



Alex Murshteyn, Site Acquisition Consultant  
c/o Cellco Partnership d/b/a Verizon Wireless  
Centerline Communications, LLC  
95 Ryan Drive, Suite 1  
Raynham, MA 02767  
Mobile: (508) 821-0159  
[AMurshteyn@centerlinecommunications.com](mailto:AMurshteyn@centerlinecommunications.com)

February 23, 2018

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

**RE: Notice of Exempt Modification // Site: Wallingford 3 CT (ATC: 302467)  
90 North Plains Industrial Road, Wallingford, CT 06492  
N 41.4807 // W -72.8177**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless currently maintains 12 antennas at the 138-foot mount on the existing 178.5-foot monopole tower, located at 90 North Plains Industrial Road, Wallingford, CT. The tower is owned by American Tower. The property is owned by R L R Investments LLC. Verizon Wireless now intends to replace all 6 of its existing antennas and install side-by-side mounts for 6 LTE (700/850/1900/2100 MHz) replacements for its PCS/AWS/LTE upgrade. Additionally, Verizon Wireless will remove 3 remote radio heads (RRHs) and install 6 new RRHs, with its new antennas; while updating certain leased equipment rights, as reflected by the final configuration outlined in the structural analysis and proposed hereby.

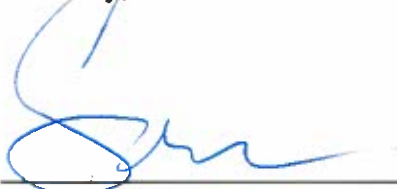
Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to William W. Dickinson, Jr., Mayor for the Town of Wallingford, Town Planner Kacie Hand, including for its Planning & Zoning Department, American Tower, the current tower owner, and the ground owner, R L R Investments LLC.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). Enclosed to accommodate this filing are construction drawings dated February 9, 2018 by ATC Tower Services, LLC, a structural analysis dated February 8, 2018 by A.T. Engineering Service, PLLC 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 structural analysis by A.T. Engineering Service, PLLC, dated February 8, 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  
95 Ryan Drive, Suite 1  
Raynham, MA 02767  
Mobile: (508) 821-0159  
[AMurshteyn@centerlinecommunications.com](mailto:AMurshteyn@centerlinecommunications.com)

Attachments

cc: William W. Dickinson, Jr., Mayor - as elected official - 1Z9Y45030336211709  
Kacie Hand, Town Planner - as P&Z official - 1Z9Y45030331441318  
American Tower Corporation - as tower owner - 1Z9Y45030338279536  
R L R Investments LLC - as property owner - 1Z9Y45030321688143



**AMERICAN TOWER®**  
CORPORATION

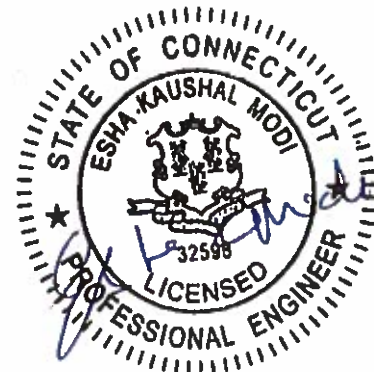
---

## Structural Analysis Report

**Structure** : 178.5 ft Monopole  
**ATC Site Name** : Bilkays Express, CT  
**ATC Site Number** : 302467  
**Engineering Number** : OAA724292\_C3\_01  
**Proposed Carrier** : Verizon Wireless  
**Carrier Site Name** : Wallingford CT  
**Carrier Site Number** : PSCL# 117614 / FUZE# 2559311  
**Site Location** : 90 North Plains Industrial Rd.  
Wallingford, CT 06492-2334  
41.480800,-72.817700  
**County** : New Haven  
**Date** : February 8, 2018  
**Max Usage** : 54%  
**Result** : Pass

Prepared By:  
Peter Giordano  
Structural Engineer II

Reviewed By:



Feb 8 2018 5:31 PM **cosign**

COA: PEC.0001553



**Table of Contents**

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



## Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 178.5 ft monopole to reflect the change in loading by Verizon Wireless.

## Supporting Documents

<b>Tower Drawings</b>	FWT Job #18357, dated March 19, 1999
<b>Foundation Drawing</b>	FWT Job #18357, dated March 19, 1999
<b>Geotechnical Report</b>	Tectonic Work Order #1170.C947C, dated March 11, 1999

## Analysis

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

<b>Basic Wind Speed:</b>	97 mph (3-Second Gust, Vasd)/ 125 mph (3-Second Gust, Vult)
<b>Basic Wind Speed w/ Ice:</b>	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
<b>Code:</b>	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
<b>Structure Class:</b>	II
<b>Exposure Category:</b>	B
<b>Topographic Category:</b>	1
<b>Crest Height:</b>	0 ft
<b>Spectral Response:</b>	$S_s = 0.18, S_1 = 0.06$
<b>Site Class:</b>	D - Stiff Soil

## Conclusion

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

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



**Existing and Reserved Equipment**

Elevation <sup>1</sup> (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
178.5	182.0	12	Decibel DB844H90E-XY	Low Profile Platform	(12) 1 5/8" Coax	Sprint Nextel
167.0	168.0	2	DragonWave Horizon Compact	Side Arms	(6) 5/16" Coax (2) 1/2" Coax	Clearwire
		3	NextNet BTS-2500			
		1	DragonWave A-ANT-11G-2-C			
		1	DragonWave A-ANT-18G-2-C			
	167.0	3	Argus LLPX310R			
163.0	163.0	1	18" x 12" Junction Box	Flush	(1) 2" Conduit	
160.0	160.0	6	Powerwave 7020	Low Profile Platform	(3) 2" Conduit (12) 1 5/8" Coax (4) 0.78" 8 AWG 6 (2) 0.39" Fiber Trunk (1) 3/8" RET Control Cable	AT&T Mobility
		6	Kaelus DBC0061F1V51-2			
		6	Powerwave LGP21401			
		2	Raycap DC6-48-60-18-8F (23.5" Height)			
		3	Ericsson RRUS-11 800MHz			
		3	Ericsson RRUS 32 B2			
		3	Ericsson RRUS 11 (Band 7)			
		3	Ericsson RRUS-32 (77 lbs)			
		3	Powerwave 7770.00			
		3	Quintel QS66512-2			
		3	CCI OPA-65R-LCUU-H6			
150.0	152.0	3	Ericsson KRY 112 144/1	Low Profile Platform	(12) 1 5/8" Coax (1) 1 1/4" Hybriflex Cab	T-Mobile
		3	Ericsson RRUS 11 B12			
		3	Ericsson AIR 21, 1.3 M, B2A B4P			
		3	Ericsson AIR 21, 1.3M, B4A B2P			
		3	Andrew LNX-6515DS-VTM			
138.0	138.0	3	Nokia B5 RRH4x40-850	Low Profile Platform	(12) 1 5/8" Coax (2) 1 5/8" Hybriflex	Verizon
		3	Alcatel-Lucent RRH 2X60-1900			
		3	Alcatel-Lucent RRH2x60 700			
		3	Alcatel-Lucent B66A RRH4x45-4R w/o Solar Shield			
		2	RFS DB-T1-6Z-8AB-0Z			
		3	Antel BXA-80063-6BF-EDIN-X			
		6	Commscope JAHH-65B-R3B			
128.0	129.0	3	RFS APXV18-206517S-C	Flush	(6) 1 5/8" Coax (1) 7/8" Coax	Metro PCS
	128.0	1	Nortel NTGB01MA			
120.0	122.0	3	Alcatel-Lucent 800MHz RRH	Low Profile Platform	(4) 1 1/4" Hybriflex	Sprint Nextel
		3	Alcatel-Lucent 1900MHz 4X45 RRH			
		3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
		3	RFS RFS APXV9TM14-ALU-I20			
		3	RFS APXVSPP18-C-A20			
20.0	20.0	1	PCTEL GPS-TMG-HR-26N	Standoff	(1) 1/2" Coax	



**Equipment to be Removed**

Elevation <sup>1</sup> (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
No loading considered as to be removed						

**Proposed Equipment**

Elevation <sup>1</sup> (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
138.0	138.0	3	Commscope SBNHH-1D65B	Low Profile Platform	(6) 1 5/8" Coax	Verizon

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

Install proposed coax inside the pole shaft.

**Structure Usages**

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	54%	Pass
Shaft	49%	Pass
Base Plate	34%	Pass

**Foundations**

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	4378.4	55%
Shear (Kips)	35.9	48%

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) (°)
167.0	DragonWave A-ANT-11G-2-C	Clearwire	1.172	0.735
	DragonWave A-ANT-18G-2-C			
138.0	Commscope SBNHH-1D65B	Verizon Wireless	0.812	0.674

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



## **Standard Conditions**

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

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

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

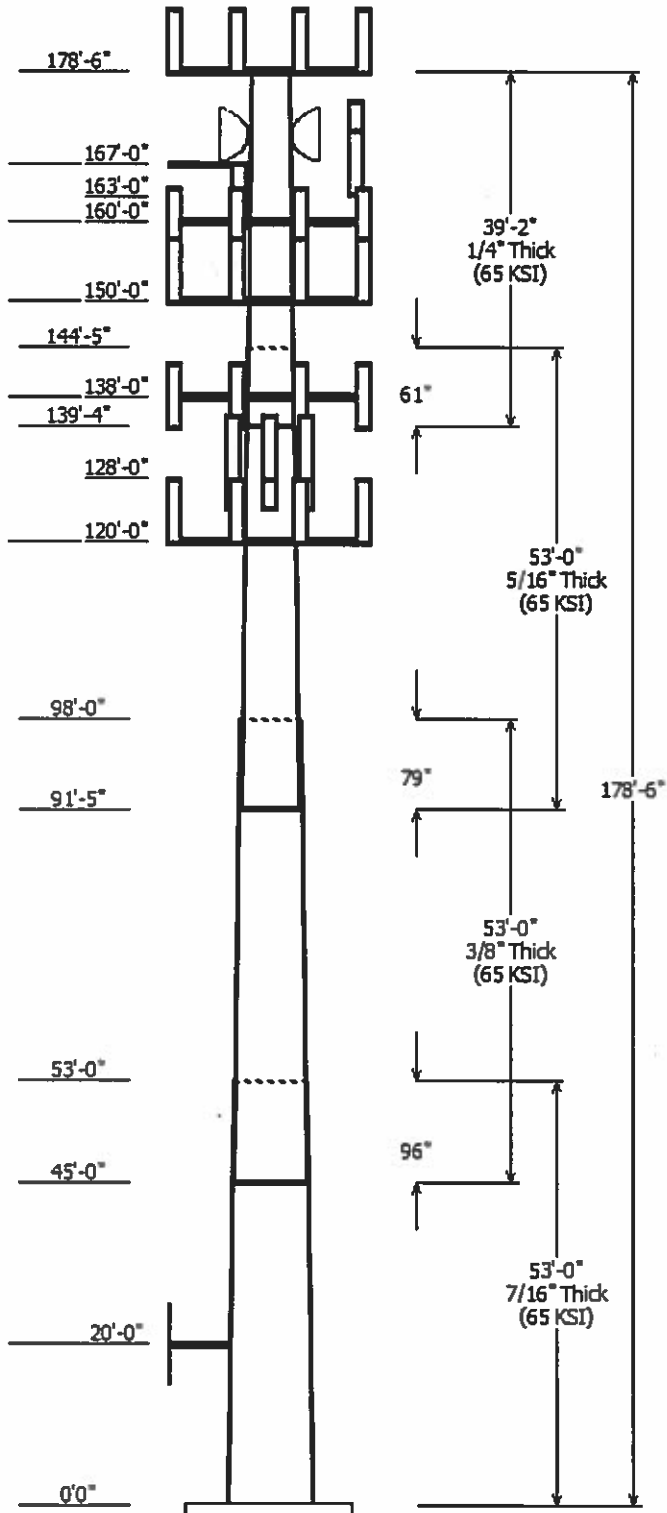
All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with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

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

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



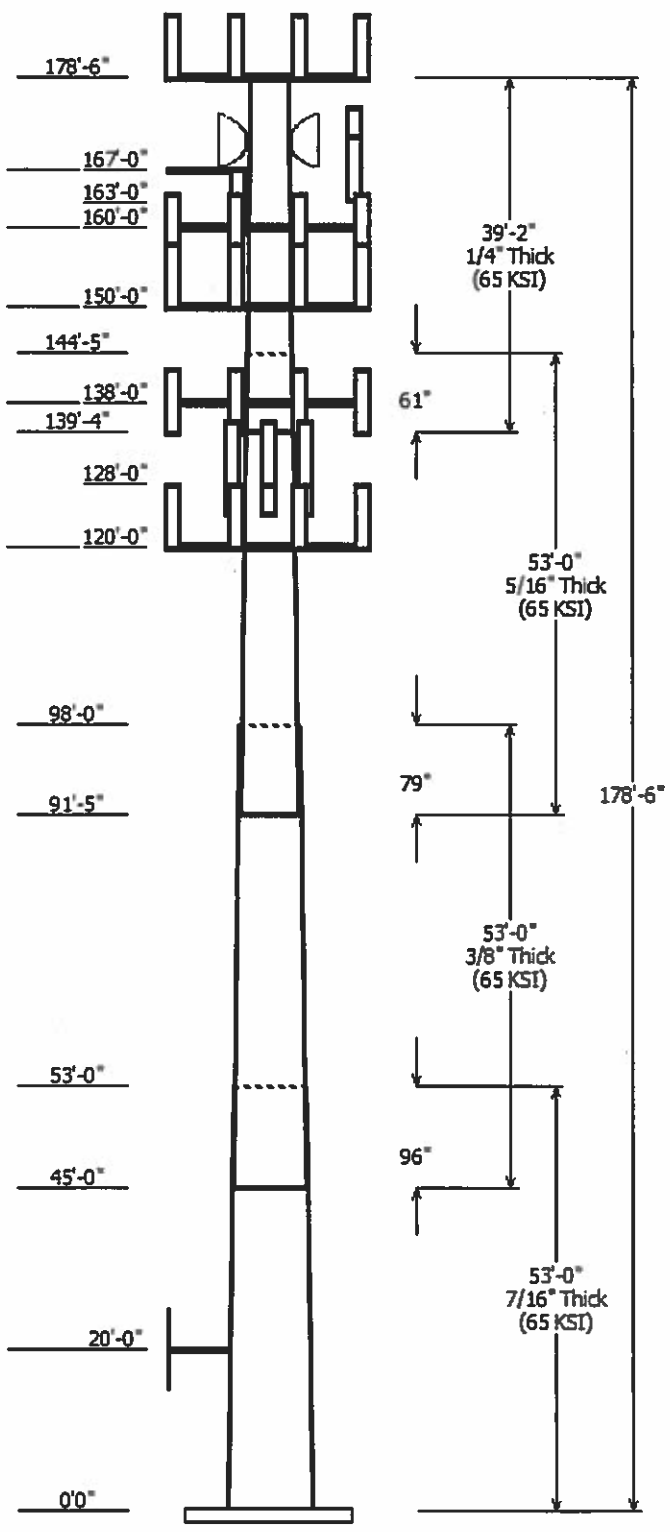
© 2007 - 2018 by ATC IP LLC. All rights reserved.



Job Information	
Pole : 302467	Code: ANSI/TIA-222-G
Location : Bilkays Express, CT	
Description : 178.5' FWT Monopole	
Client : VERIZON WIRELESS	Struct Class : II
Shape : 18 Sides	Exposure : B
Height : 178.50 (ft)	Topo : 1
Base Elev (ft): 0.00	
Taper: 0.25140(in/ft)	

Sections Properties							
Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Overlap Length (in)	Steel Grade	Shape
		Across Flats Top	Across Flats Bottom				
1	53.000	58.67	72.00	0.438	0.000	65	18 Sides
2	53.000	48.11	61.43	0.375 Slip Joint	96.000	65	18 Sides
3	53.000	37.06	50.39	0.313 Slip Joint	79.000	65	18 Sides
4	39.167	29.00	38.84	0.250 Slip Joint	61.000	65	18 Sides

Discrete Appurtenance				
Attach Elev (ft)	Force Elev (ft)	Qty	Description	
178.500	182.000	12	Decibel DB844H90E-XY	
178.500	178.500	1	Flat Low Profile Platform	
167.000	168.000	3	NextNet BTS-2500	
167.000	167.000	1	Side Arms	
167.000	168.000	1	DragonWave A-ANT-18G-2-C	
167.000	168.000	1	DragonWave A-ANT-11G-2-C	
167.000	167.000	3	Argus LLPX310R	
167.000	168.000	2	DragonWave Horizon Compact	
163.000	163.000	1	18" x 12" Junction Box	
160.000	160.000	6	Kaelus DBC0061F1V51-2	
160.000	160.000	3	Quintel QS66512-2	
160.000	160.000	3	Ericsson RRUS 32 B2	
160.000	160.000	3	Ericsson RRUS-11 800 MHz	
160.000	160.000	3	CCI OPA-65R-LCUU-H6	
160.000	160.000	6	Powerwave Allgon LGP21401	
160.000	160.000	1	Flat Low Profile Platform	
160.000	160.000	3	Powerwave Allgon 7770.00	
160.000	160.000	3	Ericsson RRUS-32 (77 lbs)	
160.000	160.000	3	Ericsson RRUS 11 (Band 7)	
160.000	160.000	2	Raycap DC6-48-60-18-8F (23.5"	
160.000	160.000	6	Powerwave Allgon 7020	
150.000	152.000	3	Ericsson KRY 112 144/1	
150.000	152.000	3	Ericsson AIR 21, 1.3M, B4A B2P	
150.000	150.000	1	Round Low Profile Platform	
150.000	152.000	3	Andrew LNX-6515DS-VTM	
150.000	152.000	3	Ericsson AIR 21, 1.3 M, B2A B4	
150.000	152.000	3	Ericsson RRUS 11 B12	
138.000	138.000	1	Round Low Profile Platform	
138.000	138.000	6	Commscope JAHH-65B-R3B	
138.000	138.000	3	Commscope SBNHH-1D65B	
138.000	138.000	3	Antel BXA-80063-6BF-EDIN-X	
138.000	138.000	2	RFS DB-T1-6Z-8AB-0Z	
138.000	138.000	3	Alcatel-Lucent B66A RRH4x45-	
138.000	138.000	3	Alcatel-Lucent RRH2x60 700	
138.000	138.000	3	Alcatel-Lucent RRH 2X60-1900	
138.000	138.000	3	Nokia B5 RRH4x40-850	
128.000	128.000	1	Nortel NTGB01MA	
128.000	129.000	3	RFS APXV18-206517S-C	
120.000	120.000	1	Round Low Profile Platform	
120.000	122.000	3	RFS APXSPP18-C-A20	
120.000	122.000	3	RFS RFS APXV9TM14-ALU-I20	
120.000	122.000	3	Alcatel-Lucent TD-RRH8x20-25	
120.000	122.000	3	Alcatel-Lucent 1900 MHz 4X45	
120.000	122.000	3	Alcatel-Lucent 800 MHz RRH	



20.000	20.000	1	Standoff
20.000	20.000	1	PCTEL GPS-TMG-HR-26N

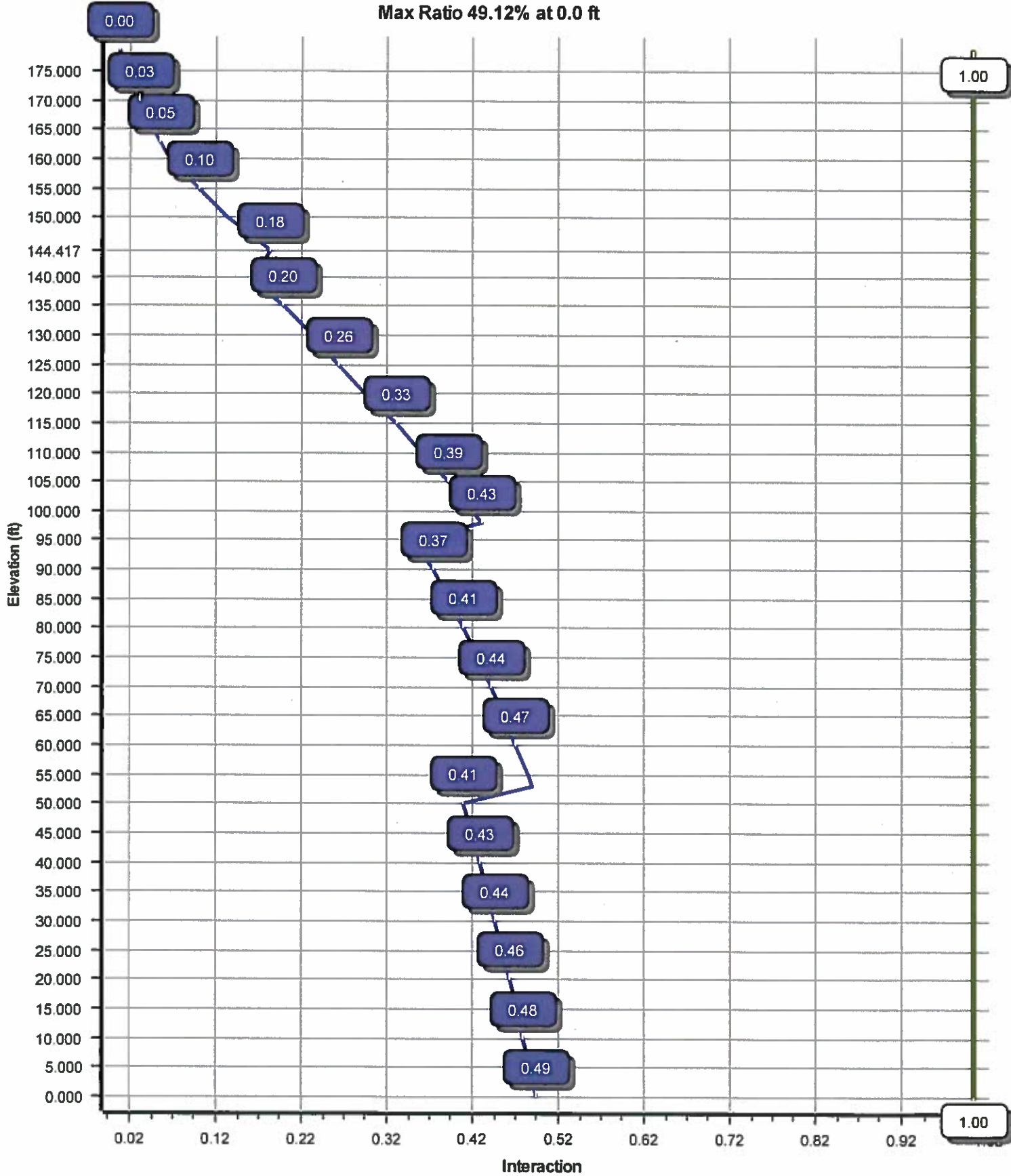
Linear Appurtenance			
Elev (ft)		Description	Exposed To Wind
From	To		
0.000	20.000	1/2" Coax	Yes
0.000	120.0	1 1/4" Hybriflex	Yes
0.000	128.0	1 5/8" Coax	Yes
0.000	128.0	7/8" Coax	No
0.000	138.0	1 5/8" Coax	No
0.000	138.0	1 5/8" Coax	No
0.000	138.0	1 5/8" Coax	Yes
0.000	138.0	1 5/8" Hybriflex	No
0.000	150.0	1 1/4" Hybriflex	Yes
0.000	150.0	1 5/8" Coax	Yes
0.000	160.0	0.39" Fiber Trunk	No
0.000	160.0	0.78" 8 AWG 6	No
0.000	160.0	1 5/8" Coax	No
0.000	160.0	2" Conduit	No
0.000	160.0	3/8" RET Control	No
0.000	163.0	2" Conduit	Yes
0.000	167.0	1/2" Coax	Yes
0.000	167.0	5/16" Coax	No
0.000	178.5	1 5/8" Coax	No

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

Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	4378.44	35.88	76.71
0.9D + 1.6W	4276.97	35.30	57.52
1.2D + 1.0Di + 1.0Wi	1191.58	9.90	125.01
(1.2 + 0.2Sds) * DL + E ELFM	270.89	2.00	76.69
(1.2 + 0.2Sds) * DL + E EMAM	262.49	2.14	76.69
(0.9 - 0.2Sds) * DL + E ELFM	268.07	2.00	53.29
(0.9 - 0.2Sds) * DL + E EMAM	259.58	2.14	53.29
1.0D + 1.0W	1025.88	8.44	63.95

Dish Deflections			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	167.00	14.059	0.735
1.0D + 1.0W	167.00	14.059	0.735

Load Case : 1.2D + 1.6W  
Max Ratio 49.12% at 0.0 ft



Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:21:59 PM

Customer: VERIZON WIRELESS

**Analysis Parameters**

Location :	NEW HAVEN County, CT	Height (ft) :	178.5
Code :	ANSI/TIA-222-G	Base Diameter (In) :	72.00
Shape :	18 Sides	Top Diameter (In) :	29.00
Pole Type :	Taper	Taper (In/ft) :	0.251
Pole Manufacturer :	FWT	Rotation (deg) :	0.00

**Ice & Wind Parameters**

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

**Seismic Parameters**

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	2.15		
T <sub>L</sub> (sec):	6	p:	1
S <sub>s</sub> :	0.183	S <sub>r</sub> :	0.063
F <sub>a</sub> :	1.600	F <sub>v</sub> :	2.400
S <sub>ds</sub> :	0.195	S <sub>d1</sub> :	0.101
		C <sub>s</sub> :	0.031
		C <sub>s</sub> Max:	0.031
		C <sub>s</sub> Min:	0.030

**Load Cases**

1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0DI + 1.0WI	50 mph with 0.75 in Radial Ice
(1.2 + 0.2S <sub>ds</sub> ) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2S <sub>ds</sub> ) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2S <sub>ds</sub> ) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2S <sub>ds</sub> ) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:00 PM

Customer: VERIZON WIRELESS

**Shaft Section Properties**

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Slip		Weight (lb)	Bottom				Top				Taper (in/ft)				
				Joint Type	Joint Len (in)		Dia (in)	Elev (ft)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)		Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio
1-18	53.000	0.4375	65		0.00	16,253	72.00	0.00	99.37	64295.3	27.26	164.57	58.67	53.00	80.87	34653.6	21.89	134.12	0.251401
2-18	53.000	0.3750	65	Slip	96.00	11,677	61.43	45.00	72.68	34236.4	27.12	163.83	48.11	98.00	56.82	16359.2	20.86	128.30	0.251401
3-18	53.000	0.3125	65	Slip	79.00	7,766	50.39	91.42	49.67	15739.6	26.67	161.26	37.06	144.42	36.46	6222.7	19.15	118.62	0.251401
4-18	39.167	0.2500	65	Slip	61.00	3,561	38.84	139.33	30.63	5764.1	25.64	155.39	29.00	178.50	22.81	2382.3	18.69	116.00	0.251401
Shaft Weight						39,257													

**Discrete Appurtenance Properties**

Attach Elev (ft)	Description	Qty	Distance From Face (ft)	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor
178.50	Decibel DB844H90E-XY	12	0.000	3.500	14.00	3.610	0.74
178.50	Flat Low Profile Platform	1	0.000	0.000	1500.00	26.100	1.00
167.00	Argus LLPX310R	3	0.000	0.000	28.60	4.290	0.63
167.00	DragonWave A-ANT-11G-2-C	1	0.000	1.000	27.00	4.690	0.86
167.00	DragonWave A-ANT-18G-2-C	1	0.000	1.000	27.10	4.690	0.87
167.00	DragonWave Horizon Compact	2	0.000	1.000	10.60	0.430	0.50
167.00	NextNet BTS-2500	3	0.000	1.000	35.00	1.820	0.50
167.00	Side Arms	1	0.000	0.000	560.00	8.500	1.00
163.00	18" x 12" Junction Box	1	0.000	0.000	15.00	1.800	1.00
160.00	CCI OPA-65R-LCUU-H6	3	0.000	0.000	73.00	9.660	0.66
160.00	Ericsson RRUS 11 (Band 7)	3	0.000	0.000	50.70	2.790	0.67
160.00	Ericsson RRUS 32 B2	3	0.000	0.000	53.00	2.740	0.67
160.00	Ericsson RRUS-11 800 MHz	3	0.000	0.000	54.00	2.520	0.67
160.00	Ericsson RRUS-32 (77 lbs)	3	0.000	0.000	77.00	3.310	0.67
160.00	Flat Low Profile Platform	1	0.000	0.000	1500.00	26.100	1.00
160.00	Kaelus DBC0061F1V51-2	6	0.000	0.000	25.50	0.510	0.50
160.00	Powerwave Allgon 7020	6	0.000	0.000	2.20	0.400	0.50
160.00	Powerwave Allgon 7770.00	3	0.000	0.000	35.00	5.510	0.65
160.00	Powerwave Allgon LGP21401	6	0.000	0.000	14.10	1.100	0.50
160.00	Quintel QS66512-2	3	0.000	0.000	111.00	8.130	0.74
160.00	Raycap DC6-48-60-18-8F (23.5"	2	0.000	0.000	20.00	1.110	1.00
150.00	Andrew LNX-6515DS-VTM	3	0.000	2.000	51.30	11.430	0.70
150.00	Ericsson AIR 21, 1.3 M, B2A B4	3	0.000	2.000	83.00	6.050	0.71
150.00	Ericsson AIR 21, 1.3M, B4A B2P	3	0.000	2.000	81.50	6.090	0.70
150.00	Ericsson KRY 112 144/1	3	0.000	2.000	11.00	0.410	0.50
150.00	Ericsson RRUS 11 B12	3	0.000	2.000	50.70	2.790	0.67
150.00	Round Low Profile Platform	1	0.000	0.000	1500.00	21.700	1.00
138.00	Alcatel-Lucent B66A RRH4x45-4R	3	0.000	0.000	56.80	2.390	0.67
138.00	Alcatel-Lucent RRH 2X60-1900	3	0.000	0.000	39.60	1.880	0.50
138.00	Alcatel-Lucent RRH2x60 700	3	0.000	0.000	56.70	2.150	0.67
138.00	Antel BXA-80063-6BF-EDIN-X	3	0.000	0.000	19.20	7.260	0.66
138.00	Commscope JAHH-65B-R3B	6	0.000	0.000	60.60	9.110	0.69
138.00	Commscope SBNHH-1D65B	3	0.000	0.000	50.70	8.170	0.69
138.00	Nokia B5 RRH4x40-850	3	0.000	0.000	48.50	1.320	0.50
138.00	RFS DB-T1-6Z-8AB-0Z	2	0.000	0.000	44.00	4.800	0.67
138.00	Round Low Profile Platform	1	0.000	0.000	1500.00	21.700	1.00
128.00	Nortel NTGB01MA	1	0.000	0.000	1.00	0.090	1.00
128.00	RFS APXV18-206517S-C	3	0.000	1.000	26.40	5.170	0.68
120.00	Alcatel-Lucent 1900 MHz 4X45 R	3	0.000	2.000	60.00	2.320	0.67
120.00	Alcatel-Lucent 800 MHz RRH	3	0.000	2.000	53.00	2.130	0.67
120.00	Alcatel-Lucent TD-RRH8x20-25 w	3	0.000	2.000	70.00	4.050	0.67
120.00	RFS APXSPP18-C-A20	3	0.000	2.000	57.00	8.020	0.69
120.00	RFS RFS APXV9TM14-ALU-I20	3	0.000	2.000	55.10	6.340	0.66
120.00	Round Low Profile Platform	1	0.000	0.000	1500.00	21.700	1.00
20.00	PCTEL GPS-TMG-HR-26N	1	0.000	0.000	0.60	0.090	1.00
20.00	Standoff	1	0.000	0.000	75.00	2.500	1.00

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:00 PM

Customer: VERIZON WIRELESS

Totals Num Loadings:46 132 13300.70

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	178.50	12	1 5/8" Coax	1.98	0.82	N	0.00	N	Sprint Nextel
0.00	167.00	2	1/2" Coax	0.63	0.15	N	0.00	Y	Clearwire
0.00	167.00	6	5/16" Coax	0.31	0.05	N	0.00	N	Clearwire
0.00	163.00	1	2" Conduit	2.38	3.65	N	0.00	Y	Clearwire
0.00	160.00	2	0.39" Fiber Trunk	0.39	0.07	N	0.00	N	AT&T Mobility
0.00	160.00	4	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility
0.00	160.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility
0.00	160.00	3	2" Conduit	2.38	3.65	N	0.00	N	AT&T Mobility
0.00	160.00	1	3/8" RET Control Cable	0.38	0.23	N	0.00	N	AT&T Mobility
0.00	150.00	1	1 1/4" Hybriflex Cab	1.54	1.00	N	0.00	Y	T-Mobile
0.00	150.00	12	1 5/8" Coax	1.98	0.82	N	3.96	Y	T-Mobile
0.00	138.00	9	1 5/8" Coax	1.98	0.82	N	0.00	N	Verizon Wireless
0.00	138.00	6	1 5/8" Coax	1.98	0.82	N	0.00	N	Verizon Wireless
0.00	138.00	3	1 5/8" Coax	1.98	0.82	N	1.98	Y	Verizon Wireless
0.00	138.00	2	1 5/8" Hybriflex	1.98	1.30	N	0.00	N	Verizon Wireless
0.00	128.00	6	1 5/8" Coax	1.98	0.82	N	0.00	Y	Metro PCS
0.00	128.00	1	7/8" Coax	1.09	0.33	N	0.00	N	Metro PCS
0.00	120.00	4	1 1/4" Hybriflex	1.54	1.00	N	0.00	Y	Sprint Nextel
0.00	20.00	1	1/2" Coax	0.63	0.15	N	0.00	Y	Sprint Nextel

Site Number: 302467

Code: ANSI/TIA-222-G © 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:00 PM

Customer: VERIZON WIRELESS

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

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	F'y (ksi)	S (in <sup>3</sup> )	Z (in <sup>3</sup> )	Weight (lb)
0.00		0.4375	72.000	99.370	64,295.3	27.26	164.57	69.3	1758.	0.0	0.0
5.00		0.4375	70.743	97.624	60,966.4	26.75	161.70	69.9	1697.	0.0	1,675.8
10.00		0.4375	69.486	95.879	57,754.4	26.24	158.83	70.5	1637.	0.0	1,646.1
15.00		0.4375	68.229	94.134	54,657.3	25.74	155.95	71.1	1577.	0.0	1,616.4
20.00		0.4375	66.972	92.388	51,672.9	25.23	153.08	71.7	1519.	0.0	1,586.7
25.00		0.4375	65.715	90.643	48,799.2	24.72	150.21	72.3	1462.	0.0	1,557.0
30.00		0.4375	64.458	88.897	46,034.1	24.22	147.33	72.9	1406.	0.0	1,527.3
35.00		0.4375	63.201	87.152	43,375.4	23.71	144.46	73.5	1351.	0.0	1,497.6
40.00		0.4375	61.944	85.406	40,821.1	23.20	141.59	74.1	1298.	0.0	1,467.9
45.00	Bot - Section 2	0.4375	60.687	83.661	38,369.2	22.70	138.71	74.7	1245.	0.0	1,438.2
50.00		0.4375	59.430	81.915	36,017.4	22.19	135.84	75.3	1193.	0.0	2,632.3
53.00	Top - Section 1	0.3750	59.426	70.283	30,963.7	26.18	158.47	70.6	1026.	0.0	1,552.9
55.00		0.3750	58.923	69.684	30,179.4	25.94	157.13	70.9	1008.	0.0	476.3
60.00		0.3750	57.666	68.188	28,277.0	25.35	153.78	71.6	965.8	0.0	1,172.9
65.00		0.3750	56.409	66.692	26,456.3	24.76	150.42	72.3	923.8	0.0	1,147.4
70.00		0.3750	55.152	65.196	24,715.5	24.17	147.07	73.0	882.7	0.0	1,122.0
75.00		0.3750	53.895	63.700	23,052.8	23.58	143.72	73.7	842.5	0.0	1,096.5
80.00		0.3750	52.638	62.204	21,466.3	22.99	140.37	74.4	803.2	0.0	1,071.1
85.00		0.3750	51.381	60.708	19,954.4	22.40	137.02	75.1	764.9	0.0	1,045.6
90.00		0.3750	50.124	59.212	18,515.2	21.81	133.66	75.8	727.6	0.0	1,020.1
91.42	Bot - Section 3	0.3750	49.768	58.788	18,120.3	21.64	132.71	76.0	717.1	0.0	284.4
95.00		0.3750	48.867	57.715	17,146.9	21.21	130.31	76.4	691.1	0.0	1,310.5
98.00	Top - Section 2	0.3125	48.738	48.030	14,230.2	25.74	155.96	71.1	575.1	0.0	1,078.7
100.00		0.3125	48.235	47.531	13,791.5	25.45	154.35	71.5	563.2	0.0	325.2
105.00		0.3125	46.978	46.285	12,734.5	24.74	150.33	72.3	533.9	0.0	798.1
110.00		0.3125	45.721	45.038	11,732.9	24.03	146.31	73.1	505.4	0.0	776.9
115.00		0.3125	44.464	43.791	10,785.2	23.33	142.28	74.0	477.8	0.0	755.7
120.00		0.3125	43.207	42.544	9,890.0	22.62	138.26	74.8	450.8	0.0	734.5
125.00		0.3125	41.950	41.298	9,045.8	21.91	134.24	75.6	424.7	0.0	713.2
128.00		0.3125	41.196	40.550	8,563.1	21.48	131.83	76.1	409.4	0.0	417.8
130.00		0.3125	40.693	40.051	8,251.0	21.20	130.22	76.5	399.4	0.0	274.3
135.00		0.3125	39.436	38.804	7,504.2	20.49	126.19	77.3	374.8	0.0	670.8
138.00		0.3125	38.682	38.056	7,078.5	20.06	123.78	77.8	360.4	0.0	392.3
139.3	Bot - Section 4	0.3125	38.347	37.724	6,894.6	19.87	122.71	78.0	354.1	0.0	171.9
140.00		0.3125	38.179	37.557	6,803.9	19.78	122.17	78.1	351.0	0.0	154.7
144.4	Top - Section 3	0.2500	37.569	29.611	5,210.3	24.73	150.27	72.3	273.2	0.0	1,007.8
145.00		0.2500	37.422	29.495	5,149.1	24.63	149.69	72.4	271.0	0.0	58.7
150.00		0.2500	36.165	28.497	4,644.2	23.74	144.66	73.5	252.9	0.0	493.3
155.00		0.2500	34.908	27.500	4,173.4	22.86	139.63	74.5	235.5	0.0	476.4
160.00		0.2500	33.651	26.503	3,735.6	21.97	134.60	75.6	218.6	0.0	459.4
163.00		0.2500	32.897	25.904	3,488.2	21.44	131.59	76.2	208.8	0.0	267.5
165.00		0.2500	32.394	25.505	3,329.5	21.08	129.58	76.6	202.4	0.0	174.9
167.00		0.2500	31.891	25.106	3,175.7	20.73	127.56	77.0	196.1	0.0	172.2
170.00		0.2500	31.137	24.508	2,954.0	20.20	124.55	77.6	186.9	0.0	253.2
175.00		0.2500	29.880	23.510	2,607.8	19.31	119.52	78.7	171.9	0.0	408.5
178.5		0.2500	29.000	22.812	2,382.3	18.69	116.00	79.4	161.8	0.0	275.8
39,257.1											

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:00 PM

Customer: VERIZON WIRELESS

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

97 mph with No Ice

23 Iterations

Gust Response Factor :1.10

Wind Importance Factor 1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

**Applied Segment Forces Summary**

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces			Sum of Forces			
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		276.7	0.0					0.0	0.0	276.7	0.0	0.0	0.0
5.00		548.5	2,011.0					0.0	451.3	548.5	2,462.2	0.0	0.0
10.00		538.7	1,975.3					0.0	451.3	538.7	2,426.6	0.0	0.0
15.00		529.0	1,939.7					0.0	451.3	529.0	2,391.0	0.0	0.0
20.00	Appurtenance(s)	519.2	1,904.1	73.0	0.0	0.0	90.7	0.0	451.3	592.2	2,446.1	0.0	0.0
25.00		509.5	1,868.4					0.0	450.4	509.5	2,318.8	0.0	0.0
30.00		505.7	1,832.8					0.0	450.4	505.7	2,283.2	0.0	0.0
35.00		512.1	1,797.2					0.0	450.4	512.1	2,247.5	0.0	0.0
40.00		521.5	1,761.5					0.0	450.4	521.5	2,211.9	0.0	0.0
45.00	Bot - Section 2	531.8	1,725.9					0.0	450.4	531.8	2,176.3	0.0	0.0
50.00		431.5	3,158.8					0.0	450.4	431.5	3,609.2	0.0	0.0
53.00	Top - Section 1	271.1	1,863.5					0.0	270.2	271.1	2,133.7	0.0	0.0
55.00		381.3	571.5					0.0	180.1	381.3	751.7	0.0	0.0
60.00		547.7	1,407.4					0.0	450.4	547.7	1,857.8	0.0	0.0
65.00		551.8	1,376.9					0.0	450.4	551.8	1,827.3	0.0	0.0
70.00		555.0	1,346.4					0.0	450.4	555.0	1,796.7	0.0	0.0
75.00		557.2	1,315.8					0.0	450.4	557.2	1,766.2	0.0	0.0
80.00		558.5	1,285.3					0.0	450.4	558.5	1,735.6	0.0	0.0
85.00		559.1	1,254.7					0.0	450.4	559.1	1,705.1	0.0	0.0
90.00		358.8	1,224.2					0.0	450.4	358.8	1,674.5	0.0	0.0
91.42	Bot - Section 3	281.9	341.3					0.0	127.6	281.9	468.9	0.0	0.0
95.00		372.2	1,572.6					0.0	322.8	372.2	1,895.3	0.0	0.0
98.00	Top - Section 2	281.9	1,294.5					0.0	270.2	281.9	1,564.7	0.0	0.0
100.00		392.8	390.2					0.0	180.1	392.8	570.4	0.0	0.0
105.00		559.7	957.7					0.0	450.4	559.7	1,408.1	0.0	0.0
110.00		557.3	932.3					0.0	450.4	557.3	1,382.6	0.0	0.0
115.00		554.4	906.8					0.0	450.4	554.4	1,357.2	0.0	0.0
120.00	Appurtenance(s)	551.0	881.3	2,468.1	0.0	3,116.6	2,862.4	0.0	450.4	3,019.2	4,194.1	0.0	0.0
125.00		438.4	855.9					0.0	426.4	438.4	1,282.2	0.0	0.0
128.00	Appurtenance(s)	272.6	501.3	364.2	0.0	361.1	96.2	0.0	255.8	636.8	853.4	0.0	0.0
130.00		379.2	329.1					0.0	157.9	379.2	487.1	0.0	0.0
135.00		431.5	805.0					0.0	394.9	431.5	1,199.8	0.0	0.0
138.00	Appurtenance(s)	223.0	470.8	4,067.2	0.0	0.0	3,319.3	0.0	236.9	4,290.3	4,027.0	0.0	0.0
139.33	Bot - Section 4	93.2	206.3					0.0	77.5	93.2	283.8	0.0	0.0
140.00		237.3	185.7					0.0	38.8	237.3	224.4	0.0	0.0
144.42	Top - Section 3	233.0	1,209.4					0.0	256.8	233.0	1,466.2	0.0	0.0
145.00		256.0	70.4					0.0	33.9	256.0	104.3	0.0	0.0
150.00	Appurtenance(s)	448.5	592.0	2,975.8	0.0	4,012.1	2,799.0	0.0	290.7	3,424.2	3,681.7	0.0	0.0
155.00		433.0	571.6					0.0	225.7	433.0	797.3	0.0	0.0
160.00	Appurtenance(s)	338.9	551.3	4,065.0	0.0	0.0	3,782.3	0.0	225.7	4,403.9	4,559.2	0.0	0.0
163.00	Appurtenance(s)	207.6	321.0	82.4	0.0	0.0	18.0	0.0	50.7	290.0	389.7	0.0	0.0
165.00		163.6	209.9					0.0	25.1	163.6	235.0	0.0	0.0
167.00	Appurtenance(s)	201.4	206.7	1,181.8	0.0	491.2	991.3	0.0	25.1	1,383.2	1,223.0	0.0	0.0
170.00		315.2	303.9					0.0	35.4	315.2	339.3	0.0	0.0
175.00		327.8	490.2					0.0	59.0	327.8	549.2	0.0	0.0
178.50	Appurtenance(s)	132.7	331.0	2,361.2	0.0	3,974.1	2,001.6	0.0	41.3	2,493.9	2,373.9	0.0	0.0



Site Number: 302467

Code: ANSI/TIA-222-G © 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:07 PM

Customer: VERIZON WIRELESS

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

97 mph with No Ice

23 Iterations

Gust Response Factor :1.10

Wind Importance Factor 1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Totals: 36,087.7 76,739.1 0.00 0.00

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:07 PM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W

97 mph with No Ice

23 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

**Calculated Forces**

Seg 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	-76.71	-35.88	0.00	-4,378.44	0.00	4,378.44	6,201.63	3,100.82	18,267.6	9,147.40	0.00	0.00	0.491
5.00	-74.19	-35.45	0.00	-4,199.06	0.00	4,199.06	6,145.05	3,072.53	17,781.1	8,903.77	0.05	-0.09	0.484
10.00	-71.70	-35.03	0.00	-4,021.82	0.00	4,021.82	6,086.60	3,043.30	17,295.1	8,660.43	0.20	-0.19	0.476
15.00	-69.26	-34.60	0.00	-3,846.69	0.00	3,846.69	6,026.28	3,013.14	16,810.0	8,417.51	0.46	-0.29	0.469
20.00	-66.76	-34.11	0.00	-3,673.68	0.00	3,673.68	5,964.08	2,982.04	16,326.1	8,175.18	0.81	-0.39	0.461
25.00	-64.38	-33.70	0.00	-3,503.12	0.00	3,503.12	5,900.01	2,950.01	15,843.6	7,933.57	1.27	-0.48	0.453
30.00	-62.05	-33.28	0.00	-3,334.64	0.00	3,334.64	5,834.07	2,917.04	15,362.8	7,692.84	1.83	-0.58	0.444
35.00	-59.75	-32.85	0.00	-3,168.26	0.00	3,168.26	5,766.26	2,883.13	14,884.1	7,453.12	2.49	-0.68	0.436
40.00	-57.48	-32.40	0.00	-3,004.03	0.00	3,004.03	5,696.58	2,848.29	14,407.7	7,214.56	3.27	-0.79	0.427
45.00	-55.26	-31.93	0.00	-2,842.04	0.00	2,842.04	5,625.02	2,812.51	13,933.9	6,977.32	4.14	-0.89	0.417
50.00	-51.61	-31.52	0.00	-2,682.38	0.00	2,682.38	5,551.60	2,775.80	13,463.0	6,741.53	5.13	-0.99	0.407
53.00	-49.46	-31.25	0.00	-2,587.84	0.00	2,587.84	4,466.37	2,233.18	10,853.4	5,434.80	5.77	-1.05	0.487
55.00	-48.67	-30.92	0.00	-2,525.33	0.00	2,525.33	4,445.78	2,222.89	10,710.8	5,363.40	6.22	-1.09	0.482
60.00	-46.76	-30.43	0.00	-2,370.71	0.00	2,370.71	4,392.99	2,196.49	10,355.0	5,185.21	7.43	-1.21	0.468
65.00	-44.89	-29.93	0.00	-2,218.55	0.00	2,218.55	4,338.33	2,169.16	10,000.3	5,007.61	8.76	-1.33	0.454
70.00	-43.04	-29.42	0.00	-2,068.89	0.00	2,068.89	4,281.80	2,140.90	9,647.15	4,830.75	10.21	-1.44	0.439
75.00	-41.24	-28.90	0.00	-1,921.79	0.00	1,921.79	4,223.39	2,111.70	9,295.72	4,654.77	11.78	-1.56	0.423
80.00	-39.46	-28.37	0.00	-1,777.30	0.00	1,777.30	4,163.12	2,081.56	8,946.35	4,479.82	13.47	-1.67	0.406
85.00	-37.72	-27.83	0.00	-1,635.45	0.00	1,635.45	4,100.97	2,050.48	8,599.32	4,306.05	15.28	-1.78	0.389
90.00	-36.02	-27.47	0.00	-1,496.28	0.00	1,496.28	4,036.95	2,018.47	8,254.94	4,133.61	17.21	-1.89	0.371
91.42	-35.54	-27.20	0.00	-1,457.37	0.00	1,457.37	4,018.47	2,009.23	8,157.89	4,085.01	17.78	-1.93	0.366
95.00	-33.62	-26.81	0.00	-1,359.89	0.00	1,359.89	3,971.06	1,985.53	7,913.50	3,962.63	19.25	-2.01	0.352
98.00	-32.04	-26.50	0.00	-1,279.46	0.00	1,279.46	3,074.73	1,537.36	6,126.65	3,067.88	20.54	-2.07	0.428
100.00	-31.45	-26.13	0.00	-1,226.45	0.00	1,226.45	3,057.08	1,528.54	6,027.83	3,018.39	21.41	-2.11	0.417
105.00	-30.01	-25.58	0.00	-1,095.78	0.00	1,095.78	3,011.64	1,505.82	5,781.46	2,895.03	23.69	-2.23	0.389
110.00	-28.60	-25.03	0.00	-967.87	0.00	967.87	2,964.33	1,482.16	5,536.34	2,772.28	26.10	-2.35	0.359
115.00	-27.22	-24.47	0.00	-842.73	0.00	842.73	2,915.15	1,457.57	5,292.74	2,650.30	28.62	-2.46	0.328
120.00	-23.13	-21.31	0.00	-717.28	0.00	717.28	2,864.09	1,432.05	5,050.96	2,529.23	31.25	-2.56	0.292
125.00	-21.84	-20.84	0.00	-610.74	0.00	610.74	2,811.17	1,405.58	4,811.29	2,409.22	33.99	-2.66	0.261
128.00	-21.00	-20.18	0.00	-547.86	0.00	547.86	2,778.51	1,389.26	4,668.62	2,337.78	35.68	-2.71	0.242
130.00	-20.51	-19.80	0.00	-507.51	0.00	507.51	2,756.37	1,378.18	4,574.03	2,290.41	36.82	-2.75	0.229
135.00	-19.32	-19.33	0.00	-408.52	0.00	408.52	2,699.70	1,349.85	4,339.46	2,172.95	39.74	-2.83	0.195
138.00	-15.50	-14.85	0.00	-350.53	0.00	350.53	2,664.80	1,332.40	4,200.13	2,103.19	41.53	-2.87	0.173
139.33	-15.22	-14.75	0.00	-330.73	0.00	330.73	2,649.07	1,324.54	4,138.57	2,072.36	42.34	-2.89	0.165
140.00	-15.00	-14.51	0.00	-320.90	0.00	320.90	2,641.16	1,320.58	4,107.88	2,056.99	42.74	-2.90	0.162
144.42	-13.54	-14.21	0.00	-256.82	0.00	256.82	1,927.04	963.52	2,958.38	1,481.39	45.45	-2.95	0.181
145.00	-13.44	-13.95	0.00	-248.53	0.00	248.53	1,922.70	961.35	2,940.04	1,472.21	45.81	-2.96	0.176
150.00	-9.93	-10.35	0.00	-174.75	0.00	174.75	1,884.42	942.21	2,783.42	1,393.78	48.94	-3.02	0.131
155.00	-9.15	-9.88	0.00	-122.99	0.00	122.99	1,844.28	922.14	2,628.12	1,316.02	52.12	-3.06	0.099
160.00	-4.83	-5.24	0.00	-73.57	0.00	73.57	1,802.26	901.13	2,474.43	1,239.06	55.35	-3.10	0.062
163.00	-4.46	-4.93	0.00	-57.84	0.00	57.84	1,776.15	888.08	2,383.11	1,193.33	57.29	-3.11	0.051
165.00	-4.23	-4.76	0.00	-47.97	0.00	47.97	1,758.37	879.19	2,322.64	1,163.05	58.60	-3.12	0.044
167.00	-3.09	-3.31	0.00	-37.97	0.00	37.97	1,740.29	870.15	2,262.53	1,132.94	59.91	-3.13	0.035
170.00	-2.76	-2.98	0.00	-28.03	0.00	28.03	1,712.61	856.30	2,173.05	1,088.14	61.87	-3.14	0.027
175.00	-2.23	-2.62	0.00	-13.15	0.00	13.15	1,664.97	832.49	2,025.94	1,014.48	65.16	-3.15	0.014
178.50	0.00	-2.49	0.00	-3.97	0.00	3.97	1,630.52	815.26	1,924.60	963.73	67.47	-3.15	0.004

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:07 PM

Customer: VERIZON WIRELESS

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

**97 mph with No Ice (Reduced DL)**

**23 Iterations**

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

**Applied Segment Forces Summary**

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces			Sum of Forces			
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		276.7	0.0					0.0	0.0	276.7	0.0	0.0	0.0
5.00		548.5	1,508.2					0.0	338.4	548.5	1,846.7	0.0	0.0
10.00		538.7	1,481.5					0.0	338.4	538.7	1,820.0	0.0	0.0
15.00		529.0	1,454.8					0.0	338.4	529.0	1,793.2	0.0	0.0
20.00	Appurtenance(s)	519.2	1,428.1	73.0	0.0	0.0	68.0	0.0	338.4	592.2	1,834.5	0.0	0.0
25.00		509.5	1,401.3					0.0	337.8	509.5	1,739.1	0.0	0.0
30.00		505.7	1,374.6					0.0	337.8	505.7	1,712.4	0.0	0.0
35.00		512.1	1,347.9					0.0	337.8	512.1	1,685.6	0.0	0.0
40.00		521.5	1,321.1					0.0	337.8	521.5	1,658.9	0.0	0.0
45.00	Bot - Section 2	531.8	1,294.4					0.0	337.8	531.8	1,632.2	0.0	0.0
50.00		431.5	2,369.1					0.0	337.8	431.5	2,706.9	0.0	0.0
53.00	Top - Section 1	271.1	1,397.6					0.0	202.7	271.1	1,600.3	0.0	0.0
55.00		381.0	428.6					0.0	135.1	381.0	563.8	0.0	0.0
60.00		545.3	1,055.6					0.0	337.8	545.3	1,393.4	0.0	0.0
65.00		545.8	1,032.7					0.0	337.8	545.8	1,370.4	0.0	0.0
70.00		545.0	1,009.8					0.0	337.8	545.0	1,347.5	0.0	0.0
75.00		543.2	986.9					0.0	337.8	543.2	1,324.6	0.0	0.0
80.00		540.4	963.9					0.0	337.8	540.4	1,301.7	0.0	0.0
85.00		536.8	941.0					0.0	337.8	536.8	1,278.8	0.0	0.0
90.00		342.7	918.1					0.0	337.8	342.7	1,255.9	0.0	0.0
91.42	Bot - Section 3	267.3	256.0					0.0	95.7	267.3	351.7	0.0	0.0
95.00		351.6	1,179.4					0.0	242.1	351.6	1,421.5	0.0	0.0
98.00	Top - Section 2	265.5	970.8					0.0	202.7	265.5	1,173.5	0.0	0.0
100.00		368.2	292.7					0.0	135.1	368.2	427.8	0.0	0.0
105.00		521.3	718.3					0.0	337.8	521.3	1,056.0	0.0	0.0
110.00		514.2	699.2					0.0	337.8	514.2	1,037.0	0.0	0.0
115.00		506.4	680.1					0.0	337.8	506.4	1,017.9	0.0	0.0
120.00	Appurtenance(s)	498.1	661.0	2,468.1	0.0	3,116.6	2,146.8	0.0	337.8	2,966.3	3,145.5	0.0	0.0
125.00		392.9	641.9					0.0	319.8	392.9	961.7	0.0	0.0
128.00	Appurtenance(s)	242.4	376.0	364.2	0.0	361.1	72.2	0.0	191.9	606.6	640.0	0.0	0.0
130.00		334.0	246.8					0.0	118.5	334.0	365.3	0.0	0.0
135.00		377.8	603.7					0.0	296.1	377.8	899.9	0.0	0.0
138.00	Appurtenance(s)	201.9	353.1	4,067.2	0.0	0.0	2,489.5	0.0	177.7	4,269.1	3,020.3	0.0	0.0
139.33	Bot - Section 4	92.8	154.7					0.0	58.1	92.8	212.9	0.0	0.0
140.00		234.9	139.2					0.0	29.1	234.9	168.3	0.0	0.0
144.42	Top - Section 3	230.4	907.0					0.0	192.6	230.4	1,099.6	0.0	0.0
145.00		251.6	52.8					0.0	25.4	251.6	78.2	0.0	0.0
150.00	Appurtenance(s)	444.4	444.0	2,975.8	0.0	4,012.1	2,099.2	0.0	218.0	3,420.2	2,761.3	0.0	0.0
155.00		433.0	428.7					0.0	169.2	433.0	598.0	0.0	0.0
160.00	Appurtenance(s)	338.9	413.5	4,065.0	0.0	0.0	2,836.7	0.0	169.2	4,403.9	3,419.4	0.0	0.0
163.00	Appurtenance(s)	207.6	240.7	82.4	0.0	0.0	13.5	0.0	38.0	290.0	292.3	0.0	0.0
165.00		163.6	157.4					0.0	18.8	163.6	176.2	0.0	0.0
167.00	Appurtenance(s)	201.4	155.0	1,181.8	0.0	491.2	743.5	0.0	18.8	1,383.2	917.3	0.0	0.0
170.00		315.2	227.9					0.0	26.6	315.2	254.5	0.0	0.0
175.00		327.8	367.6					0.0	44.3	327.8	411.9	0.0	0.0
178.50	Appurtenance(s)	132.7	248.3	2,361.2	0.0	3,974.1	1,501.2	0.0	31.0	2,493.9	1,780.5	0.0	0.0

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:14 PM

Customer: VERIZON WIRELESS

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

**97 mph with No Ice (Reduced DL)**

**23 Iterations**

**Gust Response Factor :1.10**

**Wind Importance Factor 1.00**

**Dead Load Factor :0.90**

**Wind Load Factor :1.60**

**Totals: 35,530.4 57,554.3 0.00 0.00**

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:14 PM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.6W

97 mph with No Ice (Reduced DL)

23 Iterations

Gust Response Factor :1.10

Wind Importance Factor 1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Calculated Forces

Seg 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	-57.52	-35.30	0.00	-4,276.97	0.00	4,276.97	6,201.63	3,100.82	18,267.6	9,147.40	0.00	0.00	0.477
5.00	-55.62	-34.84	0.00	-4,100.46	0.00	4,100.46	6,145.05	3,072.53	17,781.1	8,903.77	0.05	-0.09	0.470
10.00	-53.75	-34.39	0.00	-3,926.26	0.00	3,926.26	6,086.60	3,043.30	17,295.1	8,660.43	0.20	-0.19	0.462
15.00	-51.90	-33.94	0.00	-3,754.32	0.00	3,754.32	6,026.28	3,013.14	16,810.0	8,417.51	0.44	-0.28	0.455
20.00	-50.01	-33.42	0.00	-3,584.64	0.00	3,584.64	5,964.08	2,982.04	16,326.1	8,175.18	0.79	-0.38	0.447
25.00	-48.22	-32.98	0.00	-3,417.56	0.00	3,417.56	5,900.01	2,950.01	15,843.6	7,933.57	1.24	-0.47	0.439
30.00	-46.46	-32.54	0.00	-3,252.67	0.00	3,252.67	5,834.07	2,917.04	15,362.8	7,692.84	1.79	-0.57	0.431
35.00	-44.72	-32.08	0.00	-3,090.00	0.00	3,090.00	5,766.26	2,883.13	14,884.1	7,453.12	2.44	-0.67	0.422
40.00	-43.02	-31.61	0.00	-2,929.60	0.00	2,929.60	5,696.58	2,848.29	14,407.7	7,214.56	3.19	-0.77	0.414
45.00	-41.34	-31.13	0.00	-2,771.53	0.00	2,771.53	5,625.02	2,812.51	13,933.9	6,977.32	4.05	-0.87	0.405
50.00	-38.60	-30.71	0.00	-2,615.88	0.00	2,615.88	5,551.60	2,775.80	13,463.0	6,741.53	5.01	-0.97	0.395
53.00	-36.97	-30.44	0.00	-2,523.75	0.00	2,523.75	4,466.37	2,233.18	10,853.4	5,434.80	5.63	-1.03	0.473
55.00	-36.38	-30.10	0.00	-2,462.87	0.00	2,462.87	4,445.78	2,222.89	10,710.8	5,363.40	6.07	-1.07	0.468
60.00	-34.94	-29.60	0.00	-2,312.36	0.00	2,312.36	4,392.99	2,196.49	10,355.0	5,185.21	7.25	-1.18	0.454
65.00	-33.52	-29.09	0.00	-2,164.38	0.00	2,164.38	4,338.33	2,169.16	10,000.3	5,007.61	8.55	-1.29	0.440
70.00	-32.13	-28.57	0.00	-2,018.94	0.00	2,018.94	4,281.80	2,140.90	9,647.15	4,830.75	9.96	-1.41	0.426
75.00	-30.76	-28.06	0.00	-1,876.07	0.00	1,876.07	4,223.39	2,111.70	9,295.72	4,654.77	11.50	-1.52	0.411
80.00	-29.43	-27.54	0.00	-1,735.78	0.00	1,735.78	4,163.12	2,081.56	8,946.35	4,479.82	13.15	-1.63	0.395
85.00	-28.11	-27.02	0.00	-1,598.09	0.00	1,598.09	4,100.97	2,050.48	8,599.32	4,306.05	14.91	-1.74	0.378
90.00	-26.83	-26.67	0.00	-1,462.99	0.00	1,462.99	4,036.95	2,018.47	8,254.94	4,133.61	16.79	-1.85	0.361
91.42	-26.47	-26.42	0.00	-1,425.21	0.00	1,425.21	4,018.47	2,009.23	8,157.89	4,085.01	17.35	-1.88	0.356
95.00	-25.03	-26.05	0.00	-1,330.56	0.00	1,330.56	3,971.06	1,985.53	7,913.50	3,962.63	18.79	-1.96	0.342
98.00	-23.84	-25.76	0.00	-1,252.41	0.00	1,252.41	3,074.73	1,537.36	6,126.65	3,067.88	20.04	-2.02	0.416
100.00	-23.39	-25.41	0.00	-1,200.89	0.00	1,200.89	3,057.08	1,528.54	6,027.83	3,018.39	20.90	-2.06	0.406
105.00	-22.30	-24.90	0.00	-1,073.82	0.00	1,073.82	3,011.64	1,505.82	5,781.46	2,895.03	23.12	-2.18	0.379
110.00	-21.24	-24.39	0.00	-949.32	0.00	949.32	2,964.33	1,482.16	5,536.34	2,772.28	25.47	-2.29	0.350
115.00	-20.20	-23.87	0.00	-827.40	0.00	827.40	2,915.15	1,457.57	5,292.74	2,650.30	27.93	-2.40	0.319
120.00	-17.15	-20.81	0.00	-704.91	0.00	704.91	2,864.09	1,432.05	5,050.96	2,529.23	30.50	-2.50	0.285
125.00	-16.18	-20.39	0.00	-600.88	0.00	600.88	2,811.17	1,405.58	4,811.29	2,409.22	33.18	-2.60	0.255
128.00	-15.55	-19.77	0.00	-539.35	0.00	539.35	2,778.51	1,389.26	4,668.62	2,337.78	34.83	-2.65	0.237
130.00	-15.18	-19.43	0.00	-499.82	0.00	499.82	2,756.37	1,378.18	4,574.03	2,290.41	35.94	-2.69	0.224
135.00	-14.28	-19.03	0.00	-402.66	0.00	402.66	2,699.70	1,349.85	4,339.46	2,172.95	38.80	-2.76	0.191
138.00	-11.47	-14.62	0.00	-345.58	0.00	345.58	2,664.80	1,332.40	4,200.13	2,103.19	40.55	-2.81	0.169
139.33	-11.25	-14.52	0.00	-326.08	0.00	326.08	2,649.07	1,324.54	4,138.57	2,072.36	41.34	-2.82	0.162
140.00	-11.09	-14.28	0.00	-316.40	0.00	316.40	2,641.16	1,320.58	4,107.88	2,056.99	41.73	-2.83	0.158
144.42	-10.00	-14.00	0.00	-253.32	0.00	253.32	1,927.04	963.52	2,958.38	1,481.39	44.38	-2.89	0.176
145.00	-9.92	-13.75	0.00	-245.15	0.00	245.15	1,922.70	961.35	2,940.04	1,472.21	44.73	-2.89	0.172
150.00	-7.33	-10.20	0.00	-172.36	0.00	172.36	1,884.42	942.21	2,783.42	1,393.78	47.79	-2.95	0.128
155.00	-6.75	-9.75	0.00	-121.34	0.00	121.34	1,844.28	922.14	2,628.12	1,316.02	50.91	-3.00	0.096
160.00	-3.56	-5.17	0.00	-72.61	0.00	72.61	1,802.26	901.13	2,474.43	1,239.06	54.06	-3.03	0.061
163.00	-3.29	-4.87	0.00	-57.10	0.00	57.10	1,776.15	888.08	2,383.11	1,193.33	55.97	-3.04	0.050
165.00	-3.12	-4.69	0.00	-47.37	0.00	47.37	1,758.37	879.19	2,322.64	1,163.05	57.25	-3.05	0.043
167.00	-2.28	-3.26	0.00	-37.49	0.00	37.49	1,740.29	870.15	2,262.53	1,132.94	58.53	-3.06	0.034
170.00	-2.04	-2.94	0.00	-27.70	0.00	27.70	1,712.61	856.30	2,173.05	1,088.14	60.45	-3.07	0.027
175.00	-1.64	-2.59	0.00	-13.02	0.00	13.02	1,664.97	832.49	2,025.94	1,014.48	63.67	-3.08	0.014
178.50	0.00	-2.49	0.00	-3.97	0.00	3.97	1,630.52	815.26	1,924.60	963.73	65.93	-3.08	0.004

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:14 PM

Customer: VERIZON WIRELESS

<b>Load Case:</b> 1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice	22 Iterations
Gust Response Factor :1.10	Ice Dead Load Factor :1.00	Wind Importance Factor :1.00
Dead Load Factor :1.20		Ice Importance Factor :1.00
Wind Load Factor :1.00		

**Applied Segment Forces Summary**

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces			Sum of Forces			
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		87.5	0.0					0.0	0.0	87.5	0.0	0.0	0.0
5.00		173.9	2,533.0					0.0	800.4	173.9	3,333.4	0.0	0.0
10.00		171.4	2,548.9					0.0	844.5	171.4	3,393.4	0.0	0.0
15.00		168.7	2,533.2					0.0	867.4	168.7	3,400.6	0.0	0.0
20.00	Appurtenance(s)	165.9	2,507.2	19.4	0.0	0.0	191.2	0.0	883.5	185.2	3,581.8	0.0	0.0
25.00		163.0	2,475.8					0.0	878.6	163.0	3,354.4	0.0	0.0
30.00		162.1	2,441.1					0.0	888.2	162.1	3,329.4	0.0	0.0
35.00		164.4	2,404.2					0.0	896.5	164.4	3,300.7	0.0	0.0
40.00		167.7	2,365.5					0.0	903.7	167.7	3,269.3	0.0	0.0
45.00	Bot - Section 2	171.2	2,325.6					0.0	910.2	171.2	3,235.7	0.0	0.0
50.00		139.0	3,760.4					0.0	916.0	139.0	4,676.4	0.0	0.0
53.00	Top - Section 1	87.4	2,223.0					0.0	552.2	87.4	2,775.2	0.0	0.0
55.00		123.0	810.4					0.0	369.1	123.0	1,179.5	0.0	0.0
60.00		176.3	1,996.0					0.0	926.2	176.3	2,922.2	0.0	0.0
65.00		176.7	1,957.9					0.0	930.7	176.7	2,888.6	0.0	0.0
70.00		176.7	1,919.3					0.0	935.0	176.7	2,854.2	0.0	0.0
75.00		176.5	1,880.2					0.0	938.9	176.5	2,819.1	0.0	0.0
80.00		175.9	1,840.6					0.0	942.7	175.9	2,783.3	0.0	0.0
85.00		175.0	1,800.7					0.0	946.2	175.0	2,747.0	0.0	0.0
90.00		111.8	1,760.5					0.0	949.6	111.8	2,710.1	0.0	0.0
91.42	Bot - Section 3	87.3	492.8					0.0	269.6	87.3	762.4	0.0	0.0
95.00		114.9	1,954.7					0.0	683.2	114.9	2,637.9	0.0	0.0
98.00	Top - Section 2	86.9	1,610.8					0.0	573.2	86.9	2,184.0	0.0	0.0
100.00		120.7	599.6					0.0	382.7	120.7	982.3	0.0	0.0
105.00		171.1	1,469.7					0.0	958.8	171.1	2,428.5	0.0	0.0
110.00		169.1	1,433.5					0.0	961.6	169.1	2,395.1	0.0	0.0
115.00		167.0	1,397.0					0.0	964.3	167.0	2,361.3	0.0	0.0
120.00	Appurtenance(s)	164.6	1,360.4	590.3	0.0	617.1	5,198.9	0.0	966.9	754.9	7,526.2	0.0	0.0
125.00		130.1	1,323.5					0.0	882.6	130.1	2,206.1	0.0	0.0
128.00	Appurtenance(s)	80.4	778.0	75.9	0.0	74.1	452.7	0.0	530.6	156.3	1,761.2	0.0	0.0
130.00		111.0	511.8					0.0	298.6	111.0	810.4	0.0	0.0
135.00		125.7	1,249.3					0.0	747.6	125.7	1,996.9	0.0	0.0
138.00	Appurtenance(s)	67.3	733.3	906.3	0.0	0.0	7,343.1	0.0	449.3	973.6	8,525.7	0.0	0.0
139.33	Bot - Section 4	31.0	322.2					0.0	155.2	31.0	477.4	0.0	0.0
140.00		78.5	244.1					0.0	77.7	78.5	321.8	0.0	0.0
144.42	Top - Section 3	77.0	1,586.8					0.0	515.0	77.0	2,101.8	0.0	0.0
145.00		84.3	120.1					0.0	68.1	84.3	188.2	0.0	0.0
150.00	Appurtenance(s)	149.2	1,005.6	695.3	0.0	783.5	5,355.7	0.0	584.3	844.5	6,945.5	0.0	0.0
155.00		145.9	972.9					0.0	290.4	145.9	1,263.3	0.0	0.0
160.00	Appurtenance(s)	114.5	940.1	955.5	0.0	0.0	7,903.3	0.0	290.8	1,069.9	9,134.2	0.0	0.0
163.00	Appurtenance(s)	70.3	549.9	18.0	0.0	0.0	86.6	0.0	89.9	88.4	726.4	0.0	0.0
165.00		55.5	360.6					0.0	36.2	55.5	396.8	0.0	0.0
167.00	Appurtenance(s)	68.5	355.3	285.4	0.0	105.2	2,049.0	0.0	36.2	353.9	2,440.6	0.0	0.0
170.00		107.5	522.1					0.0	35.4	107.5	557.6	0.0	0.0
175.00		112.2	840.9					0.0	59.0	112.2	899.9	0.0	0.0
178.50	Appurtenance(s)	45.5	570.3	560.9	0.0	719.9	3,817.1	0.0	41.3	606.4	4,428.7	0.0	0.0

Site Number: 302467

Code: ANSI/TIA-222-G © 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:21 PM

Customer: VERIZON WIRELESS

**Load Case:** 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

22 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor :1.00

Wind Importance Factor :1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

Totals: 9,957.01 125,014. 0.00 0.00

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:21 PM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

22 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor :1.00

Wind Importance Factor :1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-125.01	-9.90	0.00	-1,191.58	0.00	1,191.58	6,201.63	3,100.82	18,267.6	9,147.40	0.00	0.00	0.150
5.00	-121.67	-9.78	0.00	-1,142.09	0.00	1,142.09	6,145.05	3,072.53	17,781.1	8,903.77	0.01	-0.03	0.148
10.00	-118.28	-9.66	0.00	-1,093.20	0.00	1,093.20	6,086.60	3,043.30	17,295.1	8,660.43	0.06	-0.05	0.146
15.00	-114.87	-9.54	0.00	-1,044.91	0.00	1,044.91	6,026.28	3,013.14	16,810.0	8,417.51	0.12	-0.08	0.143
20.00	-111.29	-9.40	0.00	-997.22	0.00	997.22	5,964.08	2,982.04	16,326.1	8,175.18	0.22	-0.10	0.141
25.00	-107.93	-9.28	0.00	-950.22	0.00	950.22	5,900.01	2,950.01	15,843.6	7,933.57	0.34	-0.13	0.138
30.00	-104.59	-9.16	0.00	-903.81	0.00	903.81	5,834.07	2,917.04	15,362.8	7,692.84	0.50	-0.16	0.135
35.00	-101.29	-9.03	0.00	-858.02	0.00	858.02	5,766.26	2,883.13	14,884.1	7,453.12	0.68	-0.19	0.133
40.00	-98.02	-8.90	0.00	-812.85	0.00	812.85	5,696.58	2,848.29	14,407.7	7,214.56	0.89	-0.21	0.130
45.00	-94.78	-8.76	0.00	-768.34	0.00	768.34	5,625.02	2,812.51	13,933.9	6,977.32	1.13	-0.24	0.127
50.00	-90.10	-8.64	0.00	-724.52	0.00	724.52	5,551.60	2,775.80	13,463.0	6,741.53	1.39	-0.27	0.124
53.00	-87.32	-8.56	0.00	-698.61	0.00	698.61	4,466.37	2,233.18	10,853.4	5,434.80	1.57	-0.29	0.148
55.00	-86.14	-8.46	0.00	-681.49	0.00	681.49	4,445.78	2,222.89	10,710.8	5,363.40	1.69	-0.30	0.146
60.00	-83.21	-8.32	0.00	-639.18	0.00	639.18	4,392.99	2,196.49	10,355.0	5,185.21	2.02	-0.33	0.142
65.00	-80.32	-8.16	0.00	-597.61	0.00	597.61	4,338.33	2,169.16	10,000.3	5,007.61	2.38	-0.36	0.138
70.00	-77.46	-8.01	0.00	-556.78	0.00	556.78	4,281.80	2,140.90	9,647.15	4,830.75	2.77	-0.39	0.133
75.00	-74.64	-7.86	0.00	-516.73	0.00	516.73	4,223.39	2,111.70	9,295.72	4,654.77	3.20	-0.42	0.129
80.00	-71.86	-7.70	0.00	-477.45	0.00	477.45	4,163.12	2,081.56	8,946.35	4,479.82	3.65	-0.45	0.124
85.00	-69.11	-7.54	0.00	-438.97	0.00	438.97	4,100.97	2,050.48	8,599.32	4,306.05	4.14	-0.48	0.119
90.00	-66.40	-7.42	0.00	-401.30	0.00	401.30	4,036.95	2,018.47	8,254.94	4,133.61	4.66	-0.51	0.114
91.42	-65.63	-7.35	0.00	-390.78	0.00	390.78	4,018.47	2,009.23	8,157.89	4,085.01	4.82	-0.52	0.112
95.00	-62.99	-7.23	0.00	-364.47	0.00	364.47	3,971.06	1,985.53	7,913.50	3,962.63	5.22	-0.54	0.108
98.00	-60.81	-7.13	0.00	-342.78	0.00	342.78	3,074.73	1,537.36	6,126.65	3,067.88	5.56	-0.56	0.132
100.00	-59.82	-7.03	0.00	-328.52	0.00	328.52	3,057.08	1,528.54	6,027.83	3,018.39	5.80	-0.57	0.128
105.00	-57.39	-6.86	0.00	-293.38	0.00	293.38	3,011.64	1,505.82	5,781.46	2,895.03	6.41	-0.60	0.120
110.00	-55.00	-6.70	0.00	-259.07	0.00	259.07	2,964.33	1,482.16	5,536.34	2,772.28	7.06	-0.63	0.112
115.00	-52.64	-6.53	0.00	-225.58	0.00	225.58	2,915.15	1,457.57	5,292.74	2,650.30	7.74	-0.66	0.103
120.00	-45.12	-5.71	0.00	-192.32	0.00	192.32	2,864.09	1,432.05	5,050.96	2,529.23	8.45	-0.69	0.092
125.00	-42.91	-5.56	0.00	-163.79	0.00	163.79	2,811.17	1,405.58	4,811.29	2,409.22	9.19	-0.72	0.083
128.00	-41.15	-5.39	0.00	-147.02	0.00	147.02	2,778.51	1,389.26	4,668.62	2,337.78	9.65	-0.73	0.078
130.00	-40.34	-5.28	0.00	-136.23	0.00	136.23	2,756.37	1,378.18	4,574.03	2,290.41	9.95	-0.74	0.074
135.00	-38.34	-5.14	0.00	-109.82	0.00	109.82	2,699.70	1,349.85	4,339.46	2,172.95	10.74	-0.76	0.065
138.00	-29.83	-4.06	0.00	-94.39	0.00	94.39	2,664.80	1,332.40	4,200.13	2,103.19	11.22	-0.77	0.056
139.33	-29.35	-4.02	0.00	-88.98	0.00	88.98	2,649.07	1,324.54	4,138.57	2,072.36	11.44	-0.78	0.054
140.00	-29.03	-3.95	0.00	-86.29	0.00	86.29	2,641.16	1,320.58	4,107.88	2,056.99	11.55	-0.78	0.053
144.42	-26.93	-3.84	0.00	-68.87	0.00	68.87	1,927.04	963.52	2,958.38	1,481.39	12.28	-0.80	0.060
145.00	-26.74	-3.76	0.00	-66.63	0.00	66.63	1,922.70	961.35	2,940.04	1,472.21	12.38	-0.80	0.059
150.00	-19.81	-2.82	0.00	-47.04	0.00	47.04	1,884.42	942.21	2,783.42	1,393.78	13.22	-0.81	0.044
155.00	-18.55	-2.66	0.00	-32.93	0.00	32.93	1,844.28	922.14	2,628.12	1,316.02	14.08	-0.82	0.035
160.00	-9.43	-1.46	0.00	-19.61	0.00	19.61	1,802.26	901.13	2,474.43	1,239.06	14.95	-0.83	0.021
163.00	-8.70	-1.36	0.00	-15.23	0.00	15.23	1,776.15	888.08	2,383.11	1,193.33	15.47	-0.84	0.018
165.00	-8.31	-1.30	0.00	-12.50	0.00	12.50	1,758.37	879.19	2,322.64	1,163.05	15.82	-0.84	0.015
167.00	-5.87	-0.91	0.00	-9.79	0.00	9.79	1,740.29	870.15	2,262.53	1,132.94	16.18	-0.84	0.012
170.00	-5.32	-0.80	0.00	-7.06	0.00	7.06	1,712.61	856.30	2,173.05	1,088.14	16.71	-0.84	0.010
175.00	-4.42	-0.67	0.00	-3.07	0.00	3.07	1,664.97	832.49	2,025.94	1,014.48	17.59	-0.85	0.006
178.50	0.00	-0.61	0.00	-0.72	0.00	0.72	1,630.52	815.26	1,924.60	963.73	18.21	-0.85	0.001



Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:21 PM

Customer: VERIZON WIRELESS

**Load Case: 1.0D + 1.0W**

**Serviceability 60 mph**

**21 Iterations**

**Gust Response Factor :1.10**

**Wind Importance Factor 1.00**

**Dead Load Factor :1.00**

**Wind Load Factor :1.00**

**Applied Segment Forces Summary**

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces			Sum of Forces			
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		66.2	0.0					0.0	0.0	66.2	0.0	0.0	0.0
5.00		131.2	1,675.8					0.0	376.1	131.2	2,051.9	0.0	0.0
10.00		128.8	1,646.1					0.0	376.1	128.8	2,022.2	0.0	0.0
15.00		126.5	1,616.4					0.0	376.1	126.5	1,992.5	0.0	0.0
20.00	Appurtenance(s)	124.2	1,586.7	17.5	0.0	0.0	75.6	0.0	376.1	141.6	2,038.4	0.0	0.0
25.00		121.8	1,557.0					0.0	375.3	121.8	1,932.3	0.0	0.0
30.00		120.9	1,527.3					0.0	375.3	120.9	1,902.6	0.0	0.0
35.00		122.5	1,497.6					0.0	375.3	122.5	1,872.9	0.0	0.0
40.00		124.7	1,467.9					0.0	375.3	124.7	1,843.2	0.0	0.0
45.00	Bot - Section 2	127.2	1,438.2					0.0	375.3	127.2	1,813.5	0.0	0.0
50.00		103.2	2,632.3					0.0	375.3	103.2	3,007.6	0.0	0.0
53.00	Top - Section 1	64.8	1,552.9					0.0	225.2	64.8	1,778.1	0.0	0.0
55.00		91.1	476.3					0.0	150.1	91.1	626.4	0.0	0.0
60.00		130.4	1,172.9					0.0	375.3	130.4	1,548.2	0.0	0.0
65.00		130.5	1,147.4					0.0	375.3	130.5	1,522.7	0.0	0.0
70.00		130.3	1,122.0					0.0	375.3	130.3	1,497.3	0.0	0.0
75.00		129.9	1,096.5					0.0	375.3	129.9	1,471.8	0.0	0.0
80.00		129.2	1,071.1					0.0	375.3	129.2	1,446.4	0.0	0.0
85.00		128.4	1,045.6					0.0	375.3	128.4	1,420.9	0.0	0.0
90.00		81.9	1,020.1					0.0	375.3	81.9	1,395.4	0.0	0.0
91.42	Bot - Section 3	63.9	284.4					0.0	106.3	63.9	390.8	0.0	0.0
95.00		84.1	1,310.5					0.0	269.0	84.1	1,579.5	0.0	0.0
98.00	Top - Section 2	63.5	1,078.7					0.0	225.2	63.5	1,303.9	0.0	0.0
100.00		88.1	325.2					0.0	150.1	88.1	475.3	0.0	0.0
105.00		124.7	798.1					0.0	375.3	124.7	1,173.4	0.0	0.0
110.00		123.0	776.9					0.0	375.3	123.0	1,152.2	0.0	0.0
115.00		121.1	755.7					0.0	375.3	121.1	1,131.0	0.0	0.0
120.00	Appurtenance(s)	119.1	734.5	590.2	0.0	745.3	2,385.3	0.0	375.3	709.3	3,495.1	0.0	0.0
125.00		94.0	713.2					0.0	355.3	94.0	1,068.5	0.0	0.0
128.00	Appurtenance(s)	58.0	417.8	87.1	0.0	86.4	80.2	0.0	213.2	145.1	711.1	0.0	0.0
130.00		79.9	274.3					0.0	131.6	79.9	405.9	0.0	0.0
135.00		90.3	670.8					0.0	329.1	90.3	999.9	0.0	0.0
138.00	Appurtenance(s)	48.3	392.3	972.6	0.0	0.0	2,766.1	0.0	197.4	1,020.9	3,355.8	0.0	0.0
139.33	Bot - Section 4	22.2	171.9					0.0	64.6	22.2	236.5	0.0	0.0
140.00		56.2	154.7					0.0	32.3	56.2	187.0	0.0	0.0
144.42	Top - Section 3	55.1	1,007.8					0.0	214.0	55.1	1,221.8	0.0	0.0
145.00		60.2	58.7					0.0	28.3	60.2	86.9	0.0	0.0
150.00	Appurtenance(s)	106.3	493.3	711.6	0.0	959.4	2,332.5	0.0	242.3	817.9	3,068.1	0.0	0.0
155.00		103.5	476.4					0.0	188.1	103.5	664.4	0.0	0.0
160.00	Appurtenance(s)	81.0	459.4	972.1	0.0	0.0	3,151.9	0.0	188.1	1,053.1	3,799.3	0.0	0.0
163.00	Appurtenance(s)	49.6	267.5	19.7	0.0	0.0	15.0	0.0	42.3	69.3	324.8	0.0	0.0
165.00		39.1	174.9					0.0	20.9	39.1	195.8	0.0	0.0
167.00	Appurtenance(s)	48.2	172.2	282.6	0.0	117.5	826.1	0.0	20.9	330.8	1,019.2	0.0	0.0
170.00		75.4	253.2					0.0	29.5	75.4	282.8	0.0	0.0
175.00		78.4	408.5					0.0	49.2	78.4	457.7	0.0	0.0
178.50	Appurtenance(s)	31.7	275.8	564.6	0.0	950.3	1,668.0	0.0	34.4	596.4	1,978.3	0.0	0.0

Site Number: 302467

Code: ANSI/TIA-222-G © 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:28 PM

Customer: VERIZON WIRELESS

**Load Case: 1.0D + 1.0W**

**Serviceability 60 mph**

**21 Iterations**

**Gust Response Factor :1.10**

**Wind Importance Factor :1.00**

**Dead Load Factor :1.00**

**Wind Load Factor :1.00**

**Totals: 8,496.49 63,949.2 0.00 0.00**

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:28 PM

Customer: VERIZON WIRELESS

**Load Case: 1.0D + 1.0W**

Serviceability 60 mph

21 Iterations

Gust Response Factor :1.10

Wind Importance Factor 1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

**Calculated Forces**

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-63.95	-8.44	0.00	-1,025.88	0.00	1,025.88	6,201.63	3,100.82	18,267.6	9,147.40	0.00	0.00	0.122
5.00	-61.89	-8.33	0.00	-983.67	0.00	983.67	6,145.05	3,072.53	17,781.1	8,903.77	0.01	-0.02	0.121
10.00	-59.87	-8.23	0.00	-942.01	0.00	942.01	6,086.60	3,043.30	17,295.1	8,660.43	0.05	-0.04	0.119
15.00	-57.87	-8.12	0.00	-900.87	0.00	900.87	6,026.28	3,013.14	16,810.0	8,417.51	0.11	-0.07	0.117
20.00	-55.83	-8.00	0.00	-860.26	0.00	860.26	5,964.08	2,982.04	16,326.1	8,175.18	0.19	-0.09	0.115
25.00	-53.89	-7.90	0.00	-820.26	0.00	820.26	5,900.01	2,950.01	15,843.6	7,933.57	0.30	-0.11	0.113
30.00	-51.99	-7.79	0.00	-780.77	0.00	780.77	5,834.07	2,917.04	15,362.8	7,692.84	0.43	-0.14	0.110
35.00	-50.11	-7.69	0.00	-741.81	0.00	741.81	5,766.26	2,883.13	14,884.1	7,453.12	0.58	-0.16	0.108
40.00	-48.27	-7.58	0.00	-703.38	0.00	703.38	5,696.58	2,848.29	14,407.7	7,214.56	0.77	-0.18	0.106
45.00	-46.45	-7.46	0.00	-665.50	0.00	665.50	5,625.02	2,812.51	13,933.9	6,977.32	0.97	-0.21	0.104
50.00	-43.44	-7.36	0.00	-628.19	0.00	628.19	5,551.60	2,775.80	13,463.0	6,741.53	1.20	-0.23	0.101
53.00	-41.66	-7.30	0.00	-606.11	0.00	606.11	4,466.37	2,233.18	10,853.4	5,434.80	1.35	-0.25	0.121
55.00	-41.03	-7.22	0.00	-591.51	0.00	591.51	4,445.78	2,222.89	10,710.8	5,363.40	1.46	-0.26	0.120
60.00	-39.48	-7.10	0.00	-555.42	0.00	555.42	4,392.99	2,196.49	10,355.0	5,185.21	1.74	-0.28	0.116
65.00	-37.96	-6.98	0.00	-519.93	0.00	519.93	4,338.33	2,169.16	10,000.3	5,007.61	2.05	-0.31	0.113
70.00	-36.46	-6.86	0.00	-485.03	0.00	485.03	4,281.80	2,140.90	9,647.15	4,830.75	2.39	-0.34	0.109
75.00	-34.98	-6.73	0.00	-450.75	0.00	450.75	4,223.39	2,111.70	9,295.72	4,654.77	2.76	-0.36	0.105
80.00	-33.54	-6.61	0.00	-417.08	0.00	417.08	4,163.12	2,081.56	8,946.35	4,479.82	3.16	-0.39	0.101
85.00	-32.11	-6.49	0.00	-384.02	0.00	384.02	4,100.97	2,050.48	8,599.32	4,306.05	3.58	-0.42	0.097
90.00	-30.72	-6.40	0.00	-351.59	0.00	351.59	4,036.95	2,018.47	8,254.94	4,133.61	4.03	-0.44	0.093
91.42	-30.32	-6.34	0.00	-342.51	0.00	342.51	4,018.47	2,009.23	8,157.89	4,085.01	4.16	-0.45	0.091
95.00	-28.74	-6.26	0.00	-319.78	0.00	319.78	3,971.06	1,985.53	7,913.50	3,962.63	4.51	-0.47	0.088
98.00	-27.44	-6.19	0.00	-301.01	0.00	301.01	3,074.73	1,537.36	6,126.65	3,067.88	4.81	-0.49	0.107
100.00	-26.96	-6.10	0.00	-288.64	0.00	288.64	3,057.08	1,528.54	6,027.83	3,018.39	5.02	-0.50	0.104
105.00	-25.79	-5.98	0.00	-258.11	0.00	258.11	3,011.64	1,505.82	5,781.46	2,895.03	5.55	-0.52	0.098
110.00	-24.63	-5.86	0.00	-228.20	0.00	228.20	2,964.33	1,482.16	5,536.34	2,772.28	6.12	-0.55	0.091
115.00	-23.50	-5.74	0.00	-198.90	0.00	198.90	2,915.15	1,457.57	5,292.74	2,650.30	6.71	-0.58	0.083
120.00	-20.01	-5.00	0.00	-169.47	0.00	169.47	2,864.09	1,432.05	5,050.96	2,529.23	7.32	-0.60	0.074
125.00	-18.94	-4.90	0.00	-144.47	0.00	144.47	2,811.17	1,405.58	4,811.29	2,409.22	7.97	-0.62	0.067
128.00	-18.23	-4.75	0.00	-129.67	0.00	129.67	2,778.51	1,389.26	4,668.62	2,337.78	8.36	-0.64	0.062
130.00	-17.83	-4.67	0.00	-120.17	0.00	120.17	2,756.37	1,378.18	4,574.03	2,290.41	8.63	-0.65	0.059
135.00	-16.83	-4.57	0.00	-96.81	0.00	96.81	2,699.70	1,349.85	4,339.46	2,172.95	9.32	-0.66	0.051
138.00	-13.48	-3.52	0.00	-83.09	0.00	83.09	2,664.80	1,332.40	4,200.13	2,103.19	9.74	-0.67	0.045
139.33	-13.25	-3.49	0.00	-78.40	0.00	78.40	2,649.07	1,324.54	4,138.57	2,072.36	9.93	-0.68	0.043
140.00	-13.06	-3.44	0.00	-76.07	0.00	76.07	2,641.16	1,320.58	4,107.88	2,056.99	10.02	-0.68	0.042
144.42	-11.84	-3.37	0.00	-60.90	0.00	60.90	1,927.04	963.52	2,958.38	1,481.39	10.66	-0.69	0.047
145.00	-11.75	-3.31	0.00	-58.94	0.00	58.94	1,922.70	961.35	2,940.04	1,472.21	10.74	-0.69	0.046
150.00	-8.69	-2.45	0.00	-41.44	0.00	41.44	1,884.42	942.21	2,783.42	1,393.78	11.48	-0.71	0.034
155.00	-8.03	-2.34	0.00	-29.17	0.00	29.17	1,844.28	922.14	2,628.12	1,316.02	12.23	-0.72	0.027
160.00	-4.24	-1.24	0.00	-17.45	0.00	17.45	1,802.26	901.13	2,474.43	1,239.06	12.99	-0.73	0.016
163.00	-3.92	-1.17	0.00	-13.72	0.00	13.72	1,776.15	888.08	2,383.11	1,193.33	13.44	-0.73	0.014
165.00	-3.72	-1.13	0.00	-11.38	0.00	11.38	1,758.37	879.19	2,322.64	1,163.05	13.75	-0.73	0.012
167.00	-2.71	-0.78	0.00	-9.01	0.00	9.01	1,740.29	870.15	2,262.53	1,132.94	14.06	-0.73	0.010
170.00	-2.43	-0.71	0.00	-6.66	0.00	6.66	1,712.61	856.30	2,173.05	1,088.14	14.52	-0.74	0.008
175.00	-1.97	-0.62	0.00	-3.13	0.00	3.13	1,664.97	832.49	2,025.94	1,014.48	15.29	-0.74	0.004
178.50	0.00	-0.60	0.00	-0.95	0.00	0.95	1,630.52	815.26	1,924.60	963.73	15.84	-0.74	0.001

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP, LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:28 PM

Customer: VERIZON WIRELESS

### Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period ( $S_d$ ):	0.18
Spectral Response Acceleration at 1.0 Second Period ( $S_{d1}$ ):	0.06
Long-Period Transition Period ( $T_L$ ):	6
Importance Factor ( $I_E$ ):	1.00
Site Coefficient $F_a$ :	1.60
Site Coefficient $F_v$ :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period ( $S_{ds}$ ):	0.20
Design Spectral Response Acceleration at 1.0 Second Period ( $S_{d1}$ ):	0.10
Seismic Response Coefficient ( $C_s$ ):	0.03
Upper Limit $C_s$	0.03
Lower Limit $C_s$	0.03
Period based on Rayleigh Method (sec):	2.15
Redundancy Factor (p):	1.00
Seismic Force Distribution Exponent (k):	1.83
Total Unfactored Dead Load:	63.95 k
Seismic Base Shear (E):	2.00 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)
45	176.75	310	3,931	0.014	28	384
44	172.50	458	5,546	0.020	39	567
43	168.50	283	3,283	0.012	23	350
42	166.00	193	2,181	0.008	15	239
41	164.00	196	2,164	0.008	15	243
40	161.50	310	3,328	0.012	23	384
39	157.50	647	6,645	0.023	47	802
38	152.50	664	6,429	0.023	45	823
37	147.50	736	6,698	0.024	47	911
36	144.71	87	764	0.003	5	108
35	142.21	1,222	10,407	0.037	73	1,514
34	139.67	187	1,541	0.005	11	232
33	138.67	237	1,924	0.007	14	293
32	136.50	590	4,661	0.016	33	731
31	132.50	1,000	7,485	0.026	53	1,239
30	129.00	406	2,894	0.010	20	503
29	126.50	631	4,340	0.015	31	782
28	122.50	1,069	6,932	0.024	49	1,324
27	117.50	1,110	6,672	0.024	47	1,375
26	112.50	1,131	6,280	0.022	44	1,401
25	107.50	1,152	5,888	0.021	41	1,428
24	102.50	1,173	5,497	0.019	39	1,454
23	99.00	475	2,090	0.007	15	589

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:28 PM

Customer: VERIZON WIRELESS

22	96.50	1,304	5,472	0.019	39	1,616
21	93.21	1,579	6,221	0.022	44	1,957
20	90.71	391	1,465	0.005	10	484
19	87.50	1,395	4,898	0.017	35	1,729
18	82.50	1,421	4,479	0.016	32	1,761
17	77.50	1,446	4,067	0.014	29	1,792
16	72.50	1,472	3,665	0.013	26	1,824
15	67.50	1,497	3,272	0.012	23	1,855
14	62.50	1,523	2,892	0.010	20	1,887
13	57.50	1,548	2,525	0.009	18	1,918
12	54.00	626	911	0.003	6	776
11	51.50	1,778	2,371	0.008	17	2,203
10	47.50	3,008	3,461	0.012	24	3,727
9	42.50	1,814	1,703	0.006	12	2,247
8	37.50	1,843	1,377	0.005	10	2,284
7	32.50	1,873	1,078	0.004	8	2,321
6	27.50	1,903	807	0.003	6	2,357
5	22.50	1,932	568	0.002	4	2,394
4	17.50	1,963	365	0.001	3	2,432
3	12.50	1,992	200	0.001	1	2,469
2	7.50	2,022	80	0.000	1	2,506
1	2.50	2,052	11	0.000	0	2,542
Decibel DB844H90E-XY	178.50	168	2,167	0.008	15	208
Flat Low Profile Pla	178.50	1,500	19,347	0.068	136	1,859
DragonWave Horizon C	167.00	21	242	0.001	2	26
NextNet BTS-2500	167.00	105	1,199	0.004	8	130
Argus LLPX310R	167.00	86	980	0.003	7	106
DragonWave A-ANT-11G	167.00	27	308	0.001	2	33
DragonWave A-ANT-18G	167.00	27	310	0.001	2	34
Side Arms	167.00	560	6,396	0.023	45	694
18" x 12" Junction B	163.00	15	164	0.001	1	19
Powerwave Allgon 702	160.00	13	139	0.000	1	16
Kaelus DBC0061F1V51-	160.00	153	1,616	0.006	11	190
Powerwave Allgon LGP	160.00	85	894	0.003	6	105
Raycap DC6-48-60-18-	160.00	40	423	0.001	3	50
Ericsson RRUS-11 800	160.00	162	1,711	0.006	12	201
Ericsson RRUS 32 B2	160.00	159	1,679	0.006	12	197
Ericsson RRUS 11 (Ba	160.00	152	1,607	0.006	11	188
Ericsson RRUS-32 (77	160.00	231	2,440	0.009	17	286
Powerwave Allgon 777	160.00	105	1,109	0.004	8	130
Quintel QS66512-2	160.00	333	3,517	0.012	25	413
CCI OPA-65R-LCUU-H6	160.00	219	2,313	0.008	16	271
Flat Low Profile Pla	160.00	1,500	15,844	0.056	112	1,859
Ericsson KRY 112 144	150.00	33	310	0.001	2	41
Ericsson RRUS 11 B12	150.00	152	1,428	0.005	10	188
Ericsson AIR 21, 1.3	150.00	249	2,338	0.008	16	309
Ericsson AIR 21, 1.3	150.00	244	2,296	0.008	16	303
Andrew LNX-6515DS-VT	150.00	154	1,445	0.005	10	191
Round Low Profile PI	150.00	1,500	14,083	0.050	99	1,859
Nokia B5 RRH4x40-850	138.00	146	1,173	0.004	8	180
Alcatel-Lucent RRH 2	138.00	119	958	0.003	7	147
Alcatel-Lucent RRH2x	138.00	170	1,372	0.005	10	211
Alcatel-Lucent B66A	138.00	170	1,374	0.005	10	211
RFS DB-T1-6Z-8AB-0Z	138.00	88	710	0.003	5	109
Antel BXA-80063-6BF-	138.00	58	464	0.002	3	71
Commscope SBNHH-1D65	138.00	152	1,226	0.004	9	188
Commscope JAHH-65B-R	138.00	364	2,932	0.010	21	451
Round Low Profile PI	138.00	1,500	12,095	0.043	85	1,859
Nortel NTGB01MA	128.00	1	7	0.000	0	1
RFS APXV18-206517S-C	128.00	79	557	0.002	4	98
Alcatel-Lucent 800 M	120.00	159	993	0.004	7	197
Alcatel-Lucent 1900	120.00	180	1,125	0.004	8	223
Alcatel-Lucent TD-RR	120.00	210	1,312	0.005	9	260
RFS RFS APXV9TM14-AL	120.00	165	1,033	0.004	7	205

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:28 PM

Customer: VERIZON WIRELESS

RFS APXVSPP18-C-A20	120.00	171	1,068	0.004	8	212
Round Low Profile PI	120.00	1,500	9,371	0.033	66	1,859
PCTEL GPS-TMG-HR-26N	20.00	1	0	0.000	0	1
Standoff	20.00	75	18	0.000	0	93
		63,949	283,558	1.000	1,998	79,236

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

**Seismic (Reduced DL) Equivalent Lateral Forces Method**

Segment	Height Above Base (ft)	Weight (lb)	W <sub>z</sub> (lb-ft)	C <sub>vx</sub>	Horizontal Force (lb)	Vertical Force (lb)
45	176.75	310	3,931	0.014	28	267
44	172.50	458	5,546	0.020	39	394
43	168.50	283	3,283	0.012	23	243
42	166.00	193	2,181	0.008	15	166
41	164.00	196	2,164	0.008	15	169
40	161.50	310	3,328	0.012	23	267
39	157.50	647	6,645	0.023	47	557
38	152.50	664	6,429	0.023	45	572
37	147.50	736	6,698	0.024	47	633
36	144.71	87	764	0.003	5	75
35	142.21	1,222	10,407	0.037	73	1,052
34	139.67	187	1,541	0.005	11	161
33	138.67	237	1,924	0.007	14	204
32	136.50	590	4,661	0.016	33	508
31	132.50	1,000	7,485	0.026	53	861
30	129.00	406	2,894	0.010	20	349
29	126.50	631	4,340	0.015	31	543
28	122.50	1,069	6,932	0.024	49	920
27	117.50	1,110	6,672	0.024	47	955
26	112.50	1,131	6,280	0.022	44	974
25	107.50	1,152	5,888	0.021	41	992
24	102.50	1,173	5,497	0.019	39	1,010
23	99.00	475	2,090	0.007	15	409
22	96.50	1,304	5,472	0.019	39	1,123
21	93.21	1,579	6,221	0.022	44	1,360
20	90.71	391	1,465	0.005	10	336
19	87.50	1,395	4,898	0.017	35	1,201
18	82.50	1,421	4,479	0.016	32	1,223
17	77.50	1,446	4,067	0.014	29	1,245
16	72.50	1,472	3,665	0.013	26	1,267
15	67.50	1,497	3,272	0.012	23	1,289
14	62.50	1,523	2,892	0.010	20	1,311
13	57.50	1,548	2,525	0.009	18	1,333
12	54.00	626	911	0.003	6	539
11	51.50	1,778	2,371	0.008	17	1,531
10	47.50	3,008	3,461	0.012	24	2,589
9	42.50	1,814	1,703	0.006	12	1,561
8	37.50	1,843	1,377	0.005	10	1,587
7	32.50	1,873	1,078	0.004	8	1,613
6	27.50	1,903	807	0.003	6	1,638
5	22.50	1,932	568	0.002	4	1,664
4	17.50	1,963	365	0.001	3	1,690
3	12.50	1,992	200	0.001	1	1,715
2	7.50	2,022	80	0.000	1	1,741
1	2.50	2,052	11	0.000	0	1,767
Decibel DB844H90E-XY	178.50	168	2,167	0.008	15	145
Flat Low Profile Pla	178.50	1,500	19,347	0.068	136	1,291
DragonWave Horizon C	167.00	21	242	0.001	2	18
NextNet BTS-2500	167.00	105	1,199	0.004	8	90
Argus LLPX310R	167.00	86	980	0.003	7	74

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number:OAA724292\_C3\_01

2/8/2018 12:22:28 PM

Customer: VERIZON WIRELESS

DragonWave A-ANT-11G	167.00	27	308	0.001	2	23
DragonWave A-ANT-18G	167.00	27	310	0.001	2	23
Side Arms	167.00	560	6,396	0.023	45	482
18" x 12" Junction B	163.00	15	164	0.001	1	13
Powerwave Allgon 702	160.00	13	139	0.000	1	11
Kaelus DBC0061F1V51-	160.00	153	1,616	0.006	11	132
Powerwave Allgon LGP	160.00	85	894	0.003	6	73
Raycap DC6-48-60-18-	160.00	40	423	0.001	3	34
Ericsson RRUS-11 800	160.00	162	1,711	0.006	12	139
Ericsson RRUS 32 B2	160.00	159	1,679	0.006	12	137
Ericsson RRUS 11 (Ba	160.00	152	1,607	0.006	11	131
Ericsson RRUS-32 (77	160.00	231	2,440	0.009	17	199
Powerwave Allgon 777	160.00	105	1,109	0.004	8	90
Quintel QS66512-2	160.00	333	3,517	0.012	25	287
CCI OPA-65R-LCUU-H6	160.00	219	2,313	0.008	16	189
Flat Low Profile Pla	160.00	1,500	15,844	0.056	112	1,291
Ericsson KRY 112 144	150.00	33	310	0.001	2	28
Ericsson RRUS 11 B12	150.00	152	1,428	0.005	10	131
Ericsson AIR 21, 1.3	150.00	249	2,338	0.008	16	214
Ericsson AIR 21, 1.3	150.00	244	2,296	0.008	16	211
Andrew LNX-6515DS-VT	150.00	154	1,445	0.005	10	133
Round Low Profile PI	150.00	1,500	14,083	0.050	99	1,291
Nokia B5 RRH4x40-850	138.00	146	1,173	0.004	8	125
Alcatel-Lucent RRH 2	138.00	119	958	0.003	7	102
Alcatel-Lucent RRH2x	138.00	170	1,372	0.005	10	146
Alcatel-Lucent B66A	138.00	170	1,374	0.005	10	147
RFS DB-T1-6Z-8AB-0Z	138.00	88	710	0.003	5	76
Antel BXA-80063-6BF-	138.00	58	464	0.002	3	50
Commscope SBNHH-1D65	138.00	152	1,226	0.004	9	131
Commscope JAHH-65B-R	138.00	364	2,932	0.010	21	313
Round Low Profile PI	138.00	1,500	12,095	0.043	85	1,291
Nortel NTGB01MA	128.00	1	7	0.000	0	1
RFS APXV18-206517S-C	128.00	79	557	0.002	4	68
Alcatel-Lucent 800 M	120.00	159	993	0.004	7	137
Alcatel-Lucent 1900	120.00	180	1,125	0.004	8	155
Alcatel-Lucent TD-RR	120.00	210	1,312	0.005	9	181
RFS RFS APXV9TM14-AL	120.00	165	1,033	0.004	7	142
RFS APXVSPP18-C-A20	120.00	171	1,068	0.004	8	147
Round Low Profile PI	120.00	1,500	9,371	0.033	66	1,291
PCTEL GPS-TMG-HR-26N	20.00	1	0	0.000	0	1
Standoff	20.00	75	18	0.000	0	65
		63,949	283,558	1.000	1,998	55,058

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:28 PM

Customer: VERIZON WIRELESS

**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	-76.69	-2.00	0.00	-270.89	0.00	270.89	6,201.63	3,100.82	18,267.6	9,147.40	0.00	0.00	0.042
5.00	-74.19	-2.01	0.00	-260.89	0.00	260.89	6,145.05	3,072.53	17,781.1	8,903.77	0.00	-0.01	0.041
10.00	-71.72	-2.01	0.00	-250.85	0.00	250.85	6,086.60	3,043.30	17,295.1	8,660.43	0.01	-0.01	0.041
15.00	-69.29	-2.02	0.00	-240.79	0.00	240.79	6,026.28	3,013.14	16,810.0	8,417.51	0.03	-0.02	0.040
20.00	-66.80	-2.02	0.00	-230.71	0.00	230.71	5,964.08	2,982.04	16,326.1	8,175.18	0.05	-0.02	0.039
25.00	-64.44	-2.02	0.00	-220.61	0.00	220.61	5,900.01	2,950.01	15,843.6	7,933.57	0.08	-0.03	0.039
30.00	-62.12	-2.02	0.00	-210.51	0.00	210.51	5,834.07	2,917.04	15,362.8	7,692.84	0.11	-0.04	0.038
35.00	-59.84	-2.01	0.00	-200.43	0.00	200.43	5,766.26	2,883.13	14,884.1	7,453.12	0.16	-0.04	0.037
40.00	-57.59	-2.01	0.00	-190.36	0.00	190.36	5,696.58	2,848.29	14,407.7	7,214.56	0.20	-0.05	0.036
45.00	-53.86	-1.98	0.00	-180.34	0.00	180.34	5,625.02	2,812.51	13,933.9	6,977.32	0.26	-0.06	0.035
50.00	-51.66	-1.97	0.00	-170.42	0.00	170.42	5,551.60	2,775.80	13,463.0	6,741.53	0.32	-0.06	0.035
53.00	-50.88	-1.97	0.00	-164.51	0.00	164.51	4,466.37	2,233.18	10,853.4	5,434.80	0.36	-0.07	0.042
55.00	-48.96	-1.95	0.00	-160.58	0.00	160.58	4,445.78	2,222.89	10,710.8	5,363.40	0.39	-0.07	0.041
60.00	-47.08	-1.93	0.00	-150.83	0.00	150.83	4,392.99	2,196.49	10,355.0	5,185.21	0.47	-0.08	0.040
65.00	-45.22	-1.91	0.00	-141.17	0.00	141.17	4,338.33	2,169.16	10,000.3	5,007.61	0.55	-0.08	0.039
70.00	-43.40	-1.89	0.00	-131.61	0.00	131.61	4,281.80	2,140.90	9,647.15	4,830.75	0.64	-0.09	0.037
75.00	-41.61	-1.86	0.00	-122.16	0.00	122.16	4,223.39	2,111.70	9,295.72	4,654.77	0.74	-0.10	0.036
80.00	-39.84	-1.83	0.00	-112.84	0.00	112.84	4,163.12	2,081.56	8,946.35	4,479.82	0.85	-0.11	0.035
85.00	-38.12	-1.80	0.00	-103.67	0.00	103.67	4,100.97	2,050.48	8,599.32	4,306.05	0.96	-0.11	0.033
90.00	-37.63	-1.79	0.00	-94.67	0.00	94.67	4,036.95	2,018.47	8,254.94	4,133.61	1.08	-0.12	0.032
91.42	-35.67	-1.75	0.00	-92.13	0.00	92.13	4,018.47	2,009.23	8,157.89	4,085.01	1.12	-0.12	0.031
95.00	-34.06	-1.71	0.00	-85.87	0.00	85.87	3,971.06	1,985.53	7,913.50	3,962.63	1.21	-0.13	0.030
98.00	-33.47	-1.69	0.00	-80.75	0.00	80.75	3,974.73	1,537.36	6,126.65	3,067.88	1.29	-0.13	0.037
100.00	-32.02	-1.65	0.00	-77.36	0.00	77.36	3,057.08	1,528.54	6,027.83	3,018.39	1.35	-0.13	0.036
105.00	-30.59	-1.61	0.00	-69.09	0.00	69.09	3,011.64	1,505.82	5,781.46	2,895.03	1.49	-0.14	0.034
110.00	-29.19	-1.57	0.00	-61.03	0.00	61.03	2,964.33	1,482.16	5,536.34	2,772.28	1.65	-0.15	0.032
115.00	-27.81	-1.52	0.00	-53.18	0.00	53.18	2,915.15	1,457.57	5,292.74	2,650.30	1.80	-0.16	0.030
120.00	-23.53	-1.36	0.00	-45.57	0.00	45.57	2,864.09	1,432.05	5,050.96	2,529.23	1.97	-0.16	0.026
125.00	-22.75	-1.33	0.00	-38.78	0.00	38.78	2,811.17	1,405.58	4,811.29	2,409.22	2.14	-0.17	0.024
128.00	-22.15	-1.30	0.00	-34.80	0.00	34.80	2,778.51	1,389.26	4,668.62	2,337.78	2.25	-0.17	0.023
130.00	-20.91	-1.25	0.00	-32.19	0.00	32.19	2,756.37	1,378.18	4,574.03	2,290.41	2.32	-0.17	0.022
135.00	-20.18	-1.21	0.00	-25.95	0.00	25.95	2,699.70	1,349.85	4,339.46	2,172.95	2.51	-0.18	0.019
138.00	-16.46	-1.03	0.00	-22.31	0.00	22.31	2,664.80	1,332.40	4,200.13	2,103.19	2.62	-0.18	0.017
139.33	-16.23	-1.02	0.00	-20.94	0.00	20.94	2,649.07	1,324.54	4,138.57	2,072.36	2.67	-0.18	0.016
140.00	-14.71	-0.94	0.00	-20.25	0.00	20.25	2,641.16	1,320.58	4,107.88	2,056.99	2.70	-0.18	0.015
144.42	-14.61	-0.94	0.00	-16.09	0.00	16.09	1,927.04	963.52	2,958.38	1,481.39	2.87	-0.19	0.018
145.00	-13.69	-0.89	0.00	-15.54	0.00	15.54	1,922.70	961.35	2,940.04	1,472.21	2.89	-0.19	0.018
150.00	-9.98	-0.68	0.00	-11.10	0.00	11.10	1,884.42	942.21	2,783.42	1,393.78	3.09	-0.19	0.013
155.00	-9.18	-0.63	0.00	-7.71	0.00	7.71	1,844.28	922.14	2,628.12	1,316.02	3.29	-0.19	0.011
160.00	-4.89	-0.36	0.00	-4.57	0.00	4.57	1,802.26	901.13	2,474.43	1,239.06	3.49	-0.20	0.006
163.00	-4.63	-0.34	0.00	-3.50	0.00	3.50	1,776.15	888.08	2,383.11	1,193.33	3.62	-0.20	0.006
165.00	-4.39	-0.32	0.00	-2.82	0.00	2.82	1,758.37	879.19	2,322.64	1,163.05	3.70	-0.20	0.005
167.00	-3.02	-0.23	0.00	-2.18	0.00	2.18	1,740.29	870.15	2,262.53	1,132.94	3.78	-0.20	0.004
170.00	-2.45	-0.19	0.00	-1.49	0.00	1.49	1,712.61	856.30	2,173.05	1,088.14	3.91	-0.20	0.003
175.00	-2.07	-0.16	0.00	-0.56	0.00	0.56	1,664.97	832.49	2,025.94	1,014.48	4.11	-0.20	0.002
178.50	0.00	-0.15	0.00	0.00	0.00	0.00	1,630.52	815.26	1,924.60	963.73	4.26	-0.20	0.000



Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:28 PM

Customer: VERIZON WIRELESS

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

Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-53.29	-2.00	0.00	-268.07	0.00	268.07	6,201.63	3,100.82	18,267.6	9,147.40	0.00	0.00	0.038
5.00	-51.55	-2.00	0.00	-258.07	0.00	258.07	6,145.05	3,072.53	17,781.1	8,903.77	0.00	-0.01	0.037
10.00	-49.83	-2.01	0.00	-248.06	0.00	248.06	6,086.60	3,043.30	17,295.1	8,660.43	0.01	-0.01	0.037
15.00	-48.14	-2.01	0.00	-238.02	0.00	238.02	6,026.28	3,013.14	16,810.0	8,417.51	0.03	-0.02	0.036
20.00	-46.42	-2.01	0.00	-227.97	0.00	227.97	5,964.08	2,982.04	16,326.1	8,175.18	0.05	-0.02	0.036
25.00	-44.78	-2.01	0.00	-217.93	0.00	217.93	5,900.01	2,950.01	15,843.6	7,933.57	0.08	-0.03	0.035
30.00	-43.16	-2.00	0.00	-207.89	0.00	207.89	5,834.07	2,917.04	15,362.8	7,692.84	0.11	-0.04	0.034
35.00	-41.58	-2.00	0.00	-197.87	0.00	197.87	5,766.26	2,883.13	14,884.1	7,453.12	0.15	-0.04	0.034
40.00	-40.02	-1.99	0.00	-187.88	0.00	187.88	5,696.58	2,848.29	14,407.7	7,214.56	0.20	-0.05	0.033
45.00	-37.43	-1.97	0.00	-177.94	0.00	177.94	5,625.02	2,812.51	13,933.9	6,977.32	0.26	-0.06	0.032
50.00	-35.89	-1.95	0.00	-168.11	0.00	168.11	5,551.60	2,775.80	13,463.0	6,741.53	0.32	-0.06	0.031
53.00	-35.36	-1.95	0.00	-162.25	0.00	162.25	4,466.37	2,233.18	10,853.4	5,434.80	0.36	-0.07	0.038
55.00	-34.02	-1.93	0.00	-158.36	0.00	158.36	4,445.78	2,222.89	10,710.8	5,363.40	0.39	-0.07	0.037
60.00	-32.71	-1.91	0.00	-148.71	0.00	148.71	4,392.99	2,196.49	10,355.0	5,185.21	0.46	-0.08	0.036
65.00	-31.42	-1.89	0.00	-139.15	0.00	139.15	4,338.33	2,169.16	10,000.3	5,007.61	0.54	-0.08	0.035
70.00	-30.15	-1.87	0.00	-129.70	0.00	129.70	4,281.80	2,140.90	9,647.15	4,830.75	0.63	-0.09	0.034
75.00	-28.91	-1.84	0.00	-120.36	0.00	120.36	4,223.39	2,111.70	9,295.72	4,654.77	0.73	-0.10	0.033
80.00	-27.69	-1.81	0.00	-111.16	0.00	111.16	4,163.12	2,081.56	8,946.35	4,479.82	0.84	-0.10	0.031
85.00	-26.48	-1.78	0.00	-102.11	0.00	102.11	4,100.97	2,050.48	8,599.32	4,306.05	0.95	-0.11	0.030
90.00	-26.15	-1.77	0.00	-93.23	0.00	93.23	4,036.95	2,018.47	8,254.94	4,133.61	1.07	-0.12	0.029
91.42	-24.79	-1.72	0.00	-90.72	0.00	90.72	4,018.47	2,009.23	8,157.89	4,085.01	1.11	-0.12	0.028
95.00	-23.66	-1.68	0.00	-84.55	0.00	84.55	3,971.06	1,985.53	7,913.50	3,962.63	1.20	-0.13	0.027
98.00	-23.26	-1.67	0.00	-79.50	0.00	79.50	3,074.73	1,537.36	6,126.65	3,067.88	1.28	-0.13	0.033
100.00	-22.25	-1.63	0.00	-76.16	0.00	76.16	3,057.08	1,528.54	6,027.83	3,018.39	1.33	-0.13	0.033
105.00	-21.25	-1.59	0.00	-68.01	0.00	68.01	3,011.64	1,505.82	5,781.46	2,895.03	1.47	-0.14	0.031
110.00	-20.28	-1.54	0.00	-60.07	0.00	60.07	2,964.33	1,482.16	5,536.34	2,772.28	1.62	-0.15	0.029
115.00	-19.32	-1.50	0.00	-52.34	0.00	52.34	2,915.15	1,457.57	5,292.74	2,650.30	1.78	-0.15	0.026
120.00	-16.35	-1.34	0.00	-44.86	0.00	44.86	2,864.09	1,432.05	5,050.96	2,529.23	1.95	-0.16	0.023
125.00	-15.81	-1.31	0.00	-38.17	0.00	38.17	2,811.17	1,405.58	4,811.29	2,409.22	2.12	-0.17	0.021
128.00	-15.39	-1.28	0.00	-34.25	0.00	34.25	2,778.51	1,389.26	4,668.62	2,337.78	2.22	-0.17	0.020
130.00	-14.53	-1.23	0.00	-31.69	0.00	31.69	2,756.37	1,378.18	4,574.03	2,290.41	2.29	-0.17	0.019
135.00	-14.02	-1.19	0.00	-25.55	0.00	25.55	2,699.70	1,349.85	4,339.46	2,172.95	2.47	-0.18	0.017
138.00	-11.44	-1.02	0.00	-21.97	0.00	21.97	2,664.80	1,332.40	4,200.13	2,103.19	2.59	-0.18	0.015
139.33	-11.27	-1.00	0.00	-20.61	0.00	20.61	2,649.07	1,324.54	4,138.57	2,072.36	2.64	-0.18	0.014
140.00	-10.22	-0.93	0.00	-19.94	0.00	19.94	2,641.16	1,320.58	4,107.88	2,056.99	2.66	-0.18	0.014
144.42	-10.15	-0.92	0.00	-15.84	0.00	15.84	1,927.04	963.52	2,958.38	1,481.39	2.83	-0.18	0.016
145.00	-9.51	-0.87	0.00	-15.30	0.00	15.30	1,922.70	961.35	2,940.04	1,472.21	2.85	-0.18	0.015
150.00	-6.94	-0.67	0.00	-10.93	0.00	10.93	1,884.42	942.21	2,783.42	1,393.78	3.05	-0.19	0.012
155.00	-6.38	-0.62	0.00	-7.60	0.00	7.60	1,844.28	922.14	2,628.12	1,316.02	3.25	-0.19	0.009
160.00	-3.40	-0.35	0.00	-4.50	0.00	4.50	1,802.26	901.13	2,474.43	1,239.06	3.45	-0.19	0.006
163.00	-3.22	-0.33	0.00	-3.45	0.00	3.45	1,776.15	888.08	2,383.11	1,193.33	3.57	-0.19	0.005
165.00	-3.05	-0.32	0.00	-2.78	0.00	2.78	1,758.37	879.19	2,322.64	1,163.05	3.65	-0.19	0.004
167.00	-2.10	-0.23	0.00	-2.15	0.00	2.15	1,740.29	870.15	2,262.53	1,132.94	3.73	-0.19	0.003
170.00	-1.70	-0.18	0.00	-1.47	0.00	1.47	1,712.61	856.30	2,173.05	1,088.14	3.85	-0.20	0.002
175.00	-1.44	-0.16	0.00	-0.55	0.00	0.55	1,664.97	832.49	2,025.94	1,014.48	4.06	-0.20	0.001
178.50	0.00	-0.15	0.00	0.00	0.00	0.00	1,630.52	815.26	1,924.60	963.73	4.20	-0.20	0.000

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:28 PM

Customer: VERIZON WIRELESS

### Equivalent Modal Forces Analysis

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

Spectral Response Acceleration for Short Period ( $S_s$ ):	0.18
Spectral Response Acceleration at 1.0 Second Period ( $S_1$ ):	0.06
Importance Factor ( $I_E$ ):	1.00
Site Coefficient $F_a$ :	1.60
Site Coefficient $F_v$ :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period ( $S_{ds}$ ):	0.20
Design Spectral Response Acceleration at 1.0 Second Period ( $S_{d1}$ ):	0.10
Period Based on Rayleigh Method (sec):	2.15
Redundancy Factor (p):	1.00

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

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
45	176.75	310	1.853	1.791	1.071	0.349	72	384
44	172.50	458	1.765	1.384	0.918	0.294	90	567
43	168.50	283	1.684	1.063	0.790	0.246	46	350
42	166.00	193	1.635	0.889	0.718	0.218	28	239
41	164.00	196	1.595	0.764	0.664	0.197	26	243
40	161.50	310	1.547	0.624	0.601	0.172	35	384
39	157.50	647	1.471	0.433	0.509	0.134	58	802
38	152.50	664	1.380	0.246	0.411	0.093	41	823
37	147.50	736	1.291	0.108	0.328	0.057	28	911
36	144.71	87	1.242	0.048	0.287	0.040	2	108
35	142.21	1,222	1.200	0.004	0.254	0.026	21	1,514
34	139.67	187	1.157	-0.032	0.224	0.013	2	232
33	138.67	237	1.141	-0.044	0.213	0.008	1	293
32	136.50	590	1.105	-0.067	0.190	-0.001	-1	731
31	132.50	1,000	1.041	-0.097	0.153	-0.016	-11	1,239
30	129.00	406	0.987	-0.113	0.125	-0.026	-7	503
29	126.50	631	0.949	-0.119	0.108	-0.031	-13	782
28	122.50	1,069	0.890	-0.122	0.084	-0.037	-26	1,324
27	117.50	1,110	0.819	-0.115	0.059	-0.039	-29	1,375
26	112.50	1,131	0.751	-0.101	0.041	-0.036	-27	1,401
25	107.50	1,152	0.685	-0.082	0.027	-0.029	-22	1,428
24	102.50	1,173	0.623	-0.061	0.017	-0.018	-14	1,454
23	99.00	475	0.581	-0.046	0.013	-0.009	-3	589
22	96.50	1,304	0.552	-0.035	0.010	-0.003	-2	1,616
21	93.21	1,579	0.515	-0.022	0.008	0.006	6	1,957
20	90.71	391	0.488	-0.012	0.007	0.013	3	484
19	87.50	1,395	0.454	0.000	0.006	0.020	19	1,729
18	82.50	1,421	0.404	0.017	0.006	0.031	29	1,761
17	77.50	1,446	0.356	0.031	0.008	0.039	38	1,792
16	72.50	1,472	0.312	0.043	0.011	0.045	44	1,824
15	67.50	1,497	0.270	0.052	0.015	0.049	49	1,855
14	62.50	1,523	0.232	0.058	0.019	0.050	51	1,887
13	57.50	1,548	0.196	0.063	0.024	0.051	53	1,918
12	54.00	626	0.173	0.066	0.027	0.051	21	776

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:28 PM

Customer: VERIZON WIRELESS

11	51.50	1,778	0.157	0.067	0.029	0.051	60	2,203
10	47.50	3,008	0.134	0.069	0.032	0.050	100	3,727
9	42.50	1,814	0.107	0.071	0.036	0.049	59	2,247
8	37.50	1,843	0.083	0.072	0.039	0.048	59	2,284
7	32.50	1,873	0.063	0.072	0.041	0.047	58	2,321
6	27.50	1,903	0.045	0.071	0.042	0.045	58	2,357
5	22.50	1,932	0.030	0.068	0.041	0.044	56	2,394
4	17.50	1,963	0.018	0.063	0.037	0.041	53	2,432
3	12.50	1,992	0.009	0.054	0.031	0.036	47	2,469
2	7.50	2,022	0.003	0.039	0.022	0.027	36	2,506
1	2.50	2,052	0.000	0.016	0.008	0.012	16	2,542
Decibel DB844H90E-XY	178.50	168	1.890	1.980	1.140	0.373	42	208
Flat Low Profile Pla	178.50	1,500	1.890	1.980	1.140	0.373	373	1,859
DragonWave Horizon C	167.00	21	1.654	0.957	0.746	0.229	3	26
NextNet BTS-2500	167.00	105	1.654	0.957	0.746	0.229	16	130
Argus LLPX310R	167.00	86	1.654	0.957	0.746	0.229	13	106
DragonWave A-ANT-11G	167.00	27	1.654	0.957	0.746	0.229	4	33
DragonWave A-ANT-18G	167.00	27	1.654	0.957	0.746	0.229	4	34
Side Arms	167.00	560	1.654	0.957	0.746	0.229	85	694
18" x 12" Junction B	163.00	15	1.576	0.706	0.638	0.187	2	19
Powerwave Allgon 702	160.00	13	1.519	0.548	0.565	0.157	1	16
Kaelus DBC0061F1V51-	160.00	153	1.519	0.548	0.565	0.157	16	190
Powerwave Allgon LGP	160.00	85	1.519	0.548	0.565	0.157	9	105
Raycap DC6-48-60-18-	160.00	40	1.519	0.548	0.565	0.157	4	50
Ericsson RRUS-11 800	160.00	162	1.519	0.548	0.565	0.157	17	201
Ericsson RRUS 32 B2	160.00	159	1.519	0.548	0.565	0.157	17	197
Ericsson RRUS 11 (Ba	160.00	152	1.519	0.548	0.565	0.157	16	188
Ericsson RRUS-32 (77	160.00	231	1.519	0.548	0.565	0.157	24	286
Powerwave Allgon 777	160.00	105	1.519	0.548	0.565	0.157	11	130
Quintel QS66512-2	160.00	333	1.519	0.548	0.565	0.157	35	413
CCI OPA-65R-LCUU-H6	160.00	219	1.519	0.548	0.565	0.157	23	271
Flat Low Profile Pla	160.00	1,500	1.519	0.548	0.565	0.157	157	1,859
Ericsson KRY 112 144	150.00	33	1.335	0.171	0.368	0.074	2	41
Ericsson RRUS 11 B12	150.00	152	1.335	0.171	0.368	0.074	8	188
Ericsson AIR 21, 1.3	150.00	249	1.335	0.171	0.368	0.074	12	309
Ericsson AIR 21, 1.3	150.00	244	1.335	0.171	0.368	0.074	12	303
Andrew LNX-6515DS-VT	150.00	154	1.335	0.171	0.368	0.074	8	191
Round Low Profile PI	150.00	1,500	1.335	0.171	0.368	0.074	74	1,859
Nokia B5 RRH4x40-850	138.00	146	1.130	-0.052	0.206	0.005	0	180
Alcatel-Lucent RRH 2	138.00	119	1.130	-0.052	0.206	0.005	0	147
Alcatel-Lucent RRH2x	138.00	170	1.130	-0.052	0.206	0.005	1	211
Alcatel-Lucent B66A	138.00	170	1.130	-0.052	0.206	0.005	1	211
RFS DB-T1-6Z-8AB-0Z	138.00	88	1.130	-0.052	0.206	0.005	0	109
Antel BXA-80063-6BF-	138.00	58	1.130	-0.052	0.206	0.005	0	71
Commscope SBNHH-	138.00	152	1.130	-0.052	0.206	0.005	1	188
Commscope JAHH-65B-	138.00	364	1.130	-0.052	0.206	0.005	1	451
Round Low Profile PI	138.00	1,500	1.130	-0.052	0.206	0.005	5	1,859
Nortel NTGB01MA	128.00	1	0.972	-0.116	0.118	-0.028	0	1
RFS APXV18-206517S-C	128.00	79	0.972	-0.116	0.118	-0.028	-1	98
Alcatel-Lucent 800 M	120.00	159	0.854	-0.120	0.071	-0.038	-4	197
Alcatel-Lucent 1900	120.00	180	0.854	-0.120	0.071	-0.038	-5	223
Alcatel-Lucent TD-RR	120.00	210	0.854	-0.120	0.071	-0.038	-5	260
RFS RFS APXV9TM14-	120.00	165	0.854	-0.120	0.071	-0.038	-4	205
RFS APXSPP18-C-A20	120.00	171	0.854	-0.120	0.071	-0.038	-4	212
Round Low Profile PI	120.00	1,500	0.854	-0.120	0.071	-0.038	-38	1,859
PCTEL GPS-TMG-HR-	20.00	1	0.024	0.066	0.039	0.042	0	1
Standoff	20.00	75	0.024	0.066	0.039	0.042	2	93
		63,949	90.792	24.002	27.278	6.887	2,150	79,236

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:28 PM

Customer: VERIZON WIRELESS

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)
45	176.75	310	1.853	1.791	1.071	0.349	72	267
44	172.50	458	1.765	1.384	0.918	0.294	90	394
43	168.50	283	1.684	1.063	0.790	0.246	46	243
42	166.00	193	1.635	0.889	0.718	0.218	28	166
41	164.00	196	1.595	0.764	0.664	0.197	26	169
40	161.50	310	1.547	0.624	0.601	0.172	35	267
39	157.50	647	1.471	0.433	0.509	0.134	58	557
38	152.50	664	1.380	0.246	0.411	0.093	41	572
37	147.50	736	1.291	0.108	0.328	0.057	28	633
36	144.71	87	1.242	0.048	0.287	0.040	2	75
35	142.21	1,222	1.200	0.004	0.254	0.026	21	1,052
34	139.67	187	1.157	-0.032	0.224	0.013	2	161
33	138.67	237	1.141	-0.044	0.213	0.008	1	204
32	136.50	590	1.105	-0.067	0.190	-0.001	-1	508
31	132.50	1,000	1.041	-0.097	0.153	-0.016	-11	861
30	129.00	406	0.987	-0.113	0.125	-0.026	-7	349
29	126.50	631	0.949	-0.119	0.108	-0.031	-13	543
28	122.50	1,069	0.890	-0.122	0.084	-0.037	-26	920
27	117.50	1,110	0.819	-0.115	0.059	-0.039	-29	955
26	112.50	1,131	0.751	-0.101	0.041	-0.036	-27	974
25	107.50	1,152	0.685	-0.082	0.027	-0.029	-22	992
24	102.50	1,173	0.623	-0.061	0.017	-0.018	-14	1,010
23	99.00	475	0.581	-0.046	0.013	-0.009	-3	409
22	96.50	1,304	0.552	-0.035	0.010	-0.003	-2	1,123
21	93.21	1,579	0.515	-0.022	0.008	0.006	6	1,360
20	90.71	391	0.488	-0.012	0.007	0.013	3	336
19	87.50	1,395	0.454	0.000	0.006	0.020	19	1,201
18	82.50	1,421	0.404	0.017	0.006	0.031	29	1,223
17	77.50	1,446	0.356	0.031	0.008	0.039	38	1,245
16	72.50	1,472	0.312	0.043	0.011	0.045	44	1,267
15	67.50	1,497	0.270	0.052	0.015	0.049	49	1,289
14	62.50	1,523	0.232	0.058	0.019	0.050	51	1,311
13	57.50	1,548	0.196	0.063	0.024	0.051	53	1,333
12	54.00	626	0.173	0.066	0.027	0.051	21	539
11	51.50	1,778	0.157	0.067	0.029	0.051	60	1,531
10	47.50	3,008	0.134	0.069	0.032	0.050	100	2,589
9	42.50	1,814	0.107	0.071	0.036	0.049	59	1,561
8	37.50	1,843	0.083	0.072	0.039	0.048	59	1,587
7	32.50	1,873	0.063	0.072	0.041	0.047	58	1,613
6	27.50	1,903	0.045	0.071	0.042	0.045	58	1,638
5	22.50	1,932	0.030	0.068	0.041	0.044	56	1,664
4	17.50	1,963	0.018	0.063	0.037	0.041	53	1,690
3	12.50	1,992	0.009	0.054	0.031	0.036	47	1,715
2	7.50	2,022	0.003	0.039	0.022	0.027	36	1,741
1	2.50	2,052	0.000	0.016	0.008	0.012	16	1,767
Decibel DB844H90E-XY	178.50	168	1.890	1.980	1.140	0.373	42	145
Fiat Low Profile Pla	178.50	1,500	1.890	1.980	1.140	0.373	373	1,291
DragonWave Horizon C	167.00	21	1.654	0.957	0.746	0.229	3	18
NextNet BTS-2500	167.00	105	1.654	0.957	0.746	0.229	16	90
Argus LLPX310R	167.00	86	1.654	0.957	0.746	0.229	13	74
DragonWave A-ANT-11G	167.00	27	1.654	0.957	0.746	0.229	4	23
DragonWave A-ANT-18G	167.00	27	1.654	0.957	0.746	0.229	4	23
Side Arms	167.00	560	1.654	0.957	0.746	0.229	85	482
18" x 12" Junction B	163.00	15	1.576	0.706	0.638	0.187	2	13
Powerwave Allgon 702	160.00	13	1.519	0.548	0.565	0.157	1	11
Kaelus DBC0061F1V51-	160.00	153	1.519	0.548	0.565	0.157	16	132

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number:OAA724292\_C3\_01

2/8/2018 12:22:28 PM

Customer: VERIZON WIRELESS

Powerwave Allgon LGP	160.00	85	1.519	0.548	0.565	0.157	9	73
Raycap DC6-48-60-18-	160.00	40	1.519	0.548	0.565	0.157	4	34
Ericsson RRUS-11 800	160.00	162	1.519	0.548	0.565	0.157	17	139
Ericsson RRUS 32 B2	160.00	159	1.519	0.548	0.565	0.157	17	137
Ericsson RRUS 11 (Ba	160.00	152	1.519	0.548	0.565	0.157	16	131
Ericsson RRUS-32 (77	160.00	231	1.519	0.548	0.565	0.157	24	199
Powerwave Allgon 777	160.00	105	1.519	0.548	0.565	0.157	11	90
Quintel QS66512-2	160.00	333	1.519	0.548	0.565	0.157	35	287
CCI OPA-65R-LCUU-H6	160.00	219	1.519	0.548	0.565	0.157	23	189
Flat Low Profile Pla	160.00	1,500	1.519	0.548	0.565	0.157	157	1,291
Ericsson KRY 112 144	150.00	33	1.335	0.171	0.368	0.074	2	28
Ericsson RRUS 11 B12	150.00	152	1.335	0.171	0.368	0.074	8	131
Ericsson AIR 21, 1.3	150.00	249	1.335	0.171	0.368	0.074	12	214
Ericsson AIR 21, 1.3	150.00	244	1.335	0.171	0.368	0.074	12	211
Andrew LNX-6515DS-VT	150.00	154	1.335	0.171	0.368	0.074	8	133
Round Low Profile PI	150.00	1,500	1.335	0.171	0.368	0.074	74	1,291
Nokia B5 RRH4x40-850	138.00	146	1.130	-0.052	0.206	0.005	0	125
Alcatel-Lucent RRH 2	138.00	119	1.130	-0.052	0.206	0.005	0	102
Alcatel-Lucent RRH2x	138.00	170	1.130	-0.052	0.206	0.005	1	146
Alcatel-Lucent B66A	138.00	170	1.130	-0.052	0.206	0.005	1	147
RFS DB-T1-6Z-8AB-0Z	138.00	88	1.130	-0.052	0.206	0.005	0	76
Antel BXA-80063-6BF-	138.00	58	1.130	-0.052	0.206	0.005	0	50
Commscope SBNHH-	138.00	152	1.130	-0.052	0.206	0.005	1	131
Commscope JAHH-65B-	138.00	364	1.130	-0.052	0.206	0.005	1	313
Round Low Profile PI	138.00	1,500	1.130	-0.052	0.206	0.005	5	1,291
Nortel NTGB01MA	128.00	1	0.972	-0.116	0.118	-0.028	0	1
RFS APXV18-206517S-C	128.00	79	0.972	-0.116	0.118	-0.028	-1	68
Alcatel-Lucent 800 M	120.00	159	0.854	-0.120	0.071	-0.038	-4	137
Alcatel-Lucent 1900	120.00	180	0.854	-0.120	0.071	-0.038	-5	155
Alcatel-Lucent TD-RR	120.00	210	0.854	-0.120	0.071	-0.038	-5	181
RFS RFS APXV9TM14-	120.00	165	0.854	-0.120	0.071	-0.038	-4	142
RFS APXVSPP18-C-A20	120.00	171	0.854	-0.120	0.071	-0.038	-4	147
Round Low Profile PI	120.00	1,500	0.854	-0.120	0.071	-0.038	-38	1,291
PCTEL GPS-TMG-HR-	20.00	1	0.024	0.066	0.039	0.042	0	1
Standoff	20.00	75	0.024	0.066	0.039	0.042	2	65
		63,949	90.792	24.002	27.278	6.887	2,150	55,058

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:29 PM

Customer: VERIZON WIRELESS

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	-76.69	-2.14	0.00	-262.49	0.00	262.49	6,201.63	3,100.82	18,267.6	9,147.40	0.00	0.00	0.041
5.00	-74.19	-2.11	0.00	-251.81	0.00	251.81	6,145.05	3,072.53	17,781.1	8,903.77	0.00	-0.01	0.040
10.00	-71.72	-2.07	0.00	-241.27	0.00	241.27	6,086.60	3,043.30	17,295.1	8,660.43	0.01	-0.01	0.040
15.00	-69.29	-2.02	0.00	-230.94	0.00	230.94	6,026.28	3,013.14	16,810.0	8,417.51	0.03	-0.02	0.039
20.00	-66.80	-1.97	0.00	-220.84	0.00	220.84	5,964.08	2,982.04	16,326.1	8,175.18	0.05	-0.02	0.038
25.00	-64.44	-1.92	0.00	-211.00	0.00	211.00	5,900.01	2,950.01	15,843.6	7,933.57	0.08	-0.03	0.038
30.00	-62.12	-1.86	0.00	-201.42	0.00	201.42	5,834.07	2,917.04	15,362.8	7,692.84	0.11	-0.04	0.037
35.00	-59.84	-1.81	0.00	-192.11	0.00	192.11	5,766.26	2,883.13	14,884.1	7,453.12	0.15	-0.04	0.036
40.00	-57.59	-1.75	0.00	-183.06	0.00	183.06	5,696.58	2,848.29	14,407.7	7,214.56	0.20	-0.05	0.035
45.00	-53.86	-1.66	0.00	-174.29	0.00	174.29	5,625.02	2,812.51	13,933.9	6,977.32	0.25	-0.05	0.035
50.00	-51.66	-1.60	0.00	-166.01	0.00	166.01	5,551.60	2,775.80	13,463.0	6,741.53	0.31	-0.06	0.034
53.00	-50.88	-1.58	0.00	-161.21	0.00	161.21	4,466.37	2,233.18	10,853.4	5,434.80	0.35	-0.06	0.041
55.00	-48.96	-1.53	0.00	-158.05	0.00	158.05	4,445.78	2,222.89	10,710.8	5,363.40	0.37	-0.07	0.040
60.00	-47.08	-1.48	0.00	-150.40	0.00	150.40	4,392.99	2,196.49	10,355.0	5,185.21	0.45	-0.07	0.040
65.00	-45.22	-1.44	0.00	-142.99	0.00	142.99	4,338.33	2,169.16	10,000.3	5,007.61	0.53	-0.08	0.039
70.00	-43.40	-1.40	0.00	-135.81	0.00	135.81	4,281.80	2,140.90	9,647.15	4,830.75	0.62	-0.09	0.038
75.00	-41.61	-1.36	0.00	-128.83	0.00	128.83	4,223.39	2,111.70	9,295.72	4,654.77	0.71	-0.10	0.038
80.00	-39.85	-1.33	0.00	-122.03	0.00	122.03	4,163.12	2,081.56	8,946.35	4,479.82	0.82	-0.10	0.037
85.00	-38.12	-1.32	0.00	-115.36	0.00	115.36	4,100.97	2,050.48	8,599.32	4,306.05	0.93	-0.11	0.036
90.00	-37.63	-1.32	0.00	-108.78	0.00	108.78	4,036.95	2,018.47	8,254.94	4,133.61	1.05	-0.12	0.036
91.42	-35.67	-1.31	0.00	-106.91	0.00	106.91	4,018.47	2,009.23	8,157.89	4,085.01	1.09	-0.12	0.035
95.00	-34.06	-1.31	0.00	-102.23	0.00	102.23	3,971.06	1,985.53	7,913.50	3,962.63	1.18	-0.13	0.034
98.00	-33.47	-1.31	0.00	-98.30	0.00	98.30	3,074.73	1,537.36	6,126.65	3,067.88	1.27	-0.13	0.043
100.00	-32.02	-1.33	0.00	-95.67	0.00	95.67	3,057.08	1,528.54	6,027.83	3,018.39	1.32	-0.14	0.042
105.00	-30.59	-1.35	0.00	-89.03	0.00	89.03	3,011.64	1,505.82	5,781.46	2,895.03	1.47	-0.15	0.041
110.00	-29.19	-1.38	0.00	-82.27	0.00	82.27	2,964.33	1,482.16	5,536.34	2,772.28	1.63	-0.16	0.040
115.00	-27.81	-1.41	0.00	-75.37	0.00	75.37	2,915.15	1,457.57	5,292.74	2,650.30	1.80	-0.16	0.038
120.00	-23.53	-1.49	0.00	-68.32	0.00	68.32	2,864.09	1,432.05	5,050.96	2,529.23	1.97	-0.17	0.035
125.00	-22.75	-1.50	0.00	-60.88	0.00	60.88	2,811.17	1,405.58	4,811.29	2,409.22	2.16	-0.18	0.033
128.00	-22.15	-1.51	0.00	-56.38	0.00	56.38	2,778.51	1,389.26	4,668.62	2,337.78	2.28	-0.19	0.032
130.00	-20.91	-1.52	0.00	-53.36	0.00	53.36	2,756.37	1,378.18	4,574.03	2,290.41	2.36	-0.19	0.031
135.00	-20.18	-1.52	0.00	-45.76	0.00	45.76	2,699.70	1,349.85	4,339.46	2,172.95	2.57	-0.20	0.029
138.00	-16.46	-1.50	0.00	-41.21	0.00	41.21	2,664.80	1,332.40	4,200.13	2,103.19	2.69	-0.21	0.026
139.33	-16.22	-1.49	0.00	-39.21	0.00	39.21	2,649.07	1,324.54	4,138.57	2,072.36	2.75	-0.21	0.025
140.00	-14.71	-1.47	0.00	-38.22	0.00	38.22	2,641.16	1,320.58	4,107.88	2,056.99	2.78	-0.21	0.024
144.42	-14.60	-1.47	0.00	-31.73	0.00	31.73	1,927.04	963.52	2,958.38	1,481.39	2.98	-0.22	0.029
145.00	-13.69	-1.44	0.00	-30.87	0.00	30.87	1,922.70	961.35	2,940.04	1,472.21	3.00	-0.22	0.028
150.00	-9.98	-1.27	0.00	-23.69	0.00	23.69	1,884.42	942.21	2,783.42	1,393.78	3.24	-0.22	0.022
155.00	-9.18	-1.21	0.00	-17.36	0.00	17.36	1,844.28	922.14	2,628.12	1,316.02	3.48	-0.23	0.018
160.00	-4.89	-0.82	0.00	-11.32	0.00	11.32	1,802.26	901.13	2,474.43	1,239.06	3.72	-0.24	0.012
163.00	-4.63	-0.80	0.00	-8.85	0.00	8.85	1,776.15	888.08	2,383.11	1,193.33	3.87	-0.24	0.010
165.00	-4.39	-0.77	0.00	-7.26	0.00	7.26	1,758.37	879.19	2,322.64	1,163.05	3.97	-0.24	0.009
167.00	-3.02	-0.59	0.00	-5.73	0.00	5.73	1,740.29	870.15	2,262.53	1,132.94	4.07	-0.24	0.007
170.00	-2.45	-0.50	0.00	-3.96	0.00	3.96	1,712.61	856.30	2,173.05	1,088.14	4.22	-0.24	0.005
175.00	-2.06	-0.42	0.00	-1.48	0.00	1.48	1,664.97	832.49	2,025.94	1,014.48	4.47	-0.24	0.003
178.50	0.00	-0.41	0.00	0.00	0.00	0.00	1,630.52	815.26	1,924.60	963.73	4.65	-0.24	0.000

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:29 PM

Customer: VERIZON WIRELESS

**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	-53.29	-2.14	0.00	-259.58	0.00	259.58	6,201.63	3,100.82	18,267.6	9,147.40	0.00	0.00	0.037
5.00	-51.55	-2.10	0.00	-248.91	0.00	248.91	6,145.05	3,072.53	17,781.1	8,903.77	0.00	-0.01	0.036
10.00	-49.83	-2.06	0.00	-238.39	0.00	238.39	6,086.60	3,043.30	17,295.1	8,660.43	0.01	-0.01	0.036
15.00	-48.14	-2.01	0.00	-228.08	0.00	228.08	6,026.28	3,013.14	16,810.0	8,417.51	0.03	-0.02	0.035
20.00	-46.42	-1.96	0.00	-218.02	0.00	218.02	5,964.08	2,982.04	16,326.1	8,175.18	0.05	-0.02	0.034
25.00	-44.78	-1.90	0.00	-208.23	0.00	208.23	5,900.01	2,950.01	15,843.6	7,933.57	0.08	-0.03	0.034
30.00	-43.16	-1.85	0.00	-198.70	0.00	198.70	5,834.07	2,917.04	15,362.8	7,692.84	0.11	-0.03	0.033
35.00	-41.58	-1.79	0.00	-189.45	0.00	189.45	5,766.26	2,883.13	14,884.1	7,453.12	0.15	-0.04	0.033
40.00	-40.02	-1.74	0.00	-180.48	0.00	180.48	5,696.58	2,848.29	14,407.7	7,214.56	0.19	-0.05	0.032
45.00	-37.43	-1.64	0.00	-171.79	0.00	171.79	5,625.02	2,812.51	13,933.9	6,977.32	0.25	-0.05	0.031
50.00	-35.90	-1.58	0.00	-163.59	0.00	163.59	5,551.60	2,775.80	13,463.0	6,741.53	0.30	-0.06	0.031
53.00	-35.36	-1.56	0.00	-158.84	0.00	158.84	4,466.37	2,233.18	10,853.4	5,434.80	0.34	-0.06	0.037
55.00	-34.02	-1.51	0.00	-155.72	0.00	155.72	4,445.78	2,222.89	10,710.8	5,363.40	0.37	-0.07	0.037
60.00	-32.71	-1.46	0.00	-148.16	0.00	148.16	4,392.99	2,196.49	10,355.0	5,185.21	0.44	-0.07	0.036
65.00	-31.42	-1.42	0.00	-140.85	0.00	140.85	4,338.33	2,169.16	10,000.3	5,007.61	0.52	-0.08	0.035
70.00	-30.16	-1.37	0.00	-133.78	0.00	133.78	4,281.80	2,140.90	9,647.15	4,830.75	0.61	-0.09	0.035
75.00	-28.91	-1.34	0.00	-126.91	0.00	126.91	4,223.39	2,111.70	9,295.72	4,654.77	0.71	-0.09	0.034
80.00	-27.69	-1.31	0.00	-120.22	0.00	120.22	4,163.12	2,081.56	8,946.35	4,479.82	0.81	-0.10	0.033
85.00	-26.48	-1.29	0.00	-113.67	0.00	113.67	4,100.97	2,050.48	8,599.32	4,306.05	0.92	-0.11	0.033
90.00	-26.15	-1.29	0.00	-107.21	0.00	107.21	4,036.95	2,018.47	8,254.94	4,133.61	1.04	-0.12	0.032
91.42	-24.79	-1.28	0.00	-105.38	0.00	105.38	4,018.47	2,009.23	8,157.89	4,085.01	1.08	-0.12	0.032
95.00	-23.67	-1.29	0.00	-100.78	0.00	100.78	3,971.06	1,985.53	7,913.50	3,962.63	1.17	-0.13	0.031
98.00	-23.26	-1.29	0.00	-96.92	0.00	96.92	3,074.73	1,537.36	6,126.65	3,067.88	1.25	-0.13	0.039
100.00	-22.25	-1.30	0.00	-94.35	0.00	94.35	3,057.08	1,528.54	6,027.83	3,018.39	1.30	-0.13	0.039
105.00	-21.25	-1.33	0.00	-87.83	0.00	87.83	3,011.64	1,505.82	5,781.46	2,895.03	1.45	-0.14	0.037
110.00	-20.28	-1.35	0.00	-81.19	0.00	81.19	2,964.33	1,482.16	5,536.34	2,772.28	1.61	-0.15	0.036
115.00	-19.32	-1.38	0.00	-74.42	0.00	74.42	2,915.15	1,457.57	5,292.74	2,650.30	1.77	-0.16	0.035
120.00	-16.35	-1.46	0.00	-67.50	0.00	67.50	2,864.09	1,432.05	5,050.96	2,529.23	1.95	-0.17	0.032
125.00	-15.81	-1.48	0.00	-60.18	0.00	60.18	2,811.17	1,405.58	4,811.29	2,409.22	2.13	-0.18	0.031
128.00	-15.39	-1.49	0.00	-55.74	0.00	55.74	2,778.51	1,389.26	4,668.62	2,337.78	2.25	-0.19	0.029
130.00	-14.53	-1.50	0.00	-52.77	0.00	52.77	2,756.37	1,378.18	4,574.03	2,290.41	2.33	-0.19	0.028
135.00	-14.02	-1.50	0.00	-45.29	0.00	45.29	2,699.70	1,349.85	4,339.46	2,172.95	2.53	-0.20	0.026
138.00	-11.43	-1.48	0.00	-40.80	0.00	40.80	2,664.80	1,332.40	4,200.13	2,103.19	2.66	-0.20	0.024
139.33	-11.27	-1.48	0.00	-38.83	0.00	38.83	2,649.07	1,324.54	4,138.57	2,072.36	2.71	-0.21	0.023
140.00	-10.22	-1.45	0.00	-37.85	0.00	37.85	2,641.16	1,320.58	4,107.88	2,056.99	2.74	-0.21	0.022
144.42	-10.15	-1.45	0.00	-31.44	0.00	31.44	1,927.04	963.52	2,958.38	1,481.39	2.94	-0.21	0.026
145.00	-9.51	-1.42	0.00	-30.59	0.00	30.59	1,922.70	961.35	2,940.04	1,472.21	2.96	-0.21	0.026
150.00	-6.93	-1.25	0.00	-23.49	0.00	23.49	1,884.42	942.21	2,783.42	1,393.78	3.19	-0.22	0.021
155.00	-6.38	-1.19	0.00	-17.22	0.00	17.22	1,844.28	922.14	2,628.12	1,316.02	3.43	-0.23	0.017
160.00	-3.40	-0.82	0.00	-11.24	0.00	11.24	1,802.26	901.13	2,474.43	1,239.06	3.67	-0.23	0.011
163.00	-3.21	-0.79	0.00	-8.79	0.00	8.79	1,776.15	888.08	2,383.11	1,193.33	3.82	-0.23	0.009
165.00	-3.05	-0.76	0.00	-7.21	0.00	7.21	1,758.37	879.19	2,322.64	1,163.05	3.92	-0.24	0.008
167.00	-2.09	-0.58	0.00	-5.69	0.00	5.69	1,740.29	870.15	2,262.53	1,132.94	4.01	-0.24	0.006
170.00	-1.70	-0.49	0.00	-3.94	0.00	3.94	1,712.61	856.30	2,173.05	1,088.14	4.16	-0.24	0.005
175.00	-1.43	-0.42	0.00	-1.47	0.00	1.47	1,664.97	832.49	2,025.94	1,014.48	4.41	-0.24	0.002
178.50	0.00	-0.41	0.00	0.00	0.00	0.00	1,630.52	815.26	1,924.60	963.73	4.59	-0.24	0.000

Site Number: 302467

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Bilkays Express, CT

Engineering Number: OAA724292\_C3\_01

2/8/2018 12:22:29 PM

Customer: VERIZON WIRELESS

### Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	35.88	0.00	76.71	0.00	0.00	4378.44	0.00	0.49
0.9D + 1.6W	35.30	0.00	57.52	0.00	0.00	4276.97	0.00	0.48
1.2D + 1.0Di + 1.0Wi	9.90	0.00	125.01	0.00	0.00	1191.58	0.00	0.15
(1.2 + 0.2Sds) * DL + E ELFM	2.00	0.00	76.69	0.00	0.00	270.89	0.00	0.04
(1.2 + 0.2Sds) * DL + E EMAM	2.14	0.00	76.69	0.00	0.00	262.49	98.00	0.04
(0.9 - 0.2Sds) * DL + E ELFM	2.00	0.00	53.29	0.00	0.00	268.07	0.00	0.04
(0.9 - 0.2Sds) * DL + E EMAM	2.14	0.00	53.29	0.00	0.00	259.58	98.00	0.04
1.0D + 1.0W	8.44	0.00	63.95	0.00	0.00	1025.88	0.00	0.12



Site Name: Bilkays Express, CT  
 Site Number: 302467  
 Engineer: Peter.Giordano  
 Engineering Number: OAA724292  
 Date: 02/08/18

Program Last Updated: 5/13/2014  
 American Tower Corporation

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

Analyze or Design a Foundation?

Analyze  
 N  
 4378.4 k-ft  
 35.9 k  
 76.7 k  
 0.0 k  
 MP

Foundation Mapped:

Moment (M):

Shear/Leg (V):

Axial Load (P):

Uplift/Leg (U):

Tower Type (GT / SST / MP):

Diameter of Caisson (d):

Caisson Embedment (L-h):

Caisson Height Above Ground (h):

Depth Below Ground Surface to Water Table (w):

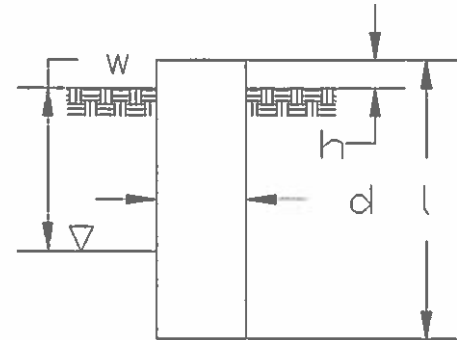
Unit Weight of Concrete:

Unit Weight of Water:

Tension Skin Friction/Compression Skin Friction:

Pullout Angle:

8.5 ft  
 29.5 ft  
 0.5 ft  
 6.0 ft  
 150.0 pcf  
 62.4 pcf  
 0.75  
 30.0 degrees



Engineer Notes

**Soil Mechanical Properties**

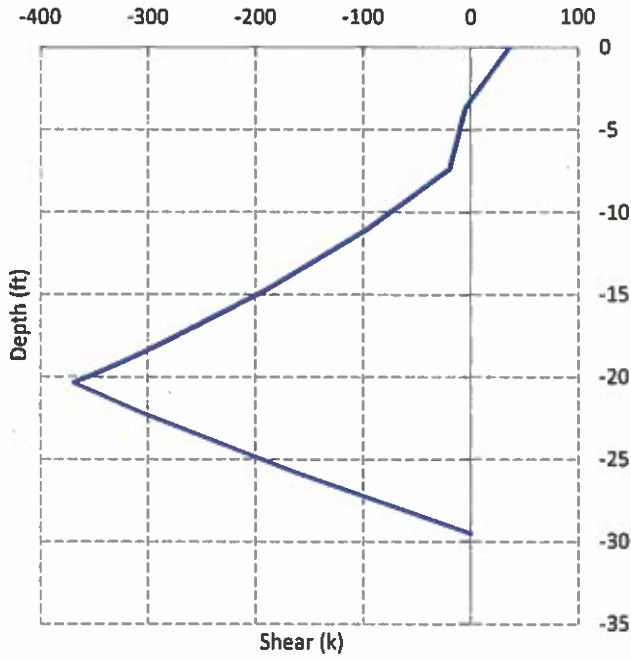
Depth (ft)		$\gamma_{soil}$ (pcf)	Cohesion (psf)	$\phi$ (degree)	Ultimate Skin Friction (psf)	Ultimate Bearing Pressure (psf)
Top	Bottom					
0.0	5.0	120	0	0	0	
5.0	15.0	122	0	34	480	
15.0	20.0	122	0	34	690	
20.0	30.5	122	0	34	820	
					5000	

Required Embedment: 21.8 ft - OK, Caisson Embedment Satisfactory  
 Volume of Concrete: 1702.4 ft<sup>3</sup> = 63.1 yd<sup>3</sup>  
 Weight of Concrete (Buoyancy Effect Considered): 172.1 k  
 Average Soil Unit Weight: 72.0 pcf  
 Skin Friction Resistance: 428.3 k  
 Compressive Bearing Resistance: 283.7 k  
 Pullout Weight (Minus Concrete Weight): 1127.5 k  
 Nominal Uplift Capacity per Leg ( $\phi_s T_n$ ): 370.0 k  
 Nominal Compressive Capacity per Leg ( $\phi_s P_n$ ): 534.0 k  
 $P_u$ : 133.6 k  
 $T_u / \phi_s T_n$ : 0.00 Result: OK  
 $P_u / \phi_s P_n$ : 0.25 Result: OK  
 Total Lateral Resistance: 2700.8 k  
 Inflection Point (Below Ground Surface): 20.4 ft  
 Design Overturning Moment At Inflection Point ( $M_b$ ): 5127.4 k-ft  
 Nominal Moment Capacity ( $\phi_s M_n$ ): 11292.1 k-ft  
 $M_b / \phi_s M_n$ : 0.45 Result: OK  
 $\phi_s$ : 0.75

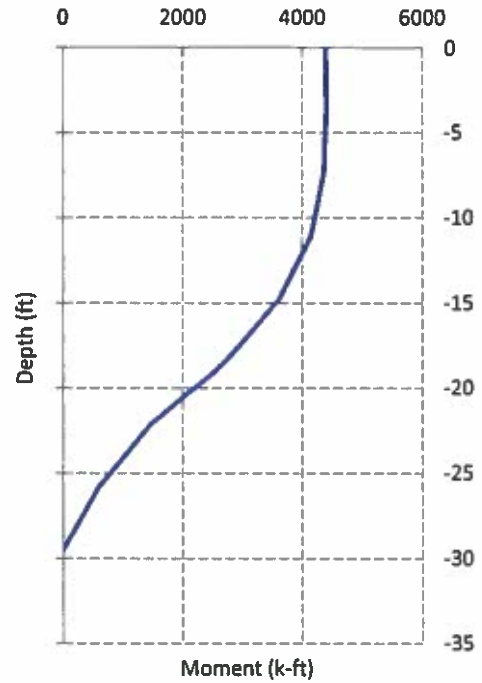
## Caisson Strength Capacity

Concrete Compressive Strength ( $f'_c$ ):	3000 psi
Vertical Steel Rebar Size #:	11
Vertical Steel Rebar Area:	1.56 in <sup>2</sup>
# of Vertical Steel Rebars:	27
Vertical Steel Rebar Yield Strength ( $F_y$ ):	60 ksi
Horizontal Tie / Stirrup Size #:	5
Horizontal Tie / Stirrup Area:	0.31 in <sup>2</sup>
Design Horizontal Tie / Stirrup Spacing:	18.0 in
Horizontal Tie / Stirrup Steel Yield Strength ( $F_y$ ):	60 ksi
Rebar Cage Diameter:	94.0 in
Strength Bending/Tension Reduction Factor ( $\phi_B$ ):	0.90 ACI318-05 - 9.3.2.1
Strength Shear Reduction Factor ( $\phi_V$ ):	0.85 ACI318-05 - 9.3.2.3
Strength Compression Reduction Factor ( $\phi_C$ ):	0.65 ACI318-05 - 9.3.2.2
Steel Elastic Modulus:	29000 ksi
Design Moment ( $M_u$ ):	4405.5 k-ft
Nominal Moment Capacity ( $\phi_B M_n$ ):	8066.2 k-ft - ACI318-005 - 10.2
$M_u/\phi_B M_n$ :	0.55 Result: OK
Design Shear ( $V_u$ ):	369.1 k
Nominal Shear Capacity ( $\phi_V V_n$ ):	764.4 k - ACI318-05 - 11.3.1.1 or 11.5.7.2
$V_u/\phi_V V_n$ :	0.48 Result: OK
Design Tension ( $T_u$ ):	0.0 k
Nominal Tension Capacity ( $\phi_T T_n$ ):	2274.5 k - ACI318-05 - 10.2
$T_u/\phi_T T_n$ :	0.00 Result: OK
Design Compression ( $P_u$ ):	133.6 k
Nominal Compression Capacity ( $\phi_P P_n$ ):	10779.3 k - ACI318-05 - 10.3.6.2
$P_u/\phi_P P_n$ :	0.01 Result: OK
Bending Reinforcement Ratio:	0.005 ACI318-05 - 10.8.4 & 10.9.1
$M_u/\phi_B M_n + T_u/\phi_T T_n$ :	0.55 Result: OK

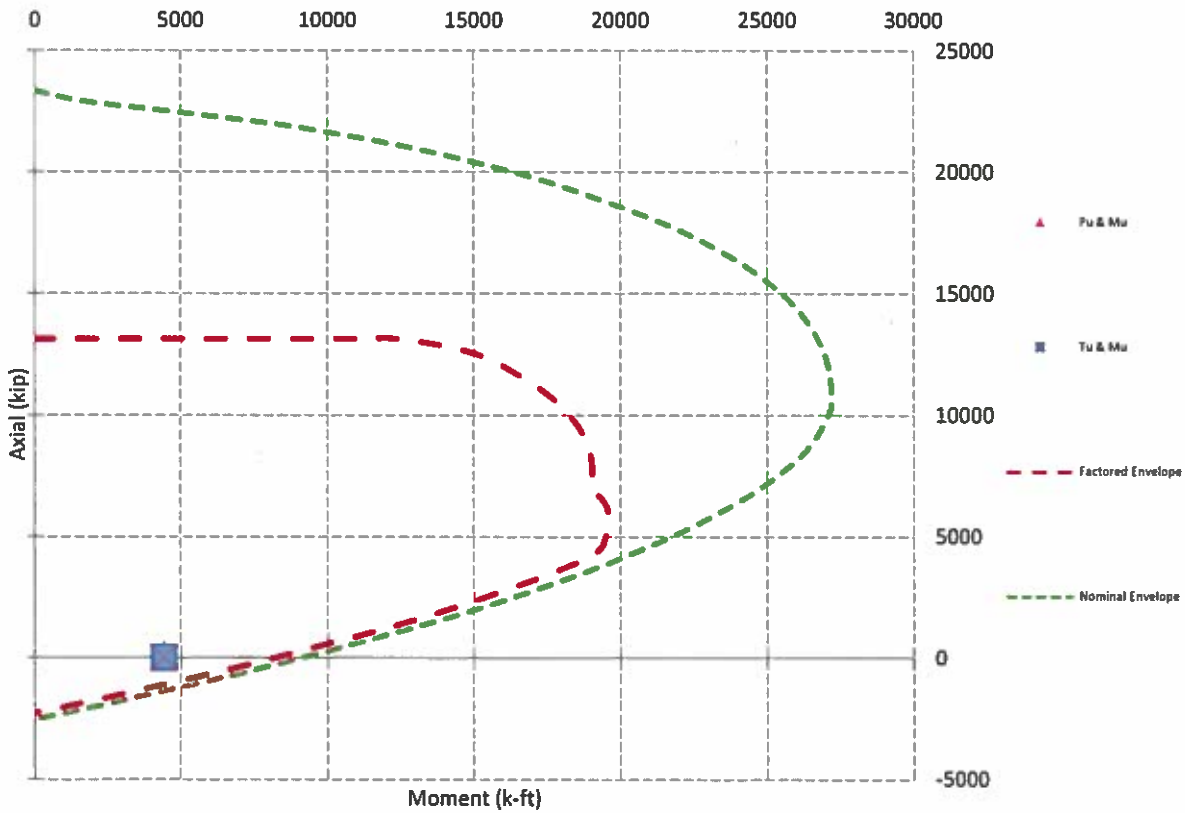
Design Factored Shear / Depth



Design Factored Moment / Depth



Nominal and Factored Moment Capacity and Factored Design Loads



Site Number: 302467  
 Site Name: Bilkays Express, CT  
 Job Number: OAA724292  
 Engineer: Peter.Giordano  
 Date: 2/8/2018

Last Updated: 9/1/2017

**Base Plate and Bolt Analysis**

Moment: 4378.4 k-ft  
 Shear/Leg: 35.9 k  
 Compression/Leg: 76.7 k

TIA-222 Code Revision (F/G):

Anchor Bolt Arrangement: Round  
 Monopole Shaft Diameter (Across Flats): 72.0 in  
 Lower Monopole Thickness: 0.438 in  
 # of Sides of Pole: 18  
 Monopole Shaft Yield Strength: 65 ksi  
 Baseplate Diameter / Length: 85.00  
 Base Plate Thickness: 2.75 in  
 Base Plate Yield Strength: 60 ksi  
 Baseplate Detail Type: D  
 Include Plate Thickness Beyond Bolt Circle: Y  
 Stress Increase: 1.00  
 Fillet Weld Size: 0.313 in  
 Weld Type (CJP or F/F): CJP  
 Weld Strength: 70 ksi

**Anchor Bolts**

Anchor Bolt Yield Strength: 75 ksi  
 Anchor Bolt Ultimate Strength: 100 ksi  
 Anchor Bolt Diameter: 2.25 in  
 Anchor Bolt Circle: 79.00 in  
 # of Anchor Bolts: 20  
 Minimum Anchor Bolt Separation: 6.00 in  
 Additional Anchor Bolts Installed: N

Failure Mode:	Effective Width (in)	Moment (k-in)	Baseplate Flexural Capacity			Baseplate Shear Capacity			
			S/Z (in <sup>2</sup> )	Capacity (k-in)	Usage	Shear (k)	Area (in <sup>2</sup> )	Capacity (k)	Usage
AA	38.01	887.1	71.9	3880.7	0.23	397.4	104.5	3386.8	0.12
BA	35.43	666.4	67.0	3617.2	0.18	397.4	97.4	3156.8	0.13
AB	43.52	1384.6	82.3	4443.1	0.31	397.4	119.7	3877.7	0.10
BB	40.73	1214.8	77.0	4158.7	0.29	397.4	112.0	3629.4	0.11

**Anchor Bolt Capacity**

Area of Bolt: 3.25 in<sup>2</sup>  
 Inertia of Bolt: 0.84 in<sup>4</sup>  
 Total Bolt Inertia: 50688.7 in<sup>4</sup>  
 Maximum Bolt Tension: 129.1 k  
 Maximum Bolt Compression: 136.8 k  
 Bolt Shear: 1.8 k  
 Tensile Bolt Capacity: 259.8 k  
 Compressive Bolt Capacity: 259.8 k  
 Shear Bolt Capacity: 140.3 k  
 Interaction Equation: 0.54 Result: OK

**Base Weld Capacity**

Force / Weld: 10.3 k/in  
 Weld Capacity: 30.2 k/in  
 Interaction Equation: 0.34 Result: OK

Site Name: **WALLINGFORD 3 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 <sup>2</sup> )	(mW/cm <sup>2</sup> )	(%)
VZW 700	746	1	953	953	138	0.0180	0.4973	3.62%
VZW 850 LTE	869	1	1451	1451	138	0.0274	0.5793	4.73%
VZW Cellular	876	3	393	1178	138	0.0223	0.5840	3.81%
VZW PCS	1970	1	2254	2254	138	0.0426	1.0000	4.26%
VZW AWS	2145	1	3304	3304	138	0.0624	1.0000	6.24%

**Total Percentage of Maximum Permissible Exposure**

22.65%

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

MHz = Megahertz

mW/cm<sup>2</sup> = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.

Property Location: 90 NORTH PLAINS IND RD  
 Vision ID: 15720

Account # B0423200

MAP ID: 63 / 15 / 1

Bldg #: 1 of 1

Bldg Name:

Sec #: 1 of 1 Card 1 of 1

State Use: 3140

Print Date: 02/16/2018 14:20

CURRENT OWNER		TOPO.	UTILITIES	STRT./ROAD	LOCATION	CURRENT ASSESSMENT			
R L R INVESTMENTS LLC		1 Level	2 Public Water	1 Paved	5 Industrial	Description	Code	Appraised Value	Assessed Value
600 GILLAM RD						COM LAND	2-1	306,900	214,800
WILMINGTON, OH 45177						COM BLDG	2-2	1,165,800	816,100
Additional Owners:						COM OUTBL	2-5	231,800	162,300
						UTL LAND	4-1	200,000	140,000
<b>SUPPLEMENTAL DATA</b>									
Other ID: 059001023A		P/Z MAP # 01-20							
Census: 1754		ENG MAP # 0-1231							
Old MBLU		Easement							
TC MAP #		Town Line?							
TC MAP #		IND PARKS IN							
Record Lot		ASSOC PID#							
GIS ID: 63/15					Total 1,904,500 1,333,200				

6148  
WALLINGFORD, CT

**VISION**

RECORD OF OWNERSHIP		BK-VOL/PAGE	SALE DATE	q/u	wt	SALE PRICE	V.C.	PREVIOUS ASSESSMENTS (HISTORY)										
R L R INVESTMENTS LLC		967/1109	09/12/2006		1	950,000		Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value		
BILKAYS EXPRESS CO		501/1027	09/11/1980			0		2017	2-1	214,800	2016	2-1	214,800	2015	2-1	214,800		
								2017	2-2	816,100	2016	2-2	816,100	2015	2-2	816,100		
								2017	2-5	162,300	2016	2-5	162,300	2015	2-5	162,300		
								2017	4-1	140,000	2016	4-1	140,000	2015	4-1	140,000		
Total:										1,333,200	Total:				1,333,200	Total:		1,333,200

EXEMPTIONS				OTHER ASSESSMENTS				This signature acknowledges a visit by a Data Collector or Assessor	
Year	Type	Description	Amount	Code	Description	Number	Amount	Comm. Int.	
Total:									

ASSESSING NEIGHBORHOOD					APPRAISED VALUE SUMMARY	
NBHD/ SUB	NBHD Name	Street Index Name	Tracing	Batch	Appraised Bldg. Value (Card)	1,089,000
I2/A					Appraised XF (B) Value (Bldg)	76,800
					Appraised OB (L) Value (Bldg)	231,800
					Appraised Land Value (Bldg)	506,900
					Special Land Value	0
					Total Appraised Parcel Value	1,904,500
					Valuation Method:	C
					Adjustment:	0
					Net Total Appraised Parcel Value	1,904,500

NOTES										VISIT/ CHANGE HISTORY					
E & L CARRIERS					COMMUN'S-888-773-2872					Date	Type	IS	ID	Cd	Purpose/Result
EAT = PROPANE					TANK=10000 GAL DIESEL=PP					07/10/2013	02		TH	63	Permit Check - No Measu
8X100 BAS-SHOP					TOWER BUILT 3/17/99					07/23/2010	02	8	DH	63	Permit Check - No Measu
EE PID 133726					EYB=ADD(2001,ORIG (1989) ECO=MKT					05/11/2010	03		KPC	29	Field Review
COMMUNICATIONS TOWER=5 SETS REPEATERS					ADDN-100 X 276 (2001)					07/27/2009	03		TH	00	Measur+Listed
-120' HT)-SPECTRASITE										07/20/2009	02	8	DH	63	Permit Check - No Measu

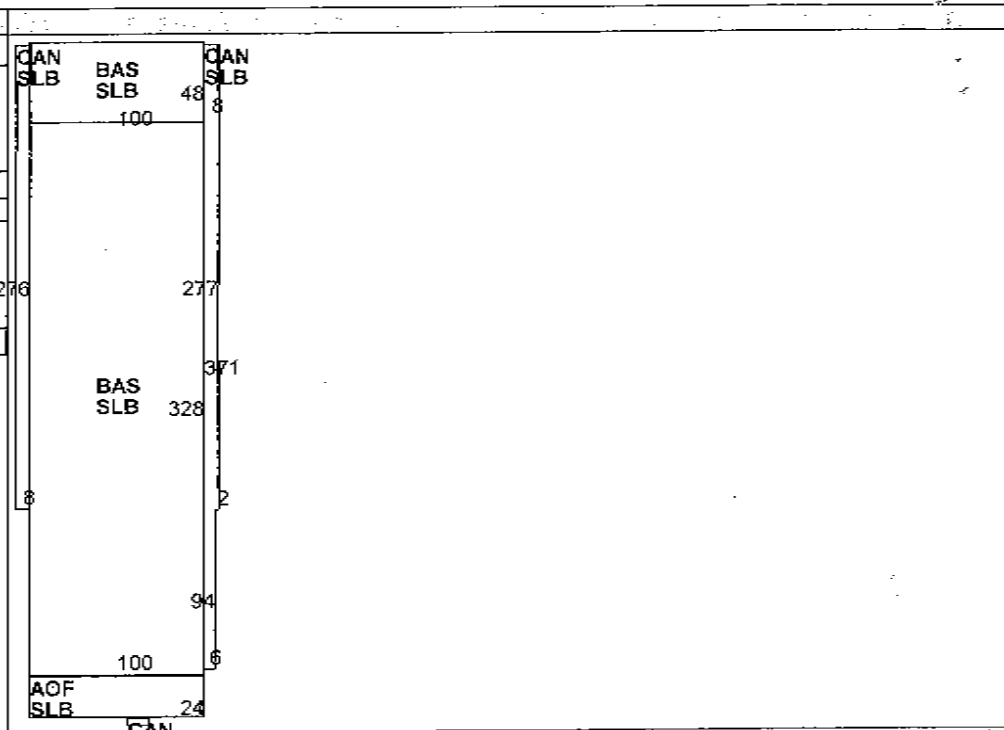
BUILDING PERMIT RECORD													LAND LINE VALUATION SECTION			
Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments	Date	Type	IS	ID	Cd	Purpose/Result		
27653	05/10/2013	CM	Commercial	15,000	07/10/2013	100		EQUIPMENT PADS	07/10/2013	02		TH	63	Permit Check - No Measu		
24344 CA	01/22/2010	CA	C - Approval	0	07/23/2010	100	10/29/2010		07/23/2010	02	8	DH	63	Permit Check - No Measu		
24344	01/22/2010	CM	Commercial	15,000	07/23/2010	100	10/29/2010	INSTALL 3 ANTENNAS	05/11/2010	03		KPC	29	Field Review		
23761 CA	05/19/2009	CA	C - Approval	0	07/20/2009	100	01/13/2010	C/A FOR BP #23761	07/27/2009	03		TH	00	Measur+Listed		
23761	05/19/2009	CM	Commercial	26,000	07/20/2009	100	07/20/2009	CHANGE EXISTING ANTENNAS	07/20/2009	02	8	DH	63	Permit Check - No Measu		
20960	08/31/2006	CM	Commercial	10,000	09/27/2006	100		Install new antennas								
14259 CO	07/12/2002	CC	C of C	1,155,000	09/05/2002	100	03/04/2002	C/C Addition to Termin								

Use Code	Use Description	Zone	D	Front	Depth	Units	Unit Price	I. Factor	S.A.	Acre Disc	C. Factor	ST. Lbx	Adj.	Notes- Adj	Special Pricing	S Adj Fact	Adj. Unit Price	Land Value
3140	TRK TERM M96	140				43,560 SF	2.76	1.0000	C	1.0000	1.00	C60	0.85	5X L/B		1.00	2.35	102,200
3140	TRK TERM M96	140				1.75 AC	120,200.00	1.0000	0	1.0000	1.00	C60	0.85			1.00	102,170.00	178,800
4310	TEL REL TW M96					1.00 BL	200,000.00	1.0000	0	1.0000	1.00		0.00	CELL SITE-2,500 SF		1.00	200,000.00	200,000
4310	TEL REL TW M96					2,500 SF	0.00	1.0000	0	1.0000	1.00		0.00	CELL SITE AREA			0.00	0
3140	TRK TERM M96					2.59 AC	10,000.00	1.0000	0	1.0000	1.00		0.00			1.00	10,000.00	25,900
Total Card Land Units: 5.40 AC Parcel Total Land Area: 5.4 AC																Total Land Value: 506,900		

No. 5295  
 P. 1  
 WFLD ASSESSORS OFFICE  
 5:00PM  
 Feb. 23, 2018

CONSTRUCTION DETAIL			CONSTRUCTION DETAIL (CONTINUED)				
Element	Cd	Ch	Description	Element	Cd	Ch	Description
Style	414		Warehouse				
Style	96		Ind/Comm				
Style	C+						
Style	1						
Occupancy	1						
Exterior Wall 1	20		Brick/Masonry				
Exterior Wall 2	27		Pre-finish Metl				
Roof Structure	03		Gable				
Roof Cover	01		Metal/Fin				
Interior Wall 1	01		Minim/Masonry				
Interior Wall 2							
Interior Floor 1	04		Concr Abv Grad				
Interior Floor 2							
Heating Fuel	03		Gas				
Heating Type	08		Radiant				
AC Type	06		Partial				
Bldg Use	3140		TRK TERM M96				
Total Rooms							
Total Bedrms	00						
Total Baths	0						
Heat/AC	00		Heat/Min				
Heat Type	05		Steel				
Plumbing	02		Average				
Wall	04		Ceil & Min WL				
Partns	02		Average				
Height	14						
Roof Wall	0						



OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)												
Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Appr Value
	Lights-In w/PL			L	4	860.00	2001	C		A	50	1,700
	w/Double Light			L	1	1,400.00	2001	C		A	50	700
	Paving-Conc			L	40,10	3.50	2002	C		G	70	98,200
	Paving-Asphalt			L	67,00	3.00	2001	C		A	50	100,500
	Fence-6' Chain			L	1,900	11.00	2001	C		G	70	14,600
	Canopy-Comm			L	1,150	20.00	2001	C		G	70	16,100
	Air Condition			B	2,400	3.50	1987			I	100	6,000
	w/Man Lift Ou			B	53	1,100.00	1987			I	100	42,000
	Sprinklers Wet			B	40,00	1.00	1987			I	100	28,800

BUILDING SUB-AREA SUMMARY SECTION						
Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
	Office	2,400	2,400	3,120	47.12	113,088
	First Floor	37,600	37,600	37,600	36.25	1,362,850
	Canopy	0	5,036	1,007	7.25	36,500
	Slab	0	44,988	0	0.00	0
<b>Ttl Gross Liv/Lease Area:</b>		<b>40,000</b>	<b>90,024</b>	<b>41,727</b>		<b>1,512,437</b>

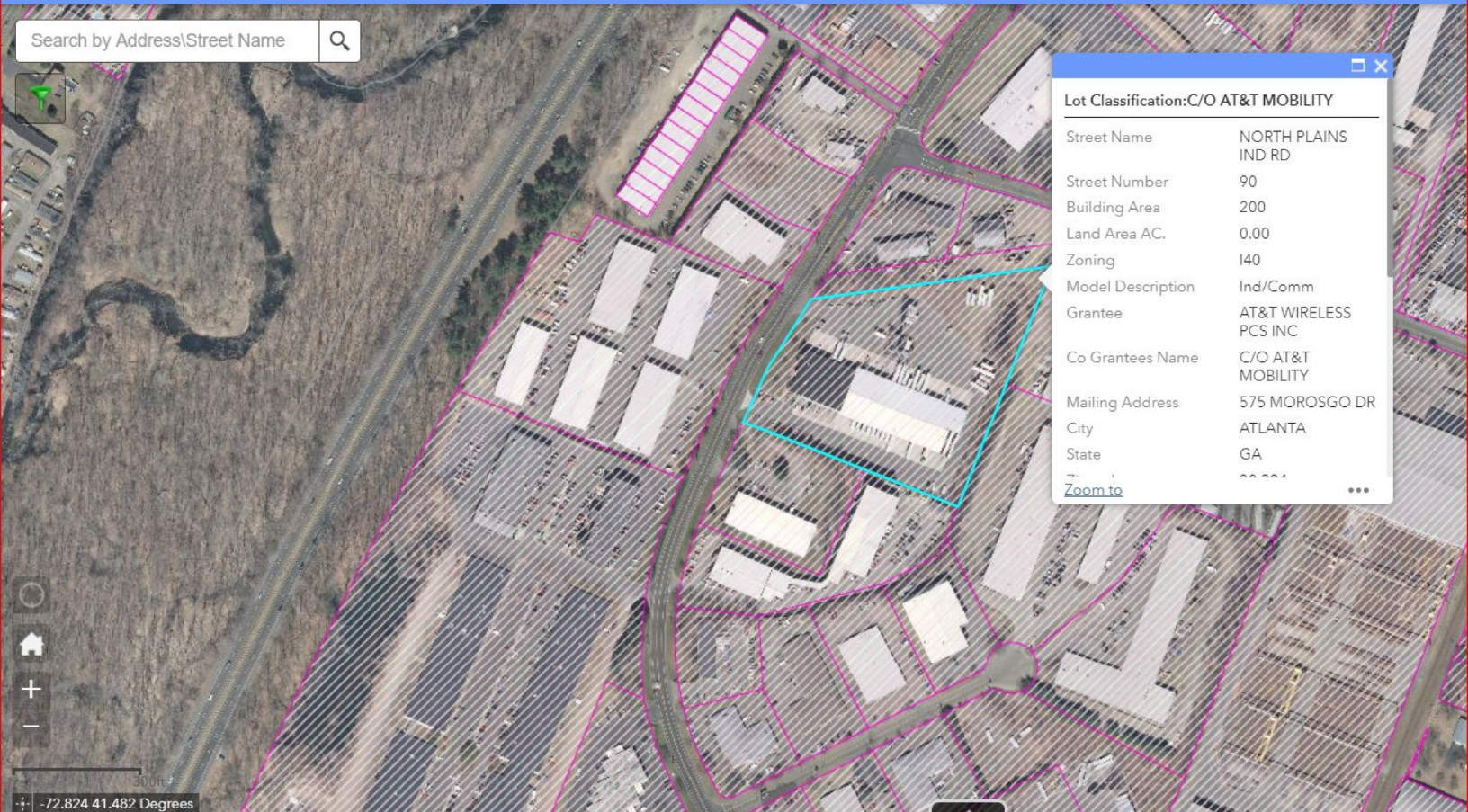


Feb. 23, 2018

5:00PM

ASSESSORS OFFICE

Search by Address\Street Name



**Lot Classification: C/O AT&T MOBILITY**

Street Name	NORTH PLAINS IND RD
Street Number	90
Building Area	200
Land Area AC.	0.00
Zoning	I40
Model Description	Ind/Comm
Grantee	AT&T WIRELESS PCS INC
Co Grantees Name	C/O AT&T MOBILITY
Mailing Address	575 MOROSGO DR
City	ATLANTA
State	GA
Zip	30324
<a href="#">Zoom to</a>	...

300ft  
-72.824 41.482 Degrees





VICINITY MAP



**AMERICAN TOWER®**

ATC SITE NAME: BILKAYS EXPRESS  
 ATC SITE NUMBER: 302467  
 VERIZON SITE NAME: WALLINGFORD 3 CT  
 SITE ADDRESS: 90 N PLAINS INDUSTRIAL RD.  
 WALLINGFORD, CT 06492



LOCATION MAP

**VERIZON WIRELESS  
 ANTENNA AMENDMENT DRAWINGS**

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

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

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	SF	02/05/18
1	UPDATE ANTENNA CONFIG	JDC	02/09/18

ATC SITE NUMBER:  
**302467**  
 ATC SITE NAME:  
**BILKAYS EXPRESS**  
 SITE ADDRESS  
 90 N PLAINS INDUSTRIAL RD.  
 WALLINGFORD, CT 06492



Authorized by "EOR"  
 Feb 9 2018 3:18 PM cosign



DRAWN BY:	SF
APPROVED BY:	PPB
DATE DRAWN:	02/05/18
ATC JOB NO:	12157431
CUSTOMER ID:	WALLINGFORD 3 CT
CUSTOMER #:	2559311

**COVER SHEET**  
 SHEET NUMBER:  
**G-001**  
 REVISION:  
**1**

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.  1. INTERNATIONAL BUILDING CODE (IBC) 2. NATIONAL ELECTRIC CODE (NEC) 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 90 N PLAINS INDUSTRIAL RD. WALLINGFORD, CT 06492 COUNTY: NEW HAVEN <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41.48076 LONGITUDE: -72.8177 GROUND ELEVATION: 57' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:  REMOVE (6) PANELS AND (3) RRU's AND (6) 1-5/8" COAX CABLES  INSTALL (6) NEW PANELS AND (6) RRU's  EXISTING (6) PANELS, (6) RRU's (18) 1-5/8" COAX CABLES, (2) 1-5/8" HYBRID CABLES, AND (2) OVP's TO REMAIN	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
		<u>PROJECT NOTES</u>  1. THE FACILITY IS UNMANNED. 2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. 3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. 4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. 5. HANDICAP ACCESS IS NOT REQUIRED.	G-001	COVER SHEET	1	02/09/18	JDC
		<u>PROJECT TEAM</u>  <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801  <u>ENGINEER:</u> ATC TOWER SERVICES, LLC 3500 REGENCY PKWY STE 100 CARY, NC 27518  <u>PROPERTY OWNER:</u> R L R INVESTMENTS LLC 600 GILLIAN RD WILMINGTON, OH 45177  <u>APPLICANT:</u> VERIZON WIRELESS 99 EAST RIVER DRIVE, 9TH FLOOR EAST HARTFORD, CT 06108	<u>PROJECT LOCATION DIRECTIONS</u>  FROM HARTFORD, CT:  TAKE I-91 SOUTH TO EXIT 15. TURN RIGHT ONTO RT 68 FOLLOW OVER RT 5 AND TURN LEFT ON NORTH INDUSTRIAL PLAINS ROAD. TOWER IS DOWN ON LEFT IN TRUCKING COMPANY COMPOUND.	G-002	GENERAL NOTES	0	02/05/18
UTILITY COMPANIES  POWER COMPANY: WALLINGFORD ELECTRIC PHONE: (203) 294-2020  TELEPHONE COMPANY: FRONTIER PHONE: (877) 870-4601			C-101	DETAILED SITE PLAN AND TOWER ELEVATION	1	02/09/18	JDC
			C-501	RF SCHEDULE AND ANTENNA INSTALLATION	1	02/09/18	JDC
			C-502	CONSTRUCTION DETAILS	0	02/05/18	SF



Copyright © 2018 ATC IP LLC. All Rights Reserved.

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

**STRUCTURAL STEEL NOTES:**

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

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

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	SF	02/05/18

ATC SITE NUMBER:  
**302467**  
 ATC SITE NAME:  
**BILKAYS EXPRESS**  
 SITE ADDRESS:  
 90 N PLAINS INDUSTRIAL RD.  
 WALLINGFORD, CT 06492

SEAL:



Authorized by "EOR"  
 Feb 9 2018 3:18 PM



DRAWN BY:	SF
APPROVED BY:	PPB
DATE DRAWN:	02/05/18
ATC JOB NO:	12157431
CUSTOMER ID:	WALLINGFORD 3 CT
CUSTOMER #:	2559311

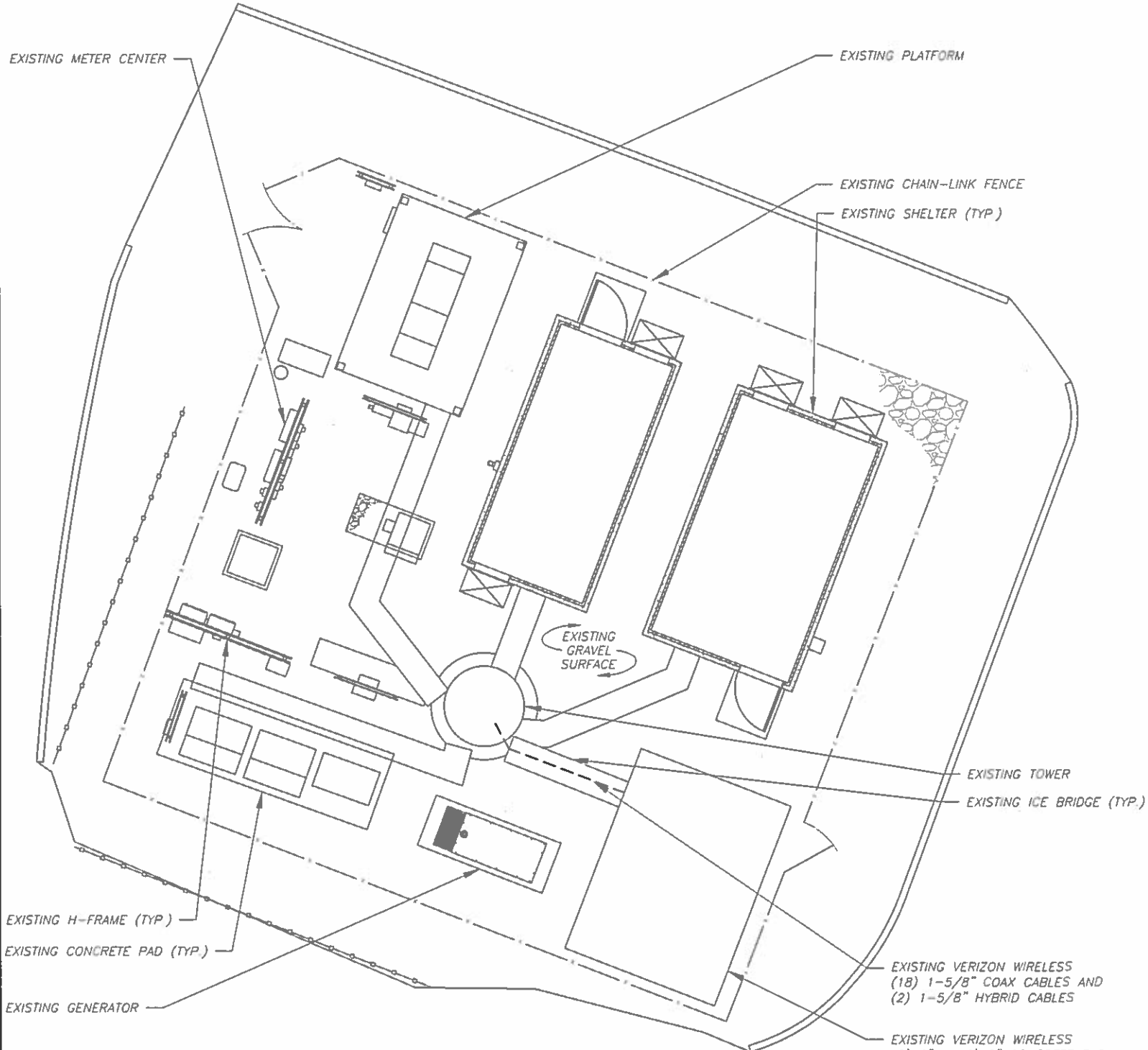
**GENERAL NOTES**

SHEET NUMBER:	REVISION:
<b>G-002</b>	<b>0</b>

Copyright © 2018 ATC IP, LLC. All Rights Reserved.

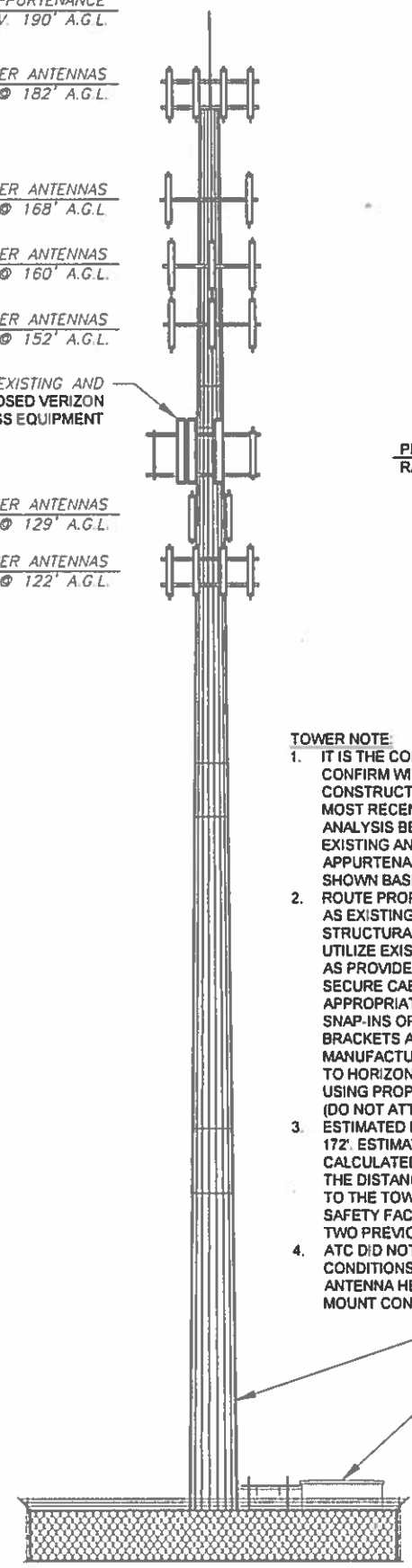
**SITE PLAN NOTES:**

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

- TOP OF EXISTING HIGHEST APPURTENANCE ELEV. 190' A.G.L.
- EXISTING CARRIER ANTENNAS RAD CENTER @ 182' A.G.L.
- EXISTING CARRIER ANTENNAS RAD CENTER @ 168' A.G.L.
- EXISTING CARRIER ANTENNAS RAD CENTER @ 160' A.G.L.
- EXISTING CARRIER ANTENNAS RAD CENTER @ 152' A.G.L.
- EXISTING AND PROPOSED VERIZON WIRELESS EQUIPMENT
- EXISTING CARRIER ANTENNAS RAD CENTER @ 129' A.G.L.
- EXISTING CARRIER ANTENNAS RAD CENTER @ 122' A.G.L.



**2 TOWER ELEVATION**  
 SCALE: NOT TO SCALE

- 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. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).
  3. ESTIMATED LENGTH OF PROPOSED CABLE IS 172'. ESTIMATED LENGTH OF CABLE IS CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE EQUIPMENT PAD EDGE 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.

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

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

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	SF	02/05/18
1	UPDATE ANTENNA CONFIG	JDC	02/09/18

ATC SITE NUMBER:  
**302467**

ATC SITE NAME:  
**BILKAYS EXPRESS**

SITE ADDRESS:  
 90 N PLAINS INDUSTRIAL RD.  
 WALLINGFORD, CT 06492

SEAL:

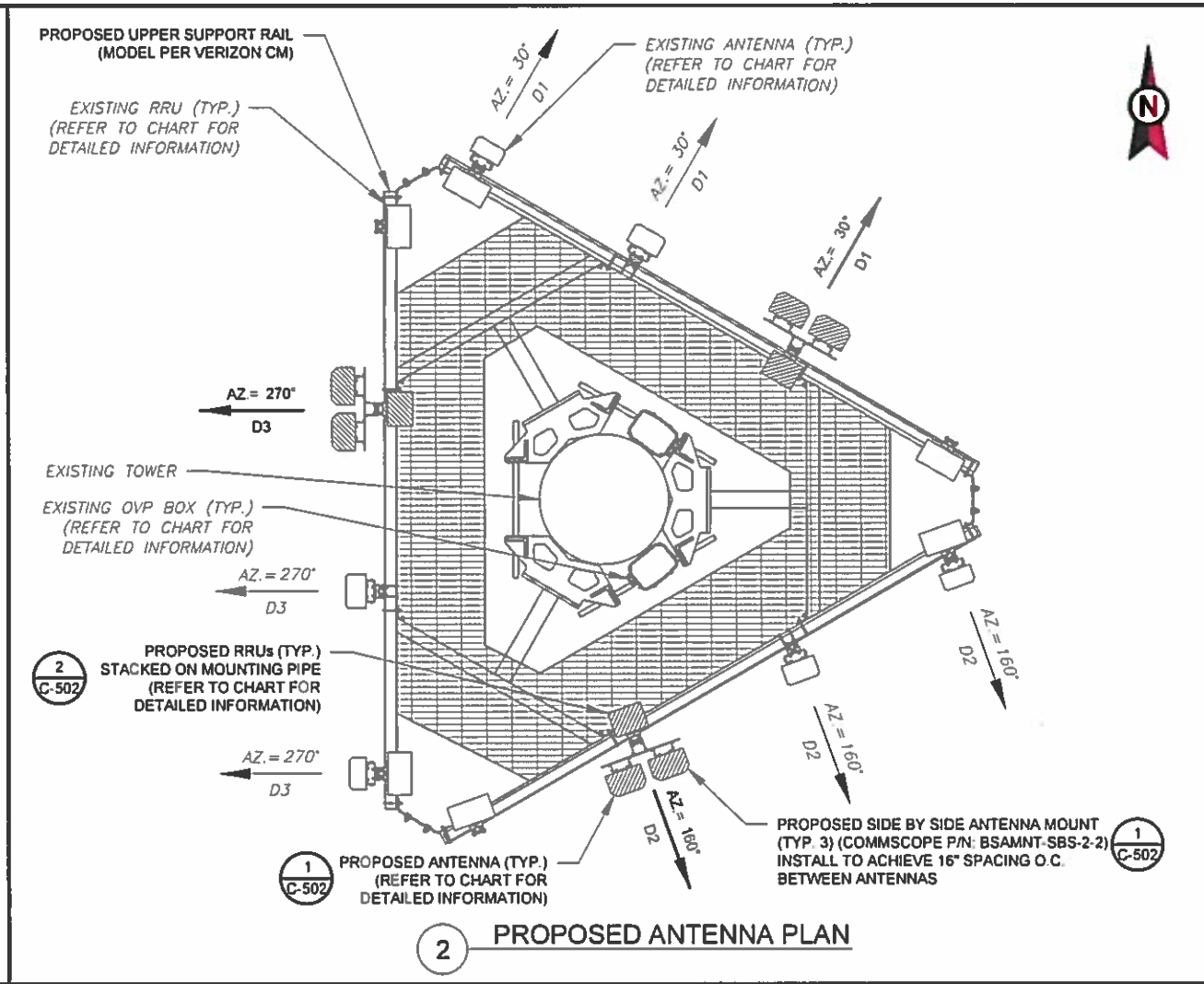
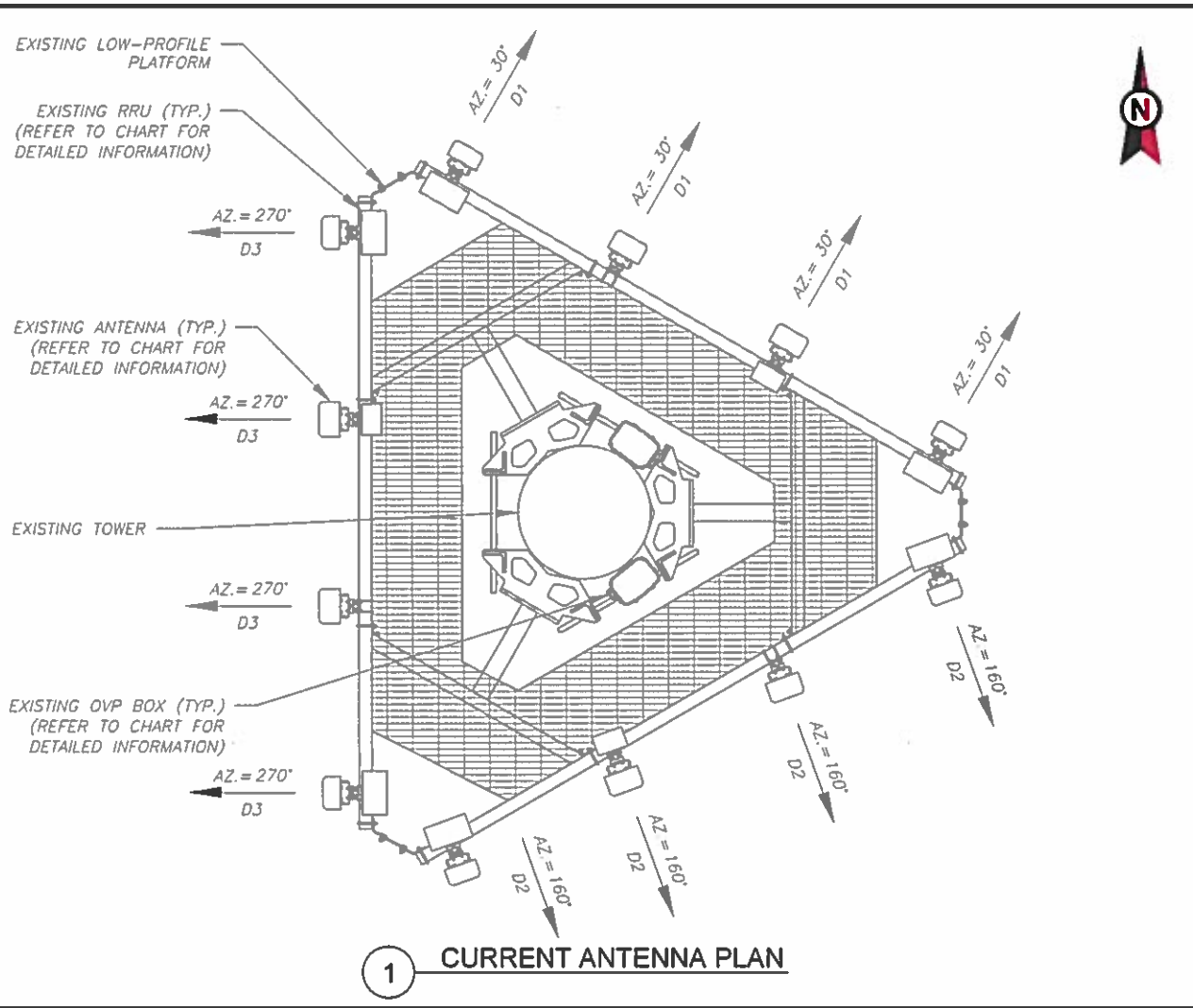
Authorized by "EOR"  
 Feb 9 2018 3:18 PM cosign

**verizon**

DRAWN BY:	SF
APPROVED BY:	PPB
DATE DRAWN:	02/05/18
ATC JOB NO:	12157431
CUSTOMER ID:	WALLINGFORD 3 CT
CUSTOMER #:	2559311

**DETAILED SITE PLAN AND TOWER ELEVATION**

SHEET NUMBER:	REVISION:
<b>C-101</b>	<b>1</b>



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

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

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	SF	02/05/18
1	UPDATE ANTENNA CONFIG	JDC	02/09/18

ATC SITE NUMBER:  
**302467**  
 ATC SITE NAME:  
**BILKAYS EXPRESS**  
 SITE ADDRESS:  
 90 N PLAINS INDUSTRIAL RD.  
 WALLINGFORD, CT 06492

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	138'	30°	1	850 CDMA	BXA-80063-6BF-EDIN-4	RMN	1	RRH-2x60-1900	RMN
			2	700/1900 LTE	SBNHH-1D65B	RMN	2	-	-
			3	700/2100 LTE	SBNHH-1D65B	RMV	3	RRH2x60-AWS	RMV
			4	850 CDMA	BXA-80063-6BF-EDIN-4	RMV	4	RRH2x60 700	RMN
D2	138'	160°	1	850 CDMA	BXA-80063-6BF-EDIN-4	RMN	1	RRH-2x60-1900	RMN
			2	700/1900 LTE	SBNHH-1D65B	RMN	2	-	-
			3	700/2100 LTE	SBNHH-1D65B	RMV	3	RRH2x60-AWS	RMV
			4	850 CDMA	BXA-80063-6BF-EDIN-4	RMV	4	RRH2x60 700	RMN
D3	138'	270°	1	850 CDMA	BXA-80063-6BF-EDIN-2	RMN	1	RRH-2x60-1900	RMN
			2	700/1900 LTE	SBNHH-1D65B	RMN	2	-	-
			3	700/2100 LTE	SBNHH-1D65B	RMV	3	RRH2x60-AWS	RMV
			4	850 CDMA	BXA-80063-6BF-EDIN-2	RMV	4	RRH2x60 700	RMN
CURRENT FIBER DISTRIBUTION / OVP BOX					CURRENT CABLING SUMMARY				
LOCATION	POS	BAND	MODEL NUMBER	STATUS	COAX	HYBRID	STATUS		
TOWER	-	-	(2) DT T1-6Z-8AB-OZ	RMN	(12) 1-5/8"	(2) 1-5/8"	RMN		
-	-	-	-	-	(6) 1-5/8"	-	RMV		

- NOTES**
- BASED ON APPROVED ATC APPLICATION OAA713733, DATED 09/27/17. CONFIRM WITH VERIZON WIRELESS REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS.
  - 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.
  - ALL PROPOSED EQUIPMENT INCLUDING ANTENNAS, COAX, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS ON FILE WITH THE ATC CM.
  - CONFIRM SPACING OF PROPOSED EQUIPMENT DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
  - POSITIONS START WITH FIRST PIPE ON THE LEFT SIDE (AS VIEWED FROM BEHIND THE MOUNT).

PROPOSED ANTENNA AND RF EQUIPMENT SCHEDULE									
LOCATION		ANTENNA SUMMARY				NON ANTENNA SUMMARY			
SECTOR	RAD	AZ	POS	BAND	MODEL NUMBER	STATUS	POS	MODEL NUMBER	STATUS
D1	138'	30°	1	850 CDMA	BXA-80063-6BF-EDIN-4	RMN	1	RRH-2x60-1900	RMN
			2	700/1900 LTE	SBNHH-1D65B	RMN	2	-	-
			3	700/850/1900/2100 LTE	(2) JAHH-65B-R3B	ADD	3	(1) B66A RRH4X45-4R (1) B5 RRH4X40-850	ADD
			4	-	-	-	4	RRH2x60 700	RMN
D2	138'	160°	1	850 CDMA	BXA-80063-6BF-EDIN-4	RMN	1	RRH-2x60-1900	RMN
			2	700/1900 LTE	SBNHH-1D65B	RMN	2	-	-
			3	700/850/1900/2100 LTE	(2) JAHH-65B-R3B	ADD	3	(1) B66A RRH4X45-4R (1) B5 RRH4X40-850	ADD
			4	-	-	-	4	RRH2x60 700	RMN
D3	138'	270°	1	850 CDMA	BXA-80063-6BF-EDIN-2	RMN	1	RRH-2x60-1900	RMN
			2	700/1900 LTE	SBNHH-1D65B	RMN	2	-	-
			3	700/850/1900/2100 LTE	(2) JAHH-65B-R3B	ADD	3	(1) B66A RRH4X45-4R (1) B5 RRH4X40-850	ADD
			4	-	-	-	4	RRH2x60 700	RMN
PROPOSED FIBER DISTRIBUTION / OVP BOX					PROPOSED CABLING SUMMARY				
LOCATION	POS	BAND	MODEL NUMBER	STATUS	COAX	HYBRID	STATUS		
TOWER	-	-	(2) DT T1-6Z-8AB-OZ	RMN	(12) 1-5/8"	(2) 1-5/8"	RMN		
-	-	-	-	-	-	-	-		

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

**3 ANTENNA AND RF EQUIPMENT SCHEDULES**

**CABLE LENGTHS FOR FIBER AND DC JUMPERS**  
 FROM FIBER DISTRIBUTION / OVP BOX TO RRU: 10' JUMPERS  
 FROM RRU TO ANTENNA: 10' JUMPERS

SEAL:

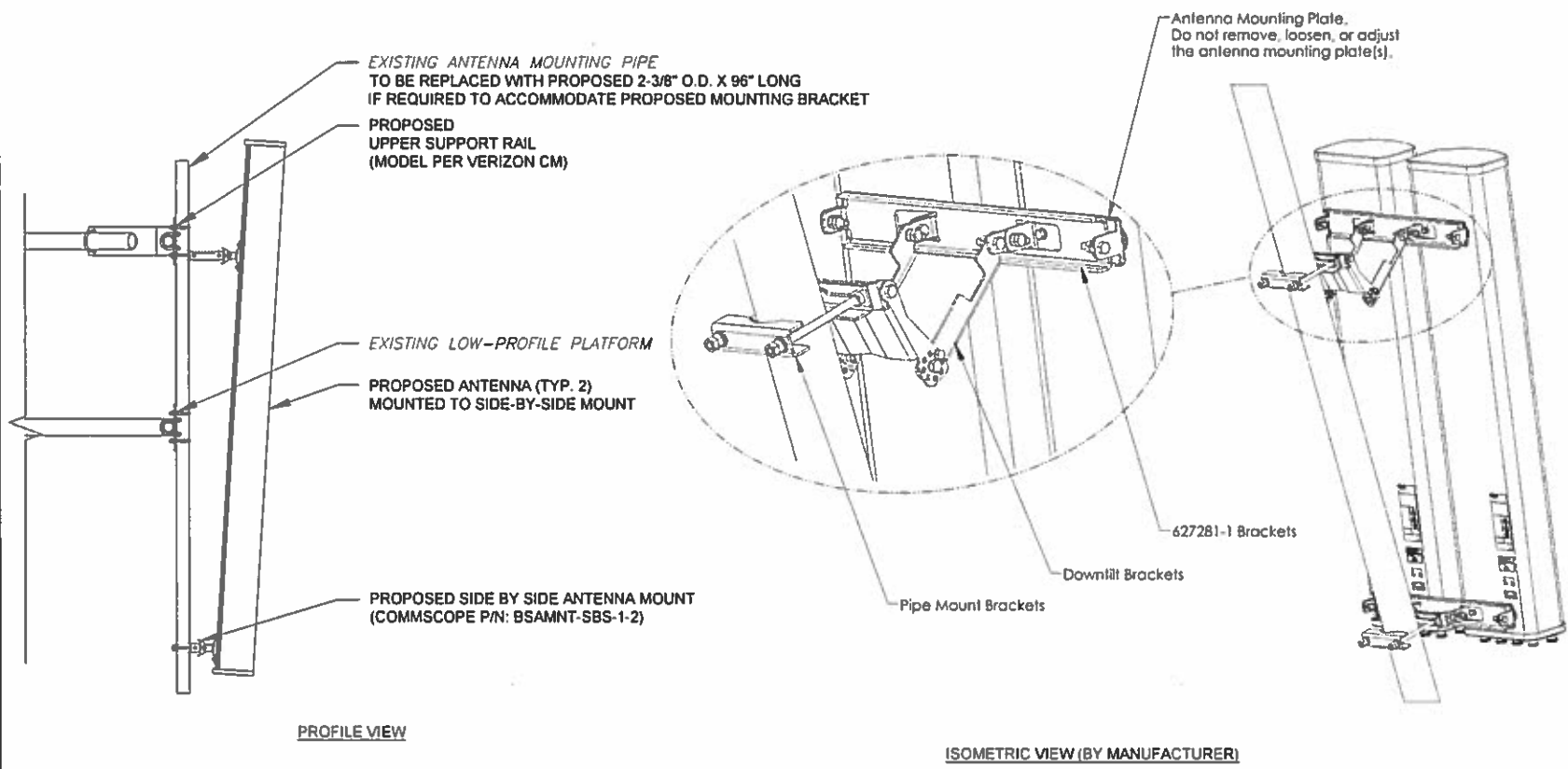
Authorized by "EOR"  
 Feb 9 2018 3:19 PM    cosign

**RF SCHEDULE AND ANTENNA INSTALLATION**

SHEET NUMBER:  
**C-501**

REVISION:  
**1**

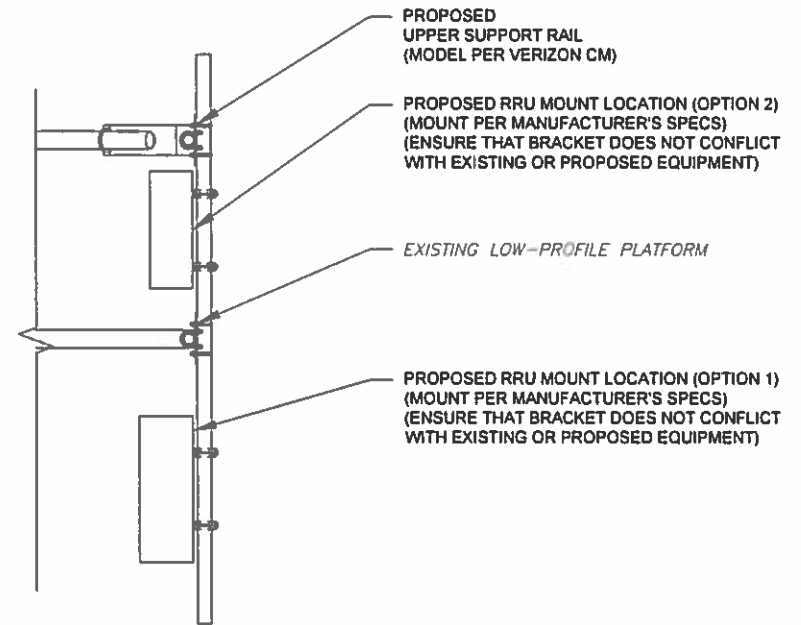
Copyright © 2018 ATC IP LLC. All Rights Reserved.



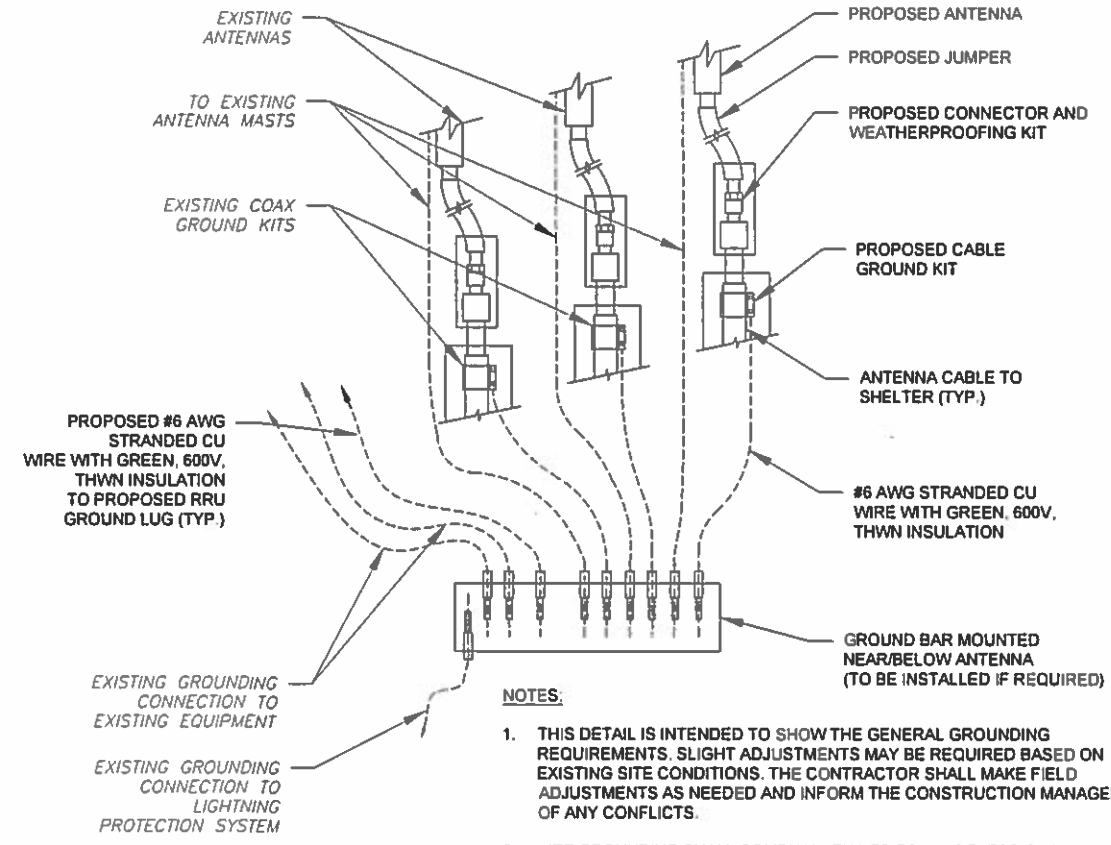
PROFILE VIEW

ISOMETRIC VIEW (BY MANUFACTURER)

**1 PROPOSED SIDE-BY-SIDE MOUNT**  
SCALE: NOT TO SCALE



**2 PROPOSED RRU MOUNTING DETAIL - TYPICAL**  
SCALE: NOT TO SCALE



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

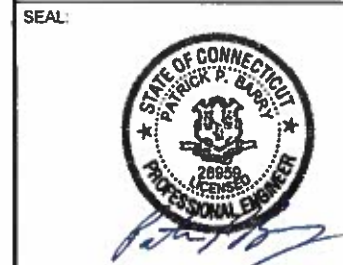
**3 TYPICAL ANTENNA GROUNDING DIAGRAM**  
SCALE: NOT TO SCALE

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

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

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	SF	02/05/18

ATC SITE NUMBER:  
**302467**  
 ATC SITE NAME:  
**BILKAYS EXPRESS**  
 SITE ADDRESS:  
 90 N PLAINS INDUSTRIAL RD.  
 WALLINGFORD, CT 06492



Authorized by "EOR"  
 Feb 9 2018 3:19 PM cosign



DRAWN BY:	SF
APPROVED BY:	PPB
DATE DRAWN:	02/05/18
ATC JOB NO:	12157431
CUSTOMER ID:	WALLINGFORD 3 CT
CUSTOMER #:	2559311

**CONSTRUCTION DETAILS**

SHEET NUMBER:	REVISION:
<b>C-502</b>	<b>0</b>

Copyright © 2018 ATC IP LLC. All Rights Reserved.