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

January 11, 2019

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

RE: Notice of Exempt Modification // Site: Winchester East CT (ATC: 302506)
15 (108) Oakdale Avenue, Winchester, CT 06098
N 41.92170 // W 73.0495

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless currently maintains 12 antennas at the 125-foot mount on the existing 180-foot monopole tower, located (off Oakdale Avenue aka 15 aka) at 108 Oakdale Avenue, Winchester (Winstead), CT. The Council approved Verizon Wireless use of the existing tower in 2003. As of its last action, 6 antenna replacements on side-by-side mounts, along with 12 new remote radio head units (RRH), were acknowledged as allowed under the Council's exempt modification file EM-VER-162-180205. Verizon Wireless at this time asks to retroactively withdraw and thereby replace this previously planned modification with the present one in the interest of maintaining certain equipment rights connected to its revised development standards and due to related scheduling conflicts. Please accept this notification in its stead.

This tower and property are both owned and controlled by American Tower, latter c/o Richard Stow and the William P. Stow Revocable Trust. Verizon Wireless now intends to remove 6 of its antennas and replace with 6 newer models on side-by-side mounts, as previously planned for LTE/PCS/AWS (700/850/1900/2100 MHz) upgrades, and install 12 of its newest RRH models, as well as 1 over-voltage surge protector (OVP) box and 1 new HYBRIFLEX cable, all reflected in the final configuration outlined in the latest drawings and structural analyses proposed hereby.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Althea Candy Perez, Mayor for the City of Winchester, Winchester's Planning and Zoning Commission Chairman, Craig Sanden and American Tower, the tower owner and ground owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). Enclosed to accommodate this filing are construction drawings by ATC Tower Services dated December 12, 2018, structural analysis dated November 27, 2018 by A.T. Engineering Service, PLLC, structural mount analysis by Trylon Engineering Services dated December 6, 2018 and radio frequency (RF) analysis table showing worst-case RF emission calculation by Verizon Wireless RF Design Engineering.

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the new antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

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

6. The existing structure and its foundation can support the proposed loading, as shown in the attached updated structural analyses by A.T. Engineering Service, PLLC, dated November 27, 2018 and Trylon, dated December 6, 2018.

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

Sincerely,

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

Attachments

cc: Althea Candy Perez, Mayor - as chief elected official
Craig Sanden, Chairman, Planning and Zoning Commission Chairman - as P&Z official
American Tower Corporation - as tower & property owner

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

February 26, 2018

Alex Murshteyn
c/o Cellco Partnership d/b/a Verizon Wireless
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767

RE: **EM-VER-162-180205** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 108 Oakdale Avenue, Winchester, Connecticut.

Dear Mr. Murshteyn:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

1. Any deviation from the proposed modification as specified in this notice and supporting materials with the Council shall render this acknowledgement invalid;

2. Any material changes to this modification as proposed shall require the filing of a new notice with the Council;

3. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;

4. Any nonfunctioning antenna and associated antenna mounting equipment on this facility owned and operated by Verizon shall be removed within 60 days of the date the antenna ceased to function;

5. The validity of this action shall expire one year from the date of this letter; and

6. The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration.

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated February 1, 2018. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site by any dimension, increase noise levels at the tower site boundary by six decibels or more, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standards adopted by the Federal Communications Commission pursuant to Section 704 of the Telecommunications Act of 1996 and by the state Department of Energy and Environmental Protection pursuant to Connecticut General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below state and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case

modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Sincerely,

Melanie A. Bachman
Executive Director

MAB/CMW /cg

c: The Honorable Althea Candy Perez, Mayor, Town of Winchester
Robert Geiger, Town Manager, Town of Winchester
Craig Sanden, Planning and Zoning Chairman, Town of Winchester
American Tower Corporation, Tower and Property Owner

CENTERLINE COMMUNICATIONS, LLC
750 WEST CENTER STREET
WEST BRIDGEWATER MA 02379

1 LBS

1 OF 1

DWT: 14,10,1

SHIP TO:
ALTHEA CANDY PEREZ, MAYOR
WINCHESTER TOWN HALL
338 MAIN STREET
WINSTED CT 06098-1640

CT 067 9-02

UPS GROUND

TRACKING #: 1Z 9Y4 503 03 2439 8862

BILLING: P/P

Reference#1: 302506 aka Winchester East CT ('19)
Reference#2: CSC EM - CEO

UIS 21.0.21. WNTNV50 06.0A 10/2018

™

CENTERLINE COMMUNICATIONS, LLC
750 WEST CENTER STREET
WEST BRIDGEWATER MA 02379

1 LBS

1 OF 1

DWT: 14,10,1

SHIP TO:

CRAIG SANDEN, CHAIRMAN
PLANNING AND ZONING COMMISSION
WINCHESTER TOWN HALL
338 MAIN STREET
WINSTED CT 06098-1640

CT 067 9-02

UPS GROUND

TRACKING #: 1Z 9Y4 503 03 2293 6471

BILLING: P/P

Reference#1: 302506 aka Winchester East CT ('19)
Reference#2: CSC EM - P&Z

UIS 21.0.21. WNTNV50 06.0A 10/2018

CENTERLINE COMMUNICATIONS, LLC
750 WEST CENTER STREET
WEST BRIDGEWATER MA 02379

1 LBS

1 OF 1

DWT: 14,10,1

SHIP TO:
BLAKE E. PAYNTER
AMERICAN TOWER CORPORATION
NETWORK DEVELOPMENT - NORTHEAST
10 PRESIDENTIAL WAY
WOBURN MA 01801-1053

MA 018 9-04

UPS GROUND

TRACKING #: 1Z 9Y4 503 03 3117 8425

BILLING: P/P

Reference#1: 302465/Colchester, 302535/Milford
Reference#2: CSC EM - TO

UIS 21.0.21. WNTNV50 06.0A 10/2018

™

CENTERLINE COMMUNICATIONS, LLC
750 WEST CENTER STREET
WEST BRIDGEWATER MA 02379

1 LBS

1 OF 1

DWT: 14,10,1

SHIP TO:

C/O WILLIAM P. STOW REVOCABLE TRUST
RICHARD D. STOW
52 MILLSTONE RD
WILTON CT 06897-1104

CT 069 9-04

UPS GROUND

TRACKING #: 1Z 9Y4 503 03 2036 7081

BILLING: P/P

Reference#1: 302506 aka Winchester East CT ('19)
Reference#2: CSC EM - miscellaneous PO

UIS 21.0.21. WNTNV50 06.0A 10/2018

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**180 ft Monopole**
ATC Site Name	:	**Winchester CT 3, CT**
ATC Site Number	:	**302506**
Engineering Number	:	**12629663_C3_01**
Proposed Carrier	:	**Verizon**
Carrier Site Name	:	**Winchester E CT**
Carrier Site Number	:	**PSLC# 467698 - PROJ# 2561528**
Site Location	:	**15 Oakdale Avenue** **Winsted, CT 06098-1862** **41.921700,-73.049500**
County	:	**Litchfield**
Date	:	**November 27, 2018**
Max Usage	:	**95%**
Result	:	**Pass**

Prepared By:
Trevor Ridilla, E.I.
Structural Engineer I

Reviewed By:

STATE OF CONNECTICUT
BRYAN K LANIER
32588
LICENSED
PROFESSIONAL ENGINEER

Authorized by "EOR"
Nov 30 2018 4:20 PM cosign

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 180 ft monopole to reflect the change in loading by Verizon.

Supporting Documents

Tower Drawings	EEI Job #7676, dated August 21, 2000
Foundation Drawing	SNET Project #F301804.10/F04, dated August 23, 2000
Geotechnical Report	Welti Project: Whalen's Hill, dated February 8, 2000
Modifications	ATC Job #42523432, dated October 24, 2008 ATC Job #50492933, dated October 15, 2012

Analysis

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

Basic Wind Speed:	90 mph (3-Second Gust, Vasd) / 115 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	40 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	III
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$Ss = 0.18$, $S_1 = 0.06$
Site Class:	D - Stiff Soil

Conclusion

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

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

Existing and Reserved Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
180.0	184.0	1	Andrew ABT-DMDF-ADBH	Low Profile Platform	(12) 1 5/8" Coax (4) 0.78" 8 AWG 6 (1) 0.39" Fiber Trunk (1) 0.40" Fiber (1) 3" Conduit	AT&T Mobility
		3	Powerwave TT19-08BP111-001			
		3	Powerwave LGP21401			
		2	Raycap DC6-48-60-18-8F (23.5" Height)			
		3	Ericsson RRUS 11 (Band 12)			
		3	Ericsson RRUS 32 (50.8 lbs)			
		3	Ericsson RRUS-12 B2			
		3	Powerwave 7770.00			
		3	KMW AM-X-CD-16-65-00T-RET			
		3	CCI HPA-65R-BUU-H6			
	182.0	1	4' Omni			Other
166.0	166.0	3	Ericsson KRY 112 144/1	T-Arms	(12) 1 5/8" Coax (2) 0.25" Cat 6 UTP (1) 1.4" Hybrid (1) 1 1/4" Hybriflex	T-Mobile
		1	Fastback Networks Intelligent Backhaul Radio 1300 Series			
		3	Ericsson AIR 21, 1.3 M, B2A B4P			
		3	Ericsson AIR 21, 1.3M, B4A B2P			
150.0	150.0	1	Sinclair SD210-SF2P4SNM	Side Arm	(1) 1 5/8" Coax	Litchfield County Dispatch
140.0	146.0	1	Sinclair SC479-HF1LDF(E5765)	Side Arms	(8) 1 5/8" Coax (2) 1/2" Coax	Ct Police Dept.
		2	Decibel DB809DK-XT			
		1	Sinclair SC442D-HF1LDF(DXX-I30-G9-NUFP)			
	141.0	1	Telewave ANT150D (5 lbs)			
		1	Bird 432-83H-01-T			
135.0	135.0	3	Alcatel-Lucent 800MHz RRH w/ Notch Filter	Platform w/ Handrails	(3) 1 1/4" Hybriflex (1) 7/8" Fiber	Sprint Nextel
		3	Alcatel-Lucent 1900MHz RRH			
		3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
		3	RFS APXVTM14-C-I20			
		3	RFS APXVSPP18-C-A20			
125.0	125.0	3	Alcatel-Lucent B25 RRH4x30	Low Profile Platform	(6) 1 5/8" Coax (1) 1 5/8" Hybriflex	Verizon
		2	Antel LPA-80080/6CF ___			
		1	Antel LPA-80063/6CF			
		6	Commscope JAHH-65B-R3B			
112.0	112.0	12	Decibel DB844H90E-XY	Low Profile Platform	(12) 1 1/4" Coax	Sprint Nextel
105.0	105.0	3	RFS APXV18-206517S-C	Flush	(6) 1 5/8" Coax	Metro PCS
96.0	96.0	2	Andrew DB586	Side Arms	(2) 7/8" Coax (1) 1/2" Coax	Eversource Energy
		1	Bird 429-83H-01-T			
80.0	80.0	1	RFS PA6-65AC	Leg	(1) EW63	Ct Police Dept.
79.0	79.0	1	PCTEL GPS-TMG-HR-26N	Flush	(1) 1/2" Coax	Sprint Nextel
30.0	30.0	1	GPS	Flush	(1) 7/8" Coax	Verizon

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
126.0	126.0	6	RFS FD9R6004/2C-3L	-	(6) 1 5/8" Coax	Verizon
		1	RFS DB-B1-6C-12AB-0Z			
		3	Alcatel-Lucent RRH2x60 700			
		3	Alcatel-Lucent B66a RRH4x45 (AWS-3)			
		3	Nokia B5 RRH4x40-850			
		1	Antel BXA-70040/6CF			
		2	Antel BXA-171085-12BF-EDIN-X			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
125.0	125.0	3	Nokia AHCA AirScale RRH 4T4R B5 160W	Low Profile Platform	-	Verizon
		3	Alcatel-Lucent B13 RRH4x30-4R			
		3	Nokia B66a RRH4x45 (UHIE)			
		1	Raycap RCMDC-6627-PF-48			
		2	Antel LPA-80080/6CF ___			
		1	Antel LPA-80063/6CF			

[1]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	61%	Pass
Shaft	66%	Pass
Base Plate	71%	Pass
Reinforcement	70%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	4,377.1	40%
Axial (Kips)	146.9	6%
Shear (Kips)	37.4	95%

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

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
125.0	Nokia AHCA AirScale RRH 4T4R B5 160W	Verizon	1.431	1.422
	Alcatel-Lucent B13 RRH4x30-4R			
	Nokia B66a RRH4x45 (UHIE)			
	Raycap RCMDC-6627-PF-48			
	Antel LPA-80080/6CF ___			
	Antel LPA-80063/6CF			
80.0	RFS PA6-65AC	CT Police Dept.	0.572	0.834

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

AMERICAN TOWER®
CORPORATION

Standard Conditions

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

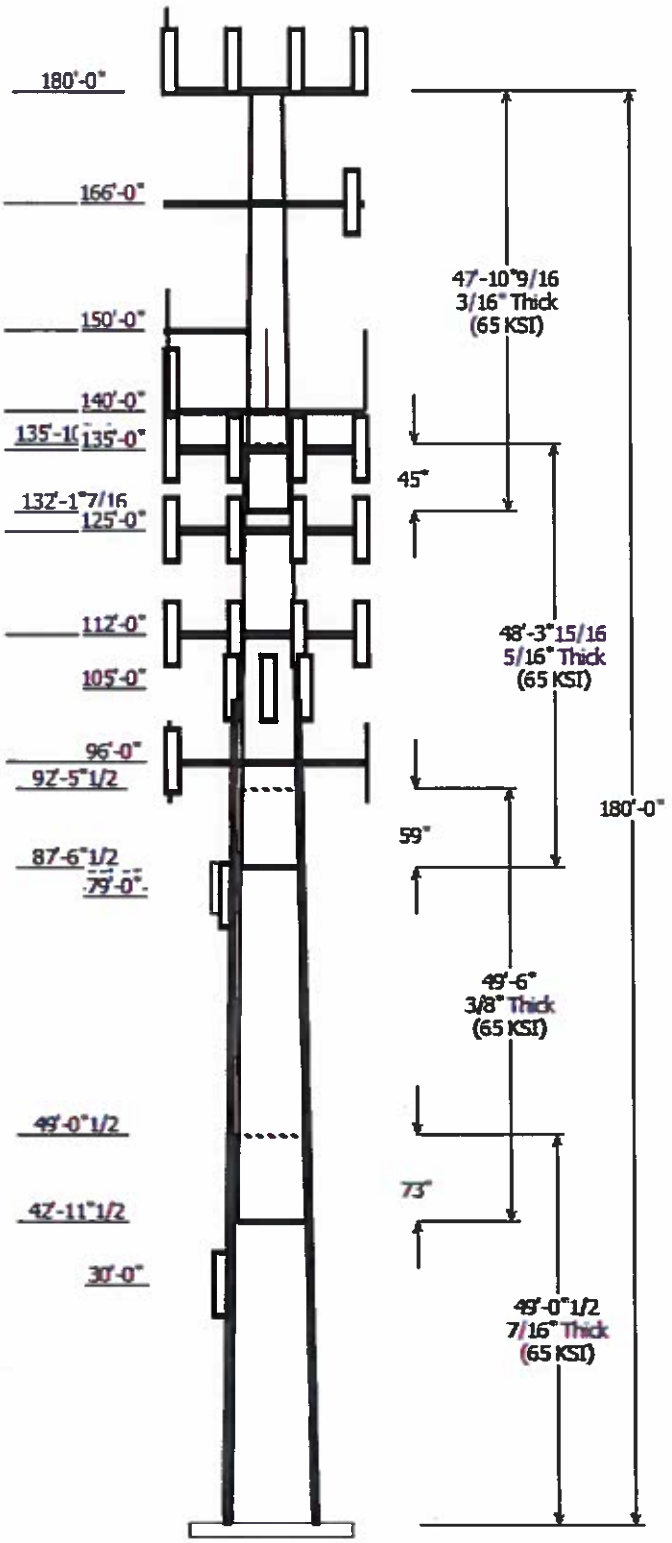
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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

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

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

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



Job Information

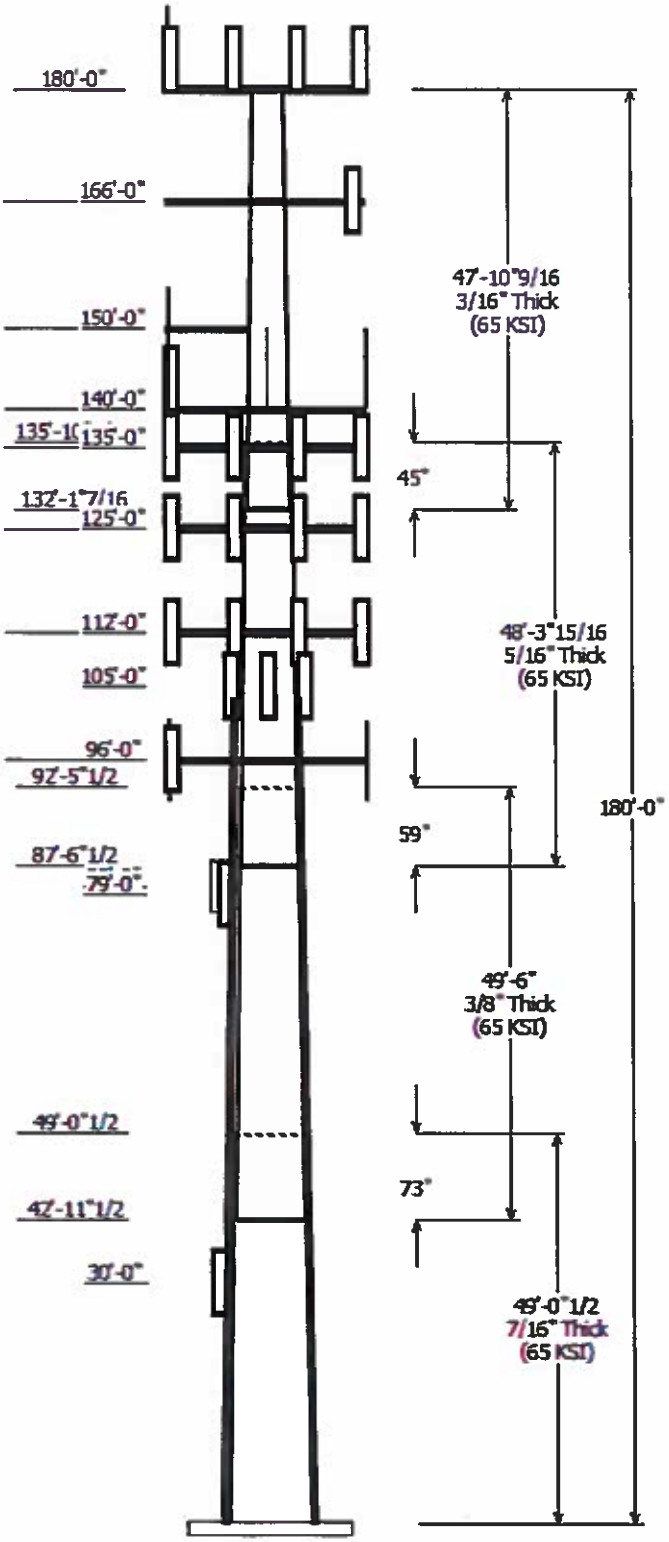
Pole : 302506	Code: ANSI/TIA-222-G
Location : Winchester CT 3, CT	
Description : 180 ft EEI Monopole	
Client : VERIZON WIRELESS	Struct Class : III
Shape : 18 Sides	Exposure : B
Height : 180.00 (ft)	Topo : 1
Base Elev (ft): 0.00	
Taper: 0.219444 in/ft	

Sections Properties

Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	49.040	41.98	52.75	0.438		0.000	18 Sides	65
2	49.500	33.21	44.07	0.375	Slip Joint	73.000	18 Sides	65
3	48.330	24.30	34.91	0.313	Slip Joint	59.000	18 Sides	65
4	47.880	15.00	25.50	0.188	Slip Joint	45.000	18 Sides	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
180.000	184.000	3	CCI HPA-65R-BUU-H6
180.000	184.000	1	Andrew ABT-DMDF-ADBH
180.000	184.000	3	Powerwave Allgon 7770.00
180.000	184.000	2	Raycap DC6-48-60-18-8F (23.5"
180.000	184.000	3	Powerwave Allgon TT19-
180.000	184.000	3	Ericsson RRUS 32 (50.8 lbs)
180.000	180.000	1	Flat Low Profile Platform
180.000	184.000	3	KMW AM-X-CD-16-65-00T-RET
180.000	184.000	3	Ericsson RRUS-12 B2
180.000	184.000	3	Ericsson RRUS 11 (Band 12)
180.000	184.000	3	Powerwave Allgon LGP21401
180.000	182.000	1	4' Omni
166.000	166.000	3	Ericsson AIR 21, 1.3M, B4A B2P
166.000	166.000	3	Round T-Arm
166.000	166.000	1	Fastback Networks Intelligent
166.000	166.000	3	Ericsson AIR 21, 1.3 M, B2A B4
166.000	166.000	3	Ericsson KRY 112 144/1
150.000	150.000	1	Round Side Arm
150.000	150.000	1	Sinclair SD210-SF2P4SNM
140.000	146.000	1	Sinclair SC442D-HF1LDF(DXX-
140.000	146.000	2	Decibel DB809DK-XT
140.000	146.000	1	Sinclair SC479-HF1LDF(E5765)
140.000	141.000	1	Bird 432-83H-01-T
140.000	140.000	3	Round Side Arm
140.000	141.000	1	Telewave ANT150D (5 lbs)
135.000	135.000	1	Flat Platform w/ Handrails
135.000	135.000	3	RFS APXVSPP18-C-A20
135.000	135.000	3	RFS APXVTM14-C-I20
135.000	135.000	3	Alcatel-Lucent TD-RRH8x20-25
135.000	135.000	3	Alcatel-Lucent 1900MHz RRH
135.000	135.000	3	Alcatel-Lucent 800 MHz RRH
125.000	125.000	1	Raycap RCMDC-6627-PF-48
125.000	125.000	3	Nokia B66a RRH4x45 (UHIE)
125.000	125.000	3	Alcatel-Lucent B13 RRH4x30-4R
125.000	125.000	3	Nokia AHCA AirScale RRH 4T4R
125.000	125.000	2	Antel LPA-80063/6CF
125.000	125.000	2	Antel LPA-80080/6CF ___
125.000	125.000	2	Antel LPA-80080/6CF ___
125.000	125.000	3	Alcatel-Lucent B25 RRH4x30
125.000	125.000	1	Round Low Profile Platform
125.000	125.000	6	Commscope JAHH-65B-R3B
112.000	112.000	1	Round Low Profile Platform
112.000	112.000	12	Decibel DB844H90E-XY
105.000	105.000	3	RFS APXV18-206517S-C



96.000	96.000	3	Flat Side Arm
96.000	96.000	1	Bird 429-83H-01-T
96.000	96.000	2	Andrew DB586
80.000	80.000	1	RFS PA6-65AC
79.000	79.000	1	PCTEL GPS-TMG-HR-26N
30.000	30.000	1	GPS

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
112.5	125.0	1 5/8" Coax	Yes
112.5	166.0	1 5/8" Coax	Yes
0.000	180.0	0.39" (10mm)	No
0.000	180.0	0.40" Fiber Cable	No
0.000	180.0	0.78" 8 AWG 6	No
0.000	180.0	0.78" 8 AWG 6	No
0.000	180.0	1 5/8" Coax	No
0.000	180.0	3" Conduit	No
0.000	135.0	1 1/4" Hybriflex	No
0.000	135.0	7/8" Fiber	No
0.000	140.0	1 5/8" Coax	No
0.000	140.0	1/2" Coax	No
0.000	150.0	1 5/8" Coax	No
0.000	166.0	0.25" (6.4mm) Cat	No
0.000	166.0	1 1/4" Hybriflex	No
0.000	166.0	1.4" (35.6mm)	No
0.000	30.000	7/8" Coax	Yes
0.000	79.000	1/2" Coax	No
0.000	80.000	EW63	No
0.000	96.000	1/2" Coax	No
0.000	96.000	7/8" Coax	No
0.000	105.0	1 5/8" Coax	Yes
0.000	112.0	1 1/4" Coax	Yes
0.000	112.0	Reinforcement	Yes
0.000	112.5	1 5/8" Coax	Yes
0.000	112.5	1 5/8" Coax	Yes
0.000	125.0	1 5/8" Hybriflex	No

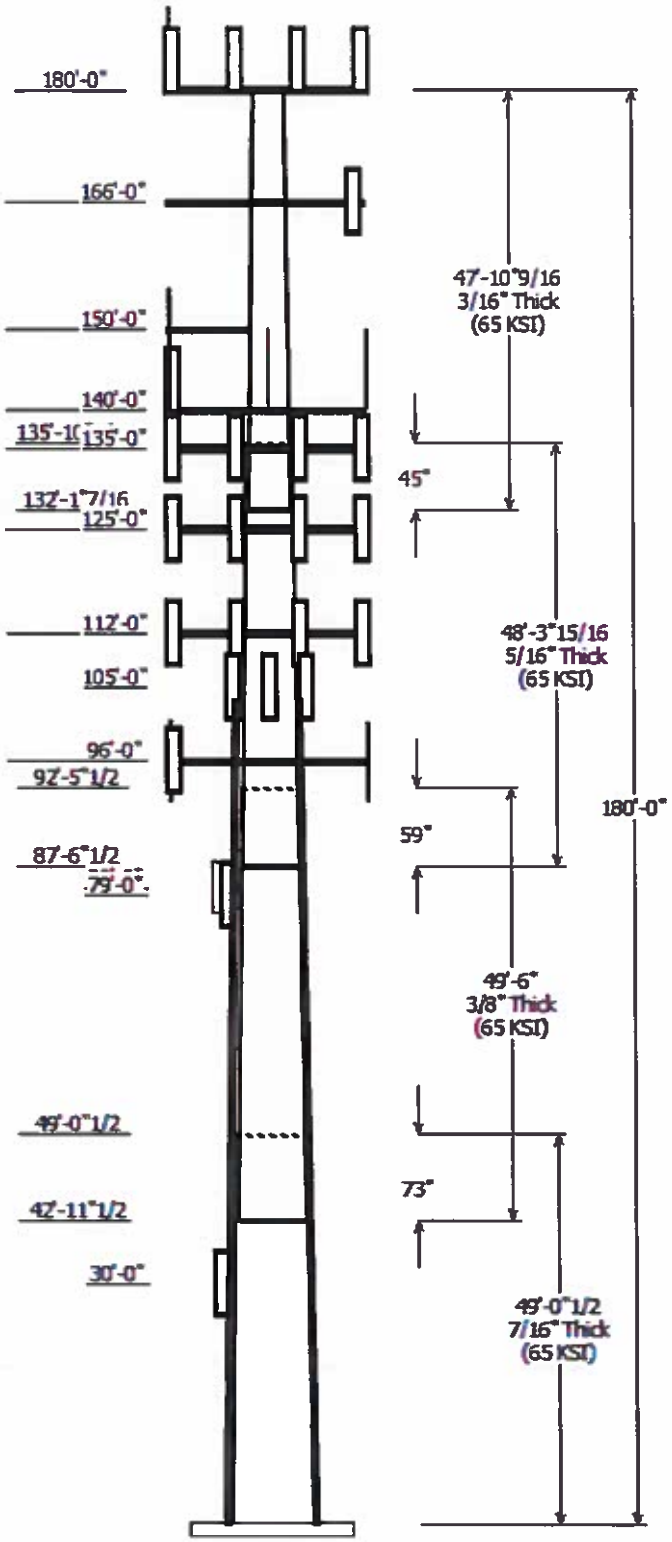
Load Cases

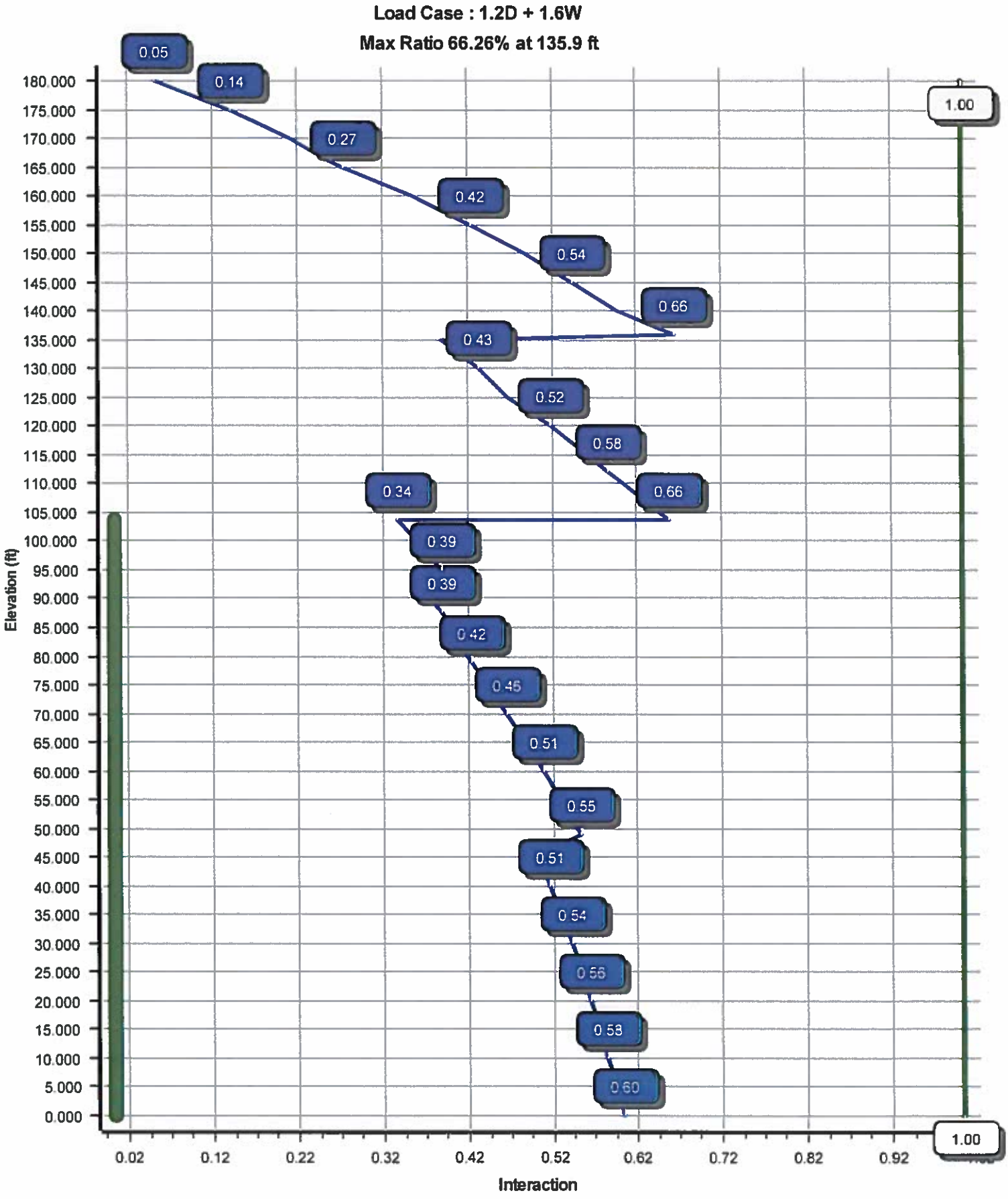
1.2D + 1.6W	90 mph with No Ice
0.9D + 1.6W	90 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	40 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) 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	4377.12	37.39	70.98
0.9D + 1.6W	4219.39	35.92	53.23
1.2D + 1.0Di + 1.0Wi	887.88	6.74	146.88
(1.2 + 0.2Sds) * DL + E ELFM	406.57	3.01	70.69
(1.2 + 0.2Sds) * DL + E EMAM	373.17	3.22	70.69
(0.9 - 0.2Sds) * DL + E ELFM	399.61	3.01	49.24
(0.9 - 0.2Sds) * DL + E EMAM	365.91	3.21	49.24
1.0D + 1.0W	1182.14	10.01	59.20

Dish Deflections			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	80.00	6.862	0.834




Load Case : 1.2D + 1.6W
Max Ratio 66.26% at 135.9 ft
0.05
0.14
0.27
0.42
0.54
0.66
0.43
0.52
0.58
0.66
0.34
0.39
0.39
0.42
0.45
0.51
0.55
0.51
0.54
0.56
0.58
0.60
1.00
1.00
180.000
175.000
170.000
165.000
160.000
155.000
150.000
145.000
140.000
135.000
130.000
125.000
120.000
115.000
110.000
105.000
100.000
95.000
90.000
85.000
80.000
75.000
70.000
65.000
60.000
55.000
50.000
45.000
40.000
35.000
30.000
25.000
20.000
15.000
10.000
5.000
0.000
Elevation (ft)
0.02
0.12
0.22
0.32
0.42
0.52
0.62
0.72
0.82
0.92
Interaction

Site Number: 302506 | Code: ANSI/TIA-222-G |

Site Name: Winchester CT 3, CT | Engineering Number:12629663_C3_01 | 11/27/2018 2:51:48 PM

Customer: VERIZON WIRELESS

Analysis Parameters

Location :	LITCHFIELD County, CT	Height (ft) :	180
Code :	ANSI/TIA-222-G	Base Diameter (in) :	52.75
Shape :	18 Sides	Top Diameter (in) :	15.00
Pole Type :	Taper	Taper (in/ft) :	0.219
Pole Manfacturer :	EEI	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	III	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 ft	Design Ice Thickness:	1.00 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods				
Site Class:	D - Stiff Soil				
Period Based on Rayleigh Method (sec):	2.67				
T_L (sec):	6	p:	1.3	C_s:	0.039
S_s:	0.177	S_1:	0.065	C_s Max:	0.039
F_a:	1.600	F_v:	2.400	C_s Min:	0.030
S_{ds}:	0.189	S_{d1}:	0.104		

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 1.00 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

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	49.040	0.4375	65		0.00	10,875	52.75	0.00	72.64	25115.3	19.85	120.57	41.98	49.04	57.70	12585.4	15.51	95.97	0.219444
2-18	49.500	0.3750	65	Slip	73.00	7,672	44.07	42.96	52.01	12548.0	19.31	117.53	33.21	92.46	39.08	5323.8	14.21	88.56	0.219444
3-18	48.330	0.3125	65	Slip	59.00	4,779	34.91	87.54	34.32	5191.7	18.29	111.73	24.30	135.87	23.80	1731.6	12.31	77.79	0.219444
4-18	47.880	0.1875	65	Slip	45.00	1,946	25.50	132.12	15.07	1220.4	22.58	136.04	15.00	180.00	8.81	244.4	12.70	80.00	0.219444
				Shaft Weight		25,271													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Distance From Face (ft)	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	Orientation Factor
180.00	4' Omni	1	0.000	2.000	10.00	1.000	1.00
180.00	Andrew ABT-DMDF-ADBH	1	0.000	4.000	1.10	0.050	0.50
180.00	CCI HPA-65R-BUU-H6	3	0.000	4.000	51.00	9.660	0.69
180.00	Ericsson RRUS 11 (Band 12)	3	0.000	4.000	50.00	2.570	0.50
180.00	Ericsson RRUS 32 (50.8 lbs)	3	0.000	4.000	50.80	2.690	0.67
180.00	Ericsson RRUS-12 B2	3	0.000	4.000	58.00	3.150	0.50
180.00	Flat Low Profile Platform	1	0.000	0.000	1500.00	26.100	1.00
180.00	KMW AM-X-CD-16-65-00T-RET	3	0.000	4.000	48.50	8.020	0.67
180.00	Powerwave Allgon 7770.00	3	0.000	4.000	35.00	5.510	0.65
180.00	Powerwave Allgon LGP21401	3	0.000	4.000	14.10	1.100	0.50
180.00	Powerwave Allgon TT19-	3	0.000	4.000	16.00	0.640	0.50
180.00	Raycap DC6-48-60-18-8F (23.5"	2	0.000	4.000	20.00	1.110	1.00
166.00	Ericsson AIR 21, 1.3 M, B2A B4	3	0.000	0.000	83.00	6.050	0.71
166.00	Ericsson AIR 21, 1.3M, B4A B2P	3	0.000	0.000	81.50	6.090	0.70
166.00	Ericsson KRY 112 144/1	3	0.000	0.000	11.00	0.410	0.50
166.00	Fastback Networks Intelligent	1	0.000	0.000	8.80	0.780	0.50
166.00	Round T-Arm	3	0.000	0.000	250.00	9.700	0.67
150.00	Round Side Arm	1	0.000	0.000	150.00	5.200	0.67
150.00	Sinclair SD210-SF2P4SNM	1	0.000	0.000	8.30	1.370	1.00
140.00	Bird 432-83H-01-T	1	0.000	1.000	25.00	1.400	0.50
140.00	Decibel DB809DK-XT	2	0.000	6.000	64.00	6.350	1.00
140.00	Round Side Arm	3	0.000	0.000	150.00	5.200	0.67
140.00	Sinclair SC442D-HF1LDF(DXX-I30	1	0.000	6.000	79.00	10.480	1.00
140.00	Sinclair SC479-HF1LDF(E5765)	1	0.000	6.000	34.00	5.030	1.00
140.00	Telewave ANT150D (5 lbs)	1	0.000	1.000	5.00	1.090	0.50
135.00	Alcatel-Lucent 1900MHz RRH	3	0.000	0.000	44.00	3.260	0.50
135.00	Alcatel-Lucent 800 MHz RRH w/	3	0.000	0.000	61.80	2.500	0.50
135.00	Alcatel-Lucent TD-RRH8x20-25 w	3	0.000	0.000	70.00	4.050	0.50
135.00	Flat Platform w/ Handrails	1	0.000	0.000	2000.00	31.600	1.00
135.00	RFS APXVSPP18-C-A20	3	0.000	0.000	57.00	8.020	0.69
135.00	RFS APXVTM14-C-I20	3	0.000	0.000	52.90	6.340	0.66
125.00	Alcatel-Lucent B13 RRH4x30-4R	3	0.000	0.000	57.80	2.140	0.50
125.00	Alcatel-Lucent B25 RRH4x30	3	0.000	0.000	53.00	2.120	0.50
125.00	Antel LPA-80063/6CF	2	0.000	0.000	27.00	9.590	0.76
125.00	Antel LPA-80080/6CF ___	2	0.000	0.000	21.00	8.630	0.65
125.00	Antel LPA-80080/6CF ___	2	0.000	0.000	21.00	8.630	0.65
125.00	Commscope JAHH-65B-R3B	6	0.000	0.000	60.60	9.110	0.69
125.00	Nokia AHCA AirScale RRH 4T4R B	3	0.000	0.000	35.30	1.290	0.50
125.00	Nokia B66a RRH4x45 (UHIE)	3	0.000	0.000	56.80	2.540	0.50
125.00	Raycap RCMDC-6627-PF-48	1	0.000	0.000	32.00	4.060	0.50
125.00	Round Low Profile Platform	1	0.000	0.000	1500.00	21.700	1.00
112.00	Decibel DB844H90E-XY	12	0.000	0.000	14.00	3.610	0.74
112.00	Round Low Profile Platform	1	0.000	0.000	1500.00	21.700	1.00
105.00	RFS APXV18-206517S-C	3	0.000	0.000	26.40	5.160	0.68
96.00	Andrew DB586	2	0.000	0.000	8.30	0.740	1.00
96.00	Bird 429-83H-01-T	1	0.000	0.000	20.00	0.920	0.50
96.00	Flat Side Arm	3	0.000	0.000	150.00	6.300	0.67

80.00	RFS PA6-65AC	1	0.000	0.000	278.00	47.050	1.00
79.00	PCTEL GPS-TMG-HR-26N	1	0.000	0.000	0.60	0.090	1.00
30.00	GPS	1	0.000	0.000	10.00	1.000	1.00
Totals	Num Loadings:50	120			12707.70		

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Flat	Projected Width (in)	Exposed To Wind	Carrier
0.00	180.00	1	0.39" (10mm) Fiber	0.39	0.06	N	0.00	N	AT&T Mobility
0.00	180.00	1	0.40" Fiber Cable	0.40	0.09	N	0.00	N	AT&T Mobility
0.00	180.00	2	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility
0.00	180.00	2	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility
0.00	180.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility
0.00	180.00	1	3" Conduit	3.50	7.58	N	0.00	N	AT&T Mobility
0.00	166.00	2	0.25" (6.4mm) Cat 6	0.25	0.04	N	0.00	N	T-Mobile
0.00	166.00	1	1 1/4" Hybriflex	1.54	1.00	N	0.00	N	T-Mobile
0.00	166.00	1	1.4" (35.6mm) Hybrid	1.40	1.30	N	0.00	N	T-Mobile
112.50	166.00	12	1 5/8" Coax	1.98	0.82	N	3.96	Y	T-Mobile
0.00	150.00	1	1 5/8" Coax	1.98	0.82	N	0.00	N	Litchfield County Dispatch
0.00	140.00	8	1 5/8" Coax	1.98	0.82	N	0.00	N	CT Police Dept.
0.00	140.00	2	1/2" Coax	0.63	0.15	N	0.00	N	CT Police Dept.
0.00	135.00	3	1 1/4" Hybriflex	1.54	1.00	N	0.00	N	Sprint Nextel
0.00	135.00	1	7/8" Fiber	0.88	0.70	N	0.00	N	Sprint Nextel
0.00	125.00	1	1 5/8" Hybriflex	1.98	1.30	N	0.00	N	Verizon
112.50	125.00	6	1 5/8" Coax	1.98	0.82	N	3.96	Y	Verizon
0.00	112.50	6	1 5/8" Coax	1.98	0.82	N	0.00	Y	Verizon
0.00	112.50	12	1 5/8" Coax	1.98	0.82	N	0.00	Y	T-Mobile
0.00	112.00	12	1 1/4" Coax	1.55	0.63	N	4.65	Y	Sprint Nextel
0.00	112.00	1	Reinforcement	9.27	43.00	N	3.35	Y	--
0.00	105.00	6	1 5/8" Coax	1.98	0.82	N	0.00	Y	Metro PCS
0.00	96.00	1	1/2" Coax	0.63	0.15	N	0.00	N	Eversource Energy
0.00	96.00	2	7/8" Coax	1.09	0.33	N	0.00	N	Eversource Energy
0.00	80.00	1	EW63	2.01	0.51	N	0.00	N	CT Police Dept.
0.00	79.00	1	1/2" Coax	0.63	0.15	N	0.00	N	Sprint Nextel
0.00	30.00	1	7/8" Coax	1.09	0.33	N	0.00	Y	Verizon

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	Intermediate Connections: Description	Spacing (in)	Len (in)	Connectors	Continuation?
0.00	103.7	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	30.0	3.13	5/8" A36 U-Bolt	No

Site Number: 302506 Code: ANSI/TIA-222-G

Site Name: Winchester CT 3, CT Engineering Number:12629663_C3_01 11/27/2018 2:51:49 PM

Customer: VERIZON WIRELESS

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)	Additional Reinforcing Area (in^2)	Additional Reinforcing Ix (in^4)	Additional Reinforcing Weight (lb)
0.00		0.4375	52.750	72.640	25,115.3	19.85	120.57	78.1	937.8	0.0	0.0	19.64	8,846	0.0
5.00		0.4375	51.653	71.116	23,567.9	19.41	118.06	78.6	898.7	0.0	1,222.9	19.64	8,521	334.0
10.00		0.4375	50.556	69.593	22,085.4	18.96	115.56	79.1	860.4	0.0	1,197.0	19.64	8,202	334.0
15.00		0.4375	49.458	68.069	20,666.4	18.52	113.05	79.6	823.0	0.0	1,171.1	19.64	7,889	334.0
20.00		0.4375	48.361	66.546	19,309.5	18.08	110.54	80.1	786.4	0.0	1,145.2	19.64	7,582	334.0
25.00		0.4375	47.264	65.022	18,013.3	17.64	108.03	80.7	750.7	0.0	1,119.2	19.64	7,281	334.0
30.00		0.4375	46.167	63.498	16,776.5	17.20	105.52	81.2	715.7	0.0	1,093.3	19.64	6,986	334.0
35.00		0.4375	45.069	61.975	15,597.7	16.75	103.02	81.7	681.6	0.0	1,067.4	19.64	6,698	334.0
40.00		0.4375	43.972	60.451	14,475.4	16.31	100.51	82.2	648.4	0.0	1,041.5	19.64	6,415	334.0
42.96	Bot - Section 2	0.4375	43.323	59.550	13,837.8	16.05	99.02	82.5	629.1	0.0	603.6	19.64	6,251	197.5
45.00		0.4375	42.875	58.928	13,408.2	15.87	98.00	82.6	616.0	0.0	771.7	19.64	6,327	136.5
49.04	Top - Section 1	0.3750	42.738	50.421	11,432.7	18.69	113.97	79.4	526.9	0.0	1,502.0	19.64	6,105	269.9
50.00		0.3750	42.528	50.171	11,263.0	18.59	113.41	79.5	521.6	0.0	164.3	19.64	6,053	64.1
55.00		0.3750	41.431	48.865	10,406.2	18.07	110.48	80.1	494.7	0.0	842.5	19.64	5,784	334.0
60.00		0.3750	40.333	47.559	9,594.0	17.55	107.56	80.8	468.5	0.0	820.3	19.64	5,522	334.0
65.00		0.3750	39.236	46.253	8,825.1	17.04	104.63	81.4	443.0	0.0	798.0	19.64	5,266	334.0
70.00		0.3750	38.139	44.947	8,098.5	16.52	101.70	82.0	418.2	0.0	775.8	19.64	5,015	334.0
75.00		0.3750	37.042	43.641	7,412.9	16.01	98.78	82.6	394.2	0.0	753.6	19.64	4,771	334.0
79.00		0.3750	36.164	42.596	6,893.2	15.59	96.44	82.6	375.4	0.0	586.9	19.64	4,581	267.2
80.00		0.3750	35.944	42.335	6,767.2	15.49	95.85	82.6	370.8	0.0	144.5	19.64	4,533	66.8
85.00		0.3750	34.847	41.029	6,160.0	14.97	92.93	82.6	348.2	0.0	709.2	19.64	4,302	334.0
87.54	Bot - Section 3	0.3750	34.290	40.366	5,866.0	14.71	91.44	82.6	336.9	0.0	351.7	19.64	4,186	169.7
90.00		0.3750	33.750	39.723	5,590.4	14.46	90.00	82.6	326.2	0.0	620.3	19.64	4,204	164.3
92.46	Top - Section 2	0.3125	33.836	33.250	4,721.1	17.68	108.27	80.6	274.8	0.0	609.5	19.64	4,093	164.1
95.00		0.3125	33.278	32.696	4,489.2	17.37	106.49	81.0	265.7	0.0	285.4	19.64	3,981	169.9
96.00		0.3125	33.058	32.479	4,400.1	17.24	105.79	81.1	262.2	0.0	110.9	19.64	3,937	66.8
100.0		0.3125	32.181	31.608	4,055.7	16.75	102.98	81.7	248.2	0.0	436.1	19.64	3,764	267.2
103.7	Reinf. Top	0.3125	31.358	30.792	3,749.5	16.28	100.34	82.2	235.5	0.0	398.1	19.64	3,605	250.5
105.0		0.3125	31.083	30.520	3,651.0	16.13	99.47	82.4	231.3	0.0	130.4			
110.0		0.3125	29.986	29.431	3,274.2	15.51	95.96	82.6	215.1	0.0	510.0			
112.0		0.3125	29.547	28.996	3,131.1	15.26	94.55	82.6	208.7	0.0	198.8			
115.0		0.3125	28.889	28.343	2,924.3	14.89	92.44	82.6	199.4	0.0	292.7			
120.0		0.3125	27.792	27.255	2,600.2	14.27	88.93	82.6	184.3	0.0	473.0			
125.0		0.3125	26.694	26.167	2,301.0	13.65	85.42	82.6	169.8	0.0	454.5			
130.0		0.3125	25.597	25.078	2,025.7	13.03	81.91	82.6	155.9	0.0	435.9			
132.1	Bot - Section 4	0.3125	25.132	24.617	1,915.9	12.77	80.42	82.6	150.2	0.0	179.2			
135.0		0.3125	24.500	23.990	1,773.2	12.41	78.40	82.6	142.6	0.0	384.0			
135.8	Top - Section 3	0.1875	24.684	14.578	1,105.3	21.80	131.65	75.8	88.2	0.0	114.0			
140.0		0.1875	23.778	14.039	987.1	20.95	126.81	76.8	81.8	0.0	201.1			
145.0		0.1875	22.681	13.386	855.6	19.92	120.96	78.0	74.3	0.0	233.3			
150.0		0.1875	21.583	12.733	736.4	18.89	115.11	79.2	67.2	0.0	222.2			
155.0		0.1875	20.486	12.080	628.8	17.85	109.26	80.4	60.5	0.0	211.1			
160.0		0.1875	19.389	11.427	532.3	16.82	103.41	81.6	54.1	0.0	200.0			
165.0		0.1875	18.292	10.774	446.2	15.79	97.56	82.6	48.0	0.0	188.9			
166.0		0.1875	18.072	10.643	430.1	15.58	96.39	82.6	46.9	0.0	36.4			
170.0		0.1875	17.194	10.121	369.8	14.76	91.70	82.6	42.4	0.0	141.3			
175.0		0.1875	16.097	9.468	302.8	13.73	85.85	82.6	37.0	0.0	166.6			
180.0		0.1875	15.000	8.815	244.4	12.70	80.00	82.6	32.1	0.0	155.5			
											25,271.1			6,930.5

Load Case: 1.2D + 1.6W 90 mph with No Ice 26 Iterations

Gust Response Factor :1.10 Wind Importance Factor :1.15
Dead Load Factor :1.20
Wind Load Factor :1.60

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		230.9	0.0					0.0	0.0	230.9	0.0	0.0	0.0
5.00		458.9	1,467.5					0.0	1,042.9	458.9	2,510.5	0.0	0.0
10.00		453.0	1,436.4					0.0	1,042.9	453.0	2,479.3	0.0	0.0
15.00		447.1	1,405.3					0.0	1,042.9	447.1	2,448.2	0.0	0.0
20.00		441.3	1,374.2					0.0	1,042.9	441.3	2,417.1	0.0	0.0
25.00		435.4	1,343.1					0.0	1,042.9	435.4	2,386.0	0.0	0.0
30.00	Appurtenance(s)	434.6	1,312.0	27.9	0.0	0.0	12.0	0.0	1,042.9	462.5	2,366.9	0.0	0.0
35.00		442.7	1,280.9					0.0	1,041.0	442.7	2,321.8	0.0	0.0
40.00		359.4	1,249.8					0.0	1,041.0	359.4	2,290.7	0.0	0.0
42.96	Bot - Section 2	230.9	724.4					0.0	615.5	230.9	1,339.9	0.0	0.0
45.00		287.4	926.0					0.0	425.4	287.4	1,351.5	0.0	0.0
49.04	Top - Section 1	237.1	1,802.4					0.0	841.1	237.1	2,643.5	0.0	0.0
50.00		284.5	197.2					0.0	199.9	284.5	397.1	0.0	0.0
55.00		480.7	1,011.0					0.0	1,041.0	480.7	2,051.9	0.0	0.0
60.00		485.6	984.3					0.0	1,041.0	485.6	2,025.3	0.0	0.0
65.00		589.8	957.7					0.0	1,041.0	589.8	1,998.6	0.0	0.0
70.00		688.9	931.0					133.5	1,041.0	822.4	1,972.0	0.0	0.0
75.00		614.8	904.3					135.5	1,041.0	750.3	1,945.3	0.0	0.0
79.00	Appurtenance(s)	339.4	704.3	3.3	0.0	0.0	0.7	109.8	832.8	452.5	1,537.8	0.0	0.0
80.00	Appurtenance(s)	402.7	173.4	1,739.4	0.0	0.0	333.6	27.6	208.0	2,169.6	715.0	0.0	0.0
85.00		503.5	851.0					139.2	1,037.0	642.7	1,888.0	0.0	0.0
87.54	Bot - Section 3	333.2	422.1					71.4	526.8	404.5	948.9	0.0	0.0
90.00		328.1	744.3					69.5	510.2	397.6	1,254.6	0.0	0.0
92.46	Top - Section 2	330.9	731.5					69.8	509.5	400.7	1,240.9	0.0	0.0
95.00		233.1	342.4					72.7	527.5	305.8	870.0	0.0	0.0
96.00	Appurtenance(s)	325.0	133.1	565.1	0.0	0.0	583.9	28.7	207.4	918.8	924.4	0.0	0.0
100.00		499.1	523.4					115.4	825.7	614.5	1,349.1	0.0	0.0
103.75	Reinf. Top	318.6	477.7					109.1	774.1	427.7	1,251.9	0.0	0.0
105.00	Appurtenance(s)	390.8	156.5	420.6	0.0	0.0	95.0	36.5	157.8	847.9	409.3	0.0	0.0
110.00		434.5	612.0					147.0	601.8	581.5	1,213.8	0.0	0.0
112.00	Appurtenance(s)	304.5	238.6	1,926.9	0.0	0.0	2,001.6	59.2	240.7	2,290.6	2,480.9	0.0	0.0
115.00		478.7	351.2					80.3	179.1	558.9	530.3	0.0	0.0
120.00		585.6	567.6					161.4	298.5	747.0	866.0	0.0	0.0
125.00	Appurtenance(s)	463.0	545.3	3,897.9	0.0	0.0	3,170.8	162.3	298.5	4,523.2	4,014.6	0.0	0.0
130.00		247.3	523.1					0.0	261.2	247.3	784.3	0.0	0.0
132.12	Bot - Section 4	173.1	215.1					0.0	110.7	173.1	325.8	0.0	0.0
135.00	Appurtenance(s)	130.1	460.8	2,769.0	0.0	0.0	3,428.5	0.0	150.4	2,899.1	4,039.8	0.0	0.0
135.87	Top - Section 3	170.7	136.8					0.0	41.6	170.7	178.4	0.0	0.0
140.00	Appurtenance(s)	308.2	241.3	1,623.6	0.0	6,804.9	865.2	0.0	197.4	1,931.9	1,303.9	0.0	0.0
145.00		332.2	280.0					0.0	197.8	332.2	477.8	0.0	0.0
150.00	Appurtenance(s)	326.1	266.6	202.6	0.0	0.0	190.0	0.0	197.8	528.8	654.4	0.0	0.0
155.00		319.8	253.3					0.0	192.9	319.8	446.2	0.0	0.0
160.00		374.8	240.0					0.0	192.9	374.8	432.8	0.0	0.0
165.00		258.5	226.6					84.5	192.9	343.0	419.5	0.0	0.0
166.00	Appurtenance(s)	130.6	43.7	1,638.0	0.0	0.0	1,542.4	16.9	38.6	1,785.6	1,624.7	0.0	0.0
170.00		194.0	169.6					0.0	95.7	194.0	265.2	0.0	0.0
175.00		204.6	200.0					0.0	119.6	204.6	319.5	0.0	0.0
180.00	Appurtenance(s)	99.2	186.6	3,719.1	0.0	9,935.6	3,025.6	0.0	119.6	3,818.3	3,331.8	0.0	0.0

Load Case: 1.2D + 1.6W 90 mph with No Ice 26 Iterations

Gust Response Factor: 1.10 Wind Importance Factor: 1.15
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Totals:	37,506.6	71,045.2	0.00	0.00

Load Case: 1.2D + 1.6W 90 mph with No Ice 26 Iterations

Gust Response Factor: 1.10 Wind Importance Factor: 1.15
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-70.98	-37.39	0.00	-4,377.12	0.00	4,377.12	5,102.86	2,551.43	10,963.2	5,489.79	0.00	0.00	0.601
5.00	-68.36	-37.14	0.00	-4,190.18	0.00	4,190.18	5,029.12	2,514.56	10,576.3	5,296.03	0.10	-0.18	0.592
10.00	-65.76	-36.89	0.00	-4,004.47	0.00	4,004.47	4,953.95	2,476.98	10,193.1	5,104.17	0.38	-0.36	0.583
15.00	-63.20	-36.62	0.00	-3,820.04	0.00	3,820.04	4,877.36	2,438.68	9,813.98	4,914.28	0.86	-0.54	0.573
20.00	-60.67	-36.35	0.00	-3,636.93	0.00	3,636.93	4,799.34	2,399.67	9,438.93	4,726.48	1.53	-0.73	0.563
25.00	-58.17	-36.08	0.00	-3,455.16	0.00	3,455.16	4,719.90	2,359.95	9,068.23	4,540.86	2.40	-0.92	0.552
30.00	-55.70	-35.76	0.00	-3,274.79	0.00	3,274.79	4,639.03	2,319.51	8,702.08	4,357.51	3.46	-1.11	0.540
35.00	-53.27	-35.44	0.00	-3,096.01	0.00	3,096.01	4,556.73	2,278.36	8,340.67	4,176.53	4.72	-1.30	0.528
40.00	-50.89	-35.16	0.00	-2,918.80	0.00	2,918.80	4,473.00	2,236.50	7,984.18	3,998.03	6.19	-1.49	0.515
42.96	-49.50	-34.98	0.00	-2,814.84	0.00	2,814.84	4,422.82	2,211.41	7,775.79	3,893.68	7.15	-1.61	0.507
45.00	-48.08	-34.75	0.00	-2,743.36	0.00	2,743.36	4,378.03	2,189.01	7,615.75	3,813.53	7.85	-1.69	0.497
49.04	-45.39	-34.51	0.00	-2,602.95	0.00	2,602.95	3,604.17	1,802.08	6,267.69	3,138.50	9.35	-1.84	0.550
50.00	-44.93	-34.31	0.00	-2,569.82	0.00	2,569.82	3,591.50	1,795.75	6,214.33	3,111.78	9.72	-1.88	0.547
55.00	-42.78	-33.91	0.00	-2,398.27	0.00	2,398.27	3,524.70	1,762.35	5,938.60	2,973.71	11.80	-2.08	0.527
60.00	-40.65	-33.49	0.00	-2,228.71	0.00	2,228.71	3,456.48	1,728.24	5,666.60	2,837.51	14.09	-2.29	0.507
65.00	-38.57	-32.96	0.00	-2,061.24	0.00	2,061.24	3,386.83	1,693.41	5,398.53	2,703.28	16.59	-2.49	0.486
70.00	-36.52	-32.17	0.00	-1,896.46	0.00	1,896.46	3,315.75	1,657.87	5,134.58	2,571.11	19.31	-2.69	0.464
75.00	-34.52	-31.43	0.00	-1,735.60	0.00	1,735.60	3,242.30	1,621.15	4,873.54	2,440.39	22.23	-2.89	0.440
79.00	-32.95	-30.96	0.00	-1,609.87	0.00	1,609.87	3,164.68	1,582.34	4,641.84	2,324.37	24.71	-3.04	0.424
80.00	-32.30	-28.82	0.00	-1,578.91	0.00	1,578.91	3,145.28	1,572.64	4,584.79	2,295.80	25.36	-3.08	0.419
85.00	-30.38	-28.15	0.00	-1,434.81	0.00	1,434.81	3,048.26	1,524.13	4,304.87	2,155.63	28.68	-3.27	0.399
87.54	-29.41	-27.74	0.00	-1,363.32	0.00	1,363.32	2,998.97	1,499.48	4,166.05	2,086.12	30.45	-3.37	0.388
90.00	-28.14	-27.31	0.00	-1,295.08	0.00	1,295.08	2,951.23	1,475.62	4,033.76	2,019.88	32.21	-3.46	0.373
92.46	-26.88	-26.88	0.00	-1,227.99	0.00	1,227.99	2,412.07	1,206.04	3,317.78	1,661.36	34.01	-3.55	0.403
95.00	-26.00	-26.55	0.00	-1,159.63	0.00	1,159.63	2,382.81	1,191.41	3,222.46	1,613.62	35.93	-3.64	0.388
96.00	-25.10	-25.61	0.00	-1,133.08	0.00	1,133.08	2,371.21	1,185.60	3,185.22	1,594.98	36.70	-3.68	0.382
100.00	-23.73	-24.97	0.00	-1,030.63	0.00	1,030.63	2,324.22	1,162.11	3,037.61	1,521.06	39.84	-3.83	0.358
103.75	-22.47	-24.49	0.00	-936.99	0.00	936.99	2,279.33	1,139.67	2,901.28	1,452.80	42.90	-3.96	0.335
103.75	-22.47	-24.49	0.00	-936.99	0.00	936.99	2,279.33	1,139.67	2,901.28	1,452.80	42.90	-3.96	0.655
105.00	-22.04	-23.69	0.00	-906.37	0.00	906.37	2,264.20	1,132.10	2,856.29	1,430.27	43.94	-4.01	0.644
110.00	-20.78	-23.11	0.00	-787.91	0.00	787.91	2,186.61	1,093.30	2,659.07	1,331.51	48.32	-4.34	0.602
112.00	-18.43	-20.69	0.00	-741.70	0.00	741.70	2,154.27	1,077.13	2,580.59	1,292.21	50.16	-4.47	0.583
115.00	-17.85	-20.17	0.00	-679.64	0.00	679.64	2,105.76	1,052.88	2,465.08	1,234.37	53.03	-4.66	0.559
120.00	-16.95	-19.44	0.00	-578.82	0.00	578.82	2,024.90	1,012.45	2,278.43	1,140.91	58.07	-4.97	0.516
125.00	-13.28	-14.64	0.00	-481.64	0.00	481.64	1,944.05	972.03	2,099.13	1,051.12	63.43	-5.26	0.465
130.00	-12.48	-14.36	0.00	-408.45	0.00	408.45	1,863.20	931.60	1,927.17	965.02	69.08	-5.53	0.430
132.12	-12.14	-14.19	0.00	-378.01	0.00	378.01	1,828.92	914.46	1,856.49	929.62	71.56	-5.65	0.414
135.00	-8.39	-10.91	0.00	-337.15	0.00	337.15	1,782.35	891.17	1,762.57	882.59	75.01	-5.80	0.387
135.87	-8.20	-10.74	0.00	-327.66	0.00	327.66	993.95	496.97	1,000.68	501.09	76.07	-5.85	0.663
140.00	-7.06	-8.72	0.00	-276.49	0.00	276.49	969.84	484.92	940.01	470.70	81.22	-6.06	0.595
145.00	-6.57	-8.38	0.00	-232.89	0.00	232.89	939.35	469.68	867.78	434.53	87.75	-6.43	0.543
150.00	-5.94	-7.82	0.00	-190.98	0.00	190.98	907.44	453.72	797.07	399.13	94.65	-6.78	0.485
155.00	-5.49	-7.47	0.00	-151.91	0.00	151.91	874.09	437.05	728.06	364.57	101.92	-7.11	0.423
160.00	-5.08	-7.07	0.00	-114.53	0.00	114.53	839.33	419.66	660.97	330.98	109.51	-7.41	0.352
165.00	-4.69	-6.69	0.00	-79.17	0.00	79.17	800.44	400.22	593.98	297.43	117.39	-7.67	0.272
166.00	-3.31	-4.71	0.00	-72.48	0.00	72.48	790.74	395.37	579.60	290.23	119.00	-7.72	0.254
170.00	-3.06	-4.49	0.00	-53.64	0.00	53.64	751.93	375.97	523.82	262.30	125.52	-7.88	0.209
175.00	-2.76	-4.25	0.00	-31.18	0.00	31.18	703.42	351.71	458.07	229.37	133.84	-8.05	0.140
180.00	0.00	-3.82	0.00	-9.94	0.00	9.94	654.91	327.45	396.72	198.65	142.30	-8.14	0.050

Load Case: 0.9D + 1.6W — 90 mph with No Ice (Reduced DL) — 26 Iterations

Gust Response Factor: 1.10 — Wind Importance Factor: 1.15
Dead Load Factor: 0.90
Wind Load Factor: 1.60

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		200.3	0.0					0.0	0.0	200.3	0.0	0.0	0.0
5.00		396.5	1,100.6					0.0	782.2	396.5	1,882.8	0.0	0.0
10.00		388.0	1,077.3					0.0	782.2	388.0	1,859.5	0.0	0.0
15.00		379.6	1,054.0					0.0	782.2	379.6	1,836.2	0.0	0.0
20.00		371.2	1,030.6					0.0	782.2	371.2	1,812.9	0.0	0.0
25.00		362.8	1,007.3					0.0	782.2	362.8	1,789.5	0.0	0.0
30.00	Appurtenance(s)	358.6	984.0	27.9	0.0	0.0	9.0	0.0	782.2	386.5	1,775.2	0.0	0.0
35.00		361.5	960.7					0.0	780.7	361.5	1,741.4	0.0	0.0
40.00		291.0	937.3					0.0	780.7	291.0	1,718.0	0.0	0.0
42.96	Bot - Section 2	185.5	543.3					0.0	461.7	185.5	1,004.9	0.0	0.0
45.00		229.2	694.5					0.0	319.1	229.2	1,013.6	0.0	0.0
49.04	Top - Section 1	188.7	1,351.8					0.0	630.8	188.7	1,982.6	0.0	0.0
50.00		225.5	147.9					0.0	149.9	225.5	297.8	0.0	0.0
55.00		378.3	758.2					0.0	780.7	378.3	1,539.0	0.0	0.0
60.00		377.6	738.2					0.0	780.7	377.6	1,519.0	0.0	0.0
65.00		534.3	718.2					0.0	780.7	534.3	1,499.0	0.0	0.0
70.00		688.9	698.2					133.5	780.7	822.4	1,479.0	0.0	0.0
75.00		614.8	678.3					135.5	780.7	750.3	1,459.0	0.0	0.0
79.00	Appurtenance(s)	339.4	528.2	3.3	0.0	0.0	0.5	109.8	624.6	452.5	1,153.3	0.0	0.0
80.00	Appurtenance(s)	402.7	130.1	1,739.4	0.0	0.0	250.2	27.6	156.0	2,169.6	536.3	0.0	0.0
85.00		503.5	638.3					139.2	777.8	642.7	1,416.0	0.0	0.0
87.54	Bot - Section 3	333.2	316.6					71.4	395.1	404.5	711.6	0.0	0.0
90.00		328.1	558.2					69.5	382.7	397.6	940.9	0.0	0.0
92.46	Top - Section 2	330.9	548.6					69.8	382.1	400.7	930.7	0.0	0.0
95.00		233.1	256.8					72.7	395.6	305.8	652.5	0.0	0.0
96.00	Appurtenance(s)	325.0	99.8	565.1	0.0	0.0	437.9	28.7	155.6	918.8	693.3	0.0	0.0
100.00		499.1	392.5					115.4	619.3	614.5	1,011.8	0.0	0.0
103.75	Reinf. Top	318.6	358.3					109.1	580.6	427.7	938.9	0.0	0.0
105.00	Appurtenance(s)	390.8	117.4	420.6	0.0	0.0	71.3	36.5	118.4	847.9	307.0	0.0	0.0
110.00		434.5	459.0					147.0	451.4	581.5	910.4	0.0	0.0
112.00	Appurtenance(s)	304.5	178.9	1,926.9	0.0	0.0	1,501.2	59.2	180.5	2,290.6	1,860.7	0.0	0.0
115.00		478.7	263.4					80.3	134.3	558.9	397.7	0.0	0.0
120.00		585.6	425.7					161.4	223.9	747.0	649.5	0.0	0.0
125.00	Appurtenance(s)	440.6	409.0	3,897.9	0.0	0.0	2,378.1	162.3	223.9	4,500.8	3,010.9	0.0	0.0
130.00		214.8	392.3					0.0	195.9	214.8	588.2	0.0	0.0
132.12	Bot - Section 4	148.3	161.3					0.0	83.0	148.3	244.3	0.0	0.0
135.00	Appurtenance(s)	110.9	345.6	2,769.0	0.0	0.0	2,571.4	0.0	112.8	2,879.9	3,029.8	0.0	0.0
135.87	Top - Section 3	144.4	102.6					0.0	31.2	144.4	133.8	0.0	0.0
140.00	Appurtenance(s)	258.1	181.0	1,623.6	0.0	6,804.9	648.9	0.0	148.0	1,881.8	977.9	0.0	0.0
145.00		273.3	210.0					0.0	148.4	273.3	358.3	0.0	0.0
150.00	Appurtenance(s)	262.6	200.0	202.6	0.0	0.0	142.5	0.0	148.4	465.2	490.8	0.0	0.0
155.00		251.6	190.0					0.0	144.7	251.6	334.6	0.0	0.0
160.00		339.5	180.0					0.0	144.7	339.5	324.6	0.0	0.0
165.00		258.5	170.0					84.5	144.7	343.0	314.6	0.0	0.0
166.00	Appurtenance(s)	130.6	32.8	1,638.0	0.0	0.0	1,156.8	16.9	28.9	1,785.6	1,218.5	0.0	0.0
170.00		194.0	127.2					0.0	71.7	194.0	198.9	0.0	0.0
175.00		204.6	150.0					0.0	89.7	204.6	239.7	0.0	0.0
180.00	Appurtenance(s)	99.2	140.0	3,719.1	0.0	9,935.6	2,269.2	0.0	89.7	3,818.3	2,498.8	0.0	0.0

Site Number:	302506	Code:	ANSI/TIA-222-G	
Site Name:	Winchester CT 3, CT	Engineering Number:	12629663_C3_01	11/27/2018 2:52:09 PM
Customer:	VERIZON WIRELESS			

Load Case: 0.9D + 1.6W — 90 mph with No Ice (Reduced DL) — 26 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Wind Importance Factor : 1.15

Totals:	36,034.6	53,283.9	0.00	0.00

Load Case: 0.9D + 1.6W 90 mph with No Ice (Reduced DL) 26 Iterations

Gust Response Factor: 1.10 Wind Importance Factor: 1.15
Dead Load Factor: 0.90
Wind Load Factor: 1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-53.23	-35.92	0.00	-4,219.39	0.00	4,219.39	5,102.86	2,551.43	10,963.2	5,489.79	0.00	0.00	0.577
5.00	-51.24	-35.67	0.00	-4,039.82	0.00	4,039.82	5,029.12	2,514.56	10,576.3	5,296.03	0.09	-0.17	0.568
10.00	-49.27	-35.43	0.00	-3,861.46	0.00	3,861.46	4,953.95	2,476.98	10,193.1	5,104.17	0.37	-0.35	0.560
15.00	-47.33	-35.18	0.00	-3,684.32	0.00	3,684.32	4,877.36	2,438.68	9,813.98	4,914.28	0.83	-0.53	0.550
20.00	-45.41	-34.93	0.00	-3,508.42	0.00	3,508.42	4,799.34	2,399.67	9,438.93	4,726.48	1.48	-0.70	0.541
25.00	-43.52	-34.68	0.00	-3,333.76	0.00	3,333.76	4,719.90	2,359.95	9,068.23	4,540.86	2.31	-0.89	0.530
30.00	-41.64	-34.40	0.00	-3,160.34	0.00	3,160.34	4,639.03	2,319.51	8,702.08	4,357.51	3.34	-1.07	0.519
35.00	-39.79	-34.13	0.00	-2,988.34	0.00	2,988.34	4,556.73	2,278.36	8,340.67	4,176.53	4.55	-1.25	0.507
40.00	-38.00	-33.90	0.00	-2,817.68	0.00	2,817.68	4,473.00	2,236.50	7,984.18	3,998.03	5.97	-1.44	0.495
42.96	-36.94	-33.75	0.00	-2,717.45	0.00	2,717.45	4,422.82	2,211.41	7,775.79	3,893.68	6.89	-1.55	0.487
45.00	-35.87	-33.56	0.00	-2,648.49	0.00	2,648.49	4,378.03	2,189.01	7,615.75	3,813.53	7.57	-1.63	0.478
49.04	-33.84	-33.37	0.00	-2,512.90	0.00	2,512.90	3,604.17	1,802.08	6,267.69	3,138.50	9.01	-1.78	0.529
50.00	-33.48	-33.20	0.00	-2,480.86	0.00	2,480.86	3,591.50	1,795.75	6,214.33	3,111.78	9.38	-1.81	0.526
55.00	-31.84	-32.88	0.00	-2,314.84	0.00	2,314.84	3,524.70	1,762.35	5,938.60	2,973.71	11.38	-2.01	0.507
60.00	-30.23	-32.55	0.00	-2,150.42	0.00	2,150.42	3,456.48	1,728.24	5,666.60	2,837.51	13.59	-2.21	0.488
65.00	-28.64	-32.06	0.00	-1,987.65	0.00	1,987.65	3,386.83	1,693.41	5,398.53	2,703.28	16.01	-2.40	0.467
70.00	-27.09	-31.26	0.00	-1,827.36	0.00	1,827.36	3,315.75	1,657.87	5,134.58	2,571.11	18.63	-2.59	0.445
75.00	-25.58	-30.52	0.00	-1,671.05	0.00	1,671.05	3,242.30	1,621.15	4,873.54	2,440.39	21.45	-2.78	0.422
79.00	-24.40	-30.05	0.00	-1,548.97	0.00	1,548.97	3,164.68	1,582.34	4,641.84	2,324.37	23.84	-2.93	0.406
80.00	-23.93	-27.90	0.00	-1,518.92	0.00	1,518.92	3,145.28	1,572.64	4,584.79	2,295.80	24.46	-2.97	0.402
85.00	-22.48	-27.24	0.00	-1,379.41	0.00	1,379.41	3,048.26	1,524.13	4,304.87	2,155.63	27.67	-3.15	0.382
87.54	-21.75	-26.83	0.00	-1,310.23	0.00	1,310.23	2,998.97	1,499.48	4,166.05	2,086.12	29.37	-3.25	0.372
90.00	-20.79	-26.41	0.00	-1,244.23	0.00	1,244.23	2,951.23	1,475.62	4,033.76	2,019.88	31.07	-3.34	0.357
92.46	-19.85	-25.99	0.00	-1,179.35	0.00	1,179.35	2,412.07	1,206.04	3,317.78	1,661.36	32.81	-3.42	0.386
95.00	-19.19	-25.66	0.00	-1,113.26	0.00	1,113.26	2,382.81	1,191.41	3,222.46	1,613.62	34.66	-3.51	0.371
96.00	-18.51	-24.73	0.00	-1,087.60	0.00	1,087.60	2,371.21	1,185.60	3,185.22	1,594.98	35.40	-3.55	0.365
100.00	-17.49	-24.10	0.00	-988.67	0.00	988.67	2,324.22	1,162.11	3,037.61	1,521.06	38.43	-3.69	0.342
103.75	-16.54	-23.63	0.00	-898.31	0.00	898.31	2,279.33	1,139.67	2,901.28	1,452.80	41.38	-3.82	0.320
103.75	-16.54	-23.63	0.00	-898.31	0.00	898.31	2,279.33	1,139.67	2,901.28	1,452.80	41.38	-3.82	0.626
105.00	-16.22	-22.82	0.00	-868.77	0.00	868.77	2,264.20	1,132.10	2,856.29	1,430.27	42.38	-3.86	0.615
110.00	-15.27	-22.23	0.00	-754.69	0.00	754.69	2,186.61	1,093.30	2,659.07	1,331.51	46.59	-4.18	0.574
112.00	-13.53	-19.85	0.00	-710.23	0.00	710.23	2,154.27	1,077.13	2,580.59	1,292.21	48.37	-4.30	0.556
115.00	-13.09	-19.31	0.00	-650.69	0.00	650.69	2,105.76	1,052.88	2,465.08	1,234.37	51.13	-4.49	0.534
120.00	-12.41	-18.58	0.00	-554.12	0.00	554.12	2,024.90	1,012.45	2,278.43	1,140.91	55.99	-4.78	0.492
125.00	-9.74	-13.88	0.00	-461.22	0.00	461.22	1,944.05	972.03	2,099.13	1,051.12	61.14	-5.06	0.444
130.00	-9.13	-13.65	0.00	-391.81	0.00	391.81	1,863.20	931.60	1,927.17	965.02	66.58	-5.32	0.411
132.12	-8.87	-13.49	0.00	-362.88	0.00	362.88	1,828.92	914.46	1,856.49	929.62	68.97	-5.44	0.395
135.00	-6.11	-10.35	0.00	-324.02	0.00	324.02	1,782.35	891.17	1,762.57	882.59	72.29	-5.58	0.371
135.87	-5.97	-10.20	0.00	-315.02	0.00	315.02	993.95	496.97	1,000.68	501.09	73.31	-5.63	0.635
140.00	-5.14	-8.26	0.00	-266.07	0.00	266.07	969.84	484.92	940.01	470.70	78.26	-5.83	0.571
145.00	-4.77	-7.98	0.00	-224.78	0.00	224.78	939.35	469.68	867.78	434.53	84.54	-6.18	0.523
150.00	-4.29	-7.49	0.00	-184.89	0.00	184.89	907.44	453.72	797.07	399.13	91.19	-6.52	0.468
155.00	-3.95	-7.22	0.00	-147.46	0.00	147.46	874.09	437.05	728.06	364.57	98.18	-6.84	0.409
160.00	-3.63	-6.86	0.00	-111.36	0.00	111.36	839.33	419.66	660.97	330.98	105.49	-7.14	0.341
165.00	-3.35	-6.49	0.00	-77.06	0.00	77.06	800.44	400.22	593.98	297.43	113.08	-7.39	0.264
166.00	-2.36	-4.56	0.00	-70.57	0.00	70.57	790.74	395.37	579.60	290.23	114.63	-7.43	0.246
170.00	-2.18	-4.35	0.00	-52.31	0.00	52.31	751.93	375.97	523.82	262.30	120.91	-7.60	0.202
175.00	-1.96	-4.12	0.00	-30.55	0.00	30.55	703.42	351.71	458.07	229.37	128.94	-7.76	0.136
180.00	0.00	-3.82	0.00	-9.94	0.00	9.94	654.91	327.45	396.72	198.65	137.09	-7.85	0.050

Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph with 1.00 in Radial Ice 26 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 : 1.25
Wind Load Factor : 1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	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		42.6	0.0					0.0	0.0	42.6	0.0	0.0	0.0
5.00		84.7	2,115.7					0.0	1,841.8	84.7	3,957.5	0.0	0.0
10.00		83.5	2,148.0					0.0	1,942.1	83.5	4,090.1	0.0	0.0
15.00		82.2	2,140.2					0.0	1,994.0	82.2	4,134.2	0.0	0.0
20.00		80.7	2,119.3					0.0	2,030.2	80.7	4,149.5	0.0	0.0
25.00		79.2	2,091.5					0.0	2,058.4	79.2	4,149.8	0.0	0.0
30.00	Appurtenance(s)	78.6	2,059.4	6.0	0.0	0.0	45.0	0.0	2,081.6	84.6	4,185.9	0.0	0.0
35.00		79.5	2,024.3					0.0	2,050.3	79.5	4,074.6	0.0	0.0
40.00		64.2	1,987.1					0.0	2,066.3	64.2	4,053.4	0.0	0.0
42.96	Bot - Section 2	41.0	1,158.9					0.0	1,228.7	41.0	2,387.5	0.0	0.0
45.00		50.7	1,230.2					0.0	851.9	50.7	2,082.1	0.0	0.0
49.04	Top - Section 1	41.8	2,396.3					0.0	1,690.6	41.8	4,086.9	0.0	0.0
50.00		50.2	338.4					0.0	402.9	50.2	741.4	0.0	0.0
55.00		84.4	1,733.2					0.0	2,105.4	84.4	3,838.6	0.0	0.0
60.00		84.5	1,695.4					0.0	2,116.2	84.5	3,811.6	0.0	0.0
65.00		84.5	1,656.7					0.0	2,126.3	84.5	3,783.0	0.0	0.0
70.00		84.2	1,617.3					35.4	2,135.7	119.7	3,753.0	0.0	0.0
75.00		75.5	1,577.3					36.3	2,144.5	111.8	3,721.8	0.0	0.0
79.00	Appurtenance(s)	41.8	1,234.2	1.5	0.0	0.0	7.0	29.7	1,721.6	72.9	2,962.8	0.0	0.0
80.00	Appurtenance(s)	49.8	305.6	215.3	0.0	0.0	938.7	7.5	431.0	272.6	1,675.3	0.0	0.0
85.00		62.4	1,495.7					38.0	2,156.7	100.3	3,652.4	0.0	0.0
87.54	Bot - Section 3	41.4	746.2					19.6	1,098.4	61.0	1,844.7	0.0	0.0
90.00		40.8	1,060.0					19.2	1,065.7	59.9	2,125.7	0.0	0.0
92.46	Top - Section 2	41.3	1,043.0					19.3	1,065.9	60.6	2,108.9	0.0	0.0
95.00		29.1	661.0					20.2	1,105.4	49.3	1,766.4	0.0	0.0
96.00	Appurtenance(s)	40.7	257.8	111.9	0.0	0.0	936.1	8.0	435.1	160.6	1,629.0	0.0	0.0
100.00		62.7	1,011.4					32.2	1,739.1	94.9	2,750.5	0.0	0.0
103.75	Reinf. Top	40.2	926.4					30.6	1,634.1	70.8	2,560.6	0.0	0.0
105.00	Appurtenance(s)	49.5	305.2	78.5	0.0	0.0	462.7	10.3	445.3	138.3	1,213.2	0.0	0.0
110.00		55.2	1,189.5					41.6	1,567.4	96.8	2,756.9	0.0	0.0
112.00	Appurtenance(s)	38.9	467.3	371.5	0.0	0.0	5,338.0	16.8	628.4	427.2	6,433.6	0.0	0.0
115.00		61.4	688.1					21.1	490.6	82.5	1,178.7	0.0	0.0
120.00		75.5	1,111.6					42.7	819.8	118.2	1,931.4	0.0	0.0
125.00	Appurtenance(s)	74.0	1,072.3	657.5	0.0	0.0	10,566.3	43.3	822.2	774.8	12,460.9	0.0	0.0
130.00		51.8	1,032.7					0.0	595.3	51.8	1,628.0	0.0	0.0
132.12	Bot - Section 4	36.0	428.2					0.0	252.8	36.0	681.0	0.0	0.0
135.00	Appurtenance(s)	26.9	748.4	504.2	0.0	0.0	7,794.8	0.0	343.9	531.1	8,887.0	0.0	0.0
135.87	Top - Section 3	35.3	223.2					0.0	100.1	35.3	323.3	0.0	0.0
140.00	Appurtenance(s)	63.5	638.8	411.5	0.0	1,879.4	3,199.7	0.0	475.7	474.9	4,314.1	0.0	0.0
145.00		67.8	742.9					0.0	536.0	67.8	1,278.9	0.0	0.0
150.00	Appurtenance(s)	65.9	711.4	64.9	0.0	0.0	332.7	0.0	537.3	130.8	1,581.4	0.0	0.0
155.00		63.8	679.7					0.0	533.6	63.8	1,213.3	0.0	0.0
160.00		61.8	647.8					0.0	534.8	61.8	1,182.6	0.0	0.0
165.00		36.3	615.8					23.9	536.0	60.2	1,151.7	0.0	0.0
166.00	Appurtenance(s)	29.3	120.9	345.5	0.0	0.0	3,929.3	4.8	107.3	379.6	4,157.5	0.0	0.0
170.00		51.5	465.9					0.0	95.7	51.5	561.6	0.0	0.0
175.00		55.2	551.2					0.0	119.6	55.2	670.8	0.0	0.0
180.00	Appurtenance(s)	27.0	518.7	720.2	0.0	1,689.9	8,560.0	0.0	119.6	747.3	9,198.2	0.0	0.0

Site Number:	302506	Code:	ANSI/TIA-222-G	
Site Name:	Winchester CT 3, CT	Engineering Number:	12629663_C3_01	11/27/2018 2:52:19 PM
Customer:	VERIZON WIRELESS			

Load Case: 1.2D + 1.0Di + 1.0Wi — 40 mph with 1.00 in Radial Ice — 26 Iterations

Gust Response Factor: 1.10
Dead Load Factor: 1.20
Wind Load Factor: 1.00

Ice Dead Load Factor: 1.00

Wind Importance Factor: 1.00
Ice Importance Factor: 1.25

Totals:	6,737.59	146,881.	0.00	0.00

Site Number: 302506 Code: ANSI/TIA-222-G

Site Name: Winchester CT 3, CT Engineering Number: 12629663_C3_01 11/27/2018 2:52:19 PM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph with 1.00 in Radial Ice 26 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 : 1.25

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	-146.88	-6.74	0.00	-887.88	0.00	887.88	5,102.86	2,551.43	10,963.2	5,489.79	0.00	0.00	0.142
5.00	-142.92	-6.75	0.00	-854.17	0.00	854.17	5,029.12	2,514.56	10,576.3	5,296.03	0.02	-0.04	0.141
10.00	-138.82	-6.75	0.00	-820.43	0.00	820.43	4,953.95	2,476.98	10,193.1	5,104.17	0.08	-0.07	0.139
15.00	-134.68	-6.75	0.00	-786.67	0.00	786.67	4,877.36	2,438.68	9,813.98	4,914.28	0.18	-0.11	0.137
20.00	-130.53	-6.75	0.00	-752.91	0.00	752.91	4,799.34	2,399.67	9,438.93	4,726.48	0.31	-0.15	0.135
25.00	-126.38	-6.75	0.00	-719.16	0.00	719.16	4,719.90	2,359.95	9,068.23	4,540.86	0.49	-0.19	0.133
30.00	-122.19	-6.73	0.00	-685.44	0.00	685.44	4,639.03	2,319.51	8,702.08	4,357.51	0.71	-0.23	0.131
35.00	-118.11	-6.72	0.00	-651.79	0.00	651.79	4,556.73	2,278.36	8,340.67	4,176.53	0.97	-0.27	0.129
40.00	-114.05	-6.70	0.00	-618.21	0.00	618.21	4,473.00	2,236.50	7,984.18	3,998.03	1.27	-0.31	0.126
42.96	-111.66	-6.68	0.00	-598.42	0.00	598.42	4,422.82	2,211.41	7,775.79	3,893.68	1.47	-0.33	0.125
45.00	-109.58	-6.67	0.00	-584.76	0.00	584.76	4,378.03	2,189.01	7,615.75	3,813.53	1.62	-0.35	0.123
49.04	-105.49	-6.64	0.00	-557.83	0.00	557.83	3,604.17	1,802.08	6,267.69	3,138.50	1.93	-0.38	0.137
50.00	-104.74	-6.63	0.00	-551.46	0.00	551.46	3,591.50	1,795.75	6,214.33	3,111.78	2.01	-0.39	0.136
55.00	-100.90	-6.60	0.00	-518.31	0.00	518.31	3,524.70	1,762.35	5,938.60	2,973.71	2.44	-0.44	0.132
60.00	-97.08	-6.56	0.00	-485.33	0.00	485.33	3,456.48	1,728.24	5,666.60	2,837.51	2.92	-0.48	0.128
65.00	-93.30	-6.51	0.00	-452.56	0.00	452.56	3,386.83	1,693.41	5,398.53	2,703.28	3.45	-0.52	0.124
70.00	-89.54	-6.42	0.00	-420.02	0.00	420.02	3,315.75	1,657.87	5,134.58	2,571.11	4.02	-0.57	0.120
75.00	-85.82	-6.33	0.00	-387.90	0.00	387.90	3,242.30	1,621.15	4,873.54	2,440.39	4.64	-0.61	0.115
79.00	-82.85	-6.26	0.00	-362.58	0.00	362.58	3,164.68	1,582.34	4,641.84	2,324.37	5.17	-0.65	0.112
80.00	-81.18	-6.00	0.00	-356.32	0.00	356.32	3,145.28	1,572.64	4,584.79	2,295.80	5.30	-0.66	0.111
85.00	-77.52	-5.90	0.00	-326.31	0.00	326.31	3,048.26	1,524.13	4,304.87	2,155.63	6.01	-0.70	0.106
87.54	-75.68	-5.85	0.00	-311.32	0.00	311.32	2,998.97	1,499.48	4,166.05	2,086.12	6.39	-0.72	0.104
90.00	-73.55	-5.79	0.00	-296.93	0.00	296.93	2,951.23	1,475.62	4,033.76	2,019.88	6.77	-0.74	0.101
92.46	-71.44	-5.73	0.00	-282.72	0.00	282.72	2,412.07	1,206.04	3,317.78	1,661.36	7.15	-0.76	0.110
95.00	-69.67	-5.67	0.00	-268.15	0.00	268.15	2,382.81	1,191.41	3,222.46	1,613.62	7.57	-0.78	0.106
96.00	-68.04	-5.51	0.00	-262.48	0.00	262.48	2,371.21	1,185.60	3,185.22	1,594.98	7.73	-0.79	0.105
100.00	-65.29	-5.42	0.00	-240.43	0.00	240.43	2,324.22	1,162.11	3,037.61	1,521.06	8.41	-0.83	0.099
103.75	-62.73	-5.33	0.00	-220.12	0.00	220.12	2,279.33	1,139.67	2,901.28	1,452.80	9.07	-0.86	0.094
103.75	-62.73	-5.33	0.00	-220.12	0.00	220.12	2,279.33	1,139.67	2,901.28	1,452.80	9.07	-0.86	0.179
105.00	-61.52	-5.22	0.00	-213.45	0.00	213.45	2,264.20	1,132.10	2,856.29	1,430.27	9.30	-0.87	0.176
110.00	-58.76	-5.14	0.00	-187.34	0.00	187.34	2,186.61	1,093.30	2,659.07	1,331.51	10.25	-0.95	0.168
112.00	-52.33	-4.64	0.00	-177.06	0.00	177.06	2,154.27	1,077.13	2,580.59	1,292.21	10.65	-0.98	0.161
115.00	-51.15	-4.59	0.00	-163.15	0.00	163.15	2,105.76	1,052.88	2,465.08	1,234.37	11.28	-1.02	0.156
120.00	-49.21	-4.50	0.00	-140.20	0.00	140.20	2,024.90	1,012.45	2,278.43	1,140.91	12.40	-1.10	0.147
125.00	-36.76	-3.52	0.00	-117.71	0.00	117.71	1,944.05	972.03	2,099.13	1,051.12	13.59	-1.17	0.131
130.00	-35.13	-3.46	0.00	-100.11	0.00	100.11	1,863.20	931.60	1,927.17	965.02	14.85	-1.24	0.123
132.12	-34.45	-3.43	0.00	-92.77	0.00	92.77	1,828.92	914.46	1,856.49	929.62	15.40	-1.27	0.119
135.00	-25.58	-2.71	0.00	-82.88	0.00	82.88	1,782.35	891.17	1,762.57	882.59	16.18	-1.30	0.108
135.87	-25.25	-2.68	0.00	-80.53	0.00	80.53	993.95	496.97	1,000.68	501.09	16.42	-1.31	0.186
140.00	-20.95	-2.13	0.00	-67.56	0.00	67.56	969.84	484.92	940.01	470.70	17.58	-1.37	0.165
145.00	-19.67	-2.07	0.00	-56.89	0.00	56.89	939.35	469.68	867.78	434.53	19.05	-1.45	0.152
150.00	-18.09	-1.92	0.00	-46.56	0.00	46.56	907.44	453.72	797.07	399.13	20.62	-1.54	0.137
155.00	-16.88	-1.85	0.00	-36.96	0.00	36.96	874.09	437.05	728.06	364.57	22.28	-1.62	0.121
160.00	-15.69	-1.77	0.00	-27.74	0.00	27.74	839.33	419.66	660.97	330.98	24.02	-1.69	0.103
165.00	-14.54	-1.68	0.00	-18.90	0.00	18.90	800.44	400.22	593.98	297.43	25.83	-1.76	0.082
166.00	-10.40	-1.18	0.00	-17.22	0.00	17.22	790.74	395.37	579.60	290.23	26.20	-1.77	0.072
170.00	-9.84	-1.12	0.00	-12.50	0.00	12.50	751.93	375.97	523.82	262.30	27.70	-1.81	0.061
175.00	-9.17	-1.05	0.00	-6.91	0.00	6.91	703.42	351.71	458.07	229.37	29.61	-1.85	0.043
180.00	0.00	-0.75	0.00	-1.69	0.00	1.69	654.91	327.45	396.72	198.65	31.56	-1.87	0.009

Load Case: 1.0D + 1.0W Serviceability 60 mph 25 Iterations

Gust Response Factor : 1.10 Wind Importance Factor : 1.15
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	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		55.6	0.0					0.0	0.0	55.6	0.0	0.0	0.0
5.00		110.1	1,222.9					0.0	869.1	110.1	2,092.0	0.0	0.0
10.00		107.8	1,197.0					0.0	869.1	107.8	2,066.1	0.0	0.0
15.00		105.4	1,171.1					0.0	869.1	105.4	2,040.2	0.0	0.0
20.00		103.1	1,145.2					0.0	869.1	103.1	2,014.3	0.0	0.0
25.00		100.8	1,119.2					0.0	869.1	100.8	1,988.4	0.0	0.0
30.00	Appurtenance(s)	99.6	1,093.3	7.8	0.0	0.0	10.0	0.0	869.1	107.4	1,972.4	0.0	0.0
35.00		100.4	1,067.4					0.0	867.5	100.4	1,934.9	0.0	0.0
40.00		80.8	1,041.5					0.0	867.5	80.8	1,908.9	0.0	0.0
42.96	Bot - Section 2	51.5	603.6					0.0	512.9	51.5	1,116.6	0.0	0.0
45.00		63.7	771.7					0.0	354.5	63.7	1,126.2	0.0	0.0
49.04	Top - Section 1	52.4	1,502.0					0.0	700.9	52.4	2,202.9	0.0	0.0
50.00		62.6	164.3					0.0	166.6	62.6	330.9	0.0	0.0
55.00		105.1	842.5					0.0	867.5	105.1	1,710.0	0.0	0.0
60.00		104.9	820.3					0.0	867.5	104.9	1,687.7	0.0	0.0
65.00		148.4	798.0					0.0	867.5	148.4	1,665.5	0.0	0.0
70.00		191.3	775.8					39.1	867.5	230.5	1,643.3	0.0	0.0
75.00		170.8	753.6					39.9	867.5	210.7	1,621.1	0.0	0.0
79.00	Appurtenance(s)	94.3	586.9	0.9	0.0	0.0	0.6	32.5	694.0	127.7	1,281.5	0.0	0.0
80.00	Appurtenance(s)	111.9	144.5	483.2	0.0	0.0	278.0	8.2	173.3	603.2	595.8	0.0	0.0
85.00		139.9	709.2					41.4	864.2	181.3	1,573.3	0.0	0.0
87.54	Bot - Section 3	92.6	351.7					21.3	439.0	113.9	790.7	0.0	0.0
90.00		91.1	620.3					20.8	425.2	111.9	1,045.5	0.0	0.0
92.46	Top - Section 2	91.9	609.5					21.0	424.6	112.9	1,034.1	0.0	0.0
95.00		64.7	285.4					21.9	439.6	86.6	725.0	0.0	0.0
96.00	Appurtenance(s)	90.3	110.9	157.0	0.0	0.0	486.6	8.6	172.8	255.9	770.3	0.0	0.0
100.00		138.6	436.1					34.8	688.1	173.5	1,124.2	0.0	0.0
103.75	Reinf. Top	88.5	398.1					33.0	645.1	121.5	1,043.2	0.0	0.0
105.00	Appurtenance(s)	108.6	130.4	116.8	0.0	0.0	79.2	11.1	131.5	236.5	341.1	0.0	0.0
110.00		120.7	510.0					44.7	501.5	165.4	1,011.5	0.0	0.0
112.00	Appurtenance(s)	84.6	198.8	535.2	0.0	0.0	1,668.0	18.0	200.6	637.9	2,067.4	0.0	0.0
115.00		133.0	292.7					22.5	149.2	155.4	441.9	0.0	0.0
120.00		162.7	473.0					45.4	248.7	208.1	721.7	0.0	0.0
125.00	Appurtenance(s)	122.4	454.5	1,082.7	0.0	0.0	2,642.3	45.9	248.7	1,251.1	3,345.5	0.0	0.0
130.00		59.7	435.9					0.0	217.6	59.7	653.6	0.0	0.0
132.12	Bot - Section 4	41.2	179.2					0.0	92.3	41.2	271.5	0.0	0.0
135.00	Appurtenance(s)	30.8	384.0	769.2	0.0	0.0	2,857.1	0.0	125.4	800.0	3,366.5	0.0	0.0
135.87	Top - Section 3	40.1	114.0					0.0	34.6	40.1	148.7	0.0	0.0
140.00	Appurtenance(s)	71.7	201.1	451.0	0.0	1,890.3	721.0	0.0	164.5	522.7	1,086.6	0.0	0.0
145.00		75.9	233.3					0.0	164.8	75.9	398.1	0.0	0.0
150.00	Appurtenance(s)	72.9	222.2	56.3	0.0	0.0	158.3	0.0	164.8	129.2	545.3	0.0	0.0
155.00		69.9	211.1					0.0	160.7	69.9	371.8	0.0	0.0
160.00		94.3	200.0					0.0	160.7	94.3	360.7	0.0	0.0
165.00		71.8	188.9					24.9	160.7	96.7	349.6	0.0	0.0
166.00	Appurtenance(s)	36.3	36.4	455.0	0.0	0.0	1,285.3	5.0	32.1	496.3	1,353.9	0.0	0.0
170.00		53.9	141.3					0.0	79.7	53.9	221.0	0.0	0.0
175.00		56.8	166.6					0.0	99.6	56.8	266.3	0.0	0.0
180.00	Appurtenance(s)	27.6	155.5	1,033.1	0.0	2,759.9	2,521.3	0.0	99.6	1,060.6	2,776.5	0.0	0.0

Site Number:	302506	Code:	ANSI/TIA-222-G	
Site Name:	Winchester CT 3, CT	Engineering Number:	12629663_C3_01	11/27/2018 2:52:29 PM
Customer:	VERIZON WIRELESS			

Load Case: 1.0D + 1.0W — Serviceability 60 mph — 25 Iterations

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

Wind Importance Factor: 1.15

Totals:	10,041.3	59,204.3	0.00	0.00

Load Case: 1.0D + 1.0W Serviceability 60 mph 25 Iterations

Gust Response Factor: 1.10 Wind Importance Factor: 1.15
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	-59.20	-10.01	0.00	-1,182.14	0.00	1,182.14	5,102.86	2,551.43	10,963.2	5,489.79	0.00	0.00	0.168
5.00	-57.10	-9.95	0.00	-1,132.09	0.00	1,132.09	5,029.12	2,514.56	10,576.3	5,296.03	0.03	-0.05	0.166
10.00	-55.03	-9.89	0.00	-1,082.35	0.00	1,082.35	4,953.95	2,476.98	10,193.1	5,104.17	0.10	-0.10	0.163
15.00	-52.98	-9.82	0.00	-1,032.93	0.00	1,032.93	4,877.36	2,438.68	9,813.98	4,914.28	0.23	-0.15	0.161
20.00	-50.95	-9.76	0.00	-983.82	0.00	983.82	4,799.34	2,399.67	9,438.93	4,726.48	0.41	-0.20	0.158
25.00	-48.96	-9.69	0.00	-935.03	0.00	935.03	4,719.90	2,359.95	9,068.23	4,540.86	0.65	-0.25	0.155
30.00	-46.98	-9.62	0.00	-886.57	0.00	886.57	4,639.03	2,319.51	8,702.08	4,357.51	0.94	-0.30	0.151
35.00	-45.03	-9.55	0.00	-838.49	0.00	838.49	4,556.73	2,278.36	8,340.67	4,176.53	1.28	-0.35	0.148
40.00	-43.12	-9.48	0.00	-790.75	0.00	790.75	4,473.00	2,236.50	7,984.18	3,998.03	1.67	-0.40	0.144
42.96	-42.00	-9.44	0.00	-762.71	0.00	762.71	4,422.82	2,211.41	7,775.79	3,893.68	1.93	-0.43	0.142
45.00	-40.87	-9.40	0.00	-743.41	0.00	743.41	4,378.03	2,189.01	7,615.75	3,813.53	2.12	-0.46	0.139
49.04	-38.66	-9.34	0.00	-705.46	0.00	705.46	3,604.17	1,802.08	6,267.69	3,138.50	2.53	-0.50	0.154
50.00	-38.33	-9.30	0.00	-696.49	0.00	696.49	3,591.50	1,795.75	6,214.33	3,111.78	2.63	-0.51	0.153
55.00	-36.61	-9.21	0.00	-650.00	0.00	650.00	3,524.70	1,762.35	5,938.60	2,973.71	3.19	-0.56	0.148
60.00	-34.91	-9.12	0.00	-603.93	0.00	603.93	3,456.48	1,728.24	5,666.60	2,837.51	3.81	-0.62	0.142
65.00	-33.24	-8.99	0.00	-558.32	0.00	558.32	3,386.83	1,693.41	5,398.53	2,703.28	4.49	-0.67	0.136
70.00	-31.59	-8.77	0.00	-513.38	0.00	513.38	3,315.75	1,657.87	5,134.58	2,571.11	5.22	-0.73	0.130
75.00	-29.97	-8.56	0.00	-469.54	0.00	469.54	3,242.30	1,621.15	4,873.54	2,440.39	6.02	-0.78	0.123
79.00	-28.68	-8.43	0.00	-435.30	0.00	435.30	3,164.68	1,582.34	4,641.84	2,324.37	6.69	-0.82	0.119
80.00	-28.09	-7.83	0.00	-426.87	0.00	426.87	3,145.28	1,572.64	4,584.79	2,295.80	6.86	-0.83	0.117
85.00	-26.52	-7.64	0.00	-387.72	0.00	387.72	3,048.26	1,524.13	4,304.87	2,155.63	7.76	-0.89	0.112
87.54	-25.72	-7.53	0.00	-368.30	0.00	368.30	2,998.97	1,499.48	4,166.05	2,086.12	8.24	-0.91	0.109
90.00	-24.68	-7.41	0.00	-349.78	0.00	349.78	2,951.23	1,475.62	4,033.76	2,019.88	8.72	-0.94	0.104
92.46	-23.64	-7.29	0.00	-331.58	0.00	331.58	2,412.07	1,206.04	3,317.78	1,661.36	9.21	-0.96	0.113
95.00	-22.92	-7.20	0.00	-313.03	0.00	313.03	2,382.81	1,191.41	3,222.46	1,613.62	9.73	-0.99	0.109
96.00	-22.15	-6.94	0.00	-305.83	0.00	305.83	2,371.21	1,185.60	3,185.22	1,594.98	9.93	-1.00	0.107
100.00	-21.02	-6.76	0.00	-278.07	0.00	278.07	2,324.22	1,162.11	3,037.61	1,521.06	10.79	-1.04	0.100
103.75	-19.98	-6.63	0.00	-252.72	0.00	252.72	2,279.33	1,139.67	2,901.28	1,452.80	11.61	-1.07	0.094
103.75	-19.98	-6.63	0.00	-252.72	0.00	252.72	2,279.33	1,139.67	2,901.28	1,452.80	11.61	-1.07	0.183
105.00	-19.64	-6.40	0.00	-244.44	0.00	244.44	2,264.20	1,132.10	2,856.29	1,430.27	11.90	-1.08	0.180
110.00	-18.62	-6.24	0.00	-212.42	0.00	212.42	2,186.61	1,093.30	2,659.07	1,331.51	13.08	-1.17	0.168
112.00	-16.56	-5.57	0.00	-199.95	0.00	199.95	2,154.27	1,077.13	2,580.59	1,292.21	13.58	-1.21	0.162
115.00	-16.12	-5.42	0.00	-183.24	0.00	183.24	2,105.76	1,052.88	2,465.08	1,234.37	14.36	-1.26	0.156
120.00	-15.39	-5.22	0.00	-156.12	0.00	156.12	2,024.90	1,012.45	2,278.43	1,140.91	15.72	-1.34	0.144
125.00	-12.07	-3.91	0.00	-130.01	0.00	130.01	1,944.05	972.03	2,099.13	1,051.12	17.17	-1.42	0.130
130.00	-11.42	-3.84	0.00	-110.48	0.00	110.48	1,863.20	931.60	1,927.17	965.02	18.70	-1.50	0.121
132.12	-11.15	-3.80	0.00	-102.34	0.00	102.34	1,828.92	914.46	1,856.49	929.62	19.37	-1.53	0.116
135.00	-7.80	-2.91	0.00	-91.40	0.00	91.40	1,782.35	891.17	1,762.57	882.59	20.31	-1.57	0.108
135.87	-7.65	-2.87	0.00	-88.87	0.00	88.87	993.95	496.97	1,000.68	501.09	20.59	-1.58	0.185
140.00	-6.58	-2.33	0.00	-75.12	0.00	75.12	969.84	484.92	940.01	470.70	21.99	-1.64	0.166
145.00	-6.18	-2.25	0.00	-63.48	0.00	63.48	939.35	469.68	867.78	434.53	23.76	-1.74	0.153
150.00	-5.63	-2.11	0.00	-52.22	0.00	52.22	907.44	453.72	797.07	399.13	25.63	-1.83	0.137
155.00	-5.26	-2.04	0.00	-41.65	0.00	41.65	874.09	437.05	728.06	364.57	27.60	-1.92	0.120
160.00	-4.90	-1.94	0.00	-31.45	0.00	31.45	839.33	419.66	660.97	330.98	29.66	-2.01	0.101
165.00	-4.55	-1.83	0.00	-21.75	0.00	21.75	800.44	400.22	593.98	297.43	31.80	-2.08	0.079
166.00	-3.22	-1.29	0.00	-19.91	0.00	19.91	790.74	395.37	579.60	290.23	32.24	-2.09	0.073
170.00	-3.00	-1.23	0.00	-14.75	0.00	14.75	751.93	375.97	523.82	262.30	34.01	-2.14	0.060
175.00	-2.73	-1.17	0.00	-8.59	0.00	8.59	703.42	351.71	458.07	229.37	36.27	-2.18	0.041
180.00	0.00	-1.06	0.00	-2.76	0.00	2.76	654.91	327.45	396.72	198.65	38.58	-2.21	0.014

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.18	
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06	
Long-Period Transition Period (T_L):	6	
Importance Factor (I_E):	1.50	
Site Coefficient F_a:	1.60	
Site Coeffiecient 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):	2.67	
Redundancy Factor (p):	1.30	
Seismic Force Distribution Exponent (k):	2.00	
Total Unfactored Dead Load:	59.20	k
Seismic Base Shear (E):	3.00	k

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
47	177.50	255	8,040	0.015	46	316
46	172.50	266	7,924	0.015	45	330
45	168.00	221	6,238	0.012	35	274
44	165.50	69	1,879	0.004	11	85
43	162.50	350	9,232	0.017	52	433
42	157.50	361	8,948	0.017	51	446
41	152.50	372	8,647	0.016	49	460
40	147.50	387	8,420	0.016	48	479
39	142.50	398	8,085	0.015	46	493
38	137.93	366	6,956	0.013	40	453
37	135.43	149	2,727	0.005	16	184
36	133.56	509	9,087	0.017	52	631
35	131.06	271	4,663	0.009	27	336
34	127.50	654	10,625	0.020	60	809
33	122.50	703	10,552	0.020	60	870
32	117.50	722	9,964	0.019	57	893
31	113.50	442	5,693	0.011	32	547
30	111.00	399	4,921	0.009	28	494
29	107.50	1,012	11,689	0.022	66	1,252
28	104.38	262	2,853	0.005	16	324
27	101.88	1,043	10,827	0.021	62	1,291
26	98.00	1,124	10,797	0.020	61	1,392
25	95.50	284	2,588	0.005	15	351

24	93.73	725	6,369	0.012	36	897
23	91.23	1,034	8,607	0.016	49	1,280
22	88.77	1,045	8,238	0.016	47	1,294
21	86.27	791	5,885	0.011	33	979
20	82.50	1,573	10,709	0.020	61	1,947
19	79.50	318	2,009	0.004	11	393
18	77.00	1,281	7,594	0.014	43	1,585
17	72.50	1,621	8,521	0.016	48	2,007
16	67.50	1,643	7,487	0.014	43	2,034
15	62.50	1,666	6,506	0.012	37	2,062
14	57.50	1,688	5,580	0.011	32	2,089
13	52.50	1,710	4,713	0.009	27	2,117
12	49.52	331	811	0.002	5	410
11	47.02	2,203	4,870	0.009	28	2,727
10	43.98	1,126	2,178	0.004	12	1,394
9	41.48	1,117	1,921	0.004	11	1,382
8	37.50	1,909	2,684	0.005	15	2,363
7	32.50	1,935	2,044	0.004	12	2,395
6	27.50	1,962	1,484	0.003	8	2,429
5	22.50	1,988	1,007	0.002	6	2,461
4	17.50	2,014	617	0.001	4	2,493
3	12.50	2,040	319	0.001	2	2,525
2	7.50	2,066	116	0.000	1	2,557
1	2.50	2,092	13	0.000	0	2,589
Andrew ABT-DMDF-ADBH	180.00	1	36	0.000	0	1
Powerwave Allgon TT1	180.00	48	1,555	0.003	9	59
4' Omni	180.00	10	324	0.001	2	12
Powerwave Allgon LGP	180.00	42	1,371	0.003	8	52
Raycap DC6-48-60-18-	180.00	40	1,296	0.002	7	50
Ericsson RRUS 11 (Ba	180.00	150	4,860	0.009	28	186
Ericsson RRUS 32 (50	180.00	152	4,938	0.009	28	189
Ericsson RRUS-12 B2	180.00	174	5,638	0.011	32	215
Powerwave Allgon 777	180.00	105	3,402	0.006	19	130
KMW AM-X-CD-16-65-00	180.00	146	4,714	0.009	27	180
CCI HPA-65R-BUU-H6	180.00	153	4,957	0.009	28	189
Flat Low Profile Pla	180.00	1,500	48,600	0.092	276	1,857
Ericsson KRY 112 144	166.00	33	909	0.002	5	41
Fastback Networks In	166.00	9	242	0.000	1	11
Ericsson AIR 21, 1.3	166.00	249	6,861	0.013	39	308
Ericsson AIR 21, 1.3	166.00	244	6,737	0.013	38	303
Round T-Arm	166.00	750	20,667	0.039	118	928
Sinclair SD210-SF2P4	150.00	8	187	0.000	1	10
Round Side Arm	150.00	150	3,375	0.006	19	186
Telewave ANT150D (5	140.00	5	98	0.000	1	6
Bird 432-83H-01-T	140.00	25	490	0.001	3	31
Sinclair SC479-HF1LD	140.00	34	666	0.001	4	42
Round Side Arm	140.00	450	8,820	0.017	50	557
Decibel DB809DK-XT	140.00	128	2,509	0.005	14	158
Sinclair SC442D-HF1L	140.00	79	1,548	0.003	9	98
Alcatel-Lucent 800 M	135.00	185	3,379	0.006	19	229
Alcatel-Lucent 1900M	135.00	132	2,406	0.005	14	163
Alcatel-Lucent TD-RR	135.00	210	3,827	0.007	22	260
RFS APXVTM14-C-I20	135.00	159	2,892	0.005	16	196
RFS APXVSPP18-C-A20	135.00	171	3,116	0.006	18	212
Flat Platform w/ Han	135.00	2,000	36,450	0.069	207	2,476
Nokia AHCA AirScale	125.00	106	1,655	0.003	9	131
Alcatel-Lucent B25 R	125.00	159	2,484	0.005	14	197
Alcatel-Lucent B13 R	125.00	173	2,709	0.005	15	215
Nokia B66a RRH4x45 (	125.00	170	2,663	0.005	15	211
Raycap RCMDC-6627-PF	125.00	32	500	0.001	3	40
Antel LPA-80080/6CF	125.00	42	656	0.001	4	52
Antel LPA-80080/6CF	125.00	42	656	0.001	4	52
Commscope JAHH-65B-R	125.00	364	5,681	0.011	32	450
Antel LPA-80063/6CF	125.00	54	844	0.002	5	67

Round Low Profile Pl	125.00	1,500	23,438	0.044	133	1,857
Decibel DB844H90E-XY	112.00	168	2,107	0.004	12	208
Round Low Profile Pl	112.00	1,500	18,816	0.036	107	1,857
RFS APXV18-206517S-C	105.00	79	873	0.002	5	98
Andrew DB586	96.00	17	153	0.000	1	21
Bird 429-83H-01-T	96.00	20	184	0.000	1	25
Flat Side Arm	96.00	450	4,147	0.008	24	557
RFS PA6-65AC	80.00	278	1,779	0.003	10	344
PCTEL GPS-TMG-HR-26N	79.00	1	4	0.000	0	1
GPS	30.00	10	9	0.000	0	12
		59,204	527,867	1.000	3,002	73,281

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
47	177.50	255	8,040	0.015	46	220
46	172.50	266	7,924	0.015	45	230
45	168.00	221	6,238	0.012	35	191
44	165.50	69	1,879	0.004	11	59
43	162.50	350	9,232	0.017	52	301
42	157.50	361	8,948	0.017	51	311
41	152.50	372	8,647	0.016	49	321
40	147.50	387	8,420	0.016	48	334
39	142.50	398	8,085	0.015	46	343
38	137.93	366	6,956	0.013	40	315
37	135.43	149	2,727	0.005	16	128
36	133.56	509	9,087	0.017	52	439
35	131.06	271	4,663	0.009	27	234
34	127.50	654	10,625	0.020	60	564
33	122.50	703	10,552	0.020	60	606
32	117.50	722	9,964	0.019	57	622
31	113.50	442	5,693	0.011	32	381
30	111.00	399	4,921	0.009	28	344
29	107.50	1,012	11,689	0.022	66	872
28	104.38	262	2,853	0.005	16	226
27	101.88	1,043	10,827	0.021	62	900
26	98.00	1,124	10,797	0.020	61	969
25	95.50	284	2,588	0.005	15	245
24	93.73	725	6,369	0.012	36	625
23	91.23	1,034	8,607	0.016	49	892
22	88.77	1,045	8,238	0.016	47	901
21	86.27	791	5,885	0.011	33	682
20	82.50	1,573	10,709	0.020	61	1,357
19	79.50	318	2,009	0.004	11	274
18	77.00	1,281	7,594	0.014	43	1,104
17	72.50	1,621	8,521	0.016	48	1,398
16	67.50	1,643	7,487	0.014	43	1,417
15	62.50	1,666	6,506	0.012	37	1,436
14	57.50	1,688	5,580	0.011	32	1,455
13	52.50	1,710	4,713	0.009	27	1,474
12	49.52	331	811	0.002	5	285
11	47.02	2,203	4,870	0.009	28	1,899
10	43.98	1,126	2,178	0.004	12	971
9	41.48	1,117	1,921	0.004	11	963
8	37.50	1,909	2,684	0.005	15	1,646
7	32.50	1,935	2,044	0.004	12	1,668
6	27.50	1,962	1,484	0.003	8	1,692
5	22.50	1,988	1,007	0.002	6	1,714
4	17.50	2,014	617	0.001	4	1,737

3	12.50	2,040	319	0.001	2	1,759
2	7.50	2,066	116	0.000	1	1,781
1	2.50	2,092	13	0.000	0	1,804
Andrew ABT-DMDF-ADBH	180.00	1	36	0.000	0	1
Powerwave Allgon TT1	180.00	48	1,555	0.003	9	41
4' Omni	180.00	10	324	0.001	2	9
Powerwave Allgon LGP	180.00	42	1,371	0.003	8	36
Raycap DC6-48-60-18-	180.00	40	1,296	0.002	7	34
Ericsson RRUS 11 (Ba	180.00	150	4,860	0.009	28	129
Ericsson RRUS 32 (50	180.00	152	4,938	0.009	28	131
Ericsson RRUS-12 B2	180.00	174	5,638	0.011	32	150
Powerwave Allgon 777	180.00	105	3,402	0.006	19	91
KMW AM-X-CD-16-65-00	180.00	146	4,714	0.009	27	125
CCI HPA-65R-BUU-H6	180.00	153	4,957	0.009	28	132
Flat Low Profile Pla	180.00	1,500	48,600	0.092	276	1,293
Ericsson KRY 112 144	166.00	33	909	0.002	5	28
Fastback Networks In	166.00	9	242	0.000	1	8
Ericsson AIR 21, 1.3	166.00	249	6,861	0.013	39	215
Ericsson AIR 21, 1.3	166.00	244	6,737	0.013	38	211
Round T-Arm	166.00	750	20,667	0.039	118	647
Sinclair SD210-SF2P4	150.00	8	187	0.000	1	7
Round Side Arm	150.00	150	3,375	0.006	19	129
Telewave ANT150D (5	140.00	5	98	0.000	1	4
Bird 432-83H-01-T	140.00	25	490	0.001	3	22
Sinclair SC479-HF1LD	140.00	34	666	0.001	4	29
Round Side Arm	140.00	450	8,820	0.017	50	388
Decibel DB809DK-XT	140.00	128	2,509	0.005	14	110
Sinclair SC442D-HF1L	140.00	79	1,548	0.003	9	68
Alcatel-Lucent 800 M	135.00	185	3,379	0.006	19	160
Alcatel-Lucent 1900M	135.00	132	2,406	0.005	14	114
Alcatel-Lucent TD-RR	135.00	210	3,827	0.007	22	181
RFS APXVTM14-C-I20	135.00	159	2,892	0.005	16	137
RFS APXVSPP18-C-A20	135.00	171	3,116	0.006	18	147
Flat Platform w/ Han	135.00	2,000	36,450	0.069	207	1,724
Nokia AHCA AirScale	125.00	106	1,655	0.003	9	91
Alcatel-Lucent B25 R	125.00	159	2,484	0.005	14	137
Alcatel-Lucent B13 R	125.00	173	2,709	0.005	15	150
Nokia B66a RRH4x45 (	125.00	170	2,663	0.005	15	147
Raycap RCMDC-6627-PF	125.00	32	500	0.001	3	28
Antel LPA-80080/6CF	125.00	42	656	0.001	4	36
Antel LPA-80080/6CF	125.00	42	656	0.001	4	36
Commscope JAHH-65B-R	125.00	364	5,681	0.011	32	314
Antel LPA-80063/6CF	125.00	54	844	0.002	5	47
Round Low Profile Pl	125.00	1,500	23,438	0.044	133	1,293
Decibel DB844H90E-XY	112.00	168	2,107	0.004	12	145
Round Low Profile Pl	112.00	1,500	18,816	0.036	107	1,293
RFS APXV18-206517S-C	105.00	79	873	0.002	5	68
Andrew DB586	96.00	17	153	0.000	1	14
Bird 429-83H-01-T	96.00	20	184	0.000	1	17
Flat Side Arm	96.00	450	4,147	0.008	24	388
RFS PA6-65AC	80.00	278	1,779	0.003	10	240
PCTEL GPS-TMG-HR-26N	79.00	1	4	0.000	0	1
GPS	30.00	10	9	0.000	0	9
		59,204	527,867	1.000	3,002	51,048

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	-70.69	-3.01	0.00	-406.57	0.00	406.57	5,102.86	2,551.43	10,963.2	5,489.79	0.00	0.00	0.066
5.00	-68.13	-3.03	0.00	-391.51	0.00	391.51	5,029.12	2,514.56	10,576.3	5,296.03	0.01	-0.02	0.065
10.00	-65.61	-3.05	0.00	-376.36	0.00	376.36	4,953.95	2,476.98	10,193.1	5,104.17	0.04	-0.03	0.064
15.00	-63.11	-3.06	0.00	-361.13	0.00	361.13	4,877.36	2,438.68	9,813.98	4,914.28	0.08	-0.05	0.063
20.00	-60.65	-3.07	0.00	-345.82	0.00	345.82	4,799.34	2,399.67	9,438.93	4,726.48	0.14	-0.07	0.062
25.00	-58.22	-3.08	0.00	-330.47	0.00	330.47	4,719.90	2,359.95	9,068.23	4,540.86	0.22	-0.09	0.061
30.00	-55.81	-3.08	0.00	-315.08	0.00	315.08	4,639.03	2,319.51	8,702.08	4,357.51	0.33	-0.10	0.060
35.00	-53.45	-3.08	0.00	-299.68	0.00	299.68	4,556.73	2,278.36	8,340.67	4,176.53	0.44	-0.12	0.059
40.00	-52.07	-3.08	0.00	-284.29	0.00	284.29	4,473.00	2,236.50	7,984.18	3,998.03	0.58	-0.14	0.058
42.96	-50.67	-3.07	0.00	-275.20	0.00	275.20	4,422.82	2,211.41	7,775.79	3,893.68	0.68	-0.15	0.057
45.00	-47.94	-3.04	0.00	-268.93	0.00	268.93	4,378.03	2,189.01	7,615.75	3,813.53	0.74	-0.16	0.056
49.04	-47.53	-3.05	0.00	-256.63	0.00	256.63	3,604.17	1,802.08	6,267.69	3,138.50	0.89	-0.18	0.063
50.00	-45.42	-3.02	0.00	-253.71	0.00	253.71	3,591.50	1,795.75	6,214.33	3,111.78	0.92	-0.18	0.062
55.00	-43.33	-3.00	0.00	-238.60	0.00	238.60	3,524.70	1,762.35	5,938.60	2,973.71	1.12	-0.20	0.060
60.00	-41.26	-2.97	0.00	-223.61	0.00	223.61	3,456.48	1,728.24	5,666.60	2,837.51	1.34	-0.22	0.058
65.00	-39.23	-2.93	0.00	-208.76	0.00	208.76	3,386.83	1,693.41	5,398.53	2,703.28	1.58	-0.24	0.056
70.00	-37.22	-2.89	0.00	-194.10	0.00	194.10	3,315.75	1,657.87	5,134.58	2,571.11	1.85	-0.26	0.054
75.00	-35.64	-2.85	0.00	-179.66	0.00	179.66	3,242.30	1,621.15	4,873.54	2,440.39	2.13	-0.28	0.052
79.00	-35.24	-2.84	0.00	-168.27	0.00	168.27	3,164.68	1,582.34	4,641.84	2,324.37	2.37	-0.30	0.051
80.00	-32.95	-2.77	0.00	-165.43	0.00	165.43	3,145.28	1,572.64	4,584.79	2,295.80	2.44	-0.30	0.050
85.00	-31.97	-2.73	0.00	-151.60	0.00	151.60	3,048.26	1,524.13	4,304.87	2,155.63	2.76	-0.32	0.049
87.54	-30.68	-2.69	0.00	-144.66	0.00	144.66	2,998.97	1,499.48	4,166.05	2,086.12	2.94	-0.33	0.047
90.00	-29.40	-2.63	0.00	-138.05	0.00	138.05	2,951.23	1,475.62	4,033.76	2,019.88	3.11	-0.34	0.046
92.46	-28.50	-2.60	0.00	-131.58	0.00	131.58	2,412.07	1,206.04	3,317.78	1,661.36	3.29	-0.35	0.050
95.00	-28.15	-2.58	0.00	-124.97	0.00	124.97	2,382.81	1,191.41	3,222.46	1,613.62	3.48	-0.36	0.048
96.00	-26.15	-2.49	0.00	-122.39	0.00	122.39	2,371.21	1,185.60	3,185.22	1,594.98	3.56	-0.37	0.047
100.00	-24.86	-2.43	0.00	-112.43	0.00	112.43	2,324.22	1,162.11	3,037.61	1,521.06	3.87	-0.38	0.045
103.75	-24.54	-2.41	0.00	-103.33	0.00	103.33	2,279.33	1,139.67	2,901.28	1,452.80	4.17	-0.40	0.043
103.75	-24.54	-2.41	0.00	-103.33	0.00	103.33	2,279.33	1,139.67	2,901.28	1,452.80	4.17	-0.40	0.082
105.00	-23.19	-2.34	0.00	-100.32	0.00	100.32	2,264.20	1,132.10	2,856.29	1,430.27	4.28	-0.40	0.080
110.00	-22.69	-2.32	0.00	-88.62	0.00	88.62	2,186.61	1,093.30	2,659.07	1,331.51	4.72	-0.44	0.077
112.00	-20.08	-2.15	0.00	-83.98	0.00	83.98	2,154.27	1,077.13	2,580.59	1,292.21	4.91	-0.45	0.074
115.00	-19.19	-2.10	0.00	-77.52	0.00	77.52	2,105.76	1,052.88	2,465.08	1,234.37	5.20	-0.47	0.072
120.00	-18.32	-2.04	0.00	-67.03	0.00	67.03	2,024.90	1,012.45	2,278.43	1,140.91	5.71	-0.51	0.068
125.00	-14.24	-1.72	0.00	-56.82	0.00	56.82	1,944.05	972.03	2,099.13	1,051.12	6.27	-0.54	0.061
130.00	-13.90	-1.69	0.00	-48.23	0.00	48.23	1,863.20	931.60	1,927.17	965.02	6.85	-0.58	0.057
132.12	-13.27	-1.64	0.00	-44.64	0.00	44.64	1,828.92	914.46	1,856.49	929.62	7.11	-0.59	0.055
135.00	-9.55	-1.29	0.00	-39.92	0.00	39.92	1,782.35	891.17	1,762.57	882.59	7.47	-0.61	0.051
135.87	-9.10	-1.25	0.00	-38.79	0.00	38.79	993.95	496.97	1,000.68	501.09	7.59	-0.61	0.087
140.00	-7.72	-1.11	0.00	-33.64	0.00	33.64	969.84	484.92	940.01	470.70	8.13	-0.64	0.079
145.00	-7.24	-1.06	0.00	-28.07	0.00	28.07	939.35	469.68	867.78	434.53	8.82	-0.68	0.072
150.00	-6.58	-0.99	0.00	-22.75	0.00	22.75	907.44	453.72	797.07	399.13	9.56	-0.73	0.064
155.00	-6.14	-0.94	0.00	-17.80	0.00	17.80	874.09	437.05	728.06	364.57	10.34	-0.76	0.056
160.00	-5.70	-0.88	0.00	-13.10	0.00	13.10	839.33	419.66	660.97	330.98	11.16	-0.80	0.046
165.00	-5.62	-0.87	0.00	-8.68	0.00	8.68	800.44	400.22	593.98	297.43	12.01	-0.83	0.036
166.00	-3.76	-0.61	0.00	-7.81	0.00	7.81	790.74	395.37	579.60	290.23	12.19	-0.83	0.032
170.00	-3.43	-0.56	0.00	-5.37	0.00	5.37	751.93	375.97	523.82	262.30	12.89	-0.85	0.025
175.00	-3.11	-0.51	0.00	-2.56	0.00	2.56	703.42	351.71	458.07	229.37	13.79	-0.87	0.016
180.00	0.00	-0.46	0.00	0.00	0.00	0.00	654.91	327.45	396.72	198.65	14.71	-0.87	0.000

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	-49.24	-3.01	0.00	-399.61	0.00	399.61	5,102.86	2,551.43	10,963.2	5,489.79	0.00	0.00	0.061
5.00	-47.46	-3.02	0.00	-384.57	0.00	384.57	5,029.12	2,514.56	10,576.3	5,296.03	0.01	-0.02	0.061
10.00	-45.70	-3.03	0.00	-369.47	0.00	369.47	4,953.95	2,476.98	10,193.1	5,104.17	0.04	-0.03	0.060
15.00	-43.96	-3.04	0.00	-354.31	0.00	354.31	4,877.36	2,438.68	9,813.98	4,914.28	0.08	-0.05	0.059
20.00	-42.25	-3.05	0.00	-339.12	0.00	339.12	4,799.34	2,399.67	9,438.93	4,726.48	0.14	-0.07	0.058
25.00	-40.56	-3.05	0.00	-323.89	0.00	323.89	4,719.90	2,359.95	9,068.23	4,540.86	0.22	-0.08	0.057
30.00	-38.88	-3.04	0.00	-308.65	0.00	308.65	4,639.03	2,319.51	8,702.08	4,357.51	0.32	-0.10	0.056
35.00	-37.23	-3.04	0.00	-293.43	0.00	293.43	4,556.73	2,278.36	8,340.67	4,176.53	0.44	-0.12	0.055
40.00	-36.27	-3.03	0.00	-278.24	0.00	278.24	4,473.00	2,236.50	7,984.18	3,998.03	0.57	-0.14	0.054
42.96	-35.30	-3.03	0.00	-269.27	0.00	269.27	4,422.82	2,211.41	7,775.79	3,893.68	0.66	-0.15	0.054
45.00	-33.40	-3.00	0.00	-263.09	0.00	263.09	4,378.03	2,189.01	7,615.75	3,813.53	0.73	-0.16	0.053
49.04	-33.11	-3.00	0.00	-250.97	0.00	250.97	3,604.17	1,802.08	6,267.69	3,138.50	0.87	-0.17	0.059
50.00	-31.64	-2.97	0.00	-248.09	0.00	248.09	3,591.50	1,795.75	6,214.33	3,111.78	0.90	-0.18	0.058
55.00	-30.18	-2.95	0.00	-233.22	0.00	233.22	3,524.70	1,762.35	5,938.60	2,973.71	1.10	-0.20	0.057
60.00	-28.74	-2.92	0.00	-218.48	0.00	218.48	3,456.48	1,728.24	5,666.60	2,837.51	1.31	-0.22	0.055
65.00	-27.32	-2.88	0.00	-203.90	0.00	203.90	3,386.83	1,693.41	5,398.53	2,703.28	1.55	-0.24	0.053
70.00	-25.93	-2.83	0.00	-189.52	0.00	189.52	3,315.75	1,657.87	5,134.58	2,571.11	1.81	-0.26	0.051
75.00	-24.82	-2.79	0.00	-175.36	0.00	175.36	3,242.30	1,621.15	4,873.54	2,440.39	2.09	-0.28	0.049
79.00	-24.55	-2.78	0.00	-164.19	0.00	164.19	3,164.68	1,582.34	4,641.84	2,324.37	2.33	-0.29	0.048
80.00	-22.95	-2.71	0.00	-161.41	0.00	161.41	3,145.28	1,572.64	4,584.79	2,295.80	2.39	-0.30	0.047
85.00	-22.27	-2.68	0.00	-147.87	0.00	147.87	3,048.26	1,524.13	4,304.87	2,155.63	2.71	-0.31	0.045
87.54	-21.37	-2.63	0.00	-141.07	0.00	141.07	2,998.97	1,499.48	4,166.05	2,086.12	2.88	-0.32	0.044
90.00	-20.47	-2.58	0.00	-134.60	0.00	134.60	2,951.23	1,475.62	4,033.76	2,019.88	3.05	-0.33	0.043
92.46	-19.85	-2.54	0.00	-128.27	0.00	128.27	2,412.07	1,206.04	3,317.78	1,661.36	3.22	-0.34	0.047
95.00	-19.60	-2.53	0.00	-121.81	0.00	121.81	2,382.81	1,191.41	3,222.46	1,613.62	3.41	-0.35	0.045
96.00	-18.21	-2.44	0.00	-119.28	0.00	119.28	2,371.21	1,185.60	3,185.22	1,594.98	3.48	-0.36	0.044
100.00	-17.31	-2.37	0.00	-109.54	0.00	109.54	2,324.22	1,162.11	3,037.61	1,521.06	3.79	-0.37	0.042
103.75	-17.09	-2.36	0.00	-100.64	0.00	100.64	2,279.33	1,139.67	2,901.28	1,452.80	4.09	-0.39	0.040
103.75	-17.09	-2.36	0.00	-100.64	0.00	100.64	2,279.33	1,139.67	2,901.28	1,452.80	4.09	-0.39	0.077
105.00	-16.15	-2.29	0.00	-97.70	0.00	97.70	2,264.20	1,132.10	2,856.29	1,430.27	4.19	-0.39	0.075
110.00	-15.80	-2.26	0.00	-86.27	0.00	86.27	2,186.61	1,093.30	2,659.07	1,331.51	4.62	-0.43	0.072
112.00	-13.98	-2.10	0.00	-81.75	0.00	81.75	2,154.27	1,077.13	2,580.59	1,292.21	4.80	-0.44	0.070
115.00	-13.36	-2.05	0.00	-75.44	0.00	75.44	2,105.76	1,052.88	2,465.08	1,234.37	5.09	-0.46	0.067
120.00	-12.75	-1.99	0.00	-65.21	0.00	65.21	2,024.90	1,012.45	2,278.43	1,140.91	5.59	-0.50	0.063
125.00	-9.91	-1.67	0.00	-55.27	0.00	55.27	1,944.05	972.03	2,099.13	1,051.12	6.13	-0.53	0.058
130.00	-9.68	-1.65	0.00	-46.90	0.00	46.90	1,863.20	931.60	1,927.17	965.02	6.71	-0.56	0.054
132.12	-9.24	-1.59	0.00	-43.41	0.00	43.41	1,828.92	914.46	1,856.49	929.62	6.96	-0.58	0.052
135.00	-6.65	-1.26	0.00	-38.81	0.00	38.81	1,782.35	891.17	1,762.57	882.59	7.31	-0.59	0.048
135.87	-6.34	-1.22	0.00	-37.72	0.00	37.72	993.95	496.97	1,000.68	501.09	7.42	-0.60	0.082
140.00	-5.37	-1.08	0.00	-32.69	0.00	32.69	969.84	484.92	940.01	470.70	7.95	-0.62	0.075
145.00	-5.04	-1.04	0.00	-27.27	0.00	27.27	939.35	469.68	867.78	434.53	8.63	-0.67	0.068
150.00	-4.58	-0.96	0.00	-22.10	0.00	22.10	907.44	453.72	797.07	399.13	9.35	-0.71	0.060
155.00	-4.27	-0.91	0.00	-17.27	0.00	17.27	874.09	437.05	728.06	364.57	10.11	-0.75	0.052
160.00	-3.97	-0.86	0.00	-12.71	0.00	12.71	839.33	419.66	660.97	330.98	10.91	-0.78	0.043
165.00	-3.91	-0.85	0.00	-8.43	0.00	8.43	800.44	400.22	593.98	297.43	11.74	-0.81	0.033
166.00	-2.62	-0.59	0.00	-7.58	0.00	7.58	790.74	395.37	579.60	290.23	11.91	-0.81	0.029
170.00	-2.39	-0.55	0.00	-5.21	0.00	5.21	751.93	375.97	523.82	262.30	12.60	-0.83	0.023
175.00	-2.17	-0.50	0.00	-2.48	0.00	2.48	703.42	351.71	458.07	229.37	13.47	-0.84	0.014
180.00	0.00	-0.46	0.00	0.00	0.00	0.00	654.91	327.45	396.72	198.65	14.36	-0.85	0.000

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_s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_E):	1.50
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
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	2.67
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)
47	177.50	255	1.838	1.716	1.044	0.325	108	316
46	172.50	266	1.736	1.263	0.871	0.264	91	330
45	168.00	221	1.646	0.929	0.735	0.214	61	274
44	165.50	69	1.598	0.772	0.667	0.188	17	85
43	162.50	350	1.540	0.605	0.592	0.159	72	433
42	157.50	361	1.447	0.379	0.482	0.115	54	446
41	152.50	372	1.357	0.207	0.388	0.076	37	460
40	147.50	387	1.269	0.080	0.309	0.043	21	479
39	142.50	398	1.185	-0.009	0.243	0.015	8	493
38	137.93	366	1.110	-0.064	0.193	-0.007	-3	453
37	135.43	149	1.070	-0.085	0.169	-0.016	-3	184
36	133.56	509	1.041	-0.097	0.152	-0.023	-15	631
35	131.06	271	1.002	-0.109	0.132	-0.030	-11	336
34	127.50	654	0.948	-0.119	0.107	-0.038	-33	809
33	122.50	703	0.875	-0.121	0.078	-0.045	-42	870
32	117.50	722	0.805	-0.113	0.055	-0.047	-44	893
31	113.50	442	0.751	-0.101	0.041	-0.045	-26	547
30	111.00	399	0.719	-0.092	0.034	-0.042	-22	494
29	107.50	1,012	0.674	-0.079	0.025	-0.036	-48	1,252
28	104.38	262	0.635	-0.066	0.019	-0.029	-10	324
27	101.88	1,043	0.605	-0.055	0.015	-0.023	-31	1,291
26	98.00	1,124	0.560	-0.038	0.011	-0.012	-17	1,392
25	95.50	284	0.532	-0.028	0.009	-0.004	-2	351
24	93.73	725	0.512	-0.021	0.008	0.001	1	897
23	91.23	1,034	0.485	-0.011	0.007	0.008	11	1,280
22	88.77	1,045	0.460	-0.002	0.006	0.015	21	1,294
21	86.27	791	0.434	0.007	0.006	0.022	22	979
20	82.50	1,573	0.397	0.019	0.007	0.031	63	1,947
19	79.50	318	0.369	0.028	0.008	0.036	15	393
18	77.00	1,281	0.346	0.034	0.009	0.040	67	1,585
17	72.50	1,621	0.307	0.044	0.012	0.046	97	2,007
16	67.50	1,643	0.266	0.052	0.015	0.050	107	2,034
15	62.50	1,666	0.228	0.059	0.020	0.052	112	2,062
14	57.50	1,688	0.193	0.064	0.024	0.053	115	2,089

13	52.50	1,710	0.161	0.067	0.029	0.052	116	2,117
12	49.52	331	0.143	0.068	0.031	0.052	22	410
11	47.02	2,203	0.129	0.069	0.033	0.051	147	2,727
10	43.98	1,126	0.113	0.070	0.035	0.051	74	1,394
9	41.48	1,117	0.100	0.071	0.037	0.050	73	1,382
8	37.50	1,909	0.082	0.072	0.039	0.049	123	2,363
7	32.50	1,935	0.062	0.072	0.041	0.048	122	2,395
6	27.50	1,962	0.044	0.071	0.042	0.047	120	2,429
5	22.50	1,988	0.030	0.068	0.040	0.045	117	2,461
4	17.50	2,014	0.018	0.063	0.037	0.042	111	2,493
3	12.50	2,040	0.009	0.054	0.031	0.038	100	2,525
2	7.50	2,066	0.003	0.039	0.022	0.029	77	2,557
1	2.50	2,092	0.000	0.015	0.008	0.013	35	2,589
Andrew ABT-DMDF-	180.00	1	1.890	1.980	1.140	0.358	1	1
Powerwave Allgon TT1	180.00	48	1.890	1.980	1.140	0.358	22	59
4' Omni	180.00	10	1.890	1.980	1.140	0.358	5	12
Powerwave Allgon LGP	180.00	42	1.890	1.980	1.140	0.358	20	52
Raycap DC6-48-60-18-	180.00	40	1.890	1.980	1.140	0.358	19	50
Ericsson RRUS 11 (Ba	180.00	150	1.890	1.980	1.140	0.358	70	186
Ericsson RRUS 32 (50	180.00	152	1.890	1.980	1.140	0.358	71	189
Ericsson RRUS-12 B2	180.00	174	1.890	1.980	1.140	0.358	81	215
Powerwave Allgon 777	180.00	105	1.890	1.980	1.140	0.358	49	130
KMW AM-X-CD-16-65-00	180.00	146	1.890	1.980	1.140	0.358	68	180
CCI HPA-65R-BUU-H6	180.00	153	1.890	1.980	1.140	0.358	71	189
Flat Low Profile Pla	180.00	1,500	1.890	1.980	1.140	0.358	698	1,857
Ericsson KRY 112 144	166.00	33	1.607	0.802	0.680	0.193	8	41
Fastback Networks In	166.00	9	1.607	0.802	0.680	0.193	2	11
Ericsson AIR 21, 1.3	166.00	249	1.607	0.802	0.680	0.193	63	308
Ericsson AIR 21, 1.3	166.00	244	1.607	0.802	0.680	0.193	61	303
Round T-Arm	166.00	750	1.607	0.802	0.680	0.193	188	928
Sinclair SD210-SF2P4	150.00	8	1.312	0.138	0.347	0.059	1	10
Round Side Arm	150.00	150	1.312	0.138	0.347	0.059	11	186
Telewave ANT150D (5	140.00	5	1.143	-0.042	0.215	0.002	0	6
Bird 432-83H-01-T	140.00	25	1.143	-0.042	0.215	0.002	0	31
Sinclair SC479-HF1LD	140.00	34	1.143	-0.042	0.215	0.002	0	42
Round Side Arm	140.00	450	1.143	-0.042	0.215	0.002	1	557
Decibel DB809DK-XT	140.00	128	1.143	-0.042	0.215	0.002	0	158
Sinclair SC442D-HF1L	140.00	79	1.143	-0.042	0.215	0.002	0	98
Alcatel-Lucent 800 M	135.00	185	1.063	-0.088	0.165	-0.018	-4	229
Alcatel-Lucent 1900M	135.00	132	1.063	-0.088	0.165	-0.018	-3	163
Alcatel-Lucent TD-RR	135.00	210	1.063	-0.088	0.165	-0.018	-5	260
RFS APXVTM14-C-I20	135.00	159	1.063	-0.088	0.165	-0.018	-4	196
RFS APXVSPP18-C-A20	135.00	171	1.063	-0.088	0.165	-0.018	-4	212
Flat Platform w/ Han	135.00	2,000	1.063	-0.088	0.165	-0.018	-46	2,476
Nokia AHCA AirScale	125.00	106	0.911	-0.122	0.092	-0.043	-6	131
Alcatel-Lucent B25 R	125.00	159	0.911	-0.122	0.092	-0.043	-9	197
Alcatel-Lucent B13 R	125.00	173	0.911	-0.122	0.092	-0.043	-10	215
Nokia B66a RRH4x45 (	125.00	170	0.911	-0.122	0.092	-0.043	-9	211
Raycap RCMDC-6627-PF	125.00	32	0.911	-0.122	0.092	-0.043	-2	40
Antel LPA-80080/6CF	125.00	42	0.911	-0.122	0.092	-0.043	-2	52
Antel LPA-80080/6CF	125.00	42	0.911	-0.122	0.092	-0.043	-2	52
Commscope JAHH-65B-	125.00	364	0.911	-0.122	0.092	-0.043	-20	450
Antel LPA-80063/6CF	125.00	54	0.911	-0.122	0.092	-0.043	-3	67
Round Low Profile Pl	125.00	1,500	0.911	-0.122	0.092	-0.043	-83	1,857
Decibel DB844H90E-XY	112.00	168	0.732	-0.096	0.036	-0.044	-10	208
Round Low Profile Pl	112.00	1,500	0.732	-0.096	0.036	-0.044	-85	1,857
RFS APXV18-206517S-C	105.00	79	0.643	-0.068	0.020	-0.031	-3	98
Andrew DB586	96.00	17	0.538	-0.030	0.009	-0.006	0	21
Bird 429-83H-01-T	96.00	20	0.538	-0.030	0.009	-0.006	0	25
Flat Side Arm	96.00	450	0.538	-0.030	0.009	-0.006	-3	557
RFS PA6-65AC	80.00	278	0.373	0.026	0.007	0.036	13	344
PCTEL GPS-TMG-HR-	79.00	1	0.364	0.029	0.008	0.037	0	1
GPS	30.00	10	0.053	0.071	0.042	0.048	1	12

	59,204	90.039	31.665	28.068	6.767	3,243	73,281

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)
47	177.50	255	1.838	1.716	1.044	0.325	108	220
46	172.50	266	1.736	1.263	0.871	0.264	91	230
45	168.00	221	1.646	0.929	0.735	0.214	61	191
44	165.50	69	1.598	0.772	0.667	0.188	17	59
43	162.50	350	1.540	0.605	0.592	0.159	72	301
42	157.50	361	1.447	0.379	0.482	0.115	54	311
41	152.50	372	1.357	0.207	0.388	0.076	37	321
40	147.50	387	1.269	0.080	0.309	0.043	21	334
39	142.50	398	1.185	-0.009	0.243	0.015	8	343
38	137.93	366	1.110	-0.064	0.193	-0.007	-3	315
37	135.43	149	1.070	-0.085	0.169	-0.016	-3	128
36	133.56	509	1.041	-0.097	0.152	-0.023	-15	439
35	131.06	271	1.002	-0.109	0.132	-0.030	-11	234
34	127.50	654	0.948	-0.119	0.107	-0.038	-33	564
33	122.50	703	0.875	-0.121	0.078	-0.045	-42	606
32	117.50	722	0.805	-0.113	0.055	-0.047	-44	622
31	113.50	442	0.751	-0.101	0.041	-0.045	-26	381
30	111.00	399	0.719	-0.092	0.034	-0.042	-22	344
29	107.50	1,012	0.674	-0.079	0.025	-0.036	-48	872
28	104.38	262	0.635	-0.066	0.019	-0.029	-10	226
27	101.88	1,043	0.605	-0.055	0.015	-0.023	-31	900
26	98.00	1,124	0.560	-0.038	0.011	-0.012	-17	969
25	95.50	284	0.532	-0.028	0.009	-0.004	-2	245
24	93.73	725	0.512	-0.021	0.008	0.001	1	625
23	91.23	1,034	0.485	-0.011	0.007	0.008	11	892
22	88.77	1,045	0.460	-0.002	0.006	0.015	21	901
21	86.27	791	0.434	0.007	0.006	0.022	22	682
20	82.50	1,573	0.397	0.019	0.007	0.031	63	1,357
19	79.50	318	0.369	0.028	0.008	0.036	15	274
18	77.00	1,281	0.346	0.034	0.009	0.040	67	1,104
17	72.50	1,621	0.307	0.044	0.012	0.046	97	1,398
16	67.50	1,643	0.266	0.052	0.015	0.050	107	1,417
15	62.50	1,666	0.228	0.059	0.020	0.052	112	1,436
14	57.50	1,688	0.193	0.064	0.024	0.053	115	1,455
13	52.50	1,710	0.161	0.067	0.029	0.052	116	1,474
12	49.52	331	0.143	0.068	0.031	0.052	22	285
11	47.02	2,203	0.129	0.069	0.033	0.051	147	1,899
10	43.98	1,126	0.113	0.070	0.035	0.051	74	971
9	41.48	1,117	0.100	0.071	0.037	0.050	73	963
8	37.50	1,909	0.082	0.072	0.039	0.049	123	1,646
7	32.50	1,935	0.062	0.072	0.041	0.048	122	1,668
6	27.50	1,962	0.044	0.071	0.042	0.047	120	1,692
5	22.50	1,988	0.030	0.068	0.040	0.045	117	1,714
4	17.50	2,014	0.018	0.063	0.037	0.042	111	1,737
3	12.50	2,040	0.009	0.054	0.031	0.038	100	1,759
2	7.50	2,066	0.003	0.039	0.022	0.029	77	1,781
1	2.50	2,092	0.000	0.015	0.008	0.013	35	1,804
Andrew ABT-DMDF-	180.00	1	1.890	1.980	1.140	0.358	1	1
Powerwave Allgon TT1	180.00	48	1.890	1.980	1.140	0.358	22	41
4' Omni	180.00	10	1.890	1.980	1.140	0.358	5	9
Powerwave Allgon LGP	180.00	42	1.890	1.980	1.140	0.358	20	36
Raycap DC6-48-60-18-	180.00	40	1.890	1.980	1.140	0.358	19	34
Ericsson RRUS 11 (Ba	180.00	150	1.890	1.980	1.140	0.358	70	129

Ericsson RRUS 32 (50	180.00	152	1.890	1.980	1.140	0.358	71	131
Ericsson RRUS-12 B2	180.00	174	1.890	1.980	1.140	0.358	81	150
Powerwave Allgon 777	180.00	105	1.890	1.980	1.140	0.358	49	91
KMW AM-X-CD-16-65-00	180.00	146	1.890	1.980	1.140	0.358	68	125
CCI HPA-65R-BUU-H6	180.00	153	1.890	1.980	1.140	0.358	71	132
Flat Low Profile Pla	180.00	1,500	1.890	1.980	1.140	0.358	698	1,293
Ericsson KRY 112 144	166.00	33	1.607	0.802	0.680	0.193	8	28
Fastback Networks In	166.00	9	1.607	0.802	0.680	0.193	2	8
Ericsson AIR 21, 1.3	166.00	249	1.607	0.802	0.680	0.193	63	215
Ericsson AIR 21, 1.3	166.00	244	1.607	0.802	0.680	0.193	61	211
Round T-Arm	166.00	750	1.607	0.802	0.680	0.193	188	647
Sinclair SD210-SF2P4	150.00	8	1.312	0.138	0.347	0.059	1	7
Round Side Arm	150.00	150	1.312	0.138	0.347	0.059	11	129
Telewave ANT150D (5	140.00	5	1.143	-0.042	0.215	0.002	0	4
Bird 432-83H-01-T	140.00	25	1.143	-0.042	0.215	0.002	0	22
Sinclair SC479-HF1LD	140.00	34	1.143	-0.042	0.215	0.002	0	29
Round Side Arm	140.00	450	1.143	-0.042	0.215	0.002	1	388
Decibel DB809DK-XT	140.00	128	1.143	-0.042	0.215	0.002	0	110
Sinclair SC442D-HF1L	140.00	79	1.143	-0.042	0.215	0.002	0	68
Alcatel-Lucent 800 M	135.00	185	1.063	-0.088	0.165	-0.018	-4	160
Alcatel-Lucent 1900M	135.00	132	1.063	-0.088	0.165	-0.018	-3	114
Alcatel-Lucent TD-RR	135.00	210	1.063	-0.088	0.165	-0.018	-5	181
RFS APXVTM14-C-I20	135.00	159	1.063	-0.088	0.165	-0.018	-4	137
RFS APXVSPP18-C-A20	135.00	171	1.063	-0.088	0.165	-0.018	-4	147
Flat Platform w/ Han	135.00	2,000	1.063	-0.088	0.165	-0.018	-46	1,724
Nokia AHCA AirScale	125.00	106	0.911	-0.122	0.092	-0.043	-6	91
Alcatel-Lucent B25 R	125.00	159	0.911	-0.122	0.092	-0.043	-9	137
Alcatel-Lucent B13 R	125.00	173	0.911	-0.122	0.092	-0.043	-10	150
Nokia B66a RRH4x45 (	125.00	170	0.911	-0.122	0.092	-0.043	-9	147
Raycap RCMDC-6627-PF	125.00	32	0.911	-0.122	0.092	-0.043	-2	28
Antel LPA-80080/6CF	125.00	42	0.911	-0.122	0.092	-0.043	-2	36
Antel LPA-80080/6CF	125.00	42	0.911	-0.122	0.092	-0.043	-2	36
Commscope JAHH-65B-	125.00	364	0.911	-0.122	0.092	-0.043	-20	314
Antel LPA-80063/6CF	125.00	54	0.911	-0.122	0.092	-0.043	-3	47
Round Low Profile Pl	125.00	1,500	0.911	-0.122	0.092	-0.043	-83	1,293
Decibel DB844H90E-XY	112.00	168	0.732	-0.096	0.036	-0.044	-10	145
Round Low Profile Pl	112.00	1,500	0.732	-0.096	0.036	-0.044	-85	1,293
RFS APXV18-206517S-C	105.00	79	0.643	-0.068	0.020	-0.031	-3	68
Andrew DB586	96.00	17	0.538	-0.030	0.009	-0.006	0	14
Bird 429-83H-01-T	96.00	20	0.538	-0.030	0.009	-0.006	0	17
Flat Side Arm	96.00	450	0.538	-0.030	0.009	-0.006	-3	388
RFS PA6-65AC	80.00	278	0.373	0.026	0.007	0.036	13	240
PCTEL GPS-TMG-HR-	79.00	1	0.364	0.029	0.008	0.037	0	1
GPS	30.00	10	0.053	0.071	0.042	0.048	1	9
		59,204	90.039	31.665	28.068	6.767	3,243	51,048

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	-70.69	-3.22	0.00	-373.17	0.00	373.17	5,102.86	2,551.43	10,963.2	5,489.79	0.00	0.00	0.061
5.00	-68.13	-3.16	0.00	-357.09	0.00	357.09	5,029.12	2,514.56	10,576.3	5,296.03	0.01	-0.02	0.060
10.00	-65.61	-3.07	0.00	-341.30	0.00	341.30	4,953.95	2,476.98	10,193.1	5,104.17	0.03	-0.03	0.059
15.00	-63.11	-2.98	0.00	-325.93	0.00	325.93	4,877.36	2,438.68	9,813.98	4,914.28	0.07	-0.05	0.058
20.00	-60.65	-2.88	0.00	-311.04	0.00	311.04	4,799.34	2,399.67	9,438.93	4,726.48	0.13	-0.06	0.057
25.00	-58.22	-2.77	0.00	-296.66	0.00	296.66	4,719.90	2,359.95	9,068.23	4,540.86	0.20	-0.08	0.056
30.00	-55.81	-2.66	0.00	-282.81	0.00	282.81	4,639.03	2,319.51	8,702.08	4,357.51	0.30	-0.09	0.055
35.00	-53.45	-2.55	0.00	-269.51	0.00	269.51	4,556.73	2,278.36	8,340.67	4,176.53	0.40	-0.11	0.054
40.00	-52.07	-2.48	0.00	-256.77	0.00	256.77	4,473.00	2,236.50	7,984.18	3,998.03	0.53	-0.13	0.053
42.96	-50.67	-2.41	0.00	-249.43	0.00	249.43	4,422.82	2,211.41	7,775.79	3,893.68	0.61	-0.14	0.053
45.00	-47.95	-2.27	0.00	-244.50	0.00	244.50	4,378.03	2,189.01	7,615.75	3,813.53	0.67	-0.15	0.052
49.04	-47.54	-2.25	0.00	-235.33	0.00	235.33	3,604.17	1,802.08	6,267.69	3,138.50	0.80	-0.16	0.058
50.00	-45.42	-2.14	0.00	-233.16	0.00	233.16	3,591.50	1,795.75	6,214.33	3,111.78	0.83	-0.16	0.058
55.00	-43.33	-2.03	0.00	-222.47	0.00	222.47	3,524.70	1,762.35	5,938.60	2,973.71	1.01	-0.18	0.057
60.00	-41.27	-1.93	0.00	-212.30	0.00	212.30	3,456.48	1,728.24	5,666.60	2,837.51	1.21	-0.20	0.056
65.00	-39.23	-1.83	0.00	-202.67	0.00	202.67	3,386.83	1,693.41	5,398.53	2,703.28	1.43	-0.22	0.055
70.00	-37.23	-1.73	0.00	-193.53	0.00	193.53	3,315.75	1,657.87	5,134.58	2,571.11	1.68	-0.24	0.054
75.00	-35.64	-1.67	0.00	-184.86	0.00	184.86	3,242.30	1,621.15	4,873.54	2,440.39	1.94	-0.26	0.054
79.00	-35.25	-1.66	0.00	-178.17	0.00	178.17	3,164.68	1,582.34	4,641.84	2,324.37	2.16	-0.28	0.054
80.00	-32.96	-1.58	0.00	-176.51	0.00	176.51	3,145.28	1,572.64	4,584.79	2,295.80	2.22	-0.28	0.053
85.00	-31.98	-1.56	0.00	-168.59	0.00	168.59	3,048.26	1,524.13	4,304.87	2,155.63	2.53	-0.30	0.053
87.54	-30.68	-1.54	0.00	-164.62	0.00	164.62	2,998.97	1,499.48	4,166.05	2,086.12	2.69	-0.32	0.053
90.00	-29.40	-1.53	0.00	-160.82	0.00	160.82	2,951.23	1,475.62	4,033.76	2,019.88	2.86	-0.33	0.052
92.46	-28.51	-1.53	0.00	-157.06	0.00	157.06	2,412.07	1,206.04	3,317.78	1,661.36	3.03	-0.34	0.058
95.00	-28.15	-1.53	0.00	-153.17	0.00	153.17	2,382.81	1,191.41	3,222.46	1,613.62	3.21	-0.35	0.058
96.00	-26.16	-1.55	0.00	-151.64	0.00	151.64	2,371.21	1,185.60	3,185.22	1,594.98	3.29	-0.35	0.057
100.00	-24.87	-1.58	0.00	-145.45	0.00	145.45	2,324.22	1,162.11	3,037.61	1,521.06	3.59	-0.38	0.056
103.75	-24.54	-1.59	0.00	-139.52	0.00	139.52	2,279.33	1,139.67	2,901.28	1,452.80	3.90	-0.39	0.056
103.75	-24.54	-1.59	0.00	-139.52	0.00	139.52	2,279.33	1,139.67	2,901.28	1,452.80	3.90	-0.39	0.107
105.00	-23.19	-1.65	0.00	-137.53	0.00	137.53	2,264.20	1,132.10	2,856.29	1,430.27	4.00	-0.40	0.106
110.00	-22.70	-1.68	0.00	-129.30	0.00	129.30	2,186.61	1,093.30	2,659.07	1,331.51	4.45	-0.45	0.107
112.00	-20.08	-1.79	0.00	-125.94	0.00	125.94	2,154.27	1,077.13	2,580.59	1,292.21	4.64	-0.48	0.107
115.00	-19.19	-1.84	0.00	-120.58	0.00	120.58	2,105.76	1,052.88	2,465.08	1,234.37	4.95	-0.51	0.107
120.00	-18.32	-1.89	0.00	-111.38	0.00	111.38	2,024.90	1,012.45	2,278.43	1,140.91	5.52	-0.57	0.107
125.00	-14.23	-2.04	0.00	-101.92	0.00	101.92	1,944.05	972.03	2,099.13	1,051.12	6.14	-0.62	0.104
130.00	-13.89	-2.06	0.00	-91.70	0.00	91.70	1,863.20	931.60	1,927.17	965.02	6.82	-0.68	0.102
132.12	-13.26	-2.08	0.00	-87.33	0.00	87.33	1,828.92	914.46	1,856.49	929.62	7.13	-0.71	0.101
135.00	-9.54	-2.10	0.00	-81.36	0.00	81.36	1,782.35	891.17	1,762.57	882.59	7.57	-0.75	0.098
135.87	-9.09	-2.10	0.00	-79.53	0.00	79.53	993.95	496.97	1,000.68	501.09	7.71	-0.76	0.168
140.00	-7.70	-2.08	0.00	-70.84	0.00	70.84	969.84	484.92	940.01	470.70	8.39	-0.81	0.158
145.00	-7.22	-2.07	0.00	-60.42	0.00	60.42	939.35	469.68	867.78	434.53	9.29	-0.90	0.147
150.00	-6.56	-2.02	0.00	-50.08	0.00	50.08	907.44	453.72	797.07	399.13	10.28	-1.00	0.133
155.00	-6.11	-1.97	0.00	-39.99	0.00	39.99	874.09	437.05	728.06	364.57	11.37	-1.08	0.117
160.00	-5.68	-1.89	0.00	-30.17	0.00	30.17	839.33	419.66	660.97	330.98	12.55	-1.16	0.098
165.00	-5.59	-1.88	0.00	-20.71	0.00	20.71	800.44	400.22	593.98	297.43	13.80	-1.23	0.077
166.00	-3.74	-1.45	0.00	-18.83	0.00	18.83	790.74	395.37	579.60	290.23	14.06	-1.24	0.070
170.00	-3.41	-1.36	0.00	-13.01	0.00	13.01	751.93	375.97	523.82	262.30	15.12	-1.28	0.054
175.00	-3.09	-1.24	0.00	-6.22	0.00	6.22	703.42	351.71	458.07	229.37	16.49	-1.32	0.032
180.00	0.00	-1.17	0.00	0.00	0.00	0.00	654.91	327.45	396.72	198.65	17.88	-1.34	0.000

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-49.24	-3.21	0.00	-365.91	0.00	365.91	5,102.86	2,551.43	10,963.2	5,489.79	0.00	0.00	0.057
5.00	-47.46	-3.15	0.00	-349.84	0.00	349.84	5,029.12	2,514.56	10,576.3	5,296.03	0.01	-0.01	0.056
10.00	-45.70	-3.06	0.00	-334.10	0.00	334.10	4,953.95	2,476.98	10,193.1	5,104.17	0.03	-0.03	0.055
15.00	-43.96	-2.96	0.00	-318.80	0.00	318.80	4,877.36	2,438.68	9,813.98	4,914.28	0.07	-0.05	0.054
20.00	-42.25	-2.85	0.00	-304.00	0.00	304.00	4,799.34	2,399.67	9,438.93	4,726.48	0.13	-0.06	0.053
25.00	-40.56	-2.74	0.00	-289.74	0.00	289.74	4,719.90	2,359.95	9,068.23	4,540.86	0.20	-0.08	0.052
30.00	-38.88	-2.63	0.00	-276.03	0.00	276.03	4,639.03	2,319.51	8,702.08	4,357.51	0.29	-0.09	0.051
35.00	-37.23	-2.51	0.00	-262.90	0.00	262.90	4,556.73	2,278.36	8,340.67	4,176.53	0.39	-0.11	0.050
40.00	-36.27	-2.45	0.00	-250.33	0.00	250.33	4,473.00	2,236.50	7,984.18	3,998.03	0.52	-0.13	0.050
42.96	-35.30	-2.37	0.00	-243.10	0.00	243.10	4,422.82	2,211.41	7,775.79	3,893.68	0.60	-0.14	0.049
45.00	-33.40	-2.23	0.00	-238.25	0.00	238.25	4,378.03	2,189.01	7,615.75	3,813.53	0.66	-0.14	0.048
49.04	-33.11	-2.21	0.00	-229.25	0.00	229.25	3,604.17	1,802.08	6,267.69	3,138.50	0.78	-0.16	0.054
50.00	-31.64	-2.10	0.00	-227.13	0.00	227.13	3,591.50	1,795.75	6,214.33	3,111.78	0.82	-0.16	0.054
55.00	-30.18	-1.99	0.00	-216.64	0.00	216.64	3,524.70	1,762.35	5,938.60	2,973.71	0.99	-0.18	0.053
60.00	-28.75	-1.88	0.00	-206.71	0.00	206.71	3,456.48	1,728.24	5,666.60	2,837.51	1.19	-0.20	0.052
65.00	-27.33	-1.78	0.00	-197.32	0.00	197.32	3,386.83	1,693.41	5,398.53	2,703.28	1.40	-0.21	0.051
70.00	-25.93	-1.68	0.00	-188.44	0.00	188.44	3,315.75	1,657.87	5,134.58	2,571.11	1.64	-0.23	0.051
75.00	-24.83	-1.62	0.00	-180.02	0.00	180.02	3,242.30	1,621.15	4,873.54	2,440.39	1.89	-0.25	0.050
79.00	-24.55	-1.61	0.00	-173.55	0.00	173.55	3,164.68	1,582.34	4,641.84	2,324.37	2.11	-0.27	0.050
80.00	-22.96	-1.53	0.00	-171.94	0.00	171.94	3,145.28	1,572.64	4,584.79	2,295.80	2.17	-0.28	0.050
85.00	-22.27	-1.51	0.00	-164.30	0.00	164.30	3,048.26	1,524.13	4,304.87	2,155.63	2.47	-0.30	0.050
87.54	-21.37	-1.49	0.00	-160.46	0.00	160.46	2,998.97	1,499.48	4,166.05	2,086.12	2.63	-0.31	0.050
90.00	-20.48	-1.48	0.00	-156.80	0.00	156.80	2,951.23	1,475.62	4,033.76	2,019.88	2.79	-0.32	0.049
92.46	-19.86	-1.48	0.00	-153.18	0.00	153.18	2,412.07	1,206.04	3,317.78	1,661.36	2.96	-0.33	0.055
95.00	-19.61	-1.48	0.00	-149.42	0.00	149.42	2,382.81	1,191.41	3,222.46	1,613.62	3.14	-0.34	0.054
96.00	-18.22	-1.49	0.00	-147.95	0.00	147.95	2,371.21	1,185.60	3,185.22	1,594.98	3.21	-0.35	0.054
100.00	-17.32	-1.53	0.00	-141.97	0.00	141.97	2,324.22	1,162.11	3,037.61	1,521.06	3.51	-0.37	0.053
103.75	-17.09	-1.54	0.00	-136.24	0.00	136.24	2,279.33	1,139.67	2,901.28	1,452.80	3.80	-0.38	0.052
103.75	-17.09	-1.54	0.00	-136.24	0.00	136.24	2,279.33	1,139.67	2,901.28	1,452.80	3.80	-0.38	0.101
105.00	-16.15	-1.59	0.00	-134.32	0.00	134.32	2,264.20	1,132.10	2,856.29	1,430.27	3.90	-0.39	0.101
110.00	-15.81	-1.62	0.00	-126.37	0.00	126.37	2,186.61	1,093.30	2,659.07	1,331.51	4.34	-0.44	0.102
112.00	-13.99	-1.73	0.00	-123.12	0.00	123.12	2,154.27	1,077.13	2,580.59	1,292.21	4.53	-0.46	0.102
115.00	-13.36	-1.78	0.00	-117.93	0.00	117.93	2,105.76	1,052.88	2,465.08	1,234.37	4.83	-0.50	0.102
120.00	-12.75	-1.83	0.00	-109.01	0.00	109.01	2,024.90	1,012.45	2,278.43	1,140.91	5.38	-0.55	0.102
125.00	-9.91	-1.99	0.00	-99.86	0.00	99.86	1,944.05	972.03	2,099.13	1,051.12	5.99	-0.61	0.100
130.00	-9.67	-2.01	0.00	-89.90	0.00	89.90	1,863.20	931.60	1,927.17	965.02	6.66	-0.67	0.098
132.12	-9.23	-2.02	0.00	-85.65	0.00	85.65	1,828.92	914.46	1,856.49	929.62	6.96	-0.69	0.097
135.00	-6.64	-2.06	0.00	-79.83	0.00	79.83	1,782.35	891.17	1,762.57	882.59	7.39	-0.73	0.094
135.87	-6.32	-2.06	0.00	-78.03	0.00	78.03	993.95	496.97	1,000.68	501.09	7.53	-0.74	0.162
140.00	-5.36	-2.05	0.00	-69.51	0.00	69.51	969.84	484.92	940.01	470.70	8.19	-0.79	0.153
145.00	-5.02	-2.03	0.00	-59.27	0.00	59.27	939.35	469.68	867.78	434.53	9.07	-0.88	0.142
150.00	-4.56	-1.98	0.00	-49.13	0.00	49.13	907.44	453.72	797.07	399.13	10.04	-0.97	0.128
155.00	-4.25	-1.93	0.00	-39.23	0.00	39.23	874.09	437.05	728.06	364.57	11.11	-1.06	0.112
160.00	-3.94	-1.85	0.00	-29.59	0.00	29.59	839.33	419.66	660.97	330.98	12.26	-1.14	0.094
165.00	-3.88	-1.84	0.00	-20.33	0.00	20.33	800.44	400.22	593.98	297.43	13.49	-1.20	0.073
166.00	-2.59	-1.43	0.00	-18.49	0.00	18.49	790.74	395.37	579.60	290.23	13.74	-1.22	0.067
170.00	-2.36	-1.33	0.00	-12.77	0.00	12.77	751.93	375.97	523.82	262.30	14.78	-1.26	0.052
175.00	-2.15	-1.22	0.00	-6.11	0.00	6.11	703.42	351.71	458.07	229.37	16.12	-1.29	0.030
180.00	0.00	-1.17	0.00	0.00	0.00	0.00	654.91	327.45	396.72	198.65	17.48	-1.31	0.000

Analysis Summary

Load Case	Reactions Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Max Usage Elev (ft)	Interaction Ratio
1.2D + 1.6W	37.39	0.00	70.98	0.00	0.00	4377.12	135.87	0.66
0.9D + 1.6W	35.92	0.00	53.23	0.00	0.00	4219.39	135.87	0.64
1.2D + 1.0Di + 1.0Wi	6.74	0.00	146.88	0.00	0.00	887.88	135.87	0.19
(1.2 + 0.2Sds) * DL + E ELFM	3.01	0.00	70.69	0.00	0.00	406.57	135.87	0.09
(1.2 + 0.2Sds) * DL + E EMAM	3.22	0.00	70.69	0.00	0.00	373.17	135.87	0.17
(0.9 - 0.2Sds) * DL + E ELFM	3.01	0.00	49.24	0.00	0.00	399.61	135.87	0.08
(0.9 - 0.2Sds) * DL + E EMAM	3.21	0.00	49.24	0.00	0.00	365.91	135.87	0.16
1.0D + 1.0W	10.01	0.00	59.20	0.00	0.00	1182.14	135.87	0.19

Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors VQ/I (lb/in)	Shear Applied (kips)	Shear phiVn (kips)	Upper Termination Connectors MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Lower Termination Connectors MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Max Member Pu (kip)	phiPn (kip)	Ratio
0.00	103.	(4) SOL-#20 All Thre	313.0	9.4	16.8	143.7	12.0	12	24	0.0	12.0	0	0	231.6	330.5	0.701

Base Plate & Anchor Rod Analysis

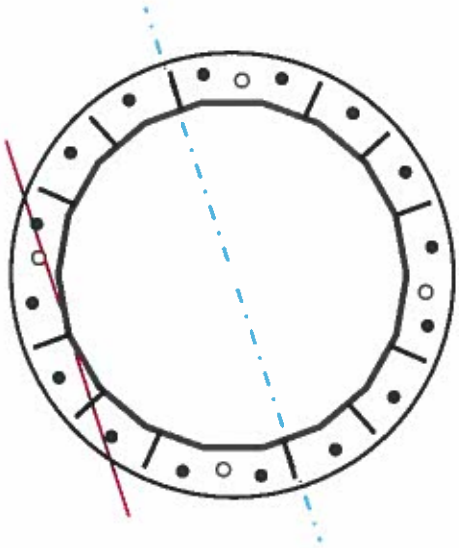
Pole Dimensions		
Number of Sides	18	-
Diameter	52.75	in
Thickness	0.438	in
Orientation Offset	0	°

Base Reactions		
Moment, Mu	4377.1	k-ft
Axial, Pu	71.0	k
Shear, Vu	37.4	k
Neutral Axis	108	°

Report Capacities		
Component	Capacity	Result
Base Plate	71%	Pass
Anchor Rods	61%	Pass
Dwyidag	56%	Pass

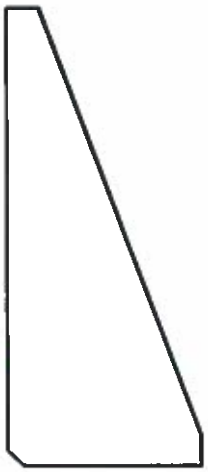
Base Plate		
Shape	Round	-
Diameter, ø	68	in
Thickness	2	in
Grade	A572-50	-
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Clip	N/A	in
Orientation Offset	0	°
Anchor Rod Detail	d	η=0.5
Clear Distance	3	in
Applied Moment, Mu	1265.1	k
Bending Stress, ϕMn	1792.9	k

Dywidag Reinforcement		
Quantity	4	-
Bar Size	#20	in
Diameter, ø	2.5	in
Bracket Type	Angle	-
Circle	59.63	in
Orientation Offset	0	°
Applied Force, Pu	219.0	k
Dywidag Bar, ϕPn	392.7	k



Original Anchor Rods		
Arrangement	Radial	-
Quantity	16	-
Diameter, ø	2 1/4	in
Bolt Circle	62	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	12.2	in
Orientation Offset	8	°
Applied Force, Pu	157.9	k
Anchor Rods, ϕPn	259.8	k

Stiffeners		
Arrangement	Radial	-
Quantity	12	-
Height	15	in
Width	6	in
Effective Width	6.000	in
Thickness	3/4	in
Effective Thickness	0.660	in
Notch	0.5	in
Flat Edge	1	in
Grade	A36	-
Yield Strength, Fy	36	ksi
Tensile Strength, Fu	58	ksi
Horizontal Weld	Fillet	
Horizontal Fillet Size	5/16	in
Bevel Depth		in
Vertical Weld	Fillet	
Vertical Fillet Size	5/16	in
Weld Strength	70	ksi
Electrode Coefficient	1	-
Orientation Offset	0	°
Vertical Weld, ϕRn	209.3	k
Horz. Weld, ϕRn	88.7	k
Ten. Capacity, ϕTn	133.7	k
Comp. Capacity, ϕPn	417.6	k



Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	37.4	3246.6	0.74
Anchor Rod Forces	37.4	3246.6	0.74
Additional Bolt (Grp1) Forces			
Additional Bolt (Grp2) Forces			
Dywidag Forces		1130.6	0.26
Stiffener Forces	15.4	1334.3	0.30

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in^2	in^2	in^4	#	in^4
Pole	71.5363	3.9742	0.2546		24475.33
Bolt	3.9761	3.2477	0.8393	4.5	24981.67
Bolt1					
Bolt2					
Dywidag	4.9087	4.9087	1.9175		8523.19
Stiffener	3.6300	3.2670	47.5200		17079.01

Base Plate		
Shape	Round	-
Diameter, D	68	in
Thickness, t	2	in
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Base Plate Chord	42.912	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

External Base Plate		
Chord Length AA	37.117	in
Additional AA	9.973	in
Section Modulus, Z	47.091	in^3
Applied Moment, Mu	1265.1	k-ft
Bending Capacity, ϕMn	2119.1	k-ft
Capacity, Mu/ϕMn	0.597	OK
Chord Length AB	35.933	in
Additional AB	9.248	in
Section Modulus, Z	45.181	in^3
Applied Moment, Mu	1137.1	k-ft
Bending Capacity, ϕMn	2033.2	k-ft
Capacity, Mu/ϕMn	0.559	OK
Bend Line Length	28.491	in
Additional Bend Line	11.350	in
Section Modulus, Z	39.842	in^3
Applied Moment, Mu	1265.1	k-ft
Bending Capacity, ϕMn	1792.9	k-ft
Capacity, Mu/ϕMn	0.706	OK

Internal Base Plate		
Arc Length	0.000	in
Section Modulus, Z	0.000	in^3
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	k-ft
Capacity, Mu/ϕMn		

Anchor Rods		
Anchor Rod Quantity, N	16	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	62	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	157.9	k
Applied Shear, Vu	0.0	k
Compressive Capacity, ϕPn	259.8	k
Tensile Capacity, ϕRnt	0.608	OK
Interaction Capacity	0.608	OK

Additional Bolt Group 1		
Bolt Quantity, N	0	-
Bolt Diameter, d	0	in
Bolt Circle, BC	0	in
Yield Strength, Fy	0	ksi
Tensile Strength, Fu	0	ksi
Applied Axial, Pu	0.0	k
Applied Shear, Vu	0.0	k
Compressive Capacity, ϕPn	0.0	k
Compressive Capacity, ϕPn		
Interaction Capacity		

Additional Bolt Group 2		
Bolt Quantity, N	0	-
Bolt Diameter, d	0	in
Bolt Circle, BC	0	in
Yield Strength, Fy	0	ksi
Tensile Strength, Fu	0	ksi
Applied Axial, Pu	0.0	k
Applied Shear, Vu	0.0	k
Compressive Capacity, ϕPn	0.0	k
Compressive Capacity, ϕPn		
Interaction Capacity		

Dywidag Reinforcement		
Dywidag Quantity, N	4	-
Dywidag Diameter, d	2.5	in
Bolt Circle, BC	59.63	in
Yield Strength, Fy	80	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	219.0	k
Compressive Capacity, ϕPn	392.7	k
Capacity, Pu/ϕPn	0.558	OK

Base Plate Stiffeners		
Applied Axial Force, Pu	91.7	k
Applied Horizontal Force, Vu	0.64	k

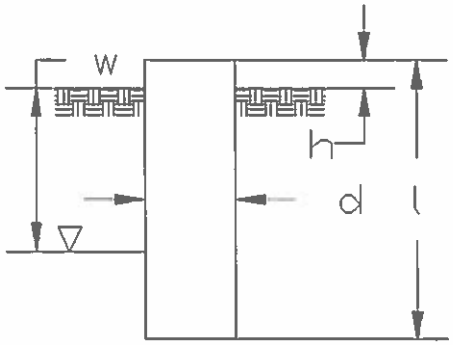
Vertical Weld		
Vert.-to-Stiffener a=e_x/l	0.133	-
Spacing Ratio, k	0.050	-
Weld Coefficient, C	3.720	-
Compressive Capacity, ϕPn	209.3	k
Vert.-to-Plate a=e_x/l	0.333	-
Spacing Ratio, k	0.050	-
Weld Coefficient, C	2.940	-
Shear Capacity, ϕVn	165.4	k
$P_u/\phi_P P_n + V_u/\phi_V V_n$	0.442	OK

Horizontal Weld		
Horz.-to-Stiffener a=e_x/l	0.167	-
Spacing Ratio, k	0.125	-
Weld Coefficient, C	3.940	-
Effective Fillet	0.313	in
Compressive Capacity, ϕPn	88.7	k
Horz.-to-Pole a=e_x/l	0.417	-
Spacing Ratio, k	0.125	-
Weld Coefficient, C	2.670	-
Shear Capacity, ϕVn	60.1	k
$P_u/\phi_P P_n + V_u/\phi_V V_n$	1.045	OK

Plate Tension		
Gross Cross Section	3.630	in^2
Net Cross Section	3.267	in^2
Tensile Capacity, ϕTn	133.7	k
Capacity, Tu/ϕTn	0.343	OK

Plate Compression		
Radius of Gyration	0.191	in^3
kl/r	47.24	-
4.71 √(E/Fy)	133.68	-
Buckling Stress(Fe)	128.3	-
Crit. Buckling Stress(Fcr)	112.5	ksi
Compressive Capacity, ϕPn	417.6	k
Capacity, Pu/ϕPn	0.110	OK

Site Name:	Winchester CT 3, CT	*Program Last Updated:*	*5/13/2014*
Site Number:	302506	*American Tower Corporation*	
Engineer:	Trevor.Ridilla		
Engineering Number:	12629663		
Date:	11/27/18		



Design Base Loads (Factored) - Analysis per TIA-222-G Standards

Analyze or Design a Foundation?	Analyze	
Foundation Mapped:	N	
Moment (M):	4377.1	k-ft
Shear/Leg (V):	37.4	k
Axial Load (P):	71.0	k
Uplift/Leg (U):	0.0	k
Tower Type (GT / SST / MP):	MP	
Diameter of Caisson (d):	7.0	ft
Caisson Embedment (L-h):	17.0	ft
Caisson Height Above Ground (h):	1.0	ft
Depth Below Ground Surface to Water Table (w):	99.0	ft
Unit Weight of Concrete:	150.0	pcf
Unit Weight of Water:	62.4	pcf
Tension Skin Friction/Compression Skin Friction:	1.00	
Pullout Angle:	30.0	degrees

Engineer Notes

Soil Mechanical Properties

Depth (ft) Top	Depth (ft) Bottom	γ_{soil} (pcf)	Cohesion (psf)	ϕ (degree)	Ultimate Skin Friction (psf)	Ultimate Bearing Pressure (psf)
0.0	3.5	165	0	0	0	0
3.5	7.5	165	6000	0	2700	0
7.5	18.0	165	6000	0	2700	11277

Required Embedment:	14.5	ft - OK, Caisson Embedment Satisfactory
Volume of Concrete:	692.7 ft^3 =	25.7 yd^3
Weight of Concrete (Buoyancy Effect Considered):	103.9	k
Average Soil Unit Weight:	165.0	pcf
Skin Friction Resistance:	801.6	k
Compressive Bearing Resistance:	434.0	k
Pullout Weight (Minus Concrete Weight):	585.7	k
Nominal Uplift Capacity per Leg ($\phi_s T_n$):	439.3	k
Nominal Compressive Capacity per Leg ($\phi_s P_n$):	926.7	k
P_u:	59.2	k
$T_u/\phi_s T_n$:	0.00	Result: OK
$P_u/\phi_s P_n$:	0.06	Result: OK
Total Lateral Resistance:	4082.8	k
Inflection Point (Below Ground Surface):	10.8	ft
Design Overturning Moment At Inflection Point (M_D):	4817.2	k-ft
Nominal Moment Capacity ($\phi_s M_n$):	9851.4	k-ft
$M_D/\phi_s M_n$:	0.49	Result: OK
ϕ_s:	0.75	

Caisson Strength Capacity

Concrete Compressive Strength (f'_c):	4000	psi
Vertical Steel Rebar Size #:	11	
Vertical Steel Rebar Area:	1.56	in^2
# of Vertical Steel Rebars:	42	
Vertical Steel Rebar Yield Strength (F_y):	60	ksi
Horizontal Tie / Stirrup Size #:	5	
Horizontal Tie / Stirrup Area:	0.31	in^2
Design Horizontal Tie / Stirrup Spacing:	12.0	in
Horizontal Tie / Stirrup Steel Yield Strength (F_y):	60	ksi
Rebar Cage Diameter:	76.0	in
Strength Bending/Tension Reduction Factor (ϕ_B):	0.90	ACI318-05 - 9.3.2.1
Strength Shear Reduction Factor (ϕ_V):	0.75	ACI318-05 - 9.3.2.3
Strength Compression Reduction Factor (ϕ_V):	0.65	ACI318-05 - 9.3.2.2
Steel Elastic Modulus:	29000	ksi
Design Moment (M_u):	4424.9	k-ft
Nominal Moment Capacity ($\phi_B M_n$):	10956.3	k-ft - ACI318-005 - 10.2
$M_u/\phi_B M_n$:	0.40	Result: OK
Design Shear (V_u):	650.7	k
Nominal Shear Capacity ($\phi_V V_n$):	685.3	k - ACI318-05 - 11.3.1.1 or 11.5.7.2
$V_u/\phi_V V_n$:	0.95	Result: OK
Design Tension (T_u):	0.0	k
Nominal Tension Capacity ($\phi_T T_n$):	3538.1	k - ACI318-05 - 10.2
$T_u/\phi_T T_n$:	0.00	Result: OK
Design Compression (P_u):	59.2	k
Nominal Compression Capacity ($\phi_P P_n$):	9682.0	k - ACI318-05 - 10.3.6.2
$P_u/\phi_P P_n$:	0.01	Result: OK
Bending Reinforcement Ratio:	0.012	ACI318-05 - 10.8.4 & 10.9.1
$M_u/\phi_B M_n + T_u/\phi_T T_n$:	0.40	Result: OK

Trylon

Prepared For

AMERICAN TOWER®

Mount Analysis

Michael F. Plahovinsak, P.E.
Sole Proprietor – Independent Engineer
18301 SR 161, Plain City, Ohio
614-398-6250 / mike@mfpeng.com
MFP Project #23218-165

WINCHESTER E CT

ATC SITE #302506

12/06/2018

PASS (51%)

MOUNT ANALYSIS REPORT

American Tower Corporation
10 Presidential Way
Woburn, MA 01801

Attention: **Mr. Blake Paynter**

Reference: Analysis of the existing Platform installed at 125-ft elevation.

Trylon Job Number:	144397
ATC Asset Number:	302506
ATC Site Name:	WINCHESTER E CT
Verizon Site ID:	467698
Verizon Site Name:	WINCHESTER E CT
Site Address:	15 Oakdale Ave, Winsted City, Litchfield County, CT 06098
Tower Profile:	Monopole Tower

Dear Sir:

We have been provided with RF information, photos and sketches of the structure for above-referenced site. Verizon is proposing to change the equipment configuration on the existing mounting hardware.

A revised antenna, coax and miscellaneous equipment schematic have been provided to us. We have been asked to evaluate this information to determine whether or not the existing mounting apparatus are adequate to safely support the proposed loading change. The structural evaluation refers to the existing Platform installed at 125-ft elevation on the Monopole tower located 15 Oakdale Ave, Winsted City, Litchfield County, CT 06098.

The proposed changes were provided to us in a RFDS package dated 09/10/2018. The antennas are located at 125-ft elevation on all sectors.

The final configuration on Alpha and Beta sectors:

- (1) LPA-80080-6CF-EDIN-0 antenna (70.9”x5.5”x13.9” – 21lbs.) in position #1;
- (2) JAHH-65B-R3B antenna (72”x13.8”x8.2” – 63.3lbs.) mounted on side by side on BSAMNT-SDS-2-2 dual bracket in position #2,
- (1) LPA-80080-6CF-EDIN-0 antenna (70.9”x5.5”x13.9” – 21lbs.) in position #4,

The final configuration on Gamma sector:

- (1) LPA-80063-6CF-EDIN-0 antenna (71.1”x15.2”x13.1” – 27lbs.) in position #1;
- (2) JAHH-65B-R3B antenna (72”x13.8”x8.2” – 63.3lbs.) mounted on side by side on BSAMNT-SDS-2-2 dual bracket in position #2,
- (1) LPA-80063-6CF-EDIN-0 antenna (71.1”x15.2”x13.1” – 27lbs.) in position #4;

Additional equipment:

- (1) AHCA Airscale RRH 4T4R B5 160W on each sector in position #1,
- (1) UHBA B13 RRH4x30 on each sector in position #2,
- (1) UHFA B25 RRH4x30 on each sector in position #3,
- (1) UHIE B66A RRH4x45 on each sector in position #4,
- (1) RCMDC-6627-PF-48 for all sectors.

The members dimensions that we considered in our evaluation are as per sketches and pictures provided by the site visit crew. The structural members that we considered in our analysis are presented in the attached model sketches.

Steel grades have been assumed as follows, unless noted otherwise:

Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36)
HSS (Rectangular)	ASTM 500 (GR B-46)
Pipe	ASTM A53 (GR 35)
Connection Bolts	ASTM A325

CONCLUSIONS AND RECOMMENDATIONS

Based on information provided, our calculations conclude that the existing Verizon Platform, located at 125-ft elevation on the existing Monopole tower at the specified address, are **ADEQUATE** to safely support the proposed equipment, subject to the attached Standard Conditions on page 3.

Category	Classification
Mount Classification (w/ Ice, w/ Vertical Offset):	M850R(600) - 9[6]

Should you have any questions, comments or require additional information, please do not hesitate to call.

Sincerely,

Analysis performed by:

Constantin Tudosa

Reviewed by:

Michael Plahovinsak, P.E.

Standard Conditions for Providing Structural Consulting Services on Existing Structures

1. Mounting hardware is analyzed to the best of our ability using all information that is provided or can be obtained during fieldwork (if authorizes by client). If the existing conditions are not as we have represented in this analysis, we should be contacted to evaluate the significance of the deviation and revise the assessment accordingly.

2. The structural analysis has been performed assuming that hardware is in "like new" condition. No allowance was made for excessive corrosion, damaged or missing structural members, loose bolts, misaligned parts, or any reduction in strength due to the age or fatigue of the product.

3. The structural analysis provided is an assessment of the primary load carrying capacity of the hardware. We provide a limited scope of service. In some cases we cannot verify the capacity of every weld, plate, connection detail, etc. In some cases, structural fabrication details are unknown at the time of our analysis, and the detailed field measurement of some of the required details may not be possible. In instances where we cannot perform connection capacity calculations, it is assumed that the existing manufactured connections develop the full capacity of the primary members being connected.

4. We cannot be held responsible for mounting hardware that is installed improperly or hardware that is loose or has a tendency of working loose over the lifetime of the mounting hardware. Our analysis has been performed assuming fully tightened connections, and proper installation and symmetry of the mounting hardware per manufacturer's instructions.

5. The structural analysis has been performed using information currently provided by the client and potentially field verified. We have been provided with a mounting arrangement for all telecommunications equipment, including antennas RRH's, TMA's, RRU's, diplexers, surge protection devices, etc. Our analysis has been based upon a particular mounting arrangement. We are not responsible for deviations in the mounting arrangement that may occur over time. If deviations in equipment type or mounting arrangements are proposed, then we should be contacted to revise the recommendations of this structural report.

6. We cannot be held responsible for temporary and unbalanced loads on mounting hardware. Our analysis is based on a particular mounting arrangement or as-built field condition. We are not responsible for the methods and means of how the mounting arrangement is accomplished by the contractor. These methods and means may include rigging of equipment or hardware to lift and locate, temporary hanging of equipment in locations other than the final arrangement, movement and tie off of tower riggers, personnel, and their equipment, etc.

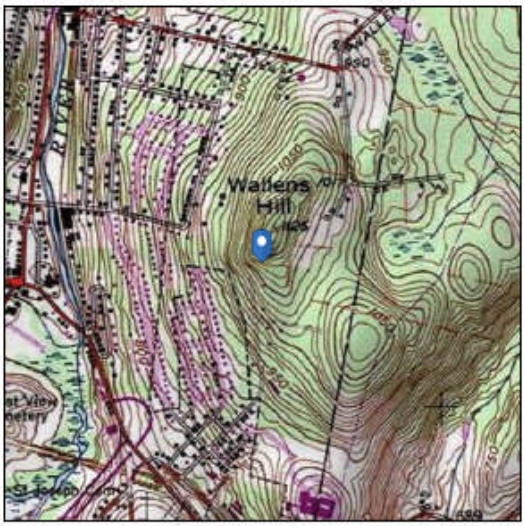
7. Steel grade and strength is unknown and cannot be field tested. We cannot be held responsible for equipment manufactured from inferior steel or bolts. Our analysis assumes that standard structural grade steel has been used by the equipment manufacturer for all assembled parts of the mounting apparatus. Acceptable steels and connection components are specified by the American Institute of Steel Construction. It is assumed all welded connections are performed in the shop under the latest American Welding Society Code. No field welds are permitted or assumed for the existing pre-manufactured equipment.

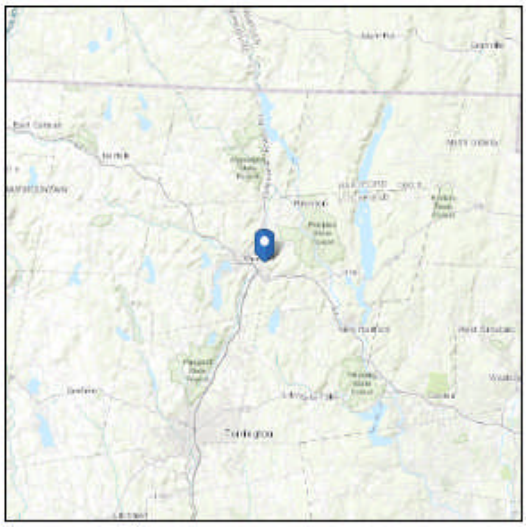
ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class:

Elevation: 1073.13 ft (NAVD 88)
Latitude: 41.921597
Longitude: -73.049411





Wind

Results:	76 Vmph
Wind Speed:	116 Vmph
10-year MRI	76 Vmph
25-year MRI	85 Vmph
50-year MRI	90 Vmph
100-year MRI	96 Vmph
Data Source:	ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014
Date Accessed:	Sat Nov 10 2018

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	5 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Sat Nov 10 2018

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

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Trylon

General Info

Site Code :	**325163**
Site Name :	**Winchester E CT**
State	**Connecticut**
County	**Litchfield**
Trylon job number:	**144397**
Design by:	**CT**

Trylon
1825 W. Walnut Hill Lane Suite 302
Irving, TX 75038

Analysis Criteria

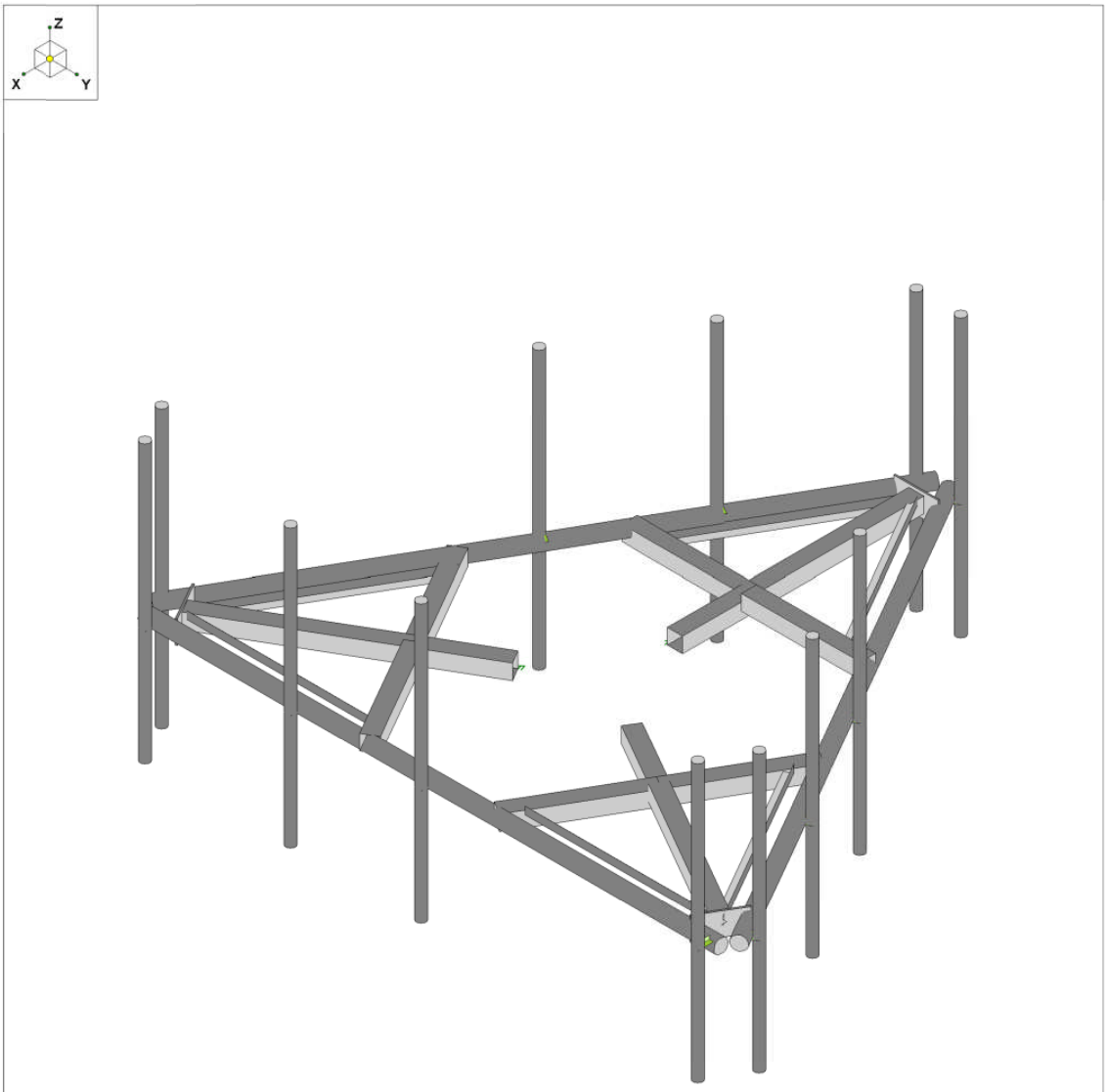
Standard 2015 IBC / ASCE 7-10 / TIA-222-G

The mount structural analysis was performed in accordance with the requirements of TIA-222-G Structural Standards for Steel Antenna Supporting structure using a 3-second gust wind speed of 89.9 mph with no ice, 40.0 mph with 0.75 inch escalated ice thickness, Exposure Category C and Topographic Category 1 with a crest height of 0 ft.

In addition, the platform has been analysed for various live loading conditions consisting of a 250-pound man live load applied individually at the midpoint and cantilevered ends of horizontal members as well as a 500-pound man live load applied individually at mount pipe locations using a 3-second gust wind speed of 30 mph.

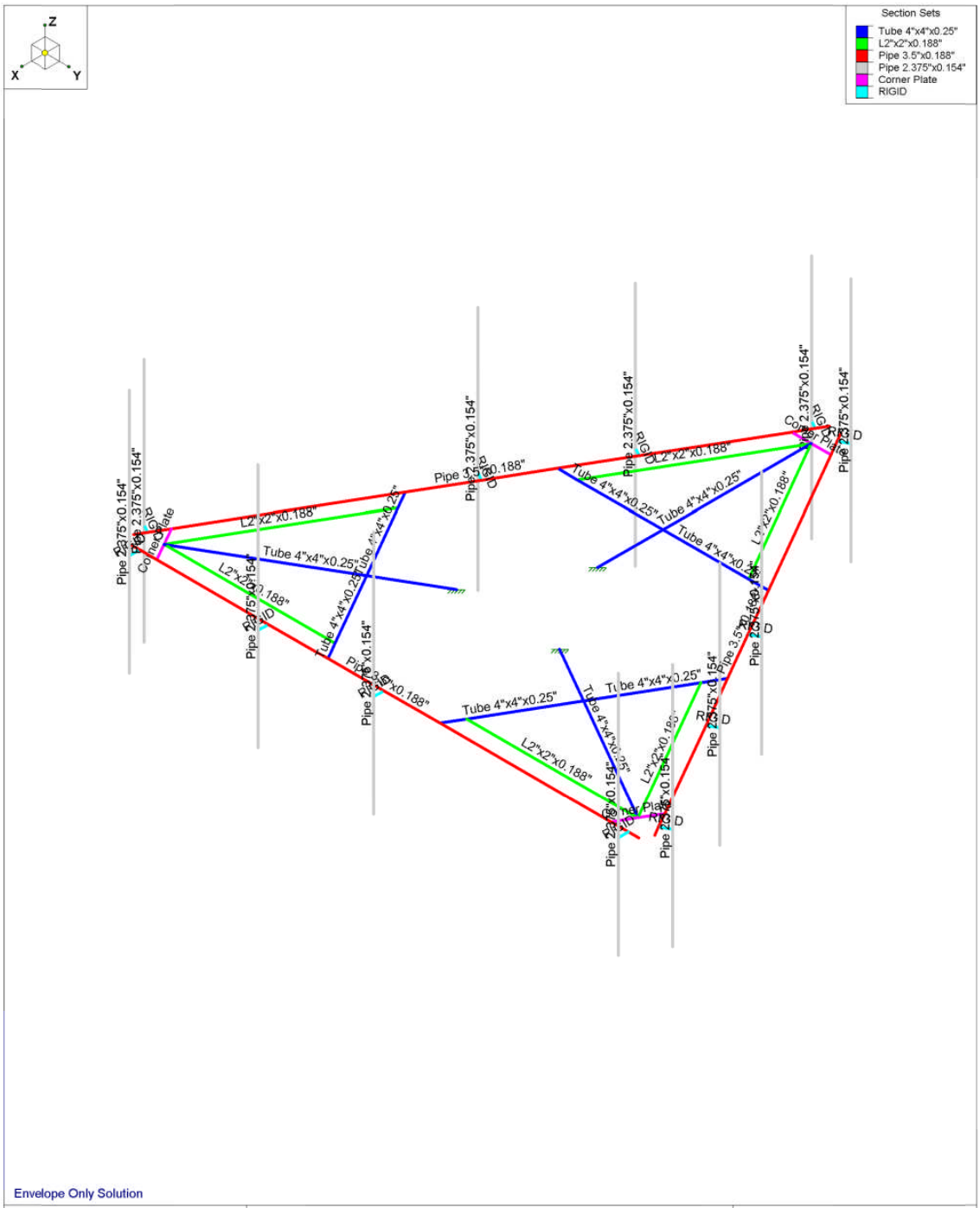
Design Loads

Appurtenances			Dimensions					Wind Forces without ice				Wind Forces with ice			
			Height	Width	Thk.	Weight	ICE Weight	0°	30°	60°	90°	0°	30°	60°	90°
No.	Manufacturer	Model	[in]	[in]	[in]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]
4	Antel	LPA-80080-6CF-EDIN-0	70.9	5.5	13.9	21.0	206.1	112.6	143.1	204.0	234.5	34.3	40.5	52.9	59.1
6	Commscope	JAHH-65B-R3B	72.0	13.8	8.2	63.3	223.2	237.4	217.0	176.2	155.8	59.8	55.7	47.4	43.3
2	Antel	LPA-80063-6CF-EDIN-0	71.1	15.2	13.1	27.0	270.2	231.4	224.1	231.4	246.1	58.5	56.9	58.5	61.5
3	Nokia	AIRSCALE DUAL RRH 4T4R B5/13 1	22.1	12.1	6.7	66.1	59.8	58.1	51.7	39.1	32.8	17.0	15.6	12.6	11.1
3	Nokia	UHBA B13 RRH 4x30	15.7	11.8	4.7	32.6	39.5	40.2	34.3	22.4	16.5	12.5	11.1	8.1	6.7
3	Nokia	B25 RRH4X30 (UHFA)	21.2	12.0	7.2	52.9	58.0	55.1	49.7	39.0	33.6	16.3	15.0	12.5	11.2
3	Nokia	B66A RRH4X45	25.8	12.0	7.3	67.0	70.9	67.2	61.0	48.6	42.4	19.4	17.9	15.0	13.6
1	Commscope	RCMDC-6627-PF-48	28.9	15.7	10.3	32.0	103.6	98.8	90.4	73.8	65.4	26.7	24.8	21.0	19.1

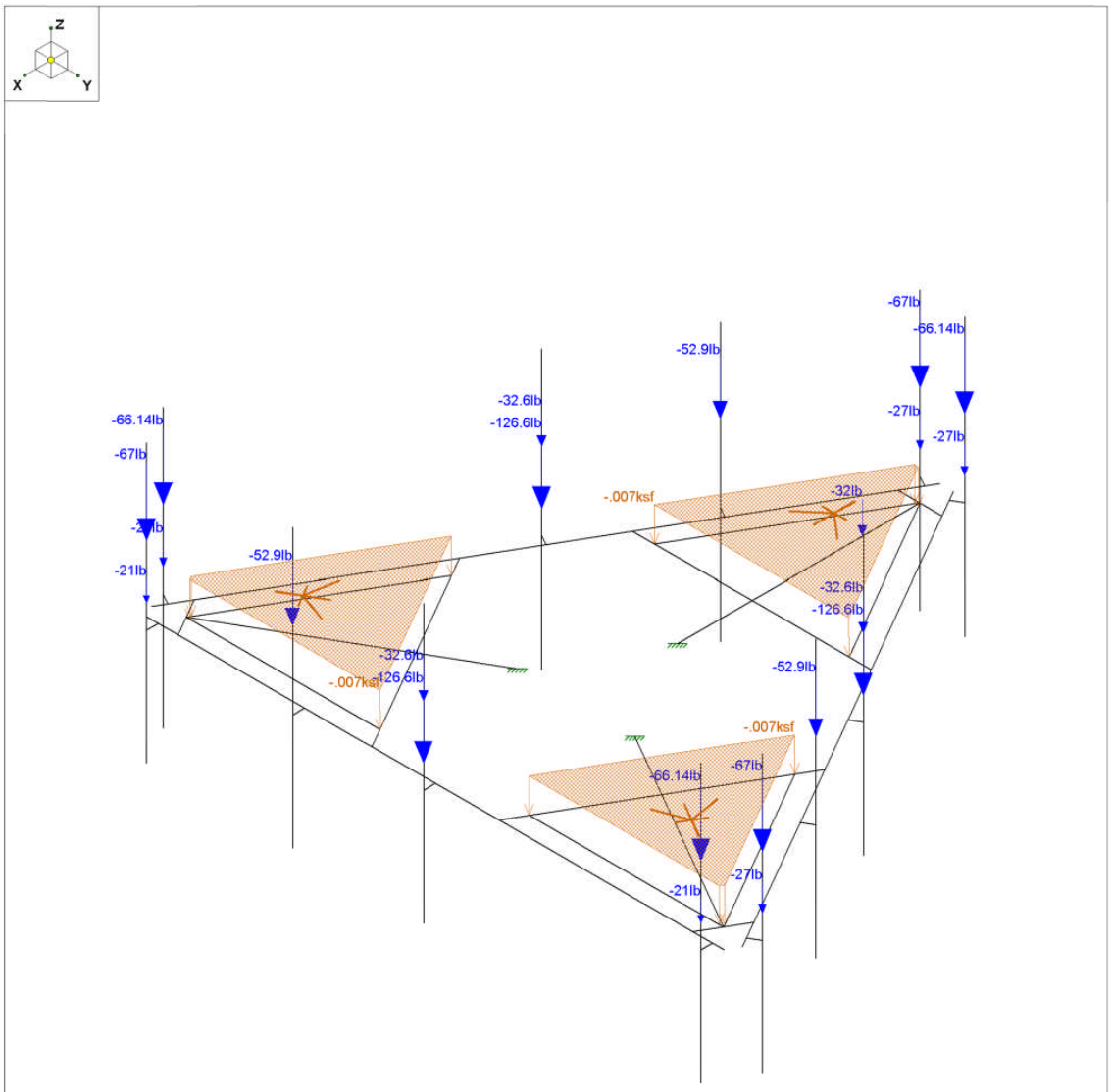


Envelope Only Solution

Trylon	325163 - Winchester E CT	SK - 1
CT		Dec 6, 2018 at 5:38 PM
144397		Winchester E CT.R3D

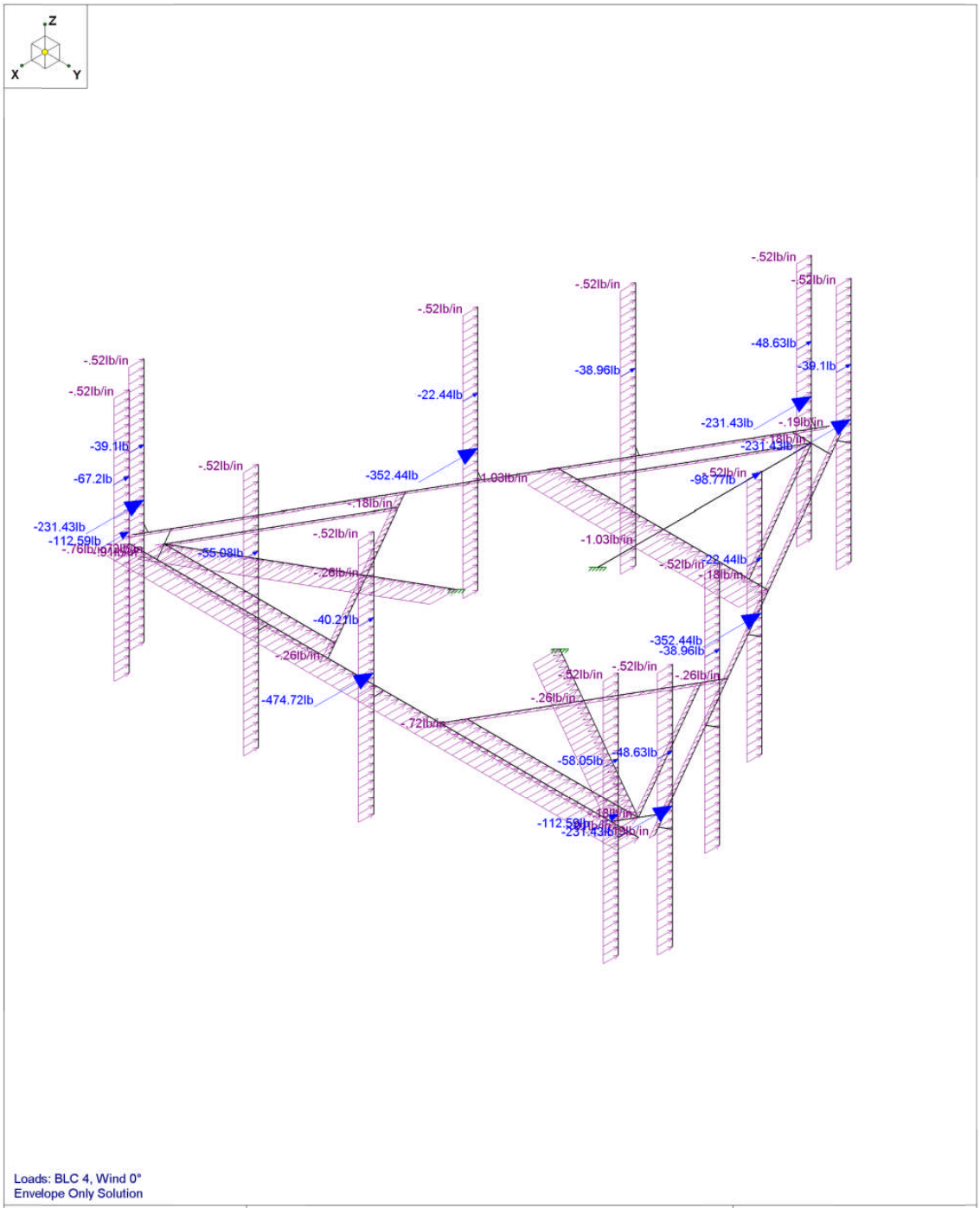


Trylon	325163 - Winchester E CT	SK - 2
CT		Dec 6, 2018 at 5:38 PM
144397		Winchester E CT.R3D



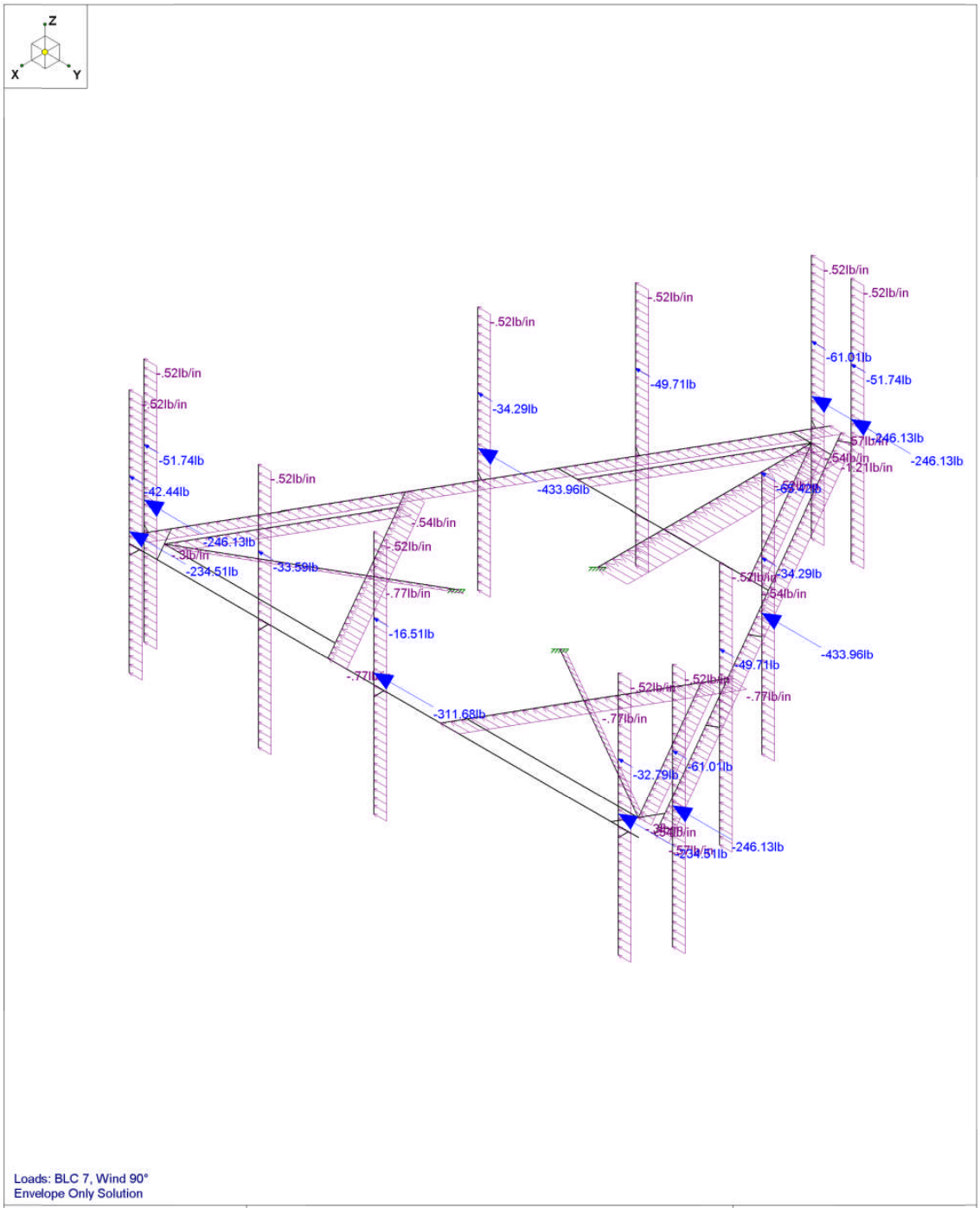
Loads: BLC 2, Weights
Envelope Only Solution

Trylon	325163 - Winchester E CT	SK - 3
CT		Dec 6, 2018 at 5:38 PM
144397		Winchester E CT.R3D



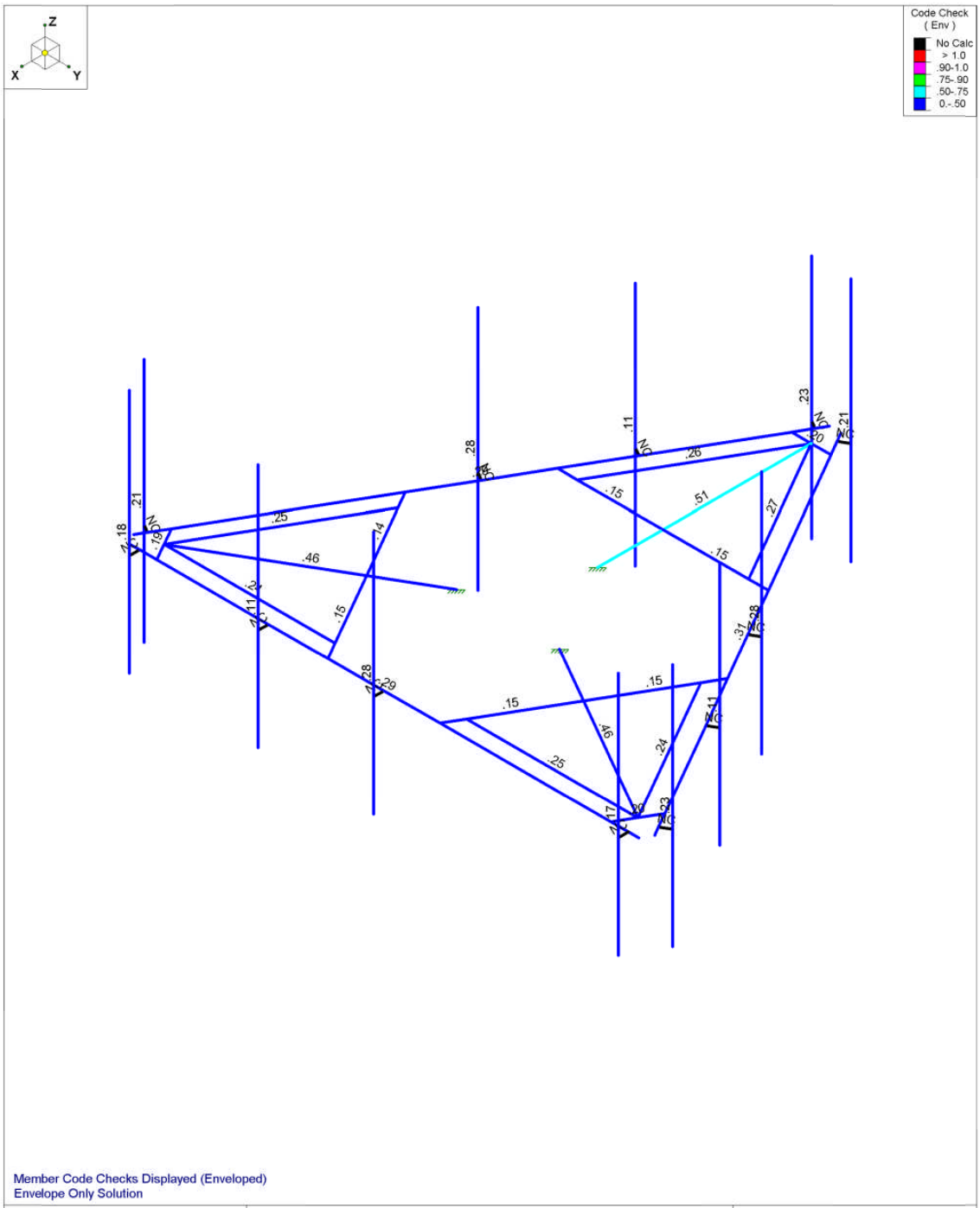
Loads: BLC 4, Wind 0°
Envelope Only Solution

Trylon	325163 - Winchester E CT	SK - 4
CT		Dec 6, 2018 at 5:39 PM
144397		Winchester E CT.R3D

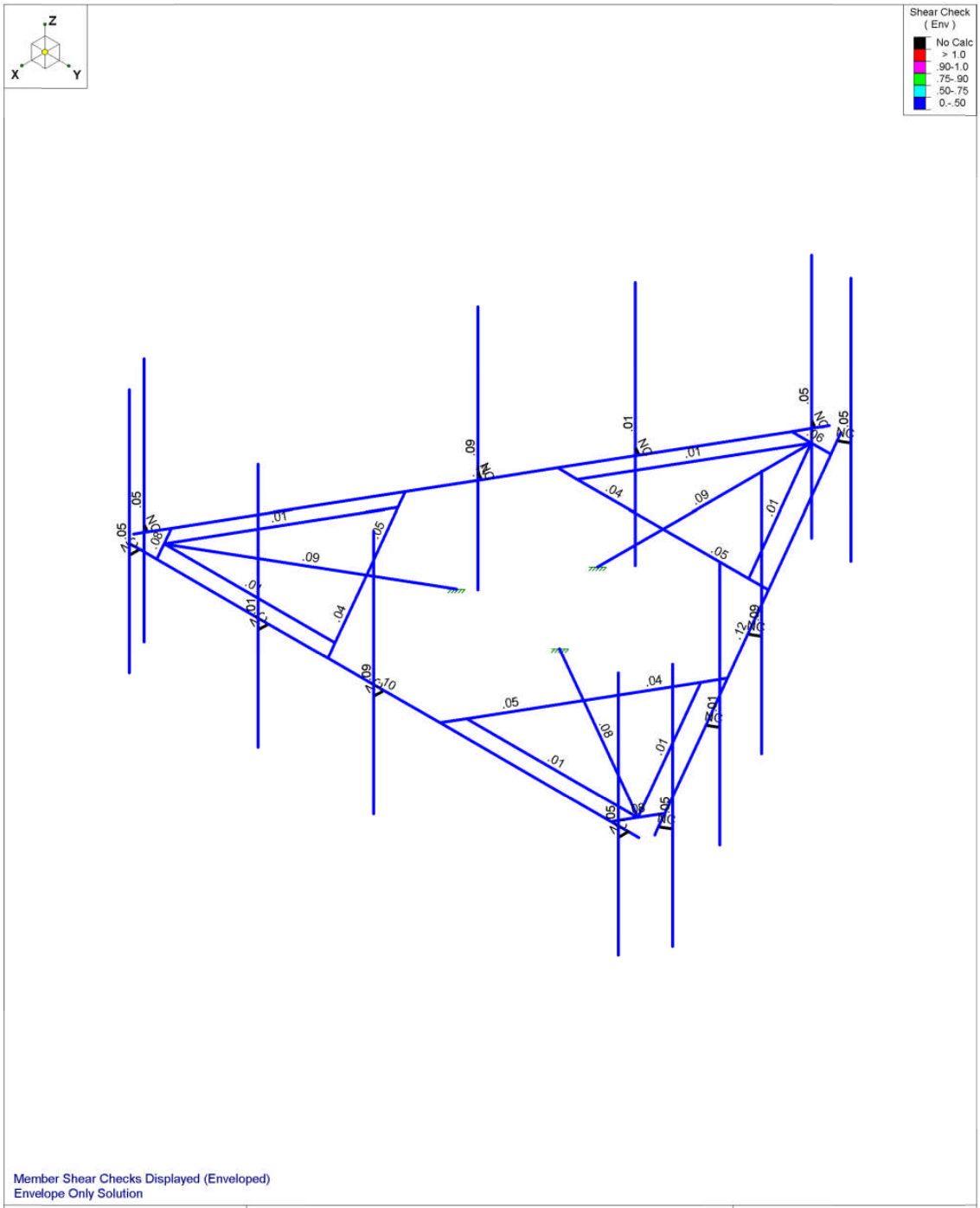


Loads: BLC 7, Wind 90°
Envelope Only Solution

Trylon	325163 - Winchester E CT	SK - 5
CT		Dec 6, 2018 at 5:39 PM
144397		Winchester E CT.R3D



Trylon	325163 - Winchester E CT	SK - 6
CT		Dec 6, 2018 at 5:39 PM
144397		Winchester E CT.R3D



Trylon	325163 - Winchester E CT	SK - 7
CT		Dec 6, 2018 at 5:39 PM
144397		Winchester E CT.R3D

Site Name: Winchester East CT

Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
VZW PCS	1970	1	5062	5062	125	0.1165	1.0	11.65%
VZW Cellular	869	1	3709	3709	125	0.0854	0.579333333	14.74%
VZW Cellular	880	3	498	1494	125	0.0344	0.586666667	5.86%
VZW AWS	2145	1	7770	7770	125	0.1788	1.0	17.88%
VZW 700	746	1	2062	2062	125	0.0475	0.497333333	9.54%

Total Percentage of Maximum Permissible Exposure 59.67%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Section 1.13101 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-199

MHz = Megahertz
mW/cm^2 = milliwatts per square centimeter
ERP = Effective Radiated Power

Absolute worst case maximum values used, including the following assumptions:
1. closest accessible point is distance from antenna to base of pole;
2. continuous transmission from all available channels at full power for indefinite time period; and,
3. all RF energy is assumed to be directed solely to the base of the pole.

108 OAKDALE AVE

Location	108 OAKDALE AVE	**Mblu**	028/ 151/ 002-1/ /
Acct#	103466	**Owner**	STOW WILLIAM P REVOCABLE TRUST
Assessment	$94,850	**Appraisal**	$135,500
PID	4991	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$25,900	$109,600	$135,500

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$18,130	$76,720	$94,850

Owner of Record

Owner	STOW WILLIAM P REVOCABLE TRUST	**Sale Price**	$0
Co-Owner	C/O AMERICAN TOWER #302506	**Certificate**	
		Book & Page	411/ 779
		Sale Date	03/12/2013
		Instrument	29

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
STOW WILLIAM P REVOCABLE TRUST	$0		411/ 779	29	03/12/2013
STOW WILLIAM P & RICHARD D	$0		00260/0171		11/16/1995

Building Information

Building 1 : Section 1

Year Built: 2004
Living Area: 360
Replacement Cost
Less Depreciation: $13,500

Building Attributes	
Field	**Description**

STYLE	Warehse Prefab
MODEL	Ind/Comm
Stories:	1
Occupancy	1
Exterior Wall 1	Pre-cast Concr
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Metal/Tin
Interior Wall 1	Minimum
Interior Wall 2	
Interior Floor 1	Concrete Slab
Interior Floor 2	
Heating Fuel	Gas/Oil
Heating Type	Hot Air-no Duc
AC Type	None
Bldg Use	Tele Tower
Heat/AC	NONE
Frame Type	MASONRY
Baths/Plumbing	NONE
Ceiling/Wall	NONE
Rooms/Prtns	LIGHT
Wall Height	12

Building Photo

(http://images.vgsi.com/photos/WinchesterCTPhotos//\01\00\49/

Building Layout

(http://images.vgsi.com/photos/WinchesterCTPhotos//Sketches/4

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	360	360
SLB	Slab	360	0
		720	360

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code 4310
Description Tele Tower

Land Line Valuation

Size (Acres) 3.39
Depth

Zone	RR	**Assessed Value**	$76,720
Alt Land Appr	No	**Appraised Value**	$109,600
Category			

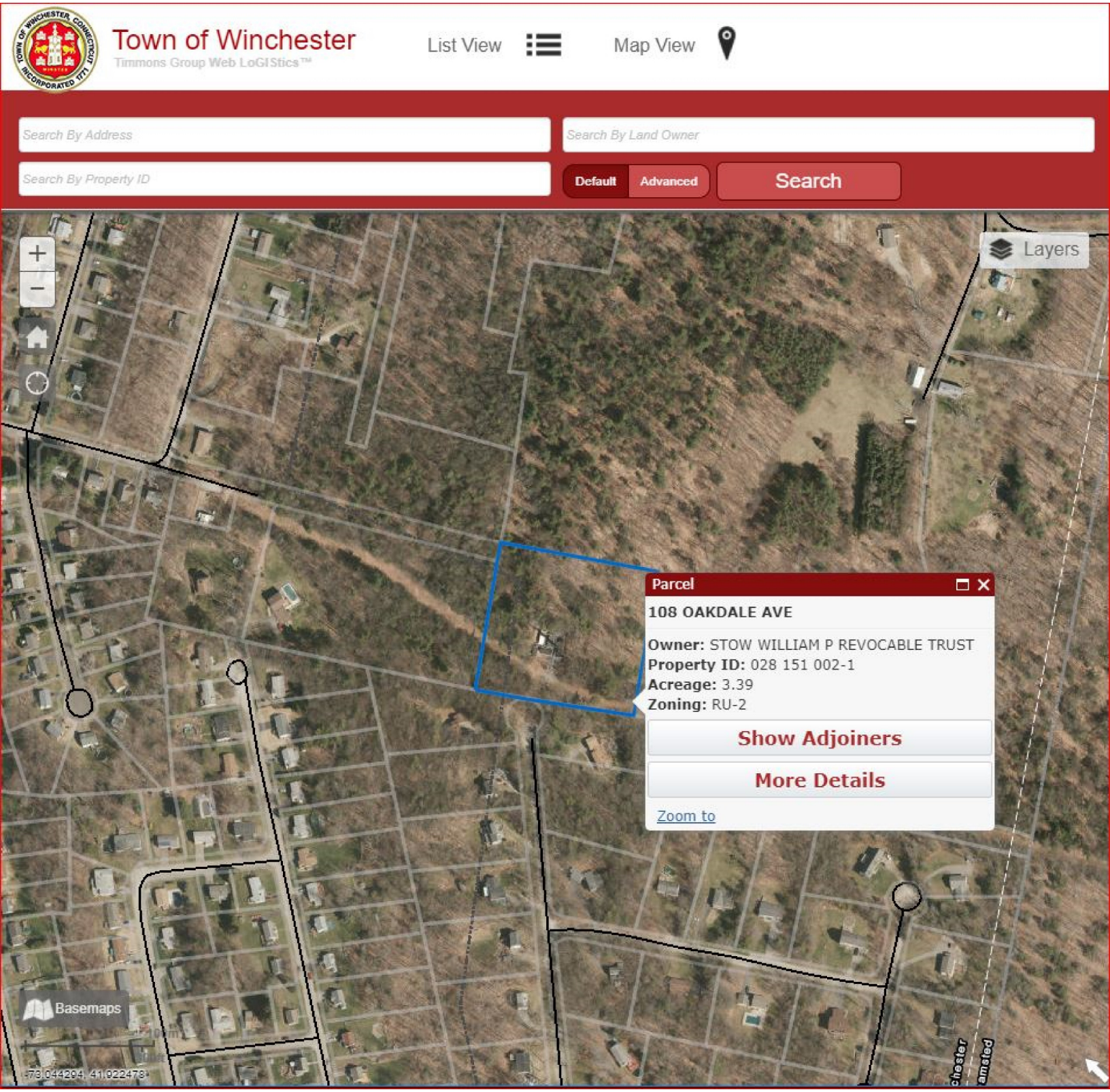
Outbuildings

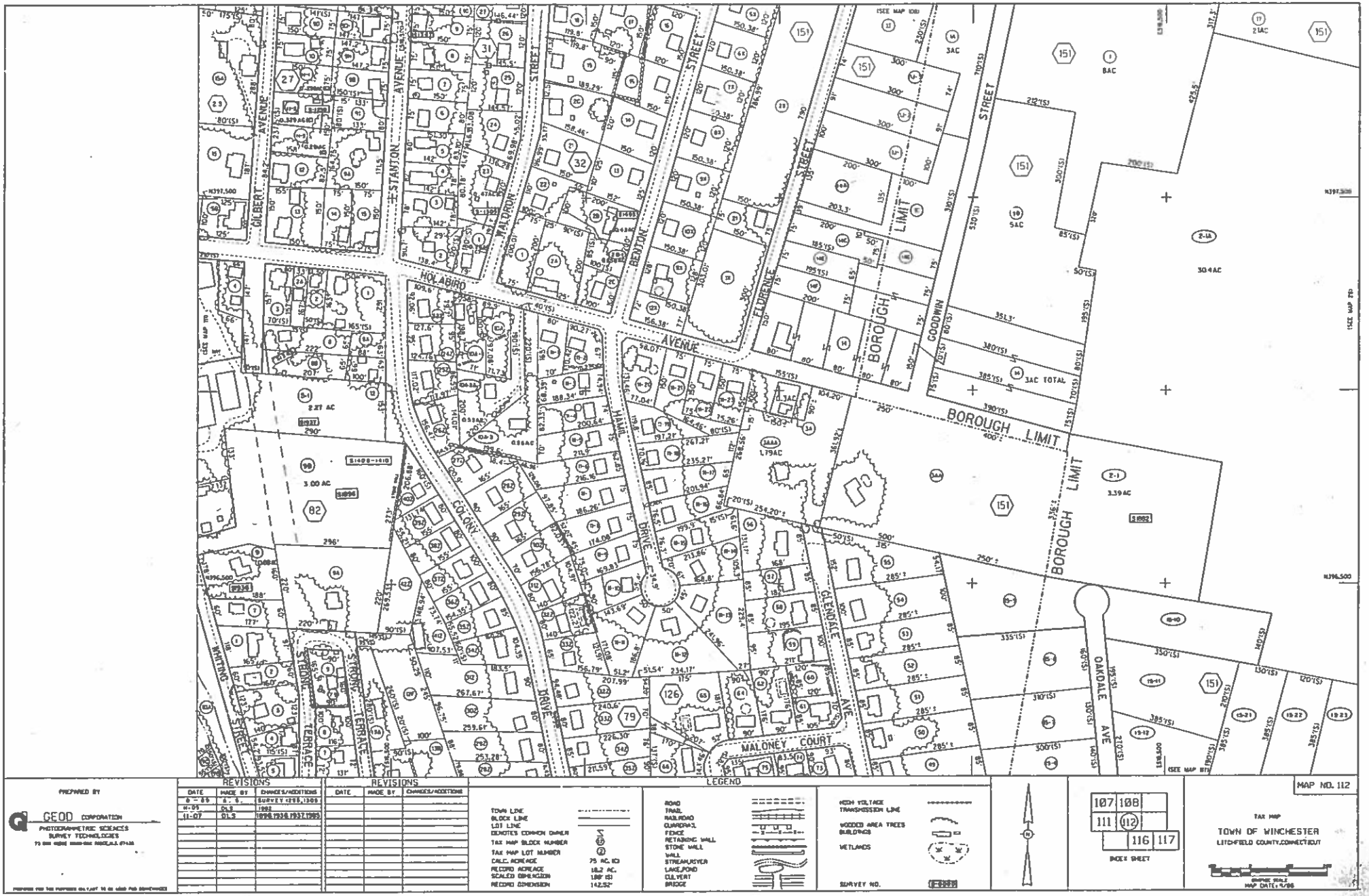
Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
SHD8	Shd Com Mas			252 S.F.	$6,200	1
SHD8	Shd Com Mas			252 S.F.	$6,200	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$25,900	$109,600	$135,500
2016	$19,900	$109,600	$129,500
2012	$13,700	$109,600	$123,300

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$18,130	$76,720	$94,850
2016	$13,930	$76,720	$90,650
2012	$9,590	$76,720	$86,310


Town of Winchester
Timmons Group Web LoGIStics™
List View
Map View
Search By Address
Search By Land Owner
Search By Property ID
Default
Advanced
Search
Layers
Parcel
108 OAKDALE AVE
Owner: STOW WILLIAM P REVOCABLE TRUST
Property ID: 028 151 002-1
Acreage: 3.39
Zoning: RU-2
Show Adjoiners
More Details
Zoom to
Basemaps



PREPARED BY

GEOD CORPORATION

PHOTOGRAMMETRIC SCIENCES
SURVEY TECHNOLOGIES

REVISIONS		
DATE	MADE BY	CHANGES/ADDITIONS
2-89	A. S.	SURVEY 4298,1369
6-94	DLS	1982
11-07	DLS	1998,1936,1937,1985

REVISIONS		
DATE	MADE BY	CHANGES/ADDITIONS

LEGEND

TOWN LINE
BLOCK LINE
LOT LINE
DENOTES COMMON OWNER
TAX MAP BLOCK NUMBER
TAX MAP LOT NUMBER
CALC. ACREAGE 75 AC. ±
RECORD ACREAGE 18.2 AC.
SCALED DIMENSION 189' ±
RECORD DIMENSION 142.52'

ROAD
TRAIL
RAILROAD
GUARDRAIL
FENCE
RETAINING WALL
STONE WALL
WALL
STREAM/RIVER
LAKE/POND
CULVERT
BRIDGE

HIGH VOLTAGE TRANSMISSION LINE
WOODED AREA TREES
BUILDINGS
WETLANDS
SURVEY NO.

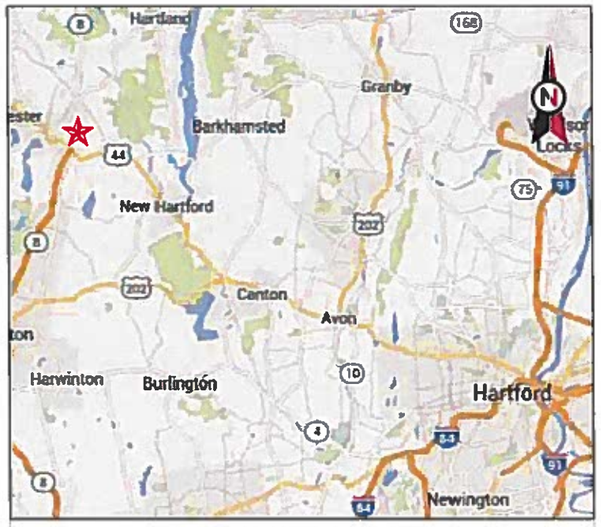
107	108	
111	112	
	116	117

INDEX SHEET

MAP NO. 112

TAX MAP
TOWN OF WINCHESTER
LITCHFIELD COUNTY, CONNECTICUT

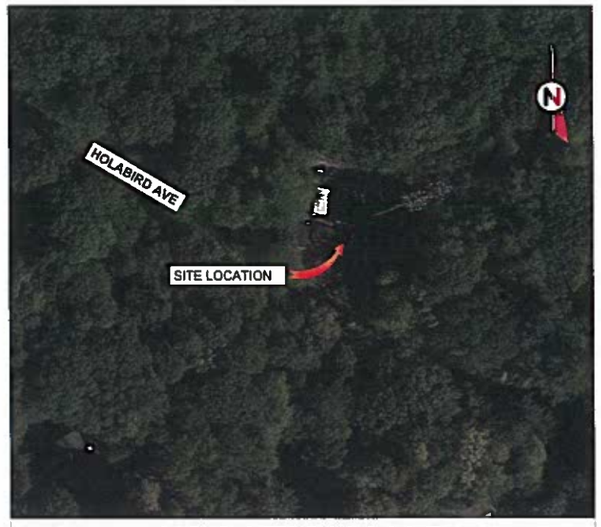
GRAPHIC SCALE
MAP DATE: 4/98



VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: WINCHESTER CT 3
ATC SITE NUMBER: 302506
VERIZON SITE NAME: WINCHESTER E CT
SITE ADDRESS: 15 OAKDALE AVENUE
WINSTED, CT 06098



LOCATION MAP

VERIZON WIRELESS
ANTENNA AMENDMENT DRAWINGS

COMPLIANCE CODE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. INTERNATIONAL BUILDING CODE (IBC)
2. NATIONAL ELECTRIC CODE (NEC)
3. LOCAL BUILDING CODE
4. CITY/COUNTY ORDINANCES

PROJECT SUMMARY

SITE ADDRESS:

15 OAKDALE AVENUE
WINSTED, CT 06098
COUNTY: LITCHFIELD

GEOGRAPHIC COORDINATES:

LATITUDE: 41.92169
LONGITUDE: -73.0495
GROUND ELEVATION: 1073' AMSL

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:

REMOVE (6) PANELS, (12) COMBINERS, (6) 1-5/8" COAX CABLES

INSTALL (6) NEW PANELS, (12) RRUs, (1) 1-5/8" HYBRID CABLES, AND (1) OVPs

EXISTING (6) PANELS, (6) 1-5/8" COAX CABLES TO REMAIN

PROJECT NOTES

1. THE FACILITY IS UNMANNED.
2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE.
3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE.
4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED.
5. HANDICAP ACCESS IS NOT REQUIRED.

PROJECT LOCATION DIRECTIONS

FROM HARTFORD, CT:

TAKE RT 44 TO WINCHESTER. JUST BEFORE JUNCTION FOR RT 8 TURN RIGHT AT LIGHT. TAKE SECOND LEFT ONTO OAKDALE AVENUE. GO TO END OF STREET AND THROUGH ACCESS ROAD GATE TO SITE.

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	COVER SHEET	0	12/12/18	AMM
G-002	GENERAL NOTES	0	12/12/18	AMM
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C-502	CONSTRUCTION DETAILS	0	12/12/18	AMM

UTILITY COMPANIES

POWER COMPANY: EVERSOURCE
PHONE: (866) 554-6025

TELEPHONE COMPANY: FRONTIER
PHONE: (877) 870-4601

811
Know what's below.
Call before you dig.

PROJECT TEAM

TOWER OWNER:

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

ENGINEER:

ATC TOWER SERVICES, LLC
3500 REGENCY PKWY STE 100
CARY, NC 27518

PROPERTY OWNER:

RICHARD D. STOW
52 MILLSTONE RD
WILTON, CT 06897

APPLICANT:

VERIZON WIRELESS
20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492

AMERICAN TOWER®
ATC TOWER SERVICES
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: 6260F

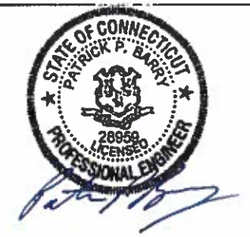
REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	AMM	12/12/18

ATC SITE NUMBER:
302506

ATC SITE NAME:
WINCHESTER CT 3

SITE ADDRESS:
15 OAKDALE AVENUE
WINSTED, CT 06098

SEAL:



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DRAWN BY:	NW
APPROVED BY:	KRF
DATE DRAWN:	12/12/18
ATC JOB NO:	12630528
CUSTOMER ID:	WINCHESTER E CT

COVER SHEET

SHEET NUMBER:	REVISION:
G-001	0

GENERAL CONSTRUCTION NOTES:

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

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
   A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
   B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.
   C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
   D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
   E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
   A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
   B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
   C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
   D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
   E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
   F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
   G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING ½" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

AMERICAN TOWER®
ATC TOWER SERVICES
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: 6260F

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	AMM	12/12/18
△			
△			
△			
△			

ATC SITE NUMBER:
302506

ATC SITE NAME:
WINCHESTER CT 3

SITE ADDRESS:
15 OAKDALE AVENUE
WINSTED, CT 06098

SEAL:

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Dec 13 2018 4:01 PM

verizon design

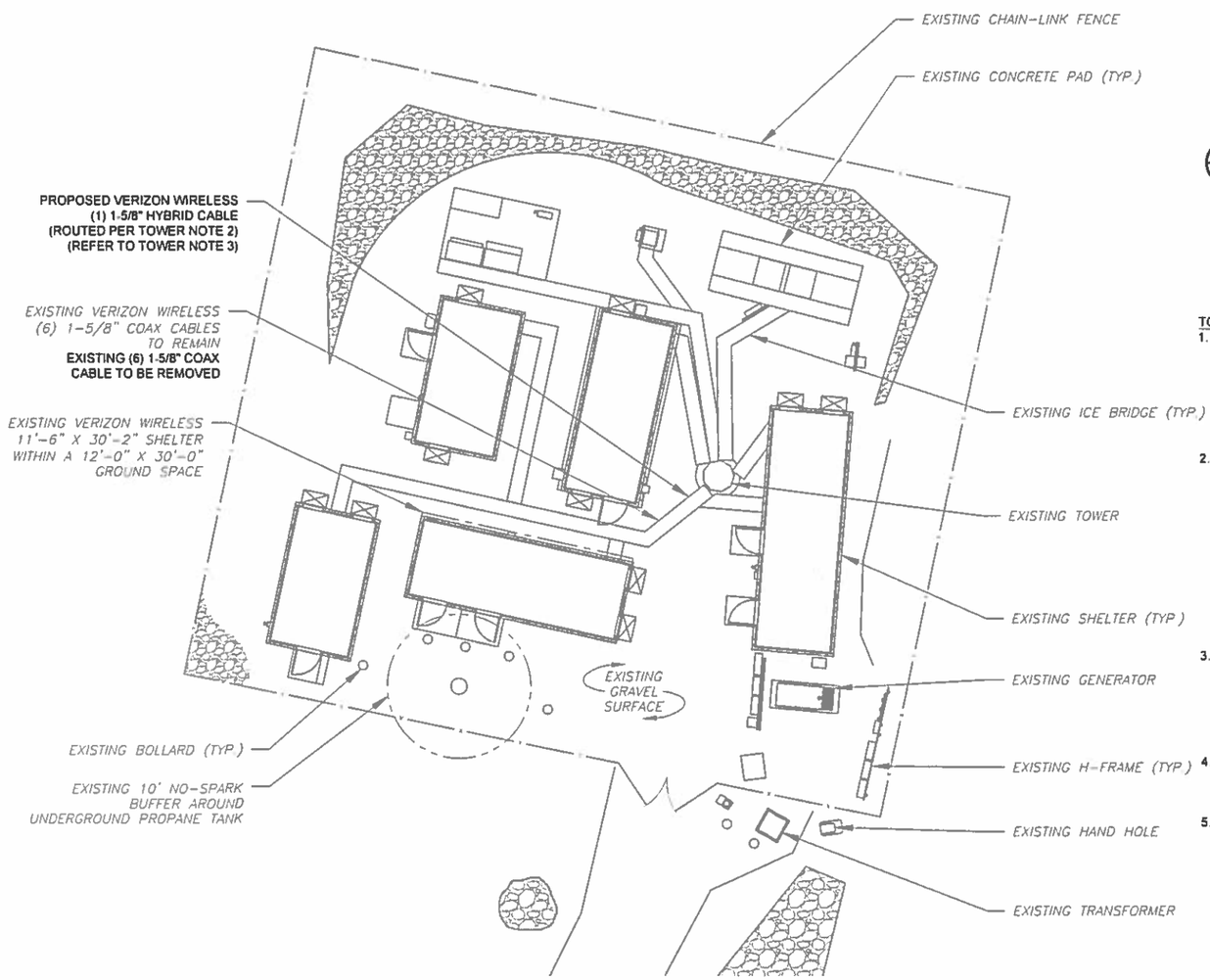
DRAWN BY:	NW
APPROVED BY:	KRF
DATE DRAWN:	12/12/18
ATC JOB NO:	12630528
CUSTOMER ID:	WINCHESTER E CT

GENERAL NOTES

SHEET NUMBER:	REVISION:
G-002	0

SITE PLAN NOTES:

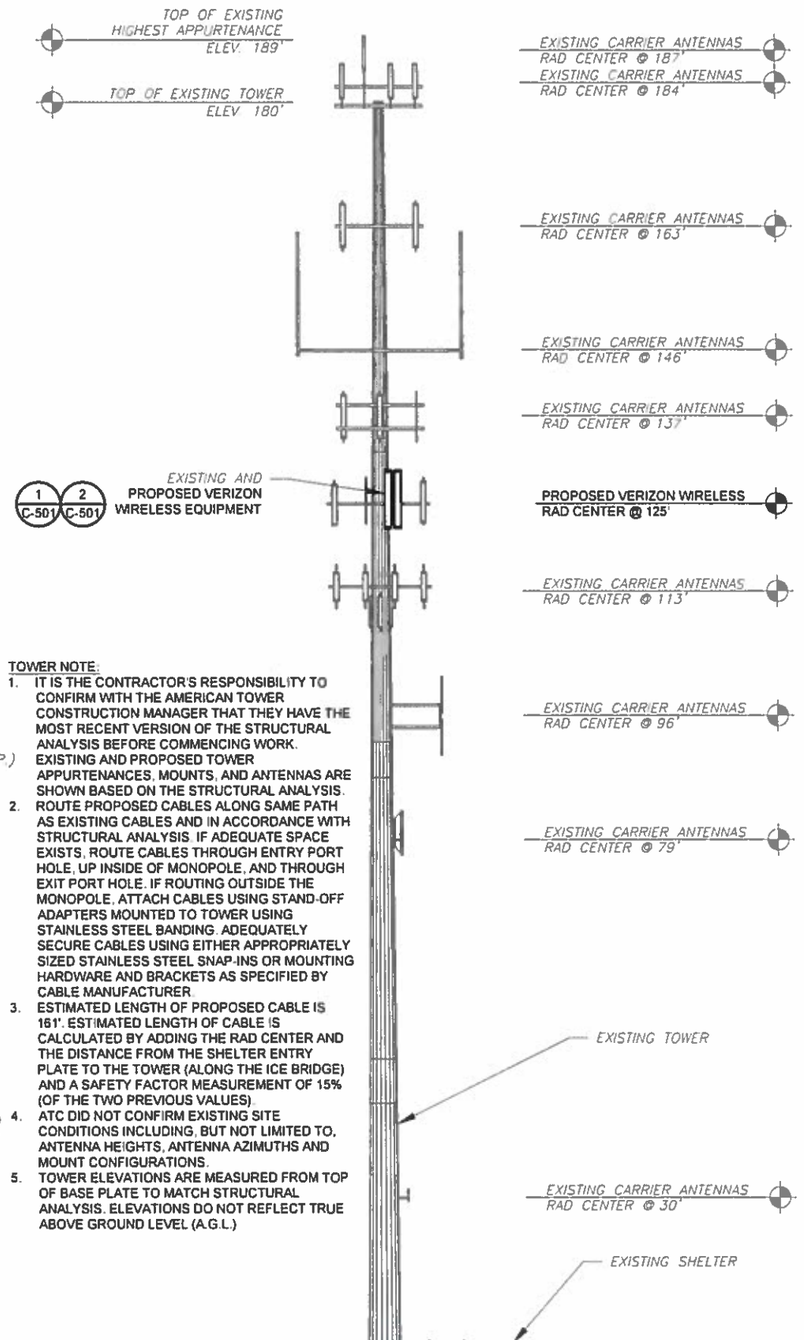
1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, CABLE SUPPORTS, AND CABLES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE INSTALLING NEW CABLE SUPPORT STRUCTURES, COAX PORTS, OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE ATC CONSTRUCTION MANAGER AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.



1 DETAILED SITE PLAN

0 20' 40'

SCALE: 1"=20' (11X17)
1"=10' (22X34)



TOWER NOTE:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE AMERICAN TOWER CONSTRUCTION MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
2. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.
3. ESTIMATED LENGTH OF PROPOSED CABLE IS 161'. ESTIMATED LENGTH OF CABLE IS CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES).
4. ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA HEIGHTS, ANTENNA AZIMUTHS AND MOUNT CONFIGURATIONS.
5. TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)

2 TOWER ELEVATION

SCALE: NOT TO SCALE

AMERICAN TOWER®
ATC TOWER SERVICES
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: 6260F

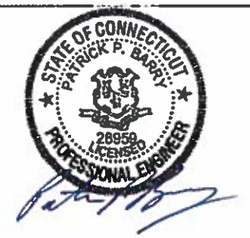
REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	AMM	12/12/18

ATC SITE NUMBER:
302506

ATC SITE NAME:
WINCHESTER CT 3

SITE ADDRESS:
15 OAKDALE AVENUE
WINSTED, CT 06098

SEAL:



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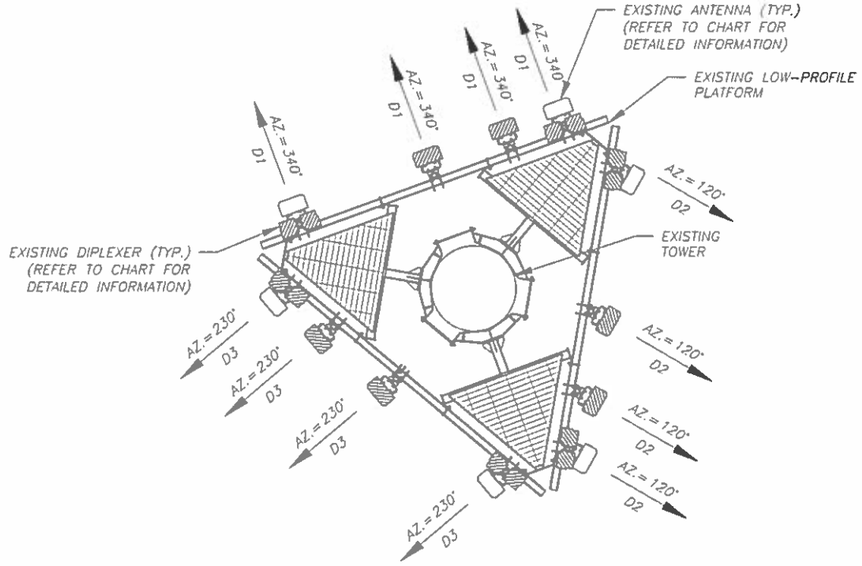
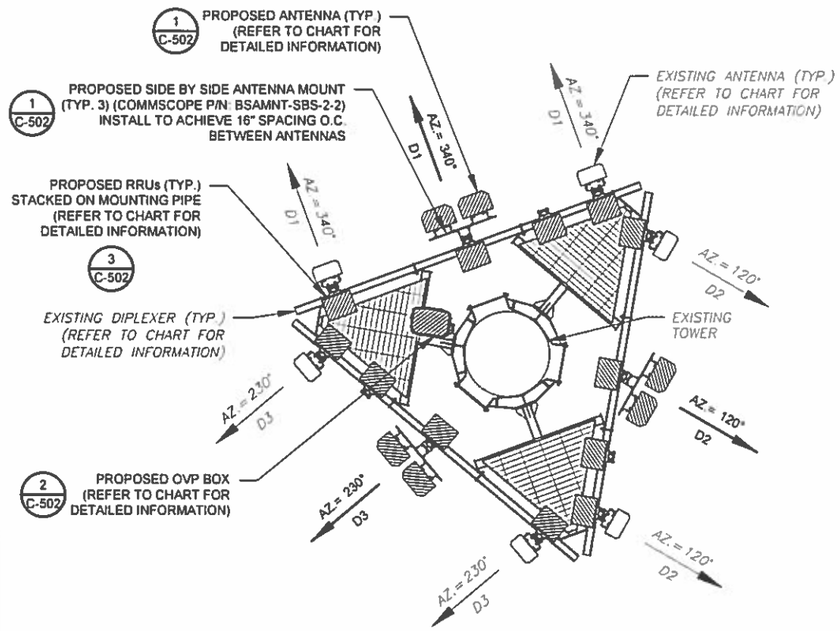
DRAWN BY:	NW
APPROVED BY:	KRF
DATE DRAWN:	12/12/18
ATC JOB NO:	12630528
CUSTOMER ID:	WINCHESTER E CT

DETAILED SITE PLAN AND TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-101	0



1 CURRENT ANTENNA PLAN



2 PROPOSED ANTENNA PLAN

CURRENT ANTENNA AND RF EQUIPMENT SCHEDULE

LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	BAND	MODEL NUMBER	STATUS	POS	MODEL NUMBER	STATUS
D1	125'	340°	1	-	LPA-80080/6CF	RMN	1	(2) FD9R6004/2C-3L	RMV
			2	-	BXA-70063/6CF	RMV	2	-	-
			3	-	BXA-171085-12BF-EDIN-X	RMV	3	-	-
			4	-	LPA-80080/6CF	RMN	4	(2) FD9R6004/2C-3L	RMV
			-	-	-	-	-	-	-
D2	125'	120°	1	-	LPA-80080/6CF	RMN	1	(2) FD9R6004/2C-3L	RMV
			2	-	BXA-70063/6CF	RMV	2	-	-
			3	-	BXA-171085-12BF-EDIN-X	RMV	3	-	-
			4	-	LPA-80080/6CF	RMN	4	(2) FD9R6004/2C-3L	RMV
			-	-	-	-	-	-	-
D3	125'	230°	1	-	LPA-80063/6CF	RMN	1	(2) FD9R6004/2C-3L	RMV
			2	-	BXA-70063/6CF	RMV	2	-	-
			3	-	BXA-171063-12BF-EDIN-X	RMV	3	-	-
			4	-	LPA-80063/6CF	RMN	4	(2) FD9R6004/2C-3L	RMV
			-	-	-	-	-	-	-

CURRENT FIBER DISTRIBUTION / OVP BOX					CURRENT CABLING SUMMARY		
LOCATION	POS	BAND	MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	-	-	-	(6) 1-5/8"	-	RMN
-	-	-	-	-	(6) 1-5/8"	-	-

NOTES

1. BASED ON APPROVED ATC APPLICATION 12629663 , DATED 11/09/18. CONFIRM WITH VERIZON WIRELESS REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS.
2. ATC HAS NOT YET VERIFIED ANY EXISTING ANTENNA CONFIGURATION OR MOUNT CONFIGURATION. CONTRACTOR TO VERIFY MOUNT CONFIGURATION HAS SUFFICIENT SPACE FOR PROPOSED LESSEE EQUIPMENT (I.E. CLEARANCES, MOUNT PIPE OR SUFFICIENT LENGTH, ETC.) ATC DID NOT ANALYZE ANTENNA MOUNT TO DETERMINE ADEQUATE STRUCTURAL CAPACITY FOR ANY LESSEE LOADING.
3. ALL PROPOSED EQUIPMENT INCLUDING ANTENNAS, COAX, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS ON FILE WITH THE ATC CM.
4. CONFIRM SPACING OF PROPOSED EQUIPMENT DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
5. POSITIONS START WITH FIRST PIPE ON THE LEFT SIDE (AS VIEWED FROM BEHIND THE MOUNT).
6. CABLE LENGTHS SHOWN ESTIMATE MAXIMUM TYPICAL RUN AND INCORPORATE A 15% SAFETY FACTOR.

CURRENT ANTENNA AND RF EQUIPMENT SCHEDULE

LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	BAND	MODEL NUMBER	STATUS	POS	MODEL NUMBER	STATUS
D1	125'	340°	1	-	LPA-80080/6CF	RMN	1	AHCA AIRSCALE RRH 4T4R B5 160 W	ADD
			2	700/1900/2100 LTE	(2) JAHH-65B-R3B	ADD	2	UHBA B13 RRH 4X30	ADD
			3	-	-	-	3	UHFA B25 RRH 4X30	ADD
			4	-	LPA-80080/6CF	RMN	4	UHIE B66A RRH 4X45	ADD
D2	125'	120°	1	-	LPA-80080/6CF	RMN	1	AHCA AIRSCALE RRH 4T4R B5 160 W	ADD
			2	700/1900/2100 LTE	(2) JAHH-65B-R3B	ADD	2	UHBA B13 RRH 4X30	ADD
			3	-	-	-	3	UHFA B25 RRH 4X30	ADD
			4	-	LPA-80080/6CF	RMN	4	UHIE B66A RRH 4X45	ADD
D3	125'	230°	1	-	LPA-80063/6CF	RMN	1	AHCA AIRSCALE RRH 4T4R B5 160 W	ADD
			2	700/1900/2100 LTE	(2) JAHH-65B-R3B	ADD	2	UHBA B13 RRH 4X30	ADD
			3	-	-	-	3	UHFA B25 RRH 4X30	ADD
			4	-	LPA-80063/6CF	RMN	4	UHIE B66A RRH 4X45	ADD

CURRENT FIBER DISTRIBUTION / OVP BOX					CURRENT CABLING SUMMARY		
LOCATION	POS	BAND	MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	-	RCMDC-6627-PF-48	ADD	-	(1) 1-5/8"	ADD
-	-	-	-	-	(6) 1-5/8"	-	RMN

STATUS ABBREVIATIONS
RMV: TO BE REMOVED DSC: TO BE DISCONNECTED
RMN: TO REMAIN AND TO REMAIN
REL: TO BE RELOCATED

CABLE LENGTHS FOR FOR FIBER AND DC JUMPERS
FROM FIBER DISTRIBUTION / OVP BOX TO RRU: 20' JUMPERS
FROM RRU TO ANTENNA: 15' JUMPERS

3 ANTENNA AND RF EQUIPMENT SCHEDULES

AMERICAN TOWER®
ATC TOWER SERVICES
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: 6260F

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0	FOR CONSTRUCTION	AMM	12/12/18

ATC SITE NUMBER:
302506

ATC SITE NAME:
WINCHESTER CT 3

SITE ADDRESS:
15 OAKDALE AVENUE
WINSTED, CT 06098

SEAL:

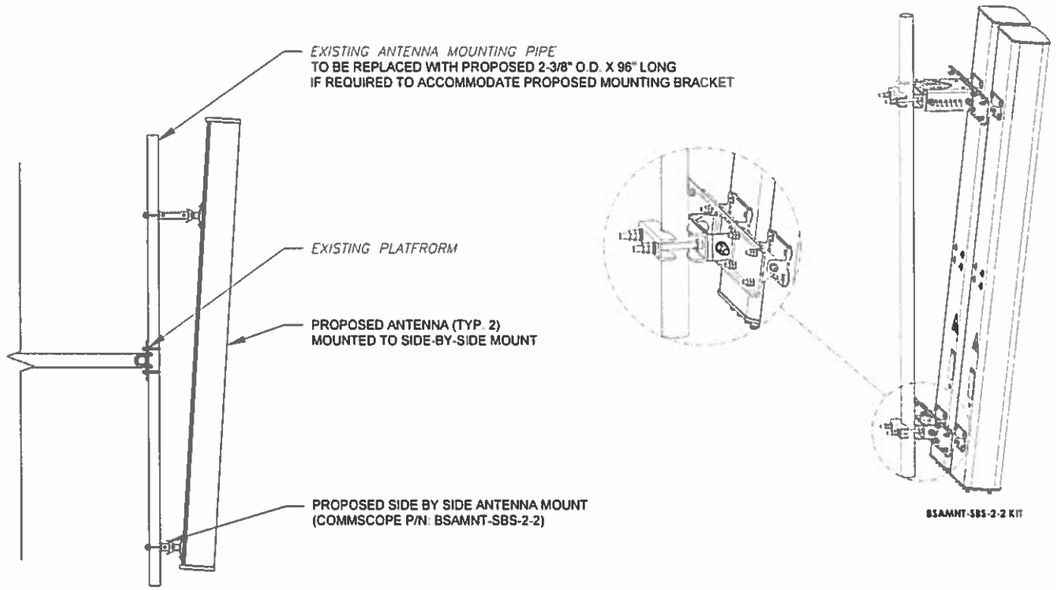
Authorized by "EOR"
Dec 13 2018 4:01 PM

verizon design

DRAWN BY:	NW
APPROVED BY:	KRF
DATE DRAWN:	12/12/18
ATC JOB NO:	12630528
CUSTOMER ID:	WINCHESTER E CT

RF SCHEDULE AND ANTENNA INSTALLATION

SHEET NUMBER:	REVISION:
C-501	0

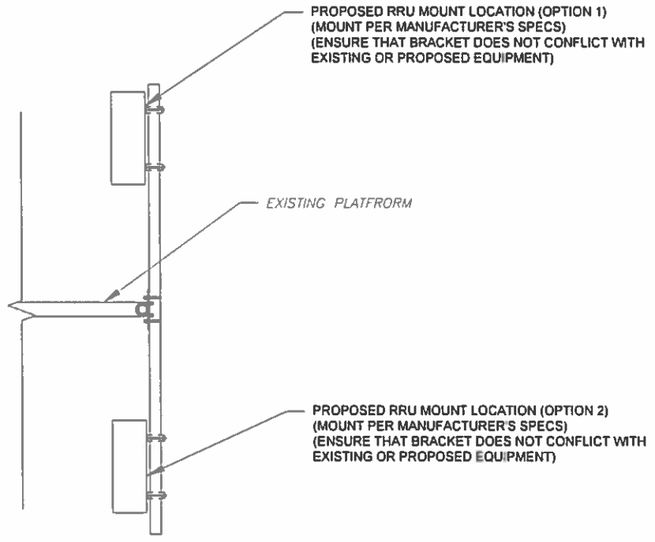


PROFILE VIEW

ISOMETRIC VIEW (BY MANUFACTURER)

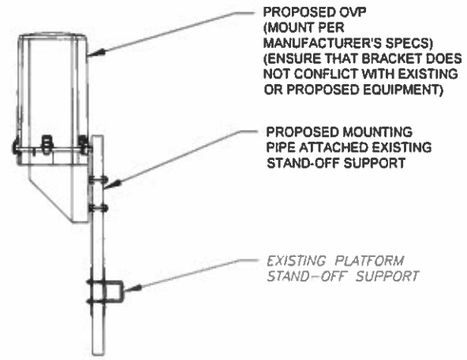
1 PROPOSED SIDE-BY-SIDE MOUNT

SCALE: NOT TO SCALE



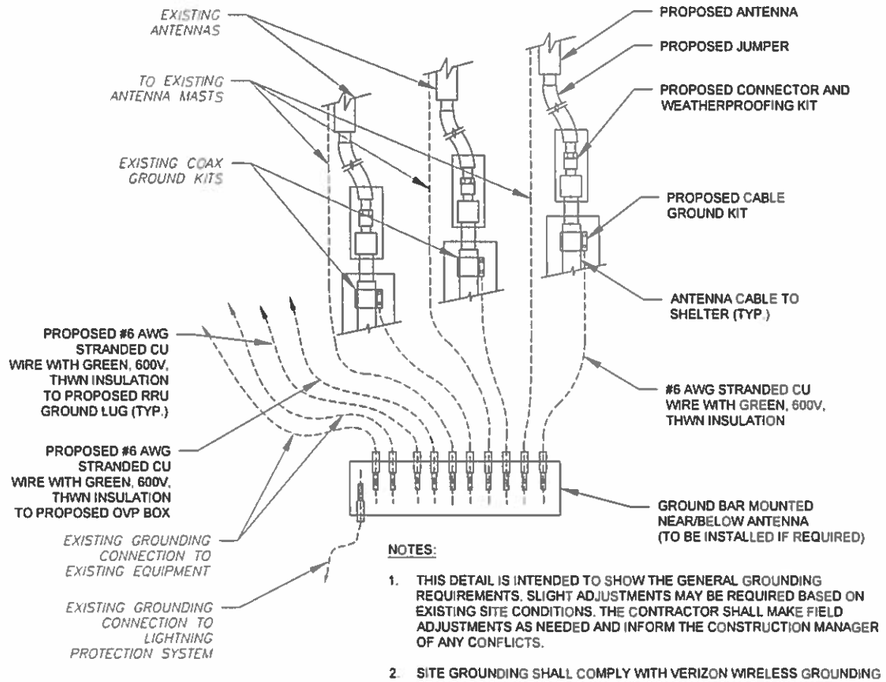
3 PROPOSED RRU MOUNTING DETAIL - TYPICAL

SCALE: NOT TO SCALE



2 PROPOSED OVP MOUNTING

SCALE: NOT TO SCALE



NOTES:

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

4 TYPICAL ANTENNA GROUNDING DIAGRAM

SCALE: NOT TO SCALE

AMERICAN TOWER®
ATC TOWER SERVICES
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: 6260F

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	AMM	12/12/18

ATC SITE NUMBER:
302506

ATC SITE NAME:
WINCHESTER CT 3

SITE ADDRESS:
15 OAKDALE AVENUE
WINSTED, CT 06098

SEAL:

Authorized by "EOR"
~~Dec 13 2018 4:01 PM~~

verizon

DRAWN BY:	NW
APPROVED BY:	KRF
DATE DRAWN:	12/12/18
ATC JOB NO:	12630528
CUSTOMER ID:	WINCHESTER E CT

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-502	0