, Intersystem, dB	30	30	30	30	30	30
VSWR   Return Loss, dB	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350	350	350	300
Polarization	±45°	±45°	±45°	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm

### Electrical Specifications, BASTA\*

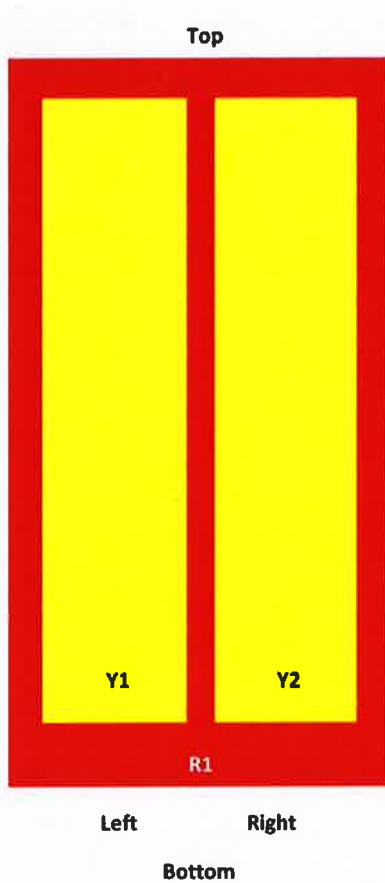
Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain by all Beam Tilts, average, dBi	14.5	14.3	17.4	17.9	18.2	18.3
Gain by all Beam Tilts Tolerance, dB	±0.5	±0.8	±0.4	±0.3	±0.5	±0.3
	0°   14.6	0°   14.5	0°   17.4	0°   17.8	0°   18.1	0°   18.2
Gain by Beam Tilt, average, dBi	7°   14.6	7°   14.4	3°   17.5	3°   17.9	3°   18.3	3°   18.4
	14°   14.2	14°   13.6	7°   17.4	7°   17.9	7°   18.2	7°   18.4
Beamwidth, Horizontal Tolerance, degrees	±2.2	±3.4	±2	±4.6	±5.7	±4.3
Beamwidth, Vertical Tolerance, degrees	±0.8	±1	±0.3	±0.2	±0.3	±0.2
USLS, beampeak to 20° above beampeak, dB	16	14	16	16	16	15
Front-to-Back Total Power at 180° ± 30°, dB	25	26	27	26	26	26
CPR at Boresight, dB	22	23	21	20	20	22
CPR at Sector, dB	13	11	16	12	11	4

\* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, [download the whitepaper Time to Raise the Bar on BSAs.](#)

### Array Layout

SBNHH-1D65B

**SBNHH 65**



Array	Freq (MHz)	Conns	RET (MRET)	AISG RET UID
R1	698-896	1-2	1	AXXXXXXXXXXXXXXXXX.1
Y1	1695-2360	3-4	2	AXXXXXXXXXXXXXXXXX.2
Y2	1695-2360	5-6		

View from the front of the antenna  
 (Sizes of colored boxes are not true depictions of array sizes)

## General Specifications

Operating Frequency Band	1695 – 2360 MHz   698 – 896 MHz
Antenna Type	Sector
Band	Multiband
Performance Note	Outdoor usage

## Mechanical Specifications

RF Connector Quantity, total	6
RF Connector Quantity, low band	2
RF Connector Quantity, high band	4
RF Connector Interface	7-16 DIN Female

SBNHH-1D65B

Color	Light gray
Grounding Type	RF connector inner conductor and body grounded to reflector and mounting bracket
Radiator Material	Aluminum   Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum
RF Connector Location	Bottom
Wind Loading, frontal	618.0 N @ 150 km/h 138.9 lbf @ 150 km/h
Wind Loading, lateral	197.0 N @ 150 km/h 44.3 lbf @ 150 km/h
Wind Loading, rear	728.0 N @ 150 km/h 163.7 lbf @ 150 km/h
Wind Speed, maximum	241 km/h   150 mph

## Dimensions

Length	1851.0 mm   72.9 in
Width	301.0 mm   11.9 in
Depth	180.0 mm   7.1 in
Net Weight, without mounting kit	18.4 kg   40.6 lb

## Remote Electrical Tilt (RET) Information

Input Voltage	10–30 Vdc
Internal RET	High band (1)   Low band (1)
Power Consumption, idle state, maximum	2.0 W
Power Consumption, normal conditions, maximum	13.0 W
Protocol	3GPP/AISG 2.0 (Multi-RET)
RET Interface	8-pin DIN Female   8-pin DIN Male
RET Interface, quantity	1 female   1 male

## Packed Dimensions

Length	2025.0 mm   79.7 in
Width	390.0 mm   15.4 in
Depth	296.0 mm   11.7 in
Shipping Weight	31.0 kg   68.3 lb

## Regulatory Compliance/Certifications

### Agency

RoHS 2011/65/EU  
China RoHS SJ/T 11364-2006  
ISO 9001:2008

### Classification

Compliant by Exemption  
Above Maximum Concentration Value (MCV)  
Designed, manufactured and/or distributed under this quality management system



SBNHH1D65B

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## Included Products

BSAMNT-1 — Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

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## \* Footnotes

Performance Note      Severe environmental conditions may degrade optimum performance



# ALCATEL-LUCENT B13 RRH4X30-4R

Alcatel-Lucent B13 Remote Radio Head 4x30-4R is the newest addition of Remote Radio Head to the extended product line of Alcatel-Lucent’s distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering.

**Supporting 2Tx/4Tx MIMO and 4-way Rx diversity**, Alcatel-Lucent B13 RRH4x30-4R allows operators to have a compact radio solution to deploy LTE in the 700U band (700 MHz, 3GPP band 13), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B13 RRH4x30-4R product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x60 W or 4x30 W RF output power. It supports also 4-way Rx diversity and up to 10MHz instantaneous bandwidth.

The Alcatel-Lucent B13 RRH4x30-4R is a near zero-footprint solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

Its compactness and slim design makes the Alcatel-Lucent B13 RRH4x30-4R easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

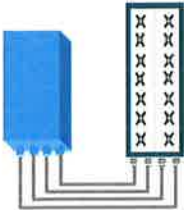


### FEATURES

- Supporting LTE in 700 MHz band (700U, 3GPP band 13)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- 10MHz LTE carrier with 4Rx Diversity
- Convection-cooled (fan-less)
- Supports AISG 2.0 ALD devices (RET, TMA) through RS485 or RF ports

### BENEFITS

- Compact to reduce additional footprint when adding LTE in 700U band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through MIMO4
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall



4x30W with 4T4R  
or  
2x60W with 2T4R

Can be switched between modes via SW w/o site visit

## TECHNICAL SPECIFICATIONS

Features & performance	
<b>Number of TX/RX paths</b>	4 duplexed (either 4T4R or 2T4R by SW)
<b>Frequency band</b>	U700 (C) (3GPP bands 13): DL: 746 - 756 MHz / UL: 777 - 787 MHz
<b>Instantaneous bandwidth - #carriers</b>	10MHz – 1 LTE carrier (in 10MHz occupied bandwidth)
<b>LTE carrier bandwidth</b>	10 MHz
<b>RF output power</b>	2x60W or 4x30W (by SW)
<b>Noise figure – RX Diversity scheme</b>	2 dB typ. (<2.5 dB max) – 2 or 4 way Rx diversity
<b>Sizes (HxWxD) in mm (in.)</b>	550 x 305 x 230 (21.6" x 12.0" x 9") (with solar shield)
<b>Volume in L</b>	38 (with solar shield)
<b>Weight in kg (lb) (w/o mounting HW)</b>	26 (57.2) (with solar shield)
<b>DC voltage range</b>	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption
<b>DC power consumption</b>	550W typical @100% RF load (in 2Tx or 4Tx mode)
<b>Environmental conditions</b>	-40°C (-40°F) / +55°C (+131°F) IP65
<b>Wind load (@150km/h or 93mph)</b>	Frontal: <200N / Lateral : <150N
<b>Antenna ports</b>	4 ports 7/16 DIN female (50 ohms) VSWR < 1.5
<b>CPRI ports</b>	2 CPRI ports (HW ready for Rate7, 9.8 Gbps) SFP single mode dual fiber
<b>AISG Interfaces</b>	1 AISG2.0 output (RS485) Integrated Smart Bias Tees (x2)
<b>Misc. Interfaces</b>	4 external alarms (1 connector) – 4 RF Tx & 4 RF Rx monitor ports - 1 DC connector (2 pins)
<b>Installation conditions</b>	Pole and wall mounting
<b>Regulatory compliance</b>	3GPP 36.141 / 3GPP 36.113 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27

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# ALCATEL-LUCENT B66A RRH4X45

The Alcatel-Lucent B66a Remote Radio Head 4x45 is the newest addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering. Its operational range covers beyond that of B4 (AWS) and B10 (AWS+).

**Supporting 2Tx/4Tx MIMO and 2-way/4-way Rx diversity**, the Alcatel-Lucent B66a RRH4x45 allows operators to have a compact radio solution to deploy LTE in the 2100 band (3GPP band 4, 10, and 66), providing them with the means to achieve high capacity, high quality, high reliability, large instantaneous bandwidth, and high coverage with minimum site requirements.

The Alcatel-Lucent B66a RRH4x45 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x90W or 4x45W RF output power. It also supports 4-way Rx diversity at the 70 MHz instantaneous bandwidth.



The Alcatel-Lucent B66a RRH4x45 is a compact (near zero-footprint) solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

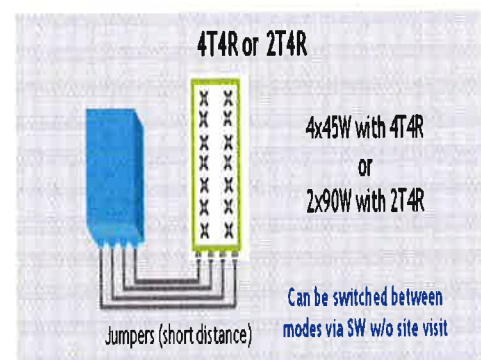
Its compactness and slim design makes the Alcatel-Lucent B66a RRH4x45 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

## FEATURES

- Supporting LTE in 2110 - 2180 MHz band/DL, 1710-1780MHz/UL (3GPP band 4, 10, and 66a)
- LTE 2Tx or 4Tx MIMO (SW selectable)
- Configuration: 2T2R/2T4R/4T4R
- Output power: Up to 2x90W or 4x45W (SW configurable)
- 70MHz LTE carrier with 4Rx Diversity
- Convection-cooled (fan-less)
- Supports AISG 2.0 ALD devices (RET, TMA) through RS485 or RF ports

## BENEFITS

- Compact to reduce additional footprint when adding LTE in AWS 1-3 band
- Selection of MIMO configuration (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through 4Tx MIMO
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall



## TECHNICAL SPECIFICATIONS

Features & Performance	
<b>Number of TX/RX paths</b>	4 duplexed (either 4T4R or 2T4R selectable by SW)
<b>Frequency band</b>	AWS 1-3, B4/B66a DL: 2110-2180 MHz / UL: 1710-1780 MHz
<b>Instantaneous bandwidth - #carriers</b>	70 MHz – 4 LTE MIMO carriers (in 70 MHz occupied bandwidth)
<b>LTE carrier bandwidth</b>	5, 10, 15, 20 MHz
<b>RF output power</b>	2x90W or 4x45W (selectable by SW)
<b>Noise figure – RX Diversity scheme Receiver Sensivity (FRC A1-3)</b>	2 dB typical (<2.5 dB max) – 2 or 4 way Rx diversity -104.5 dBm maximum
<b>Sizes (HxWxD) in mm (in.)</b>	655x299x182 (25.8x11.8x7.2) (with solar shield) 640x290x160 (25.2x11.4x6.3) (without solar shield)
<b>Volume in Liters</b>	35.5 (with solar shield) 29.7 (without solar shield)
<b>Weight in kg (lb) (w/o mounting HW)</b>	25.8kg (56.8lb) (with solar shield)
<b>DC voltage range</b>	Nominal: -48V, -40.5 to -57V at full performance, -38 to -57V w/ relaxation on power consumption
<b>DC power consumption</b>	750W typical @100% RF load (in 2Tx or 4Tx mode); Add 58W for 2A*29V for AISG
<b>Environmental conditions</b>	-40°C (-40°F) / +55°C (+131°F) UL50E Type 4 Enclosure
<b>Wind load (@150km/h or 93mph)</b>	250N (56lb) Frontal/150N (34lb) Lateral
<b>Antenna ports</b>	4 ports 4.3-10 female (50 ohms) VSWR < 1.5
<b>CPRI ports</b>	2 CPRI ports (HW ready for Rate 7, 9.8 Gbps) SFP: SMDF (HW supports also SMSF and MMDF)
<b>AISG interfaces</b>	1 AISG 2.0 output (RS485) Integrated Smart Bias Tees (x2)
<b>Misc. Interfaces</b>	4 external alarms (1 connector) 1 DC connector (2 pins)
<b>Installation conditions</b>	Pole and wall mounting
<b>Regulatory compliance</b>	3GPP 36.141 / 3GPP 36.113 / GR-487 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27 / FCC Part 15 / GR-3178-CORE

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# **ATTACHMENT 2**



Site Name: Falls Village (Canaan) Tower Height: 149'		General	Power	Density					
CARRIER	# OF CHAN.	WATTS ERP	HEIGHT	CALC. POWER DENS	FREQ.	MAX. PERMISS. EXP.	FRACTION MPE	Total	
*AT&T	1	1028	140	880	0.0206	0.5867	0.35%		
*AT&T	1	1265	140	1900	0.0253	1.0000	0.25%		
*AT&T	2	1254	140	710	0.0502	0.4733	1.06%		
*AT&T	1	1543	140	880	0.0309	0.5867	0.53%		
*AT&T	2	1897	140	1900	0.0760	1.0000	0.76%		
*AT&T	1	2179	140	2300	0.0436	1.0000	0.44%		
Verizon	0	1637	146	0.0000	1970	1.0000	0.00%		
Verizon	0	492	146	0.0000	869	0.5793	0.00%		
Verizon	1	7332	146	0.1237	2145	1.0000	12.37%		
Verizon	1	2184	146	0.0368	746	0.4973	7.41%		
									23.2%
* Source: Siting Council									

# **ATTACHMENT 3**



**AMERICAN TOWER®**  
CORPORATION

This report was prepared for American Tower Corporation by



**T O W E R**  
**E N G I N E E R I N G**  
**P R O F E S S I O N A L S**

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## Structural Analysis Report

**Structure** : 149 ft Monopine  
**ATC Site Name** : Falls Village CT PCS CT, CT  
**ATC Site Number** : 415121  
**Engineering Number** : OAA699532\_C3\_02  
**Proposed Carrier** : Verizon  
**Carrier Site Name** : Falls Village  
**Carrier Site Number** : N/A  
**Site Location** : 89 Six Rod Road  
Falls Village, CT 06031-1608  
41.944400,-73.360600  
**County** : Litchfield  
**Date** : April 19, 2017  
**Max Usage** : 69%  
**Result** : Pass

Prepared By:  
Maria Lopez  
TEP

*Maria Lopez*

Reviewed By:



**COA: PEC.0001553**





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## Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 149 ft monopine to reflect the change in loading by Verizon.

## Supporting Documents

<b>Tower Drawings</b>	EEl Job #16975, dated November 15, 2012
<b>Foundation Drawing</b>	EEl Job #16975, dated January 21, 2013
<b>Geotechnical Report</b>	Terracon Project #J2095143, dated April 30, 2009

## 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.

<b>Basic Wind Speed:</b>	90 mph (3-Second Gust, Vasd) / 115 mph (3-Second Gust, Vult)
<b>Basic Wind Speed w/ Ice:</b>	40 mph (3-Second Gust) w/ 3/4" radial ice concurrent
<b>Code:</b>	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
<b>Structure Class:</b>	II
<b>Exposure Category:</b>	B
<b>Topographic Category:</b>	1
<b>Crest Height:</b>	0 ft
<b>Spectral Response:</b>	$S_s = 0.18, S_1 = 0.06$
<b>Site Class:</b>	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](mailto: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**

Elevation <sup>1</sup> (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
146.0	146.0	2	RFS DB-T1-6Z-8AB-OZ	T-Arms	(2) 1.54" Hybrid	Verizon
		1	VZW Unused Reserve: 16,756 sq in			
140.0	140.0	4	Raycap DC6-48-60-18-8F(32.8 lbs)	Flush	(4) 2 1/2" conduit (3) 1/2" Coax (8) 0.78" 8 AWG 6 (2) 0.39" Fiber Trunk	AT&T Mobility
		9	Ericsson RRUS 12 w/ RRUS A2 (80 lb)			
		3	Ericsson RRUS E2 B29			
		3	Ericsson RRUS-32			
		9	Ericsson RRUS-11			
		3	CCI OPA-65R-LCUU-H8 (92.7")			
6	CCI HPA-65R-BUU-H8					

**Equipment to be Removed**

Elevation <sup>1</sup> (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
146.0	148.0	3	Alcatel-Lucent RRH2x40-AWS	-	-	Verizon
	146.0	6	Antel BXA-171063-12BF			
		6	Antel BXA-70063-6CF-EDIN-2			
	143.0	3	Alcatel-Lucent RRH2x40-07-U			

**Proposed Equipment**

Elevation <sup>1</sup> (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
146.0	148.0	3	Alcatel-Lucent B66A RRH 4x45	T-Arms	-	Verizon
	146.0	12	Commscope SBNHH-1D65B			
	143.0	3	Alcatel-Lucent B13 RRH4x30-4R 700U			

<sup>1</sup>Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).



**Structure Usages**

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	68%	Pass
Shaft	69%	Pass
Base Plate	47%	Pass

**Foundations**

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	6,642.1	8,966.8	5,732.4	64%
Shear (Kips)	62.3	84.1	51.0	61%

\* The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1

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) (°)
146.0	Alcatel-Lucent B13 RRH4x30-4R 700U	Verizon	2.078	1.516
	Alcatel-Lucent B66A RRH 4x45			
	Commscope SBNHH-1D65B			

\*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 are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

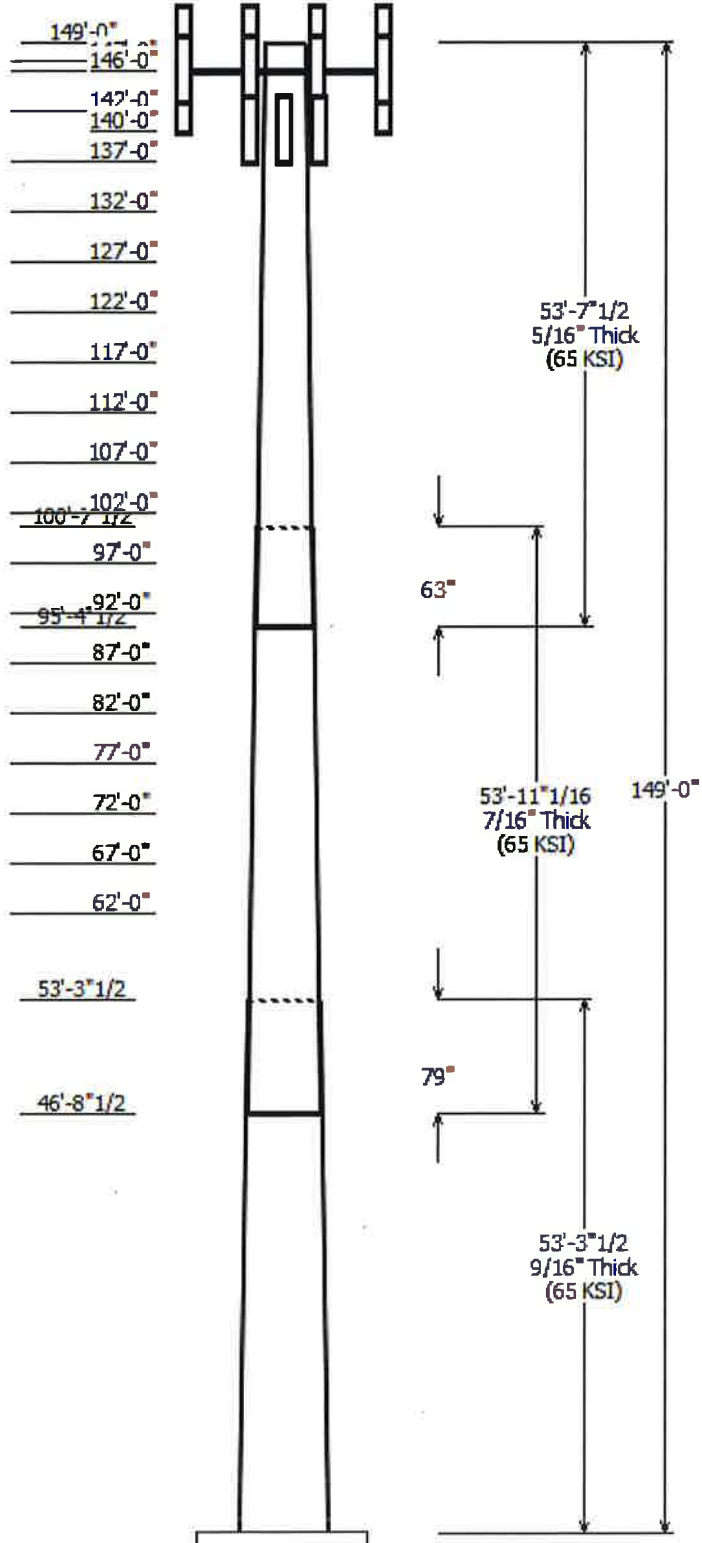
- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.
  
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

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. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

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 we supply.

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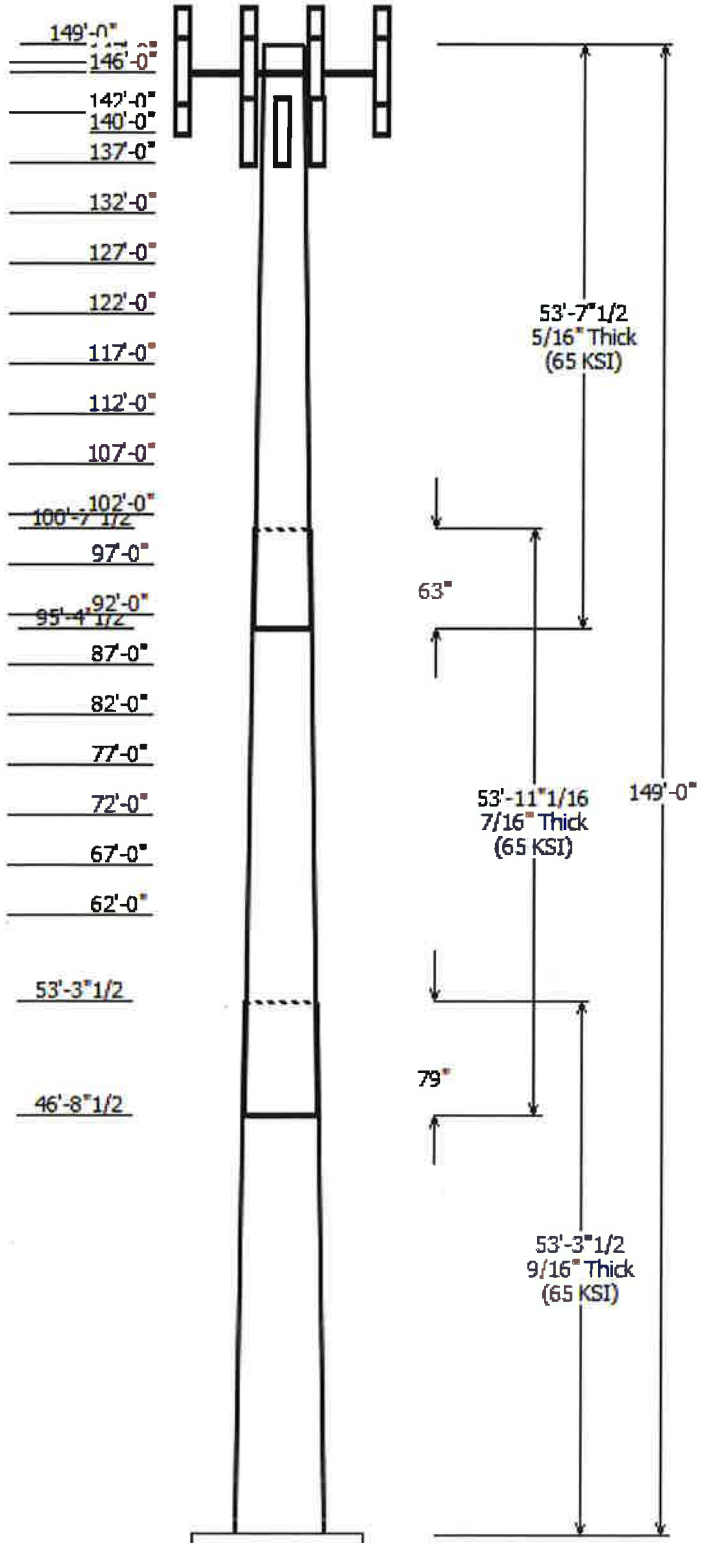
Job Information	
Pole :	415121
Code:	ANSI/TIA-222-G
Description :	149 ft EEI Monopole
Client :	VERIZON WIRELESS
Struct Class :	II
Location :	Falls Village CT PCS CT, CT
Shape :	18 Sides
Exposure :	B
Height :	149.00 (ft)
Topo :	1
Base Elev (ft):	0.00
Taper:	0.234889(in/ft)

Sections Properties								
Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Type	Overlap Length (in)	Taper (in/ft)	Steel Grade (ksi)
		Across Flats Top	Across Flats Bottom					
1	53.290	45.98	58.50	0.563		0.000	0.234900	65
2	53.920	35.73	48.40	0.438	Slip Joint	79.000	0.234900	65
3	53.623	25.00	37.59	0.313	Slip Joint	63.000	0.234900	65

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
147.000	147.000	1	Pine Branch
146.000	146.000	12	Commscope SBNHH-1D65B
146.000	148.000	3	Alcatel-Lucent B66A RRH 4x45
146.000	143.000	3	Alcatel-Lucent B13 RRH4x30-
146.000	146.000	1	VZW Unused Reserve: 16,756
146.000	146.000	2	RFS DB-T1-6Z-8AB-0Z
146.000	146.000	3	Flat T-Arm
142.000	142.000	1	Pine Branch
140.000	140.000	6	CCI HPA-65R-BUU-H8
140.000	140.000	3	CCI OPA-65R-LCUU-H8 (92.7")
140.000	140.000	9	Ericsson RRUS 12 w/ RRUS A2
140.000	140.000	9	Ericsson RRUS-11
140.000	140.000	3	Ericsson RRUS E2 B29
140.000	140.000	3	Ericsson RRUS-32
140.000	140.000	4	Raycap DC6-48-60-18-8F(32.8 lb
137.000	137.000	1	Pine Branch
132.000	132.000	1	Pine Branch
127.000	127.000	1	Pine Branch
122.000	122.000	1	Pine Branch
117.000	117.000	1	Pine Branch
112.000	112.000	1	Pine Branch
107.000	107.000	1	Pine Branch
102.000	102.000	1	Pine Branch
97.000	97.000	1	Pine Branch
92.000	92.000	1	Pine Branch
87.000	87.000	1	Pine Branch
82.000	82.000	1	Pine Branch
77.000	77.000	1	Pine Branch
72.000	72.000	1	Pine Branch
67.000	67.000	1	Pine Branch
62.000	62.000	1	Pine Branch

Linear Appurtenance			
Elev (ft) From	To	Description	Exposed To Wind
0.000	140.0	0.39" (10mm)	No
0.000	140.0	0.78" (19.7mm) 8	No
0.000	140.0	1/2" Coax	No
0.000	140.0	2 1/2" conduit	No
0.000	146.0	1.54" (39.2mm)	No

Load Cases	

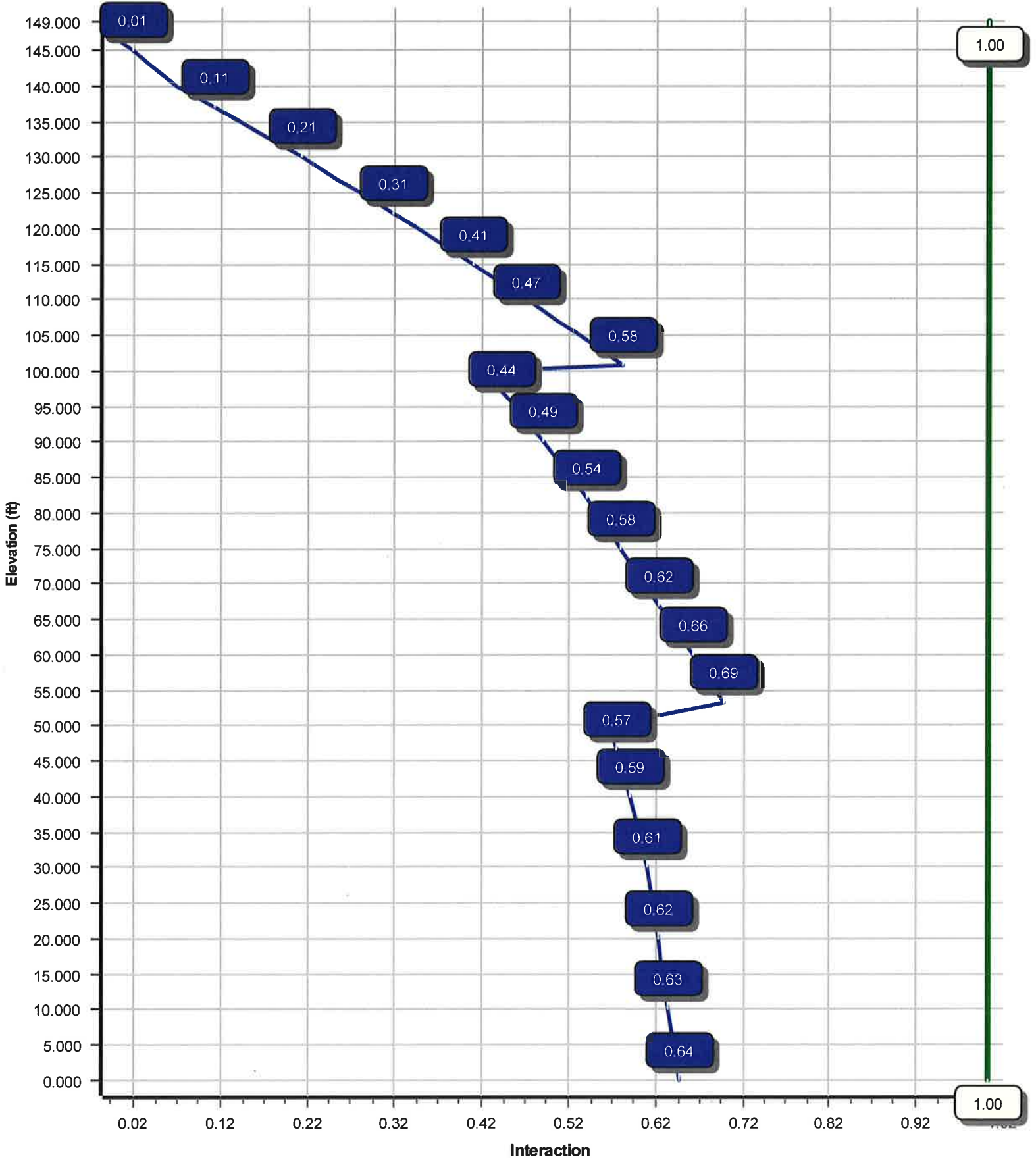


1.2D + 1.6W	90 mph with No Ice
0.9D + 1.6W	90 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	40 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) 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	5732.42	51.00	64.57
0.9D + 1.6W	5685.70	50.98	48.40
1.2D + 1.0Di + 1.0Wi	1185.60	10.56	90.41
(1.2 + 0.2Sds) * DL + E ELFM	290.22	2.48	64.32
(1.2 + 0.2Sds) * DL + E EMAM	378.78	3.18	64.32
(0.9 - 0.2Sds) * DL + E ELFM	287.31	2.48	44.83
(0.9 - 0.2Sds) * DL + E EMAM	374.66	3.18	44.83
1.0D + 1.0W	1585.47	14.16	53.87

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 69.45% at 53.3 ft**





Site Number: 415121

Code: ANSI/TIA-222-G

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

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Customer: VERIZON WIRELESS

### Analysis Parameters

Location:	LITCHFIELD County, CT	Height (ft):	149
Code:	ANSI/TIA-222-G	Base Diameter (in):	58.50
Shape:	18 Sides	Top Diameter (in):	25.00
Pole Type:	Taper	Taper (in/ft) :	0.235
Pole Manufacturer:	EEL	Rotation (deg) :	0.00

### Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	90 mph
Exposure Category:	B	Design Wind Speed With Ice:	40 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0.0 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):	1.96		
$T_L$ (sec):	6	$p$ :	1.3
$S_s$ :	0.176	$S_1$ :	0.065
$F_a$ :	1.600	$F_v$ :	2.400
$S_{ds}$ :	0.188	$S_{d1}$ :	0.104
		$C_s$ :	0.035
		$C_s$ Max:	0.035
		$C_s$ Min:	0.030

### Load Cases

1.2D + 1.6W	90 mph with No Ice
0.9D + 1.6W	90 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	40 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: 415121

Code: ANSI/TIA-222-G

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

4/19/2017 2:14:42 PM

Customer: VERIZON WIRELESS

**Shaft Section Properties**

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Slip		Weight (lb)	Bottom							Top					
				Joint Type	Joint Len (in)		Dia (in)	Elev (ft)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18	53.290	0.5625	65		0.00	16,730	58.50	0.00	103.44	43867.8	16.93	104.00	45.98	53.29	81.09	21135.7	13.00	81.75	0.234889
2-18	53.920	0.4375	65	Slip	79.00	10,607	48.40	46.71	66.61	19361.6	18.10	110.64	35.73	100.63	49.02	7717.9	12.99	81.69	0.234889
3-18	53.623	0.3125	65	Slip	63.00	5,608	37.59	95.38	36.98	6495.1	19.80	120.31	25.00	149.00	24.49	1885.9	12.70	80.01	0.234889
Shaft Weight						32,946													

**Discrete Appurtenance Properties**

Attach Elev (ft)	Description	Qty	No Ice			Ice			Distance From Face (ft)	Vert Ecc (ft)
			Weight (lb)	EPAa (sf)	Orientation Factor	Weight (lb)	EPAa (sf)	Orientation Factor		
147.00	Pine Branch	1	600.00	45.000	1.00	850.72	76.340	1.00	0.000	0.000
146.00	Alcatel-Lucent B13 RRH4x30-	3	57.20	2.170	0.67	138.95	2.801	0.67	0.000	-3.000
146.00	Alcatel-Lucent B66A RRH	3	67.00	2.580	0.67	152.10	3.278	0.67	0.000	2.000
146.00	Commscope SBNHH-1D65B	12	50.70	8.170	0.69	253.40	9.473	0.69	0.000	0.000
146.00	Flat T-Arm	3	250.00	12.900	0.67	458.79	21.070	0.67	0.000	0.000
146.00	RFS DB-T1-6Z-8AB-0Z	2	44.00	4.800	0.67	169.74	6.220	0.67	0.000	0.000
146.00	VZW Unused Reserve:	1	1431.00	116.46	1.00	2,426.92	197.512	1.00	0.000	0.000
142.00	Pine Branch	1	600.00	45.000	1.00	849.76	76.220	1.00	0.000	0.000
140.00	CCI HPA-65R-BUU-H8	6	68.00	12.980	0.67	323.43	16.540	0.67	0.000	0.000
140.00	CCI OPA-65R-LCUU-H8 (92.7")	3	88.00	12.750	0.67	334.82	16.326	0.67	0.000	0.000
140.00	Ericsson RRUS 12 w/ RRUS	9	80.00	3.150	0.67	175.18	4.304	0.67	0.000	0.000
140.00	Ericsson RRUS E2 B29	3	60.00	3.150	0.67	140.40	4.304	0.67	0.000	0.000
140.00	Ericsson RRUS-11	9	55.00	3.790	0.67	144.24	5.066	0.67	0.000	0.000
140.00	Ericsson RRUS-32	3	77.00	3.310	0.67	173.68	4.584	0.67	0.000	0.000
140.00	Raycap DC6-48-60-18-	4	32.80	1.280	1.00	94.13	1.885	1.00	0.000	0.000
137.00	Pine Branch	1	600.00	45.000	1.00	848.86	76.108	1.00	0.000	0.000
132.00	Pine Branch	1	600.00	45.000	1.00	847.93	75.991	1.00	0.000	0.000
127.00	Pine Branch	1	600.00	45.000	1.00	846.97	75.871	1.00	0.000	0.000
122.00	Pine Branch	1	600.00	45.000	1.00	845.97	75.746	1.00	0.000	0.000
117.00	Pine Branch	1	600.00	45.000	1.00	844.93	75.617	1.00	0.000	0.000
112.00	Pine Branch	1	600.00	45.000	1.00	843.86	75.482	1.00	0.000	0.000
107.00	Pine Branch	1	600.00	45.000	1.00	842.74	75.342	1.00	0.000	0.000
102.00	Pine Branch	1	600.00	45.000	1.00	841.64	75.205	1.00	0.000	0.000
97.00	Pine Branch	1	600.00	45.000	1.00	840.39	75.049	1.00	0.000	0.000
92.00	Pine Branch	1	600.00	45.000	1.00	839.06	74.882	1.00	0.000	0.000
87.00	Pine Branch	1	600.00	45.000	1.00	837.71	74.714	1.00	0.000	0.000
82.00	Pine Branch	1	600.00	45.000	1.00	836.29	74.537	1.00	0.000	0.000
77.00	Pine Branch	1	600.00	45.000	1.00	834.79	74.349	1.00	0.000	0.000
72.00	Pine Branch	1	600.00	45.000	1.00	833.20	74.150	1.00	0.000	0.000
67.00	Pine Branch	1	600.00	45.000	1.00	831.50	73.938	1.00	0.000	0.000
62.00	Pine Branch	1	600.00	45.000	1.00	829.69	73.711	1.00	0.000	0.000
Totals		79	16479.20			30,341.38			Number of Loadings : 31	

**Linear Appurtenance Properties**

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Projected Width (in)	Exposed To Wind	Carrier	
0.00	146.00	2	1.54" (39.2mm) Hybrid	1.54	1.60	N	1.54	N	Verizon
0.00	140.00	2	0.39" (10mm) Fiber	0.39	0.06	N	0.39	N	AT&T Mobility
0.00	140.00	8	0.78" (19.7mm) 8	0.78	0.59	N	0.00	N	AT&T Mobility
0.00	140.00	3	1/2" Coax	0.63	0.15	N	0.00	N	AT&T Mobility
0.00	140.00	4	2 1/2" conduit	2.88	5.79	N	0.00	N	AT&T Mobility

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Site Number: 415121

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

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Customer: VERIZON WIRELESS

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**Segment Properties** (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	F'y (ksi)	S (in <sup>3</sup> )	Z (in <sup>3</sup> )	Weight (lb)
0.00		0.5625	58.500	103.436	43,867.8	16.93	104.00	81.5	1477.	0.0	0.0
5.00		0.5625	57.326	101.340	41,253.8	16.56	101.91	81.9	1417.	0.0	1,742.0
10.00		0.5625	56.151	99.243	38,745.8	16.19	99.82	82.4	1359.	0.0	1,706.3
15.00		0.5625	54.977	97.146	36,341.5	15.82	97.74	82.6	1302.	0.0	1,670.7
20.00		0.5625	53.802	95.049	34,038.8	15.45	95.65	82.6	1246.	0.0	1,635.0
25.00		0.5625	52.628	92.953	31,835.5	15.09	93.56	82.6	1191.	0.0	1,599.3
30.00		0.5625	51.453	90.856	29,729.4	14.72	91.47	82.6	1138.	0.0	1,563.7
35.00		0.5625	50.279	88.759	27,718.3	14.35	89.38	82.6	1085.	0.0	1,528.0
40.00		0.5625	49.104	86.662	25,799.9	13.98	87.30	82.6	1034.	0.0	1,492.3
45.00		0.5625	47.930	84.566	23,972.2	13.61	85.21	82.6	985.1	0.0	1,456.6
46.71	Bot - Section 2	0.5625	47.529	83.850	23,368.7	13.49	84.50	82.6	968.4	0.0	489.0
50.00		0.5625	46.756	82.469	22,233.0	13.25	83.12	82.6	936.6	0.0	1,672.3
53.29	Top - Section 1	0.4375	46.858	64.458	17,548.7	17.47	107.10	80.8	737.6	0.0	1,643.2
55.00		0.4375	46.456	63.900	17,097.1	17.31	106.19	81.0	724.9	0.0	373.4
60.00		0.4375	45.282	62.270	15,821.3	16.84	103.50	81.6	688.2	0.0	1,073.3
62.00		0.4375	44.812	61.617	15,329.2	16.65	102.43	81.8	673.8	0.0	421.6
65.00		0.4375	44.107	60.639	14,610.5	16.37	100.82	82.2	652.4	0.0	624.0
67.00		0.4375	43.637	59.986	14,144.0	16.18	99.74	82.4	638.4	0.0	410.5
70.00		0.4375	42.933	59.008	13,463.1	15.89	98.13	82.6	617.6	0.0	607.4
72.00		0.4375	42.463	58.356	13,021.5	15.70	97.06	82.6	604.0	0.0	399.4
75.00		0.4375	41.758	57.377	12,377.4	15.42	95.45	82.6	583.8	0.0	590.7
77.00		0.4375	41.289	56.725	11,960.0	15.23	94.37	82.6	570.5	0.0	388.3
80.00		0.4375	40.584	55.746	11,351.7	14.95	92.76	82.6	550.9	0.0	574.1
82.00		0.4375	40.114	55.094	10,957.9	14.76	91.69	82.6	538.0	0.0	377.2
85.00		0.4375	39.409	54.116	10,384.4	14.47	90.08	82.6	519.0	0.0	557.4
87.00		0.4375	38.940	53.463	10,013.3	14.28	89.01	82.6	506.5	0.0	366.1
90.00		0.4375	38.235	52.485	9,473.5	14.00	87.39	82.6	488.0	0.0	540.8
92.00		0.4375	37.765	51.832	9,124.7	13.81	86.32	82.6	475.9	0.0	355.0
95.00		0.4375	37.061	50.854	8,617.6	13.53	84.71	82.6	458.0	0.0	524.1
95.38	Bot - Section 3	0.4375	36.972	50.731	8,555.3	13.49	84.51	82.6	455.8	0.0	65.1
97.00		0.4375	36.591	50.202	8,290.2	13.34	83.64	82.6	446.2	0.0	482.0
100.0		0.4375	35.886	49.223	7,814.9	13.05	82.03	82.6	428.9	0.0	877.6
100.6	Top - Section 2	0.3125	36.364	35.757	5,871.7	19.11	116.36	78.9	318.0	0.0	181.1
102.0		0.3125	36.041	35.437	5,715.5	18.93	115.33	79.1	312.3	0.0	166.4
105.0		0.3125	35.337	34.738	5,383.9	18.53	113.08	79.6	300.1	0.0	358.2
107.0		0.3125	34.867	34.272	5,170.2	18.26	111.57	79.9	292.1	0.0	234.8
110.0		0.3125	34.162	33.574	4,860.3	17.87	109.32	80.4	280.2	0.0	346.3
112.0		0.3125	33.692	33.108	4,660.7	17.60	107.82	80.7	272.5	0.0	226.9
115.0		0.3125	32.988	32.409	4,371.7	17.20	105.56	81.2	261.0	0.0	334.4
117.0		0.3125	32.518	31.943	4,185.9	16.94	104.06	81.5	253.5	0.0	219.0
120.0		0.3125	31.813	31.244	3,917.1	16.54	101.80	81.9	242.5	0.0	322.5
122.0		0.3125	31.344	30.778	3,744.4	16.27	100.30	82.3	235.3	0.0	211.0
125.0		0.3125	30.639	30.079	3,495.1	15.88	98.04	82.6	224.7	0.0	310.6
127.0		0.3125	30.169	29.613	3,335.2	15.61	96.54	82.6	217.7	0.0	203.1
130.0		0.3125	29.464	28.914	3,104.6	15.21	94.29	82.6	207.5	0.0	298.7
132.0		0.3125	28.995	28.448	2,956.9	14.95	92.78	82.6	200.9	0.0	195.2
135.0		0.3125	28.290	27.749	2,744.2	14.55	90.53	82.6	191.1	0.0	286.8
137.0		0.3125	27.820	27.283	2,608.3	14.29	89.02	82.6	184.7	0.0	187.3
140.0		0.3125	27.116	26.584	2,413.0	13.89	86.77	82.6	175.3	0.0	274.9
142.0		0.3125	26.646	26.118	2,288.3	13.62	85.27	82.6	169.1	0.0	179.3
145.0		0.3125	25.941	25.420	2,109.5	13.23	83.01	82.6	160.2	0.0	263.1
146.0		0.3125	25.706	25.187	2,052.0	13.09	82.26	82.6	157.2	0.0	86.1
147.0		0.3125	25.471	24.954	1,995.6	12.96	81.51	82.6	154.3	0.0	85.3
149.0		0.3125	25.002	24.488	1,885.9	12.70	80.01	82.6	148.6	0.0	168.2
32,945.6											

**Load Case:** 1.2D + 1.6W

90 mph with No Ice

23 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		193.3	0.0					0.0	0.0	193.3	0.0	0.0	0.0
5.00		382.6	2,090.4					0.0	189.9	382.6	2,280.3	0.0	0.0
10.00		374.8	2,047.6					0.0	189.9	374.8	2,237.5	0.0	0.0
15.00		366.9	2,004.8					0.0	189.9	366.9	2,194.7	0.0	0.0
20.00		359.1	1,962.0					0.0	189.9	359.1	2,151.9	0.0	0.0
25.00		351.3	1,919.2					0.0	189.9	351.3	2,109.1	0.0	0.0
30.00		347.5	1,876.4					0.0	189.9	347.5	2,066.3	0.0	0.0
35.00		350.7	1,833.6					0.0	189.9	350.7	2,023.5	0.0	0.0
40.00		355.9	1,790.8					0.0	189.9	355.9	1,980.7	0.0	0.0
45.00		240.4	1,748.0					0.0	189.9	240.4	1,937.9	0.0	0.0
46.71	Bot - Section 2	182.5	586.8					0.0	64.8	182.5	651.7	0.0	0.0
50.00		242.3	2,006.8					0.0	125.1	242.3	2,131.9	0.0	0.0
53.29	Top - Section 1	184.4	1,971.8					0.0	125.0	184.4	2,096.7	0.0	0.0
55.00		247.6	448.1					0.0	64.9	247.6	513.1	0.0	0.0
60.00		258.2	1,288.0					0.0	189.9	258.2	1,477.9	0.0	0.0
62.00	Appertunance(s)	184.1	505.9	1,345.0	0.0	0.0	720.0	0.0	76.0	1,529.1	1,301.8	0.0	0.0
65.00		183.8	748.8					0.0	113.9	183.8	862.8	0.0	0.0
67.00	Appertunance(s)	183.2	492.6	1,375.1	0.0	0.0	720.0	0.0	76.0	1,558.4	1,288.5	0.0	0.0
70.00		182.8	728.8					0.0	113.9	182.8	842.8	0.0	0.0
72.00	Appertunance(s)	182.0	479.2	1,403.7	0.0	0.0	720.0	0.0	76.0	1,585.7	1,275.2	0.0	0.0
75.00		181.4	708.9					0.0	113.9	181.4	822.8	0.0	0.0
77.00	Appertunance(s)	180.3	465.9	1,430.9	0.0	0.0	720.0	0.0	76.0	1,611.2	1,261.9	0.0	0.0
80.00		179.6	688.9					0.0	113.9	179.6	802.8	0.0	0.0
82.00	Appertunance(s)	178.3	452.6	1,456.8	0.0	0.0	720.0	0.0	76.0	1,635.2	1,248.6	0.0	0.0
85.00		177.5	668.9					0.0	113.9	177.5	782.8	0.0	0.0
87.00	Appertunance(s)	176.0	439.3	1,481.7	0.0	0.0	720.0	0.0	76.0	1,657.7	1,235.2	0.0	0.0
90.00		175.0	648.9					0.0	113.9	175.0	762.9	0.0	0.0
92.00	Appertunance(s)	173.5	426.0	1,505.5	0.0	0.0	720.0	0.0	76.0	1,679.0	1,221.9	0.0	0.0
95.00		116.7	629.0					0.0	113.9	116.7	742.9	0.0	0.0
95.38	Bot - Section 3	69.5	78.1					0.0	14.3	69.5	92.4	0.0	0.0
97.00	Appertunance(s)	160.3	578.4	1,528.5	0.0	0.0	720.0	0.0	61.7	1,688.8	1,360.1	0.0	0.0
100.00		125.3	1,053.1					0.0	113.9	125.3	1,167.0	0.0	0.0
100.63	Top - Section 2	68.6	217.4					0.0	23.8	68.6	241.2	0.0	0.0
102.00	Appertunance(s)	148.9	199.6	1,550.6	0.0	0.0	720.0	0.0	52.2	1,699.5	971.8	0.0	0.0
105.00		169.1	429.8					0.0	113.9	169.1	543.8	0.0	0.0
107.00	Appertunance(s)	167.1	281.8	1,571.9	0.0	0.0	720.0	0.0	76.0	1,739.0	1,077.8	0.0	0.0
110.00		165.7	415.6					0.0	113.9	165.7	529.5	0.0	0.0
112.00	Appertunance(s)	163.6	272.3	1,592.6	0.0	0.0	720.0	0.0	76.0	1,756.1	1,068.2	0.0	0.0
115.00		162.1	401.3					0.0	113.9	162.1	515.2	0.0	0.0
117.00	Appertunance(s)	159.8	262.8	1,612.6	0.0	0.0	720.0	0.0	76.0	1,772.4	1,058.7	0.0	0.0
120.00		158.3	387.0					0.0	113.9	158.3	501.0	0.0	0.0
122.00	Appertunance(s)	155.9	253.3	1,631.9	0.0	0.0	720.0	0.0	76.0	1,787.8	1,049.2	0.0	0.0
125.00		154.3	372.7					0.0	113.9	154.3	486.7	0.0	0.0
127.00	Appertunance(s)	151.8	243.7	1,650.8	0.0	0.0	720.0	0.0	76.0	1,802.5	1,039.7	0.0	0.0
130.00		150.0	358.5					0.0	113.9	150.0	472.4	0.0	0.0
132.00	Appertunance(s)	147.4	234.2	1,669.1	0.0	0.0	720.0	0.0	76.0	1,816.5	1,030.2	0.0	0.0
135.00		145.7	344.2					0.0	113.9	145.7	458.1	0.0	0.0
137.00	Appertunance(s)	142.9	224.7	1,686.9	0.0	0.0	720.0	0.0	76.0	1,829.9	1,020.7	0.0	0.0

Site Number: 415121

Code: ANSI/TIA-222-G

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

4/19/2017 2:14:44 PM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W

90 mph with No Ice

23 Iterations

Gust Response Factor :1.10

Wind Importance Factor 1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

140.00	Appertunance(s)	141.1	329.9	5,196.3	0.0	0.0	2,915.0	0.0	113.9	5,337.4	3,358.9	0.0	0.0
142.00	Appertunance(s)	138.3	215.2	1,704.3	0.0	0.0	720.0	0.0	7.7	1,842.6	942.9	0.0	0.0
145.00		109.5	315.7					0.0	11.5	109.5	327.2	0.0	0.0
146.00	Appertunance(s)	54.0	103.3	7,742.0	0.0	-79.3	3,900.0	0.0	3.8	7,796.0	4,007.2	0.0	0.0
147.00	Appertunance(s)	80.1	102.4	1,721.2	0.0	0.0	720.0	0.0	0.0	1,801.3	822.4	0.0	0.0
149.00		53.2	201.9					0.0	0.0	53.2	201.9	0.0	0.0
Totals:										51,091.5	64,649.9	0.00	0.00

Load Case: 1.2D + 1.6W

90 mph with No Ice

23 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Calculated Forces

Seg	Pu	Vu	Tu	Mu	Mu	Resultant	phi	phi	phi	phi	Total	Rotation	
Elev	FY (-)	FX (-)	MY	MZ	MX	Moment	Pn	Vn	Tn	Mn	Deflect	(deg)	Ratio
(ft)	(kips)	(kips)	(ft-kips)	(ft-kips)	(ft-kips)	(ft-kips)	(kips)	(kips)	(ft-kips)	(ft-kips)	(in)		
0.00	-64.57	-51.00	0.00	-5,732.42	0.00	5,732.42	7,586.21	3,793.11	18,027.1	9,026.97	0.00	0.00	0.644
5.00	-62.12	-50.81	0.00	-5,477.41	0.00	5,477.41	7,471.93	3,735.96	17,392.1	8,709.02	0.10	-0.18	0.637
10.00	-59.73	-50.62	0.00	-5,223.34	0.00	5,223.34	7,356.01	3,678.00	16,764.6	8,394.77	0.39	-0.37	0.631
15.00	-57.37	-50.43	0.00	-4,970.23	0.00	4,970.23	7,217.48	3,608.74	16,097.9	8,060.92	0.87	-0.55	0.625
20.00	-55.05	-50.23	0.00	-4,718.09	0.00	4,718.09	7,061.70	3,530.85	15,407.0	7,714.96	1.55	-0.74	0.620
25.00	-52.78	-50.02	0.00	-4,466.96	0.00	4,466.96	6,905.92	3,452.96	14,731.3	7,376.60	2.44	-0.93	0.613
30.00	-50.55	-49.81	0.00	-4,216.84	0.00	4,216.84	6,750.14	3,375.07	14,070.7	7,045.83	3.52	-1.13	0.606
35.00	-48.37	-49.58	0.00	-3,967.79	0.00	3,967.79	6,594.37	3,297.18	13,425.3	6,722.64	4.81	-1.32	0.598
40.00	-46.23	-49.34	0.00	-3,719.88	0.00	3,719.88	6,438.59	3,219.29	12,795.0	6,407.04	6.30	-1.52	0.588
45.00	-44.18	-49.15	0.00	-3,473.19	0.00	3,473.19	6,282.81	3,141.41	12,179.9	6,099.03	8.00	-1.72	0.577
46.71	-43.45	-49.02	0.00	-3,389.32	0.00	3,389.32	6,229.64	3,114.82	11,973.4	5,995.63	8.63	-1.79	0.573
50.00	-41.21	-48.80	0.00	-3,227.88	0.00	3,227.88	6,127.03	3,063.52	11,580.0	5,798.61	9.91	-1.92	0.564
53.29	-39.04	-48.62	0.00	-3,067.31	0.00	3,067.31	4,690.13	2,345.07	8,932.17	4,472.73	11.28	-2.05	0.695
55.00	-38.40	-48.46	0.00	-2,984.18	0.00	2,984.18	4,660.50	2,330.25	8,798.22	4,405.65	12.03	-2.12	0.686
60.00	-36.80	-48.25	0.00	-2,741.91	0.00	2,741.91	4,572.76	2,286.38	8,410.20	4,211.35	14.39	-2.36	0.660
62.00	-35.46	-48.74	0.00	-2,645.42	0.00	2,645.42	4,537.20	2,268.60	8,256.54	4,134.41	15.40	-2.46	0.648
65.00	-34.51	-46.59	0.00	-2,505.21	0.00	2,505.21	4,483.38	2,241.69	8,027.78	4,019.86	16.99	-2.60	0.631
67.00	-33.20	-45.04	0.00	-2,412.03	0.00	2,412.03	4,447.17	2,223.59	7,876.44	3,944.07	18.10	-2.70	0.619
70.00	-32.28	-44.88	0.00	-2,276.91	0.00	2,276.91	4,383.99	2,192.00	7,636.61	3,823.98	19.84	-2.84	0.603
72.00	-31.00	-43.30	0.00	-2,187.15	0.00	2,187.15	4,335.53	2,167.76	7,467.85	3,739.48	21.95	-2.93	0.592
75.00	-30.10	-43.14	0.00	-2,057.25	0.00	2,057.25	4,262.83	2,131.42	7,218.25	3,614.49	22.04	-3.07	0.577
77.00	-28.84	-41.52	0.00	-1,970.98	0.00	1,970.98	4,214.37	2,107.18	7,054.20	3,532.34	24.25	-3.17	0.565
80.00	-27.97	-41.35	0.00	-1,846.44	0.00	1,846.44	4,141.67	2,070.84	6,811.67	3,410.90	26.28	-3.30	0.548
82.00	-26.74	-39.69	0.00	-1,763.74	0.00	1,763.74	4,093.21	2,046.60	6,652.34	3,331.11	27.69	-3.39	0.536
85.00	-25.89	-39.52	0.00	-1,644.67	0.00	1,644.67	4,020.51	2,010.26	6,416.88	3,213.21	29.86	-3.53	0.519
87.00	-24.69	-37.83	0.00	-1,565.63	0.00	1,565.63	3,972.05	1,986.02	6,262.26	3,135.78	31.36	-3.61	0.506
90.00	-23.87	-37.66	0.00	-1,452.13	0.00	1,452.13	3,899.35	1,949.68	6,033.87	3,021.42	33.67	-3.74	0.487
92.00	-22.70	-35.94	0.00	-1,376.82	0.00	1,376.82	3,850.89	1,925.44	5,883.97	2,946.36	35.25	-3.83	0.474
95.00	-21.92	-35.80	0.00	-1,269.00	0.00	1,269.00	3,778.19	1,889.10	5,662.65	2,835.53	37.70	-3.95	0.454
95.38	-21.81	-35.74	0.00	-1,255.51	0.00	1,255.51	3,769.06	1,884.53	5,635.16	2,821.77	38.01	-3.97	0.451
97.00	-20.52	-33.99	0.00	-1,197.49	0.00	1,197.49	3,729.73	1,864.86	5,517.46	2,762.83	39.37	-4.03	0.439
100.00	-19.32	-33.81	0.00	-1,095.51	0.00	1,095.51	3,657.03	1,828.51	5,303.21	2,655.55	41.94	-4.15	0.418
100.63	-19.06	-33.74	0.00	-1,074.33	0.00	1,074.33	2,539.98	1,269.99	3,759.61	1,882.60	42.49	-4.18	0.579
102.00	-18.16	-32.00	0.00	-1,028.00	0.00	1,028.00	2,524.08	1,262.04	3,702.36	1,853.93	43.70	-4.23	0.562
105.00	-17.56	-31.83	0.00	-931.99	0.00	931.99	2,488.92	1,244.46	3,578.16	1,791.74	46.40	-4.38	0.528
107.00	-16.56	-30.05	0.00	-868.33	0.00	868.33	2,465.15	1,232.58	3,496.03	1,750.61	48.25	-4.47	0.503
110.00	-15.99	-29.87	0.00	-778.19	0.00	778.19	2,429.01	1,214.50	3,373.90	1,689.46	51.10	-4.61	0.468
112.00	-15.02	-28.06	0.00	-718.45	0.00	718.45	2,404.59	1,202.29	3,293.20	1,649.05	53.05	-4.69	0.442
115.00	-14.47	-27.88	0.00	-634.27	0.00	634.27	2,367.47	1,183.73	3,173.28	1,589.00	56.04	-4.82	0.406
117.00	-13.52	-26.05	0.00	-578.50	0.00	578.50	2,342.39	1,171.20	3,094.10	1,549.35	58.07	-4.90	0.380
120.00	-12.99	-25.87	0.00	-500.36	0.00	500.36	2,304.29	1,152.15	2,976.53	1,490.48	61.18	-5.01	0.342
122.00	-12.07	-24.01	0.00	-448.62	0.00	448.62	2,278.56	1,139.28	2,898.97	1,451.64	63.29	-5.08	0.315
125.00	-11.57	-23.83	0.00	-376.58	0.00	376.58	2,234.71	1,117.36	2,777.98	1,391.06	66.51	-5.17	0.276
127.00	-10.67	-21.95	0.00	-328.92	0.00	328.92	2,200.10	1,100.05	2,692.15	1,348.08	68.69	-5.23	0.249
130.00	-10.19	-21.77	0.00	-263.06	0.00	263.06	2,148.17	1,074.09	2,565.93	1,284.87	71.99	-5.30	0.210
132.00	-9.32	-19.88	0.00	-219.51	0.00	219.51	2,113.55	1,056.78	2,483.46	1,243.58	74.22	-5.35	0.181
135.00	-8.86	-19.69	0.00	-159.89	0.00	159.89	2,061.63	1,030.81	2,362.30	1,182.90	77.60	-5.40	0.140
137.00	-8.01	-17.78	0.00	-120.50	0.00	120.50	2,027.01	1,013.51	2,283.20	1,143.30	79.86	-5.43	0.110
140.00	-5.17	-12.15	0.00	-67.16	0.00	67.16	1,975.09	987.54	2,167.08	1,085.15	83.28	-5.46	0.065
142.00	-4.40	-10.23	0.00	-42.86	0.00	42.86	1,940.47	970.23	2,091.35	1,047.23	85.57	-5.47	0.043
145.00	-4.09	-10.09	0.00	-12.18	0.00	12.18	1,888.54	944.27	1,980.28	991.61	89.01	-5.48	0.015

Site Number: 415121

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

4/19/2017 2:14:44 PM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W

90 mph with No Ice

23 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

146.00	-0.84	-1.94	0.00	-2.09	0.00	2.09	1,871.23	935.62	1,943.93	973.41	90.16	-5.49	0.003
147.00	-0.20	-0.07	0.00	-0.14	0.00	0.14	1,853.93	926.96	1,907.92	955.38	91.30	-5.49	0.000
149.00	0.00	-0.05	0.00	0.00	0.00	0.00	1,819.31	909.65	1,836.91	919.82	93.60	-5.49	0.000



Site Number: 415121

Code: ANSI/TIA-222-G

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

4/19/2017 2:14:44 PM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.6W

90 mph with No Ice (Reduced DL)

23 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		193.3	0.0					0.0	0.0	193.3	0.0	0.0	0.0
5.00		382.6	1,567.8					0.0	142.4	382.6	1,710.2	0.0	0.0
10.00		374.8	1,535.7					0.0	142.4	374.8	1,678.1	0.0	0.0
15.00		366.9	1,503.6					0.0	142.4	366.9	1,646.0	0.0	0.0
20.00		359.1	1,471.5					0.0	142.4	359.1	1,613.9	0.0	0.0
25.00		351.3	1,439.4					0.0	142.4	351.3	1,581.8	0.0	0.0
30.00		347.5	1,407.3					0.0	142.4	347.5	1,549.7	0.0	0.0
35.00		350.7	1,375.2					0.0	142.4	350.7	1,517.6	0.0	0.0
40.00		355.9	1,343.1					0.0	142.4	355.9	1,485.5	0.0	0.0
45.00		240.4	1,311.0					0.0	142.4	240.4	1,453.4	0.0	0.0
46.71	Bot - Section 2	182.5	440.1					0.0	48.6	182.5	488.7	0.0	0.0
50.00		242.3	1,505.1					0.0	93.8	242.3	1,598.9	0.0	0.0
53.29	Top - Section 1	184.4	1,478.8					0.0	93.7	184.4	1,572.6	0.0	0.0
55.00		247.6	336.1					0.0	48.7	247.6	384.8	0.0	0.0
60.00		258.2	966.0					0.0	142.4	258.2	1,108.4	0.0	0.0
62.00	Appertunance(s)	184.1	379.4	1,345.0	0.0	0.0	540.0	0.0	57.0	1,529.1	976.4	0.0	0.0
65.00		183.8	561.6					0.0	85.5	183.8	647.1	0.0	0.0
67.00	Appertunance(s)	183.2	369.4	1,375.1	0.0	0.0	540.0	0.0	57.0	1,558.4	966.4	0.0	0.0
70.00		182.8	546.6					0.0	85.5	182.8	632.1	0.0	0.0
72.00	Appertunance(s)	182.0	359.4	1,403.7	0.0	0.0	540.0	0.0	57.0	1,585.7	956.4	0.0	0.0
75.00		181.4	531.6					0.0	85.5	181.4	617.1	0.0	0.0
77.00	Appertunance(s)	180.3	349.4	1,430.9	0.0	0.0	540.0	0.0	57.0	1,611.2	946.4	0.0	0.0
80.00		179.6	516.7					0.0	85.5	179.6	602.1	0.0	0.0
82.00	Appertunance(s)	178.3	339.4	1,456.8	0.0	0.0	540.0	0.0	57.0	1,635.2	936.4	0.0	0.0
85.00		177.5	501.7					0.0	85.5	177.5	587.1	0.0	0.0
87.00	Appertunance(s)	176.0	329.5	1,481.7	0.0	0.0	540.0	0.0	57.0	1,657.7	926.4	0.0	0.0
90.00		175.0	486.7					0.0	85.5	175.0	572.2	0.0	0.0
92.00	Appertunance(s)	173.5	319.5	1,505.5	0.0	0.0	540.0	0.0	57.0	1,679.0	916.4	0.0	0.0
95.00		116.7	471.7					0.0	85.5	116.7	557.2	0.0	0.0
95.38	Bot - Section 3	69.5	58.6					0.0	10.7	69.5	69.3	0.0	0.0
97.00	Appertunance(s)	160.3	433.8	1,528.5	0.0	0.0	540.0	0.0	46.2	1,688.8	1,020.0	0.0	0.0
100.00		125.3	789.8					0.0	85.5	125.3	875.3	0.0	0.0
100.63	Top - Section 2	68.6	163.0					0.0	17.9	68.6	180.9	0.0	0.0
102.00	Appertunance(s)	148.9	149.7	1,550.6	0.0	0.0	540.0	0.0	39.1	1,699.5	728.8	0.0	0.0
105.00		169.1	322.4					0.0	85.5	169.1	407.8	0.0	0.0
107.00	Appertunance(s)	167.1	211.3	1,571.9	0.0	0.0	540.0	0.0	57.0	1,739.0	808.3	0.0	0.0
110.00		165.7	311.7					0.0	85.5	165.7	397.1	0.0	0.0
112.00	Appertunance(s)	163.6	204.2	1,592.6	0.0	0.0	540.0	0.0	57.0	1,756.1	801.2	0.0	0.0
115.00		162.1	301.0					0.0	85.5	162.1	386.4	0.0	0.0
117.00	Appertunance(s)	159.8	197.1	1,612.6	0.0	0.0	540.0	0.0	57.0	1,772.4	794.0	0.0	0.0
120.00		158.3	290.3					0.0	85.5	158.3	375.7	0.0	0.0
122.00	Appertunance(s)	155.9	189.9	1,631.9	0.0	0.0	540.0	0.0	57.0	1,787.8	786.9	0.0	0.0
125.00		154.3	279.6					0.0	85.5	154.3	365.0	0.0	0.0
127.00	Appertunance(s)	151.8	182.8	1,650.8	0.0	0.0	540.0	0.0	57.0	1,802.5	779.8	0.0	0.0
130.00		150.0	268.9					0.0	85.5	150.0	354.3	0.0	0.0
132.00	Appertunance(s)	147.4	175.7	1,669.1	0.0	0.0	540.0	0.0	57.0	1,816.5	772.6	0.0	0.0
135.00		145.7	258.2					0.0	85.5	145.7	343.6	0.0	0.0
137.00	Appertunance(s)	142.9	168.5	1,686.9	0.0	0.0	540.0	0.0	57.0	1,829.9	765.5	0.0	0.0

Site Number: 415121

Code: ANSI/TIA-222-G

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

4/19/2017 2:14:45 PM

Customer: VERIZON WIRELESS

**Load Case:** 0.9D + 1.6W

90 mph with No Ice (Reduced DL)

23 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

140.00	Appertunance(s)	141.1	247.5	5,196.3	0.0	0.0	2,186.3	0.0	85.5	5,337.4	2,519.2	0.0	0.0
142.00	Appertunance(s)	138.3	161.4	1,704.3	0.0	0.0	540.0	0.0	5.8	1,842.6	707.2	0.0	0.0
145.00		109.5	236.8					0.0	8.6	109.5	245.4	0.0	0.0
146.00	Appertunance(s)	54.0	77.5	7,742.0	0.0	-79.3	2,925.0	0.0	2.9	7,796.0	3,005.4	0.0	0.0
147.00	Appertunance(s)	80.1	76.8	1,721.2	0.0	0.0	540.0	0.0	0.0	1,801.3	616.8	0.0	0.0
149.00		53.2	151.4					0.0	0.0	53.2	151.4	0.0	0.0
Totals:										51,091.5	48,487.4	0.00	0.00

Load Case: 0.9D + 1.6W

90 mph with No Ice (Reduced DL)

23 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Calculated Forces

Seg	Pu	Vu	Tu	Mu	Mu	Resultant	phi	phi	phi	phi	Total	Ratio	
Elev	FY (-)	FX (-)	MY	MZ	MX	Moment	Pn	Vn	Tn	Mn	Deflect	Rotation	
(ft)	(kips)	(kips)	(ft-kips)	(ft-kips)	(ft-kips)	(ft-kips)	(kips)	(kips)	(ft-kips)	(ft-kips)	(in)	(deg)	
0.00	-48.40	-50.98	0.00	-5,685.70	0.00	5,685.70	7,586.21	3,793.11	18,027.1	9,026.97	0.00	0.00	0.636
5.00	-46.53	-50.74	0.00	-5,430.83	0.00	5,430.83	7,471.93	3,735.96	17,392.1	8,709.02	0.10	-0.18	0.630
10.00	-44.70	-50.50	0.00	-5,177.14	0.00	5,177.14	7,356.01	3,678.00	16,764.6	8,394.77	0.38	-0.36	0.623
15.00	-42.89	-50.26	0.00	-4,924.65	0.00	4,924.65	7,217.48	3,608.74	16,097.9	8,060.92	0.86	-0.55	0.617
20.00	-41.12	-50.02	0.00	-4,673.36	0.00	4,673.36	7,061.70	3,530.85	15,407.0	7,714.96	1.54	-0.74	0.612
25.00	-39.37	-49.78	0.00	-4,423.28	0.00	4,423.28	6,905.92	3,452.96	14,731.3	7,376.60	2.41	-0.93	0.606
30.00	-37.66	-49.53	0.00	-4,174.40	0.00	4,174.40	6,750.14	3,375.07	14,070.7	7,045.83	3.49	-1.12	0.598
35.00	-35.99	-49.27	0.00	-3,926.77	0.00	3,926.77	6,594.37	3,297.18	13,425.3	6,722.64	4.76	-1.31	0.590
40.00	-34.34	-48.99	0.00	-3,680.44	0.00	3,680.44	6,438.59	3,219.29	12,795.0	6,407.04	6.24	-1.51	0.580
45.00	-32.78	-48.79	0.00	-3,435.49	0.00	3,435.49	6,282.81	3,141.41	12,179.9	6,099.03	7.93	-1.70	0.569
46.71	-32.22	-48.65	0.00	-3,352.22	0.00	3,352.22	6,229.64	3,114.82	11,973.4	5,995.63	8.55	-1.77	0.565
50.00	-30.52	-48.42	0.00	-3,192.02	0.00	3,192.02	6,127.03	3,063.52	11,580.0	5,798.61	9.82	-1.90	0.556
53.29	-28.87	-48.23	0.00	-3,032.72	0.00	3,032.72	4,690.13	2,345.07	8,932.17	4,472.73	11.18	-2.03	0.685
55.00	-28.36	-48.05	0.00	-2,950.24	0.00	2,950.24	4,660.50	2,330.25	8,798.22	4,405.65	11.92	-2.10	0.676
60.00	-27.13	-47.83	0.00	-2,710.00	0.00	2,710.00	4,572.76	2,286.38	8,410.20	4,211.35	14.25	-2.34	0.650
62.00	-26.12	-46.31	0.00	-2,614.34	0.00	2,614.34	4,537.20	2,268.60	8,256.54	4,134.41	15.25	-2.43	0.639
65.00	-25.39	-46.15	0.00	-2,475.41	0.00	2,475.41	4,483.38	2,241.69	8,027.78	4,019.86	16.83	-2.58	0.622
67.00	-24.40	-44.60	0.00	-2,383.11	0.00	2,383.11	4,447.17	2,223.59	7,876.44	3,944.07	17.93	-2.67	0.610
70.00	-23.69	-44.44	0.00	-2,249.31	0.00	2,249.31	4,383.99	2,192.00	7,636.61	3,823.98	19.65	-2.81	0.594
72.00	-22.73	-42.85	0.00	-2,160.43	0.00	2,160.43	4,335.53	2,167.76	7,467.85	3,739.48	20.85	-2.90	0.583
75.00	-22.03	-42.68	0.00	-2,031.88	0.00	2,031.88	4,262.83	2,131.42	7,218.25	3,614.49	22.72	-3.04	0.568
77.00	-21.09	-41.06	0.00	-1,946.52	0.00	1,946.52	4,214.37	2,107.18	7,054.20	3,532.34	24.01	-3.13	0.556
80.00	-20.42	-40.89	0.00	-1,823.33	0.00	1,823.33	4,141.67	2,070.84	6,811.67	3,410.90	26.02	-3.27	0.540
82.00	-19.51	-39.24	0.00	-1,741.55	0.00	1,741.55	4,093.21	2,046.60	6,652.34	3,331.11	27.41	-3.36	0.528
85.00	-18.86	-39.07	0.00	-1,623.83	0.00	1,623.83	4,020.51	2,010.26	6,416.88	3,213.21	29.56	-3.49	0.510
87.00	-17.97	-37.39	0.00	-1,545.70	0.00	1,545.70	3,972.05	1,986.02	6,262.26	3,135.78	31.04	-3.57	0.498
90.00	-17.34	-37.21	0.00	-1,433.53	0.00	1,433.53	3,899.35	1,949.68	6,033.87	3,021.42	33.33	-3.70	0.479
92.00	-16.47	-35.50	0.00	-1,359.12	0.00	1,359.12	3,850.89	1,925.44	5,883.97	2,946.36	34.90	-3.79	0.466
95.00	-15.88	-35.37	0.00	-1,252.61	0.00	1,252.61	3,778.19	1,889.10	5,662.65	2,835.53	37.32	-3.91	0.446
95.38	-15.79	-35.31	0.00	-1,239.29	0.00	1,239.29	3,769.06	1,884.53	5,635.16	2,821.77	37.62	-3.92	0.444
97.00	-14.83	-33.57	0.00	-1,181.98	0.00	1,181.98	3,729.73	1,864.86	5,517.46	2,762.83	38.97	-3.99	0.432
100.00	-13.93	-33.40	0.00	-1,081.26	0.00	1,081.26	3,657.03	1,828.51	5,303.21	2,655.55	41.51	-4.11	0.411
100.63	-13.73	-33.33	0.00	-1,060.33	0.00	1,060.33	2,539.98	1,269.99	3,759.61	1,882.60	42.05	-4.13	0.569
102.00	-13.07	-31.61	0.00	-1,014.55	0.00	1,014.55	2,524.08	1,262.04	3,702.36	1,853.93	43.25	-4.18	0.553
105.00	-12.61	-31.43	0.00	-919.73	0.00	919.73	2,488.92	1,244.46	3,578.16	1,791.74	45.92	-4.33	0.519
107.00	-11.88	-29.66	0.00	-856.86	0.00	856.86	2,465.15	1,232.58	3,496.03	1,750.61	47.75	-4.42	0.495
110.00	-11.44	-29.49	0.00	-767.88	0.00	767.88	2,429.01	1,214.50	3,373.90	1,689.46	50.57	-4.55	0.460
112.00	-10.73	-27.69	0.00	-708.90	0.00	708.90	2,404.59	1,202.29	3,293.20	1,649.05	52.50	-4.64	0.435
115.00	-10.31	-27.52	0.00	-625.83	0.00	625.83	2,367.47	1,183.73	3,173.28	1,589.00	55.45	-4.76	0.399
117.00	-9.63	-25.70	0.00	-570.79	0.00	570.79	2,342.39	1,171.20	3,094.10	1,549.35	57.46	-4.84	0.373
120.00	-9.23	-25.53	0.00	-493.69	0.00	493.69	2,304.29	1,152.15	2,976.53	1,490.48	60.54	-4.95	0.336
122.00	-8.57	-23.69	0.00	-442.64	0.00	442.64	2,278.56	1,139.28	2,898.97	1,451.64	62.62	-5.02	0.309
125.00	-8.19	-23.51	0.00	-371.58	0.00	371.58	2,234.71	1,117.36	2,777.98	1,391.06	65.80	-5.11	0.271
127.00	-7.55	-21.66	0.00	-324.55	0.00	324.55	2,200.10	1,100.05	2,692.15	1,348.08	67.95	-5.17	0.245
130.00	-7.19	-21.48	0.00	-259.59	0.00	259.59	2,148.17	1,074.09	2,565.93	1,284.87	71.22	-5.24	0.206
132.00	-6.57	-19.61	0.00	-216.62	0.00	216.62	2,113.55	1,056.78	2,483.46	1,243.58	73.43	-5.29	0.178
135.00	-6.22	-19.44	0.00	-157.80	0.00	157.80	2,061.63	1,030.81	2,362.30	1,182.90	76.76	-5.34	0.137
137.00	-5.62	-17.55	0.00	-118.93	0.00	118.93	2,027.01	1,013.51	2,283.20	1,143.30	79.00	-5.37	0.107
140.00	-3.61	-12.00	0.00	-66.30	0.00	66.30	1,975.09	987.54	2,167.08	1,085.15	82.38	-5.40	0.063
142.00	-3.08	-10.10	0.00	-42.30	0.00	42.30	1,940.47	970.23	2,091.35	1,047.23	84.64	-5.41	0.042
145.00	-2.84	-9.96	0.00	-12.02	0.00	12.02	1,888.54	944.27	1,980.28	991.61	88.04	-5.42	0.014

Site Number: 415121

Code: ANSI/TIA-222-G

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

4/19/2017 2:14:45 PM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.6W

90 mph with No Ice (Reduced DL)

23 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

146.00	-0.59	-1.92	0.00	-2.05	0.00	2.05	1,871.23	935.62	1,943.93	973.41	89.18	-5.42	0.002
147.00	-0.15	-0.07	0.00	-0.13	0.00	0.13	1,853.93	926.96	1,907.92	955.38	90.31	-5.42	0.000
149.00	0.00	-0.05	0.00	0.00	0.00	0.00	1,819.31	909.65	1,836.91	919.82	92.58	-5.42	0.000

Site Number: 415121

Code: ANSI/TIA-222-G

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

4/19/2017 2:14:45 PM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi

40 mph with 0.75 in Radial Ice

22 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		45.8	0.0					0.0	0.0	45.8	0.0	0.0	0.0
5.00		90.9	2,515.0					0.0	189.9	90.9	2,704.9	0.0	0.0
10.00		89.4	2,513.1					0.0	189.9	89.4	2,703.0	0.0	0.0
15.00		87.8	2,485.2					0.0	189.9	87.8	2,675.1	0.0	0.0
20.00		86.1	2,448.9					0.0	189.9	86.1	2,638.8	0.0	0.0
25.00		84.4	2,408.2					0.0	189.9	84.4	2,598.1	0.0	0.0
30.00		83.7	2,364.7					0.0	189.9	83.7	2,554.6	0.0	0.0
35.00		84.7	2,319.3					0.0	189.9	84.7	2,509.2	0.0	0.0
40.00		86.1	2,272.5					0.0	189.9	86.1	2,462.4	0.0	0.0
45.00		58.2	2,224.6					0.0	189.9	58.2	2,414.5	0.0	0.0
46.71	Bot - Section 2	44.3	749.5					0.0	64.8	44.3	814.3	0.0	0.0
50.00		58.8	2,323.0					0.0	125.1	58.8	2,448.1	0.0	0.0
53.29	Top - Section 1	44.8	2,284.9					0.0	125.0	44.8	2,409.8	0.0	0.0
55.00		60.3	610.3					0.0	64.9	60.3	675.2	0.0	0.0
60.00		62.9	1,753.5					0.0	189.9	62.9	1,943.4	0.0	0.0
62.00	Appertunance(s)	44.9	691.3	272.0	0.0	0.0	649.7	0.0	76.0	316.9	1,417.0	0.0	0.0
65.00		44.9	1,023.9					0.0	113.9	44.9	1,137.8	0.0	0.0
67.00	Appertunance(s)	44.8	674.8	278.9	0.0	0.0	1,551.5	0.0	76.0	323.7	2,302.2	0.0	0.0
70.00		44.7	999.0					0.0	113.9	44.7	1,112.9	0.0	0.0
72.00	Appertunance(s)	44.6	658.1	285.6	0.0	0.0	653.2	0.0	76.0	330.2	1,387.2	0.0	0.0
75.00		44.5	973.8					0.0	113.9	44.5	1,087.7	0.0	0.0
77.00	Appertunance(s)	44.3	641.2	291.9	0.0	0.0	1,554.8	0.0	76.0	336.2	2,272.0	0.0	0.0
80.00		44.2	948.4					0.0	113.9	44.2	1,062.3	0.0	0.0
82.00	Appertunance(s)	43.9	624.2	297.9	0.0	0.0	656.3	0.0	76.0	341.8	1,356.5	0.0	0.0
85.00		43.8	922.8					0.0	113.9	43.8	1,036.8	0.0	0.0
87.00	Appertunance(s)	43.5	607.1	303.7	0.0	0.0	1,557.7	0.0	76.0	347.2	2,240.8	0.0	0.0
90.00		43.3	897.1					0.0	113.9	43.3	1,011.0	0.0	0.0
92.00	Appertunance(s)	43.0	589.9	309.3	0.0	0.0	659.1	0.0	76.0	352.3	1,324.9	0.0	0.0
95.00		28.9	871.2					0.0	113.9	28.9	985.1	0.0	0.0
95.38	Bot - Section 3	17.2	108.5					0.0	14.3	17.2	122.8	0.0	0.0
97.00	Appertunance(s)	39.8	710.4	314.7	0.0	0.0	1,560.4	0.0	61.7	354.5	2,332.4	0.0	0.0
100.00		31.1	1,293.2					0.0	113.9	31.1	1,407.1	0.0	0.0
100.63	Top - Section 2	17.0	267.4					0.0	23.8	17.0	291.2	0.0	0.0
102.00	Appertunance(s)	37.1	308.5	319.9	0.0	0.0	661.6	0.0	52.2	357.0	1,022.3	0.0	0.0
105.00		42.2	663.7					0.0	113.9	42.2	777.7	0.0	0.0
107.00	Appertunance(s)	41.7	436.1	324.9	0.0	0.0	1,562.7	0.0	76.0	366.6	2,074.8	0.0	0.0
110.00		41.4	643.2					0.0	113.9	41.4	757.1	0.0	0.0
112.00	Appertunance(s)	41.0	422.4	329.8	0.0	0.0	663.9	0.0	76.0	370.8	1,162.2	0.0	0.0
115.00		40.7	622.5					0.0	113.9	40.7	736.4	0.0	0.0
117.00	Appertunance(s)	40.2	408.6	334.5	0.0	0.0	1,564.9	0.0	76.0	374.7	2,049.4	0.0	0.0
120.00		39.9	601.7					0.0	113.9	39.9	715.6	0.0	0.0
122.00	Appertunance(s)	39.4	394.7	339.1	0.0	0.0	666.0	0.0	76.0	378.5	1,136.6	0.0	0.0
125.00		39.0	580.8					0.0	113.9	39.0	694.7	0.0	0.0
127.00	Appertunance(s)	38.5	380.7	343.6	0.0	0.0	1,567.0	0.0	76.0	382.1	2,023.6	0.0	0.0
130.00		38.1	559.8					0.0	113.9	38.1	673.7	0.0	0.0
132.00	Appertunance(s)	37.6	366.7	348.0	0.0	0.0	667.9	0.0	76.0	385.5	1,110.6	0.0	0.0
135.00		37.2	538.7					0.0	113.9	37.2	652.7	0.0	0.0
137.00	Appertunance(s)	36.6	352.6	352.2	0.0	0.0	1,568.9	0.0	76.0	388.8	1,997.4	0.0	0.0

Site Number: 415121

Code: ANSI/TIA-222-G

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

4/19/2017 2:14:46 PM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi

40 mph with 0.75 in Radial Ice

22 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

140.00	Appertunance(s)	36.2	517.6	843.8	0.0	0.0	6,265.2	0.0	113.9	880.0	6,896.7	0.0	0.0
142.00	Appertunance(s)	35.6	338.5	356.4	0.0	0.0	669.8	0.0	7.7	392.0	1,015.9	0.0	0.0
145.00		28.2	496.3					0.0	11.5	28.2	507.8	0.0	0.0
146.00	Appertunance(s)	13.9	163.1	1,453.8	0.0	-13.4	6,748.5	0.0	3.8	1,467.7	6,915.5	0.0	0.0
147.00	Appertunance(s)	20.7	161.7	360.5	0.0	0.0	1,570.7	0.0	0.0	381.2	1,732.4	0.0	0.0
149.00		13.8	318.6					0.0	0.0	13.8	318.6	0.0	0.0
Totals:										10,576.0	90,411.3	0.00	0.00

Load Case: 1.2D + 1.0Di + 1.0Wi

40 mph with 0.75 in Radial Ice

22 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	-90.41	-10.56	0.00	-1,185.60	0.00	1,185.60	7,586.21	3,793.11	18,027.1	9,026.97	0.00	0.00	0.143
5.00	-87.70	-10.53	0.00	-1,132.80	0.00	1,132.80	7,471.93	3,735.96	17,392.1	8,709.02	0.02	-0.04	0.142
10.00	-84.99	-10.49	0.00	-1,080.18	0.00	1,080.18	7,356.01	3,678.00	16,764.6	8,394.77	0.08	-0.08	0.140
15.00	-82.30	-10.45	0.00	-1,027.72	0.00	1,027.72	7,217.48	3,608.74	16,097.9	8,060.92	0.18	-0.11	0.139
20.00	-79.66	-10.42	0.00	-975.45	0.00	975.45	7,061.70	3,530.85	15,407.0	7,714.96	0.32	-0.15	0.138
25.00	-77.05	-10.38	0.00	-923.37	0.00	923.37	6,905.92	3,452.96	14,731.3	7,376.60	0.50	-0.19	0.136
30.00	-74.49	-10.34	0.00	-871.48	0.00	871.48	6,750.14	3,375.07	14,070.7	7,045.83	0.73	-0.23	0.135
35.00	-71.98	-10.29	0.00	-819.79	0.00	819.79	6,594.37	3,297.18	13,425.3	6,722.64	0.99	-0.27	0.133
40.00	-69.51	-10.24	0.00	-768.33	0.00	768.33	6,438.59	3,219.29	12,795.0	6,407.04	1.30	-0.31	0.131
45.00	-67.09	-10.20	0.00	-717.12	0.00	717.12	6,282.81	3,141.41	12,179.9	6,099.03	1.65	-0.36	0.128
46.71	-66.27	-10.18	0.00	-699.70	0.00	699.70	6,229.64	3,114.82	11,973.4	5,995.63	1.78	-0.37	0.127
50.00	-63.82	-10.13	0.00	-666.18	0.00	666.18	6,127.03	3,063.52	11,580.0	5,798.61	2.05	-0.40	0.125
53.29	-61.40	-10.09	0.00	-632.84	0.00	632.84	4,690.13	2,345.07	8,932.17	4,472.73	2.33	-0.42	0.155
55.00	-60.72	-10.06	0.00	-615.59	0.00	615.59	4,660.50	2,330.25	8,798.22	4,405.65	2.49	-0.44	0.153
60.00	-58.77	-10.02	0.00	-565.27	0.00	565.27	4,572.76	2,286.38	8,410.20	4,211.35	2.97	-0.49	0.147
62.00	-57.36	-9.71	0.00	-545.24	0.00	545.24	4,537.20	2,268.60	8,256.54	4,134.41	3.18	-0.51	0.145
65.00	-56.21	-9.68	0.00	-516.09	0.00	516.09	4,483.38	2,241.69	8,027.78	4,019.86	3.51	-0.54	0.141
67.00	-53.91	-9.36	0.00	-496.73	0.00	496.73	4,447.17	2,223.59	7,876.44	3,944.07	3.74	-0.56	0.138
70.00	-52.80	-9.33	0.00	-468.65	0.00	468.65	4,383.99	2,192.00	7,636.61	3,823.98	4.10	-0.59	0.135
72.00	-51.41	-9.00	0.00	-449.99	0.00	449.99	4,335.53	2,167.76	7,467.85	3,739.48	4.35	-0.61	0.132
75.00	-50.32	-8.97	0.00	-422.98	0.00	422.98	4,262.83	2,131.42	7,218.25	3,614.49	4.74	-0.63	0.129
77.00	-48.05	-8.63	0.00	-405.04	0.00	405.04	4,214.37	2,107.18	7,054.20	3,532.34	5.01	-0.65	0.126
80.00	-46.98	-8.59	0.00	-379.17	0.00	379.17	4,141.67	2,070.84	6,811.67	3,410.90	5.43	-0.68	0.123
82.00	-45.62	-8.25	0.00	-361.99	0.00	361.99	4,093.21	2,046.60	6,652.34	3,331.11	5.72	-0.70	0.120
85.00	-44.59	-8.21	0.00	-337.24	0.00	337.24	4,020.51	2,010.26	6,416.88	3,213.21	6.17	-0.73	0.116
87.00	-42.35	-7.85	0.00	-320.82	0.00	320.82	3,972.05	1,986.02	6,262.26	3,135.78	6.48	-0.75	0.113
90.00	-41.33	-7.81	0.00	-297.27	0.00	297.27	3,899.35	1,949.68	6,033.87	3,021.42	6.96	-0.77	0.109
92.00	-40.01	-7.45	0.00	-281.65	0.00	281.65	3,850.89	1,925.44	5,883.97	2,946.36	7.28	-0.79	0.106
95.00	-39.02	-7.42	0.00	-259.29	0.00	259.29	3,778.19	1,889.10	5,662.65	2,835.53	7.79	-0.81	0.102
95.38	-38.90	-7.41	0.00	-256.49	0.00	256.49	3,769.06	1,884.53	5,635.16	2,821.77	7.85	-0.82	0.101
97.00	-36.57	-7.03	0.00	-244.46	0.00	244.46	3,729.73	1,864.86	5,517.46	2,762.83	8.13	-0.83	0.098
100.00	-35.16	-6.99	0.00	-223.37	0.00	223.37	3,657.03	1,828.51	5,303.21	2,655.55	8.66	-0.86	0.094
100.63	-34.87	-6.97	0.00	-218.99	0.00	218.99	2,539.98	1,269.99	3,759.61	1,882.60	8.78	-0.86	0.130
102.00	-33.85	-6.61	0.00	-209.41	0.00	209.41	2,524.08	1,262.04	3,702.36	1,853.93	9.02	-0.87	0.126
105.00	-33.07	-6.57	0.00	-189.58	0.00	189.58	2,488.92	1,244.46	3,578.16	1,791.74	9.58	-0.90	0.119
107.00	-31.00	-6.19	0.00	-176.43	0.00	176.43	2,465.15	1,232.58	3,496.03	1,750.61	9.96	-0.92	0.113
110.00	-30.24	-6.14	0.00	-157.88	0.00	157.88	2,429.01	1,214.50	3,373.90	1,689.46	10.55	-0.95	0.106
112.00	-29.08	-5.76	0.00	-145.59	0.00	145.59	2,404.59	1,202.29	3,293.20	1,649.05	10.95	-0.97	0.100
115.00	-28.35	-5.72	0.00	-128.30	0.00	128.30	2,367.47	1,183.73	3,173.28	1,589.00	11.57	-0.99	0.093
117.00	-26.30	-5.32	0.00	-116.85	0.00	116.85	2,342.39	1,171.20	3,094.10	1,549.35	11.99	-1.01	0.087
120.00	-25.59	-5.28	0.00	-100.89	0.00	100.89	2,304.29	1,152.15	2,976.53	1,490.48	12.63	-1.03	0.079
122.00	-24.45	-4.88	0.00	-90.34	0.00	90.34	2,278.56	1,139.28	2,898.97	1,451.64	13.06	-1.04	0.073
125.00	-23.76	-4.84	0.00	-75.69	0.00	75.69	2,234.71	1,117.36	2,777.98	1,391.06	13.72	-1.06	0.065
127.00	-21.74	-4.42	0.00	-66.02	0.00	66.02	2,200.10	1,100.05	2,692.15	1,348.08	14.17	-1.07	0.059
130.00	-21.07	-4.38	0.00	-52.75	0.00	52.75	2,148.17	1,074.09	2,565.93	1,284.87	14.85	-1.09	0.051
132.00	-19.96	-3.97	0.00	-44.00	0.00	44.00	2,113.55	1,056.78	2,483.46	1,243.58	15.31	-1.10	0.045
135.00	-19.31	-3.93	0.00	-32.07	0.00	32.07	2,061.63	1,030.81	2,362.30	1,182.90	16.00	-1.11	0.036
137.00	-17.32	-3.50	0.00	-24.22	0.00	24.22	2,027.01	1,013.51	2,283.20	1,143.30	16.47	-1.11	0.030
140.00	-10.44	-2.49	0.00	-13.72	0.00	13.72	1,975.09	987.54	2,167.08	1,085.15	17.17	-1.12	0.018
142.00	-9.44	-2.08	0.00	-8.74	0.00	8.74	1,940.47	970.23	2,091.35	1,047.23	17.64	-1.12	0.013
145.00	-8.93	-2.04	0.00	-2.51	0.00	2.51	1,888.54	944.27	1,980.28	991.61	18.34	-1.13	0.007

Site Number: 415121

Code: ANSI/TIA-222-G

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

4/19/2017 2:14:47 PM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi

40 mph with 0.75 in Radial Ice

22 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

146.00	-2.04	-0.44	0.00	-0.48	0.00	0.48	1,871.23	935.62	1,943.93	973.41	18.58	-1.13	0.002
147.00	-0.32	-0.02	0.00	-0.04	0.00	0.04	1,853.93	926.96	1,907.92	955.38	18.82	-1.13	0.000
149.00	0.00	-0.01	0.00	0.00	0.00	0.00	1,819.31	909.65	1,836.91	919.82	19.29	-1.13	0.000



Load Case: 1.0D + 1.0W

Serviceability 60 mph

22 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		53.7	0.0					0.0	0.0	53.7	0.0	0.0	0.0
5.00		106.3	1,742.0					0.0	158.3	106.3	1,900.3	0.0	0.0
10.00		104.1	1,706.3					0.0	158.3	104.1	1,864.6	0.0	0.0
15.00		101.9	1,670.7					0.0	158.3	101.9	1,828.9	0.0	0.0
20.00		99.7	1,635.0					0.0	158.3	99.7	1,793.2	0.0	0.0
25.00		97.6	1,599.3					0.0	158.3	97.6	1,757.6	0.0	0.0
30.00		96.5	1,563.7					0.0	158.3	96.5	1,721.9	0.0	0.0
35.00		97.4	1,528.0					0.0	158.3	97.4	1,686.2	0.0	0.0
40.00		98.9	1,492.3					0.0	158.3	98.9	1,650.6	0.0	0.0
45.00		66.8	1,456.6					0.0	158.3	66.8	1,614.9	0.0	0.0
46.71	Bot - Section 2	50.7	489.0					0.0	54.0	50.7	543.0	0.0	0.0
50.00		67.3	1,672.3					0.0	104.2	67.3	1,776.6	0.0	0.0
53.29	Top - Section 1	51.2	1,643.2					0.0	104.1	51.2	1,747.3	0.0	0.0
55.00		68.8	373.4					0.0	54.1	68.8	427.6	0.0	0.0
60.00		71.7	1,073.3					0.0	158.3	71.7	1,231.6	0.0	0.0
62.00	Appertunance(s)	51.1	421.6	373.6	0.0	0.0	600.0	0.0	63.3	424.7	1,084.9	0.0	0.0
65.00		51.1	624.0					0.0	94.9	51.1	719.0	0.0	0.0
67.00	Appertunance(s)	50.9	410.5	382.0	0.0	0.0	600.0	0.0	63.3	432.9	1,073.8	0.0	0.0
70.00		50.8	607.4					0.0	94.9	50.8	702.3	0.0	0.0
72.00	Appertunance(s)	50.5	399.4	389.9	0.0	0.0	600.0	0.0	63.3	440.5	1,062.7	0.0	0.0
75.00		50.4	590.7					0.0	94.9	50.4	685.7	0.0	0.0
77.00	Appertunance(s)	50.1	388.3	397.5	0.0	0.0	600.0	0.0	63.3	447.6	1,051.6	0.0	0.0
80.00		49.9	574.1					0.0	94.9	49.9	669.0	0.0	0.0
82.00	Appertunance(s)	49.5	377.2	404.7	0.0	0.0	600.0	0.0	63.3	454.2	1,040.5	0.0	0.0
85.00		49.3	557.4					0.0	94.9	49.3	652.4	0.0	0.0
87.00	Appertunance(s)	48.9	366.1	411.6	0.0	0.0	600.0	0.0	63.3	460.5	1,029.4	0.0	0.0
90.00		48.6	540.8					0.0	94.9	48.6	635.7	0.0	0.0
92.00	Appertunance(s)	48.2	355.0	418.2	0.0	0.0	600.0	0.0	63.3	466.4	1,018.3	0.0	0.0
95.00		32.4	524.1					0.0	94.9	32.4	619.1	0.0	0.0
95.38	Bot - Section 3	19.3	65.1					0.0	11.9	19.3	77.0	0.0	0.0
97.00	Appertunance(s)	44.5	482.0	424.6	0.0	0.0	600.0	0.0	51.4	469.1	1,133.4	0.0	0.0
100.00		34.8	877.6					0.0	94.9	34.8	972.5	0.0	0.0
100.63	Top - Section 2	19.0	181.1					0.0	19.8	19.0	201.0	0.0	0.0
102.00	Appertunance(s)	41.4	166.4	430.7	0.0	0.0	600.0	0.0	43.5	472.1	809.8	0.0	0.0
105.00		47.0	358.2					0.0	94.9	47.0	453.1	0.0	0.0
107.00	Appertunance(s)	46.4	234.8	436.6	0.0	0.0	600.0	0.0	63.3	483.1	898.1	0.0	0.0
110.00		46.0	346.3					0.0	94.9	46.0	441.2	0.0	0.0
112.00	Appertunance(s)	45.4	226.9	442.4	0.0	0.0	600.0	0.0	63.3	487.8	890.2	0.0	0.0
115.00		45.0	334.4					0.0	94.9	45.0	429.4	0.0	0.0
117.00	Appertunance(s)	44.4	219.0	447.9	0.0	0.0	600.0	0.0	63.3	492.3	882.3	0.0	0.0
120.00		44.0	322.5					0.0	94.9	44.0	417.5	0.0	0.0
122.00	Appertunance(s)	43.3	211.0	453.3	0.0	0.0	600.0	0.0	63.3	496.6	874.3	0.0	0.0
125.00		42.8	310.6					0.0	94.9	42.8	405.6	0.0	0.0
127.00	Appertunance(s)	42.2	203.1	458.6	0.0	0.0	600.0	0.0	63.3	500.7	866.4	0.0	0.0
130.00		41.7	298.7					0.0	94.9	41.7	393.7	0.0	0.0
132.00	Appertunance(s)	41.0	195.2	463.6	0.0	0.0	600.0	0.0	63.3	504.6	858.5	0.0	0.0
135.00		40.5	286.8					0.0	94.9	40.5	381.8	0.0	0.0
137.00	Appertunance(s)	39.7	187.3	468.6	0.0	0.0	600.0	0.0	63.3	508.3	850.6	0.0	0.0

Site Number: 415121

Code: ANSI/TIA-222-G

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

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Customer: VERIZON WIRELESS

Load Case: 1.0D + 1.0W

Serviceability 60 mph

22 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

140.00	Appertunance(s)	39.2	274.9	1,443.4	0.0	0.0	2,429.2	0.0	94.9	1,482.6	2,799.1	0.0	0.0
142.00	Appertunance(s)	38.4	179.3	473.4	0.0	0.0	600.0	0.0	6.4	511.8	785.7	0.0	0.0
145.00		30.4	263.1					0.0	9.6	30.4	272.7	0.0	0.0
146.00	Appertunance(s)	15.0	86.1	2,150.6	0.0	-22.0	3,250.0	0.0	3.2	2,165.6	3,339.3	0.0	0.0
147.00	Appertunance(s)	22.2	85.3	478.1	0.0	0.0	600.0	0.0	0.0	500.4	685.3	0.0	0.0
149.00		14.8	168.2					0.0	0.0	14.8	168.2	0.0	0.0
Totals:										14,192.1	53,874.9	0.00	0.00

Load Case: 1.0D + 1.0W Serviceability 60 mph 22 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	-53.87	-14.16	0.00	-1,585.47	0.00	1,585.47	7,586.21	3,793.11	18,027.1	9,026.97	0.00	0.00	0.183
5.00	-51.96	-14.10	0.00	-1,514.66	0.00	1,514.66	7,471.93	3,735.96	17,392.1	8,709.02	0.03	-0.05	0.181
10.00	-50.08	-14.04	0.00	-1,444.16	0.00	1,444.16	7,356.01	3,678.00	16,764.6	8,394.77	0.11	-0.10	0.179
15.00	-48.24	-13.98	0.00	-1,373.97	0.00	1,373.97	7,217.48	3,608.74	16,097.9	8,060.92	0.24	-0.15	0.177
20.00	-46.43	-13.91	0.00	-1,304.09	0.00	1,304.09	7,061.70	3,530.85	15,407.0	7,714.96	0.43	-0.21	0.176
25.00	-44.66	-13.85	0.00	-1,234.52	0.00	1,234.52	6,905.92	3,452.96	14,731.3	7,376.60	0.67	-0.26	0.174
30.00	-42.93	-13.79	0.00	-1,165.27	0.00	1,165.27	6,750.14	3,375.07	14,070.7	7,045.83	0.97	-0.31	0.172
35.00	-41.23	-13.72	0.00	-1,096.34	0.00	1,096.34	6,594.37	3,297.18	13,425.3	6,722.64	1.33	-0.37	0.169
40.00	-39.57	-13.65	0.00	-1,027.75	0.00	1,027.75	6,438.59	3,219.29	12,795.0	6,407.04	1.74	-0.42	0.167
45.00	-37.94	-13.59	0.00	-959.53	0.00	959.53	6,282.81	3,141.41	12,179.9	6,099.03	2.21	-0.48	0.163
46.71	-37.39	-13.55	0.00	-936.33	0.00	936.33	6,229.64	3,114.82	11,973.4	5,995.63	2.39	-0.49	0.162
50.00	-35.61	-13.49	0.00	-891.70	0.00	891.70	6,127.03	3,063.52	11,580.0	5,798.61	2.74	-0.53	0.160
53.29	-33.86	-13.44	0.00	-847.31	0.00	847.31	4,690.13	2,345.07	8,932.17	4,472.73	3.12	-0.57	0.197
55.00	-33.42	-13.39	0.00	-824.33	0.00	824.33	4,660.50	2,330.25	8,798.22	4,405.65	3.33	-0.59	0.194
60.00	-32.18	-13.33	0.00	-757.36	0.00	757.36	4,572.76	2,286.38	8,410.20	4,211.35	3.98	-0.65	0.187
62.00	-31.09	-12.91	0.00	-730.69	0.00	730.69	4,537.20	2,268.60	8,256.54	4,134.41	4.26	-0.68	0.184
65.00	-30.36	-12.87	0.00	-691.95	0.00	691.95	4,483.38	2,241.69	8,027.78	4,019.86	4.70	-0.72	0.179
67.00	-29.29	-12.44	0.00	-666.21	0.00	666.21	4,447.17	2,223.59	7,876.44	3,944.07	5.00	-0.75	0.176
70.00	-28.58	-12.40	0.00	-628.88	0.00	628.88	4,383.99	2,192.00	7,636.61	3,823.98	5.49	-0.78	0.171
72.00	-27.52	-11.96	0.00	-604.08	0.00	604.08	4,335.53	2,167.76	7,467.85	3,739.48	5.82	-0.81	0.168
75.00	-26.83	-11.91	0.00	-568.21	0.00	568.21	4,262.83	2,131.42	7,218.25	3,614.49	6.34	-0.85	0.164
77.00	-25.78	-11.46	0.00	-544.38	0.00	544.38	4,214.37	2,107.18	7,054.20	3,532.34	6.70	-0.87	0.160
80.00	-25.10	-11.42	0.00	-509.99	0.00	509.99	4,141.67	2,070.84	6,811.67	3,410.90	7.27	-0.91	0.156
82.00	-24.06	-10.96	0.00	-487.15	0.00	487.15	4,093.21	2,046.60	6,652.34	3,331.11	7.65	-0.94	0.152
85.00	-23.40	-10.91	0.00	-454.27	0.00	454.27	4,020.51	2,010.26	6,416.88	3,213.21	8.26	-0.97	0.147
87.00	-22.38	-10.45	0.00	-432.45	0.00	432.45	3,972.05	1,986.02	6,262.26	3,135.78	8.67	-1.00	0.144
90.00	-21.74	-10.40	0.00	-401.11	0.00	401.11	3,899.35	1,949.68	6,033.87	3,021.42	9.31	-1.03	0.138
92.00	-20.72	-9.92	0.00	-380.32	0.00	380.32	3,850.89	1,925.44	5,883.97	2,946.36	9.75	-1.06	0.134
95.00	-20.10	-9.89	0.00	-350.55	0.00	350.55	3,778.19	1,889.10	5,662.65	2,835.53	10.42	-1.09	0.129
95.38	-20.02	-9.87	0.00	-346.83	0.00	346.83	3,769.06	1,884.53	5,635.16	2,821.77	10.51	-1.10	0.128
97.00	-18.89	-9.39	0.00	-330.81	0.00	330.81	3,729.73	1,864.86	5,517.46	2,762.83	10.88	-1.11	0.125
100.00	-17.92	-9.34	0.00	-302.65	0.00	302.65	3,657.03	1,828.51	5,303.21	2,655.55	11.60	-1.15	0.119
100.63	-17.72	-9.32	0.00	-296.80	0.00	296.80	2,539.98	1,269.99	3,759.61	1,882.60	11.75	-1.15	0.165
102.00	-16.91	-8.84	0.00	-284.01	0.00	284.01	2,524.08	1,262.04	3,702.36	1,853.93	12.08	-1.17	0.160
105.00	-16.46	-8.79	0.00	-257.49	0.00	257.49	2,488.92	1,244.46	3,578.16	1,791.74	12.83	-1.21	0.150
107.00	-15.56	-8.30	0.00	-239.91	0.00	239.91	2,465.15	1,232.58	3,496.03	1,750.61	13.34	-1.24	0.143
110.00	-15.12	-8.25	0.00	-215.02	0.00	215.02	2,429.01	1,214.50	3,373.90	1,689.46	14.13	-1.27	0.134
112.00	-14.24	-7.75	0.00	-198.51	0.00	198.51	2,404.59	1,202.29	3,293.20	1,649.05	14.67	-1.30	0.126
115.00	-13.80	-7.70	0.00	-175.26	0.00	175.26	2,367.47	1,183.73	3,173.28	1,589.00	15.49	-1.33	0.116
117.00	-12.93	-7.20	0.00	-159.86	0.00	159.86	2,342.39	1,171.20	3,094.10	1,549.35	16.06	-1.35	0.109
120.00	-12.51	-7.15	0.00	-138.28	0.00	138.28	2,304.29	1,152.15	2,976.53	1,490.48	16.92	-1.38	0.098
122.00	-11.65	-6.63	0.00	-123.98	0.00	123.98	2,278.56	1,139.28	2,898.97	1,451.64	17.50	-1.40	0.091
125.00	-11.24	-6.58	0.00	-104.08	0.00	104.08	2,234.71	1,117.36	2,777.98	1,391.06	18.39	-1.43	0.080
127.00	-10.38	-6.07	0.00	-90.91	0.00	90.91	2,200.10	1,100.05	2,692.15	1,348.08	18.99	-1.44	0.072
130.00	-9.99	-6.02	0.00	-72.72	0.00	72.72	2,148.17	1,074.09	2,565.93	1,284.87	19.91	-1.47	0.061
132.00	-9.14	-5.49	0.00	-60.68	0.00	60.68	2,113.55	1,056.78	2,483.46	1,243.58	20.52	-1.48	0.053
135.00	-8.76	-5.44	0.00	-44.20	0.00	44.20	2,061.63	1,030.81	2,362.30	1,182.90	21.46	-1.49	0.042
137.00	-7.92	-4.92	0.00	-33.32	0.00	33.32	2,027.01	1,013.51	2,283.20	1,143.30	22.08	-1.50	0.033
140.00	-5.16	-3.36	0.00	-18.57	0.00	18.57	1,975.09	987.54	2,167.08	1,085.15	23.03	-1.51	0.020
142.00	-4.39	-2.83	0.00	-11.85	0.00	11.85	1,940.47	970.23	2,091.35	1,047.23	23.66	-1.51	0.014
145.00	-4.12	-2.79	0.00	-3.37	0.00	3.37	1,888.54	944.27	1,980.28	991.61	24.62	-1.52	0.006

Site Number: 415121

Code: ANSI/TIA-222-G

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

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Customer: VERIZON WIRELESS

Load Case: 1.0D + 1.0W

Serviceability 60 mph

22 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

146.00	-0.84	-0.54	0.00	-0.58	0.00	0.58	1,871.23	935.62	1,943.93	973.41	24.93	-1.52	0.001
147.00	-0.17	-0.02	0.00	-0.04	0.00	0.04	1,853.93	926.96	1,907.92	955.38	25.25	-1.52	0.000
149.00	0.00	-0.01	0.00	0.00	0.00	0.00	1,819.31	909.65	1,836.91	919.82	25.89	-1.52	0.000

Site Number: 415121

Code: ANSI/TIA-222-G

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

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Customer: VERIZON WIRELESS

### Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period ( $S_g$ ):	0.18
Spectral Response Acceleration at 1.0 Second Period ( $S_1$ ):	0.06
Long-Period Transition Period ( $T_L$ ):	6
Importance Factor ( $I_E$ ):	1.00
Site Coefficient $F_a$ :	1.60
Site Coefficient $F_v$ :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period ( $S_{ds}$ ):	0.19
Design Spectral Response Acceleration at 1.0 Second Period ( $S_{d1}$ ):	0.10
Seismic Response Coefficient ( $C_s$ ):	0.04
Upper Limit $C_s$	0.04
Lower Limit $C_s$	0.03
Period based on Rayleigh Method (sec):	1.96
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.73
Total Unfactored Dead Load:	53.87 k
Seismic Base Shear (E):	2.48 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)
53	148.00	168	953	0.008	20	208
52	146.50	85	475	0.004	10	106
51	145.50	89	491	0.004	10	111
50	143.50	273	1,465	0.012	30	337
49	141.00	186	968	0.008	20	230
48	138.50	370	1,869	0.016	39	458
47	136.00	251	1,227	0.010	25	310
46	133.50	382	1,810	0.015	37	472
45	131.00	258	1,186	0.010	25	320
44	128.50	394	1,747	0.015	36	487
43	126.00	266	1,143	0.010	24	330
42	123.50	406	1,681	0.014	35	502
41	121.00	274	1,097	0.009	23	340
40	118.50	417	1,611	0.013	33	517
39	116.00	282	1,050	0.009	22	349
38	113.50	429	1,537	0.013	32	531
37	111.00	290	1,000	0.008	21	359
36	108.50	441	1,462	0.012	30	546
35	106.00	298	948	0.008	20	369
34	103.50	453	1,383	0.012	29	561
33	101.31	210	617	0.005	13	260
32	100.31	201	581	0.005	12	249
31	98.50	973	2,725	0.023	56	1,204

Site Number: 415121

Code: ANSI/TIA-222-G

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

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Customer: VERIZON WIRELESS

30	96.19	533	1,435	0.012	30	660
29	95.19	77	203	0.002	4	95
28	93.50	619	1,585	0.013	33	766
27	91.00	418	1,022	0.009	21	518
26	88.50	636	1,480	0.012	31	787
25	86.00	429	952	0.008	20	531
24	83.50	652	1,374	0.011	28	807
23	81.00	440	880	0.007	18	545
22	78.50	669	1,266	0.011	26	828
21	76.00	452	808	0.007	17	559
20	73.50	686	1,158	0.010	24	849
19	71.00	463	736	0.006	15	573
18	68.50	702	1,050	0.009	22	869
17	66.00	474	664	0.006	14	586
16	63.50	719	943	0.008	20	890
15	61.00	485	593	0.005	12	600
14	57.50	1,232	1,360	0.011	28	1,524
13	54.15	428	426	0.004	9	529
12	51.65	1,747	1,603	0.013	33	2,162
11	48.35	1,777	1,454	0.012	30	2,199
10	45.85	543	406	0.003	8	672
9	42.50	1,615	1,058	0.009	22	1,998
8	37.50	1,651	871	0.007	18	2,043
7	32.50	1,686	694	0.006	14	2,087
6	27.50	1,722	531	0.004	11	2,131
5	22.50	1,758	383	0.003	8	2,175
4	17.50	1,793	253	0.002	5	2,219
3	12.50	1,829	144	0.001	3	2,263
2	7.50	1,865	61	0.001	1	2,308
1	2.50	1,900	9	0.000	0	2,352
Pine Branch	147.00	600	3,360	0.028	70	743
Alcatel-Lucent B13 R	146.00	172	950	0.008	20	212
Alcatel-Lucent B66A	146.00	201	1,112	0.009	23	249
RFS DB-T1-6Z-8AB-OZ	146.00	88	487	0.004	10	109
Commscope SBNHH-1D65	146.00	608	3,367	0.028	70	753
Flat T-Arm	146.00	750	4,151	0.035	86	928
VZW Unused Reserve:	146.00	1,431	7,920	0.066	164	1,771
Pine Branch	142.00	600	3,165	0.026	66	743
Raycap DC6-48-60-18-	140.00	131	675	0.006	14	162
Ericsson RRUS E2 B29	140.00	180	927	0.008	19	223
Ericsson RRUS 12 w/	140.00	720	3,706	0.031	77	891
Ericsson RRUS-32	140.00	231	1,189	0.010	25	286
Ericsson RRUS-11	140.00	495	2,548	0.021	53	613
CCI OPA-65R-LCUU-H8	140.00	264	1,359	0.011	28	327
CCI HPA-65R-BUU-H8	140.00	408	2,100	0.018	43	505
Pine Branch	137.00	600	2,975	0.025	62	743
Pine Branch	132.00	600	2,790	0.023	58	743
Pine Branch	127.00	600	2,609	0.022	54	743
Pine Branch	122.00	600	2,434	0.020	50	743
Pine Branch	117.00	600	2,264	0.019	47	743
Pine Branch	112.00	600	2,100	0.018	43	743
Pine Branch	107.00	600	1,940	0.016	40	743
Pine Branch	102.00	600	1,786	0.015	37	743
Pine Branch	97.00	600	1,637	0.014	34	743
Pine Branch	92.00	600	1,494	0.012	31	743
Pine Branch	87.00	600	1,356	0.011	28	743
Pine Branch	82.00	600	1,225	0.010	25	743
Pine Branch	77.00	600	1,098	0.009	23	743
Pine Branch	72.00	600	978	0.008	20	743
Pine Branch	67.00	600	863	0.007	18	743
Pine Branch	62.00	600	755	0.006	16	743
		53,875	119,752	1.000	2,479	66,673

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

Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W <sub>z</sub> (lb-ft)	C <sub>vx</sub>	Horizontal Force (lb)	Vertical Force (lb)
53	148.00	168	953	0.008	20	145
52	146.50	85	475	0.004	10	74
51	145.50	89	491	0.004	10	77
50	143.50	273	1,465	0.012	30	235
49	141.00	186	968	0.008	20	160
48	138.50	370	1,869	0.016	39	319
47	136.00	251	1,227	0.010	25	216
46	133.50	382	1,810	0.015	37	329
45	131.00	258	1,186	0.010	25	223
44	128.50	394	1,747	0.015	36	340
43	126.00	266	1,143	0.010	24	230
42	123.50	406	1,681	0.014	35	350
41	121.00	274	1,097	0.009	23	237
40	118.50	417	1,611	0.013	33	360
39	116.00	282	1,050	0.009	22	243
38	113.50	429	1,537	0.013	32	370
37	111.00	290	1,000	0.008	21	250
36	108.50	441	1,462	0.012	30	381
35	106.00	298	948	0.008	20	257
34	103.50	453	1,383	0.012	29	391
33	101.31	210	617	0.005	13	181
32	100.31	201	581	0.005	12	173
31	98.50	973	2,725	0.023	56	839
30	96.19	533	1,435	0.012	30	460
29	95.19	77	203	0.002	4	66
28	93.50	619	1,585	0.013	33	534
27	91.00	418	1,022	0.009	21	361
26	88.50	636	1,480	0.012	31	548
25	86.00	429	952	0.008	20	370
24	83.50	652	1,374	0.011	28	563
23	81.00	440	880	0.007	18	380
22	78.50	669	1,266	0.011	26	577
21	76.00	452	808	0.007	17	389
20	73.50	686	1,158	0.010	24	591
19	71.00	463	736	0.006	15	399
18	68.50	702	1,050	0.009	22	606
17	66.00	474	664	0.006	14	409
16	63.50	719	943	0.008	20	620
15	61.00	485	593	0.005	12	418
14	57.50	1,232	1,360	0.011	28	1,062
13	54.15	428	426	0.004	9	369
12	51.65	1,747	1,603	0.013	33	1,507
11	48.35	1,777	1,454	0.012	30	1,532
10	45.85	543	406	0.003	8	468
9	42.50	1,615	1,058	0.009	22	1,393
8	37.50	1,651	871	0.007	18	1,424
7	32.50	1,686	694	0.006	14	1,454
6	27.50	1,722	531	0.004	11	1,485
5	22.50	1,758	383	0.003	8	1,516
4	17.50	1,793	253	0.002	5	1,547
3	12.50	1,829	144	0.001	3	1,577
2	7.50	1,865	61	0.001	1	1,608
1	2.50	1,900	9	0.000	0	1,639
Pine Branch	147.00	600	3,360	0.028	70	517
Alcatel-Lucent B13 R	146.00	172	950	0.008	20	148
Alcatel-Lucent B66A	146.00	201	1,112	0.009	23	173
RFS DB-T1-6Z-8AB-0Z	146.00	88	487	0.004	10	76

Site Number: 415121

Code: ANSI/TIA-222-G

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

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Customer: VERIZON WIRELESS

Commscope SBNHH-1D65	146.00	608	3,367	0.028	70	525
Flat T-Arm	146.00	750	4,151	0.035	86	647
VZW Unused Reserve:	146.00	1,431	7,920	0.066	164	1,234
Pine Branch	142.00	600	3,165	0.026	66	517
Raycap DC6-48-60-18-	140.00	131	675	0.006	14	113
Ericsson RRUS E2 B29	140.00	180	927	0.008	19	155
Ericsson RRUS 12 w/	140.00	720	3,706	0.031	77	621
Ericsson RRUS-32	140.00	231	1,189	0.010	25	199
Ericsson RRUS-11	140.00	495	2,548	0.021	53	427
CCI OPA-65R-LCUU-H8	140.00	264	1,359	0.011	28	228
CCI HPA-65R-BUU-H8	140.00	408	2,100	0.018	43	352
Pine Branch	137.00	600	2,975	0.025	62	517
Pine Branch	132.00	600	2,790	0.023	58	517
Pine Branch	127.00	600	2,609	0.022	54	517
Pine Branch	122.00	600	2,434	0.020	50	517
Pine Branch	117.00	600	2,264	0.019	47	517
Pine Branch	112.00	600	2,100	0.018	43	517
Pine Branch	107.00	600	1,940	0.016	40	517
Pine Branch	102.00	600	1,786	0.015	37	517
Pine Branch	97.00	600	1,637	0.014	34	517
Pine Branch	92.00	600	1,494	0.012	31	517
Pine Branch	87.00	600	1,356	0.011	28	517
Pine Branch	82.00	600	1,225	0.010	25	517
Pine Branch	77.00	600	1,098	0.009	23	517
Pine Branch	72.00	600	978	0.008	20	517
Pine Branch	67.00	600	863	0.007	18	517
Pine Branch	62.00	600	755	0.006	16	517
		53,875	119,752	1.000	2,479	46,465



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	-64.32	-2.48	0.00	-290.22	0.00	290.22	7,586.21	3,793.11	18,027.1	9,026.97	0.00	0.00	0.041
5.00	-62.01	-2.49	0.00	-277.80	0.00	277.80	7,471.93	3,735.96	17,392.1	8,709.02	0.00	-0.01	0.040
10.00	-59.75	-2.50	0.00	-265.35	0.00	265.35	7,356.01	3,678.00	16,764.6	8,394.77	0.02	-0.02	0.040
15.00	-57.53	-2.50	0.00	-252.86	0.00	252.86	7,217.48	3,608.74	16,097.9	8,060.92	0.04	-0.03	0.039
20.00	-55.35	-2.50	0.00	-240.35	0.00	240.35	7,061.70	3,530.85	15,407.0	7,714.96	0.08	-0.04	0.039
25.00	-53.22	-2.50	0.00	-227.84	0.00	227.84	6,905.92	3,452.96	14,731.3	7,376.60	0.12	-0.05	0.039
30.00	-51.14	-2.49	0.00	-215.35	0.00	215.35	6,750.14	3,375.07	14,070.7	7,045.83	0.18	-0.06	0.038
35.00	-49.09	-2.48	0.00	-202.89	0.00	202.89	6,594.37	3,297.18	13,425.3	6,722.64	0.24	-0.07	0.038
40.00	-47.09	-2.46	0.00	-190.50	0.00	190.50	6,438.59	3,219.29	12,795.0	6,407.04	0.32	-0.08	0.037
45.00	-46.42	-2.46	0.00	-178.18	0.00	178.18	6,282.81	3,141.41	12,179.9	6,099.03	0.41	-0.09	0.037
46.71	-44.22	-2.43	0.00	-173.98	0.00	173.98	6,229.64	3,114.82	11,973.4	5,995.63	0.44	-0.09	0.036
50.00	-42.06	-2.40	0.00	-165.98	0.00	165.98	6,127.03	3,063.52	11,580.0	5,798.61	0.50	-0.10	0.035
53.29	-41.53	-2.39	0.00	-158.09	0.00	158.09	4,690.13	2,345.07	8,932.17	4,472.73	0.57	-0.10	0.044
55.00	-40.01	-2.37	0.00	-154.00	0.00	154.00	4,660.50	2,330.25	8,798.22	4,405.65	0.61	-0.11	0.044
60.00	-39.41	-2.36	0.00	-142.17	0.00	142.17	4,572.76	2,286.38	8,410.20	4,211.35	0.73	-0.12	0.042
62.00	-37.77	-2.32	0.00	-137.45	0.00	137.45	4,537.20	2,268.60	8,256.54	4,134.41	0.78	-0.13	0.042
65.00	-37.19	-2.31	0.00	-130.47	0.00	130.47	4,483.38	2,241.69	8,027.78	4,019.86	0.87	-0.13	0.041
67.00	-35.58	-2.27	0.00	-125.85	0.00	125.85	4,447.17	2,223.59	7,876.44	3,944.07	0.92	-0.14	0.040
70.00	-35.00	-2.26	0.00	-119.02	0.00	119.02	4,383.99	2,192.00	7,636.61	3,823.98	1.01	-0.15	0.039
72.00	-33.41	-2.22	0.00	-114.50	0.00	114.50	4,335.53	2,167.76	7,467.85	3,739.48	1.07	-0.15	0.038
75.00	-32.85	-2.20	0.00	-107.85	0.00	107.85	4,262.83	2,131.42	7,218.25	3,614.49	1.17	-0.16	0.038
77.00	-31.28	-2.15	0.00	-103.45	0.00	103.45	4,214.37	2,107.18	7,054.20	3,532.34	1.24	-0.16	0.037
80.00	-30.74	-2.14	0.00	-96.99	0.00	96.99	4,141.67	2,070.84	6,811.67	3,410.90	1.34	-0.17	0.036
82.00	-29.19	-2.08	0.00	-92.72	0.00	92.72	4,093.21	2,046.60	6,652.34	3,331.11	1.42	-0.17	0.035
85.00	-28.65	-2.06	0.00	-86.49	0.00	86.49	4,020.51	2,010.26	6,416.88	3,213.21	1.53	-0.18	0.034
87.00	-27.13	-2.00	0.00	-82.36	0.00	82.36	3,972.05	1,986.02	6,262.26	3,135.78	1.60	-0.19	0.033
90.00	-26.61	-1.98	0.00	-76.36	0.00	76.36	3,899.35	1,949.68	6,033.87	3,021.42	1.72	-0.19	0.032
92.00	-25.10	-1.91	0.00	-72.40	0.00	72.40	3,850.89	1,925.44	5,883.97	2,946.36	1.81	-0.20	0.031
95.00	-25.00	-1.91	0.00	-66.66	0.00	66.66	3,778.19	1,889.10	5,662.65	2,835.53	1.93	-0.20	0.030
95.38	-24.34	-1.88	0.00	-65.94	0.00	65.94	3,769.06	1,884.53	5,635.16	2,821.77	1.95	-0.20	0.030
97.00	-22.40	-1.78	0.00	-62.89	0.00	62.89	3,729.73	1,864.86	5,517.46	2,762.83	2.02	-0.21	0.029
100.00	-22.15	-1.77	0.00	-57.54	0.00	57.54	3,657.03	1,828.51	5,303.21	2,655.55	2.15	-0.21	0.028
100.63	-21.89	-1.76	0.00	-56.43	0.00	56.43	2,539.98	1,269.99	3,759.61	1,882.60	2.18	-0.22	0.039
102.00	-20.59	-1.69	0.00	-54.01	0.00	54.01	2,524.08	1,262.04	3,702.36	1,853.93	2.24	-0.22	0.037
105.00	-20.22	-1.67	0.00	-48.94	0.00	48.94	2,488.92	1,244.46	3,578.16	1,791.74	2.38	-0.23	0.035
107.00	-18.93	-1.60	0.00	-45.60	0.00	45.60	2,465.15	1,232.58	3,496.03	1,750.61	2.48	-0.23	0.034
110.00	-18.57	-1.58	0.00	-40.80	0.00	40.80	2,429.01	1,214.50	3,373.90	1,689.46	2.63	-0.24	0.032
112.00	-17.30	-1.50	0.00	-37.64	0.00	37.64	2,404.59	1,202.29	3,293.20	1,649.05	2.73	-0.24	0.030
115.00	-16.95	-1.48	0.00	-33.15	0.00	33.15	2,367.47	1,183.73	3,173.28	1,589.00	2.88	-0.25	0.028
117.00	-15.69	-1.39	0.00	-30.19	0.00	30.19	2,342.39	1,171.20	3,094.10	1,549.35	2.99	-0.25	0.026
120.00	-15.35	-1.37	0.00	-26.01	0.00	26.01	2,304.29	1,152.15	2,976.53	1,490.48	3.15	-0.26	0.024
122.00	-14.10	-1.28	0.00	-23.27	0.00	23.27	2,278.56	1,139.28	2,898.97	1,451.64	3.26	-0.26	0.022
125.00	-13.77	-1.26	0.00	-19.43	0.00	19.43	2,234.71	1,117.36	2,777.98	1,391.06	3.42	-0.27	0.020
127.00	-12.54	-1.16	0.00	-16.92	0.00	16.92	2,200.10	1,100.05	2,692.15	1,348.08	3.54	-0.27	0.018
130.00	-12.22	-1.14	0.00	-13.43	0.00	13.43	2,148.17	1,074.09	2,565.93	1,284.87	3.71	-0.27	0.016
132.00	-11.01	-1.04	0.00	-11.16	0.00	11.16	2,113.55	1,056.78	2,483.46	1,243.58	3.82	-0.28	0.014
135.00	-10.70	-1.01	0.00	-8.05	0.00	8.05	2,061.63	1,030.81	2,362.30	1,182.90	4.00	-0.28	0.012
137.00	-9.50	-0.90	0.00	-6.04	0.00	6.04	2,027.01	1,013.51	2,283.20	1,143.30	4.12	-0.28	0.010
140.00	-6.27	-0.61	0.00	-3.33	0.00	3.33	1,975.09	987.54	2,167.08	1,085.15	4.29	-0.28	0.006
142.00	-5.19	-0.51	0.00	-2.11	0.00	2.11	1,940.47	970.23	2,091.35	1,047.23	4.41	-0.28	0.005
145.00	-5.08	-0.50	0.00	-0.59	0.00	0.59	1,888.54	944.27	1,980.28	991.61	4.59	-0.28	0.003
146.00	-0.95	-0.09	0.00	-0.09	0.00	0.09	1,871.23	935.62	1,943.93	973.41	4.65	-0.28	0.001
147.00	0.00	0.00	0.00	0.00	0.00	0.00	1,853.93	926.96	1,907.92	955.38	4.71	-0.28	0.000
149.00	0.00	0.00	0.00	0.00	0.00	0.00	1,819.31	909.65	1,836.91	919.82	4.83	-0.28	0.000

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Site Number: 415121

Code: ANSI/TIA-222-G © 2007 - 2017 by ATC IP LLC. All rights reserved.

Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

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Customer: VERIZON WIRELESS

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

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	-44.83	-2.48	0.00	-287.31	0.00	287.31	7,586.21	3,793.11	18,027.1	9,026.97	0.00	0.00	0.038
5.00	-43.22	-2.49	0.00	-274.90	0.00	274.90	7,471.93	3,735.96	17,392.1	8,709.02	0.00	-0.01	0.037
10.00	-41.64	-2.49	0.00	-262.47	0.00	262.47	7,356.01	3,678.00	16,764.6	8,394.77	0.02	-0.02	0.037
15.00	-40.09	-2.49	0.00	-250.02	0.00	250.02	7,217.48	3,608.74	16,097.9	8,060.92	0.04	-0.03	0.037
20.00	-38.58	-2.49	0.00	-237.56	0.00	237.56	7,061.70	3,530.85	15,407.0	7,714.96	0.08	-0.04	0.036
25.00	-37.09	-2.48	0.00	-225.11	0.00	225.11	6,905.92	3,452.96	14,731.3	7,376.60	0.12	-0.05	0.036
30.00	-35.64	-2.47	0.00	-212.70	0.00	212.70	6,750.14	3,375.07	14,070.7	7,045.83	0.18	-0.06	0.035
35.00	-34.21	-2.46	0.00	-200.33	0.00	200.33	6,594.37	3,297.18	13,425.3	6,722.64	0.24	-0.07	0.035
40.00	-32.82	-2.44	0.00	-188.03	0.00	188.03	6,438.59	3,219.29	12,795.0	6,407.04	0.32	-0.08	0.034
45.00	-32.35	-2.44	0.00	-175.82	0.00	175.82	6,282.81	3,141.41	12,179.9	6,099.03	0.40	-0.09	0.034
46.71	-30.82	-2.41	0.00	-171.66	0.00	171.66	6,229.64	3,114.82	11,973.4	5,995.63	0.43	-0.09	0.034
50.00	-29.31	-2.37	0.00	-163.73	0.00	163.73	6,127.03	3,063.52	11,580.0	5,798.61	0.50	-0.10	0.033
53.29	-28.94	-2.37	0.00	-155.92	0.00	155.92	4,690.13	2,345.07	8,932.17	4,472.73	0.57	-0.10	0.041
55.00	-27.88	-2.34	0.00	-151.87	0.00	151.87	4,660.50	2,330.25	8,798.22	4,405.65	0.61	-0.11	0.040
60.00	-27.46	-2.33	0.00	-140.16	0.00	140.16	4,572.76	2,286.38	8,410.20	4,211.35	0.72	-0.12	0.039
62.00	-26.32	-2.30	0.00	-135.49	0.00	135.49	4,537.20	2,268.60	8,256.54	4,134.41	0.78	-0.12	0.039
65.00	-25.91	-2.29	0.00	-128.60	0.00	128.60	4,483.38	2,241.69	8,027.78	4,019.86	0.86	-0.13	0.038
67.00	-24.79	-2.25	0.00	-124.03	0.00	124.03	4,447.17	2,223.59	7,876.44	3,944.07	0.91	-0.14	0.037
70.00	-24.39	-2.23	0.00	-117.29	0.00	117.29	4,383.99	2,192.00	7,636.61	3,823.98	1.00	-0.14	0.036
72.00	-23.28	-2.19	0.00	-112.82	0.00	112.82	4,335.53	2,167.76	7,467.85	3,739.48	1.06	-0.15	0.036
75.00	-22.89	-2.17	0.00	-106.26	0.00	106.26	4,262.83	2,131.42	7,218.25	3,614.49	1.16	-0.16	0.035
77.00	-21.80	-2.12	0.00	-101.91	0.00	101.91	4,214.37	2,107.18	7,054.20	3,532.34	1.22	-0.16	0.034
80.00	-21.42	-2.11	0.00	-95.54	0.00	95.54	4,141.67	2,070.84	6,811.67	3,410.90	1.33	-0.17	0.033
82.00	-20.34	-2.05	0.00	-91.33	0.00	91.33	4,093.21	2,046.60	6,652.34	3,331.11	1.40	-0.17	0.032
85.00	-19.97	-2.03	0.00	-85.17	0.00	85.17	4,020.51	2,010.26	6,416.88	3,213.21	1.51	-0.18	0.031
87.00	-18.90	-1.97	0.00	-81.11	0.00	81.11	3,972.05	1,986.02	6,262.26	3,135.78	1.59	-0.18	0.031
90.00	-18.54	-1.95	0.00	-75.19	0.00	75.19	3,899.35	1,949.68	6,033.87	3,021.42	1.70	-0.19	0.030
92.00	-17.49	-1.89	0.00	-71.29	0.00	71.29	3,850.89	1,925.44	5,883.97	2,946.36	1.78	-0.19	0.029
95.00	-17.42	-1.88	0.00	-65.63	0.00	65.63	3,778.19	1,889.10	5,662.65	2,835.53	1.91	-0.20	0.028
95.38	-16.96	-1.85	0.00	-64.92	0.00	64.92	3,769.06	1,884.53	5,635.16	2,821.77	1.92	-0.20	0.028
97.00	-15.61	-1.76	0.00	-61.92	0.00	61.92	3,729.73	1,864.86	5,517.46	2,762.83	1.99	-0.21	0.027
100.00	-15.43	-1.75	0.00	-56.64	0.00	56.64	3,657.03	1,828.51	5,303.21	2,655.55	2.12	-0.21	0.026
100.63	-15.25	-1.73	0.00	-55.55	0.00	55.55	2,539.98	1,269.99	3,759.61	1,882.60	2.15	-0.21	0.036
102.00	-14.34	-1.67	0.00	-53.17	0.00	53.17	2,524.08	1,262.04	3,702.36	1,853.93	2.21	-0.22	0.034
105.00	-14.09	-1.65	0.00	-48.17	0.00	48.17	2,488.92	1,244.46	3,578.16	1,791.74	2.35	-0.22	0.033
107.00	-13.19	-1.57	0.00	-44.88	0.00	44.88	2,465.15	1,232.58	3,496.03	1,750.61	2.45	-0.23	0.031
110.00	-12.94	-1.55	0.00	-40.15	0.00	40.15	2,429.01	1,214.50	3,373.90	1,689.46	2.59	-0.24	0.029
112.00	-12.05	-1.48	0.00	-37.04	0.00	37.04	2,404.59	1,202.29	3,293.20	1,649.05	2.69	-0.24	0.027
115.00	-11.81	-1.45	0.00	-32.62	0.00	32.62	2,367.47	1,183.73	3,173.28	1,589.00	2.84	-0.25	0.026
117.00	-10.93	-1.37	0.00	-29.71	0.00	29.71	2,342.39	1,171.20	3,094.10	1,549.35	2.95	-0.25	0.024
120.00	-10.69	-1.35	0.00	-25.59	0.00	25.59	2,304.29	1,152.15	2,976.53	1,490.48	3.11	-0.26	0.022
122.00	-9.83	-1.26	0.00	-22.90	0.00	22.90	2,278.56	1,139.28	2,898.97	1,451.64	3.22	-0.26	0.020
125.00	-9.60	-1.24	0.00	-19.12	0.00	19.12	2,234.71	1,117.36	2,777.98	1,391.06	3.38	-0.26	0.018
127.00	-8.74	-1.14	0.00	-16.64	0.00	16.64	2,200.10	1,100.05	2,692.15	1,348.08	3.49	-0.27	0.016
130.00	-8.52	-1.12	0.00	-13.22	0.00	13.22	2,148.17	1,074.09	2,565.93	1,284.87	3.66	-0.27	0.014
132.00	-7.67	-1.02	0.00	-10.98	0.00	10.98	2,113.55	1,056.78	2,483.46	1,243.58	3.77	-0.27	0.012
135.00	-7.46	-0.99	0.00	-7.93	0.00	7.93	2,061.63	1,030.81	2,362.30	1,182.90	3.95	-0.28	0.010
137.00	-6.62	-0.89	0.00	-5.94	0.00	5.94	2,027.01	1,013.51	2,283.20	1,143.30	4.06	-0.28	0.008
140.00	-4.37	-0.60	0.00	-3.28	0.00	3.28	1,975.09	987.54	2,167.08	1,085.15	4.24	-0.28	0.005
142.00	-3.61	-0.50	0.00	-2.08	0.00	2.08	1,940.47	970.23	2,091.35	1,047.23	4.35	-0.28	0.004
145.00	-3.54	-0.49	0.00	-0.58	0.00	0.58	1,888.54	944.27	1,980.28	991.61	4.53	-0.28	0.002
146.00	-0.66	-0.09	0.00	-0.09	0.00	0.09	1,871.23	935.62	1,943.93	973.41	4.59	-0.28	0.000
147.00	0.00	0.00	0.00	0.00	0.00	0.00	1,853.93	926.96	1,907.92	955.38	4.65	-0.28	0.000
149.00	0.00	0.00	0.00	0.00	0.00	0.00	1,819.31	909.65	1,836.91	919.82	4.77	-0.28	0.000

Site Number: 415121

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

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Customer: VERIZON WIRELESS

### Equivalent Modal Forces Analysis

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

Spectral Response Acceleration for Short Period ( $S_{s1}$ ):	0.18
Spectral Response Acceleration at 1.0 Second Period ( $S_{s1}$ ):	0.06
Importance Factor ( $I_E$ ):	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 ( $S_{ds}$ ):	0.19
Design Spectral Response Acceleration at 1.0 Second Period ( $S_{d1}$ ):	0.10
Period Based on Rayleigh Method (sec):	1.96
Redundancy Factor (p):	1.30

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

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
53	148.00	168	1.865	1.849	1.093	0.346	51	208
52	146.50	85	1.827	1.665	1.025	0.323	24	106
51	145.50	89	1.802	1.549	0.981	0.309	24	111
50	143.50	273	1.753	1.334	0.899	0.280	66	337
49	141.00	186	1.692	1.094	0.803	0.246	40	230
48	138.50	370	1.633	0.884	0.716	0.214	68	458
47	136.00	251	1.575	0.702	0.636	0.184	40	310
46	133.50	382	1.517	0.544	0.564	0.156	52	472
45	131.00	258	1.461	0.409	0.498	0.130	29	320
44	128.50	394	1.406	0.295	0.438	0.106	36	487
43	126.00	266	1.352	0.198	0.384	0.085	20	330
42	123.50	406	1.298	0.118	0.335	0.065	23	502
41	121.00	274	1.246	0.053	0.291	0.047	11	340
40	118.50	417	1.195	0.000	0.251	0.031	11	517
39	116.00	282	1.146	-0.041	0.216	0.018	4	349
38	113.50	429	1.097	-0.072	0.185	0.006	2	531
37	111.00	290	1.049	-0.094	0.157	-0.004	-1	359
36	108.50	441	1.002	-0.109	0.132	-0.012	-5	546
35	106.00	298	0.957	-0.118	0.111	-0.018	-5	369
34	103.50	453	0.912	-0.122	0.092	-0.022	-9	561
33	101.31	210	0.874	-0.121	0.078	-0.024	-4	260
32	100.31	201	0.857	-0.120	0.072	-0.025	-4	249
31	98.50	973	0.826	-0.116	0.062	-0.025	-21	1,204
30	96.19	533	0.788	-0.110	0.050	-0.024	-11	660
29	95.19	77	0.771	-0.106	0.046	-0.023	-2	95
28	93.50	619	0.744	-0.099	0.039	-0.022	-12	766
27	91.00	418	0.705	-0.088	0.031	-0.018	-7	518
26	88.50	636	0.667	-0.076	0.024	-0.013	-7	787
25	86.00	429	0.630	-0.064	0.018	-0.008	-3	531
24	83.50	652	0.594	-0.051	0.014	-0.002	-1	807
23	81.00	440	0.559	-0.038	0.011	0.004	2	545
22	78.50	669	0.525	-0.025	0.008	0.011	6	828
21	76.00	452	0.492	-0.013	0.007	0.017	7	559
20	73.50	686	0.460	-0.002	0.006	0.022	13	849

Site Number: 415121

Code: ANSI/TIA-222-G

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

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Customer: VERIZON WIRELESS

19	71.00	463	0.429	0.009	0.006	0.028	11	573
18	68.50	702	0.399	0.018	0.007	0.032	20	869
17	66.00	474	0.371	0.027	0.008	0.036	15	586
16	63.50	719	0.343	0.035	0.009	0.039	24	890
15	61.00	485	0.317	0.041	0.011	0.042	17	600
14	57.50	1,232	0.281	0.049	0.014	0.044	47	1,524
13	54.15	428	0.250	0.055	0.017	0.045	17	529
12	51.65	1,747	0.227	0.059	0.020	0.046	69	2,162
11	48.35	1,777	0.199	0.063	0.023	0.046	71	2,199
10	45.85	543	0.179	0.065	0.026	0.046	22	672
9	42.50	1,615	0.154	0.068	0.030	0.045	63	1,998
8	37.50	1,651	0.120	0.070	0.034	0.044	63	2,043
7	32.50	1,686	0.090	0.071	0.038	0.043	63	2,087
6	27.50	1,722	0.064	0.072	0.041	0.041	62	2,131
5	22.50	1,758	0.043	0.071	0.042	0.040	61	2,175
4	17.50	1,793	0.026	0.067	0.040	0.037	58	2,219
3	12.50	1,829	0.013	0.059	0.034	0.033	53	2,263
2	7.50	1,865	0.005	0.044	0.025	0.026	42	2,308
1	2.50	1,900	0.001	0.018	0.010	0.011	19	2,352
Pine Branch	147.00	600	1.840	1.725	1.047	0.331	172	743
Alcatel-Lucent B13 R	146.00	172	1.815	1.606	1.003	0.316	47	212
Alcatel-Lucent B66A	146.00	201	1.815	1.606	1.003	0.316	55	249
RFS DB-T1-6Z-8AB-OZ	146.00	88	1.815	1.606	1.003	0.316	24	109
Commscope SBNHH-	146.00	608	1.815	1.606	1.003	0.316	167	753
Flat T-Arm	146.00	750	1.815	1.606	1.003	0.316	205	928
VZW Unused Reserve:	146.00	1,431	1.815	1.606	1.003	0.316	392	1,771
Pine Branch	142.00	600	1.717	1.186	0.840	0.259	135	743
Raycap DC6-48-60-18-	140.00	131	1.669	1.007	0.767	0.233	26	162
Ericsson RRUS E2 B29	140.00	180	1.669	1.007	0.767	0.233	36	223
Ericsson RRUS 12 w/	140.00	720	1.669	1.007	0.767	0.233	145	891
Ericsson RRUS-32	140.00	231	1.669	1.007	0.767	0.233	47	286
Ericsson RRUS-11	140.00	495	1.669	1.007	0.767	0.233	100	613
CCI OPA-65R-LCUU-H8	140.00	264	1.669	1.007	0.767	0.233	53	327
CCI HPA-65R-BUU-H8	140.00	408	1.669	1.007	0.767	0.233	82	505
Pine Branch	137.00	600	1.598	0.772	0.667	0.195	102	743
Pine Branch	132.00	600	1.483	0.461	0.523	0.140	73	743
Pine Branch	127.00	600	1.373	0.235	0.405	0.093	48	743
Pine Branch	122.00	600	1.267	0.077	0.308	0.054	28	743
Pine Branch	117.00	600	1.165	-0.025	0.230	0.023	12	743
Pine Branch	112.00	600	1.068	-0.086	0.168	0.000	0	743
Pine Branch	107.00	600	0.975	-0.115	0.119	-0.016	-8	743
Pine Branch	102.00	600	0.886	-0.122	0.082	-0.024	-12	743
Pine Branch	97.00	600	0.801	-0.112	0.054	-0.025	-13	743
Pine Branch	92.00	600	0.721	-0.093	0.034	-0.020	-10	743
Pine Branch	87.00	600	0.644	-0.069	0.020	-0.010	-5	743
Pine Branch	82.00	600	0.572	-0.043	0.012	0.002	1	743
Pine Branch	77.00	600	0.505	-0.018	0.007	0.014	7	743
Pine Branch	72.00	600	0.441	0.005	0.006	0.026	13	743
Pine Branch	67.00	600	0.382	0.024	0.007	0.034	18	743
Pine Branch	62.00	600	0.327	0.039	0.010	0.041	21	743
		53,875	81.118	30.594	26.629	7.724	3,194	66,673

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)
53	148.00	168	1.865	1.849	1.093	0.346	51	145
52	146.50	85	1.827	1.665	1.025	0.323	24	74
51	145.50	89	1.802	1.549	0.981	0.309	24	77

Site Number: 415121

Code: ANSI/TIA-222-G

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

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Customer: VERIZON WIRELESS

50	143.50	273	1.753	1.334	0.899	0.280	66	235
49	141.00	186	1.692	1.094	0.803	0.246	40	160
48	138.50	370	1.633	0.884	0.716	0.214	68	319
47	136.00	251	1.575	0.702	0.636	0.184	40	216
46	133.50	382	1.517	0.544	0.564	0.156	52	329
45	131.00	258	1.461	0.409	0.498	0.130	29	223
44	128.50	394	1.406	0.295	0.438	0.106	36	340
43	126.00	266	1.352	0.198	0.384	0.085	20	230
42	123.50	406	1.298	0.118	0.335	0.065	23	350
41	121.00	274	1.246	0.053	0.291	0.047	11	237
40	118.50	417	1.195	0.000	0.251	0.031	11	360
39	116.00	282	1.146	-0.041	0.216	0.018	4	243
38	113.50	429	1.097	-0.072	0.185	0.006	2	370
37	111.00	290	1.049	-0.094	0.157	-0.004	-1	250
36	108.50	441	1.002	-0.109	0.132	-0.012	-5	381
35	106.00	298	0.957	-0.118	0.111	-0.018	-5	257
34	103.50	453	0.912	-0.122	0.092	-0.022	-9	391
33	101.31	210	0.874	-0.121	0.078	-0.024	-4	181
32	100.31	201	0.857	-0.120	0.072	-0.025	-4	173
31	98.50	973	0.826	-0.116	0.062	-0.025	-21	839
30	96.19	533	0.788	-0.110	0.050	-0.024	-11	460
29	95.19	77	0.771	-0.106	0.046	-0.023	-2	66
28	93.50	619	0.744	-0.099	0.039	-0.022	-12	534
27	91.00	418	0.705	-0.088	0.031	-0.018	-7	361
26	88.50	636	0.667	-0.076	0.024	-0.013	-7	548
25	86.00	429	0.630	-0.064	0.018	-0.008	-3	370
24	83.50	652	0.594	-0.051	0.014	-0.002	-1	563
23	81.00	440	0.559	-0.038	0.011	0.004	2	380
22	78.50	669	0.525	-0.025	0.008	0.011	6	577
21	76.00	452	0.492	-0.013	0.007	0.017	7	389
20	73.50	686	0.460	-0.002	0.006	0.022	13	591
19	71.00	463	0.429	0.009	0.006	0.028	11	399
18	68.50	702	0.399	0.018	0.007	0.032	20	606
17	66.00	474	0.371	0.027	0.008	0.036	15	409
16	63.50	719	0.343	0.035	0.009	0.039	24	620
15	61.00	485	0.317	0.041	0.011	0.042	17	418
14	57.50	1,232	0.281	0.049	0.014	0.044	47	1,062
13	54.15	428	0.250	0.055	0.017	0.045	17	369
12	51.65	1,747	0.227	0.059	0.020	0.046	69	1,507
11	48.35	1,777	0.199	0.063	0.023	0.046	71	1,532
10	45.85	543	0.179	0.065	0.026	0.046	22	468
9	42.50	1,615	0.154	0.068	0.030	0.045	63	1,393
8	37.50	1,651	0.120	0.070	0.034	0.044	63	1,424
7	32.50	1,686	0.090	0.071	0.038	0.043	63	1,454
6	27.50	1,722	0.064	0.072	0.041	0.041	62	1,485
5	22.50	1,758	0.043	0.071	0.042	0.040	61	1,516
4	17.50	1,793	0.026	0.067	0.040	0.037	58	1,547
3	12.50	1,829	0.013	0.059	0.034	0.033	53	1,577
2	7.50	1,865	0.005	0.044	0.025	0.026	42	1,608
1	2.50	1,900	0.001	0.018	0.010	0.011	19	1,639
Pine Branch	147.00	600	1.840	1.725	1.047	0.331	172	517
Alcatel-Lucent B13 R	146.00	172	1.815	1.606	1.003	0.316	47	148
Alcatel-Lucent B66A	146.00	201	1.815	1.606	1.003	0.316	55	173
RFS DB-T1-6Z-8AB-0Z	146.00	88	1.815	1.606	1.003	0.316	24	76
Commscope SBNHH-	146.00	608	1.815	1.606	1.003	0.316	167	525
Flat T-Arm	146.00	750	1.815	1.606	1.003	0.316	205	647
VZW Unused Reserve:	146.00	1,431	1.815	1.606	1.003	0.316	392	1,234
Pine Branch	142.00	600	1.717	1.186	0.840	0.259	135	517
Raycap DC6-48-60-18-	140.00	131	1.669	1.007	0.767	0.233	26	113
Ericsson RRUS E2 B29	140.00	180	1.669	1.007	0.767	0.233	36	155
Ericsson RRUS 12 w/	140.00	720	1.669	1.007	0.767	0.233	145	621
Ericsson RRUS-32	140.00	231	1.669	1.007	0.767	0.233	47	199
Ericsson RRUS-11	140.00	495	1.669	1.007	0.767	0.233	100	427
CCI OPA-65R-LCUU-H8	140.00	264	1.669	1.007	0.767	0.233	53	228

Site Number: 415121

Code: ANSI/TIA-222-G

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

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Customer: VERIZON WIRELESS,

CCI HPA-65R-BUU-H8	140.00	408	1.669	1.007	0.767	0.233	82	352
Pine Branch	137.00	600	1.598	0.772	0.667	0.195	102	517
Pine Branch	132.00	600	1.483	0.461	0.523	0.140	73	517
Pine Branch	127.00	600	1.373	0.235	0.405	0.093	48	517
Pine Branch	122.00	600	1.267	0.077	0.308	0.054	28	517
Pine Branch	117.00	600	1.165	-0.025	0.230	0.023	12	517
Pine Branch	112.00	600	1.068	-0.086	0.168	0.000	0	517
Pine Branch	107.00	600	0.975	-0.115	0.119	-0.016	-8	517
Pine Branch	102.00	600	0.886	-0.122	0.082	-0.024	-12	517
Pine Branch	97.00	600	0.801	-0.112	0.054	-0.025	-13	517
Pine Branch	92.00	600	0.721	-0.093	0.034	-0.020	-10	517
Pine Branch	87.00	600	0.644	-0.069	0.020	-0.010	-5	517
Pine Branch	82.00	600	0.572	-0.043	0.012	0.002	1	517
Pine Branch	77.00	600	0.505	-0.018	0.007	0.014	7	517
Pine Branch	72.00	600	0.441	0.005	0.006	0.026	13	517
Pine Branch	67.00	600	0.382	0.024	0.007	0.034	18	517
Pine Branch	62.00	600	0.327	0.039	0.010	0.041	21	517
		53,875	81.118	30.594	26.629	7.724	3,194	46,465

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	-64.32	-3.18	0.00	-378.78	0.00	378.78	7,586.21	3,793.11	18,027.1	9,026.97	0.00	0.00	0.050
5.00	-62.01	-3.15	0.00	-362.87	0.00	362.87	7,471.93	3,735.96	17,392.1	8,709.02	0.01	-0.01	0.050
10.00	-59.75	-3.11	0.00	-347.11	0.00	347.11	7,356.01	3,678.00	16,764.6	8,394.77	0.03	-0.02	0.049
15.00	-57.53	-3.06	0.00	-331.56	0.00	331.56	7,217.48	3,608.74	16,097.9	8,060.92	0.06	-0.04	0.049
20.00	-55.35	-3.01	0.00	-316.24	0.00	316.24	7,061.70	3,530.85	15,407.0	7,714.96	0.10	-0.05	0.049
25.00	-53.22	-2.96	0.00	-301.16	0.00	301.16	6,905.92	3,452.96	14,731.3	7,376.60	0.16	-0.06	0.049
30.00	-51.13	-2.91	0.00	-286.35	0.00	286.35	6,750.14	3,375.07	14,070.7	7,045.83	0.23	-0.08	0.048
35.00	-49.09	-2.85	0.00	-271.80	0.00	271.80	6,594.37	3,297.18	13,425.3	6,722.64	0.32	-0.09	0.048
40.00	-47.09	-2.80	0.00	-257.53	0.00	257.53	6,438.59	3,219.29	12,795.0	6,407.04	0.42	-0.10	0.048
45.00	-46.42	-2.78	0.00	-243.53	0.00	243.53	6,282.81	3,141.41	12,179.9	6,099.03	0.54	-0.12	0.047
46.71	-44.22	-2.71	0.00	-238.78	0.00	238.78	6,229.64	3,114.82	11,973.4	5,995.63	0.58	-0.12	0.047
50.00	-42.06	-2.65	0.00	-229.84	0.00	229.84	6,127.03	3,063.52	11,580.0	5,798.61	0.66	-0.13	0.047
53.29	-41.53	-2.63	0.00	-221.13	0.00	221.13	4,690.13	2,345.07	8,932.17	4,472.73	0.76	-0.14	0.058
55.00	-40.00	-2.59	0.00	-216.63	0.00	216.63	4,660.50	2,330.25	8,798.22	4,405.65	0.81	-0.14	0.058
60.00	-39.40	-2.58	0.00	-203.67	0.00	203.67	4,572.76	2,286.38	8,410.20	4,211.35	0.97	-0.16	0.057
62.00	-37.77	-2.54	0.00	-198.51	0.00	198.51	4,537.20	2,268.60	8,256.54	4,134.41	1.04	-0.17	0.056
65.00	-37.18	-2.53	0.00	-190.90	0.00	190.90	4,483.38	2,241.69	8,027.78	4,019.86	1.15	-0.18	0.056
67.00	-35.57	-2.49	0.00	-185.85	0.00	185.85	4,447.17	2,223.59	7,876.44	3,944.07	1.23	-0.19	0.055
70.00	-35.00	-2.48	0.00	-178.38	0.00	178.38	4,383.99	2,192.00	7,636.61	3,823.98	1.35	-0.20	0.055
72.00	-33.41	-2.45	0.00	-173.42	0.00	173.42	4,335.53	2,167.76	7,467.85	3,739.48	1.43	-0.21	0.054
75.00	-32.85	-2.45	0.00	-166.06	0.00	166.06	4,262.83	2,131.42	7,218.25	3,614.49	1.57	-0.22	0.054
77.00	-31.28	-2.44	0.00	-161.15	0.00	161.15	4,214.37	2,107.18	7,054.20	3,532.34	1.66	-0.22	0.053
80.00	-30.73	-2.44	0.00	-153.84	0.00	153.84	4,141.67	2,070.84	6,811.67	3,410.90	1.80	-0.24	0.053
82.00	-29.18	-2.44	0.00	-148.97	0.00	148.97	4,093.21	2,046.60	6,652.34	3,331.11	1.91	-0.24	0.052
85.00	-28.65	-2.44	0.00	-141.65	0.00	141.65	4,020.51	2,010.26	6,416.88	3,213.21	2.06	-0.26	0.051
87.00	-27.12	-2.45	0.00	-136.77	0.00	136.77	3,972.05	1,986.02	6,262.26	3,135.78	2.17	-0.26	0.050
90.00	-26.60	-2.46	0.00	-129.41	0.00	129.41	3,899.35	1,949.68	6,033.87	3,021.42	2.34	-0.27	0.050
92.00	-25.09	-2.48	0.00	-124.49	0.00	124.49	3,850.89	1,925.44	5,883.97	2,946.36	2.46	-0.28	0.049
95.00	-25.00	-2.48	0.00	-117.05	0.00	117.05	3,778.19	1,889.10	5,662.65	2,835.53	2.64	-0.29	0.048
95.38	-24.34	-2.49	0.00	-116.12	0.00	116.12	3,769.06	1,884.53	5,635.16	2,821.77	2.66	-0.29	0.048
97.00	-22.39	-2.52	0.00	-112.07	0.00	112.07	3,729.73	1,864.86	5,517.46	2,762.83	2.76	-0.30	0.047
100.00	-22.14	-2.53	0.00	-104.51	0.00	104.51	3,657.03	1,828.51	5,303.21	2,655.55	2.95	-0.31	0.045
100.63	-21.88	-2.53	0.00	-102.93	0.00	102.93	2,539.98	1,269.99	3,759.61	1,882.60	2.99	-0.31	0.063
102.00	-20.58	-2.55	0.00	-99.45	0.00	99.45	2,524.08	1,262.04	3,702.36	1,853.93	3.09	-0.32	0.062
105.00	-20.21	-2.55	0.00	-91.81	0.00	91.81	2,488.92	1,244.46	3,578.16	1,791.74	3.29	-0.33	0.059
107.00	-18.92	-2.56	0.00	-86.70	0.00	86.70	2,465.15	1,232.58	3,496.03	1,750.61	3.43	-0.34	0.057
110.00	-18.56	-2.57	0.00	-79.01	0.00	79.01	2,429.01	1,214.50	3,373.90	1,689.46	3.65	-0.36	0.054
112.00	-17.29	-2.56	0.00	-73.88	0.00	73.88	2,404.59	1,202.29	3,293.20	1,649.05	3.80	-0.37	0.052
115.00	-16.94	-2.56	0.00	-66.21	0.00	66.21	2,367.47	1,183.73	3,173.28	1,589.00	4.04	-0.38	0.049
117.00	-15.68	-2.53	0.00	-61.09	0.00	61.09	2,342.39	1,171.20	3,094.10	1,549.35	4.20	-0.39	0.046
120.00	-15.34	-2.52	0.00	-53.51	0.00	53.51	2,304.29	1,152.15	2,976.53	1,490.48	4.45	-0.40	0.043
122.00	-14.09	-2.46	0.00	-48.48	0.00	48.48	2,278.56	1,139.28	2,898.97	1,451.64	4.61	-0.41	0.040
125.00	-13.76	-2.44	0.00	-41.11	0.00	41.11	2,234.71	1,117.36	2,777.98	1,391.06	4.87	-0.42	0.036
127.00	-12.53	-2.35	0.00	-36.23	0.00	36.23	2,200.10	1,100.05	2,692.15	1,348.08	5.05	-0.42	0.033
130.00	-12.21	-2.32	0.00	-29.19	0.00	29.19	2,148.17	1,074.09	2,565.93	1,284.87	5.32	-0.43	0.028
132.00	-11.00	-2.18	0.00	-24.56	0.00	24.56	2,113.55	1,056.78	2,483.46	1,243.58	5.50	-0.44	0.025
135.00	-10.69	-2.14	0.00	-18.01	0.00	18.01	2,061.63	1,030.81	2,362.30	1,182.90	5.77	-0.44	0.020
137.00	-9.49	-1.96	0.00	-13.72	0.00	13.72	2,027.01	1,013.51	2,283.20	1,143.30	5.96	-0.45	0.017
140.00	-6.26	-1.41	0.00	-7.83	0.00	7.83	1,975.09	987.54	2,167.08	1,085.15	6.24	-0.45	0.010
142.00	-5.18	-1.20	0.00	-5.01	0.00	5.01	1,940.47	970.23	2,091.35	1,047.23	6.43	-0.45	0.007
145.00	-5.07	-1.18	0.00	-1.41	0.00	1.41	1,888.54	944.27	1,980.28	991.61	6.71	-0.45	0.004
146.00	-0.95	-0.23	0.00	-0.23	0.00	0.23	1,871.23	935.62	1,943.93	973.41	6.81	-0.45	0.001
147.00	0.00	0.00	0.00	0.00	0.00	0.00	1,853.93	926.96	1,907.92	955.38	6.90	-0.45	0.000
149.00	0.00	0.00	0.00	0.00	0.00	0.00	1,819.31	909.65	1,836.91	919.82	7.09	-0.45	0.000



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Site Number: 415121

Code: ANSI/TIA-222-G © 2007 - 2017 by ATC IP LLC. All rights reserved.

Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

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Customer: VERIZON WIRELESS

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-44.83	-3.18	0.00	-374.66	0.00	374.66	7,586.21	3,793.11	18,027.1	9,026.97	0.00	0.00	0.047
5.00	-43.22	-3.15	0.00	-358.77	0.00	358.77	7,471.93	3,735.96	17,392.1	8,709.02	0.01	-0.01	0.047
10.00	-41.64	-3.10	0.00	-343.04	0.00	343.04	7,356.01	3,678.00	16,764.6	8,394.77	0.03	-0.02	0.047
15.00	-40.09	-3.05	0.00	-327.54	0.00	327.54	7,217.48	3,608.74	16,097.9	8,060.92	0.06	-0.04	0.046
20.00	-38.57	-3.00	0.00	-312.28	0.00	312.28	7,061.70	3,530.85	15,407.0	7,714.96	0.10	-0.05	0.046
25.00	-37.09	-2.94	0.00	-297.29	0.00	297.29	6,905.92	3,452.96	14,731.3	7,376.60	0.16	-0.06	0.046
30.00	-35.63	-2.89	0.00	-282.58	0.00	282.58	6,750.14	3,375.07	14,070.7	7,045.83	0.23	-0.07	0.045
35.00	-34.21	-2.83	0.00	-268.14	0.00	268.14	6,594.37	3,297.18	13,425.3	6,722.64	0.32	-0.09	0.045
40.00	-32.82	-2.77	0.00	-254.00	0.00	254.00	6,438.59	3,219.29	12,795.0	6,407.04	0.42	-0.10	0.045
45.00	-32.35	-2.75	0.00	-240.14	0.00	240.14	6,282.81	3,141.41	12,179.9	6,099.03	0.53	-0.11	0.045
46.71	-30.82	-2.68	0.00	-235.44	0.00	235.44	6,229.64	3,114.82	11,973.4	5,995.63	0.57	-0.12	0.044
50.00	-29.31	-2.62	0.00	-226.60	0.00	226.60	6,127.03	3,063.52	11,580.0	5,798.61	0.66	-0.13	0.044
53.29	-28.94	-2.60	0.00	-217.99	0.00	217.99	4,690.13	2,345.07	8,932.17	4,472.73	0.75	-0.14	0.055
55.00	-27.88	-2.56	0.00	-213.54	0.00	213.54	4,660.50	2,330.25	8,798.22	4,405.65	0.80	-0.14	0.054
60.00	-27.46	-2.55	0.00	-200.76	0.00	200.76	4,572.76	2,286.38	8,410.20	4,211.35	0.96	-0.16	0.054
62.00	-26.32	-2.50	0.00	-195.67	0.00	195.67	4,537.20	2,268.60	8,256.54	4,134.41	1.03	-0.17	0.053
65.00	-25.91	-2.49	0.00	-188.16	0.00	188.16	4,483.38	2,241.69	8,027.78	4,019.86	1.14	-0.18	0.053
67.00	-24.79	-2.45	0.00	-183.19	0.00	183.19	4,447.17	2,223.59	7,876.44	3,944.07	1.21	-0.19	0.052
70.00	-24.39	-2.44	0.00	-175.83	0.00	175.83	4,383.99	2,192.00	7,636.61	3,823.98	1.33	-0.20	0.052
72.00	-23.28	-2.42	0.00	-170.95	0.00	170.95	4,335.53	2,167.76	7,467.85	3,739.48	1.42	-0.20	0.051
75.00	-22.89	-2.41	0.00	-163.70	0.00	163.70	4,262.83	2,131.42	7,218.25	3,614.49	1.55	-0.21	0.051
77.00	-21.80	-2.40	0.00	-158.87	0.00	158.87	4,214.37	2,107.18	7,054.20	3,532.34	1.64	-0.22	0.050
80.00	-21.41	-2.40	0.00	-151.68	0.00	151.68	4,141.67	2,070.84	6,811.67	3,410.90	1.78	-0.23	0.050
82.00	-20.33	-2.40	0.00	-146.89	0.00	146.89	4,093.21	2,046.60	6,652.34	3,331.11	1.88	-0.24	0.049
85.00	-19.96	-2.40	0.00	-139.69	0.00	139.69	4,020.51	2,010.26	6,416.88	3,213.21	2.04	-0.25	0.048
87.00	-18.90	-2.41	0.00	-134.89	0.00	134.89	3,972.05	1,986.02	6,262.26	3,135.78	2.14	-0.26	0.048
90.00	-18.54	-2.42	0.00	-127.65	0.00	127.65	3,899.35	1,949.68	6,033.87	3,021.42	2.31	-0.27	0.047
92.00	-17.48	-2.44	0.00	-122.81	0.00	122.81	3,850.89	1,925.44	5,883.97	2,946.36	2.42	-0.28	0.046
95.00	-17.42	-2.44	0.00	-115.49	0.00	115.49	3,778.19	1,889.10	5,662.65	2,835.53	2.60	-0.29	0.045
95.38	-16.96	-2.45	0.00	-114.57	0.00	114.57	3,769.06	1,884.53	5,635.16	2,821.77	2.63	-0.29	0.045
97.00	-15.60	-2.48	0.00	-110.59	0.00	110.59	3,729.73	1,864.86	5,517.46	2,762.83	2.72	-0.30	0.044
100.00	-15.43	-2.49	0.00	-103.14	0.00	103.14	3,657.03	1,828.51	5,303.21	2,655.55	2.91	-0.31	0.043
100.63	-15.25	-2.49	0.00	-101.58	0.00	101.58	2,539.98	1,269.99	3,759.61	1,882.60	2.96	-0.31	0.060
102.00	-14.34	-2.51	0.00	-98.16	0.00	98.16	2,524.08	1,262.04	3,702.36	1,853.93	3.05	-0.31	0.059
105.00	-14.08	-2.52	0.00	-90.62	0.00	90.62	2,488.92	1,244.46	3,578.16	1,791.74	3.25	-0.33	0.056
107.00	-13.18	-2.53	0.00	-85.59	0.00	85.59	2,465.15	1,232.58	3,496.03	1,750.61	3.39	-0.34	0.054
110.00	-12.93	-2.53	0.00	-78.01	0.00	78.01	2,429.01	1,214.50	3,373.90	1,689.46	3.60	-0.35	0.052
112.00	-12.04	-2.52	0.00	-72.95	0.00	72.95	2,404.59	1,202.29	3,293.20	1,649.05	3.75	-0.36	0.049
115.00	-11.80	-2.52	0.00	-65.38	0.00	65.38	2,367.47	1,183.73	3,173.28	1,589.00	3.99	-0.37	0.046
117.00	-10.92	-2.49	0.00	-60.34	0.00	60.34	2,342.39	1,171.20	3,094.10	1,549.35	4.14	-0.38	0.044
120.00	-10.68	-2.48	0.00	-52.86	0.00	52.86	2,304.29	1,152.15	2,976.53	1,490.48	4.39	-0.39	0.040
122.00	-9.82	-2.43	0.00	-47.90	0.00	47.90	2,278.56	1,139.28	2,898.97	1,451.64	4.55	-0.40	0.037
125.00	-9.59	-2.41	0.00	-40.62	0.00	40.62	2,234.71	1,117.36	2,777.98	1,391.06	4.81	-0.41	0.033
127.00	-8.73	-2.32	0.00	-35.80	0.00	35.80	2,200.10	1,100.05	2,692.15	1,348.08	4.98	-0.42	0.031
130.00	-8.51	-2.29	0.00	-28.85	0.00	28.85	2,148.17	1,074.09	2,565.93	1,284.87	5.25	-0.42	0.026
132.00	-7.66	-2.16	0.00	-24.27	0.00	24.27	2,113.55	1,056.78	2,483.46	1,243.58	5.43	-0.43	0.023
135.00	-7.44	-2.12	0.00	-17.80	0.00	17.80	2,061.63	1,030.81	2,362.30	1,182.90	5.70	-0.44	0.019
137.00	-6.61	-1.94	0.00	-13.57	0.00	13.57	2,027.01	1,013.51	2,283.20	1,143.30	5.88	-0.44	0.015
140.00	-4.36	-1.39	0.00	-7.75	0.00	7.75	1,975.09	987.54	2,167.08	1,085.15	6.16	-0.44	0.009
142.00	-3.61	-1.19	0.00	-4.96	0.00	4.96	1,940.47	970.23	2,091.35	1,047.23	6.34	-0.44	0.007
145.00	-3.53	-1.16	0.00	-1.39	0.00	1.39	1,888.54	944.27	1,980.28	991.61	6.62	-0.45	0.003
146.00	-0.66	-0.23	0.00	-0.23	0.00	0.23	1,871.23	935.62	1,943.93	973.41	6.72	-0.45	0.001
147.00	0.00	0.00	0.00	0.00	0.00	0.00	1,853.93	926.96	1,907.92	955.38	6.81	-0.45	0.000
149.00	0.00	0.00	0.00	0.00	0.00	0.00	1,819.31	909.65	1,836.91	919.82	7.00	-0.45	0.000

Site Number: 415121

Code: ANSI/TIA-222-G

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Site Name: Falls Village CT PCS CT, CT

Engineering Number: OAA699532\_C3\_02

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Customer: VERIZON WIRELESS

### Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	51.00	0.00	64.57	0.00	0.00	5732.42	53.29	0.69
0.9D + 1.6W	50.98	0.00	48.40	0.00	0.00	5685.70	53.29	0.68
1.2D + 1.0Di + 1.0Wi	10.56	0.00	90.41	0.00	0.00	1185.60	53.29	0.15
(1.2 + 0.2Sds) * DL + E ELFM	2.48	0.00	64.32	0.00	0.00	290.22	53.29	0.04
(1.2 + 0.2Sds) * DL + E EMAM	3.18	0.00	64.32	0.00	0.00	378.78	100.63	0.06
(0.9 - 0.2Sds) * DL + E ELFM	2.48	0.00	44.83	0.00	0.00	287.31	53.29	0.04
(0.9 - 0.2Sds) * DL + E EMAM	3.18	0.00	44.83	0.00	0.00	374.66	100.63	0.06
1.0D + 1.0W	14.16	0.00	53.87	0.00	0.00	1585.47	53.29	0.20

Base/Flange Plate	Plate Type	<b>Baseplate</b>
	Pole Diameter	58.5 in
	Pole Thickness	0.5625 in
	Plate Diameter	72 in
	Plate Thickness	3 in
	Plate Fy	50 ksi
	Weld Length	0.3125 in
	$\phi_s$ Resistance	775.34 k-in
	Applied	362.83 k-in
Stiffeners	#	0

Code Rev. **G**

Date **4/19/2017**  
 Engineer **ML**  
 Site # **415121**  
 Carrier **Verizon**

Moment **5732.4 k-ft**  
 Axial **55.0 k**

Bolts	#	<b>24</b>
	Bolt Circle (R)adial / (S)quare	66 in R
	Diameter	2.25 in
	Hole Diameter	2.75 in
	Type	A615-75
	Fy	75 ksi
	Fu	100 ksi
	$\phi_s$ Resistance	259.82 k
	Applied	175.92 k
Reinforcement	#	0
	#	0
Extra Bolts	#	0

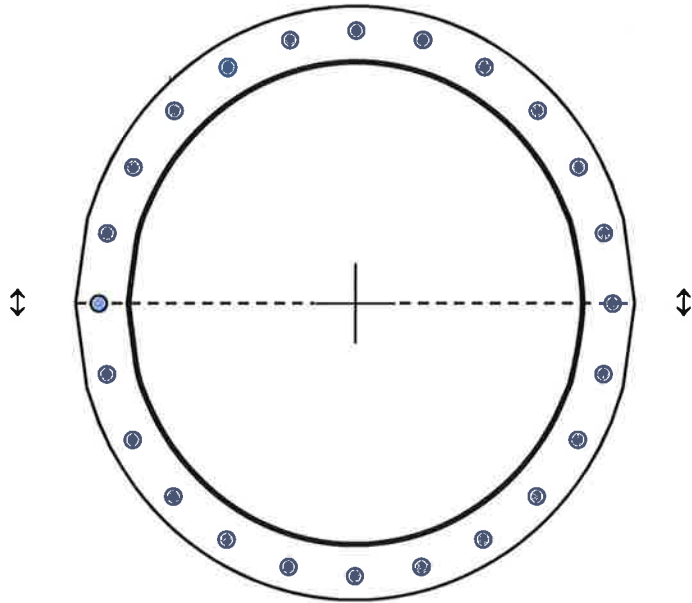


Plate Stress Ratio: **0.47** (Pass)

Bolt Stress Ratio: **0.68** (Pass)

# **ATTACHMENT 4**

# 188 RT 7 S

**Location** 188 RT 7 S

**Mblu** 15 / 11/1 /

**Acct#** 14105089

**Owner** FALLS VILLAGE VOLUNTEER  
FIRE

**Assessment** \$81,800

**Appraisal** \$116,900

**PID** 100102

**Building Count** 1

## Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2016	\$0	\$116,900	\$116,900

Assessment			
Valuation Year	Improvements	Land	Total
2016	\$0	\$81,800	\$81,800

## Owner of Record

**Owner** FALLS VILLAGE VOLUNTEER FIRE  
**Co-Owner**  
**Address** PO BOX 1  
FALLS VILLAGE, CT 06031

**Sale Price** \$0  
**Certificate**  
**Book & Page** 60/ 578  
**Sale Date** 01/22/2002

## Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
FALLS VILLAGE VOLUNTEER FIRE			60/ 578	01/22/2002

## Building Information

### Building 1 : Section 1

**Year Built:**

**Living Area:** 0

**Replacement Cost:** \$0

**Building Percent**

**Good:**

**Replacement Cost**

**Less Depreciation:** \$0

Building Attributes	
Field	Description

Style	Vacant Land
Model	
Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Fin Bsmt	
Fin Bsmt Qual	

### Building Photo



(<http://images.vgsi.com/photos/CanaanCTPhotos//default.jpg>)

### Building Layout

 Building Layout

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

### Extra Features

Extra Features	Legend
No Data for Extra Features	

### Land

#### Land Use

<b>Use Code</b>	921
<b>Description</b>	Municipal Res Land
<b>Zone</b>	R80
<b>Neighborhood</b>	6
<b>Alt Land Appr Category</b>	No

#### Land Line Valuation

<b>Size (Acres)</b>	7.15
<b>Frontage</b>	0
<b>Depth</b>	0
<b>Assessed Value</b>	\$81,800
<b>Appraised Value</b>	\$116,900

### Outbuildings

**Outbuildings****Legend**

No Data for Outbuildings

**Valuation History**

<b>Appraisal</b>			
<b>Valuation Year</b>	<b>Improvements</b>	<b>Land</b>	<b>Total</b>
2013	\$0	\$116,900	\$116,900
2011	\$0	\$142,500	\$142,500
2006	\$0	\$55,300	\$55,300

<b>Assessment</b>			
<b>Valuation Year</b>	<b>Improvements</b>	<b>Land</b>	<b>Total</b>
2013	\$0	\$81,800	\$81,800
2011	\$0	\$99,700	\$99,700
2006	\$0	\$38,700	\$38,700

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<b>CURRENT OWNER</b> FALLS VILLAGE VOLUNTEER FIRE PO BOX 1 FALLS VILLAGE, CT 06031 Additional Owners:	<b>UTILITIES</b>	<b>STRT./ROAD</b>	<b>LOCATION</b>	<b>CURRENT ASSESSMENT</b> Code 21	<b>Assessed Value</b> 116,900	<b>Assessed Value</b> 81,800
<b>TOPO.</b>	<b>SUPPLEMENTAL DATA</b> Callbacks	<b>ASSOC PID#</b>	<b>SALE DATE</b> 01/22/2002	<b>Yr. Code</b> 21	<b>Assessed Value</b> 81,800	<b>Yr. Code</b> 21
<b>RECORD OF OWNERSHIP</b> FALLS VILLAGE VOLUNTEER FIRE	<b>BK-VOL/PAGE</b> 60/ 578	<b>SALE PRICE</b> V.C.	<b>Other ID:</b> CENSUS TRAC SURVEY MAP RB 686 SURVEY LOT	<b>Yr. Code</b> 2015	<b>Assessed Value</b> 81,800	<b>Assessed Value</b> 99,700
<b>GIS ID:</b>	<b>ASSOC PID#</b>	<b>SALE PRICE</b>	<b>ASSOC PID#</b>	<b>Total:</b>	<b>116,900</b>	<b>81,800</b>

**PREVIOUS ASSESSMENTS (HISTORY)**

Yr. Code	Assessed Value	Yr. Code	Assessed Value	Yr. Code	Assessed Value
2015	81,800	2013	21	2011	21
<b>Total:</b>	<b>81,800</b>	<b>Total:</b>	<b>81,800</b>	<b>Total:</b>	<b>99,700</b>

**EXEMPTIONS**

Year	Type	Description	Amount	Number	Comm. Int.
<b>Total:</b>					

**ASSESSING NEIGHBORHOOD**

NBHD/ SUB	Street Index Name	Tracing	Batch
6/A			

**NOTES**

Appraised Bldg. Value (Card) 0  
 Appraised XF (B) Value (Bldg) 0  
 Appraised OB (L) Value (Bldg) 0  
 Appraised Land Value (Bldg) 116,900  
 Special Land Value 0  
 Total Appraised Parcel Value 116,900  
 Valuation Method: C  
 Adjustment: 0  
**Net Total Appraised Parcel Value 116,900**

**BUILDING PERMIT RECORD**

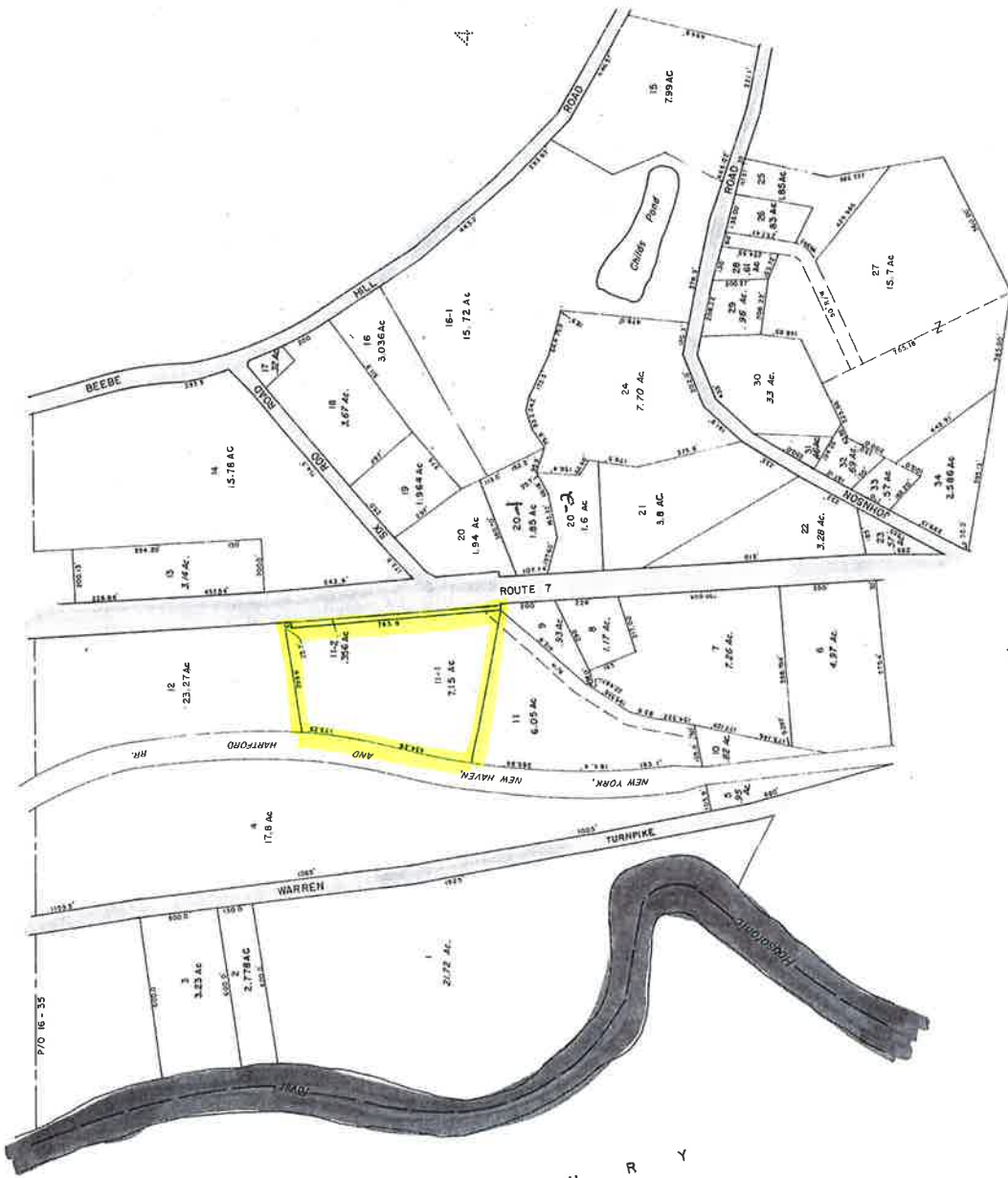
Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments
6182		NC	New Construct	0	10/14/2015	100	10/14/2015	ADDITION TO TOWER#07/25/2007
6451	01/23/2017	ME	Mechanical	2,200				Installa Kitchen Sprinkle
6426	11/02/2016	ME	Mechanical	5,000				2 UNDERGROUND TA
6382	07/26/2016	NC	New Construct	300,000				NEW INSTALLATIONS
6370	07/05/2016	EL	Electric	300,000				TEMPORARY HOOKU
6383	07/05/2016	NC	New Construct	200,000				NEW FIREHOUSE
6341	04/04/2016	NC	New Construct	2,243,659				NEW FIREHOUSE BEL

**LAND LINE VALUATION SECTION**

B Use Code	Use Description	Zone	Depth	Units	Unit Price	I. Factor	Acre Disc	C. Factor	ST. Idx	Notes-Adj	Spec Use	Spec Calc	S Adj Fact	Adj. Unit Price	Land Value	
1	Municipal Res Land	R80		1.84 AC	81,396.00	0.5677	5	1.00	6				1.00		85,000	
1	Municipal Res Land	R80		5.31 AC	6,000.00	1.0000	0	1.00					1.00		31,900	
<b>Total Card Land Units: 7.15 AC</b>															<b>Parcel Total Land Area: 7.15 AC</b>	<b>Total Land Value: 116,900</b>

**APPRaised VALUE SUMMARY**

S A L I S B U R Y



PROPERTY MAP  
 TOWN OF CANAAN  
 LITCHFIELD COUNTY, CONNECTICUT  
 JAMES W. SEWALL COMPANY, OLD TOWN, MAINE  
 SCALE: 1 INCH = 200 FEET

LEGEND  
 PARCEL NUMBERS 2  
 ADJACENT MAPS 7  
 For Assessment Purposes  
 Not to be used for Conveyance