



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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E-Mail: siting.council@ct.gov

www.ct.gov/csc

VIA ELECTRONIC MAIL

April 12, 2018

Romina Kirchmaier
Smartlink LLC
85 Rangeway Road
Building 3, Suite 102
Billerica, MA 01862

RE: **EM-AT&T-017-180322** - AT&T Mobility, LLC notice of intent to modify an existing telecommunications facility located at 790 Willis Street, Bristol, Connecticut.

Dear Ms. Kirchmaier:

The Connecticut Siting Council (Council) is in receipt of your correspondence of April 11, 2018 submitted in response to the Council's April 3, 2018 notification of an incomplete request for exempt modification with regard to the above-referenced matter.

The submission renders the request for exempt modification complete and the Council will process the request in accordance with the Federal Communications Commission 60-day timeframe.

Thank you for your attention and cooperation.

Sincerely,

A handwritten signature in blue ink that reads "Melanie A. Bachman".

Melanie A. Bachman
Executive Director

MB/CMW/cg

From: Romina Kirchmaier [mailto:romina.kirchmaier@smartlinkllc.com]
Sent: Wednesday, April 11, 2018 4:30 PM
To: Galligan, Coleen <Coleen.Galligan@ct.gov>
Cc: CSC-DL Siting Council <Siting.Council@ct.gov>; Michael Pattison <michael.pattison@smartlinkllc.com>
Subject: RE: Incomplete - EM-AT&T-017-180322 - Willis St.

Coleen,

Please see the attached structural that takes into account the mount modification. Will hard copies need to be mailed out?

Thank you,



Romina Kirchmaier | Real Estate Specialist

Smartlink

85 Rangeway Road
Building 3, Suite 102
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AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 120 ft Monopole
ATC Site Name : Brst - Bristol, CT
ATC Site Number : 302500
Engineering Number : OAA716756_C3_02
Proposed Carrier : AT&T Mobility
Carrier Site Name : Bristol
Carrier Site Number : CTL01055 / 10035239
Site Location : 790 Willis Street
Bristol, CT 06010-7269
41.649100,-72.948000
County : HARTFORD
Date : April 9, 2018
Max Usage : 99%
Result : Pass

Prepared By:
Christopher Clark Poe, E.I.
Structural Engineer II

Reviewed By:

COA: PEC.0001553



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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 120 ft monopole to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	Valmont Drawing #DC1671Z, dated December 29, 1995
Foundation Drawing	FDH Project #01-0612, dated June 23, 2001
Geotechnical Report	Johnson Soils Job #15220-B, dated May 21, 2002
Modifications	Spectrasite Site #CT-0036, dated June 12, 2002 ATC Project #64490338, dated May 5, 2016

Analysis

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

Basic Wind Speed:	93 mph (3-Second Gust, V_{asd}) / 120 mph (3-Second Gust, V_{ult})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	3
Crest Height:	198 ft
Spectral Response:	$S_s = 0.19$, $S_1 = 0.06$
Site Class:	D - Stiff Soil

Conclusion

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

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



Existing and Reserved Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
124.0	124.0	6	CCI TPX-070821	Platform w/ Handrails w/ Reinforcement	(6) 1 1/4" Coax (4) 0.78" 8 AWG 6 (2) 0.39" Fiber Trunk (1) 3" Conduit (1) 7/8" Coax	AT&T Mobility
		6	Powerwave LGP21401			
		2	Raycap DC6-48-60-18-8F			
		3	Ericsson RRUS A2			
		3	Ericsson RRUS-11 1900MHz			
		3	Ericsson RRUS 32 (50.8 lbs)			
		3	Ericsson RRUS 32 B2			
		1	2' Std. Dish			
		3	Powerwave 7770.00			
		1	KMW AM-X-CD-16-65-00T-RET			
		1	Quintel QS66512-3 (112 lbs.)			
		2	Andrew SBNH-1D6565C (60.8 lbs)			
		2	CCI TPA-65R-LCUUUU-H8			
110.0	110.0	8	Andrew DB844H90E-XY	T-Arm w/ Working Platform	(4) 1 1/4" Coax (4) 7/8" Coax	Sprint Nextel
101.0	101.0	2	Kathrein 742 213	Flush	(6) 1 5/8" Coax	Metro PCS
		1	RFS APXV18-206517S-C			
92.0	93.0	1	DragonWave A-ANT-18G-2-C	Stand-Off	(6) 5/16" Coax (4) 1/2" Coax (2) 2" Conduit	Clearwire
		3	DragonWave A-ANT-11G-2.5-C			
	92.0	4	DragonWave Horizon Compact			
		3	Argus LLPX310R			
	87.0	3	NextNet BTS-2500			

Equipment to be Removed

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

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
124.0	124.0	3	Ericsson RRUS 4478 B14	Platform w/ Handrails w/ Reinforcement	(6) 1 1/4" Coax	AT&T Mobility
		3	Kathrein 80010966			

¹Mount 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	36%	Pass
Shaft	84%	Pass
Base Plate	21%	Pass
Reinforcement	99%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	2,089.2	87%
Axial (Kips)	62.8	15%
Shear (Kips)	26.2	15%

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) (°)
120.0	Ericsson RRUS 4478 B14	AT&T Mobility	2.256	2.132
	2' Std. Dish			
	Kathrein Scala 80010966			
92.0	DragonWave A-ANT-18G-2-C	Clearwire	1.341	1.580
	DragonWave A-ANT-11G-2.5-C			
	DragonWave A-ANT-11G-2.5-C			
	DragonWave A-ANT-11G-2.5-C			

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



Standard Conditions

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

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

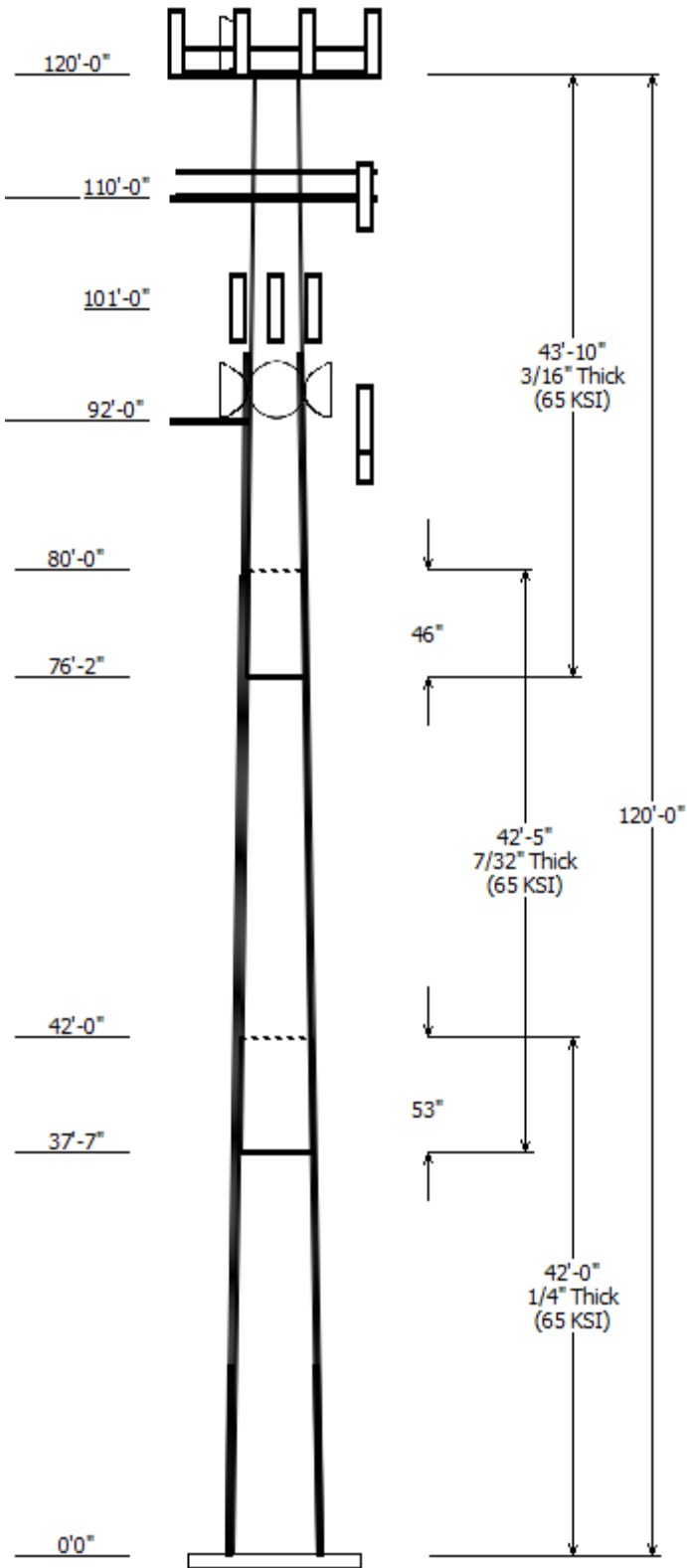
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

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

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

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

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Job Information	
Pole : 302500	Code: ANSI/TIA-222-G
Location : Brst - Bristol, CT	
Description : 120' Valmont Monopole	
Client : AT&T MOBILITY	Struct Class : II
Shape : 12 Sides	Exposure : B
Height : 120.00 (ft)	Topo : 3
Base Elev (ft): 0.00	
Taper: 0.145033in/ft)	

Sections Properties						
Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Overlap Length (in)	Steel Grade
		Top	Bottom			
1	42.000	24.90	31.00	0.250	0.000	12 Sides 65
2	42.417	19.83	25.98	0.219	53.000	12 Sides 65
3	43.833	14.41	20.76	0.188	46.000	12 Sides 65

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
120.000	124.000	3	Kathrein Scala 80010966
120.000	124.000	3	Ericsson RRUS 4478 B14
120.000	124.000	3	Ericsson RRUS 32 B2
120.000	124.000	6	Powerwave LGP21401
120.000	124.000	6	CCI TPX-070821
120.000	124.000	3	Powerwave Allgon 7770.00
120.000	124.000	2	CCI TPA-65R-LCUUUU-H8
120.000	124.000	2	Andrew SBNH-1D6565C (60.8
120.000	124.000	1	Quintel QS66512-3 (112 lbs.)
120.000	124.000	1	KMW AM-X-CD-16-65-00T-RET
120.000	124.000	3	Ericsson RRUS 32 (50.8 lbs)
120.000	124.000	3	Ericsson RRUS A2
120.000	124.000	1	2' Std. Dish
120.000	124.000	2	Raycap DC6-48-60-18-8F
120.000	124.000	3	Ericsson RRUS-11 1900 MHZ
120.000	120.000	1	Round Platform w/ Handrails
110.000	110.000	1	T-Arm w/ Working Platform
110.000	110.000	2	Round T-Arm
110.000	110.000	8	Andrew DB844H90E-XY
101.000	101.000	2	Kathrein Scala 742 213
101.000	101.000	1	RFS APXV18-206517S-C
92.000	93.000	1	DragonWave A-ANT-11G-2.5-C
92.000	93.000	1	DragonWave A-ANT-11G-2.5-C
92.000	92.000	1	Stand-Off
92.000	93.000	1	DragonWave A-ANT-18G-2-C
92.000	92.000	4	DragonWave Horizon Compact
92.000	87.000	3	NextNet BTS-2500
92.000	92.000	3	Argus L1PX310R

Linear Appurtenance			
Elev (ft)		Description	Exposed To Wind
From	To		
92.000	102.0	#20	Yes
22.500	92.000	#20	Yes
7.000	101.0	1 5/8" Coax	Yes
7.000	92.000	1/2" Coax	Yes
7.000	92.000	2" Conduit	Yes
7.000	92.000	5/16" Coax	Yes
7.000	110.0	1 1/4" Coax	No
7.000	110.0	7/8" Coax	No

7.000	120.0	0.39" Fiber Trunk	No
7.000	120.0	0.78" 8 AWG 6	No
7.000	120.0	1 1/4" Coax	No
7.000	120.0	1 1/4" Coax	No
7.000	120.0	3" Conduit	No
7.000	120.0	7/8" Coax	No
0.000	22.500	#20	Yes

Load Cases

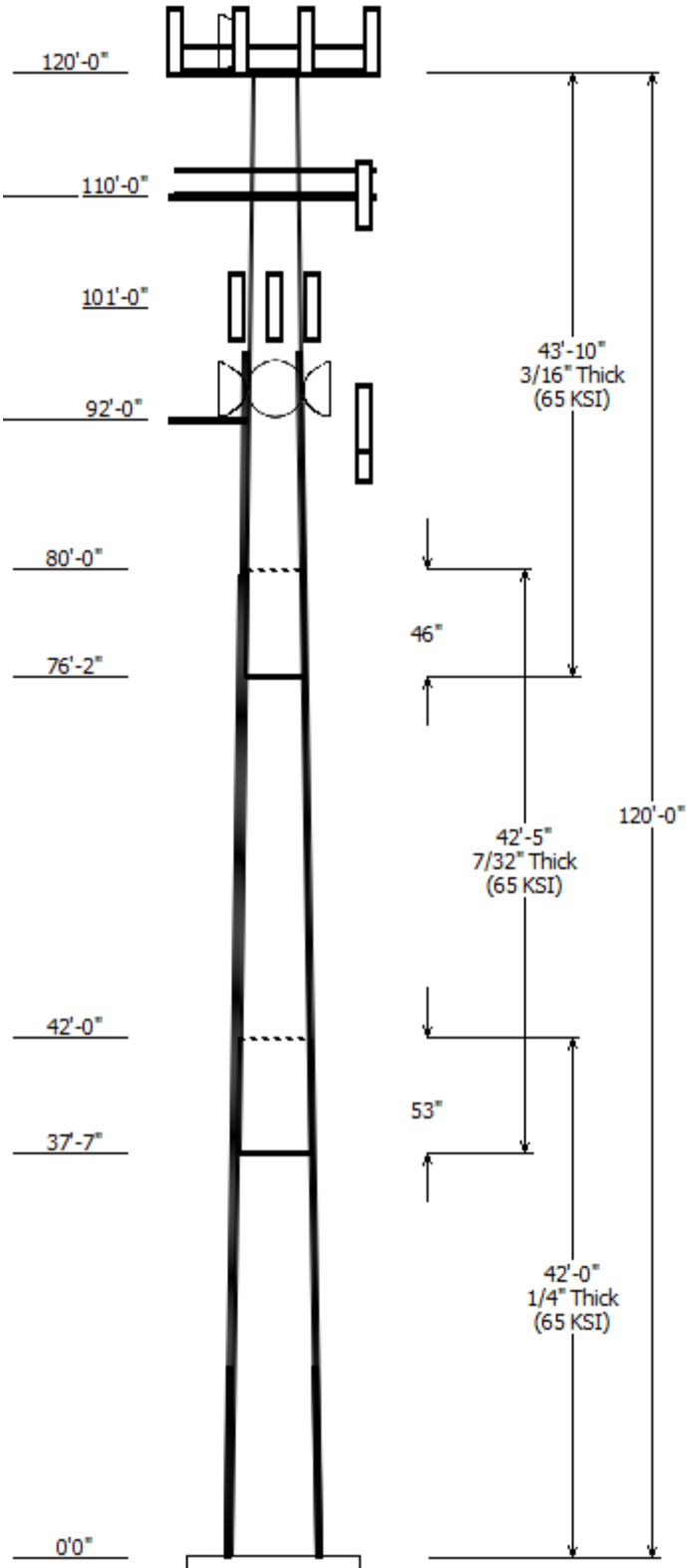
1.2D + 1.6W	93 mph with No Ice
0.9D + 1.6W	93 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions

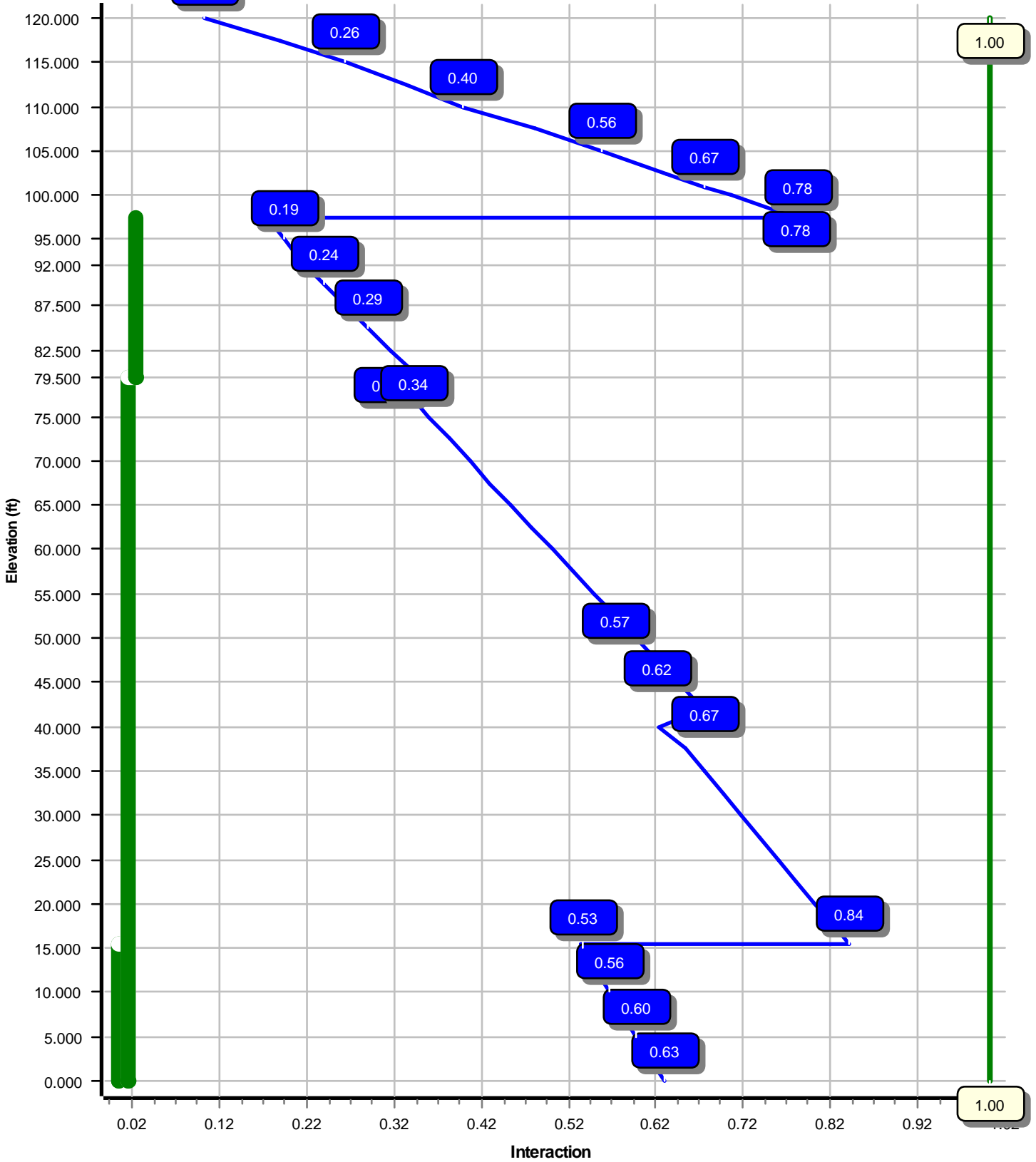
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	2089.21	26.17	28.77
0.9D + 1.6W	2063.19	26.16	21.57
1.2D + 1.0Di + 1.0Wi	643.27	7.22	62.76
(1.2 + 0.2Sds) * DL + E ELFM	97.13	0.94	29.08
(1.2 + 0.2Sds) * DL + E EMAM	204.52	1.92	29.08
(0.9 - 0.2Sds) * DL + E ELFM	95.54	0.94	20.19
(0.9 - 0.2Sds) * DL + E EMAM	200.78	1.92	20.19
1.0D + 1.0W	550.77	7.00	24.01

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	92.00	16.088	1.580
1.0D + 1.0W	92.00	16.088	1.580
1.0D + 1.0W	92.00	16.088	1.580
1.0D + 1.0W	92.00	16.088	1.580
1.0D + 1.0W	120.00	27.067	2.132



Load Case : 1.2D + 1.6W
Max Ratio 83.79% at 15.5 ft



Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

4/9/2018 10:43:05 AM

Customer: AT&T MOBILITY

Analysis Parameters

Location :	HARTFORD County, CT	Height (ft) :	120
Code :	ANSI/TIA-222-G	Base Diameter (in) :	31.00
Shape :	12 Sides	Top Diameter (in) :	14.41
Pole Type :	Taper	Taper (in/ft) :	0.145
Pole Manufacturer :	Valmont	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	93 mph
Exposure Category:	B	Design Wind Speed With Ice:	50 mph
Topographic Category:	3	Operational Wind Speed:	60 mph
Crest Height:	198 ft	Design Ice Thickness:	1.00 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	2.27		
T _L (sec):	6	p:	1.3
S _s :	0.185	S ₁ :	0.064
F _a :	1.600	F _v :	2.400
S _{ds} :	0.197	S _{d1} :	0.102
		C _s :	0.030
		C _s Max:	0.030
		C _s Min:	0.030

Load Cases

1.2D + 1.6W	93 mph with No Ice
0.9D + 1.6W	93 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2S _{ds}) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2S _{ds}) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2S _{ds}) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2S _{ds}) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

4/9/2018 10:43:05 AM

Customer: AT&T MOBILITY

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom						Top						
							Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-12	42.000	0.2500	65		0.00	3,187	31.00	0.00	24.75	2987.6	30.55	124.00	24.90	42.00	19.85	1540.6	24.02	99.63	0.145033
2-12	42.417	0.2190	65	Slip	53.00	2,310	25.98	37.58	18.17	1540.1	29.12	118.66	19.83	80.00	13.83	679.4	21.59	90.57	0.145033
3-12	43.833	0.1880	65	Slip	46.00	1,571	20.76	76.17	12.46	673.4	26.92	110.46	14.41	120.00	8.61	222.3	17.86	76.65	0.145033
Shaft Weight						7,068													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Distance From Face (ft)	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor
120.00	2' Std. Dish	1	0.000	4.000	14.00	5.230	1.00
120.00	Andrew SBNH-1D6565C (60.8 lbs)	2	0.000	4.000	60.80	11.450	0.70
120.00	CCI TPA-65R-LCUUUU-H8	2	0.000	4.000	81.60	13.300	0.69
120.00	CCI TPX-070821	6	0.000	4.000	7.50	0.550	0.50
120.00	Ericsson RRUS 32 (50.8 lbs)	3	0.000	4.000	50.80	2.690	0.50
120.00	Ericsson RRUS 32 B2	3	0.000	4.000	53.00	2.740	0.50
120.00	Ericsson RRUS 4478 B14	3	0.000	4.000	59.90	1.840	0.50
120.00	Ericsson RRUS A2	3	0.000	4.000	15.00	1.600	0.50
120.00	Ericsson RRUS-11 1900 MHz	3	0.000	4.000	44.00	2.520	0.50
120.00	Kathrein Scala 80010966	3	0.000	4.000	114.60	17.360	0.63
120.00	KMW AM-X-CD-16-65-00T-RET	1	0.000	4.000	48.50	8.020	0.67
120.00	Powerwave Allgon 7770.00	3	0.000	4.000	35.00	5.510	0.65
120.00	Powerwave LGP21401	6	0.000	4.000	14.10	1.100	0.50
120.00	Quintel QS66512-3 (112 lbs.)	1	0.000	4.000	112.00	8.130	0.74
120.00	Raycap DC6-48-60-18-8F	2	0.000	4.000	20.00	1.110	1.00
120.00	Round Platform w/ Handrails wi	1	0.000	0.000	2120.00	27.200	1.00
110.00	Andrew DB844H90E-XY	8	0.000	0.000	14.00	3.610	0.81
110.00	Round T-Arm	2	0.000	0.000	250.00	9.700	0.67
110.00	T-Arm w/ Working Platform	1	0.000	0.000	300.00	14.400	0.67
101.00	Kathrein Scala 742 213	2	0.000	0.000	22.00	5.140	0.67
101.00	RFS APXV18-206517S-C	1	0.000	0.000	26.40	5.170	0.68
92.00	Argus LLPX310R	3	0.000	0.000	28.60	4.290	0.63
92.00	DragonWave A-ANT-11G-2.5-C	1	0.000	1.000	47.60	8.670	0.94
92.00	DragonWave A-ANT-11G-2.5-C	1	0.000	1.000	47.60	8.670	1.00
92.00	DragonWave A-ANT-11G-2.5-C	1	0.000	1.000	47.60	8.670	0.81
92.00	DragonWave A-ANT-18G-2-C	1	0.000	1.000	27.10	4.690	1.00
92.00	DragonWave Horizon Compact	4	0.000	0.000	10.60	0.430	0.50
92.00	NextNet BTS-2500	3	0.000	-5.000	35.00	1.820	0.50
92.00	Stand-Off	1	0.000	0.000	560.00	8.500	1.00
Totals	Num Loadings:29	72			5811.30		

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Projected Width Flat (in)	Exposed To Wind	Carrier
7.00	120.00	2	0.39" Fiber Trunk	0.39	0.07	N 0.00	N	AT&T Mobility
7.00	120.00	4	0.78" 8 AWG 6	0.78	0.59	N 0.00	N	AT&T Mobility
7.00	120.00	6	1 1/4" Coax	1.55	0.63	N 0.00	N	AT&T Mobility
7.00	120.00	6	1 1/4" Coax	1.55	0.63	N 0.00	N	AT&T Mobility
7.00	120.00	1	3" Conduit	3.50	7.58	N 0.00	N	AT&T Mobility
7.00	120.00	1	7/8" Coax	1.09	0.33	N 0.00	N	AT&T Mobility
7.00	110.00	4	1 1/4" Coax	1.55	0.63	N 0.00	N	Other
7.00	110.00	4	7/8" Coax	1.09	0.33	N 0.00	N	Other

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

4/9/2018 10:43:05 AM

Customer: AT&T MOBILITY

92.00	102.00	4	#20 Reinforcement	2.50	0.00	N	8.00	Y	--
7.00	101.00	6	1 5/8" Coax	1.98	0.82	N	0.00	Y	Metro PCS
7.00	92.00	4	1/2" Coax	0.63	0.15	N	0.00	Y	Clearwire
7.00	92.00	2	2" Conduit	2.38	3.65	N	0.00	Y	Clearwire
7.00	92.00	6	5/16" Coax	0.31	0.05	N	0.00	Y	Clearwire
22.50	92.00	4	#20 Reinforcement	2.50	0.00	N	8.00	Y	--
0.00	22.50	8	#20 Reinforcement	2.50	0.00	N	8.00	Y	--

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	— Intermediate Connections —			Connectors	Continuation?
						Description	Spacing (in)	Len (in)		
0.00	15.48	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	30.0	3.31	5/8" A36 U-Bolt	No
0.00	79.50	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	30.0	3.31	5/8" A36 U-Bolt	Yes
79.50	97.44	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	30.0	3.31	5/8" A36 U-Bolt	Yes

Segment Properties (Max Len : 2.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in ³)	Z (in ³)	Weight (lb)	Additional Reinforcing		
												Area (in ²)	Ix (in ⁴)	Weight (lb)
0.00		0.2500	31.000	24.754	2,987.6	30.55	124.00	71.4	186.2	0.0	0.0	39.28	7,139	0.0
2.50		0.2500	30.637	24.462	2,883.1	30.16	122.55	71.8	181.8	0.0	209.3	39.28	7,001	334.0
5.00		0.2500	30.275	24.170	2,781.1	29.77	121.10	72.2	177.5	0.0	206.9	39.28	6,865	334.0
7.50		0.2500	29.912	23.878	2,681.6	29.38	119.65	72.7	173.2	0.0	204.4	39.28	6,731	334.0
10.00		0.2500	29.550	23.586	2,584.5	28.99	118.20	73.1	169.0	0.0	201.9	39.28	6,597	334.0
12.50		0.2500	29.187	23.294	2,489.7	28.60	116.75	73.5	164.8	0.0	199.4	39.28	6,465	334.0
15.00		0.2500	28.825	23.002	2,397.3	28.21	115.30	73.9	160.7	0.0	196.9	39.28	6,335	334.0
15.48	Reinf. Top	0.2500	28.755	22.947	2,379.8	28.14	115.02	74.0	159.9	0.0	37.5	39.28	6,310	64.0
17.50		0.2500	28.462	22.711	2,307.2	27.83	113.85	74.4	156.6	0.0	157.0	19.64	3,073	135.0
20.00		0.2500	28.099	22.419	2,219.4	27.44	112.40	74.8	152.6	0.0	192.0	19.64	3,010	167.0
22.50		0.2500	27.737	22.127	2,133.8	27.05	110.95	75.2	148.6	0.0	189.5	19.64	2,948	167.0
25.00		0.2500	27.374	21.835	2,050.5	26.66	109.50	75.6	144.7	0.0	187.0	19.64	2,887	167.0
27.50		0.2500	27.012	21.543	1,969.3	26.27	108.05	76.1	140.8	0.0	184.5	19.64	2,826	167.0
30.00		0.2500	26.649	21.251	1,890.4	25.88	106.60	76.5	137.0	0.0	182.0	19.64	2,766	167.0
32.50		0.2500	26.286	20.959	1,813.5	25.49	105.15	76.9	133.3	0.0	179.5	19.64	2,707	167.0
35.00		0.2500	25.924	20.667	1,738.8	25.11	103.70	77.3	129.6	0.0	177.1	19.64	2,648	167.0
37.50		0.2500	25.561	20.376	1,666.2	24.72	102.25	77.8	125.9	0.0	174.6	19.64	2,590	167.0
37.58	Bot - Section 2	0.2500	25.549	20.366	1,663.8	24.70	102.20	77.8	125.8	0.0	5.8	19.64	2,588	5.6
40.00		0.2500	25.199	20.084	1,595.6	24.33	100.79	78.2	122.3	0.0	314.7	19.64	2,602	161.4
42.00	Top - Section 1	0.2190	25.347	17.719	1,428.0	28.33	115.74	73.8	108.8	0.0	257.2	19.64	2,556	133.6
42.50		0.2190	25.274	17.668	1,415.7	28.24	115.41	73.9	108.2	0.0	30.1	19.64	2,545	33.4
45.00		0.2190	24.911	17.413	1,355.1	27.80	113.75	74.4	105.1	0.0	149.2	19.64	2,488	167.0
47.50		0.2190	24.549	17.157	1,296.3	27.36	112.10	74.9	102.0	0.0	147.0	19.64	2,432	167.0
50.00		0.2190	24.186	16.901	1,239.2	26.91	110.44	75.4	99.0	0.0	144.9	19.64	2,376	167.0
52.50		0.2190	23.824	16.646	1,183.8	26.47	108.78	75.8	96.0	0.0	142.7	19.64	2,321	167.0
55.00		0.2190	23.461	16.390	1,130.1	26.03	107.13	76.3	93.1	0.0	140.5	19.64	2,267	167.0
57.50		0.2190	23.099	16.134	1,078.0	25.58	105.47	76.8	90.2	0.0	138.3	19.64	2,213	167.0
60.00		0.2190	22.736	15.879	1,027.6	25.14	103.82	77.3	87.3	0.0	136.2	19.64	2,160	167.0
62.50		0.2190	22.373	15.623	978.7	24.69	102.16	77.8	84.5	0.0	134.0	19.64	2,108	167.0
65.00		0.2190	22.011	15.367	931.5	24.25	100.51	78.3	81.8	0.0	131.8	19.64	2,056	167.0
67.50		0.2190	21.648	15.111	885.7	23.81	98.85	78.7	79.0	0.0	129.6	19.64	2,005	167.0
70.00		0.2190	21.286	14.856	841.5	23.36	97.19	79.2	76.4	0.0	127.5	19.64	1,954	167.0
72.50		0.2190	20.923	14.600	798.8	22.92	95.54	79.7	73.8	0.0	125.3	19.64	1,904	167.0
75.00		0.2190	20.561	14.344	757.6	22.48	93.88	80.2	71.2	0.0	123.1	19.64	1,855	167.0
76.17	Bot - Section 3	0.2190	20.391	14.225	738.8	22.27	93.11	80.4	70.0	0.0	56.7	19.64	1,833	77.9
77.50		0.2190	20.198	14.089	717.8	22.03	92.23	80.7	68.7	0.0	120.5	19.64	1,857	89.1
79.50	Reinf. Top Reinf	0.2190	19.908	13.884	687.0	21.68	90.90	81.1	66.7	0.0	178.6	19.64	1,818	133.6
80.00	Top - Section 2	0.1880	20.211	12.121	620.3	26.13	107.51	76.2	59.3	0.0	44.2	19.64	1,809	33.4
82.50		0.1880	19.849	11.902	587.2	25.61	105.58	76.8	57.2	0.0	102.2	19.64	1,761	167.0
85.00		0.1880	19.486	11.682	555.3	25.09	103.65	77.3	55.1	0.0	100.3	19.64	1,713	167.0
87.50		0.1880	19.124	11.463	524.6	24.58	101.72	77.9	53.0	0.0	98.4	19.64	1,667	167.0
90.00		0.1880	18.761	11.243	495.0	24.06	99.79	78.5	51.0	0.0	96.6	19.64	1,621	167.0
92.00		0.1880	18.471	11.068	472.2	23.65	98.25	78.9	49.4	0.0	75.9	19.64	1,584	133.6
92.50		0.1880	18.398	11.024	466.6	23.54	97.86	79.0	49.0	0.0	18.8	19.64	1,575	33.4
95.00		0.1880	18.036	10.804	439.3	23.03	95.94	79.6	47.1	0.0	92.8	19.64	1,531	167.0
97.44	Reinf. Top	0.1880	17.682	10.590	413.7	22.52	94.05	80.2	45.2	0.0	88.7	19.64	1,488	162.8
97.50		0.1880	17.673	10.585	413.1	22.51	94.01	80.2	45.2	0.0	2.3			
100.0		0.1880	17.311	10.365	387.9	21.99	92.08	80.7	43.3	0.0	89.1			
101.0		0.1880	17.166	10.278	378.1	21.79	91.31	81.0	42.6	0.0	35.1			
102.5		0.1880	16.948	10.146	363.8	21.48	90.15	81.3	41.5	0.0	52.1			
105.0		0.1880	16.586	9.926	340.7	20.96	88.22	81.9	39.7	0.0	85.4			
107.5		0.1880	16.223	9.707	318.6	20.44	86.29	81.9	37.9	0.0	83.5			
110.0		0.1880	15.860	9.487	297.4	19.93	84.36	81.9	36.2	0.0	81.6			
112.5		0.1880	15.498	9.268	277.3	19.41	82.43	81.9	34.6	0.0	79.8			
115.0		0.1880	15.135	9.048	258.0	18.89	80.51	81.9	32.9	0.0	77.9			
117.5		0.1880	14.773	8.829	239.7	18.38	78.58	81.9	31.3	0.0	76.0			
120.0		0.1880	14.410	8.609	222.3	17.86	76.65	81.9	29.8	0.0	74.2			
											7,068.1			7,542.8

Load Case: 1.2D + 1.6W	93 mph with No Ice	27 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		223.6	0.0					0.0	0.0	223.6	0.0	0.0	0.0
2.50		441.1	251.2					56.1	400.8	497.2	652.0	0.0	0.0
5.00		429.0	248.2					55.2	400.8	484.2	649.0	0.0	0.0
7.50		417.3	245.2					54.3	421.8	471.6	667.0	0.0	0.0
10.00		405.9	242.3					53.5	505.6	459.4	747.9	0.0	0.0
12.50		394.9	239.3					52.7	505.6	447.6	744.9	0.0	0.0
15.00		231.5	236.3					51.9	505.6	283.4	741.9	0.0	0.0
15.48	Reinf. Top	189.5	45.0					9.9	96.9	199.4	141.9	0.0	0.0
17.50		337.2	188.4					41.3	246.7	378.5	435.1	0.0	0.0
20.00		363.9	230.3					50.4	305.2	414.3	535.5	0.0	0.0
22.50		354.2	227.4					49.7	305.2	403.9	532.6	0.0	0.0
25.00		344.8	224.4					49.0	305.2	393.8	529.6	0.0	0.0
27.50		335.7	221.4					48.3	305.2	384.0	526.6	0.0	0.0
30.00		328.8	218.4					47.7	305.2	376.5	523.6	0.0	0.0
32.50		325.7	215.4					47.7	305.2	373.3	520.6	0.0	0.0
35.00		323.9	212.5					48.1	305.2	372.0	517.7	0.0	0.0
37.50		166.8	209.5					48.5	305.2	215.3	514.7	0.0	0.0
37.58	Bot - Section 2	162.9	6.9					1.6	10.2	164.5	17.1	0.0	0.0
40.00		286.9	377.7					47.2	295.0	334.1	672.7	0.0	0.0
42.00	Top - Section 1	161.6	308.6					39.2	244.1	200.8	552.8	0.0	0.0
42.50		192.3	36.1					9.8	61.0	202.1	97.2	0.0	0.0
45.00		318.5	179.1					49.3	305.2	367.8	484.2	0.0	0.0
47.50		315.0	176.4					49.5	305.2	364.5	481.6	0.0	0.0
50.00		311.4	173.8					49.7	305.2	361.1	479.0	0.0	0.0
52.50		307.6	171.2					49.8	305.2	357.4	476.4	0.0	0.0
55.00		303.6	168.6					49.9	305.2	353.6	473.8	0.0	0.0
57.50		299.5	166.0					50.1	305.2	349.5	471.2	0.0	0.0
60.00		295.3	163.4					50.1	305.2	345.4	468.6	0.0	0.0
62.50		291.0	160.8					50.2	305.2	341.2	466.0	0.0	0.0
65.00		286.5	158.2					50.3	305.2	336.8	463.4	0.0	0.0
67.50		282.1	155.6					50.3	305.2	332.4	460.8	0.0	0.0
70.00		277.5	153.0					50.4	305.2	327.9	458.1	0.0	0.0
72.50		272.9	150.3					50.4	305.2	323.3	455.5	0.0	0.0
75.00		197.7	147.7					50.4	305.2	248.1	452.9	0.0	0.0
76.17	Bot - Section 3	134.3	68.0					23.5	142.4	157.8	210.5	0.0	0.0
77.50		178.6	144.6					26.9	162.8	205.5	307.4	0.0	0.0
79.50	Reinf. Top Reinf	133.1	214.3					40.3	244.1	173.4	458.4	0.0	0.0
80.00	Top - Section 2	157.2	53.1					10.1	61.0	167.3	114.1	0.0	0.0
82.50		259.1	122.6					50.4	305.2	309.6	427.8	0.0	0.0
85.00		254.4	120.4					50.4	305.2	304.8	425.6	0.0	0.0
87.50		249.6	118.1					50.4	305.2	300.0	423.3	0.0	0.0
90.00		220.8	115.9					50.4	305.2	271.2	421.1	0.0	0.0
92.00	Appurtenance(s)	121.2	91.1	2,050.9	0.0	599.9	1,155.7	40.3	244.1	2,212.4	1,491.0	0.0	0.0
92.50		142.9	22.6					10.1	56.1	153.0	78.7	0.0	0.0
95.00		232.4	111.4					50.4	280.6	282.8	392.0	0.0	0.0
97.44	Reinf. Top	116.4	106.5					49.1	273.6	165.5	380.0	0.0	0.0
97.50		116.9	2.7					1.3	2.0	118.2	4.7	0.0	0.0
100.00		159.0	106.9					50.4	80.2	209.3	187.1	0.0	0.0

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

4/9/2018 10:43:14 AM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.6W

93 mph with No Ice

27 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

101.00	Appurtenance(s)	111.6	42.1	523.9	0.0	0.0	84.5	20.1	32.1	655.6	158.7	0.0	0.0	
102.50		157.7	62.5					20.1	39.3	177.8	101.8	0.0	0.0	
105.00		180.0	102.5					0.0	65.4	180.0	167.9	0.0	0.0	
107.50		176.0	100.2					0.0	65.4	176.0	165.6	0.0	0.0	
110.00	Appurtenance(s)	172.0	98.0	1,795.3	0.0	0.0	1,094.4	0.0	65.4	1,967.4	1,257.8	0.0	0.0	
112.50		168.0	95.7					0.0	53.9	168.0	149.6	0.0	0.0	
115.00		164.1	93.5					0.0	53.9	164.1	147.4	0.0	0.0	
117.50		160.1	91.2					0.0	53.9	160.1	145.2	0.0	0.0	
120.00	Appurtenance(s)	79.0	89.0	5,904.7	0.0	18,154.7	4,639.0	0.0	53.9	5,983.7	4,781.9	0.0	0.0	
										Totals:	26,352.1	28,809.3	0.00	0.00

Load Case: 1.2D + 1.6W

93 mph with No Ice

27 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Calculated Forces

Seg	Pu	Vu	Tu	Mu	Mu	Resultant	phi	phi	phi	phi	Total		
Elev	FY (-)	FX (-)	MY	MZ	MX	Moment	Pn	Vn	Tn	Mn	Deflect	Rotation	Ratio
(ft)	(kips)	(kips)	(ft-kips)	(ft-kips)	(ft-kips)	(ft-kips)	(kips)	(kips)	(ft-kips)	(ft-kips)	(in)	(deg)	
0.00	-28.77	-26.17	0.00	-2,089.21	0.00	2,089.21	1,590.66	795.33	2,018.74	996.98	0.00	0.00	0.626
2.50	-28.06	-25.74	0.00	-2,023.80	0.00	2,023.80	1,581.24	790.62	1,982.92	979.29	0.04	-0.14	0.611
5.00	-27.35	-25.32	0.00	-1,959.45	0.00	1,959.45	1,571.59	785.80	1,947.12	961.61	0.16	-0.29	0.595
7.50	-26.62	-24.91	0.00	-1,896.15	0.00	1,896.15	1,561.72	780.86	1,911.33	943.93	0.35	-0.43	0.580
10.00	-25.82	-24.51	0.00	-1,833.88	0.00	1,833.88	1,551.63	775.81	1,875.57	926.27	0.61	-0.57	0.564
12.50	-25.02	-24.11	0.00	-1,772.61	0.00	1,772.61	1,541.31	770.66	1,839.85	908.63	0.95	-0.71	0.549
15.00	-24.25	-23.85	0.00	-1,712.33	0.00	1,712.33	1,530.78	765.39	1,804.18	891.02	1.36	-0.85	0.534
15.48	-24.08	-23.68	0.00	-1,700.90	0.00	1,700.90	1,528.73	764.37	1,797.35	887.64	1.45	-0.88	0.532
15.48	-24.08	-23.68	0.00	-1,700.90	0.00	1,700.90	1,528.73	764.37	1,797.35	887.64	1.45	-0.88	0.838
17.50	-23.59	-23.36	0.00	-1,653.04	0.00	1,653.04	1,520.01	760.01	1,768.57	873.43	1.84	-0.99	0.821
20.00	-22.97	-23.02	0.00	-1,594.64	0.00	1,594.64	1,509.03	754.52	1,733.02	855.87	2.42	-1.20	0.800
22.50	-22.37	-22.69	0.00	-1,537.08	0.00	1,537.08	1,497.83	748.91	1,697.56	838.36	3.10	-1.41	0.779
25.00	-21.77	-22.36	0.00	-1,480.35	0.00	1,480.35	1,486.40	743.20	1,662.18	820.89	3.90	-1.63	0.757
27.50	-21.17	-22.04	0.00	-1,424.44	0.00	1,424.44	1,474.74	737.37	1,626.91	803.47	4.81	-1.83	0.736
30.00	-20.58	-21.72	0.00	-1,369.34	0.00	1,369.34	1,462.87	731.44	1,591.74	786.10	5.83	-2.04	0.715
32.50	-20.00	-21.40	0.00	-1,315.04	0.00	1,315.04	1,450.77	725.39	1,556.69	768.79	6.95	-2.25	0.694
35.00	-19.42	-21.08	0.00	-1,261.54	0.00	1,261.54	1,438.45	719.23	1,521.78	751.55	8.18	-2.45	0.673
37.50	-18.88	-20.87	0.00	-1,208.86	0.00	1,208.86	1,425.91	712.96	1,487.00	734.37	9.52	-2.65	0.652
37.58	-18.84	-20.74	0.00	-1,207.12	0.00	1,207.12	1,425.49	712.74	1,485.84	733.80	9.57	-2.66	0.651
40.00	-18.12	-20.43	0.00	-1,157.00	0.00	1,157.00	1,413.15	706.57	1,452.37	717.27	10.96	-2.85	0.620
42.00	-17.54	-20.23	0.00	-1,116.15	0.00	1,116.15	1,177.15	588.58	1,220.08	602.55	12.19	-3.00	0.672
42.50	-17.42	-20.06	0.00	-1,106.03	0.00	1,106.03	1,175.29	587.65	1,214.60	599.85	12.50	-3.04	0.667
45.00	-16.89	-19.72	0.00	-1,055.89	0.00	1,055.89	1,165.87	582.93	1,187.28	586.35	14.15	-3.23	0.643
47.50	-16.36	-19.38	0.00	-1,006.59	0.00	1,006.59	1,156.22	578.11	1,160.01	572.88	15.89	-3.42	0.619
50.00	-15.85	-19.04	0.00	-958.14	0.00	958.14	1,146.35	573.17	1,132.81	559.45	17.74	-3.61	0.594
52.50	-15.33	-18.70	0.00	-910.53	0.00	910.53	1,136.25	568.13	1,105.70	546.06	19.68	-3.80	0.570
55.00	-14.83	-18.37	0.00	-863.77	0.00	863.77	1,125.94	562.97	1,078.67	532.72	21.71	-3.98	0.546
57.50	-14.33	-18.03	0.00	-817.86	0.00	817.86	1,115.40	557.70	1,051.75	519.42	23.84	-4.15	0.523
60.00	-13.83	-17.69	0.00	-772.79	0.00	772.79	1,104.64	552.32	1,024.94	506.18	26.06	-4.32	0.499
62.50	-13.35	-17.35	0.00	-728.56	0.00	728.56	1,093.65	546.83	998.25	493.00	28.37	-4.49	0.475
65.00	-12.86	-17.02	0.00	-685.18	0.00	685.18	1,082.45	541.22	971.69	479.88	30.76	-4.65	0.451
67.50	-12.39	-16.68	0.00	-642.65	0.00	642.65	1,071.02	535.51	945.28	466.84	33.24	-4.81	0.428
70.00	-11.91	-16.35	0.00	-600.95	0.00	600.95	1,059.36	529.68	919.01	453.87	35.80	-4.97	0.404
72.50	-11.45	-16.01	0.00	-560.08	0.00	560.08	1,047.49	523.74	892.91	440.97	38.44	-5.11	0.381
75.00	-10.99	-15.74	0.00	-520.05	0.00	520.05	1,035.39	517.69	866.98	428.17	41.15	-5.26	0.358
76.17	-10.78	-15.58	0.00	-501.69	0.00	501.69	1,029.67	514.83	854.94	422.22	42.44	-5.32	0.347
77.50	-10.47	-15.36	0.00	-480.91	0.00	480.91	1,023.07	511.53	841.23	415.45	43.94	-5.39	0.328
79.50	-10.01	-15.16	0.00	-450.19	0.00	450.19	1,013.05	506.53	820.77	405.35	46.22	-5.50	0.309
79.50	-10.01	-15.16	0.00	-450.19	0.00	450.19	1,013.05	506.53	820.77	405.35	46.22	-5.50	0.309
80.00	-9.89	-14.99	0.00	-442.61	0.00	442.61	831.49	415.75	686.29	338.93	46.79	-5.52	0.339
82.50	-9.47	-14.66	0.00	-405.13	0.00	405.13	822.47	411.24	666.44	329.13	49.72	-5.64	0.313
85.00	-9.05	-14.34	0.00	-368.47	0.00	368.47	813.23	406.62	646.68	319.37	52.70	-5.76	0.288
87.50	-8.63	-14.01	0.00	-332.63	0.00	332.63	803.77	401.88	627.03	309.67	55.74	-5.87	0.262
90.00	-8.22	-13.71	0.00	-297.60	0.00	297.60	794.08	397.04	607.50	300.02	58.84	-5.97	0.237
92.00	-6.96	-11.36	0.00	-269.58	0.00	269.58	786.17	393.08	591.96	292.35	61.35	-6.05	0.216
92.50	-6.89	-11.21	0.00	-263.90	0.00	263.90	784.17	392.08	588.09	290.43	61.99	-6.07	0.212
95.00	-6.51	-10.89	0.00	-235.89	0.00	235.89	774.04	387.02	568.81	280.91	65.18	-6.15	0.191
97.44	-6.14	-10.69	0.00	-209.34	0.00	209.34	763.94	381.97	550.16	271.70	68.34	-6.23	0.171
97.44	-6.14	-10.69	0.00	-209.34	0.00	209.34	763.94	381.97	550.16	271.70	68.34	-6.23	0.779
97.50	-6.12	-10.59	0.00	-208.67	0.00	208.67	763.68	381.84	549.68	271.47	68.42	-6.23	0.777
100.00	-5.91	-10.39	0.00	-182.20	0.00	182.20	753.10	376.55	530.71	262.10	71.77	-6.57	0.704

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

4/9/2018 10:43:15 AM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.6W

93 mph with No Ice

27 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

101.00	-5.81	-9.73	0.00	-171.81	0.00	171.81	748.81	374.40	523.16	258.37	73.16	-6.70	0.673
102.50	-5.69	-9.57	0.00	-157.21	0.00	157.21	742.30	371.15	511.90	252.81	75.29	-6.89	0.630
105.00	-5.50	-9.39	0.00	-133.29	0.00	133.29	731.28	365.64	493.27	243.61	78.96	-7.17	0.555
107.50	-5.32	-9.22	0.00	-109.81	0.00	109.81	715.50	357.75	471.83	233.02	82.77	-7.42	0.479
110.00	-4.30	-7.12	0.00	-86.76	0.00	86.76	699.32	349.66	450.61	222.54	86.71	-7.64	0.396
112.50	-4.16	-6.95	0.00	-68.96	0.00	68.96	683.14	341.57	429.88	212.30	90.75	-7.83	0.331
115.00	-4.02	-6.77	0.00	-51.59	0.00	51.59	666.96	333.48	409.64	202.31	94.88	-7.98	0.261
117.50	-3.89	-6.60	0.00	-34.66	0.00	34.66	650.78	325.39	389.89	192.55	99.08	-8.10	0.186
120.00	0.00	-5.98	0.00	-18.15	0.00	18.15	634.60	317.30	370.62	183.04	103.33	-8.18	0.100

Load Case: 0.9D + 1.6W	93 mph with No Ice (Reduced DL)	27 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		223.6	0.0					0.0	0.0	223.6	0.0	0.0	0.0
2.50		441.1	188.4					56.1	300.6	497.2	489.0	0.0	0.0
5.00		429.0	186.2					55.2	300.6	484.2	486.8	0.0	0.0
7.50		417.3	183.9					54.3	316.3	471.6	500.3	0.0	0.0
10.00		405.9	181.7					53.5	379.2	459.4	560.9	0.0	0.0
12.50		394.9	179.5					52.7	379.2	447.6	558.7	0.0	0.0
15.00		231.5	177.2					51.9	379.2	283.4	556.4	0.0	0.0
15.48	Reinf. Top	189.5	33.7					9.9	72.7	199.4	106.4	0.0	0.0
17.50		337.2	141.3					41.3	185.0	378.5	326.3	0.0	0.0
20.00		363.9	172.8					50.4	228.9	414.3	401.7	0.0	0.0
22.50		354.2	170.5					49.7	228.9	403.9	399.4	0.0	0.0
25.00		344.8	168.3					49.0	228.9	393.8	397.2	0.0	0.0
27.50		335.7	166.1					48.3	228.9	384.0	394.9	0.0	0.0
30.00		328.8	163.8					47.7	228.9	376.5	392.7	0.0	0.0
32.50		325.7	161.6					47.7	228.9	373.3	390.5	0.0	0.0
35.00		323.9	159.4					48.1	228.9	372.0	388.2	0.0	0.0
37.50		166.8	157.1					48.5	228.9	215.3	386.0	0.0	0.0
37.58	Bot - Section 2	162.9	5.2					1.6	7.6	164.5	12.8	0.0	0.0
40.00		286.9	283.3					47.2	221.3	334.1	504.5	0.0	0.0
42.00	Top - Section 1	161.6	231.5					39.2	183.1	200.8	414.6	0.0	0.0
42.50		192.3	27.1					9.8	45.8	202.1	72.9	0.0	0.0
45.00		318.5	134.3					49.3	228.9	367.8	363.2	0.0	0.0
47.50		315.0	132.3					49.5	228.9	364.5	361.2	0.0	0.0
50.00		311.4	130.4					49.7	228.9	361.1	359.3	0.0	0.0
52.50		307.6	128.4					49.8	228.9	357.4	357.3	0.0	0.0
55.00		303.6	126.5					49.9	228.9	353.6	355.4	0.0	0.0
57.50		299.5	124.5					50.1	228.9	349.5	353.4	0.0	0.0
60.00		295.3	122.5					50.1	228.9	345.4	351.4	0.0	0.0
62.50		291.0	120.6					50.2	228.9	341.2	349.5	0.0	0.0
65.00		286.5	118.6					50.3	228.9	336.8	347.5	0.0	0.0
67.50		282.1	116.7					50.3	228.9	332.4	345.6	0.0	0.0
70.00		277.5	114.7					50.4	228.9	327.9	343.6	0.0	0.0
72.50		272.9	112.8					50.4	228.9	323.3	341.7	0.0	0.0
75.00		197.7	110.8					50.4	228.9	248.1	339.7	0.0	0.0
76.17	Bot - Section 3	134.3	51.0					23.5	106.8	157.8	157.8	0.0	0.0
77.50		178.6	108.4					26.9	122.1	205.5	230.5	0.0	0.0
79.50	Reinf. Top Reinf	133.1	160.7					40.3	183.1	173.4	343.8	0.0	0.0
80.00	Top - Section 2	157.2	39.8					10.1	45.8	167.3	85.6	0.0	0.0
82.50		259.1	92.0					50.4	228.9	309.6	320.9	0.0	0.0
85.00		254.4	90.3					50.4	228.9	304.8	319.2	0.0	0.0
87.50		249.6	88.6					50.4	228.9	300.0	317.5	0.0	0.0
90.00		220.8	86.9					50.4	228.9	271.2	315.8	0.0	0.0
92.00	Appurtenance(s)	121.2	68.3	2,050.9	0.0	599.9	866.8	40.3	183.1	2,212.4	1,118.2	0.0	0.0
92.50		142.9	16.9					10.1	42.1	153.0	59.0	0.0	0.0
95.00		232.4	83.6					50.4	210.4	282.8	294.0	0.0	0.0
97.44	Reinf. Top	116.4	79.9					49.1	205.2	165.5	285.0	0.0	0.0
97.50		116.9	2.0					1.3	1.5	118.2	3.5	0.0	0.0
100.00		159.0	80.2					50.4	60.1	209.3	140.3	0.0	0.0

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

4/9/2018 10:43:24 AM

Customer: AT&T MOBILITY

Load Case: 0.9D + 1.6W

93 mph with No Ice (Reduced DL)

27 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

101.00	Appurtenance(s)	111.6	31.6	523.9	0.0	0.0	63.4	20.1	24.1	655.6	119.0	0.0	0.0
102.50		157.7	46.9					20.1	29.4	177.8	76.4	0.0	0.0
105.00		180.0	76.8					0.0	49.1	180.0	125.9	0.0	0.0
107.50		176.0	75.2					0.0	49.1	176.0	124.2	0.0	0.0
110.00	Appurtenance(s)	172.0	73.5	1,795.3	0.0	0.0	820.8	0.0	49.1	1,967.4	943.4	0.0	0.0
112.50		168.0	71.8					0.0	40.4	168.0	112.2	0.0	0.0
115.00		164.1	70.1					0.0	40.4	164.1	110.5	0.0	0.0
117.50		160.1	68.4					0.0	40.4	160.1	108.9	0.0	0.0
120.00	Appurtenance(s)	79.0	66.8	5,904.7	0.0	18,154.7	3,479.2	0.0	40.4	5,983.7	3,586.4	0.0	0.0
Totals:										26,352.1	21,606.9	0.00	0.00

Load Case: 0.9D + 1.6W

93 mph with No Ice (Reduced DL)

27 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	-21.57	-26.16	0.00	-2,063.19	0.00	2,063.19	1,590.66	795.33	2,018.74	996.98	0.00	0.00	0.617
2.50	-21.02	-25.71	0.00	-1,997.80	0.00	1,997.80	1,581.24	790.62	1,982.92	979.29	0.04	-0.14	0.601
5.00	-20.47	-25.28	0.00	-1,933.52	0.00	1,933.52	1,571.59	785.80	1,947.12	961.61	0.15	-0.28	0.586
7.50	-19.92	-24.85	0.00	-1,870.34	0.00	1,870.34	1,561.72	780.86	1,911.33	943.93	0.34	-0.42	0.570
10.00	-19.30	-24.43	0.00	-1,808.22	0.00	1,808.22	1,551.63	775.81	1,875.57	926.27	0.60	-0.56	0.555
12.50	-18.69	-24.02	0.00	-1,747.14	0.00	1,747.14	1,541.31	770.66	1,839.85	908.63	0.94	-0.70	0.540
15.00	-18.10	-23.76	0.00	-1,687.08	0.00	1,687.08	1,530.78	765.39	1,804.18	891.02	1.34	-0.84	0.525
15.48	-17.97	-23.58	0.00	-1,675.70	0.00	1,675.70	1,528.73	764.37	1,797.35	887.64	1.43	-0.86	0.522
15.48	-17.97	-23.58	0.00	-1,675.70	0.00	1,675.70	1,528.73	764.37	1,797.35	887.64	1.43	-0.86	0.823
17.50	-17.59	-23.24	0.00	-1,628.05	0.00	1,628.05	1,520.01	760.01	1,768.57	873.43	1.82	-0.97	0.806
20.00	-17.11	-22.88	0.00	-1,569.95	0.00	1,569.95	1,509.03	754.52	1,733.02	855.87	2.38	-1.18	0.785
22.50	-16.64	-22.53	0.00	-1,512.74	0.00	1,512.74	1,497.83	748.91	1,697.56	838.36	3.06	-1.39	0.764
25.00	-16.17	-22.19	0.00	-1,456.41	0.00	1,456.41	1,486.40	743.20	1,662.18	820.89	3.85	-1.60	0.743
27.50	-15.71	-21.85	0.00	-1,400.94	0.00	1,400.94	1,474.74	737.37	1,626.91	803.47	4.74	-1.81	0.722
30.00	-15.25	-21.51	0.00	-1,346.32	0.00	1,346.32	1,462.87	731.44	1,591.74	786.10	5.74	-2.01	0.701
32.50	-14.80	-21.18	0.00	-1,292.54	0.00	1,292.54	1,450.77	725.39	1,556.69	768.79	6.85	-2.21	0.681
35.00	-14.36	-20.84	0.00	-1,239.60	0.00	1,239.60	1,438.45	719.23	1,521.78	751.55	8.07	-2.41	0.660
37.50	-13.94	-20.63	0.00	-1,187.51	0.00	1,187.51	1,425.91	712.96	1,487.00	734.37	9.38	-2.61	0.639
37.58	-13.90	-20.49	0.00	-1,185.79	0.00	1,185.79	1,425.49	712.74	1,485.84	733.80	9.43	-2.62	0.638
40.00	-13.36	-20.17	0.00	-1,136.27	0.00	1,136.27	1,413.15	706.57	1,452.37	717.27	10.80	-2.80	0.608
42.00	-12.92	-19.97	0.00	-1,095.93	0.00	1,095.93	1,177.15	588.58	1,220.08	602.55	12.01	-2.95	0.658
42.50	-12.82	-19.79	0.00	-1,085.94	0.00	1,085.94	1,175.29	587.65	1,214.60	599.85	12.32	-2.99	0.653
45.00	-12.41	-19.45	0.00	-1,036.46	0.00	1,036.46	1,165.87	582.93	1,187.28	586.35	13.94	-3.18	0.629
47.50	-12.01	-19.10	0.00	-987.85	0.00	987.85	1,156.22	578.11	1,160.01	572.88	15.65	-3.37	0.605
50.00	-11.61	-18.76	0.00	-940.09	0.00	940.09	1,146.35	573.17	1,132.81	559.45	17.47	-3.55	0.582
52.50	-11.22	-18.41	0.00	-893.21	0.00	893.21	1,136.25	568.13	1,105.70	546.06	19.38	-3.73	0.558
55.00	-10.84	-18.07	0.00	-847.18	0.00	847.18	1,125.94	562.97	1,078.67	532.72	21.38	-3.91	0.534
57.50	-10.46	-17.73	0.00	-802.01	0.00	802.01	1,115.40	557.70	1,051.75	519.42	23.47	-4.08	0.511
60.00	-10.08	-17.39	0.00	-757.69	0.00	757.69	1,104.64	552.32	1,024.94	506.18	25.66	-4.25	0.488
62.50	-9.71	-17.05	0.00	-714.23	0.00	714.23	1,093.65	546.83	998.25	493.00	27.93	-4.42	0.464
65.00	-9.34	-16.71	0.00	-671.62	0.00	671.62	1,082.45	541.22	971.69	479.88	30.28	-4.58	0.441
67.50	-8.98	-16.37	0.00	-629.85	0.00	629.85	1,071.02	535.51	945.28	466.84	32.72	-4.73	0.418
70.00	-8.63	-16.04	0.00	-588.91	0.00	588.91	1,059.36	529.68	919.01	453.87	35.23	-4.88	0.395
72.50	-8.27	-15.71	0.00	-548.81	0.00	548.81	1,047.49	523.74	892.91	440.97	37.83	-5.03	0.372
75.00	-7.93	-15.45	0.00	-509.54	0.00	509.54	1,035.39	517.69	866.98	428.17	40.49	-5.16	0.349
76.17	-7.77	-15.28	0.00	-491.52	0.00	491.52	1,029.67	514.83	854.94	422.22	41.76	-5.23	0.338
77.50	-7.54	-15.07	0.00	-471.15	0.00	471.15	1,023.07	511.53	841.23	415.45	43.23	-5.30	0.320
79.50	-7.19	-14.87	0.00	-441.01	0.00	441.01	1,013.05	506.53	820.77	405.35	45.47	-5.40	0.302
79.50	-7.19	-14.87	0.00	-441.01	0.00	441.01	1,013.05	506.53	820.77	405.35	45.47	-5.40	0.302
80.00	-7.11	-14.71	0.00	-433.57	0.00	433.57	831.49	415.75	686.29	338.93	46.04	-5.42	0.331
82.50	-6.79	-14.38	0.00	-396.81	0.00	396.81	822.47	411.24	666.44	329.13	48.91	-5.54	0.306
85.00	-6.47	-14.06	0.00	-360.85	0.00	360.85	813.23	406.62	646.68	319.37	51.84	-5.66	0.281
87.50	-6.16	-13.74	0.00	-325.71	0.00	325.71	803.77	401.88	627.03	309.67	54.83	-5.77	0.256
90.00	-5.85	-13.45	0.00	-291.35	0.00	291.35	794.08	397.04	607.50	300.02	57.87	-5.87	0.231
92.00	-4.96	-11.14	0.00	-263.86	0.00	263.86	786.17	393.08	591.96	292.35	60.34	-5.94	0.210
92.50	-4.91	-10.98	0.00	-258.29	0.00	258.29	784.17	392.08	588.09	290.43	60.96	-5.96	0.206
95.00	-4.63	-10.68	0.00	-230.84	0.00	230.84	774.04	387.02	568.81	280.91	64.10	-6.04	0.186
97.44	-4.36	-10.48	0.00	-204.81	0.00	204.81	763.94	381.97	550.16	271.70	67.20	-6.12	0.167
97.44	-4.36	-10.48	0.00	-204.81	0.00	204.81	763.94	381.97	550.16	271.70	67.20	-6.12	0.760
97.50	-4.34	-10.38	0.00	-204.16	0.00	204.16	763.68	381.84	549.68	271.47	67.28	-6.12	0.758
100.00	-4.18	-10.17	0.00	-178.21	0.00	178.21	753.10	376.55	530.71	262.10	70.57	-6.45	0.686

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

4/9/2018 10:43:25 AM

Customer: AT&T MOBILITY

Load Case: 0.9D + 1.6W

93 mph with No Ice (Reduced DL)

27 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

101.00	-4.11	-9.52	0.00	-168.04	0.00	168.04	748.81	374.40	523.16	258.37	71.93	-6.58	0.657
102.50	-4.02	-9.35	0.00	-153.76	0.00	153.76	742.30	371.15	511.90	252.81	74.02	-6.76	0.614
105.00	-3.87	-9.17	0.00	-130.38	0.00	130.38	731.28	365.64	493.27	243.61	77.63	-7.04	0.541
107.50	-3.73	-9.00	0.00	-107.45	0.00	107.45	715.50	357.75	471.83	233.02	81.38	-7.29	0.467
110.00	-3.03	-6.94	0.00	-84.95	0.00	84.95	699.32	349.66	450.61	222.54	85.24	-7.50	0.386
112.50	-2.92	-6.76	0.00	-67.61	0.00	67.61	683.14	341.57	429.88	212.30	89.21	-7.68	0.323
115.00	-2.82	-6.59	0.00	-50.70	0.00	50.70	666.96	333.48	409.64	202.31	93.26	-7.83	0.255
117.50	-2.72	-6.42	0.00	-34.22	0.00	34.22	650.78	325.39	389.89	192.55	97.38	-7.95	0.182
120.00	0.00	-5.98	0.00	-18.15	0.00	18.15	634.60	317.30	370.62	183.04	101.56	-8.03	0.100

Load Case: 1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice	27 Iterations
Gust Response Factor :1.10	Ice Dead Load Factor :1.00	Wind Importance Factor :1.00
Dead Load Factor :1.20		Ice Importance Factor :1.00
Wind Load Factor :1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		45.2	0.0					0.0	0.0	45.2	0.0	0.0	0.0
2.50		89.7	449.9					29.8	495.6	119.5	945.5	0.0	0.0
5.00		88.1	467.7					30.4	506.2	118.5	973.9	0.0	0.0
7.50		86.2	473.0					30.4	563.5	116.6	1,036.5	0.0	0.0
10.00		84.3	474.4					30.2	781.7	114.5	1,256.0	0.0	0.0
12.50		82.3	473.6					30.0	788.4	112.3	1,262.0	0.0	0.0
15.00		48.3	471.7					29.7	793.6	78.0	1,265.2	0.0	0.0
15.48	Reinf. Top	39.7	90.3					5.7	152.6	45.4	242.9	0.0	0.0
17.50		70.8	378.9					23.7	483.1	94.5	862.0	0.0	0.0
20.00		76.6	465.4					29.1	600.7	105.6	1,066.1	0.0	0.0
22.50		74.7	461.5					28.7	603.4	103.5	1,064.9	0.0	0.0
25.00		72.9	457.3					28.4	553.5	101.4	1,010.8	0.0	0.0
27.50		71.2	452.8					28.1	555.2	99.3	1,007.9	0.0	0.0
30.00		69.9	448.0					27.7	556.6	97.7	1,004.6	0.0	0.0
32.50		69.5	443.1					27.8	557.9	97.2	1,000.9	0.0	0.0
35.00		69.2	438.0					28.1	558.9	97.3	996.9	0.0	0.0
37.50		35.7	432.8					28.3	559.8	64.0	992.6	0.0	0.0
37.58	Bot - Section 2	34.9	14.4					0.9	18.7	35.8	33.1	0.0	0.0
40.00		61.5	594.6					27.6	541.9	89.1	1,136.6	0.0	0.0
42.00	Top - Section 1	34.7	486.7					22.9	449.0	57.6	935.6	0.0	0.0
42.50		41.4	80.6					5.8	112.3	47.1	192.9	0.0	0.0
45.00		68.6	398.6					28.9	561.8	97.5	960.4	0.0	0.0
47.50		68.0	393.4					29.0	562.3	97.0	955.7	0.0	0.0
50.00		67.4	388.1					29.1	562.7	96.5	950.9	0.0	0.0
52.50		66.8	382.9					29.2	563.1	96.0	945.9	0.0	0.0
55.00		66.1	377.5					29.3	563.4	95.4	940.9	0.0	0.0
57.50		65.4	372.1					29.4	563.6	94.8	935.8	0.0	0.0
60.00		64.7	366.7					29.4	563.8	94.1	930.6	0.0	0.0
62.50		63.9	361.3					29.5	564.0	93.4	925.3	0.0	0.0
65.00		63.1	355.9					29.5	564.2	92.6	920.0	0.0	0.0
67.50		62.3	350.4					29.5	564.3	91.9	914.7	0.0	0.0
70.00		61.5	344.9					29.6	564.4	91.1	909.3	0.0	0.0
72.50		60.7	339.4					29.6	564.4	90.3	903.8	0.0	0.0
75.00		44.1	333.9					29.6	564.5	73.7	898.4	0.0	0.0
76.17	Bot - Section 3	30.0	154.3					13.8	263.4	43.8	417.7	0.0	0.0
77.50		39.9	243.9					15.8	301.1	55.7	545.0	0.0	0.0
79.50	Reinf. Top Reinf	29.7	361.4					23.7	451.6	53.4	813.1	0.0	0.0
80.00	Top - Section 2	35.2	89.7					5.9	112.9	41.2	202.6	0.0	0.0
82.50		58.2	303.0					29.6	564.6	87.8	867.6	0.0	0.0
85.00		57.3	297.9					29.6	564.5	87.0	862.4	0.0	0.0
87.50		56.5	292.7					29.6	564.5	86.1	857.2	0.0	0.0
90.00		50.1	287.5					29.6	564.5	79.7	852.0	0.0	0.0
92.00	Appurtenance(s)	27.6	226.5	559.9	0.0	124.1	3,392.5	23.7	451.6	611.2	4,070.6	0.0	0.0
92.50		32.6	56.3					5.9	87.0	38.6	143.3	0.0	0.0
95.00		53.2	277.1					29.6	435.2	82.8	712.3	0.0	0.0
97.44	Reinf. Top	26.7	265.2					28.8	424.3	55.6	689.5	0.0	0.0
97.50		26.9	6.8					0.7	5.9	27.7	12.6	0.0	0.0
100.00		36.7	266.7					29.6	234.8	66.2	501.5	0.0	0.0

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

4/9/2018 10:43:34 AM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

27 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

101.00	Appurtenance(s)	25.8	105.6	170.7	0.0	0.0	892.3	11.8	93.9	208.4	1,091.8	0.0	0.0
102.50		40.9	156.6					11.8	68.4	52.7	225.0	0.0	0.0
105.00		50.4	256.3					0.0	65.4	50.4	321.7	0.0	0.0
107.50		49.5	251.1					0.0	65.4	49.5	316.5	0.0	0.0
110.00	Appurtenance(s)	48.6	245.9	603.4	0.0	0.0	4,012.0	0.0	65.4	652.1	4,323.3	0.0	0.0
112.50		47.8	240.7					0.0	53.9	47.8	294.6	0.0	0.0
115.00		46.9	235.5					0.0	53.9	46.9	289.4	0.0	0.0
117.50		46.0	230.3					0.0	53.9	46.0	284.2	0.0	0.0
120.00	Appurtenance(s)	22.8	225.1	1,598.2	0.0	4,133.9	13,407.1	0.0	53.9	1,621.0	13,686.2	0.0	0.0
									Totals:	7,235.52	62,759.0	0.00	0.00

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

27 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	Pu	Vu	Tu	Mu	Mu	Resultant	phi	phi	phi	phi	Total		
Elev	FY (-)	FX (-)	MY	MZ	MX	Moment	Pn	Vn	Tn	Mn	Deflect	Rotation	Ratio
(ft)	(kips)	(kips)	(ft-kips)	(ft-kips)	(ft-kips)	(ft-kips)	(kips)	(kips)	(ft-kips)	(ft-kips)	(in)	(deg)	
0.00	-62.76	-7.22	0.00	-643.27	0.00	643.27	1,590.66	795.33	2,018.74	996.98	0.00	0.00	0.206
2.50	-61.81	-7.14	0.00	-625.23	0.00	625.23	1,581.24	790.62	1,982.92	979.29	0.01	-0.04	0.201
5.00	-60.83	-7.07	0.00	-607.38	0.00	607.38	1,571.59	785.80	1,947.12	961.61	0.05	-0.09	0.197
7.50	-59.78	-7.00	0.00	-589.70	0.00	589.70	1,561.72	780.86	1,911.33	943.93	0.11	-0.13	0.193
10.00	-58.52	-6.93	0.00	-572.20	0.00	572.20	1,551.63	775.81	1,875.57	926.27	0.19	-0.18	0.188
12.50	-57.26	-6.85	0.00	-554.89	0.00	554.89	1,541.31	770.66	1,839.85	908.63	0.29	-0.22	0.184
15.00	-55.99	-6.79	0.00	-537.76	0.00	537.76	1,530.78	765.39	1,804.18	891.02	0.42	-0.26	0.179
15.48	-55.74	-6.77	0.00	-534.51	0.00	534.51	1,528.73	764.37	1,797.35	887.64	0.45	-0.27	0.178
15.48	-55.74	-6.77	0.00	-534.51	0.00	534.51	1,528.73	764.37	1,797.35	887.64	0.45	-0.27	0.280
17.50	-54.88	-6.72	0.00	-520.83	0.00	520.83	1,520.01	760.01	1,768.57	873.43	0.57	-0.31	0.275
20.00	-53.80	-6.67	0.00	-504.03	0.00	504.03	1,509.03	754.52	1,733.02	855.87	0.75	-0.37	0.269
22.50	-52.73	-6.62	0.00	-487.36	0.00	487.36	1,497.83	748.91	1,697.56	838.36	0.96	-0.44	0.263
25.00	-51.71	-6.57	0.00	-470.81	0.00	470.81	1,486.40	743.20	1,662.18	820.89	1.21	-0.51	0.257
27.50	-50.70	-6.52	0.00	-454.38	0.00	454.38	1,474.74	737.37	1,626.91	803.47	1.50	-0.58	0.250
30.00	-49.69	-6.47	0.00	-438.08	0.00	438.08	1,462.87	731.44	1,591.74	786.10	1.82	-0.64	0.244
32.50	-48.68	-6.42	0.00	-421.90	0.00	421.90	1,450.77	725.39	1,556.69	768.79	2.17	-0.71	0.238
35.00	-47.68	-6.36	0.00	-405.86	0.00	405.86	1,438.45	719.23	1,521.78	751.55	2.56	-0.77	0.231
37.50	-46.68	-6.31	0.00	-389.96	0.00	389.96	1,425.91	712.96	1,487.00	734.37	2.98	-0.84	0.225
37.58	-46.65	-6.30	0.00	-389.44	0.00	389.44	1,425.49	712.74	1,485.84	733.80	3.00	-0.84	0.224
40.00	-45.51	-6.24	0.00	-374.21	0.00	374.21	1,413.15	706.57	1,452.37	717.27	3.44	-0.90	0.215
42.00	-44.57	-6.19	0.00	-361.74	0.00	361.74	1,177.15	588.58	1,220.08	602.55	3.83	-0.95	0.233
42.50	-44.37	-6.17	0.00	-358.64	0.00	358.64	1,175.29	587.65	1,214.60	599.85	3.93	-0.96	0.232
45.00	-43.41	-6.10	0.00	-343.23	0.00	343.23	1,165.87	582.93	1,187.28	586.35	4.45	-1.03	0.224
47.50	-42.45	-6.03	0.00	-327.97	0.00	327.97	1,156.22	578.11	1,160.01	572.88	5.01	-1.09	0.216
50.00	-41.49	-5.96	0.00	-312.89	0.00	312.89	1,146.35	573.17	1,132.81	559.45	5.59	-1.15	0.209
52.50	-40.54	-5.89	0.00	-297.99	0.00	297.99	1,136.25	568.13	1,105.70	546.06	6.21	-1.21	0.201
55.00	-39.60	-5.81	0.00	-283.27	0.00	283.27	1,125.94	562.97	1,078.67	532.72	6.86	-1.27	0.193
57.50	-38.66	-5.73	0.00	-268.74	0.00	268.74	1,115.40	557.70	1,051.75	519.42	7.54	-1.33	0.185
60.00	-37.72	-5.66	0.00	-254.41	0.00	254.41	1,104.64	552.32	1,024.94	506.18	8.25	-1.38	0.177
62.50	-36.80	-5.57	0.00	-240.27	0.00	240.27	1,093.65	546.83	998.25	493.00	8.99	-1.44	0.170
65.00	-35.87	-5.49	0.00	-226.33	0.00	226.33	1,082.45	541.22	971.69	479.88	9.76	-1.49	0.162
67.50	-34.96	-5.41	0.00	-212.60	0.00	212.60	1,071.02	535.51	945.28	466.84	10.56	-1.54	0.154
70.00	-34.05	-5.32	0.00	-199.09	0.00	199.09	1,059.36	529.68	919.01	453.87	11.38	-1.60	0.146
72.50	-33.14	-5.23	0.00	-185.79	0.00	185.79	1,047.49	523.74	892.91	440.97	12.23	-1.64	0.138
75.00	-32.24	-5.15	0.00	-172.71	0.00	172.71	1,035.39	517.69	866.98	428.17	13.10	-1.69	0.130
76.17	-31.82	-5.11	0.00	-166.70	0.00	166.70	1,029.67	514.83	854.94	422.22	13.52	-1.71	0.127
77.50	-31.28	-5.05	0.00	-159.89	0.00	159.89	1,023.07	511.53	841.23	415.45	14.00	-1.74	0.120
79.50	-30.46	-4.99	0.00	-149.78	0.00	149.78	1,013.05	506.53	820.77	405.35	14.73	-1.77	0.114
79.50	-30.46	-4.99	0.00	-149.78	0.00	149.78	1,013.05	506.53	820.77	405.35	14.73	-1.77	0.114
80.00	-30.26	-4.95	0.00	-147.29	0.00	147.29	831.49	415.75	686.29	338.93	14.92	-1.78	0.125
82.50	-29.39	-4.86	0.00	-134.91	0.00	134.91	822.47	411.24	666.44	329.13	15.86	-1.82	0.116
85.00	-28.53	-4.76	0.00	-122.77	0.00	122.77	813.23	406.62	646.68	319.37	16.83	-1.86	0.107
87.50	-27.67	-4.66	0.00	-110.87	0.00	110.87	803.77	401.88	627.03	309.67	17.81	-1.90	0.099
90.00	-26.82	-4.57	0.00	-99.21	0.00	99.21	794.08	397.04	607.50	300.02	18.81	-1.93	0.090
92.00	-22.77	-3.83	0.00	-89.95	0.00	89.95	786.17	393.08	591.96	292.35	19.63	-1.96	0.081
92.50	-22.63	-3.79	0.00	-88.04	0.00	88.04	784.17	392.08	588.09	290.43	19.83	-1.96	0.080
95.00	-21.92	-3.69	0.00	-78.56	0.00	78.56	774.04	387.02	568.81	280.91	20.87	-1.99	0.072
97.44	-21.23	-3.62	0.00	-69.56	0.00	69.56	763.94	381.97	550.16	271.70	21.89	-2.02	0.066
97.44	-21.23	-3.62	0.00	-69.56	0.00	69.56	763.94	381.97	550.16	271.70	21.89	-2.02	0.284
97.50	-21.22	-3.61	0.00	-69.34	0.00	69.34	763.68	381.84	549.68	271.47	21.92	-2.02	0.283
100.00	-20.71	-3.55	0.00	-60.31	0.00	60.31	753.10	376.55	530.71	262.10	23.00	-2.13	0.258

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

4/9/2018 10:43:34 AM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

27 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

101.00	-19.63	-3.32	0.00	-56.75	0.00	56.75	748.81	374.40	523.16	258.37	23.46	-2.17	0.246
102.50	-19.40	-3.29	0.00	-51.77	0.00	51.77	742.30	371.15	511.90	252.81	24.15	-2.23	0.231
105.00	-19.08	-3.25	0.00	-43.55	0.00	43.55	731.28	365.64	493.27	243.61	25.34	-2.33	0.205
107.50	-18.76	-3.22	0.00	-35.41	0.00	35.41	715.50	357.75	471.83	233.02	26.58	-2.41	0.178
110.00	-14.46	-2.40	0.00	-27.37	0.00	27.37	699.32	349.66	450.61	222.54	27.86	-2.48	0.144
112.50	-14.17	-2.35	0.00	-21.38	0.00	21.38	683.14	341.57	429.88	212.30	29.18	-2.54	0.121
115.00	-13.88	-2.30	0.00	-15.50	0.00	15.50	666.96	333.48	409.64	202.31	30.52	-2.58	0.097
117.50	-13.60	-2.25	0.00	-9.75	0.00	9.75	650.78	325.39	389.89	192.55	31.88	-2.62	0.072
120.00	0.00	-1.62	0.00	-4.13	0.00	4.13	634.60	317.30	370.62	183.04	33.26	-2.64	0.023

Load Case: 1.0D + 1.0W	Serviceability 60 mph	25 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		58.2	0.0					0.0	0.0	58.2	0.0	0.0	0.0
2.50		114.8	209.3					19.0	334.0	133.7	543.3	0.0	0.0
5.00		111.6	206.9					18.8	334.0	130.4	540.9	0.0	0.0
7.50		108.6	204.4					18.7	351.5	127.2	555.8	0.0	0.0
10.00		105.6	201.9					18.5	421.3	124.1	623.2	0.0	0.0
12.50		102.7	199.4					18.4	421.3	121.1	620.7	0.0	0.0
15.00		60.2	196.9					18.2	421.3	78.5	618.2	0.0	0.0
15.48	Reinf. Top	49.3	37.5					3.5	80.8	52.8	118.2	0.0	0.0
17.50		87.7	157.0					14.6	205.6	102.4	362.6	0.0	0.0
20.00		94.7	192.0					18.0	254.3	112.7	446.3	0.0	0.0
22.50		92.2	189.5					17.9	254.3	110.0	443.8	0.0	0.0
25.00		89.7	187.0					17.7	254.3	107.4	441.3	0.0	0.0
27.50		87.3	184.5					17.6	254.3	104.9	438.8	0.0	0.0
30.00		85.5	182.0					17.5	254.3	103.0	436.3	0.0	0.0
32.50		84.7	179.5					17.5	254.3	102.2	433.9	0.0	0.0
35.00		84.3	177.1					17.6	254.3	101.8	431.4	0.0	0.0
37.50		43.4	174.6					17.6	254.3	61.0	428.9	0.0	0.0
37.58	Bot - Section 2	42.4	5.8					0.6	8.5	43.0	14.3	0.0	0.0
40.00		74.6	314.7					17.1	245.8	91.7	560.6	0.0	0.0
42.00	Top - Section 1	42.0	257.2					14.2	203.5	56.2	460.6	0.0	0.0
42.50		50.0	30.1					3.6	50.9	53.6	81.0	0.0	0.0
45.00		82.9	149.2					17.8	254.3	100.6	403.5	0.0	0.0
47.50		82.0	147.0					17.8	254.3	99.8	401.4	0.0	0.0
50.00		81.0	144.9					17.8	254.3	98.9	399.2	0.0	0.0
52.50		80.0	142.7					17.9	254.3	97.9	397.0	0.0	0.0
55.00		79.0	140.5					17.9	254.3	96.9	394.8	0.0	0.0
57.50		77.9	138.3					17.9	254.3	95.8	392.7	0.0	0.0
60.00		76.8	136.2					17.9	254.3	94.7	390.5	0.0	0.0
62.50		75.7	134.0					17.9	254.3	93.6	388.3	0.0	0.0
65.00		74.5	131.8					18.0	254.3	92.5	386.1	0.0	0.0
67.50		73.4	129.6					18.0	254.3	91.3	384.0	0.0	0.0
70.00		72.2	127.5					18.0	254.3	90.2	381.8	0.0	0.0
72.50		71.0	125.3					18.0	254.3	89.0	379.6	0.0	0.0
75.00		51.4	123.1					18.0	254.3	69.4	377.4	0.0	0.0
76.17	Bot - Section 3	34.9	56.7					8.4	118.7	43.3	175.4	0.0	0.0
77.50		46.5	120.5					9.6	135.6	56.1	256.1	0.0	0.0
79.50	Reinf. Top Reinf	34.6	178.6					14.4	203.5	49.0	382.0	0.0	0.0
80.00	Top - Section 2	40.9	44.2					3.6	50.9	44.5	95.1	0.0	0.0
82.50		67.4	102.2					18.0	254.3	85.4	356.5	0.0	0.0
85.00		66.2	100.3					18.0	254.3	84.2	354.6	0.0	0.0
87.50		64.9	98.4					18.0	254.3	82.9	352.8	0.0	0.0
90.00		57.4	96.6					18.0	254.3	75.4	350.9	0.0	0.0
92.00	Appurtenance(s)	31.5	75.9	533.5	0.0	156.0	963.1	14.4	203.5	579.4	1,242.5	0.0	0.0
92.50		37.2	18.8					3.6	46.8	40.8	65.6	0.0	0.0
95.00		60.4	92.8					18.0	233.8	78.4	326.7	0.0	0.0
97.44	Reinf. Top	30.3	88.7					17.5	228.0	47.8	316.7	0.0	0.0
97.50		30.4	2.3					0.4	1.7	30.9	3.9	0.0	0.0
100.00		41.4	89.1					18.0	66.8	59.3	155.9	0.0	0.0

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

4/9/2018 10:43:43 AM

Customer: AT&T MOBILITY

Load Case: 1.0D + 1.0W

Serviceability 60 mph

25 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

101.00	Appurtenance(s)	29.0	35.1	136.3	0.0	0.0	70.4	7.2	26.7	172.5	132.3	0.0	0.0
102.50		41.0	52.1					7.2	32.7	48.2	84.8	0.0	0.0
105.00		46.8	85.4					0.0	54.5	46.8	139.9	0.0	0.0
107.50		45.8	83.5					0.0	54.5	45.8	138.0	0.0	0.0
110.00	Appurtenance(s)	44.8	81.6	467.1	0.0	0.0	912.0	0.0	54.5	511.8	1,048.2	0.0	0.0
112.50		43.7	79.8					0.0	44.9	43.7	124.7	0.0	0.0
115.00		42.7	77.9					0.0	44.9	42.7	122.8	0.0	0.0
117.50		41.6	76.0					0.0	44.9	41.6	121.0	0.0	0.0
120.00	Appurtenance(s)	20.6	74.2	1,536.1	0.0	4,722.9	3,865.8	0.0	44.9	1,556.6	3,984.9	0.0	0.0
Totals:										7,053.86	24,007.7	0.00	0.00

Load Case: 1.0D + 1.0W

Serviceability 60 mph

25 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg	Pu	Vu	Tu	Mu	Mu	Resultant	phi	phi	phi	phi	Total		
Elev	FY (-)	FX (-)	MY	MZ	MX	Moment	Pn	Vn	Tn	Mn	Deflect	Rotation	Ratio
(ft)	(kips)	(kips)	(ft-kips)	(ft-kips)	(ft-kips)	(ft-kips)	(kips)	(kips)	(ft-kips)	(ft-kips)	(in)	(deg)	
0.00	-24.01	-7.00	0.00	-550.77	0.00	550.77	1,590.66	795.33	2,018.74	996.98	0.00	0.00	0.169
2.50	-23.46	-6.88	0.00	-533.26	0.00	533.26	1,581.24	790.62	1,982.92	979.29	0.01	-0.04	0.165
5.00	-22.91	-6.77	0.00	-516.05	0.00	516.05	1,571.59	785.80	1,947.12	961.61	0.04	-0.08	0.160
7.50	-22.35	-6.65	0.00	-499.13	0.00	499.13	1,561.72	780.86	1,911.33	943.93	0.09	-0.11	0.156
10.00	-21.73	-6.54	0.00	-482.50	0.00	482.50	1,551.63	775.81	1,875.57	926.27	0.16	-0.15	0.152
12.50	-21.10	-6.43	0.00	-466.14	0.00	466.14	1,541.31	770.66	1,839.85	908.63	0.25	-0.19	0.148
15.00	-20.48	-6.36	0.00	-450.05	0.00	450.05	1,530.78	765.39	1,804.18	891.02	0.36	-0.22	0.144
15.48	-20.36	-6.31	0.00	-447.01	0.00	447.01	1,528.73	764.37	1,797.35	887.64	0.38	-0.23	0.143
15.48	-20.36	-6.31	0.00	-447.01	0.00	447.01	1,528.73	764.37	1,797.35	887.64	0.38	-0.23	0.225
17.50	-19.99	-6.22	0.00	-434.25	0.00	434.25	1,520.01	760.01	1,768.57	873.43	0.48	-0.26	0.220
20.00	-19.54	-6.13	0.00	-418.69	0.00	418.69	1,509.03	754.52	1,733.02	855.87	0.64	-0.32	0.215
22.50	-19.09	-6.03	0.00	-403.37	0.00	403.37	1,497.83	748.91	1,697.56	838.36	0.82	-0.37	0.209
25.00	-18.65	-5.94	0.00	-388.28	0.00	388.28	1,486.40	743.20	1,662.18	820.89	1.03	-0.43	0.203
27.50	-18.20	-5.85	0.00	-373.42	0.00	373.42	1,474.74	737.37	1,626.91	803.47	1.27	-0.48	0.197
30.00	-17.76	-5.76	0.00	-358.80	0.00	358.80	1,462.87	731.44	1,591.74	786.10	1.53	-0.54	0.192
32.50	-17.32	-5.67	0.00	-344.39	0.00	344.39	1,450.77	725.39	1,556.69	768.79	1.83	-0.59	0.186
35.00	-16.89	-5.58	0.00	-330.22	0.00	330.22	1,438.45	719.23	1,521.78	751.55	2.15	-0.64	0.180
37.50	-16.46	-5.52	0.00	-316.27	0.00	316.27	1,425.91	712.96	1,487.00	734.37	2.50	-0.70	0.175
37.58	-16.44	-5.49	0.00	-315.81	0.00	315.81	1,425.49	712.74	1,485.84	733.80	2.52	-0.70	0.174
40.00	-15.88	-5.40	0.00	-302.55	0.00	302.55	1,413.15	706.57	1,452.37	717.27	2.88	-0.75	0.166
42.00	-15.42	-5.34	0.00	-291.75	0.00	291.75	1,177.15	588.58	1,220.08	602.55	3.20	-0.79	0.180
42.50	-15.33	-5.30	0.00	-289.08	0.00	289.08	1,175.29	587.65	1,214.60	599.85	3.29	-0.80	0.179
45.00	-14.93	-5.20	0.00	-275.84	0.00	275.84	1,165.87	582.93	1,187.28	586.35	3.72	-0.85	0.172
47.50	-14.52	-5.11	0.00	-262.83	0.00	262.83	1,156.22	578.11	1,160.01	572.88	4.18	-0.90	0.165
50.00	-14.12	-5.02	0.00	-250.05	0.00	250.05	1,146.35	573.17	1,132.81	559.45	4.66	-0.95	0.159
52.50	-13.72	-4.92	0.00	-237.51	0.00	237.51	1,136.25	568.13	1,105.70	546.06	5.17	-1.00	0.153
55.00	-13.32	-4.83	0.00	-225.20	0.00	225.20	1,125.94	562.97	1,078.67	532.72	5.70	-1.04	0.146
57.50	-12.93	-4.74	0.00	-213.12	0.00	213.12	1,115.40	557.70	1,051.75	519.42	6.26	-1.09	0.140
60.00	-12.54	-4.65	0.00	-201.27	0.00	201.27	1,104.64	552.32	1,024.94	506.18	6.84	-1.13	0.133
62.50	-12.15	-4.55	0.00	-189.66	0.00	189.66	1,093.65	546.83	998.25	493.00	7.45	-1.18	0.127
65.00	-11.76	-4.46	0.00	-178.28	0.00	178.28	1,082.45	541.22	971.69	479.88	8.08	-1.22	0.121
67.50	-11.38	-4.37	0.00	-167.12	0.00	167.12	1,071.02	535.51	945.28	466.84	8.73	-1.26	0.114
70.00	-10.99	-4.28	0.00	-156.20	0.00	156.20	1,059.36	529.68	919.01	453.87	9.40	-1.30	0.108
72.50	-10.61	-4.19	0.00	-145.50	0.00	145.50	1,047.49	523.74	892.91	440.97	10.09	-1.34	0.102
75.00	-10.23	-4.11	0.00	-135.03	0.00	135.03	1,035.39	517.69	866.98	428.17	10.80	-1.37	0.096
76.17	-10.06	-4.07	0.00	-130.23	0.00	130.23	1,029.67	514.83	854.94	422.22	11.14	-1.39	0.093
77.50	-9.80	-4.01	0.00	-124.81	0.00	124.81	1,023.07	511.53	841.23	415.45	11.53	-1.41	0.088
79.50	-9.42	-3.96	0.00	-116.78	0.00	116.78	1,013.05	506.53	820.77	405.35	12.13	-1.44	0.083
79.50	-9.42	-3.96	0.00	-116.78	0.00	116.78	1,013.05	506.53	820.77	405.35	12.13	-1.44	0.083
80.00	-9.33	-3.91	0.00	-114.81	0.00	114.81	831.49	415.75	686.29	338.93	12.28	-1.44	0.091
82.50	-8.97	-3.82	0.00	-105.03	0.00	105.03	822.47	411.24	666.44	329.13	13.04	-1.48	0.084
85.00	-8.62	-3.73	0.00	-95.47	0.00	95.47	813.23	406.62	646.68	319.37	13.82	-1.51	0.077
87.50	-8.26	-3.65	0.00	-86.13	0.00	86.13	803.77	401.88	627.03	309.67	14.62	-1.53	0.070
90.00	-7.91	-3.56	0.00	-77.02	0.00	77.02	794.08	397.04	607.50	300.02	15.43	-1.56	0.064
92.00	-6.69	-2.95	0.00	-69.74	0.00	69.74	786.17	393.08	591.96	292.35	16.09	-1.58	0.058
92.50	-6.62	-2.91	0.00	-68.26	0.00	68.26	784.17	392.08	588.09	290.43	16.25	-1.59	0.057
95.00	-6.30	-2.83	0.00	-60.98	0.00	60.98	774.04	387.02	568.81	280.91	17.09	-1.61	0.051
97.44	-5.98	-2.77	0.00	-54.10	0.00	54.10	763.94	381.97	550.16	271.70	17.92	-1.63	0.046
97.44	-5.98	-2.77	0.00	-54.10	0.00	54.10	763.94	381.97	550.16	271.70	17.92	-1.63	0.207
97.50	-5.97	-2.74	0.00	-53.92	0.00	53.92	763.68	381.84	549.68	271.47	17.94	-1.63	0.207
100.00	-5.82	-2.69	0.00	-47.06	0.00	47.06	753.10	376.55	530.71	262.10	18.81	-1.72	0.187

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

4/9/2018 10:43:44 AM

Customer: AT&T MOBILITY

Load Case: 1.0D + 1.0W

Serviceability 60 mph

25 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

101.00	-5.69	-2.51	0.00	-44.38	0.00	44.38	748.81	374.40	523.16	258.37	19.18	-1.75	0.179
102.50	-5.60	-2.47	0.00	-40.60	0.00	40.60	742.30	371.15	511.90	252.81	19.73	-1.80	0.168
105.00	-5.46	-2.42	0.00	-34.43	0.00	34.43	731.28	365.64	493.27	243.61	20.70	-1.87	0.149
107.50	-5.32	-2.38	0.00	-28.37	0.00	28.37	715.50	357.75	471.83	233.02	21.69	-1.94	0.129
110.00	-4.29	-1.84	0.00	-22.42	0.00	22.42	699.32	349.66	450.61	222.54	22.72	-1.99	0.107
112.50	-4.17	-1.79	0.00	-17.83	0.00	17.83	683.14	341.57	429.88	212.30	23.78	-2.04	0.090
115.00	-4.04	-1.75	0.00	-13.35	0.00	13.35	666.96	333.48	409.64	202.31	24.86	-2.08	0.072
117.50	-3.92	-1.70	0.00	-8.98	0.00	8.98	650.78	325.39	389.89	192.55	25.96	-2.11	0.053
120.00	0.00	-1.56	0.00	-4.72	0.00	4.72	634.60	317.30	370.62	183.04	27.07	-2.13	0.026

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.19
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s	0.03
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	2.27
Redundancy Factor (ρ):	1.30
Seismic Force Distribution Exponent (k):	1.88
Total Unfactored Dead Load:	24.01 k
Seismic Base Shear (E):	0.94 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)
56	118.75	119	958	0.012	11	148
55	116.25	121	935	0.012	11	150
54	113.75	123	911	0.011	11	152
53	111.25	125	887	0.011	10	155
52	108.75	136	928	0.012	11	169
51	106.25	138	901	0.011	11	171
50	103.75	140	873	0.011	10	173
49	101.75	85	510	0.006	6	105
48	100.50	62	363	0.005	4	77
47	98.75	156	887	0.011	10	193
46	97.47	4	22	0.000	0	5
45	96.22	317	1,715	0.021	20	393
44	93.75	327	1,684	0.021	20	405
43	92.25	66	328	0.004	4	81
42	91.00	279	1,362	0.017	16	346
41	88.75	351	1,632	0.020	19	435
40	86.25	353	1,555	0.019	18	437
39	83.75	355	1,479	0.018	17	440
38	81.25	357	1,404	0.018	16	442
37	79.75	95	362	0.005	4	118
36	78.50	382	1,410	0.018	17	474
35	76.83	256	908	0.011	11	317
34	75.58	175	603	0.008	7	217

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

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Customer: AT&T MOBILITY

33	73.75	377	1,239	0.015	15	468
32	71.25	380	1,168	0.015	14	471
31	68.75	382	1,098	0.014	13	473
30	66.25	384	1,030	0.013	12	476
29	63.75	386	963	0.012	11	479
28	61.25	388	898	0.011	11	481
27	58.75	390	835	0.010	10	484
26	56.25	393	774	0.010	9	487
25	53.75	395	714	0.009	8	489
24	51.25	397	657	0.008	8	492
23	48.75	399	601	0.007	7	495
22	46.25	401	547	0.007	6	497
21	43.75	404	496	0.006	6	500
20	42.25	81	93	0.001	1	100
19	41.00	461	501	0.006	6	571
18	38.79	561	549	0.007	6	695
17	37.54	14	13	0.000	0	18
16	36.25	429	370	0.005	4	532
15	33.75	431	325	0.004	4	535
14	31.25	434	283	0.004	3	538
13	28.75	436	243	0.003	3	541
12	26.25	439	206	0.003	2	544
11	23.75	441	172	0.002	2	547
10	21.25	444	140	0.002	2	550
9	18.75	446	111	0.001	1	553
8	16.49	363	71	0.001	1	449
7	15.24	118	20	0.000	0	147
6	13.75	618	86	0.001	1	766
5	11.25	621	59	0.001	1	769
4	8.75	623	37	0.000	0	772
3	6.25	556	18	0.000	0	689
2	3.75	541	7	0.000	0	670
1	1.25	543	1	0.000	0	673
CCI TPX-070821	120.00	45	369	0.005	4	56
Powerwave LGP21401	120.00	85	694	0.009	8	105
Raycap DC6-48-60-18-	120.00	40	328	0.004	4	50
Ericsson RRUS A2	120.00	45	369	0.005	4	56
Ericsson RRUS 4478 B	120.00	180	1,475	0.018	17	223
Ericsson RRUS-11 190	120.00	132	1,083	0.014	13	164
Ericsson RRUS 32 (50	120.00	152	1,251	0.016	15	189
Ericsson RRUS 32 B2	120.00	159	1,305	0.016	15	197
2' Std. Dish	120.00	14	115	0.001	1	17
Powerwave Allgon 777	120.00	105	862	0.011	10	130
KMW AM-X-CD-16-65-00	120.00	49	398	0.005	5	60
Quintel QS66512-3 (1	120.00	112	919	0.011	11	139
Andrew SBNH-1D6565C	120.00	122	998	0.012	12	151
CCI TPA-65R-LCUUUU-H	120.00	163	1,339	0.017	16	202
Kathrein Scala 80010	120.00	344	2,821	0.035	33	426
Round Platform w/ Ha	120.00	2,120	17,397	0.217	204	2,628
Andrew DB844H90E-XY	110.00	112	780	0.010	9	139
Round T-Arm	110.00	500	3,483	0.043	41	620
T-Arm w/ Working Pla	110.00	300	2,090	0.026	25	372
Kathrein Scala 742 2	101.00	44	261	0.003	3	55
RFS APXV18-206517S-C	101.00	26	157	0.002	2	33
DragonWave Horizon C	92.00	42	211	0.003	2	53
NextNet BTS-2500	92.00	105	523	0.007	6	130
Argus LLPX310R	92.00	86	427	0.005	5	106
DragonWave A-ANT-18G	92.00	27	135	0.002	2	34
Stand-Off	92.00	560	2,787	0.035	33	694
DragonWave A-ANT-11G	92.00	48	237	0.003	3	59
DragonWave A-ANT-11G	92.00	48	237	0.003	3	59
DragonWave A-ANT-11G	92.00	48	237	0.003	3	59
		24,008	80,225	1.000	941	29,757

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

Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
56	118.75	119	958	0.012	11	102
55	116.25	121	935	0.012	11	104
54	113.75	123	911	0.011	11	106
53	111.25	125	887	0.011	10	107
52	108.75	136	928	0.012	11	117
51	106.25	138	901	0.011	11	119
50	103.75	140	873	0.011	10	120
49	101.75	85	510	0.006	6	73
48	100.50	62	363	0.005	4	53
47	98.75	156	887	0.011	10	134
46	97.47	4	22	0.000	0	3
45	96.22	317	1,715	0.021	20	273
44	93.75	327	1,684	0.021	20	281
43	92.25	66	328	0.004	4	56
42	91.00	279	1,362	0.017	16	240
41	88.75	351	1,632	0.020	19	302
40	86.25	353	1,555	0.019	18	304
39	83.75	355	1,479	0.018	17	305
38	81.25	357	1,404	0.018	16	307
37	79.75	95	362	0.005	4	82
36	78.50	382	1,410	0.018	17	329
35	76.83	256	908	0.011	11	220
34	75.58	175	603	0.008	7	151
33	73.75	377	1,239	0.015	15	325
32	71.25	380	1,168	0.015	14	327
31	68.75	382	1,098	0.014	13	329
30	66.25	384	1,030	0.013	12	330
29	63.75	386	963	0.012	11	332
28	61.25	388	898	0.011	11	334
27	58.75	390	835	0.010	10	336
26	56.25	393	774	0.010	9	338
25	53.75	395	714	0.009	8	340
24	51.25	397	657	0.008	8	342
23	48.75	399	601	0.007	7	344
22	46.25	401	547	0.007	6	345
21	43.75	404	496	0.006	6	347
20	42.25	81	93	0.001	1	70
19	41.00	461	501	0.006	6	396
18	38.79	561	549	0.007	6	482
17	37.54	14	13	0.000	0	12
16	36.25	429	370	0.005	4	369
15	33.75	431	325	0.004	4	371
14	31.25	434	283	0.004	3	373
13	28.75	436	243	0.003	3	375
12	26.25	439	206	0.003	2	378
11	23.75	441	172	0.002	2	380
10	21.25	444	140	0.002	2	382
9	18.75	446	111	0.001	1	384
8	16.49	363	71	0.001	1	312
7	15.24	118	20	0.000	0	102
6	13.75	618	86	0.001	1	532
5	11.25	621	59	0.001	1	534
4	8.75	623	37	0.000	0	536
3	6.25	556	18	0.000	0	478
2	3.75	541	7	0.000	0	465
1	1.25	543	1	0.000	0	468
CCI TPX-070821	120.00	45	369	0.005	4	39

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

4/9/2018 10:43:44 AM

Customer: AT&T MOBILITY

Powerwave LGP21401	120.00	85	694	0.009	8	73
Raycap DC6-48-60-18-	120.00	40	328	0.004	4	34
Ericsson RRUS A2	120.00	45	369	0.005	4	39
Ericsson RRUS 4478 B	120.00	180	1,475	0.018	17	155
Ericsson RRUS-11 190	120.00	132	1,083	0.014	13	114
Ericsson RRUS 32 (50	120.00	152	1,251	0.016	15	131
Ericsson RRUS 32 B2	120.00	159	1,305	0.016	15	137
2' Std. Dish	120.00	14	115	0.001	1	12
Powerwave Allgon 777	120.00	105	862	0.011	10	90
KMW AM-X-CD-16-65-00	120.00	49	398	0.005	5	42
Quintel QS66512-3 (1	120.00	112	919	0.011	11	96
Andrew SBNH-1D6565C	120.00	122	998	0.012	12	105
CCI TPA-65R-LCUUUU-H	120.00	163	1,339	0.017	16	140
Kathrein Scala 80010	120.00	344	2,821	0.035	33	296
Round Platform w/ Ha	120.00	2,120	17,397	0.217	204	1,824
Andrew DB844H90E-XY	110.00	112	780	0.010	9	96
Round T-Arm	110.00	500	3,483	0.043	41	430
T-Arm w/ Working Pla	110.00	300	2,090	0.026	25	258
Kathrein Scala 742 2	101.00	44	261	0.003	3	38
RFS APXV18-206517S-C	101.00	26	157	0.002	2	23
DragonWave Horizon C	92.00	42	211	0.003	2	36
NextNet BTS-2500	92.00	105	523	0.007	6	90
Argus LLPX310R	92.00	86	427	0.005	5	74
DragonWave A-ANT-18G	92.00	27	135	0.002	2	23
Stand-Off	92.00	560	2,787	0.035	33	482
DragonWave A-ANT-11G	92.00	48	237	0.003	3	41
DragonWave A-ANT-11G	92.00	48	237	0.003	3	41
DragonWave A-ANT-11G	92.00	48	237	0.003	3	41
		24,008	80,225	1.000	941	20,659

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-29.08	-0.94	0.00	-97.13	0.00	97.13	1,590.66	795.33	2,018.74	996.98	0.00	0.00	0.036
2.50	-28.41	-0.94	0.00	-94.77	0.00	94.77	1,581.24	790.62	1,982.92	979.29	0.00	-0.01	0.035
5.00	-27.72	-0.95	0.00	-92.41	0.00	92.41	1,571.59	785.80	1,947.12	961.61	0.01	-0.01	0.034
7.50	-26.95	-0.95	0.00	-90.04	0.00	90.04	1,561.72	780.86	1,911.33	943.93	0.02	-0.02	0.034
10.00	-26.18	-0.95	0.00	-87.67	0.00	87.67	1,551.63	775.81	1,875.57	926.27	0.03	-0.03	0.033
12.50	-25.42	-0.95	0.00	-85.29	0.00	85.29	1,541.31	770.66	1,839.85	908.63	0.04	-0.03	0.032
15.00	-25.27	-0.96	0.00	-82.90	0.00	82.90	1,530.78	765.39	1,804.18	891.02	0.06	-0.04	0.032
15.48	-24.82	-0.96	0.00	-82.44	0.00	82.44	1,528.73	764.37	1,797.35	887.64	0.07	-0.04	0.031
15.48	-24.82	-0.96	0.00	-82.44	0.00	82.44	1,528.73	764.37	1,797.35	887.64	0.07	-0.04	0.049
17.50	-24.27	-0.96	0.00	-80.51	0.00	80.51	1,520.01	760.01	1,768.57	873.43	0.09	-0.05	0.048
20.00	-23.72	-0.96	0.00	-78.12	0.00	78.12	1,509.03	754.52	1,733.02	855.87	0.11	-0.06	0.047
22.50	-23.17	-0.96	0.00	-75.72	0.00	75.72	1,497.83	748.91	1,697.56	838.36	0.15	-0.07	0.046
25.00	-22.62	-0.96	0.00	-73.32	0.00	73.32	1,486.40	743.20	1,662.18	820.89	0.19	-0.08	0.045
27.50	-22.08	-0.96	0.00	-70.91	0.00	70.91	1,474.74	737.37	1,626.91	803.47	0.23	-0.09	0.044
30.00	-21.55	-0.96	0.00	-68.51	0.00	68.51	1,462.87	731.44	1,591.74	786.10	0.28	-0.10	0.043
32.50	-21.01	-0.96	0.00	-66.10	0.00	66.10	1,450.77	725.39	1,556.69	768.79	0.33	-0.11	0.042
35.00	-20.48	-0.96	0.00	-63.70	0.00	63.70	1,438.45	719.23	1,521.78	751.55	0.39	-0.12	0.041
37.50	-20.46	-0.96	0.00	-61.30	0.00	61.30	1,425.91	712.96	1,487.00	734.37	0.46	-0.13	0.040
37.58	-19.77	-0.95	0.00	-61.22	0.00	61.22	1,425.49	712.74	1,485.84	733.80	0.46	-0.13	0.040
40.00	-19.20	-0.95	0.00	-58.92	0.00	58.92	1,413.15	706.57	1,452.37	717.27	0.53	-0.14	0.038
42.00	-19.09	-0.95	0.00	-57.02	0.00	57.02	1,177.15	588.58	1,220.08	602.55	0.59	-0.15	0.042
42.50	-18.59	-0.95	0.00	-56.54	0.00	56.54	1,175.29	587.65	1,214.60	599.85	0.61	-0.15	0.041
45.00	-18.10	-0.94	0.00	-54.18	0.00	54.18	1,165.87	582.93	1,187.28	586.35	0.69	-0.16	0.040
47.50	-17.60	-0.94	0.00	-51.83	0.00	51.83	1,156.22	578.11	1,160.01	572.88	0.77	-0.17	0.039
50.00	-17.11	-0.93	0.00	-49.49	0.00	49.49	1,146.35	573.17	1,132.81	559.45	0.86	-0.18	0.037
52.50	-16.62	-0.92	0.00	-47.17	0.00	47.17	1,136.25	568.13	1,105.70	546.06	0.96	-0.19	0.036
55.00	-16.13	-0.91	0.00	-44.86	0.00	44.86	1,125.94	562.97	1,078.67	532.72	1.06	-0.20	0.035
57.50	-15.65	-0.90	0.00	-42.58	0.00	42.58	1,115.40	557.70	1,051.75	519.42	1.17	-0.21	0.033
60.00	-15.17	-0.89	0.00	-40.31	0.00	40.31	1,104.64	552.32	1,024.94	506.18	1.28	-0.22	0.032
62.50	-14.69	-0.88	0.00	-38.08	0.00	38.08	1,093.65	546.83	998.25	493.00	1.39	-0.22	0.030
65.00	-14.21	-0.87	0.00	-35.87	0.00	35.87	1,082.45	541.22	971.69	479.88	1.51	-0.23	0.029
67.50	-13.74	-0.86	0.00	-33.69	0.00	33.69	1,071.02	535.51	945.28	466.84	1.64	-0.24	0.028
70.00	-13.27	-0.85	0.00	-31.54	0.00	31.54	1,059.36	529.68	919.01	453.87	1.77	-0.25	0.026
72.50	-12.80	-0.83	0.00	-29.43	0.00	29.43	1,047.49	523.74	892.91	440.97	1.90	-0.26	0.025
75.00	-12.58	-0.82	0.00	-27.35	0.00	27.35	1,035.39	517.69	866.98	428.17	2.04	-0.26	0.024
76.17	-12.27	-0.81	0.00	-26.39	0.00	26.39	1,029.67	514.83	854.94	422.22	2.10	-0.27	0.023
77.50	-11.79	-0.79	0.00	-25.31	0.00	25.31	1,023.07	511.53	841.23	415.45	2.18	-0.27	0.022
79.50	-11.68	-0.79	0.00	-23.72	0.00	23.72	1,013.05	506.53	820.77	405.35	2.29	-0.28	0.021
79.50	-11.68	-0.79	0.00	-23.72	0.00	23.72	1,013.05	506.53	820.77	405.35	2.29	-0.28	0.021
80.00	-11.23	-0.77	0.00	-23.32	0.00	23.32	831.49	415.75	686.29	338.93	2.32	-0.28	0.023
82.50	-10.79	-0.75	0.00	-21.39	0.00	21.39	822.47	411.24	666.44	329.13	2.47	-0.29	0.021
85.00	-10.36	-0.73	0.00	-19.51	0.00	19.51	813.23	406.62	646.68	319.37	2.62	-0.29	0.020
87.50	-9.92	-0.71	0.00	-17.67	0.00	17.67	803.77	401.88	627.03	309.67	2.77	-0.30	0.018
90.00	-9.58	-0.70	0.00	-15.88	0.00	15.88	794.08	397.04	607.50	300.02	2.93	-0.30	0.017
92.00	-8.30	-0.63	0.00	-14.49	0.00	14.49	786.17	393.08	591.96	292.35	3.06	-0.31	0.015
92.50	-7.90	-0.61	0.00	-14.17	0.00	14.17	784.17	392.08	588.09	290.43	3.09	-0.31	0.015
95.00	-7.50	-0.59	0.00	-12.65	0.00	12.65	774.04	387.02	568.81	280.91	3.25	-0.31	0.013
97.44	-7.50	-0.59	0.00	-11.22	0.00	11.22	763.94	381.97	550.16	271.70	3.41	-0.32	0.012
97.44	-7.50	-0.59	0.00	-11.22	0.00	11.22	763.94	381.97	550.16	271.70	3.41	-0.32	0.051
97.50	-7.31	-0.58	0.00	-11.18	0.00	11.18	763.68	381.84	549.68	271.47	3.42	-0.32	0.051
100.00	-7.23	-0.57	0.00	-9.74	0.00	9.74	753.10	376.55	530.71	262.10	3.59	-0.33	0.047
101.00	-7.04	-0.56	0.00	-9.16	0.00	9.16	748.81	374.40	523.16	258.37	3.66	-0.34	0.045
102.50	-6.86	-0.55	0.00	-8.32	0.00	8.32	742.30	371.15	511.90	252.81	3.77	-0.35	0.042
105.00	-6.69	-0.54	0.00	-6.93	0.00	6.93	731.28	365.64	493.27	243.61	3.96	-0.37	0.038
107.50	-6.52	-0.53	0.00	-5.57	0.00	5.57	715.50	357.75	471.83	233.02	4.15	-0.38	0.033
110.00	-5.24	-0.44	0.00	-4.24	0.00	4.24	699.32	349.66	450.61	222.54	4.35	-0.39	0.027

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

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Customer: AT&T MOBILITY

112.50	-5.09	-0.43	0.00	-3.14	0.00	3.14	683.14	341.57	429.88	212.30	4.56	-0.40	0.022
115.00	-4.94	-0.42	0.00	-2.06	0.00	2.06	666.96	333.48	409.64	202.31	4.77	-0.41	0.018
117.50	-4.79	-0.41	0.00	-1.02	0.00	1.02	650.78	325.39	389.89	192.55	4.99	-0.41	0.013
120.00	0.00	-0.37	0.00	0.00	0.00	0.00	634.60	317.30	370.62	183.04	5.20	-0.41	0.000

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

Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-20.19	-0.94	0.00	-95.54	0.00	95.54	1,590.66	795.33	2,018.74	996.98	0.00	0.00	0.033
2.50	-19.73	-0.94	0.00	-93.18	0.00	93.18	1,581.24	790.62	1,982.92	979.29	0.00	-0.01	0.033
5.00	-19.25	-0.95	0.00	-90.83	0.00	90.83	1,571.59	785.80	1,947.12	961.61	0.01	-0.01	0.032
7.50	-18.71	-0.95	0.00	-88.46	0.00	88.46	1,561.72	780.86	1,911.33	943.93	0.02	-0.02	0.031
10.00	-18.18	-0.95	0.00	-86.10	0.00	86.10	1,551.63	775.81	1,875.57	926.27	0.03	-0.03	0.031
12.50	-17.65	-0.95	0.00	-83.73	0.00	83.73	1,541.31	770.66	1,839.85	908.63	0.04	-0.03	0.030
15.00	-17.54	-0.95	0.00	-81.36	0.00	81.36	1,530.78	765.39	1,804.18	891.02	0.06	-0.04	0.029
15.48	-17.23	-0.95	0.00	-80.90	0.00	80.90	1,528.73	764.37	1,797.35	887.64	0.07	-0.04	0.029
15.48	-17.23	-0.95	0.00	-80.90	0.00	80.90	1,528.73	764.37	1,797.35	887.64	0.07	-0.04	0.045
17.50	-16.85	-0.95	0.00	-78.98	0.00	78.98	1,520.01	760.01	1,768.57	873.43	0.09	-0.05	0.045
20.00	-16.47	-0.95	0.00	-76.61	0.00	76.61	1,509.03	754.52	1,733.02	855.87	0.11	-0.06	0.044
22.50	-16.09	-0.95	0.00	-74.23	0.00	74.23	1,497.83	748.91	1,697.56	838.36	0.14	-0.07	0.043
25.00	-15.71	-0.95	0.00	-71.85	0.00	71.85	1,486.40	743.20	1,662.18	820.89	0.18	-0.08	0.042
27.50	-15.33	-0.95	0.00	-69.47	0.00	69.47	1,474.74	737.37	1,626.91	803.47	0.23	-0.09	0.041
30.00	-14.96	-0.95	0.00	-67.09	0.00	67.09	1,462.87	731.44	1,591.74	786.10	0.27	-0.10	0.040
32.50	-14.59	-0.95	0.00	-64.72	0.00	64.72	1,450.77	725.39	1,556.69	768.79	0.33	-0.11	0.039
35.00	-14.22	-0.95	0.00	-62.35	0.00	62.35	1,438.45	719.23	1,521.78	751.55	0.39	-0.12	0.038
37.50	-14.21	-0.95	0.00	-59.99	0.00	59.99	1,425.91	712.96	1,487.00	734.37	0.45	-0.13	0.037
37.58	-13.72	-0.94	0.00	-59.91	0.00	59.91	1,425.49	712.74	1,485.84	733.80	0.45	-0.13	0.037
40.00	-13.33	-0.94	0.00	-57.64	0.00	57.64	1,413.15	706.57	1,452.37	717.27	0.52	-0.14	0.035
42.00	-13.26	-0.93	0.00	-55.77	0.00	55.77	1,177.15	588.58	1,220.08	602.55	0.58	-0.14	0.039
42.50	-12.91	-0.93	0.00	-55.30	0.00	55.30	1,175.29	587.65	1,214.60	599.85	0.59	-0.15	0.038
45.00	-12.56	-0.92	0.00	-52.98	0.00	52.98	1,165.87	582.93	1,187.28	586.35	0.67	-0.16	0.037
47.50	-12.22	-0.92	0.00	-50.67	0.00	50.67	1,156.22	578.11	1,160.01	572.88	0.76	-0.17	0.036
50.00	-11.88	-0.91	0.00	-48.37	0.00	48.37	1,146.35	573.17	1,132.81	559.45	0.85	-0.18	0.034
52.50	-11.54	-0.90	0.00	-46.09	0.00	46.09	1,136.25	568.13	1,105.70	546.06	0.94	-0.18	0.033
55.00	-11.20	-0.90	0.00	-43.83	0.00	43.83	1,125.94	562.97	1,078.67	532.72	1.04	-0.19	0.032
57.50	-10.86	-0.89	0.00	-41.59	0.00	41.59	1,115.40	557.70	1,051.75	519.42	1.15	-0.20	0.031
60.00	-10.53	-0.88	0.00	-39.38	0.00	39.38	1,104.64	552.32	1,024.94	506.18	1.25	-0.21	0.029
62.50	-10.20	-0.87	0.00	-37.19	0.00	37.19	1,093.65	546.83	998.25	493.00	1.37	-0.22	0.028
65.00	-9.87	-0.85	0.00	-35.03	0.00	35.03	1,082.45	541.22	971.69	479.88	1.48	-0.23	0.027
67.50	-9.54	-0.84	0.00	-32.89	0.00	32.89	1,071.02	535.51	945.28	466.84	1.61	-0.24	0.025
70.00	-9.21	-0.83	0.00	-30.79	0.00	30.79	1,059.36	529.68	919.01	453.87	1.73	-0.24	0.024
72.50	-8.89	-0.81	0.00	-28.73	0.00	28.73	1,047.49	523.74	892.91	440.97	1.86	-0.25	0.023
75.00	-8.74	-0.80	0.00	-26.70	0.00	26.70	1,035.39	517.69	866.98	428.17	2.00	-0.26	0.022
76.17	-8.52	-0.79	0.00	-25.76	0.00	25.76	1,029.67	514.83	854.94	422.22	2.06	-0.26	0.021
77.50	-8.19	-0.78	0.00	-24.70	0.00	24.70	1,023.07	511.53	841.23	415.45	2.13	-0.27	0.020
79.50	-8.10	-0.77	0.00	-23.15	0.00	23.15	1,013.05	506.53	820.77	405.35	2.25	-0.27	0.019
79.50	-8.10	-0.77	0.00	-23.15	0.00	23.15	1,013.05	506.53	820.77	405.35	2.25	-0.27	0.019
80.00	-7.80	-0.75	0.00	-22.76	0.00	22.76	831.49	415.75	686.29	338.93	2.27	-0.27	0.021
82.50	-7.49	-0.74	0.00	-20.87	0.00	20.87	822.47	411.24	666.44	329.13	2.42	-0.28	0.019
85.00	-7.19	-0.72	0.00	-19.03	0.00	19.03	813.23	406.62	646.68	319.37	2.57	-0.29	0.018
87.50	-6.89	-0.70	0.00	-17.24	0.00	17.24	803.77	401.88	627.03	309.67	2.72	-0.29	0.016
90.00	-6.65	-0.68	0.00	-15.49	0.00	15.49	794.08	397.04	607.50	300.02	2.87	-0.30	0.015
92.00	-5.76	-0.62	0.00	-14.13	0.00	14.13	786.17	393.08	591.96	292.35	3.00	-0.30	0.014
92.50	-5.48	-0.60	0.00	-13.82	0.00	13.82	784.17	392.08	588.09	290.43	3.03	-0.30	0.013
95.00	-5.21	-0.57	0.00	-12.33	0.00	12.33	774.04	387.02	568.81	280.91	3.19	-0.31	0.012
97.44	-5.21	-0.57	0.00	-10.93	0.00	10.93	763.94	381.97	550.16	271.70	3.34	-0.31	0.011
97.44	-5.21	-0.57	0.00	-10.93	0.00	10.93	763.94	381.97	550.16	271.70	3.34	-0.31	0.047
97.50	-5.07	-0.56	0.00	-10.89	0.00	10.89	763.68	381.84	549.68	271.47	3.35	-0.31	0.047
100.00	-5.02	-0.56	0.00	-9.48	0.00	9.48	753.10	376.55	530.71	262.10	3.52	-0.33	0.043
101.00	-4.88	-0.55	0.00	-8.92	0.00	8.92	748.81	374.40	523.16	258.37	3.58	-0.33	0.041
102.50	-4.76	-0.54	0.00	-8.10	0.00	8.10	742.30	371.15	511.90	252.81	3.69	-0.34	0.038
105.00	-4.64	-0.53	0.00	-6.75	0.00	6.75	731.28	365.64	493.27	243.61	3.88	-0.36	0.034
107.50	-4.53	-0.52	0.00	-5.42	0.00	5.42	715.50	357.75	471.83	233.02	4.07	-0.37	0.030
110.00	-3.64	-0.43	0.00	-4.12	0.00	4.12	699.32	349.66	450.61	222.54	4.26	-0.38	0.024

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

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Customer: AT&T MOBILITY

112.50	-3.53	-0.42	0.00	-3.05	0.00	3.05	683.14	341.57	429.88	212.30	4.47	-0.39	0.020
115.00	-3.43	-0.41	0.00	-2.01	0.00	2.01	666.96	333.48	409.64	202.31	4.67	-0.40	0.015
117.50	-3.32	-0.40	0.00	-0.99	0.00	0.99	650.78	325.39	389.89	192.55	4.88	-0.40	0.010
120.00	0.00	-0.37	0.00	0.00	0.00	0.00	634.60	317.30	370.62	183.04	5.09	-0.40	0.000

Equivalent Modal Forces Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.19
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	2.27
Redundancy Factor (ρ):	1.30

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

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
56	118.75	119	1.851	1.780	1.067	0.350	36	148
55	116.25	121	1.774	1.422	0.933	0.301	32	150
54	113.75	123	1.698	1.116	0.812	0.256	27	152
53	111.25	125	1.624	0.856	0.704	0.214	23	155
52	108.75	136	1.552	0.638	0.607	0.175	21	169
51	106.25	138	1.482	0.457	0.521	0.139	17	171
50	103.75	140	1.413	0.308	0.445	0.107	13	173
49	101.75	85	1.359	0.210	0.391	0.084	6	105
48	100.50	62	1.326	0.158	0.359	0.070	4	77
47	98.75	156	1.280	0.094	0.319	0.052	7	193
46	97.47	4	1.247	0.054	0.291	0.040	0	5
45	96.22	317	1.215	0.019	0.266	0.029	8	393
44	93.75	327	1.154	-0.035	0.222	0.010	3	405
43	92.25	66	1.117	-0.060	0.197	-0.001	0	81
42	91.00	279	1.087	-0.077	0.179	-0.008	-2	346
41	88.75	351	1.034	-0.100	0.149	-0.020	-6	435
40	86.25	353	0.976	-0.115	0.120	-0.030	-9	437
39	83.75	355	0.921	-0.121	0.096	-0.037	-12	440
38	81.25	357	0.866	-0.121	0.075	-0.041	-13	442
37	79.75	95	0.835	-0.117	0.064	-0.042	-4	118
36	78.50	382	0.809	-0.113	0.056	-0.042	-14	474
35	76.83	256	0.775	-0.107	0.047	-0.041	-9	317
34	75.58	175	0.750	-0.101	0.041	-0.040	-6	217
33	73.75	377	0.714	-0.091	0.033	-0.036	-12	468
32	71.25	380	0.666	-0.076	0.024	-0.029	-10	471
31	68.75	382	0.620	-0.060	0.017	-0.021	-7	473
30	66.25	384	0.576	-0.044	0.012	-0.011	-4	476
29	63.75	386	0.533	-0.028	0.009	0.000	0	479
28	61.25	388	0.492	-0.013	0.007	0.010	3	481
27	58.75	390	0.453	0.001	0.006	0.020	7	484
26	56.25	393	0.415	0.013	0.006	0.029	10	487
25	53.75	395	0.379	0.024	0.007	0.036	12	489
24	51.25	397	0.345	0.034	0.009	0.042	14	492
23	48.75	399	0.312	0.043	0.011	0.046	16	495

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

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Customer: AT&T MOBILITY

22	46.25	401	0.281	0.049	0.014	0.049	17	497
21	43.75	404	0.251	0.055	0.017	0.051	18	500
20	42.25	81	0.234	0.058	0.019	0.052	4	100
19	41.00	461	0.221	0.060	0.021	0.052	21	571
18	38.79	561	0.198	0.063	0.024	0.053	26	695
17	37.54	14	0.185	0.065	0.025	0.053	1	18
16	36.25	429	0.172	0.066	0.027	0.052	20	532
15	33.75	431	0.150	0.068	0.030	0.052	19	535
14	31.25	434	0.128	0.069	0.033	0.051	19	538
13	28.75	436	0.108	0.071	0.036	0.051	19	541
12	26.25	439	0.090	0.071	0.038	0.050	19	544
11	23.75	441	0.074	0.072	0.040	0.049	19	547
10	21.25	444	0.059	0.072	0.041	0.048	18	550
9	18.75	446	0.046	0.071	0.042	0.047	18	553
8	16.49	363	0.036	0.069	0.041	0.046	14	449
7	15.24	118	0.030	0.068	0.041	0.045	5	147
6	13.75	618	0.025	0.066	0.039	0.044	24	766
5	11.25	621	0.017	0.062	0.036	0.042	22	769
4	8.75	623	0.010	0.055	0.032	0.038	20	772
3	6.25	556	0.005	0.045	0.025	0.032	15	689
2	3.75	541	0.002	0.031	0.017	0.023	11	670
1	1.25	543	0.000	0.012	0.006	0.010	5	673
CCI TPX-070821	120.00	45	1.890	1.980	1.140	0.376	15	56
Powerwave LGP21401	120.00	85	1.890	1.980	1.140	0.376	28	105
Raycap DC6-48-60-18-	120.00	40	1.890	1.980	1.140	0.376	13	50
Ericsson RRUS A2	120.00	45	1.890	1.980	1.140	0.376	15	56
Ericsson RRUS 4478 B	120.00	180	1.890	1.980	1.140	0.376	59	223
Ericsson RRUS-11 190	120.00	132	1.890	1.980	1.140	0.376	43	164
Ericsson RRUS 32 (50	120.00	152	1.890	1.980	1.140	0.376	50	189
Ericsson RRUS 32 B2	120.00	159	1.890	1.980	1.140	0.376	52	197
2' Std. Dish	120.00	14	1.890	1.980	1.140	0.376	5	17
Powerwave Allgon 777	120.00	105	1.890	1.980	1.140	0.376	34	130
KMW AM-X-CD-16-65-00	120.00	49	1.890	1.980	1.140	0.376	16	60
Quintel QS66512-3 (1	120.00	112	1.890	1.980	1.140	0.376	36	139
Andrew SBNH-1D6565C	120.00	122	1.890	1.980	1.140	0.376	40	151
CCI TPA-65R-LCUUUU-H	120.00	163	1.890	1.980	1.140	0.376	53	202
Kathrein Scala 80010	120.00	344	1.890	1.980	1.140	0.376	112	426
Round Platform w/ Ha	120.00	2,120	1.890	1.980	1.140	0.376	690	2,628
Andrew DB844H90E-XY	110.00	112	1.588	0.742	0.654	0.194	19	139
Round T-Arm	110.00	500	1.588	0.742	0.654	0.194	84	620
T-Arm w/ Working Pla	110.00	300	1.588	0.742	0.654	0.194	50	372
Kathrein Scala 742 2	101.00	44	1.339	0.178	0.372	0.075	3	55
RFS APXV18-206517S-C	101.00	26	1.339	0.178	0.372	0.075	2	33
DragonWave Horizon C	92.00	42	1.111	-0.064	0.194	-0.002	0	53
NextNet BTS-2500	92.00	105	1.111	-0.064	0.194	-0.002	0	130
Argus LLPX310R	92.00	86	1.111	-0.064	0.194	-0.002	0	106
DragonWave A-ANT-18G	92.00	27	1.111	-0.064	0.194	-0.002	0	34
Stand-Off	92.00	560	1.111	-0.064	0.194	-0.002	-1	694
DragonWave A-ANT-11G	92.00	48	1.111	-0.064	0.194	-0.002	0	59
DragonWave A-ANT-11G	92.00	48	1.111	-0.064	0.194	-0.002	0	59
DragonWave A-ANT-11G	92.00	48	1.111	-0.064	0.194	-0.002	0	59
		24,008	82.542	40.918	31.241	9.322	1,920	29,757

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)
56	118.75	119	1.851	1.780	1.067	0.350	36	102
55	116.25	121	1.774	1.422	0.933	0.301	32	104

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

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Customer: AT&T MOBILITY

54	113.75	123	1.698	1.116	0.812	0.256	27	106
53	111.25	125	1.624	0.856	0.704	0.214	23	107
52	108.75	136	1.552	0.638	0.607	0.175	21	117
51	106.25	138	1.482	0.457	0.521	0.139	17	119
50	103.75	140	1.413	0.308	0.445	0.107	13	120
49	101.75	85	1.359	0.210	0.391	0.084	6	73
48	100.50	62	1.326	0.158	0.359	0.070	4	53
47	98.75	156	1.280	0.094	0.319	0.052	7	134
46	97.47	4	1.247	0.054	0.291	0.040	0	3
45	96.22	317	1.215	0.019	0.266	0.029	8	273
44	93.75	327	1.154	-0.035	0.222	0.010	3	281
43	92.25	66	1.117	-0.060	0.197	-0.001	0	56
42	91.00	279	1.087	-0.077	0.179	-0.008	-2	240
41	88.75	351	1.034	-0.100	0.149	-0.020	-6	302
40	86.25	353	0.976	-0.115	0.120	-0.030	-9	304
39	83.75	355	0.921	-0.121	0.096	-0.037	-12	305
38	81.25	357	0.866	-0.121	0.075	-0.041	-13	307
37	79.75	95	0.835	-0.117	0.064	-0.042	-4	82
36	78.50	382	0.809	-0.113	0.056	-0.042	-14	329
35	76.83	256	0.775	-0.107	0.047	-0.041	-9	220
34	75.58	175	0.750	-0.101	0.041	-0.040	-6	151
33	73.75	377	0.714	-0.091	0.033	-0.036	-12	325
32	71.25	380	0.666	-0.076	0.024	-0.029	-10	327
31	68.75	382	0.620	-0.060	0.017	-0.021	-7	329
30	66.25	384	0.576	-0.044	0.012	-0.011	-4	330
29	63.75	386	0.533	-0.028	0.009	0.000	0	332
28	61.25	388	0.492	-0.013	0.007	0.010	3	334
27	58.75	390	0.453	0.001	0.006	0.020	7	336
26	56.25	393	0.415	0.013	0.006	0.029	10	338
25	53.75	395	0.379	0.024	0.007	0.036	12	340
24	51.25	397	0.345	0.034	0.009	0.042	14	342
23	48.75	399	0.312	0.043	0.011	0.046	16	344
22	46.25	401	0.281	0.049	0.014	0.049	17	345
21	43.75	404	0.251	0.055	0.017	0.051	18	347
20	42.25	81	0.234	0.058	0.019	0.052	4	70
19	41.00	461	0.221	0.060	0.021	0.052	21	396
18	38.79	561	0.198	0.063	0.024	0.053	26	482
17	37.54	14	0.185	0.065	0.025	0.053	1	12
16	36.25	429	0.172	0.066	0.027	0.052	20	369
15	33.75	431	0.150	0.068	0.030	0.052	19	371
14	31.25	434	0.128	0.069	0.033	0.051	19	373
13	28.75	436	0.108	0.071	0.036	0.051	19	375
12	26.25	439	0.090	0.071	0.038	0.050	19	378
11	23.75	441	0.074	0.072	0.040	0.049	19	380
10	21.25	444	0.059	0.072	0.041	0.048	18	382
9	18.75	446	0.046	0.071	0.042	0.047	18	384
8	16.49	363	0.036	0.069	0.041	0.046	14	312
7	15.24	118	0.030	0.068	0.041	0.045	5	102
6	13.75	618	0.025	0.066	0.039	0.044	24	532
5	11.25	621	0.017	0.062	0.036	0.042	22	534
4	8.75	623	0.010	0.055	0.032	0.038	20	536
3	6.25	556	0.005	0.045	0.025	0.032	15	478
2	3.75	541	0.002	0.031	0.017	0.023	11	465
1	1.25	543	0.000	0.012	0.006	0.010	5	468
CCI TPX-070821	120.00	45	1.890	1.980	1.140	0.376	15	39
Powerwave LGP21401	120.00	85	1.890	1.980	1.140	0.376	28	73
Raycap DC6-48-60-18-	120.00	40	1.890	1.980	1.140	0.376	13	34
Ericsson RRUS A2	120.00	45	1.890	1.980	1.140	0.376	15	39
Ericsson RRUS 4478 B	120.00	180	1.890	1.980	1.140	0.376	59	155
Ericsson RRUS-11 190	120.00	132	1.890	1.980	1.140	0.376	43	114
Ericsson RRUS 32 (50	120.00	152	1.890	1.980	1.140	0.376	50	131
Ericsson RRUS 32 B2	120.00	159	1.890	1.980	1.140	0.376	52	137
2' Std. Dish	120.00	14	1.890	1.980	1.140	0.376	5	12
Powerwave Allgon 777	120.00	105	1.890	1.980	1.140	0.376	34	90

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

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Customer: AT&T MOBILITY

KMW AM-X-CD-16-65-00	120.00	49	1.890	1.980	1.140	0.376	16	42
Quintel QS66512-3 (1	120.00	112	1.890	1.980	1.140	0.376	36	96
Andrew SBNH-1D6565C	120.00	122	1.890	1.980	1.140	0.376	40	105
CCI TPA-65R-LCUUUU-H	120.00	163	1.890	1.980	1.140	0.376	53	140
Kathrein Scala 80010	120.00	344	1.890	1.980	1.140	0.376	112	296
Round Platform w/ Ha	120.00	2,120	1.890	1.980	1.140	0.376	690	1,824
Andrew DB844H90E-XY	110.00	112	1.588	0.742	0.654	0.194	19	96
Round T-Arm	110.00	500	1.588	0.742	0.654	0.194	84	430
T-Arm w/ Working Pla	110.00	300	1.588	0.742	0.654	0.194	50	258
Kathrein Scala 742 2	101.00	44	1.339	0.178	0.372	0.075	3	38
RFS APXV18-206517S-C	101.00	26	1.339	0.178	0.372	0.075	2	23
DragonWave Horizon C	92.00	42	1.111	-0.064	0.194	-0.002	0	36
NextNet BTS-2500	92.00	105	1.111	-0.064	0.194	-0.002	0	90
Argus LLPX310R	92.00	86	1.111	-0.064	0.194	-0.002	0	74
DragonWave A-ANT-18G	92.00	27	1.111	-0.064	0.194	-0.002	0	23
Stand-Off	92.00	560	1.111	-0.064	0.194	-0.002	-1	482
DragonWave A-ANT-11G	92.00	48	1.111	-0.064	0.194	-0.002	0	41
DragonWave A-ANT-11G	92.00	48	1.111	-0.064	0.194	-0.002	0	41
DragonWave A-ANT-11G	92.00	48	1.111	-0.064	0.194	-0.002	0	41
		24,008	82.542	40.918	31.241	9.322	1,920	20,659

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-29.08	-1.92	0.00	-204.52	0.00	204.52	1,590.66	795.33	2,018.74	996.98	0.00	0.00	0.068
2.50	-28.41	-1.91	0.00	-199.73	0.00	199.73	1,581.24	790.62	1,982.92	979.29	0.00	-0.01	0.066
5.00	-27.72	-1.91	0.00	-194.94	0.00	194.94	1,571.59	785.80	1,947.12	961.61	0.02	-0.03	0.065
7.50	-26.95	-1.89	0.00	-190.17	0.00	190.17	1,561.72	780.86	1,911.33	943.93	0.03	-0.04	0.064
10.00	-26.18	-1.88	0.00	-185.44	0.00	185.44	1,551.63	775.81	1,875.57	926.27	0.06	-0.06	0.063
12.50	-25.41	-1.86	0.00	-180.76	0.00	180.76	1,541.31	770.66	1,839.85	908.63	0.09	-0.07	0.061
15.00	-25.27	-1.86	0.00	-176.11	0.00	176.11	1,530.78	765.39	1,804.18	891.02	0.13	-0.09	0.060
15.48	-24.82	-1.84	0.00	-175.22	0.00	175.22	1,528.73	764.37	1,797.35	887.64	0.14	-0.09	0.060
15.48	-24.82	-1.84	0.00	-175.22	0.00	175.22	1,528.73	764.37	1,797.35	887.64	0.14	-0.09	0.094
17.50	-24.26	-1.83	0.00	-171.50	0.00	171.50	1,520.01	760.01	1,768.57	873.43	0.18	-0.10	0.093
20.00	-23.71	-1.82	0.00	-166.92	0.00	166.92	1,509.03	754.52	1,733.02	855.87	0.24	-0.12	0.091
22.50	-23.17	-1.81	0.00	-162.36	0.00	162.36	1,497.83	748.91	1,697.56	838.36	0.31	-0.14	0.090
25.00	-22.62	-1.80	0.00	-157.84	0.00	157.84	1,486.40	743.20	1,662.18	820.89	0.39	-0.17	0.088
27.50	-22.08	-1.79	0.00	-153.34	0.00	153.34	1,474.74	737.37	1,626.91	803.47	0.49	-0.19	0.086
30.00	-21.54	-1.77	0.00	-148.87	0.00	148.87	1,462.87	731.44	1,591.74	786.10	0.59	-0.21	0.085
32.50	-21.01	-1.76	0.00	-144.44	0.00	144.44	1,450.77	725.39	1,556.69	768.79	0.71	-0.23	0.083
35.00	-20.47	-1.75	0.00	-140.03	0.00	140.03	1,438.45	719.23	1,521.78	751.55	0.84	-0.26	0.081
37.50	-20.46	-1.75	0.00	-135.66	0.00	135.66	1,425.91	712.96	1,487.00	734.37	0.98	-0.28	0.080
37.58	-19.76	-1.73	0.00	-135.52	0.00	135.52	1,425.49	712.74	1,485.84	733.80	0.98	-0.28	0.079
40.00	-19.19	-1.71	0.00	-131.35	0.00	131.35	1,413.15	706.57	1,452.37	717.27	1.13	-0.30	0.076
42.00	-19.09	-1.71	0.00	-127.93	0.00	127.93	1,177.15	588.58	1,220.08	602.55	1.26	-0.32	0.084
42.50	-18.59	-1.69	0.00	-127.08	0.00	127.08	1,175.29	587.65	1,214.60	599.85	1.29	-0.32	0.083
45.00	-18.09	-1.68	0.00	-122.85	0.00	122.85	1,165.87	582.93	1,187.28	586.35	1.47	-0.35	0.081
47.50	-17.59	-1.67	0.00	-118.65	0.00	118.65	1,156.22	578.11	1,160.01	572.88	1.65	-0.37	0.079
50.00	-17.10	-1.66	0.00	-114.49	0.00	114.49	1,146.35	573.17	1,132.81	559.45	1.85	-0.39	0.077
52.50	-16.61	-1.65	0.00	-110.35	0.00	110.35	1,136.25	568.13	1,105.70	546.06	2.06	-0.41	0.075
55.00	-16.12	-1.64	0.00	-106.23	0.00	106.23	1,125.94	562.97	1,078.67	532.72	2.28	-0.43	0.073
57.50	-15.64	-1.63	0.00	-102.14	0.00	102.14	1,115.40	557.70	1,051.75	519.42	2.52	-0.46	0.071
60.00	-15.16	-1.63	0.00	-98.05	0.00	98.05	1,104.64	552.32	1,024.94	506.18	2.76	-0.48	0.069
62.50	-14.68	-1.63	0.00	-93.97	0.00	93.97	1,093.65	546.83	998.25	493.00	3.02	-0.50	0.066
65.00	-14.20	-1.64	0.00	-89.88	0.00	89.88	1,082.45	541.22	971.69	479.88	3.28	-0.52	0.064
67.50	-13.73	-1.65	0.00	-85.78	0.00	85.78	1,071.02	535.51	945.28	466.84	3.56	-0.54	0.062
70.00	-13.26	-1.66	0.00	-81.67	0.00	81.67	1,059.36	529.68	919.01	453.87	3.85	-0.56	0.060
72.50	-12.79	-1.67	0.00	-77.53	0.00	77.53	1,047.49	523.74	892.91	440.97	4.15	-0.58	0.057
75.00	-12.57	-1.68	0.00	-73.36	0.00	73.36	1,035.39	517.69	866.98	428.17	4.46	-0.60	0.055
76.17	-12.25	-1.68	0.00	-71.40	0.00	71.40	1,029.67	514.83	854.94	422.22	4.61	-0.61	0.054
77.50	-11.78	-1.69	0.00	-69.16	0.00	69.16	1,023.07	511.53	841.23	415.45	4.78	-0.62	0.051
79.50	-11.66	-1.70	0.00	-65.77	0.00	65.77	1,013.05	506.53	820.77	405.35	5.04	-0.64	0.049
79.50	-11.66	-1.70	0.00	-65.77	0.00	65.77	1,013.05	506.53	820.77	405.35	5.04	-0.64	0.049
80.00	-11.22	-1.71	0.00	-64.92	0.00	64.92	831.49	415.75	686.29	338.93	5.11	-0.64	0.054
82.50	-10.78	-1.72	0.00	-60.65	0.00	60.65	822.47	411.24	666.44	329.13	5.45	-0.66	0.051
85.00	-10.34	-1.73	0.00	-56.35	0.00	56.35	813.23	406.62	646.68	319.37	5.80	-0.68	0.048
87.50	-9.91	-1.73	0.00	-52.04	0.00	52.04	803.77	401.88	627.03	309.67	6.16	-0.69	0.045
90.00	-9.56	-1.73	0.00	-47.71	0.00	47.71	794.08	397.04	607.50	300.02	6.53	-0.71	0.042
92.00	-8.28	-1.72	0.00	-44.25	0.00	44.25	786.17	393.08	591.96	292.35	6.83	-0.72	0.039
92.50	-7.88	-1.71	0.00	-43.39	0.00	43.39	784.17	392.08	588.09	290.43	6.90	-0.72	0.038
95.00	-7.49	-1.70	0.00	-39.12	0.00	39.12	774.04	387.02	568.81	280.91	7.28	-0.74	0.034
97.44	-7.48	-1.70	0.00	-34.98	0.00	34.98	763.94	381.97	550.16	271.70	7.67	-0.75	0.031
97.44	-7.48	-1.70	0.00	-34.98	0.00	34.98	763.94	381.97	550.16	271.70	7.67	-0.75	0.139
97.50	-7.29	-1.69	0.00	-34.87	0.00	34.87	763.68	381.84	549.68	271.47	7.67	-0.75	0.138
100.00	-7.21	-1.69	0.00	-30.64	0.00	30.64	753.10	376.55	530.71	262.10	8.08	-0.81	0.126
101.00	-7.02	-1.68	0.00	-28.94	0.00	28.94	748.81	374.40	523.16	258.37	8.26	-0.83	0.121
102.50	-6.84	-1.67	0.00	-26.42	0.00	26.42	742.30	371.15	511.90	252.81	8.52	-0.86	0.114
105.00	-6.67	-1.66	0.00	-22.23	0.00	22.23	731.28	365.64	493.27	243.61	8.99	-0.91	0.100
107.50	-6.50	-1.64	0.00	-18.09	0.00	18.09	715.50	357.75	471.83	233.02	9.47	-0.95	0.087
110.00	-5.22	-1.45	0.00	-13.99	0.00	13.99	699.32	349.66	450.61	222.54	9.98	-0.99	0.070

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

4/9/2018 10:43:44 AM

Customer: AT&T MOBILITY

112.50	-5.06	-1.42	0.00	-10.37	0.00	10.37	683.14	341.57	429.88	212.30	10.51	-1.02	0.056
115.00	-4.91	-1.38	0.00	-6.83	0.00	6.83	666.96	333.48	409.64	202.31	11.04	-1.04	0.041
117.50	-4.77	-1.35	0.00	-3.37	0.00	3.37	650.78	325.39	389.89	192.55	11.59	-1.05	0.025
120.00	0.00	-1.26	0.00	0.00	0.00	0.00	634.60	317.30	370.62	183.04	12.14	-1.06	0.000

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-20.19	-1.92	0.00	-200.78	0.00	200.78	1,590.66	795.33	2,018.74	996.98	0.00	0.00	0.064
2.50	-19.73	-1.91	0.00	-195.99	0.00	195.99	1,581.24	790.62	1,982.92	979.29	0.00	-0.01	0.063
5.00	-19.25	-1.90	0.00	-191.22	0.00	191.22	1,571.59	785.80	1,947.12	961.61	0.01	-0.03	0.062
7.50	-18.71	-1.88	0.00	-186.47	0.00	186.47	1,561.72	780.86	1,911.33	943.93	0.03	-0.04	0.061
10.00	-18.18	-1.86	0.00	-181.76	0.00	181.76	1,551.63	775.81	1,875.57	926.27	0.06	-0.06	0.060
12.50	-17.64	-1.84	0.00	-177.10	0.00	177.10	1,541.31	770.66	1,839.85	908.63	0.09	-0.07	0.058
15.00	-17.54	-1.84	0.00	-172.49	0.00	172.49	1,530.78	765.39	1,804.18	891.02	0.13	-0.08	0.057
15.48	-17.23	-1.83	0.00	-171.60	0.00	171.60	1,528.73	764.37	1,797.35	887.64	0.14	-0.09	0.057
15.48	-17.23	-1.83	0.00	-171.60	0.00	171.60	1,528.73	764.37	1,797.35	887.64	0.14	-0.09	0.090
17.50	-16.84	-1.82	0.00	-167.91	0.00	167.91	1,520.01	760.01	1,768.57	873.43	0.18	-0.10	0.088
20.00	-16.46	-1.80	0.00	-163.37	0.00	163.37	1,509.03	754.52	1,733.02	855.87	0.24	-0.12	0.087
22.50	-16.08	-1.79	0.00	-158.86	0.00	158.86	1,497.83	748.91	1,697.56	838.36	0.31	-0.14	0.085
25.00	-15.70	-1.78	0.00	-154.38	0.00	154.38	1,486.40	743.20	1,662.18	820.89	0.39	-0.16	0.084
27.50	-15.33	-1.76	0.00	-149.95	0.00	149.95	1,474.74	737.37	1,626.91	803.47	0.48	-0.19	0.082
30.00	-14.95	-1.75	0.00	-145.54	0.00	145.54	1,462.87	731.44	1,591.74	786.10	0.58	-0.21	0.080
32.50	-14.58	-1.73	0.00	-141.18	0.00	141.18	1,450.77	725.39	1,556.69	768.79	0.69	-0.23	0.079
35.00	-14.21	-1.72	0.00	-136.85	0.00	136.85	1,438.45	719.23	1,521.78	751.55	0.82	-0.25	0.077
37.50	-14.20	-1.72	0.00	-132.56	0.00	132.56	1,425.91	712.96	1,487.00	734.37	0.96	-0.27	0.076
37.58	-13.72	-1.69	0.00	-132.42	0.00	132.42	1,425.49	712.74	1,485.84	733.80	0.96	-0.27	0.076
40.00	-13.32	-1.67	0.00	-128.33	0.00	128.33	1,413.15	706.57	1,452.37	717.27	1.10	-0.29	0.073
42.00	-13.25	-1.67	0.00	-124.98	0.00	124.98	1,177.15	588.58	1,220.08	602.55	1.23	-0.31	0.080
42.50	-12.90	-1.66	0.00	-124.14	0.00	124.14	1,175.29	587.65	1,214.60	599.85	1.26	-0.32	0.079
45.00	-12.56	-1.64	0.00	-120.01	0.00	120.01	1,165.87	582.93	1,187.28	586.35	1.44	-0.34	0.077
47.50	-12.21	-1.63	0.00	-115.90	0.00	115.90	1,156.22	578.11	1,160.01	572.88	1.62	-0.36	0.075
50.00	-11.87	-1.62	0.00	-111.83	0.00	111.83	1,146.35	573.17	1,132.81	559.45	1.81	-0.38	0.073
52.50	-11.53	-1.61	0.00	-107.79	0.00	107.79	1,136.25	568.13	1,105.70	546.06	2.02	-0.40	0.071
55.00	-11.19	-1.60	0.00	-103.78	0.00	103.78	1,125.94	562.97	1,078.67	532.72	2.24	-0.42	0.069
57.50	-10.85	-1.59	0.00	-99.78	0.00	99.78	1,115.40	557.70	1,051.75	519.42	2.46	-0.45	0.067
60.00	-10.52	-1.59	0.00	-95.80	0.00	95.80	1,104.64	552.32	1,024.94	506.18	2.70	-0.47	0.065
62.50	-10.19	-1.59	0.00	-91.83	0.00	91.83	1,093.65	546.83	998.25	493.00	2.95	-0.49	0.063
65.00	-9.86	-1.60	0.00	-87.85	0.00	87.85	1,082.45	541.22	971.69	479.88	3.21	-0.51	0.061
67.50	-9.53	-1.60	0.00	-83.86	0.00	83.86	1,071.02	535.51	945.28	466.84	3.49	-0.53	0.059
70.00	-9.20	-1.61	0.00	-79.85	0.00	79.85	1,059.36	529.68	919.01	453.87	3.77	-0.55	0.057
72.50	-8.87	-1.62	0.00	-75.82	0.00	75.82	1,047.49	523.74	892.91	440.97	4.06	-0.57	0.054
75.00	-8.72	-1.63	0.00	-71.76	0.00	71.76	1,035.39	517.69	866.98	428.17	4.36	-0.59	0.052
76.17	-8.50	-1.64	0.00	-69.85	0.00	69.85	1,029.67	514.83	854.94	422.22	4.51	-0.60	0.051
77.50	-8.17	-1.65	0.00	-67.67	0.00	67.67	1,023.07	511.53	841.23	415.45	4.68	-0.61	0.049
79.50	-8.09	-1.66	0.00	-64.36	0.00	64.36	1,013.05	506.53	820.77	405.35	4.94	-0.62	0.047
79.50	-8.09	-1.66	0.00	-64.36	0.00	64.36	1,013.05	506.53	820.77	405.35	4.94	-0.62	0.047
80.00	-7.78	-1.67	0.00	-63.53	0.00	63.53	831.49	415.75	686.29	338.93	5.00	-0.63	0.051
82.50	-7.48	-1.68	0.00	-59.37	0.00	59.37	822.47	411.24	666.44	329.13	5.33	-0.64	0.049
85.00	-7.17	-1.69	0.00	-55.17	0.00	55.17	813.23	406.62	646.68	319.37	5.67	-0.66	0.046
87.50	-6.87	-1.69	0.00	-50.96	0.00	50.96	803.77	401.88	627.03	309.67	6.03	-0.68	0.043
90.00	-6.63	-1.69	0.00	-46.73	0.00	46.73	794.08	397.04	607.50	300.02	6.38	-0.69	0.039
92.00	-5.75	-1.68	0.00	-43.35	0.00	43.35	786.17	393.08	591.96	292.35	6.68	-0.71	0.037
92.50	-5.46	-1.68	0.00	-42.51	0.00	42.51	784.17	392.08	588.09	290.43	6.75	-0.71	0.036
95.00	-5.19	-1.67	0.00	-38.32	0.00	38.32	774.04	387.02	568.81	280.91	7.13	-0.72	0.033
97.44	-5.19	-1.67	0.00	-34.25	0.00	34.25	763.94	381.97	550.16	271.70	7.50	-0.73	0.030
97.44	-5.19	-1.67	0.00	-34.25	0.00	34.25	763.94	381.97	550.16	271.70	7.50	-0.73	0.133
97.50	-5.05	-1.66	0.00	-34.15	0.00	34.15	763.68	381.84	549.68	271.47	7.51	-0.74	0.132
100.00	-5.00	-1.66	0.00	-30.00	0.00	30.00	753.10	376.55	530.71	262.10	7.91	-0.79	0.121
101.00	-4.86	-1.65	0.00	-28.34	0.00	28.34	748.81	374.40	523.16	258.37	8.08	-0.81	0.116
102.50	-4.74	-1.64	0.00	-25.86	0.00	25.86	742.30	371.15	511.90	252.81	8.34	-0.84	0.109
105.00	-4.62	-1.62	0.00	-21.76	0.00	21.76	731.28	365.64	493.27	243.61	8.79	-0.89	0.096
107.50	-4.51	-1.60	0.00	-17.71	0.00	17.71	715.50	357.75	471.83	233.02	9.27	-0.93	0.082
110.00	-3.62	-1.42	0.00	-13.69	0.00	13.69	699.32	349.66	450.61	222.54	9.76	-0.97	0.067

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

4/9/2018 10:43:44 AM

Customer: AT&T MOBILITY

112.50	-3.51	-1.39	0.00	-10.16	0.00	10.16	683.14	341.57	429.88	212.30	10.28	-0.99	0.053
115.00	-3.41	-1.36	0.00	-6.69	0.00	6.69	666.96	333.48	409.64	202.31	10.80	-1.02	0.038
117.50	-3.30	-1.32	0.00	-3.30	0.00	3.30	650.78	325.39	389.89	192.55	11.34	-1.03	0.022
120.00	0.00	-1.26	0.00	0.00	0.00	0.00	634.60	317.30	370.62	183.04	11.88	-1.03	0.000

Site Number: 302500

Code: ANSI/TIA-222-G

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Site Name: Brst - Bristol, CT

Engineering Number: OAA716756_C3_02

4/9/2018 10:43:44 AM

Customer: AT&T MOBILITY

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	26.17	0.00	28.77	0.00	0.00	2089.21	15.48	0.84
0.9D + 1.6W	26.16	0.00	21.57	0.00	0.00	2063.19	15.48	0.82
1.2D + 1.0Di + 1.0Wi	7.22	0.00	62.76	0.00	0.00	643.27	97.44	0.28
(1.2 + 0.2Sds) * DL + E ELFM	0.94	0.00	29.08	0.00	0.00	97.13	97.44	0.05
(1.2 + 0.2Sds) * DL + E EMAM	1.92	0.00	29.08	0.00	0.00	204.52	97.44	0.14
(0.9 - 0.2Sds) * DL + E ELFM	0.94	0.00	20.19	0.00	0.00	95.54	97.44	0.05
(0.9 - 0.2Sds) * DL + E EMAM	1.92	0.00	20.19	0.00	0.00	200.78	97.44	0.13
1.0D + 1.0W	7.00	0.00	24.01	0.00	0.00	550.77	15.48	0.22

Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors			Upper Termination Connectors				Lower Termination Connectors				Max Member		
			VQ/I (lb/in)	Applied (kips)	phiVn (kips)	MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Pu (kip)	phiPn (kip)	Ratio
0.00	15.4	(4) SOL-#20 All Thre	243.0	7.3	16.8	207.5	12.0	18	20	0.0	12.0	0	0	235.0	330.5	0.711
0.00	79.5	(4) SOL-#20 All Thre	405.8	12.2	16.8	0.0	12.0	0	12	0.0	12.0	0	0	327.1	330.5	0.990
79.5	97.4	(4) SOL-#20 All Thre	409.7	12.3	16.8	79.6	12.0	7	12	0.0	12.0	0	0	145.2	330.5	0.439



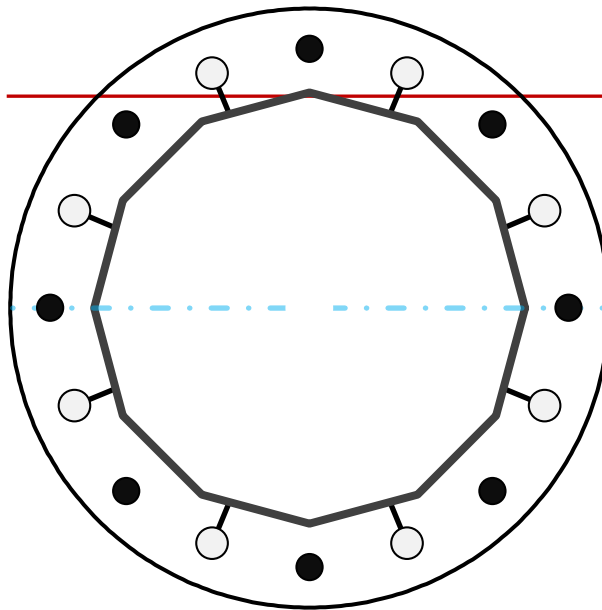
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	12	-
Diameter	31.00	in
Thickness	0.250	in
Orientation Offset		°

Base Reactions		
Moment, Mu	2089.2	k-ft
Axial, Pu	28.8	k
Shear, Vu	26.2	k
Neutral Axis	0	°

Report Capacities		
Component	Capacity	Result
Base Plate	21%	Pass
Anchor Rods	36%	Pass
Dwyidag	56%	Pass

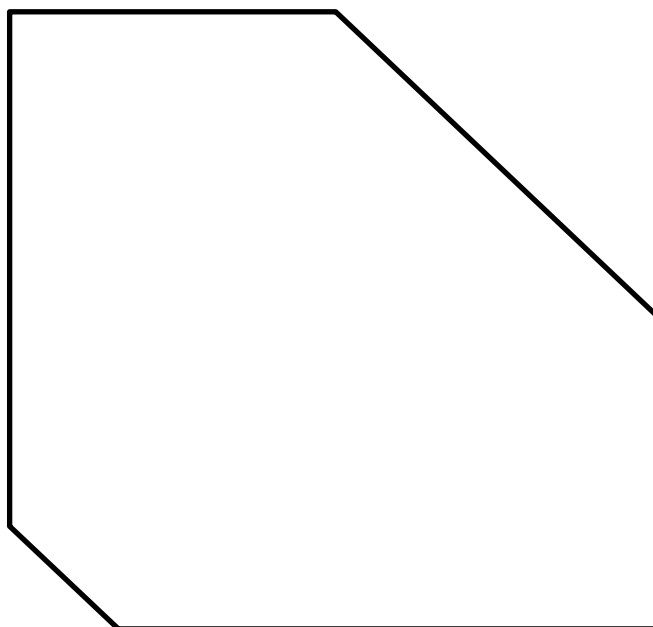
Base Plate		
Shape	Round	-
Diameter, ϕ	44.59	in
Thickness	2 1/8	in
Grade	A572-60	-
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Clip	N/A	in
Orientation Offset	0	°
Anchor Rod Detail	c	$\eta=0.55$
Clear Distance	N/A	in
Applied Moment, Mu	355.5	k
Bending Stress, ϕMn	1655.1	k



Dwyidag Reinforcement		
Quantity	8	-
Bar Size	#20	in
Diameter, ϕ	2.5	in
Bracket Type	Angle	-
Circle	37.88	in
Orientation Offset	22.5	°
Applied Force, Pu	220.5	k
Dwyidag Bar, ϕPn	392.7	k

Original Anchor Rods		
Arrangement	Radial	-
Quantity	8	-
Diameter, ϕ	2 1/4	in
Bolt Circle	38.59	in
Grade	A615-75	-
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	15.2	in
Orientation Offset	0	°
Applied Force, Pu	93.7	k
Anchor Rods, ϕPn	259.8	k

Stiffeners		
Arrangement	Radial	-
Quantity	8	-
Height	3	in
Width	3	in
Effective Width	2.540	in
Thickness	3/8	in
Effective Thickness	0.375	in
Notch	0.5	in
Flat Edge	1.5	in
Grade	A36	-
Yield Strength, Fy	36	ksi
Tensile Strength, Fu	58	ksi
Horizontal Weld	Bevel+Fillet	-
Horizontal Fillet Size	3/16	in
Bevel Depth	3/16	in
Vertical Weld	Fillet	-
Vertical Fillet Size	3/16	in
Weld Strength	70	ksi
Electrode Coefficient	1	-
Orientation Offset	0	°
Vertical Weld, ϕRn	20.9	k
Horz. Weld, ϕRn	53.2	k
Ten. Capacity, ϕTn	30.4	k
Comp. Capacity, ϕPn	766.0	k



Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	26.2	596.8	0.29
Anchor Rod Forces	26.2	596.8	0.29
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	1492.4	0.71
Stiffener Forces	5.6	128.8	0.06

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in ²	in ²	in ⁴	#	in ⁴
Pole	23.8761	1.9897	0.0416		2822.54
Bolt	3.9761	3.2477	0.8393	4.5	4843.14
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	4.9087	4.9087	1.9175		7058.86
Stiffener	0.7650	0.6885	2.0484		776.61

Base Plate		
Shape	Round	-
Diameter, D	44.59	in
Thickness, t	2.125	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Base Plate Chord	32.051	in
Detail Type	c	-
Detail Factor	0.55	-
Clear Distance	N/A	-

Anchor Rods		
Anchor Rod Quantity, N	8	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	38.59	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	93.7	k
Applied Shear, Vu	0.0	k
Compressive Capacity, φPn	259.8	k
Tensile Capacity, φRnt	0.361	OK
Interaction Capacity	0.361	OK

Base Plate Stiffeners		
Applied Axial Force, Pu	21.4	k
Applied Horizontal Force, Vu	0.35	k
Vertical Weld		
Vert.-to-Stiffener a=e _x /l	0.333	-
Spacing Ratio, k	0.125	-
Weld Coefficient, C	3.090	-
Compressive Capacity, φPn	20.9	k
Vert.-to-Plate a=e _x /l	0.333	-
Spacing Ratio, k	0.125	-
Weld Coefficient, C	2.970	-
Shear Capacity, φVn	20.0	k
P _u /φ _p P _n + V _u /φ _v V _n	1.046	OK

External Base Plate		
Chord Length AA	26.970	in
Additional AA	4.250	in
Section Modulus, Z	35.245	in ³
Applied Moment, Mu	355.5	k-ft
Bending Capacity, φMn	1903.2	k-ft
Capacity, Mu/φMn	0.187	OK

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

Horizontal Weld		
Horz.-to-Stiffener a=e _x /l	0.197	-
Spacing Ratio, k	0.125	-
Weld Coefficient, C	3.940	-
Effective Fillet	0.375	in
Compressive Capacity, φPn	53.2	k
Horz.-to-Pole a=e _x /l	0.167	-
Spacing Ratio, k	0.125	-
Weld Coefficient, C	3.660	-
Shear Capacity, φVn	49.4	k
P _u /φ _p P _n + V _u /φ _v V _n	0.410	OK

Chord Length AB	25.659	in
Additional AB	4.250	in
Section Modulus, Z	33.765	in ³
Applied Moment, Mu	304.3	k-ft
Bending Capacity, φMn	1823.3	k-ft
Capacity, Mu/φMn	0.167	OK

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

Plate Tension		
Gross Cross Section	0.765	in ²
Net Cross Section	0.689	in ²
Tensile Capacity, φTn	30.4	k
Capacity, Tu/φTn	0.353	OK

Bend Line Length	22.360	in
Additional Bend Line	4.791	in
Section Modulus, Z	30.650	in ³
Applied Moment, Mu	355.5	k-ft
Bending Capacity, φMn	1655.1	k-ft
Capacity, Mu/φMn	0.215	OK

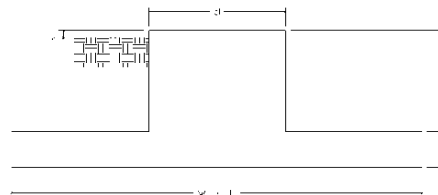
Internal Base Plate		
Arc Length	0.000	in
Section Modulus, Z	0.000	in ³
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, φMn	0.0	k-ft
Capacity, Mu/φMn		

Dywidag Reinforcement		
Dywidag Quantity, N	8	-
Dywidag Diameter, d	2.5	in
Bolt Circle, BC	37.88	in
Yield Strength, Fy	80	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	220.5	k
Compressive Capacity, φPn	392.7	k
Capacity, Pu/φPn	0.561	OK

Plate Compression		
Radius of Gyration	0.108	in ³
kl/r	16.63	-
4.71 √(E/Fy)	133.68	-
Buckling Stress(F _e)	1035.2	-
Crit. Buckling Stress(F _{cr})	907.9	ksi
Compressive Capacity, φPn	766.0	k
Capacity, Pu/φPn	0.014	OK

Site Name: BRST-Bristol, CT
 Site Number: 302500
 Engineering Number: OAA716756
 Engineer: Chris.Poe
 Date: 04/09/18
 Tower Type: MP

Program Last Updated: 5/13/2014



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

Design / Analysis / Mapping:	Mapping
Compression/Leg:	28.8 k
Uplift/Leg:	0.0 k
Total Shear:	26.2 k
Moment:	2089.2 k-ft
Tower + Appurtenance Weight:	24.0 k
Depth to Base of Foundation (l + t - h):	6.50 ft
Diameter of Pier (d):	6.00 ft
Height of Pier above Ground (h):	2.70
Width of Pad (W):	17.50 ft
Length of Pad (L):	18.40 ft
Thickness of Pad (t):	2.50 ft
Tower Leg Center to Center:	0.00 ft
Number of Tower Legs:	1.0 (1 if MP or GT)
Tower Center from Mat Center:	0.00 ft
Depth Below Ground Surface to Water Table:	99.00 ft
Unit Weight of Concrete:	150.0 pcf
Unit Weight of Soil Above Water Table:	115.0 pcf
Unit Weight of Water:	62.4 pcf
Unit Weight of Soil Below Water Table:	50.0 pcf
Friction Angle of Uplift:	15.0 Degrees
Ultimate Coefficient of Shear Friction:	0.50
Ultimate Compressive Bearing Pressure:	40000.0 psf
Ultimate Passive Pressure on Pad Face:	2000.0 psf
$\phi_{\text{Soil and Concrete Weight}}$:	0.9
ϕ_{Soil} :	0.75

Overturning Moment Usage

Design OTM:	2330.0 k-ft
OTM Resistance:	2684.3 k-ft
Design OTM / OTM Resistance:	0.87 Result: OK

Soil Bearing Pressure Usage

Net Bearing Pressure:	4625 psf
Factored Nominal Bearing Pressure:	30000 psf
Net Bearing Pressure/Factored Nominal Bearing Pressure:	0.15 Result: OK
Load Direction Controlling Design Bearing Pressure:	Diagonal to Pad Edge

Sliding Factor of Safety

Total Factored Sliding Resistance:	176.2 k
Sliding Design / Sliding Resistance:	0.15 Result: OK