



May 16, 2018

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

Regarding: Notice of Exempt Modification – Equipment Upgrades
Property Address: 1069 Connecticut Avenue; Bridgeport, CT 06607
AT&T Site: CT2252// FA# 10084453

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 130-foot monopole tower at the above-referenced address, latitude 41.18361111, longitude -73.15805556. Said monopole is owned by American Tower Corporation and the ground is owned by WR CT AVENUE LLC. The existing equipment shelter is 20' x 11.5' totaling 230 square feet. No changes are proposed to the ground shelter dimensions.

AT&T desires to modify its existing telecommunications facility by swapping (3) panel antennas with newer models, removing (3) Remote Radio Units (RRUs) and (3) RRU A2 Modules and replacing with (9) new RRUs, removing (6) diplexers and replacing with (3) low-band couplers as shown on Construction Drawings dated May 1, 2018, by CENTEK Engineering. Administrative corrections are also shown on the Structural Analysis completed on January 8, 2018, by Tower Engineering Professionals including: correction to the tower loading to correct (3) existing leased antennas as model 7750.00 installed; correcting model of (6) TMAs installed; and correcting RET models; no physical construction work is proposed relative to these administrative corrections to the AT&T tower-mounted equipment loading. The centerline height of the antenna installation is and will remain at 106' on the 130' tower.

Please accept this application as notification pursuant to R.C.S.A. §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16-50j-72 (b)(2). In accordance with R.C.S.A. §16-50j-73, a copy of this letter is being sent to The Mayor of Bridgeport, the City's Zoning Administrator and Building Official. A copy is also being sent to tower owner / operator, American Tower Corp., and ground owner, WR CT AVENUE LLC, C/O Westrock Development LLC.

The planned modifications to AT&T's facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-72 (b)(2). Specifically:

1. The planned modification will not result in an increase in the height of the existing structure. The equipment to be added will be installed at the existing height of 106 feet on the 130-foot tower.

May 16, 2018
Page 2 of 2

2. The proposed modifications will not involve any changes to ground-mounted equipment, and therefore will not require an extension of the site boundary.
3. The proposed modification will not increase the noise level at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above Federal Communications Commission (FCC) safety standard. An RF emissions calculation (enclosed) for AT&T's modified facility is herein provided.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support AT&T's proposed modifications (please see enclosed structural analysis completed by Tower Engineering Professionals, dated January 8, 2018).

For the foregoing reasons, AT&T respectfully requests that the proposed installation be allowed within the exempt modifications under R.C.S.A. §16-50j-72 (b)(2).

Sincerely,

Kristen White

Kristen White
Site Acquisition Specialist

Enclosures: Exhibit 1 – Property Card and GIS Map
Exhibit 2 – Construction Drawings
Exhibit 3 – Structural Analysis
Exhibit 4 – RF Emissions Analysis Report Evaluation

cc:

Hon. Joseph P. Ganim, Mayor
Margaret E. Morton Government Center
999 Broad Street
Bridgeport, CT 06604

Mr. Bruce A. Nelson, Building Official
Bridgeport Building Department
45 Lyon Terrace, Room 220
Bridgeport, CT 06604

Mr. Shawn Dunn
American Tower Corp.
10 Presidential Way
Woburn, MA 01801

WR CT AVENUE LLC
C/O WESTROCK DEVELOPMENT LLC
440 MAMARONECK AVENUE
SUITE N-503
HARRISON, NY 10528

Mr. Dennis Buckley, Zoning Administrator
Bridgeport Zoning Department
45 Lyon Terrace, Room 210
Bridgeport, CT 06604

Exhibit 1

1069 CONNECTICUT AV

Location 1069 CONNECTICUT AV

Mblu 44/ 723/ 3/A /

Acct# R--0004050

Owner WR CT AVENUE LLC

Assessment \$1,902,240

Appraisal \$2,717,490

PID 4911

Building Count 3

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$1,808,490	\$909,000	\$2,717,490

Assessment			
Valuation Year	Improvements	Land	Total
2017	\$1,265,940	\$636,300	\$1,902,240

Owner of Record

Owner WR CT AVENUE LLC
Co-Owner C/O WESTROCK DEVELOPMENT LLC
Address 440 MAMARONECK AVENUE
SUITE N-503
HARRISON, NY 10528

Sale Price \$0
Certificate
Book & Page 7844/ 40
Sale Date 06/27/2008
Instrument 14

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
WR CT AVENUE LLC	\$0		7844/ 40	14	06/27/2008
WR CT AVENUE LLC	\$0		7844/ 34	14	06/27/2008
BRIDGEPORT CITY OF	\$0		7370/ 268	14	02/09/2007
AMERICAN FABRICS CO	\$0		2195/ 149		11/25/1986

Building Information

Building 1 : Section 1

Year Built: 1939
Living Area: 106,726
Replacement Cost: \$5,015,157
Building Percent 20
Good:

Replacement Cost
Less Depreciation: \$1,003,030

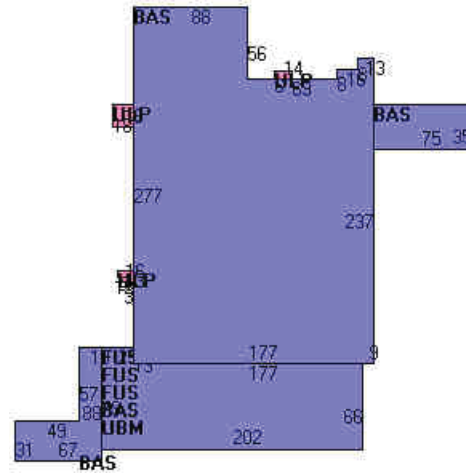
Building Attributes	
Field	Description
STYLE	Mill Building
MODEL	Ind/Comm
Grade:	Average
Stories:	4
Occupancy:	1
Exterior Wall 1:	Brick
Exterior Wall 2:	
Roof Struct:	Irregular
Roof Cover:	T+G/Rubber
Interior Wall 1:	Minim/Masonry
Interior Wall 2:	
Interior Floor 1:	Hardwood
Interior Floor 2:	Carpet
Heating Fuel:	Oil
Heating Type:	Hot Water
AC Type:	None
Bldg Use:	Mill Building
Ttl Rooms:	
Ttl Bedrms:	00
Ttl Baths:	0
Ttl Half Baths:	0
Ttl Xtra Fix:	0
1st Floor Use:	
Heat/AC:	None
Frame Type:	Masonry
Baths/Plumbing:	Average
Ceiling/Wall:	Ceiling Only
Rooms/Prtns:	Average
Wall Height:	16
% Comn Wall:	

Building Photo



(http://images.vgsi.com/photos2/BridgeportCTPhotos/\00\00\5C

Building Layout



(http://images.vgsi.com/photos2/BridgeportCTPhotos//Sketches/

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	65,755	65,755
FUS	Finished Upper Story	40,971	40,971
UBM	Unfin Basement	13,657	0
ULP	Uncovered Loading Platform	502	0
		120,885	106,726

Building 2 : Section 1

Year Built: 1967
Living Area: 28,945
Replacement Cost: \$1,058,496
Building Percent 23
Good:
Replacement Cost
Less Depreciation: \$243,450

Building Attributes : Bldg 2 of 3

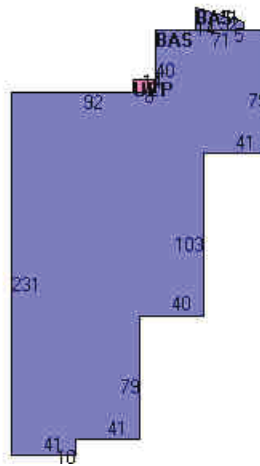
Field	Description
STYLE	Industrial
MODEL	Ind/Comm
Grade:	Average
Stories:	1
Occupancy:	1
Exterior Wall 1:	Concr/CinderBl
Exterior Wall 2:	
Roof Struct:	Flat
Roof Cover:	T+G/Rubber
Interior Wall 1:	Minim/Masonry
Interior Wall 2:	
Interior Floor 1:	Concr-Finished
Interior Floor 2:	
Heating Fuel:	Oil
Heating Type:	Hot Air-No Duc
AC Type:	None
Bldg Use:	Industrial Mdl 96
Ttl Rooms:	
Ttl Bedrms:	00
Ttl Baths:	0
Ttl Half Baths:	0
Ttl Xtra Fix:	10
1st Floor Use:	
Heat/AC:	None
Frame Type:	Masonry
Baths/Plumbing:	Average
Ceiling/Wall:	None
Rooms/Prtns:	Average
Wall Height:	14
% Comn Wall:	

Building Photo



(<http://images.vgsi.com/photos2/BridgeportCTPhotos//default.jpg>)

Building Layout



(<http://images.vgsi.com/photos2/BridgeportCTPhotos//Sketches/>)

Building Sub-Areas (sq ft)			<u>Legend</u>
Code	Description	Gross Area	Living Area
BAS	First Floor	28,945	28,945
UEP	Utility Enclosed Porch	112	0
		29,057	28,945

Building 3 : Section 1

Year Built: 1955
Living Area: 16,539
Replacement Cost: \$713,174
Building Percent Good: 20
Replacement Cost Less Depreciation: \$142,630

Building Attributes : Bldg 3 of 3

Field	Description
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STYLE	Mill Building
MODEL	Ind/Comm
Grade:	D+
Stories:	4
Occupancy:	1
Exterior Wall 1:	Brick
Exterior Wall 2:	
Roof Struct:	Flat
Roof Cover:	Tar + Gravel
Interior Wall 1:	Minim/Masonry
Interior Wall 2:	
Interior Floor 1:	Concr-Finished
Interior Floor 2:	
Heating Fuel:	None
Heating Type:	None
AC Type:	None
Bldg Use:	Industrial Mdl 96
Ttl Rooms:	
Ttl Bedrms:	00
Ttl Baths:	0
Ttl Half Baths:	0
Ttl Xtra Fix:	10
1st Floor Use:	
Heat/AC:	None
Frame Type:	Masonry
Baths/Plumbing:	Average
Ceiling/Wall:	None
Rooms/Prtns:	Average
Wall Height:	15
% Comn Wall:	

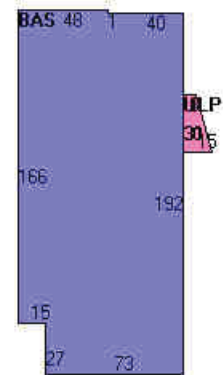
Building Photo



(<http://images.vgsi.com/photos2/BridgeportCTPhotos/\00\09\91>)

Building Layout

UBM[7600]



(<http://images.vgsi.com/photos2/BridgeportCTPhotos//Sketches/>)

Building Sub-Areas (sq ft)			Legend	
Code	Description	Gross Area	Living Area	
BAS	First Floor	16,539	16,539	
UBM	Unfin Basement	7,600	0	
ULP	Uncovered Loading Platform	315	0	
		24,454	16,539	

Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #
SPR1	Sprinklers-Wet	106726 SF	\$57,630	1
SPR1	Sprinklers-Wet	28651 SF	\$17,790	2
SPR1	Sprinklers-Wet	81037 SF	\$43,760	3
LDL1	Load Levler	2 UNITS	\$1,610	2
ELV1	Freight	5 STOPS	\$16,500	1

ELV1	Freight	5 STOPS	\$16,500	1
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Land

Land Use

Use Code	342
Description	Mill Building
Zone	LI
Neighborhood	CTA
Alt Land Appr Category	No

Land Line Valuation

Size (Acres)	6.06
Frontage	0
Depth	0
Assessed Value	\$636,300
Appraised Value	\$909,000

Outbuildings

Outbuildings						<u>Legend</u>
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
SHD1	Shed	MT	Metal	336 SF	\$1,210	1
PAV1	Paving Asph			110000 SF	\$231,000	1
FN1	Fence, Chain	4	4 ft	668 LF	\$2,200	1
SHD3	Shed w/ Lt	CM	Comm	240 SF	\$4,320	1
TWR	Tower			130 LF	\$26,000	1
PAV2	Paving Conc			240 SF	\$860	1

Valuation History

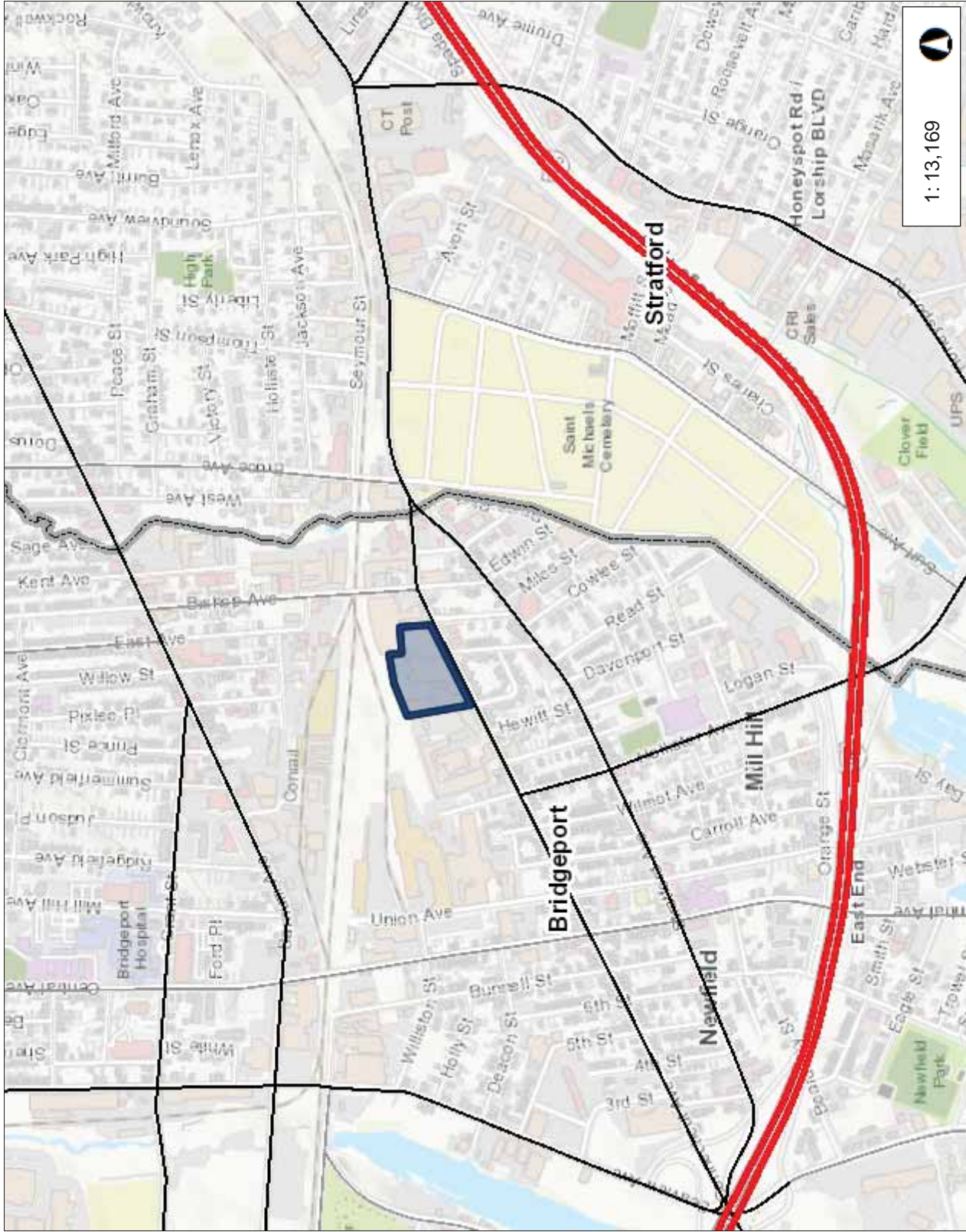
Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$1,808,490	\$909,000	\$2,717,490
2016	\$1,808,490	\$909,000	\$2,717,490
2015	\$1,808,490	\$909,000	\$2,717,490

Assessment			
Valuation Year	Improvements	Land	Total
2017	\$1,265,940	\$636,300	\$1,902,240
2016	\$1,265,940	\$636,300	\$1,902,240
2015	\$1,265,940	\$636,300	\$1,902,240



City of Bridgeport

1069 CONNECTICUT AVE; BRIDGEPORT, CT



Legend

- Streetname
- Roadways
 - Local
 - Collector
 - Minor Collector
 - Minor Arterial
 - Major Collector
 - PA Other
 - PA Other Expwy
 - PA Interstate
- Town Boundary

1:13,169

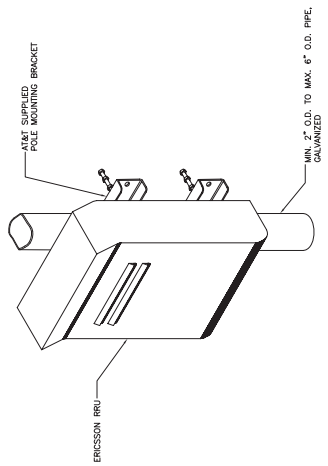
2,194.9 0 1,097.45 2,194.9 Feet

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
 THIS MAP IS NOT TO BE USED FOR NAVIGATION



WGS_1984_Web_Mercator_Auxiliary_Sphere
 Created by Connecticut Metropolitan Council of Governments

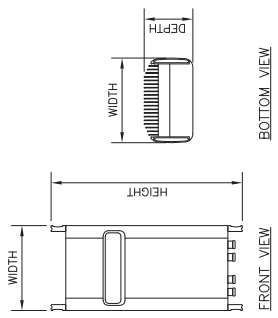
Exhibit 2



ISOMETRIC VIEW

- NOTES:
- RAT SHALL SUPPLY RRU AND RRU POLE MOUNTING BRACKET. CONTRACTOR SHALL SUPPLY POLE/PIPE AND INSTALL ALL MOUNTING HARDWARE INCLUDING ERICSSON RRU POLE-MOUNTING BRACKET. CONTRACTOR SHALL INSTALLS RRU AND MAKES CABLE TERMINATIONS.
 - NO PAINTING OF THE RRU OR SOLAR SHIELD IS ALLOWED.

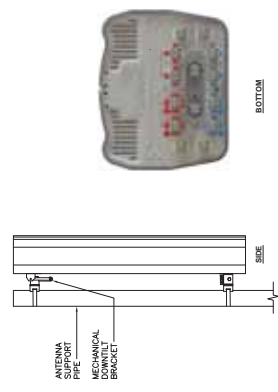
1 TYPICAL RRUS MOUNTING DETAILS
C-3 NOT TO SCALE



RRU (REMOTE RADIO UNIT)		CLEARANCES	
EQUIPMENT	DIMENSIONS	WEIGHT	HEIGHT
MAKE: ERICSSON	27.17\"/>		
MODEL: RRUS 32	12.05\"/>		
WEIGHT: 52.91 LBS.		12\"/>	
		BELOW: 35\"/>	
MAKE: ERICSSON	27.17\"/>		
MODEL: RRUS 32 B66	12.05\"/>		
WEIGHT: 52.91 LBS.		12\"/>	
		BELOW: 35\"/>	

NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T. CONSTRUCTION MANAGER PRIOR TO ORDERING.

4 ERICSSON RRUS 32 DETAIL
C-3 NOT TO SCALE



ALPHABETAGAMMA ANTENNA	
EQUIPMENT	WEIGHT
MAKE: QUINTEL	75 LBS.
MODEL: QM6572-2	
DIMENSIONS	52\"/>

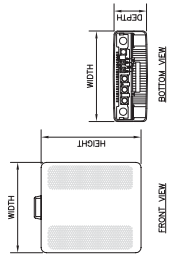
2 PROPOSED ANTENNA DETAIL
C-3 NOT TO SCALE



LOW BAND COMBINER	
EQUIPMENT	WEIGHT
MAKE: KAELUS	18.3 LBS.
MODEL: DBC0061FV3-2	
DIMENSIONS	8\"/>

NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T. CONSTRUCTION MANAGER PRIOR TO ORDERING.

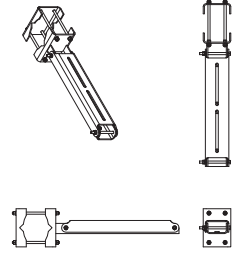
5 KAELUS DBC0061FV3-2 DETAIL
C-3 NOT TO SCALE



RRU (REMOTE RADIO UNIT)		CLEARANCES	
EQUIPMENT	DIMENSIONS	WEIGHT	HEIGHT
MAKE: ERICSSON	20.4\"/>		
MODEL: RRUS 12	7.5\"/>		
WEIGHT: 50 LBS.		18\"/>	
		BELOW: 12\"/>	
		FRONT: 35\"/>	

NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T. CONSTRUCTION MANAGER PRIOR TO ORDERING.

3 ERICSSON RRUS 12 DETAIL
C-3 NOT TO SCALE



RRU DUAL SWIVEL MOUNT	
EQUIPMENT	WEIGHT
MAKE: SITE PRO 1	38.4 LBS.
MODEL: RRUSHA	
DIMENSIONS	27.75\"/>

6 RRH DUAL SWIVEL MOUNT DETAIL
C-3 NOT TO SCALE

REV.	DATE	BY	DESCRIPTION
1	05/10/18	DMD	CAG
0	04/05/18	RFR	DMD

CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION



AT&T MOBILITY
WELLES COMMUNICATIONS FACILITY
BRIDGEPORT CT CONN. AVE
CT2252 - LTE 3C/4C/5C RETROFIT
1059 CONNECTICUT AVENUE
BRIDGEPORT, CT 06807

DATE: 05/22/18
SCALE: AS NOTED
JOB NO. 17024175

REV.	DATE	BY	DESCRIPTION
1	05/10/18	DMD	CONSTRUCTION DRAWINGS - REISED FOR CONSTRUCTION
0	04/05/18	JFM	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION

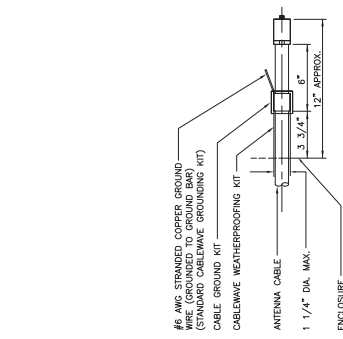


AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
BRIDGEPORT CT CONN. AVE
CT2252 - LTE 9C/4C/5C RETROFIT
1099 CONNECTICUT AVENUE
BRIDGEPORT, CT 06807

DATE: 03/22/18
SCALE: AS NOTED
JOB NO.: 17004175

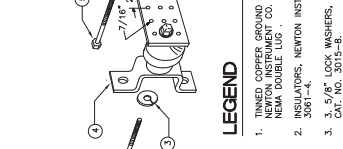
TYPICAL ELECTRICAL DETAILS

E-3
Sheet No. 3 of 3



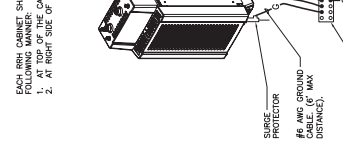
1 CONNECTION OF GROUND WIRES TO GROUND BAR
E-3 NOT TO SCALE

NOTE
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.



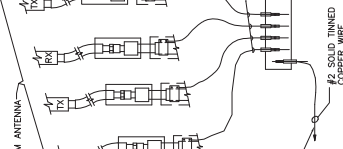
2 RRU POLE MOUNT GROUNDING
E-3 NOT TO SCALE

NOTE
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.



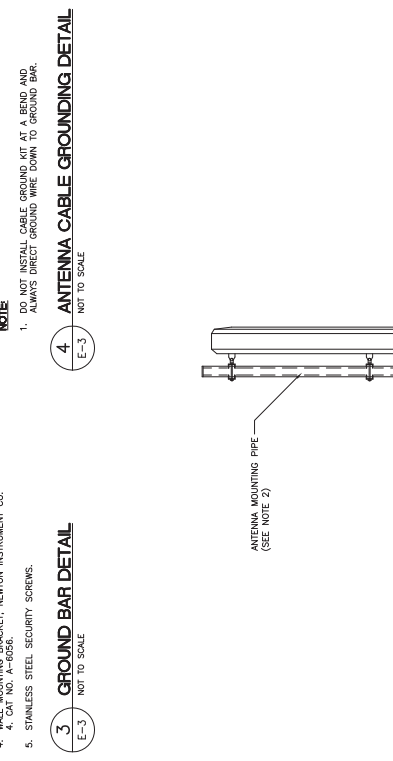
3 GROUND BAR DETAIL
E-3 NOT TO SCALE

LEGEND
1. TINNED COPPER GROUND BAR, 1/4" x 4" x .20"
2. TINNED COPPER GROUND BAR, 1/4" x 4" x .20"
3. NEMA DOUBLE LUG
4. INSULATORS, NEWTON INSTRUMENT CAT. NO. 2,
3041-4,
5. 3.5/96" LOCK WASHERS, NEWTON INSTRUMENT CO.
CAT. NO. 3015-4,
6. WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO.
CAT. NO. A-0056,
7. STAINLESS STEEL SECURITY SCREWS.

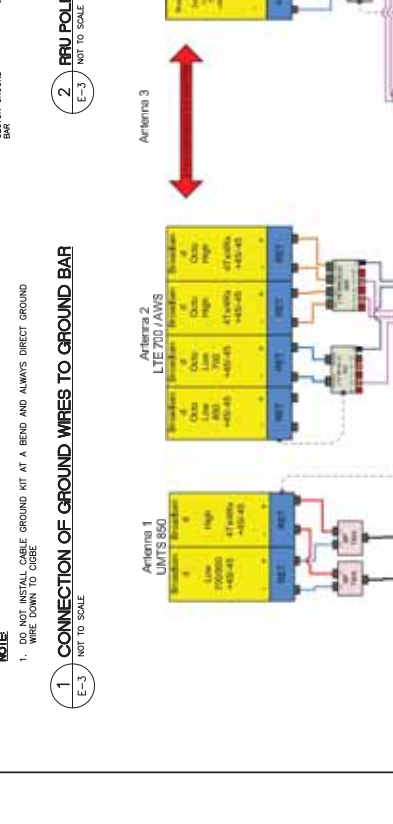


4 ANTENNA CABLE GROUNDING DETAIL
E-3 NOT TO SCALE

NOTE
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

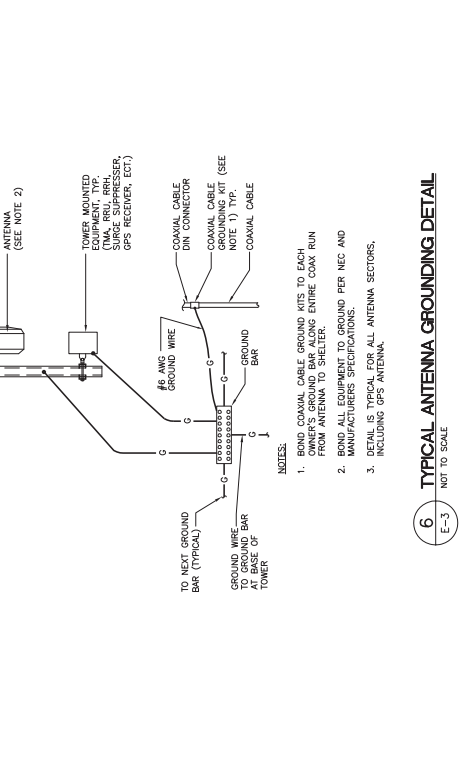


5 RF PLUMBING DIAGRAM
E-3 NOT TO SCALE



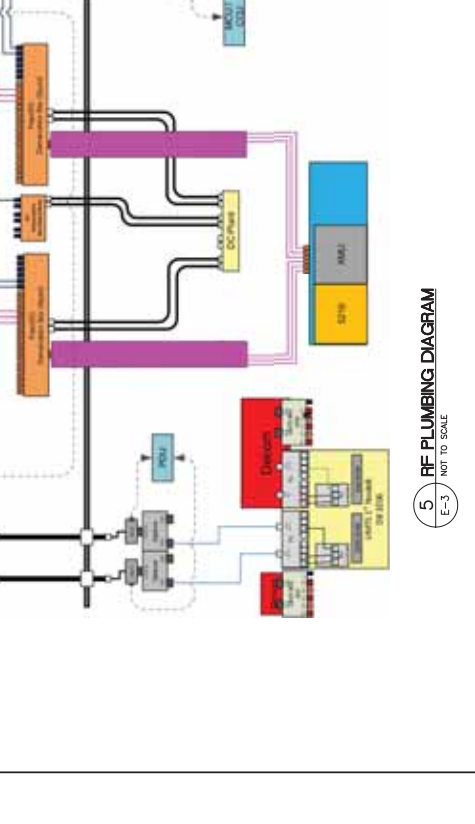
6 TYPICAL ANTENNA GROUNDING DETAIL
E-3 NOT TO SCALE

NOTE
1. BOND COAXIAL CABLE GROUND KITS TO EACH OWNER'S GROUND BAR ALONG ENTIRE COAX RUN FROM ANTENNA TO SHELTER.
2. BOND ALL EQUIPMENT TO GROUND PER NEC AND MANUFACTURER'S SPECIFICATIONS.
3. DETAIL IS TYPICAL FOR ALL ANTENNA SECTORS, INCLUDING GPS ANTENNA.



7 ANTENNA MOUNTING PIPE DETAIL
E-3 NOT TO SCALE

NOTE
1. BOND COAXIAL CABLE GROUND KITS TO EACH OWNER'S GROUND BAR ALONG ENTIRE COAX RUN FROM ANTENNA TO SHELTER.
2. BOND ALL EQUIPMENT TO GROUND PER NEC AND MANUFACTURER'S SPECIFICATIONS.
3. DETAIL IS TYPICAL FOR ALL ANTENNA SECTORS, INCLUDING GPS ANTENNA.



8 ANTENNA CABLE GROUNDING DETAIL
E-3 NOT TO SCALE

NOTE
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

Exhibit 3



AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by



**TOWER
ENGINEERING
PROFESSIONALS**

Structural Analysis Report

Structure : 126 ft Monopole
ATC Site Name : Bridgeport CT 2, CT
ATC Site Number : 302469
Engineering Number : OAA720599_C3_02
Proposed Carrier : AT&T Mobility
Carrier Site Name : SNET 1008-4453
Carrier Site Number : CT2252
Site Location : 1069 Connecticut Avenue
Bridgeport, CT 06607-1226
41.183600,-73.158400
County : Fairfield
Date : January 8, 2018
Max Usage : 92%
Result : Pass

Prepared By:
Maria Lopez
TEP

Maria Lopez

Reviewed By:



01/08/2018

COA: PEC.0001553



Table of Contents

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



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 126 ft monopole to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	EI Project #5543, dated October 14, 1999
Foundation Drawing	EI Project #5543, dated October 14, 1999
Geotechnical Report	Applied Earth Technologies Project #9903A, dated November 23, 1999
Modifications	ATC Project #41045932, dated November 2, 2007

Analysis

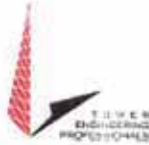
The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	97 mph (3-Second Gust, Vasd) / 125 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.20$, $S_1 = 0.06$
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					
126.0	131.0	4	Decibel DB844H90E-XY	Platform w/ Handrails	(12) 1 1/4" Coax	Sprint Nextel
		8	EMS RR90-11-00DBL			
123.0	123.0	2	DragonWave Horizon Compact	T-Arms	(6) 5/16" Coax (4) 1 1/4" Hybriflex (3) 1/2" Coax (2) 2" Conduit	Clearwire
		1	Dragonwave A-ANT-23G-1-C			
		6	Alcatel-Lucent RRH2x50-08			
		3	Alcatel-Lucent 1900MHz 4x45 RRH			
		3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
		1	Dragonwave A-ANT-18G-2-C			
		3	KMW ETCR-654L12H6			
120.0	120.0	3	Kathrein Smart Bias Tee	Low Profile Platform	(18) 1 5/8" Coax (1) 3/8" Coax (1) 7/8" Fiber	T-Mobile
		6	Ericsson KRY 112 489/1			
		6	RFS APX16DWV-16DWVS-E-A20			
		3	Andrew LNX-6515DS-VTM			
106.0	106.0	1	Raycap DC6-48-60-18-8F	Platform w/ Handrails	(12) 1 5/8" Coax (2) 1.24" 4 AWG 6 (1) 0.51" Hybrid	AT&T Mobility
		3	Ericsson RRUS-11			
		3	CCI OPA-65R-LCUU-H4			
101.0	101.0	3	RCU (Remote Control Unit)	Flush	(6) 1 5/8" Coax (1) 3/8" Coax	Metro PCS
		3	Kathrein 800 10504			

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
106.0	106.0	3	Ericsson RRUS E2 B29	-	-	AT&T Mobility
		12	Powerwave LGP2140X			
		3	CCI OPA-65R-LCUU-H4			
		6	Powerwave LGP21901			
		3	Powerwave 7770.00			
		3	Ericsson RRUS A2 B2			



Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
106.0	106.0	6	Powerwave 7020.00 Dual Band RET	Platform w/ Handrails	(2) 1.24" 4 AWG 6 (2) 0.78" 8 AWG 6 (1) 0.51" Hybrid	AT&T Mobility
		6	Kaelus DBC0061F1V51-2			
		6	Powerwave LGP21401			
		1	Raycap DC6-48-60-18-8F			
		3	Ericsson RRUS 32 B66			
		3	Ericsson RRUS-32 (55.1 lbs)			
		6	Ericsson RRUS 12			
		1	Raycap DC6-48-60-0-8F (31.4" Height)			
		3	Quintel QS46512-2 (75 lbs)			
		3	Powerwave 7750.00			

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 outside the pole shaft. Stacking coax is not allowed.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	68%	Pass
Shaft	67%	Pass
Base Plate	32%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	2,173.0	67%
Axial (Kips)	63.5	6%
Shear (Kips)	22.3	92%

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) (")
123.0	Dragonwave A-ANT-23G-1-C	Clearwire Corporatio	1.623	1.480
	Dragonwave A-ANT-18G-2-C			
106.0	Powerwave 7020.00 Dual Band RET	AT&T Mobility	1.197	1.363
	Kaelus DBC0061F1V51-2			
	Powerwave LGP21401			
	Raycap DC6-48-60-18-8F			
	Ericsson RRUS 32 B66			
	Ericsson RRUS-32 (55.1 lbs)			
	Ericsson RRUS 12			
	Raycap DC6-48-60-0-8F (31.4" Height)			
	Quintel QS46512-2 (75 lbs)			
	Powerwave 7750.00			

*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

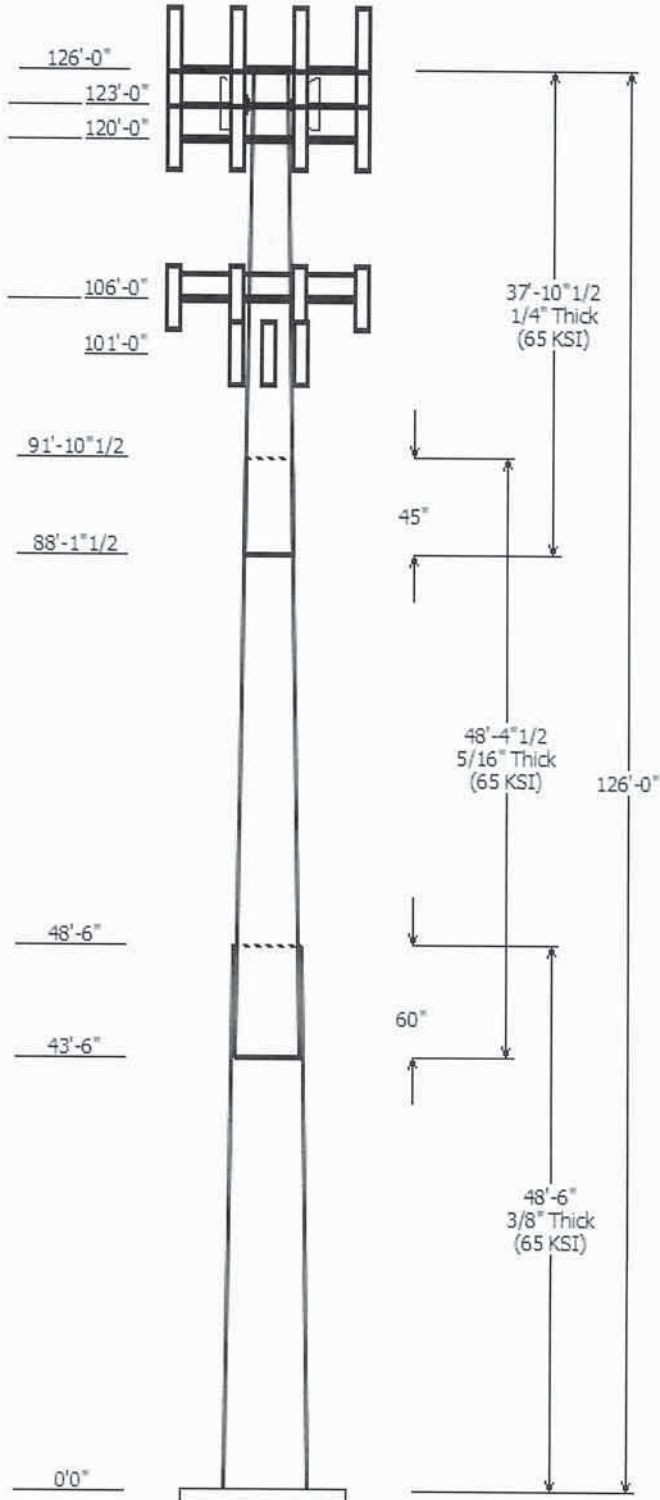
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

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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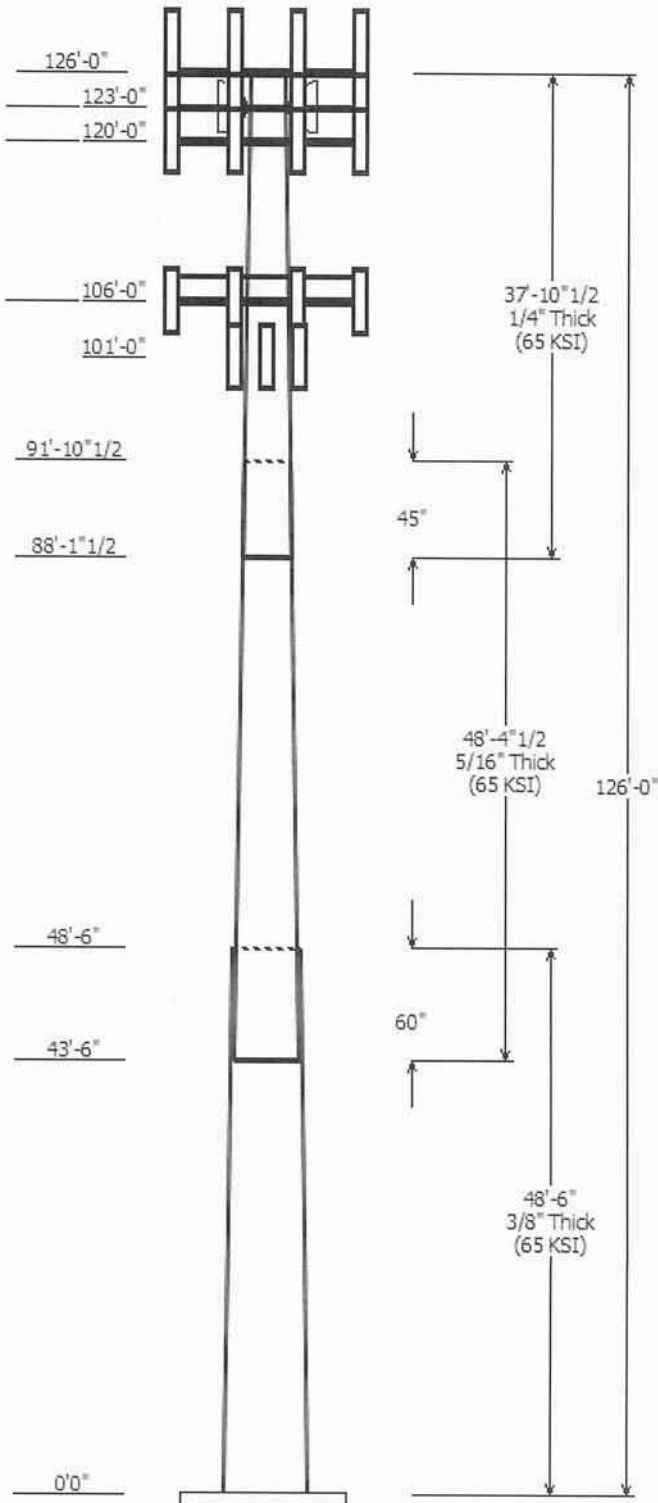


Job Information	
Pole : 302469	Code: ANSI/TIA-222-G
Location : Bridgeport CT 2, CT	
Description : Monopole	
Client : CLEARWIRE CORPORATION	Stock Class : II
Shape : 18 Sides	Exposure : B
Height : 126.00 (ft)	Topo : 1
Base Elev (ft): 0.00	
Taper: 0.23512(in/ft)	

Sections Properties							
Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Type	Overlap Length (in)	Steel Grade
		Across Flats Top	Across Flats Bottom				
1	48.500	34.09	45.50	0.375		0.000	Round 65
2	48.375	24.52	35.89	0.313	Slip Joint	60.000	Round 65
3	37.875	17.00	25.90	0.250	Slip Joint	45.000	Round 65

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
126.000	131.000	8	EMS RR90-11-00DBL
126.000	131.000	4	Decibel DB844H90E-XY
126.000	126.000	1	Flat Platform w/ Handrails
123.000	123.000	3	KMW ETCR-654L12H6
123.000	123.000	3	Alcatel-Lucent TD-RRH8x20-25
123.000	123.000	3	Alcatel-Lucent 1900 MHz 4x45
123.000	123.000	6	Alcatel-Lucent RRH2x50-08
123.000	123.000	1	Dragonwave A-ANT-23G-1-C
123.000	123.000	3	Round T-Arm
123.000	123.000	2	DragonWave Horizon Compact
123.000	123.000	1	Dragonwave A-ANT-18G-2-C
120.000	120.000	1	Round Low Profile Platform
120.000	120.000	3	Andrew LNX-6515DS-VTM
120.000	120.000	6	RFS APX16DWV-16DWVS-E-A20
120.000	120.000	6	Ericsson KRY 112 489/1
120.000	120.000	3	Kathrein Smart Bias Tee
106.000	106.000	1	Round Platform w/ Handrails
106.000	106.000	3	CCI OPA-65R-LCUU-H4
106.000	106.000	3	Powerwave 7750.00
106.000	106.000	3	Quintel QS46512-2 (75 lbs)
106.000	106.000	1	Raycap DC6-48-60-0-8F (31.4" H
106.000	106.000	6	Ericsson RRUS 12
106.000	106.000	3	Ericsson RRUS-32 (55.1 lbs)
106.000	106.000	3	Ericsson RRUS-11
106.000	106.000	3	Ericsson RRUS 32 B66
106.000	106.000	1	Raycap DC6-48-60-18-8F
106.000	106.000	1	Raycap DC6-48-60-18-8F
106.000	106.000	6	Powerwave LGP21401
106.000	106.000	6	Kaelus DBC0061F1V51-2
106.000	106.000	6	Powerwave 7020.00 Dual Band
101.000	101.000	3	Kathrein 800 10504
101.000	101.000	3	RCU (Remote Control Unit)

Linear Appurtenance			
Elev (ft)	From	To	Exposed To Wind
0.000	101.0	1 5/8" Coax	Yes
0.000	101.0	3/8" Coax	Yes
0.000	106.0	0.51" Hybrid	Yes
0.000	106.0	0.51" Hybrid	Yes
0.000	106.0	0.78" 8 AWG 6	Yes
0.000	106.0	1 5/8" Coax	Yes



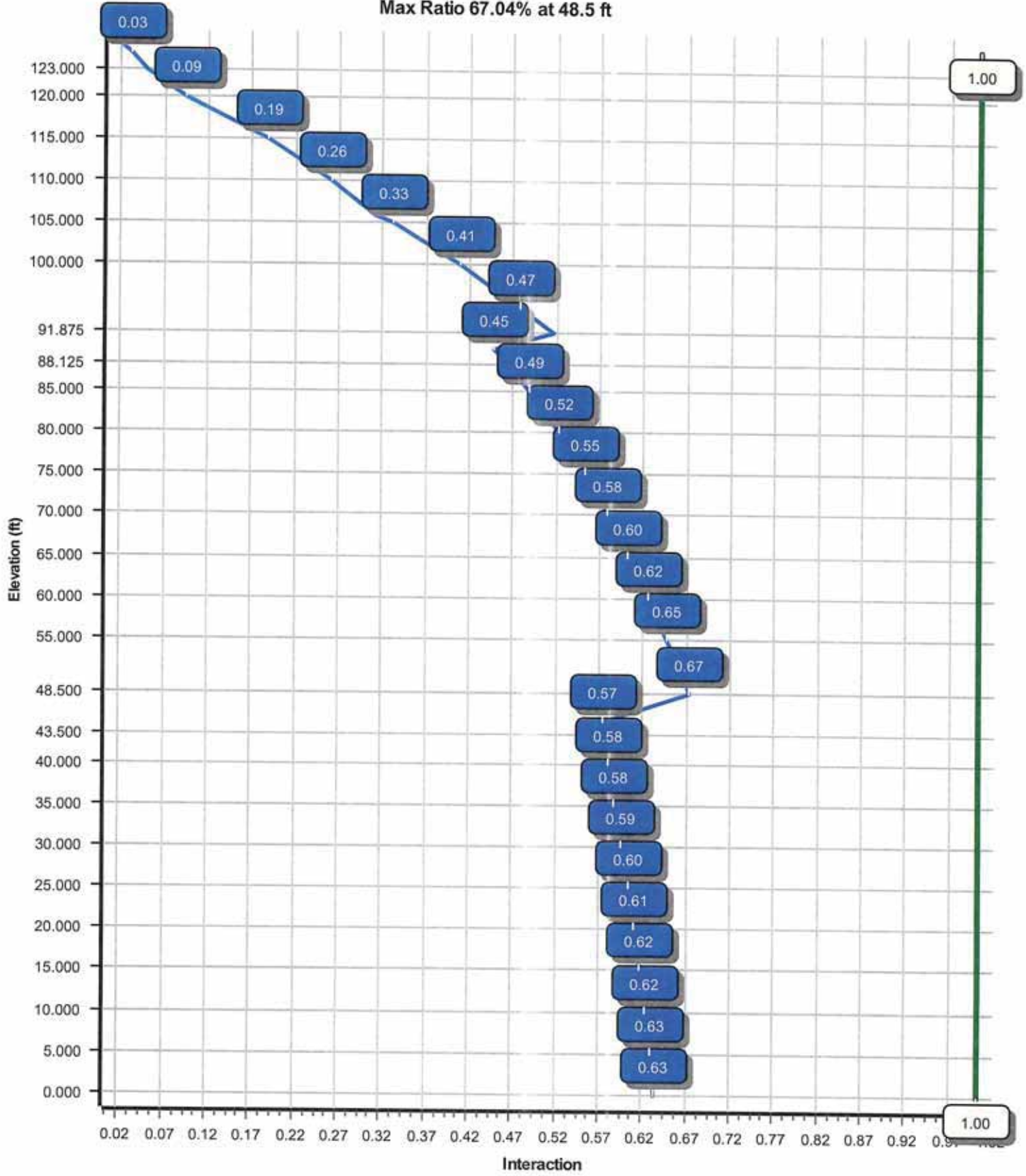
0.000	106.0	1.24" (31.6mm) 4	No
0.000	106.0	1.24" (31.6mm) 4	No
0.000	120.0	1 5/8" Coax	No
0.000	120.0	3/8" Coax	No
0.000	120.0	7/8" Fiber	No
0.000	123.0	1 1/4" Hybriflex	No
0.000	123.0	1/2" Coax	No
0.000	123.0	2" Conduit	No
0.000	123.0	5/16" Coax	No
0.000	126.0	1 1/4" Coax	No

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

Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	2173.00	22.25	37.04
0.9D + 1.6W	2105.40	21.38	27.77
1.2D + 1.0Di + 1.0Wi	553.38	5.50	63.47
(1.2 + 0.2Sds) * DL + E ELFM	133.50	1.21	36.96
(1.2 + 0.2Sds) * DL + E EMAM	308.69	2.79	36.96
(0.9 - 0.2Sds) * DL + E ELFM	131.08	1.21	25.46
(0.9 - 0.2Sds) * DL + E EMAM	302.62	2.79	25.46
1.0D + 1.0W	506.66	5.11	30.90

Dish Deflections			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	123.00	19.476	1.480
1.0D + 1.0W	123.00	19.476	1.480

Load Case : 1.2D + 1.6W
Max Ratio 67.04% at 48.5 ft



Site Number: 302469 Code: ANSI/TIA-222-G © 2007 - 2018 by ATC IP LLC. All rights reserved.
 Site Name: Bridgeport CT 2, CT Engineering Number: OAA720599_C3_01 1/8/2018 4:44:57 PM
 Customer: AT&T MOBILITY

Analysis Parameters

Location :	FAIRFIELD County, CT	Height (ft) :	126
Code :	ANSI/TIA-222-G	Base Diameter (in) :	45.50
Shape :	18 Sides	Top Diameter (in) :	17.00
Pole Type :	Taper	Taper (in/ft) :	0.235
Pole Manufacturer :	EEL	Rotation (deg) :	0.00

Ice & Wind Parameters

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

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	2.44		
T _L (sec):	6	p:	1.3
S _s :	0.204	S ₁ :	0.064
F _a :	1.600	F _v :	2.400
S _{ds} :	0.218	S _{d1} :	0.102
		C _s :	0.030
		C _s Max:	0.030
		C _s Min:	0.030

Load Cases

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

Site Number: 302469

Code: ANSI/TIA-222-G

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Site Name: Bridgeport CT 2, CT

Engineering Number: OAA720599_C3_01

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Customer: AT&T MOBILITY

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Slip		Weight (lb)	Bottom					Top							
				Joint Type	Joint Len (in)		Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18	48.500	0.3750	65		0.00	7,744	45.50	0.00	53.71	13817.4	19.98	121.33	34.09	48.50	40.14	5766.3	14.62	90.92	0.235121
2-18	48.375	0.3125	65	Slip	60.00	4,881	35.89	43.50	35.29	5646.6	18.84	114.87	24.52	91.88	24.01	1778.4	12.43	78.47	0.235121
3-18	37.875	0.2500	65	Slip	45.00	2,168	25.90	88.13	20.36	1692.8	16.86	103.62	17.00	126.00	13.29	471.1	10.58	68.00	0.235121
Shaft Weight						14,793													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice			Ice			Distance From Face (ft)	Vert Ecc (ft)
			Weight (lb)	EPAa (sf)	Orientation Factor	Weight (lb)	EPAa (sf)	Orientation Factor		
126.00	Decibel DB844H90E-XY	4	14.00	3.610	0.74	122.23	4.490	0.74	0.000	5.000
126.00	EMS RR90-11-00DBL	8	18.00	5.070	0.68	0.00	0.000	0.68	0.000	5.000
126.00	Flat Platform w/ Handrails	1	2000.00	42.400	1.00	3,398.91	63.044	1.00	0.000	0.000
123.00	Alcatel-Lucent 1900 MHz	3	60.00	2.320	0.67	0.00	0.000	0.50	0.000	0.000
123.00	Alcatel-Lucent RRH2x50-08	6	52.90	1.700	0.50	0.00	0.000	0.50	0.000	0.000
123.00	Alcatel-Lucent TD-RRH8x20-	3	70.00	4.050	0.67	0.00	0.000	0.67	0.000	0.000
123.00	Dragonwave A-ANT-18G-2-C	1	27.10	4.690	1.00	110.86	5.940	1.00	0.000	0.000
123.00	Dragonwave A-ANT-23G-1-C	1	15.00	1.610	1.00	52.15	2.353	1.00	0.000	0.000
123.00	DragonWave Horizon	2	10.60	0.430	0.50	39.98	0.654	0.50	0.000	0.000
123.00	KMW ETCR-654L12H6	3	84.90	15.710	0.61	0.00	0.000	0.61	0.000	0.000
123.00	Round T-Arm	3	250.00	9.700	0.67	0.00	0.000	0.67	0.000	0.000
120.00	Andrew LNX-6515DS-VTM	3	51.30	11.430	0.70	306.72	13.050	0.70	0.000	0.000
120.00	Ericsson KRY 112 489/1	6	15.40	0.650	0.50	39.29	0.898	0.50	0.000	0.000
120.00	Kathrein Smart Bias Tee	3	3.31	0.090	0.50	9.79	0.240	0.50	0.000	0.000
120.00	RFS APX16DWV-16DWVS-E-	6	40.70	6.590	0.60	174.68	7.680	0.60	0.000	0.000
120.00	Round Low Profile Platform	1	1500.00	21.700	1.00	2,132.47	40.442	1.00	0.000	0.000
106.00	CCI OPA-65R-LCUU-H4	3	57.00	6.080	0.66	212.40	7.087	0.66	0.000	0.000
106.00	Ericsson RRUS 12	6	50.00	3.150	0.67	0.00	0.000	0.67	0.000	0.000
106.00	Ericsson RRUS 32 B66	3	53.00	2.740	0.67	0.00	0.000	0.67	0.000	0.000
106.00	Ericsson RRUS-11	3	51.00	2.790	0.67	137.26	3.444	0.67	0.000	0.000
106.00	Ericsson RRUS-32 (55.1 lbs)	3	55.10	2.850	0.67	0.00	0.000	0.67	0.000	0.000
106.00	Kaelus DBC0061F1V51-2	6	25.50	0.510	0.50	0.00	0.000	0.50	0.000	0.000
106.00	Powerwave 7020.00 Dual	6	2.20	0.400	0.50	0.00	0.000	0.50	0.000	0.000
106.00	Powerwave 7750.00	3	27.00	5.560	0.65	0.00	0.000	0.65	0.000	0.000
106.00	Powerwave LGP21401	6	14.10	1.100	0.50	0.00	0.000	0.50	0.000	0.000
106.00	Quintel QS46512-2 (75 lbs)	3	75.00	5.550	0.76	0.00	0.000	0.76	0.000	0.000
106.00	Raycap DC6-48-60-0-8F	1	16.00	4.790	0.67	0.00	0.000	0.67	0.000	0.000
106.00	Raycap DC6-48-60-18-8F	1	31.80	1.280	1.00	120.84	2.829	1.00	0.000	0.000
106.00	Raycap DC6-48-60-18-8F	1	31.80	1.280	1.00	0.00	0.000	1.00	0.000	0.000
106.00	Round Platform w/ Handrails	1	2000.00	27.200	1.00	3,253.54	50.847	1.00	0.000	0.000
101.00	Kathrein 800 10504	3	17.60	3.340	0.67	94.72	4.255	0.67	0.000	0.000
101.00	RCU (Remote Control Unit)	3	1.00	0.160	0.50	10.44	0.350	0.50	0.000	0.000
Totals		106	9616.33			13,235.47			Number of Loadings : 32	

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Projected Width (in)	Exposed To Wind	Carrier
0.00	126.00	12	1 1/4" Coax	1.55	0.63	N	0.00	Sprint Nextel
0.00	123.00	4	1 1/4" Hybriflex Cable	1.54	1.00	N	0.00	Clearwire Corporation
0.00	123.00	3	1/2" Coax	0.63	0.15	N	0.00	Clearwire Corporation
0.00	123.00	2	2" Conduit	2.38	3.65	N	0.00	Clearwire Corporation
0.00	123.00	6	5/16" Coax	0.31	0.05	N	0.00	Clearwire Corporation

Site Number: 302469

Code: ANSI/TIA-222-G

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Site Name: Bridgeport CT 2, CT

Engineering Number: OAA720599_C3_01

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Customer: AT&T MOBILITY

0.00	120.00	18	1 5/8" Coax	1.98	0.82	N	0.00	N	T-Mobile
0.00	120.00	1	3/8" Coax	0.44	0.08	N	0.00	N	T-Mobile
0.00	120.00	1	7/8" Fiber	0.88	0.70	N	0.00	N	T-Mobile
0.00	106.00	1	0.51" Hybrid	0.51	0.14	N	0.00	Y	AT&T Mobility
0.00	106.00	1	0.51" Hybrid	0.51	0.14	N	0.00	Y	AT&T Mobility
0.00	106.00	2	0.78" 8 AWG 6	0.78	0.59	N	0.00	Y	AT&T Mobility
0.00	106.00	12	1 5/8" Coax	1.98	0.82	N	3.96	Y	AT&T Mobility
0.00	106.00	2	1.24" (31.6mm) 4	1.24	1.17	N	0.00	N	AT&T Mobility
0.00	106.00	2	1.24" (31.6mm) 4	1.24	1.17	N	0.00	N	AT&T Mobility
0.00	101.00	6	1 5/8" Coax	1.98	0.82	N	1.98	Y	Metro PCS
0.00	101.00	1	3/8" Coax	0.44	0.08	N	0.44	Y	Metro PCS

Site Number: 302469

Code: ANSI/TIA-222-G

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Site Name: Bridgeport CT 2, CT

Engineering Number: OAA720599_C3_01

1/8/2018 4:44:57 PM

Customer: AT&T MOBILITY

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in ³)	Z (in ³)	Weight (lb)
0.00		0.3750	45.500	53.708	13,817.4	19.98	121.33	77.9	598.1	0.0	0.0
5.00		0.3750	44.324	52.309	12,765.4	19.43	118.20	78.5	567.2	0.0	901.9
10.00		0.3750	43.149	50.910	11,768.2	18.88	115.06	79.2	537.2	0.0	878.1
15.00		0.3750	41.973	49.510	10,824.3	18.33	111.93	79.8	507.9	0.0	854.3
20.00		0.3750	40.798	48.111	9,932.2	17.77	108.79	80.5	479.5	0.0	830.5
25.00		0.3750	39.622	46.712	9,090.6	17.22	105.66	81.1	451.9	0.0	806.7
30.00		0.3750	38.446	45.313	8,297.9	16.67	102.52	81.8	425.1	0.0	782.9
35.00		0.3750	37.271	43.914	7,552.7	16.11	99.39	82.4	399.1	0.0	759.0
40.00		0.3750	36.095	42.514	6,853.5	15.56	96.25	82.6	374.0	0.0	735.2
43.50	Bot - Section 2	0.3750	35.272	41.535	6,390.7	15.17	94.06	82.6	356.9	0.0	500.5
45.00		0.3750	34.920	41.115	6,198.9	15.01	93.12	82.6	349.6	0.0	390.2
48.50	Top - Section 1	0.3125	34.722	34.128	5,105.2	18.18	111.11	80.0	289.6	0.0	895.2
50.00		0.3125	34.369	33.779	4,949.8	17.98	109.98	80.3	283.7	0.0	173.3
55.00		0.3125	33.193	32.612	4,454.7	17.32	106.22	81.0	264.3	0.0	564.8
60.00		0.3125	32.018	31.446	3,993.8	16.66	102.46	81.8	245.7	0.0	544.9
65.00		0.3125	30.842	30.280	3,565.8	15.99	98.69	82.6	227.7	0.0	525.1
70.00		0.3125	29.667	29.114	3,169.5	15.33	94.93	82.6	210.4	0.0	505.3
75.00		0.3125	28.491	27.948	2,803.8	14.67	91.17	82.6	193.8	0.0	485.4
80.00		0.3125	27.315	26.782	2,467.3	14.00	87.41	82.6	177.9	0.0	465.6
85.00		0.3125	26.140	25.616	2,158.9	13.34	83.65	82.6	162.7	0.0	445.8
88.13	Bot - Section 3	0.3125	25.405	24.888	1,979.8	12.92	81.30	82.6	153.5	0.0	268.5
90.00		0.3125	24.964	24.450	1,877.3	12.68	79.89	82.6	148.1	0.0	286.2
91.88	Top - Section 2	0.2500	25.023	19.657	1,524.2	16.24	100.09	82.3	120.0	0.0	281.1
95.00		0.2500	24.288	19.074	1,392.5	15.72	97.15	82.6	112.9	0.0	205.9
100.0		0.2500	23.113	18.141	1,198.1	14.89	92.45	82.6	102.1	0.0	316.6
101.0		0.2500	22.878	17.954	1,161.5	14.73	91.51	82.6	100.0	0.0	61.4
105.0		0.2500	21.937	17.208	1,022.6	14.06	87.75	82.6	91.8	0.0	239.3
106.0		0.2500	21.702	17.022	989.7	13.90	86.81	82.6	89.8	0.0	58.2
110.0		0.2500	20.762	16.275	865.1	13.23	83.05	82.6	82.1	0.0	226.6
115.0		0.2500	19.586	15.343	724.7	12.40	78.34	82.6	72.9	0.0	269.0
120.0		0.2500	18.410	14.410	600.4	11.57	73.64	82.6	64.2	0.0	253.1
123.0		0.2500	17.705	13.850	533.1	11.08	70.82	82.6	59.3	0.0	144.2
125.0		0.2500	17.235	13.477	491.2	10.75	68.94	82.6	56.1	0.0	93.0
126.0		0.2500	17.000	13.290	471.1	10.58	68.00	82.6	54.6	0.0	45.5
14,793.2											

Site Number: 302469

Code: ANSI/TIA-222-G

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Site Name: Bridgeport CT 2, CT

Engineering Number: OAA720599_C3_01

1/8/2018 4:44:57 PM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.6W

97 mph with No Ice

24 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		194.9	0.0					0.0	0.0	194.9	0.0	0.0	0.0
5.00		386.7	1,082.3					0.0	336.6	386.7	1,418.9	0.0	0.0
10.00		380.3	1,053.7					0.0	336.6	380.3	1,390.3	0.0	0.0
15.00		373.9	1,025.1					0.0	336.6	373.9	1,361.7	0.0	0.0
20.00		367.5	996.6					0.0	336.6	367.5	1,333.2	0.0	0.0
25.00		361.2	968.0					0.0	336.6	361.2	1,304.6	0.0	0.0
30.00		359.0	939.4					0.0	336.6	359.0	1,276.0	0.0	0.0
35.00		364.1	910.9					0.0	336.6	364.1	1,247.5	0.0	0.0
40.00		314.9	882.3					0.0	336.6	314.9	1,218.9	0.0	0.0
43.50	Bot - Section 2	188.3	600.6					0.0	235.6	188.3	836.2	0.0	0.0
45.00		192.5	468.2					0.0	101.0	192.5	569.2	0.0	0.0
48.50	Top - Section 1	192.7	1,074.2					0.0	235.6	192.7	1,309.8	0.0	0.0
50.00		251.2	208.0					0.0	101.0	251.2	308.9	0.0	0.0
55.00		388.2	677.7					0.0	336.6	388.2	1,014.3	0.0	0.0
60.00		390.2	653.9					0.0	336.6	390.2	990.5	0.0	0.0
65.00		468.7	630.1					0.0	336.6	468.7	966.7	0.0	0.0
70.00		541.2	606.3					113.5	336.6	654.7	942.9	0.0	0.0
75.00		530.1	582.5					115.8	336.6	645.9	919.1	0.0	0.0
80.00		517.7	558.7					118.0	336.6	635.8	895.3	0.0	0.0
85.00		411.8	534.9					120.2	336.6	531.9	871.5	0.0	0.0
88.13	Bot - Section 3	250.3	322.2					76.1	210.4	326.5	532.6	0.0	0.0
90.00		187.2	343.4					46.1	126.2	233.3	469.6	0.0	0.0
91.88	Top - Section 2	245.8	337.4					46.3	126.2	292.1	463.6	0.0	0.0
95.00		390.4	247.1					77.8	210.4	468.3	457.5	0.0	0.0
100.00		284.3	379.9					126.0	336.6	410.3	716.5	0.0	0.0
101.00	Appurtenance(s)	167.4	73.7	277.5	0.0	0.0	67.0	25.4	67.3	470.4	208.0	0.0	0.0
105.00		150.9	287.2					0.0	245.3	150.9	532.4	0.0	0.0
106.00	Appurtenance(s)	125.0	69.9	3,432.9	0.0	0.0	4,301.6	0.0	61.3	3,557.9	4,432.8	0.0	0.0
110.00		209.2	271.9					0.0	168.6	209.2	440.5	0.0	0.0
115.00		223.1	322.8					0.0	210.7	223.1	533.5	0.0	0.0
120.00	Appurtenance(s)	171.6	303.7	2,580.6	0.0	0.0	2,400.5	0.0	210.7	2,752.2	2,915.0	0.0	0.0
123.00	Appurtenance(s)	103.4	173.1	2,420.7	0.0	0.0	2,130.5	0.0	70.5	2,524.0	2,374.1	0.0	0.0
125.00		60.7	111.6					0.0	18.1	60.7	129.7	0.0	0.0
126.00	Appurtenance(s)	20.0	54.7	3,036.5	0.0	6,169.3	2,640.0	0.0	9.1	3,056.5	2,703.7	0.0	0.0
Totals:										22,377.9	37,085.1	0.00	0.00

Site Number: 302469

Code: ANSI/TIA-222-G

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Site Name: Bridgeport CT 2, CT

Engineering Number: OAA720599_C3_01

1/8/2018 4:45:01 PM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.6W

97 mph with No Ice

24 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-37.04	-22.25	0.00	-2,173.00	0.00	2,173.00	3,765.29	1,882.65	6,978.46	3,494.42	0.00	0.00	0.632
5.00	-35.54	-22.00	0.00	-2,061.73	0.00	2,061.73	3,697.80	1,848.90	6,673.37	3,341.64	0.12	-0.22	0.627
10.00	-34.07	-21.75	0.00	-1,951.72	0.00	1,951.72	3,628.68	1,814.34	6,371.97	3,190.72	0.47	-0.44	0.621
15.00	-32.62	-21.49	0.00	-1,842.98	0.00	1,842.98	3,557.92	1,778.96	6,074.51	3,041.77	1.05	-0.67	0.615
20.00	-31.20	-21.24	0.00	-1,735.52	0.00	1,735.52	3,485.52	1,742.76	5,781.22	2,894.91	1.88	-0.91	0.609
25.00	-29.82	-20.98	0.00	-1,629.33	0.00	1,629.33	3,411.48	1,705.74	5,492.34	2,750.25	2.96	-1.15	0.601
30.00	-28.46	-20.72	0.00	-1,524.43	0.00	1,524.43	3,335.81	1,667.90	5,208.12	2,607.93	4.29	-1.39	0.593
35.00	-27.13	-20.44	0.00	-1,420.84	0.00	1,420.84	3,258.50	1,629.25	4,928.79	2,468.06	5.89	-1.65	0.584
40.00	-25.85	-20.19	0.00	-1,318.64	0.00	1,318.64	3,158.60	1,579.30	4,623.93	2,315.40	7.75	-1.90	0.578
43.50	-24.97	-20.03	0.00	-1,247.98	0.00	1,247.98	3,085.84	1,542.92	4,412.25	2,209.40	9.21	-2.09	0.573
45.00	-24.36	-19.87	0.00	-1,217.94	0.00	1,217.94	3,054.65	1,527.33	4,323.05	2,164.74	9.88	-2.17	0.571
48.50	-23.01	-19.69	0.00	-1,148.38	0.00	1,148.38	2,457.75	1,228.87	3,470.74	1,737.95	11.55	-2.36	0.670
50.00	-22.65	-19.50	0.00	-1,118.85	0.00	1,118.85	2,439.67	1,219.84	3,409.59	1,707.33	12.30	-2.45	0.665
55.00	-21.55	-19.18	0.00	-1,021.35	0.00	1,021.35	2,378.35	1,189.18	3,208.11	1,606.44	15.03	-2.75	0.645
60.00	-20.48	-18.85	0.00	-925.45	0.00	925.45	2,315.40	1,157.70	3,010.48	1,507.48	18.08	-3.07	0.623
65.00	-19.44	-18.44	0.00	-831.18	0.00	831.18	2,249.69	1,124.84	2,815.52	1,409.85	21.46	-3.38	0.598
70.00	-18.44	-17.83	0.00	-738.99	0.00	738.99	2,163.06	1,081.53	2,601.80	1,302.84	25.17	-3.69	0.576
75.00	-17.47	-17.22	0.00	-649.85	0.00	649.85	2,076.43	1,038.21	2,396.52	1,200.04	29.20	-4.00	0.550
80.00	-16.54	-16.61	0.00	-563.77	0.00	563.77	1,989.80	994.90	2,199.68	1,101.47	33.55	-4.31	0.520
85.00	-15.64	-16.07	0.00	-480.75	0.00	480.75	1,903.17	951.59	2,011.27	1,007.13	38.23	-4.61	0.486
88.13	-15.10	-15.74	0.00	-430.52	0.00	430.52	1,849.03	924.51	1,897.79	950.31	41.31	-4.80	0.461
90.00	-14.62	-15.50	0.00	-401.00	0.00	401.00	1,816.54	908.27	1,831.29	917.01	43.21	-4.91	0.446
91.88	-14.15	-15.20	0.00	-371.94	0.00	371.94	1,456.00	728.00	1,478.84	740.52	45.16	-5.02	0.512
95.00	-13.67	-14.75	0.00	-324.43	0.00	324.43	1,417.09	708.55	1,396.21	699.14	48.50	-5.20	0.474
100.00	-12.95	-14.32	0.00	-250.66	0.00	250.66	1,347.79	673.89	1,262.31	632.09	54.10	-5.49	0.407
101.00	-12.76	-13.86	0.00	-236.34	0.00	236.34	1,333.93	666.96	1,236.34	619.09	55.25	-5.55	0.392
105.00	-12.21	-13.68	0.00	-180.91	0.00	180.91	1,278.48	639.24	1,135.17	568.43	59.98	-5.75	0.328
106.00	-8.14	-9.71	0.00	-167.22	0.00	167.22	1,264.62	632.31	1,110.55	556.10	61.19	-5.80	0.307
110.00	-7.70	-9.48	0.00	-128.38	0.00	128.38	1,209.18	604.59	1,014.77	508.14	66.12	-5.97	0.259
115.00	-7.17	-9.22	0.00	-80.96	0.00	80.96	1,139.88	569.94	901.12	451.23	72.46	-6.14	0.186
120.00	-4.56	-6.18	0.00	-34.85	0.00	34.85	1,070.57	535.29	794.22	397.70	78.95	-6.26	0.092
123.00	-2.47	-3.41	0.00	-16.32	0.00	16.32	1,028.99	514.50	733.32	367.21	82.88	-6.29	0.047
125.00	-2.35	-3.34	0.00	-9.50	0.00	9.50	1,001.27	500.64	694.07	347.55	85.52	-6.31	0.030
126.00	0.00	-3.06	0.00	-6.17	0.00	6.17	987.41	493.71	674.85	337.93	86.84	-6.31	0.018

Site Number: 302469

Code: ANSI/TIA-222-G

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Site Name: Bridgeport CT 2, CT

Engineering Number: OAA720599_C3_01

1/8/2018 4:45:02 PM

Customer: AT&T MOBILITY

Load Case: 0.9D + 1.6W

97 mph with No Ice (Reduced DL)

24 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		174.1	0.0					0.0	0.0	174.1	0.0	0.0	0.0
5.00		343.6	811.7					0.0	252.4	343.6	1,064.1	0.0	0.0
10.00		334.5	790.3					0.0	252.4	334.5	1,042.7	0.0	0.0
15.00		325.4	768.8					0.0	252.4	325.4	1,021.3	0.0	0.0
20.00		316.3	747.4					0.0	252.4	316.3	999.9	0.0	0.0
25.00		307.2	726.0					0.0	252.4	307.2	978.4	0.0	0.0
30.00		301.6	704.6					0.0	252.4	301.6	957.0	0.0	0.0
35.00		302.0	683.1					0.0	252.4	302.0	935.6	0.0	0.0
40.00		258.2	661.7					0.0	252.4	258.2	914.2	0.0	0.0
43.50	Bot - Section 2	153.0	450.5					0.0	176.7	153.0	627.2	0.0	0.0
45.00		154.8	351.2					0.0	75.7	154.8	426.9	0.0	0.0
48.50	Top - Section 1	154.6	805.6					0.0	176.7	154.6	982.4	0.0	0.0
50.00		200.1	156.0					0.0	75.7	200.1	231.7	0.0	0.0
55.00		306.1	508.3					0.0	252.4	306.1	760.8	0.0	0.0
60.00		302.7	490.5					0.0	252.4	302.7	742.9	0.0	0.0
65.00		423.6	472.6					0.0	252.4	423.6	725.0	0.0	0.0
70.00		541.2	454.7					113.5	252.4	654.7	707.2	0.0	0.0
75.00		530.1	436.9					115.8	252.4	645.9	689.3	0.0	0.0
80.00		517.7	419.0					118.0	252.4	635.8	671.5	0.0	0.0
85.00		411.8	401.2					120.2	252.4	531.9	653.6	0.0	0.0
88.13	Bot - Section 3	250.3	241.7					76.1	157.8	326.5	399.5	0.0	0.0
90.00		187.2	257.5					46.1	94.7	233.3	352.2	0.0	0.0
91.88	Top - Section 2	245.8	253.0					46.3	94.7	292.1	347.7	0.0	0.0
95.00		390.4	185.3					77.8	157.8	468.3	343.1	0.0	0.0
100.00		284.3	284.9					126.0	252.4	410.3	537.4	0.0	0.0
101.00	Appurtenance(s)	145.5	55.3	277.5	0.0	0.0	50.2	25.4	50.5	448.4	156.0	0.0	0.0
105.00		123.2	215.4					0.0	184.0	123.2	399.3	0.0	0.0
106.00	Appurtenance(s)	119.3	52.4	3,432.9	0.0	0.0	3,226.2	0.0	46.0	3,552.2	3,324.6	0.0	0.0
110.00		209.2	203.9					0.0	126.4	209.2	330.4	0.0	0.0
115.00		223.1	242.1					0.0	158.0	223.1	400.1	0.0	0.0
120.00	Appurtenance(s)	171.6	227.8	2,580.6	0.0	0.0	1,800.4	0.0	158.0	2,752.2	2,186.2	0.0	0.0
123.00	Appurtenance(s)	103.4	129.8	2,420.7	0.0	0.0	1,597.9	0.0	52.9	2,524.0	1,780.5	0.0	0.0
125.00		60.7	83.7					0.0	13.6	60.7	97.3	0.0	0.0
126.00	Appurtenance(s)	20.0	41.0	3,036.5	0.0	6,169.3	1,980.0	0.0	6.8	3,056.5	2,027.8	0.0	0.0
Totals:										21,506.0	27,813.8	0.00	0.00

Site Number: 302469

Code: ANSI/TIA-222-G

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Site Name: Bridgeport CT 2, CT

Engineering Number: OAA720599_C3_01

1/8/2018 4:45:06 PM

Customer: AT&T MOBILITY

Load Case: 0.9D + 1.6W

97 mph with No Ice (Reduced DL)

24 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	-27.77	-21.38	0.00	-2,105.40	0.00	2,105.40	3,765.29	1,882.65	6,978.46	3,494.42	0.00	0.00	0.610
5.00	-26.63	-21.14	0.00	-1,998.49	0.00	1,998.49	3,697.80	1,848.90	6,673.37	3,341.64	0.11	-0.21	0.605
10.00	-25.51	-20.90	0.00	-1,892.80	0.00	1,892.80	3,628.68	1,814.34	6,371.97	3,190.72	0.45	-0.43	0.600
15.00	-24.41	-20.66	0.00	-1,788.32	0.00	1,788.32	3,557.92	1,778.96	6,074.51	3,041.77	1.02	-0.65	0.595
20.00	-23.33	-20.42	0.00	-1,685.04	0.00	1,685.04	3,485.52	1,742.76	5,781.22	2,894.91	1.82	-0.88	0.589
25.00	-22.28	-20.19	0.00	-1,582.94	0.00	1,582.94	3,411.48	1,705.74	5,492.34	2,750.25	2.87	-1.11	0.582
30.00	-21.24	-19.96	0.00	-1,481.99	0.00	1,481.99	3,335.81	1,667.90	5,208.12	2,607.93	4.16	-1.35	0.575
35.00	-20.23	-19.72	0.00	-1,382.21	0.00	1,382.21	3,258.50	1,629.25	4,928.79	2,468.06	5.71	-1.60	0.566
40.00	-19.25	-19.51	0.00	-1,283.61	0.00	1,283.61	3,158.60	1,579.30	4,623.93	2,315.40	7.52	-1.85	0.561
43.50	-18.58	-19.37	0.00	-1,215.34	0.00	1,215.34	3,085.84	1,542.92	4,412.25	2,209.40	8.94	-2.03	0.556
45.00	-18.12	-19.25	0.00	-1,186.28	0.00	1,186.28	3,054.65	1,527.33	4,323.05	2,164.74	9.59	-2.11	0.554
48.50	-17.10	-19.09	0.00	-1,118.92	0.00	1,118.92	2,457.75	1,228.87	3,470.74	1,737.95	11.21	-2.30	0.651
50.00	-16.81	-18.94	0.00	-1,090.28	0.00	1,090.28	2,439.67	1,219.84	3,409.59	1,707.33	11.94	-2.38	0.646
55.00	-15.97	-18.69	0.00	-995.57	0.00	995.57	2,378.35	1,189.18	3,208.11	1,606.44	14.59	-2.68	0.627
60.00	-15.14	-18.43	0.00	-902.14	0.00	902.14	2,315.40	1,157.70	3,010.48	1,507.48	17.56	-2.98	0.605
65.00	-14.35	-18.04	0.00	-810.01	0.00	810.01	2,249.69	1,124.84	2,815.52	1,409.85	20.85	-3.29	0.581
70.00	-13.59	-17.42	0.00	-719.80	0.00	719.80	2,163.06	1,081.53	2,601.80	1,302.84	24.45	-3.59	0.559
75.00	-12.85	-16.80	0.00	-632.71	0.00	632.71	2,076.43	1,038.21	2,396.52	1,200.04	28.37	-3.89	0.534
80.00	-12.14	-16.18	0.00	-548.73	0.00	548.73	1,989.80	994.90	2,199.68	1,101.47	32.61	-4.19	0.505
85.00	-11.47	-15.65	0.00	-467.84	0.00	467.84	1,903.17	951.59	2,011.27	1,007.13	37.16	-4.49	0.471
88.13	-11.06	-15.32	0.00	-418.94	0.00	418.94	1,849.03	924.51	1,897.79	950.31	40.15	-4.67	0.447
90.00	-10.70	-15.08	0.00	-390.23	0.00	390.23	1,816.54	908.27	1,831.29	917.01	42.01	-4.78	0.432
91.88	-10.34	-14.78	0.00	-361.96	0.00	361.96	1,456.00	728.00	1,478.84	740.52	43.90	-4.89	0.496
95.00	-9.98	-14.32	0.00	-315.77	0.00	315.77	1,417.09	708.55	1,396.21	699.14	47.15	-5.05	0.459
100.00	-9.44	-13.89	0.00	-244.15	0.00	244.15	1,347.79	673.89	1,262.31	632.09	52.60	-5.34	0.394
101.00	-9.30	-13.45	0.00	-230.26	0.00	230.26	1,333.93	666.96	1,236.34	619.09	53.72	-5.40	0.379
105.00	-8.89	-13.31	0.00	-176.44	0.00	176.44	1,278.48	639.24	1,135.17	568.43	58.33	-5.60	0.318
106.00	-5.91	-9.46	0.00	-163.13	0.00	163.13	1,264.62	632.31	1,110.55	556.10	59.50	-5.64	0.298
110.00	-5.57	-9.24	0.00	-125.28	0.00	125.28	1,209.18	604.59	1,014.77	508.14	64.30	-5.81	0.251
115.00	-5.17	-8.99	0.00	-79.09	0.00	79.09	1,139.88	569.94	901.12	451.23	70.47	-5.98	0.180
120.00	-3.28	-6.02	0.00	-34.15	0.00	34.15	1,070.57	535.29	794.22	397.70	76.78	-6.09	0.089
123.00	-1.78	-3.33	0.00	-16.08	0.00	16.08	1,028.99	514.50	733.32	367.21	80.61	-6.12	0.046
125.00	-1.69	-3.26	0.00	-9.43	0.00	9.43	1,001.27	500.64	694.07	347.55	83.18	-6.14	0.029
126.00	0.00	-3.06	0.00	-6.17	0.00	6.17	987.41	493.71	674.85	337.93	84.46	-6.14	0.018

Site Number: 302469

Code: ANSI/TIA-222-G

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Site Name: Bridgeport CT 2, CT

Engineering Number: OAA720599_C3_01

1/8/2018 4:45:06 PM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice	24 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		56.1	0.0					0.0	0.0	56.1	0.0	0.0	0.0
5.00		111.1	1,412.4					0.0	590.3	111.1	2,002.7	0.0	0.0
10.00		108.8	1,413.8					0.0	622.6	108.8	2,036.4	0.0	0.0
15.00		106.2	1,394.6					0.0	639.4	106.2	2,034.0	0.0	0.0
20.00		103.6	1,368.7					0.0	651.1	103.6	2,019.9	0.0	0.0
25.00		101.0	1,339.3					0.0	660.3	101.0	1,999.6	0.0	0.0
30.00		99.5	1,307.7					0.0	667.8	99.5	1,975.5	0.0	0.0
35.00		100.0	1,274.5					0.0	674.2	100.0	1,948.7	0.0	0.0
40.00		85.7	1,240.2					0.0	679.9	85.7	1,920.1	0.0	0.0
43.50	Bot - Section 2	50.9	848.4					0.0	478.9	50.9	1,327.3	0.0	0.0
45.00		51.6	575.9					0.0	206.0	51.6	781.8	0.0	0.0
48.50	Top - Section 1	51.6	1,321.2					0.0	482.1	51.6	1,803.3	0.0	0.0
50.00		66.9	313.4					0.0	207.3	66.9	520.6	0.0	0.0
55.00		102.6	1,019.8					0.0	693.6	102.6	1,713.4	0.0	0.0
60.00		101.9	987.6					0.0	697.4	101.9	1,685.0	0.0	0.0
65.00		100.9	954.9					0.0	700.9	100.9	1,655.9	0.0	0.0
70.00		99.5	921.9					47.4	704.3	146.9	1,626.2	0.0	0.0
75.00		97.9	888.5					48.6	707.4	146.5	1,595.9	0.0	0.0
80.00		96.1	854.8					49.7	710.3	145.9	1,565.1	0.0	0.0
85.00		76.8	820.9					50.8	713.1	127.6	1,533.9	0.0	0.0
88.13	Bot - Section 3	46.8	497.1					32.3	447.0	79.1	944.1	0.0	0.0
90.00		35.1	448.9					19.6	268.7	54.6	717.6	0.0	0.0
91.88	Top - Section 2	46.2	441.4					19.7	269.0	65.9	710.4	0.0	0.0
95.00		73.7	416.1					33.2	449.2	106.8	865.3	0.0	0.0
100.00		53.8	639.3					53.8	720.6	107.6	1,359.9	0.0	0.0
101.00	Appurtenance(s)	43.6	125.2	60.2	0.0	0.0	328.1	10.9	144.4	114.8	597.7	0.0	0.0
105.00		43.4	486.0					0.0	454.5	43.4	940.5	0.0	0.0
106.00	Appurtenance(s)	42.3	119.2	820.4	0.0	0.0	8,528.6	0.0	113.8	862.7	8,761.6	0.0	0.0
110.00		74.5	461.8					0.0	168.6	74.5	630.4	0.0	0.0
115.00		80.1	548.6					0.0	210.7	80.1	759.4	0.0	0.0
120.00	Appurtenance(s)	62.1	518.1	605.6	0.0	0.0	4,395.6	0.0	210.7	667.6	5,124.4	0.0	0.0
123.00	Appurtenance(s)	37.7	297.7	539.6	0.0	0.0	4,562.0	0.0	70.5	577.2	4,930.2	0.0	0.0
125.00		22.2	192.8					0.0	18.1	22.2	210.9	0.0	0.0
126.00	Appurtenance(s)	7.3	94.8	692.0	0.0	1,234.6	5,071.9	0.0	9.1	699.4	5,175.8	0.0	0.0
Totals:										5,521.30	63,473.4	0.00	0.00

Site Number: 302469

Code: ANSI/TIA-222-G

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Site Name: Bridgeport CT 2, CT

Engineering Number: OAA720599_C3_01

1/8/2018 4:45:11 PM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

24 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor :1.00

Wind Importance Factor :1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-63.47	-5.50	0.00	-553.38	0.00	553.38	3,765.29	1,882.65	6,978.46	3,494.42	0.00	0.00	0.175
5.00	-61.46	-5.44	0.00	-525.90	0.00	525.90	3,697.80	1,848.90	6,673.37	3,341.64	0.03	-0.06	0.174
10.00	-59.42	-5.39	0.00	-498.68	0.00	498.68	3,628.68	1,814.34	6,371.97	3,190.72	0.12	-0.11	0.173
15.00	-57.38	-5.34	0.00	-471.71	0.00	471.71	3,557.92	1,778.96	6,074.51	3,041.77	0.27	-0.17	0.171
20.00	-55.36	-5.29	0.00	-445.01	0.00	445.01	3,485.52	1,742.76	5,781.22	2,894.91	0.48	-0.23	0.170
25.00	-53.35	-5.24	0.00	-418.56	0.00	418.56	3,411.48	1,705.74	5,492.34	2,750.25	0.76	-0.29	0.168
30.00	-51.37	-5.18	0.00	-392.37	0.00	392.37	3,335.81	1,667.90	5,208.12	2,607.93	1.10	-0.36	0.166
35.00	-49.42	-5.13	0.00	-366.45	0.00	366.45	3,258.50	1,629.25	4,928.79	2,468.06	1.50	-0.42	0.164
40.00	-47.49	-5.07	0.00	-340.81	0.00	340.81	3,158.60	1,579.30	4,623.93	2,315.40	1.98	-0.49	0.162
43.50	-46.16	-5.04	0.00	-323.05	0.00	323.05	3,085.84	1,542.92	4,412.25	2,209.40	2.36	-0.54	0.161
45.00	-45.38	-5.01	0.00	-315.49	0.00	315.49	3,054.65	1,527.33	4,323.05	2,164.74	2.53	-0.56	0.161
48.50	-43.57	-4.97	0.00	-297.96	0.00	297.96	2,457.75	1,228.87	3,470.74	1,737.95	2.96	-0.61	0.189
50.00	-43.05	-4.93	0.00	-290.51	0.00	290.51	2,439.67	1,219.84	3,409.59	1,707.33	3.15	-0.63	0.188
55.00	-41.33	-4.87	0.00	-265.85	0.00	265.85	2,378.35	1,189.18	3,208.11	1,606.44	3.85	-0.71	0.183
60.00	-39.64	-4.80	0.00	-241.52	0.00	241.52	2,315.40	1,157.70	3,010.48	1,507.48	4.64	-0.79	0.177
65.00	-37.98	-4.73	0.00	-217.52	0.00	217.52	2,249.69	1,124.84	2,815.52	1,409.85	5.51	-0.87	0.171
70.00	-36.35	-4.61	0.00	-193.88	0.00	193.88	2,163.06	1,081.53	2,601.80	1,302.84	6.47	-0.95	0.166
75.00	-34.75	-4.48	0.00	-170.83	0.00	170.83	2,076.43	1,038.21	2,396.52	1,200.04	7.51	-1.04	0.159
80.00	-33.18	-4.35	0.00	-148.42	0.00	148.42	1,989.80	994.90	2,199.68	1,101.47	8.64	-1.12	0.151
85.00	-31.65	-4.23	0.00	-126.64	0.00	126.64	1,903.17	951.59	2,011.27	1,007.13	9.85	-1.20	0.142
88.13	-30.70	-4.15	0.00	-113.42	0.00	113.42	1,849.03	924.51	1,897.79	950.31	10.65	-1.25	0.136
90.00	-29.98	-4.10	0.00	-105.63	0.00	105.63	1,816.54	908.27	1,831.29	917.01	11.15	-1.27	0.132
91.88	-29.27	-4.04	0.00	-97.95	0.00	97.95	1,456.00	728.00	1,478.84	740.52	11.65	-1.30	0.152
95.00	-28.40	-3.94	0.00	-85.34	0.00	85.34	1,417.09	708.55	1,396.21	699.14	12.52	-1.35	0.142
100.00	-27.04	-3.82	0.00	-65.64	0.00	65.64	1,347.79	673.89	1,262.31	632.09	13.98	-1.43	0.124
101.00	-26.45	-3.71	0.00	-61.82	0.00	61.82	1,333.93	666.96	1,236.34	619.09	14.28	-1.44	0.120
105.00	-25.51	-3.65	0.00	-47.00	0.00	47.00	1,278.48	639.24	1,135.17	568.43	15.51	-1.50	0.103
106.00	-16.77	-2.57	0.00	-43.34	0.00	43.34	1,264.62	632.31	1,110.55	556.10	15.83	-1.51	0.091
110.00	-16.14	-2.49	0.00	-33.06	0.00	33.06	1,209.18	604.59	1,014.77	508.14	17.11	-1.55	0.078
115.00	-15.38	-2.40	0.00	-20.61	0.00	20.61	1,139.88	569.94	901.12	451.23	18.76	-1.60	0.059
120.00	-10.28	-1.59	0.00	-8.61	0.00	8.61	1,070.57	535.29	794.22	397.70	20.45	-1.62	0.031
123.00	-5.36	-0.87	0.00	-3.83	0.00	3.83	1,028.99	514.50	733.32	367.21	21.47	-1.63	0.016
125.00	-5.15	-0.85	0.00	-2.08	0.00	2.08	1,001.27	500.64	694.07	347.55	22.16	-1.64	0.011
126.00	0.00	-0.70	0.00	-1.23	0.00	1.23	987.41	493.71	674.85	337.93	22.50	-1.64	0.004

Site Number: 302469

Code: ANSI/TIA-222-G

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Site Name: Bridgeport CT 2, CT

Engineering Number: OAA720599_C3_01

1/8/2018 4:45:11 PM

Customer: AT&T MOBILITY

Load Case: 1.0D + 1.0W

Serviceability 60 mph

23 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		41.6	0.0					0.0	0.0	41.6	0.0	0.0	0.0
5.00		82.2	901.9					0.0	280.5	82.2	1,182.4	0.0	0.0
10.00		80.0	878.1					0.0	280.5	80.0	1,158.6	0.0	0.0
15.00		77.8	854.3					0.0	280.5	77.8	1,134.8	0.0	0.0
20.00		75.6	830.5					0.0	280.5	75.6	1,111.0	0.0	0.0
25.00		73.5	806.7					0.0	280.5	73.5	1,087.2	0.0	0.0
30.00		72.1	782.9					0.0	280.5	72.1	1,063.4	0.0	0.0
35.00		72.2	759.0					0.0	280.5	72.2	1,039.5	0.0	0.0
40.00		61.7	735.2					0.0	280.5	61.7	1,015.7	0.0	0.0
43.50	Bot - Section 2	36.6	500.5					0.0	196.3	36.6	696.9	0.0	0.0
45.00		37.0	390.2					0.0	84.2	37.0	474.3	0.0	0.0
48.50	Top - Section 1	37.0	895.2					0.0	196.3	37.0	1,091.5	0.0	0.0
50.00		47.9	173.3					0.0	84.2	47.9	257.5	0.0	0.0
55.00		73.2	564.8					0.0	280.5	73.2	845.3	0.0	0.0
60.00		72.4	544.9					0.0	280.5	72.4	825.4	0.0	0.0
65.00		101.3	525.1					0.0	280.5	101.3	805.6	0.0	0.0
70.00		129.4	505.3					27.1	280.5	156.6	785.8	0.0	0.0
75.00		126.8	485.4					27.7	280.5	154.5	765.9	0.0	0.0
80.00		123.8	465.6					28.2	280.5	152.0	746.1	0.0	0.0
85.00		98.5	445.8					28.7	280.5	127.2	726.3	0.0	0.0
88.13	Bot - Section 3	59.9	268.5					18.2	175.3	78.1	443.8	0.0	0.0
90.00		44.8	286.2					11.0	105.2	55.8	391.3	0.0	0.0
91.88	Top - Section 2	58.8	281.1					11.1	105.2	69.9	386.3	0.0	0.0
95.00		93.4	205.9					18.6	175.3	112.0	381.2	0.0	0.0
100.00		68.0	316.6					30.1	280.5	98.1	597.1	0.0	0.0
101.00	Appurtenance(s)	34.8	61.4	66.4	0.0	0.0	55.8	6.1	56.1	107.2	173.3	0.0	0.0
105.00		29.5	239.3					0.0	204.4	29.5	443.7	0.0	0.0
106.00	Appurtenance(s)	28.5	58.2	820.9	0.0	0.0	3,584.7	0.0	51.1	849.4	3,694.0	0.0	0.0
110.00		50.0	226.6					0.0	140.5	50.0	367.1	0.0	0.0
115.00		53.3	269.0					0.0	175.6	53.3	444.6	0.0	0.0
120.00	Appurtenance(s)	41.0	253.1	617.1	0.0	0.0	2,000.4	0.0	175.6	658.1	2,429.1	0.0	0.0
123.00	Appurtenance(s)	24.7	144.2	578.9	0.0	0.0	1,775.4	0.0	58.7	603.6	1,978.4	0.0	0.0
125.00		14.5	93.0					0.0	15.1	14.5	108.1	0.0	0.0
126.00	Appurtenance(s)	4.8	45.5	726.1	0.0	1,475.3	2,200.0	0.0	7.6	730.9	2,253.1	0.0	0.0
Totals:										5,142.81	30,904.2	0.00	0.00

Site Number: 302469

Code: ANSI/TIA-222-G

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Site Name: Bridgeport CT 2, CT

Engineering Number: OAA720599_C3_01

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Customer: AT&T MOBILITY

Load Case: 1.0D + 1.0W

Serviceability 60 mph

23 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-30.90	-5.11	0.00	-506.66	0.00	506.66	3,765.29	1,882.65	6,978.46	3,494.42	0.00	0.00	0.153
5.00	-29.72	-5.06	0.00	-481.09	0.00	481.09	3,697.80	1,848.90	6,673.37	3,341.64	0.03	-0.05	0.152
10.00	-28.55	-5.00	0.00	-455.79	0.00	455.79	3,628.68	1,814.34	6,371.97	3,190.72	0.11	-0.10	0.151
15.00	-27.41	-4.95	0.00	-430.78	0.00	430.78	3,557.92	1,778.96	6,074.51	3,041.77	0.25	-0.16	0.149
20.00	-26.30	-4.90	0.00	-406.03	0.00	406.03	3,485.52	1,742.76	5,781.22	2,894.91	0.44	-0.21	0.148
25.00	-25.21	-4.84	0.00	-381.55	0.00	381.55	3,411.48	1,705.74	5,492.34	2,750.25	0.69	-0.27	0.146
30.00	-24.14	-4.79	0.00	-357.34	0.00	357.34	3,335.81	1,667.90	5,208.12	2,607.93	1.00	-0.33	0.144
35.00	-23.09	-4.74	0.00	-333.39	0.00	333.39	3,258.50	1,629.25	4,928.79	2,468.06	1.38	-0.39	0.142
40.00	-22.07	-4.69	0.00	-309.72	0.00	309.72	3,158.60	1,579.30	4,623.93	2,315.40	1.81	-0.45	0.141
43.50	-21.38	-4.66	0.00	-293.32	0.00	293.32	3,085.84	1,542.92	4,412.25	2,209.40	2.15	-0.49	0.140
45.00	-20.90	-4.63	0.00	-286.34	0.00	286.34	3,054.65	1,527.33	4,323.05	2,164.74	2.31	-0.51	0.139
48.50	-19.80	-4.59	0.00	-270.14	0.00	270.14	2,457.75	1,228.87	3,470.74	1,737.95	2.70	-0.55	0.164
50.00	-19.54	-4.56	0.00	-263.26	0.00	263.26	2,439.67	1,219.84	3,409.59	1,707.33	2.88	-0.57	0.162
55.00	-18.69	-4.50	0.00	-240.48	0.00	240.48	2,378.35	1,189.18	3,208.11	1,606.44	3.52	-0.65	0.158
60.00	-17.86	-4.44	0.00	-218.00	0.00	218.00	2,315.40	1,157.70	3,010.48	1,507.48	4.23	-0.72	0.152
65.00	-17.05	-4.35	0.00	-195.81	0.00	195.81	2,249.69	1,124.84	2,815.52	1,409.85	5.03	-0.79	0.146
70.00	-16.27	-4.20	0.00	-174.07	0.00	174.07	2,163.06	1,081.53	2,601.80	1,302.84	5.90	-0.87	0.141
75.00	-15.50	-4.05	0.00	-153.07	0.00	153.07	2,076.43	1,038.21	2,396.52	1,200.04	6.84	-0.94	0.135
80.00	-14.75	-3.91	0.00	-132.79	0.00	132.79	1,989.80	994.90	2,199.68	1,101.47	7.87	-1.01	0.128
85.00	-14.02	-3.78	0.00	-113.26	0.00	113.26	1,903.17	951.59	2,011.27	1,007.13	8.96	-1.08	0.120
88.13	-13.58	-3.70	0.00	-101.44	0.00	101.44	1,849.03	924.51	1,897.79	950.31	9.69	-1.13	0.114
90.00	-13.18	-3.65	0.00	-94.50	0.00	94.50	1,816.54	908.27	1,831.29	917.01	10.14	-1.15	0.110
91.88	-12.80	-3.58	0.00	-87.66	0.00	87.66	1,456.00	728.00	1,478.84	740.52	10.59	-1.18	0.127
95.00	-12.42	-3.47	0.00	-76.49	0.00	76.49	1,417.09	708.55	1,396.21	699.14	11.38	-1.22	0.118
100.00	-11.82	-3.36	0.00	-59.15	0.00	59.15	1,347.79	673.89	1,262.31	632.09	12.70	-1.29	0.102
101.00	-11.65	-3.26	0.00	-55.78	0.00	55.78	1,333.93	666.96	1,236.34	619.09	12.97	-1.30	0.099
105.00	-11.20	-3.23	0.00	-42.74	0.00	42.74	1,278.48	639.24	1,135.17	568.43	14.08	-1.35	0.084
106.00	-7.53	-2.29	0.00	-39.52	0.00	39.52	1,264.62	632.31	1,110.55	556.10	14.37	-1.36	0.077
110.00	-7.16	-2.24	0.00	-30.35	0.00	30.35	1,209.18	604.59	1,014.77	508.14	15.53	-1.40	0.066
115.00	-6.72	-2.18	0.00	-19.15	0.00	19.15	1,139.88	569.94	901.12	451.23	17.02	-1.44	0.048
120.00	-4.30	-1.46	0.00	-8.26	0.00	8.26	1,070.57	535.29	794.22	397.70	18.55	-1.47	0.025
123.00	-2.34	-0.81	0.00	-3.88	0.00	3.88	1,028.99	514.50	733.32	367.21	19.48	-1.48	0.013
125.00	-2.23	-0.79	0.00	-2.26	0.00	2.26	1,001.27	500.64	694.07	347.55	20.10	-1.48	0.009
126.00	0.00	-0.73	0.00	-1.48	0.00	1.48	987.41	493.71	674.85	337.93	20.41	-1.48	0.004

Site Number: 302469

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Engineering Number: OAA720599_C3_01

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Customer: AT&T MOBILITY

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.20
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}):	0.22
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):	2.44
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.97
Total Unfactored Dead Load:	30.90 k
Seismic Base Shear (E):	1.21 k

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
33	125.50	53	729	0.004	5	66
32	124.00	108	1,450	0.008	9	134
31	121.50	203	2,615	0.014	17	252
30	117.50	429	5,171	0.028	33	533
29	112.50	445	4,922	0.026	32	553
28	108.00	367	3,750	0.020	24	456
27	105.50	109	1,066	0.006	7	136
26	103.00	444	4,128	0.022	27	552
25	100.50	118	1,042	0.006	7	146
24	97.50	597	4,985	0.027	32	742
23	93.44	381	2,927	0.016	19	474
22	90.94	386	2,811	0.015	18	480
21	89.06	391	2,733	0.015	18	487
20	86.56	444	2,931	0.016	19	552
19	82.50	726	4,362	0.023	28	903
18	77.50	746	3,961	0.021	26	928
17	72.50	766	3,566	0.019	23	952
16	67.50	786	3,177	0.017	20	977
15	62.50	806	2,799	0.015	18	1,002
14	57.50	825	2,433	0.013	16	1,026
13	52.50	845	2,082	0.011	13	1,051
12	49.25	257	559	0.003	4	320
11	46.75	1,092	2,139	0.011	14	1,357

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Customer: AT&T MOBILITY

10	44.25	474	834	0.004	5	590
9	41.75	697	1,093	0.006	7	867
8	37.50	1,016	1,289	0.007	8	1,263
7	32.50	1,040	995	0.005	6	1,293
6	27.50	1,063	732	0.004	5	1,322
5	22.50	1,087	504	0.003	3	1,352
4	17.50	1,111	314	0.002	2	1,382
3	12.50	1,135	165	0.001	1	1,411
2	7.50	1,159	62	0.000	0	1,441
1	2.50	1,182	7	0.000	0	1,470
Decibel DB844H90E-XY	126.00	56	775	0.004	5	70
EMS RR90-11-00DBL	126.00	144	1,993	0.011	13	179
Flat Platform w/ Han	126.00	2,000	27,685	0.148	178	2,487
DragonWave Horizon C	123.00	21	280	0.001	2	26
Dragonwave A-ANT-23G	123.00	15	198	0.001	1	19
Alcatel-Lucent RRH2x	123.00	317	4,190	0.022	27	395
Alcatel-Lucent 1900	123.00	180	2,376	0.013	15	224
Alcatel-Lucent TD-RR	123.00	210	2,772	0.015	18	261
Dragonwave A-ANT-18G	123.00	27	358	0.002	2	34
Round T-Arm	123.00	750	9,900	0.053	64	933
KMW ETCR-654L12H6	123.00	255	3,362	0.018	22	317
Kathrein Smart Bias	120.00	10	125	0.001	1	12
Ericsson KRY 112 489	120.00	92	1,162	0.006	7	115
RFS APX16DWV-16DWVS-	120.00	244	3,070	0.016	20	304
Andrew LNX-6515DS-VT	120.00	154	1,935	0.010	12	191
Round Low Profile PI	120.00	1,500	18,859	0.101	121	1,865
Powerwave 7020.00 Du	106.00	13	130	0.001	1	16
Kaelus DBC0061F1V51-	106.00	153	1,506	0.008	10	190
Powerwave LGP21401	106.00	85	833	0.004	5	105
Raycap DC6-48-60-18-	106.00	32	313	0.002	2	40
Raycap DC6-48-60-18-	106.00	32	313	0.002	2	40
Ericsson RRUS 32 B66	106.00	159	1,565	0.008	10	198
Ericsson RRUS-11	106.00	153	1,506	0.008	10	190
Ericsson RRUS-32 (55	106.00	165	1,627	0.009	10	206
Ericsson RRUS 12	106.00	300	2,953	0.016	19	373
Raycap DC6-48-60-0-8	106.00	16	158	0.001	1	20
Quintel QS46512-2 (7	106.00	225	2,215	0.012	14	280
Powerwave 7750.00	106.00	81	797	0.004	5	101
CCI OPA-65R-LCUU-H4	106.00	171	1,683	0.009	11	213
Round Platform w/ Ha	106.00	2,000	19,690	0.105	127	2,487
RCU (Remote Control	101.00	3	27	0.000	0	4
Kathrein 800 10504	101.00	53	473	0.003	3	66
		30,904	187,163	1.000	1,205	38,430

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

Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
33	125.50	53	729	0.004	5	45
32	124.00	108	1,450	0.008	9	93
31	121.50	203	2,615	0.014	17	174
30	117.50	429	5,171	0.028	33	367
29	112.50	445	4,922	0.026	32	381
28	108.00	367	3,750	0.020	24	314
27	105.50	109	1,066	0.006	7	94
26	103.00	444	4,128	0.022	27	380
25	100.50	118	1,042	0.006	7	101
24	97.50	597	4,985	0.027	32	511
23	93.44	381	2,927	0.016	19	327
22	90.94	386	2,811	0.015	18	331

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Customer: AT&T MOBILITY

21	89.06	391	2,733	0.015	18	335
20	86.56	444	2,931	0.016	19	380
19	82.50	726	4,362	0.023	28	622
18	77.50	746	3,961	0.021	26	639
17	72.50	766	3,566	0.019	23	656
16	67.50	786	3,177	0.017	20	673
15	62.50	806	2,799	0.015	18	690
14	57.50	825	2,433	0.013	16	707
13	52.50	845	2,082	0.011	13	724
12	49.25	257	559	0.003	4	221
11	46.75	1,092	2,139	0.011	14	935
10	44.25	474	834	0.004	5	406
9	41.75	697	1,093	0.006	7	597
8	37.50	1,016	1,289	0.007	8	870
7	32.50	1,040	995	0.005	6	890
6	27.50	1,063	732	0.004	5	911
5	22.50	1,087	504	0.003	3	931
4	17.50	1,111	314	0.002	2	952
3	12.50	1,135	165	0.001	1	972
2	7.50	1,159	62	0.000	0	992
1	2.50	1,182	7	0.000	0	1,013
Decibel DB844H90E-XY	126.00	56	775	0.004	5	48
EMS RR90-11-00DBL	126.00	144	1,993	0.011	13	123
Flat Platform w/ Han	126.00	2,000	27,685	0.148	178	1,713
DragonWave Horizon C	123.00	21	280	0.001	2	18
Dragonwave A-ANT-23G	123.00	15	198	0.001	1	13
Alcatel-Lucent RRH2x	123.00	317	4,190	0.022	27	272
Alcatel-Lucent 1900	123.00	180	2,376	0.013	15	154
Alcatel-Lucent TD-RR	123.00	210	2,772	0.015	18	180
Dragonwave A-ANT-18G	123.00	27	358	0.002	2	23
Round T-Arm	123.00	750	9,900	0.053	64	642
KMW ETCR-654L12H6	123.00	255	3,362	0.018	22	218
Kathrein Smart Bias	120.00	10	125	0.001	1	9
Ericsson KRY 112 489	120.00	92	1,162	0.006	7	79
RFS APX16DWV-16DWVS-	120.00	244	3,070	0.016	20	209
Andrew LNX-6515DS-VT	120.00	154	1,935	0.010	12	132
Round Low Profile PI	120.00	1,500	18,859	0.101	121	1,285
Powerwave 7020.00 Du	106.00	13	130	0.001	1	11
Kaelus DBC0061F1V51-	106.00	153	1,506	0.008	10	131
Powerwave LGP21401	106.00	85	833	0.004	5	72
Raycap DC6-48-60-18-	106.00	32	313	0.002	2	27
Raycap DC6-48-60-18-	106.00	32	313	0.002	2	27
Ericsson RRUS 32 B66	106.00	159	1,565	0.008	10	136
Ericsson RRUS-11	106.00	153	1,506	0.008	10	131
Ericsson RRUS-32 (55	106.00	165	1,627	0.009	10	142
Ericsson RRUS 12	106.00	300	2,953	0.016	19	257
Raycap DC6-48-60-0-8	106.00	16	158	0.001	1	14
Quintel QS46512-2 (7	106.00	225	2,215	0.012	14	193
Powerwave 7750.00	106.00	81	797	0.004	5	69
CCI OPA-65R-LCUU-H4	106.00	171	1,683	0.009	11	146
Round Platform w/ Ha	106.00	2,000	19,690	0.105	127	1,713
RCU (Remote Control	101.00	3	27	0.000	0	3
Kathrein 800 10504	101.00	53	473	0.003	3	45
		30,904	187,163	1.000	1,205	26,469

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Load Case (1.2 + 0.2Sds) * DL + E ELMF 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	-36.96	-1.21	0.00	-133.50	0.00	133.50	3,765.29	1,882.65	6,978.46	3,494.42	0.00	0.00	0.048
5.00	-35.52	-1.22	0.00	-127.46	0.00	127.46	3,697.80	1,848.90	6,673.37	3,341.64	0.01	-0.01	0.048
10.00	-34.11	-1.22	0.00	-121.37	0.00	121.37	3,628.68	1,814.34	6,371.97	3,190.72	0.03	-0.03	0.047
15.00	-32.73	-1.23	0.00	-115.26	0.00	115.26	3,557.92	1,778.96	6,074.51	3,041.77	0.06	-0.04	0.047
20.00	-31.37	-1.23	0.00	-109.11	0.00	109.11	3,485.52	1,742.76	5,781.22	2,894.91	0.12	-0.06	0.047
25.00	-30.05	-1.23	0.00	-102.94	0.00	102.94	3,411.48	1,705.74	5,492.34	2,750.25	0.18	-0.07	0.046
30.00	-28.76	-1.23	0.00	-96.77	0.00	96.77	3,335.81	1,667.90	5,208.12	2,607.93	0.27	-0.09	0.046
35.00	-27.49	-1.23	0.00	-90.60	0.00	90.60	3,258.50	1,629.25	4,928.79	2,468.06	0.37	-0.10	0.045
40.00	-26.63	-1.23	0.00	-84.44	0.00	84.44	3,158.60	1,579.30	4,623.93	2,315.40	0.48	-0.12	0.045
43.50	-26.04	-1.23	0.00	-80.13	0.00	80.13	3,085.84	1,542.92	4,412.25	2,209.40	0.58	-0.13	0.045
45.00	-24.68	-1.21	0.00	-78.29	0.00	78.29	3,054.65	1,527.33	4,323.05	2,164.74	0.62	-0.14	0.044
48.50	-24.36	-1.21	0.00	-74.04	0.00	74.04	2,457.75	1,228.87	3,470.74	1,737.95	0.72	-0.15	0.053
50.00	-23.31	-1.20	0.00	-72.22	0.00	72.22	2,439.67	1,219.84	3,409.59	1,707.33	0.77	-0.15	0.052
55.00	-22.28	-1.19	0.00	-66.21	0.00	66.21	2,378.35	1,189.18	3,208.11	1,606.44	0.94	-0.17	0.051
60.00	-21.28	-1.18	0.00	-60.25	0.00	60.25	2,315.40	1,157.70	3,010.48	1,507.48	1.14	-0.19	0.049
65.00	-20.30	-1.16	0.00	-54.36	0.00	54.36	2,249.69	1,124.84	2,815.52	1,409.85	1.35	-0.22	0.048
70.00	-19.35	-1.14	0.00	-48.55	0.00	48.55	2,163.06	1,081.53	2,601.80	1,302.84	1.59	-0.24	0.046
75.00	-18.42	-1.12	0.00	-42.85	0.00	42.85	2,076.43	1,038.21	2,396.52	1,200.04	1.85	-0.26	0.045
80.00	-17.52	-1.09	0.00	-37.25	0.00	37.25	1,989.80	994.90	2,199.68	1,101.47	2.13	-0.28	0.043
85.00	-16.97	-1.08	0.00	-31.79	0.00	31.79	1,903.17	951.59	2,011.27	1,007.13	2.43	-0.30	0.040
88.13	-16.48	-1.06	0.00	-28.43	0.00	28.43	1,849.03	924.51	1,897.79	950.31	2.62	-0.31	0.039
90.00	-16.00	-1.04	0.00	-26.45	0.00	26.45	1,816.54	908.27	1,831.29	917.01	2.75	-0.32	0.038
91.88	-15.52	-1.02	0.00	-24.50	0.00	24.50	1,456.00	728.00	1,478.84	740.52	2.87	-0.32	0.044
95.00	-14.78	-0.99	0.00	-21.31	0.00	21.31	1,417.09	708.55	1,396.21	699.14	3.09	-0.33	0.041
100.00	-14.64	-0.98	0.00	-16.37	0.00	16.37	1,347.79	673.89	1,262.31	632.09	3.45	-0.35	0.037
101.00	-14.01	-0.95	0.00	-15.38	0.00	15.38	1,333.93	666.96	1,236.34	619.09	3.52	-0.36	0.035
105.00	-13.88	-0.95	0.00	-11.58	0.00	11.58	1,278.48	639.24	1,135.17	568.43	3.83	-0.37	0.031
106.00	-8.97	-0.66	0.00	-10.63	0.00	10.63	1,264.62	632.31	1,110.55	556.10	3.91	-0.37	0.026
110.00	-8.41	-0.63	0.00	-7.97	0.00	7.97	1,209.18	604.59	1,014.77	508.14	4.23	-0.38	0.023
115.00	-7.88	-0.59	0.00	-4.82	0.00	4.82	1,139.88	569.94	901.12	451.23	4.63	-0.40	0.018
120.00	-5.14	-0.40	0.00	-1.85	0.00	1.85	1,070.57	535.29	794.22	397.70	5.05	-0.40	0.009
123.00	-2.80	-0.22	0.00	-0.66	0.00	0.66	1,028.99	514.50	733.32	367.21	5.31	-0.40	0.005
125.00	-2.73	-0.22	0.00	-0.22	0.00	0.22	1,001.27	500.64	694.07	347.55	5.48	-0.40	0.003
126.00	0.00	-0.20	0.00	0.00	0.00	0.00	987.41	493.71	674.85	337.93	5.56	-0.40	0.000

Site Number: 302469

Code: ANSI/TIA-222-G

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Site Name: Bridgeport CT 2, CT

Engineering Number: OAA720599_C3_01

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Customer: AT&T MOBILITY

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

Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-25.46	-1.21	0.00	-131.08	0.00	131.08	3,765.29	1,882.65	6,978.46	3,494.42	0.00	0.00	0.044
5.00	-24.46	-1.21	0.00	-125.04	0.00	125.04	3,697.80	1,848.90	6,673.37	3,341.64	0.01	-0.01	0.044
10.00	-23.49	-1.22	0.00	-118.97	0.00	118.97	3,628.68	1,814.34	6,371.97	3,190.72	0.03	-0.03	0.044
15.00	-22.54	-1.22	0.00	-112.89	0.00	112.89	3,557.92	1,778.96	6,074.51	3,041.77	0.06	-0.04	0.043
20.00	-21.61	-1.22	0.00	-106.79	0.00	106.79	3,485.52	1,742.76	5,781.22	2,894.91	0.11	-0.06	0.043
25.00	-20.70	-1.22	0.00	-100.68	0.00	100.68	3,411.48	1,705.74	5,492.34	2,750.25	0.18	-0.07	0.043
30.00	-19.81	-1.22	0.00	-94.57	0.00	94.57	3,335.81	1,667.90	5,208.12	2,607.93	0.26	-0.09	0.042
35.00	-18.94	-1.21	0.00	-88.48	0.00	88.48	3,258.50	1,629.25	4,928.79	2,468.06	0.36	-0.10	0.042
40.00	-18.34	-1.21	0.00	-82.40	0.00	82.40	3,158.60	1,579.30	4,623.93	2,315.40	0.47	-0.12	0.041
43.50	-17.93	-1.21	0.00	-78.16	0.00	78.16	3,085.84	1,542.92	4,412.25	2,209.40	0.56	-0.13	0.041
45.00	-17.00	-1.19	0.00	-76.35	0.00	76.35	3,054.65	1,527.33	4,323.05	2,164.74	0.61	-0.13	0.041
48.50	-16.78	-1.19	0.00	-72.17	0.00	72.17	2,457.75	1,228.87	3,470.74	1,737.95	0.71	-0.15	0.048
50.00	-16.05	-1.18	0.00	-70.38	0.00	70.38	2,439.67	1,219.84	3,409.59	1,707.33	0.75	-0.15	0.048
55.00	-15.35	-1.17	0.00	-64.48	0.00	64.48	2,378.35	1,189.18	3,208.11	1,606.44	0.92	-0.17	0.047
60.00	-14.65	-1.15	0.00	-58.64	0.00	58.64	2,315.40	1,157.70	3,010.48	1,507.48	1.11	-0.19	0.045
65.00	-13.98	-1.14	0.00	-52.88	0.00	52.88	2,249.69	1,124.84	2,815.52	1,409.85	1.32	-0.21	0.044
70.00	-13.33	-1.11	0.00	-47.20	0.00	47.20	2,163.06	1,081.53	2,601.80	1,302.84	1.55	-0.23	0.042
75.00	-12.69	-1.09	0.00	-41.63	0.00	41.63	2,076.43	1,038.21	2,396.52	1,200.04	1.81	-0.25	0.041
80.00	-12.06	-1.06	0.00	-36.18	0.00	36.18	1,989.80	994.90	2,199.68	1,101.47	2.08	-0.27	0.039
85.00	-11.68	-1.05	0.00	-30.86	0.00	30.86	1,903.17	951.59	2,011.27	1,007.13	2.37	-0.29	0.037
88.13	-11.35	-1.03	0.00	-27.59	0.00	27.59	1,849.03	924.51	1,897.79	950.31	2.56	-0.30	0.035
90.00	-11.02	-1.01	0.00	-25.66	0.00	25.66	1,816.54	908.27	1,831.29	917.01	2.68	-0.31	0.034
91.88	-10.69	-0.99	0.00	-23.77	0.00	23.77	1,456.00	728.00	1,478.84	740.52	2.81	-0.32	0.039
95.00	-10.18	-0.96	0.00	-20.67	0.00	20.67	1,417.09	708.55	1,396.21	699.14	3.02	-0.33	0.037
100.00	-10.08	-0.95	0.00	-15.87	0.00	15.87	1,347.79	673.89	1,262.31	632.09	3.37	-0.35	0.033
101.00	-9.65	-0.92	0.00	-14.92	0.00	14.92	1,333.93	666.96	1,236.34	619.09	3.44	-0.35	0.031
105.00	-9.56	-0.92	0.00	-11.23	0.00	11.23	1,278.48	639.24	1,135.17	568.43	3.74	-0.36	0.027
106.00	-6.17	-0.64	0.00	-10.31	0.00	10.31	1,264.62	632.31	1,110.55	556.10	3.82	-0.36	0.023
110.00	-5.79	-0.61	0.00	-7.73	0.00	7.73	1,209.18	604.59	1,014.77	508.14	4.13	-0.37	0.020
115.00	-5.43	-0.58	0.00	-4.68	0.00	4.68	1,139.88	569.94	901.12	451.23	4.52	-0.39	0.015
120.00	-3.54	-0.39	0.00	-1.79	0.00	1.79	1,070.57	535.29	794.22	397.70	4.93	-0.39	0.008
123.00	-1.93	-0.21	0.00	-0.64	0.00	0.64	1,028.99	514.50	733.32	367.21	5.18	-0.39	0.004
125.00	-1.88	-0.21	0.00	-0.21	0.00	0.21	1,001.27	500.64	694.07	347.55	5.34	-0.39	0.002
126.00	0.00	-0.20	0.00	0.00	0.00	0.00	987.41	493.71	674.85	337.93	5.42	-0.39	0.000

Site Number: 302469

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Site Name: Bridgeport CT 2, CT

Engineering Number: OAA720599_C3_01

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Customer: AT&T MOBILITY

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):	0.20
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}):	0.22
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	2.44
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)
33	125.50	53	1.875	1.902	1.112	0.400	18	66
32	124.00	108	1.830	1.681	1.031	0.368	35	134
31	121.50	203	1.757	1.352	0.906	0.318	56	252
30	117.50	429	1.644	0.920	0.731	0.244	90	533
29	112.50	445	1.507	0.518	0.551	0.163	63	553
28	108.00	367	1.389	0.263	0.420	0.101	32	456
27	105.50	109	1.325	0.157	0.359	0.071	7	136
26	103.00	444	1.263	0.072	0.304	0.044	17	552
25	100.50	118	1.202	0.007	0.257	0.021	2	146
24	97.50	597	1.132	-0.050	0.207	-0.004	-2	742
23	93.44	381	1.039	-0.098	0.152	-0.030	-10	474
22	90.94	386	0.984	-0.113	0.124	-0.042	-14	480
21	89.06	391	0.944	-0.120	0.105	-0.049	-17	487
20	86.56	444	0.892	-0.122	0.084	-0.055	-21	552
19	82.50	726	0.810	-0.114	0.057	-0.059	-37	903
18	77.50	746	0.715	-0.091	0.033	-0.053	-34	928
17	72.50	766	0.626	-0.062	0.018	-0.036	-24	952
16	67.50	786	0.542	-0.032	0.009	-0.012	-8	977
15	62.50	806	0.465	-0.004	0.006	0.014	10	1,002
14	57.50	825	0.394	0.020	0.007	0.036	26	1,026
13	52.50	845	0.328	0.039	0.010	0.051	37	1,051
12	49.25	257	0.289	0.048	0.013	0.057	13	320
11	46.75	1,092	0.260	0.053	0.016	0.060	56	1,357
10	44.25	474	0.233	0.058	0.019	0.061	25	590
9	41.75	697	0.208	0.062	0.022	0.062	38	867
8	37.50	1,016	0.167	0.066	0.028	0.062	55	1,263
7	32.50	1,040	0.126	0.070	0.034	0.061	55	1,293
6	27.50	1,063	0.090	0.071	0.038	0.059	54	1,322
5	22.50	1,087	0.060	0.072	0.041	0.057	54	1,352
4	17.50	1,111	0.036	0.070	0.041	0.055	53	1,382
3	12.50	1,135	0.019	0.063	0.037	0.051	50	1,411
2	7.50	1,159	0.007	0.049	0.028	0.042	42	1,441
1	2.50	1,182	0.001	0.021	0.011	0.021	21	1,470
Decibel DB844H90E-XY	126.00	56	1.890	1.980	1.140	0.411	20	70

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Customer: AT&T MOBILITY

EMS RR90-11-00DBL	126.00	144	1.890	1.980	1.140	0.411	51	179
Flat Platform w/ Han	126.00	2,000	1.890	1.980	1.140	0.411	713	2,487
DragonWave Horizon C	123.00	21	1.801	1.543	0.979	0.348	6	26
Dragonwave A-ANT-23G	123.00	15	1.801	1.543	0.979	0.348	5	19
Alcatel-Lucent RRH2x	123.00	317	1.801	1.543	0.979	0.348	96	395
Alcatel-Lucent 1900	123.00	180	1.801	1.543	0.979	0.348	54	224
Alcatel-Lucent TD-RR	123.00	210	1.801	1.543	0.979	0.348	63	261
Dragonwave A-ANT-18G	123.00	27	1.801	1.543	0.979	0.348	8	34
Round T-Arm	123.00	750	1.801	1.543	0.979	0.348	226	933
KMW ETCR-654L12H6	123.00	255	1.801	1.543	0.979	0.348	77	317
Kathrein Smart Bias	120.00	10	1.714	1.177	0.837	0.289	2	12
Ericsson KRY 112 489	120.00	92	1.714	1.177	0.837	0.289	23	115
RFS APX16DWV-	120.00	244	1.714	1.177	0.837	0.289	61	304
Andrew LNX-6515DS-VT	120.00	154	1.714	1.177	0.837	0.289	39	191
Round Low Profile PI	120.00	1,500	1.714	1.177	0.837	0.289	375	1,865
Powerwave 7020.00 Du	106.00	13	1.338	0.176	0.370	0.077	1	16
Kaelus DBC0061F1V51-	106.00	153	1.338	0.176	0.370	0.077	10	190
Powerwave LGP21401	106.00	85	1.338	0.176	0.370	0.077	6	105
Raycap DC6-48-60-18-	106.00	32	1.338	0.176	0.370	0.077	2	40
Raycap DC6-48-60-18-	106.00	32	1.338	0.176	0.370	0.077	2	40
Ericsson RRUS 32 B66	106.00	159	1.338	0.176	0.370	0.077	11	198
Ericsson RRUS-11	106.00	153	1.338	0.176	0.370	0.077	10	190
Ericsson RRUS-32 (55	106.00	165	1.338	0.176	0.370	0.077	11	206
Ericsson RRUS 12	106.00	300	1.338	0.176	0.370	0.077	20	373
Raycap DC6-48-60-0-8	106.00	16	1.338	0.176	0.370	0.077	1	20
Quintel QS46512-2 (7	106.00	225	1.338	0.176	0.370	0.077	15	280
Powerwave 7750.00	106.00	81	1.338	0.176	0.370	0.077	5	101
CCI OPA-65R-LCUU-H4	106.00	171	1.338	0.176	0.370	0.077	11	213
Round Platform w/ Ha	106.00	2,000	1.338	0.176	0.370	0.077	133	2,487
RCU (Remote Control	101.00	3	1.214	0.019	0.266	0.025	0	4
Kathrein 800 10504	101.00	53	1.214	0.019	0.266	0.025	1	66
		30,904	73.965	33.501	27.963	8.725	2,802	38,430

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

Seismic (Reduced DL) Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	Seismic (Reduced DL) Equivalent Modal Analysis Method				Horizontal Force (lb)	Vertical Force (lb)
			a	b	c	Saz		
33	125.50	53	1.875	1.902	1.112	0.400	18	45
32	124.00	108	1.830	1.681	1.031	0.368	35	93
31	121.50	203	1.757	1.352	0.906	0.318	56	174
30	117.50	429	1.644	0.920	0.731	0.244	90	367
29	112.50	445	1.507	0.518	0.551	0.163	63	381
28	108.00	367	1.389	0.263	0.420	0.101	32	314
27	105.50	109	1.325	0.157	0.359	0.071	7	94
26	103.00	444	1.263	0.072	0.304	0.044	17	380
25	100.50	118	1.202	0.007	0.257	0.021	2	101
24	97.50	597	1.132	-0.050	0.207	-0.004	-2	511
23	93.44	381	1.039	-0.098	0.152	-0.030	-10	327
22	90.94	386	0.984	-0.113	0.124	-0.042	-14	331
21	89.06	391	0.944	-0.120	0.105	-0.049	-17	335
20	86.56	444	0.892	-0.122	0.084	-0.055	-21	380
19	82.50	726	0.810	-0.114	0.057	-0.059	-37	622
18	77.50	746	0.715	-0.091	0.033	-0.053	-34	639
17	72.50	766	0.626	-0.062	0.018	-0.036	-24	656
16	67.50	786	0.542	-0.032	0.009	-0.012	-8	673
15	62.50	806	0.465	-0.004	0.006	0.014	10	690
14	57.50	825	0.394	0.020	0.007	0.036	26	707
13	52.50	845	0.328	0.039	0.010	0.051	37	724
12	49.25	257	0.289	0.048	0.013	0.057	13	221

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11	46.75	1,092	0.260	0.053	0.016	0.060	56	935
10	44.25	474	0.233	0.058	0.019	0.061	25	406
9	41.75	697	0.208	0.062	0.022	0.062	38	597
8	37.50	1,016	0.167	0.066	0.028	0.062	55	870
7	32.50	1,040	0.126	0.070	0.034	0.061	55	890
6	27.50	1,063	0.090	0.071	0.038	0.059	54	911
5	22.50	1,087	0.060	0.072	0.041	0.057	54	931
4	17.50	1,111	0.036	0.070	0.041	0.055	53	952
3	12.50	1,135	0.019	0.063	0.037	0.051	50	972
2	7.50	1,159	0.007	0.049	0.028	0.042	42	992
1	2.50	1,182	0.001	0.021	0.011	0.021	21	1,013
Decibel DB844H90E-XY	126.00	56	1.890	1.980	1.140	0.411	20	48
EMS RR90-11-00DBL	126.00	144	1.890	1.980	1.140	0.411	51	123
Flat Platform w/ Han	126.00	2,000	1.890	1.980	1.140	0.411	713	1,713
DragonWave Horizon C	123.00	21	1.801	1.543	0.979	0.348	6	18
Dragonwave A-ANT-23G	123.00	15	1.801	1.543	0.979	0.348	5	13
Alcatel-Lucent RRH2x	123.00	317	1.801	1.543	0.979	0.348	96	272
Alcatel-Lucent 1900	123.00	180	1.801	1.543	0.979	0.348	54	154
Alcatel-Lucent TD-RR	123.00	210	1.801	1.543	0.979	0.348	63	180
Dragonwave A-ANT-18G	123.00	27	1.801	1.543	0.979	0.348	8	23
Round T-Arm	123.00	750	1.801	1.543	0.979	0.348	226	642
KMW ETCR-654L12H6	123.00	255	1.801	1.543	0.979	0.348	77	218
Kathrein Smart Bias	120.00	10	1.714	1.177	0.837	0.289	2	9
Ericsson KRY 112 489	120.00	92	1.714	1.177	0.837	0.289	23	79
RFS APX16DWV-	120.00	244	1.714	1.177	0.837	0.289	61	209
Andrew LNX-6515DS-VT	120.00	154	1.714	1.177	0.837	0.289	39	132
Round Low Profile PI	120.00	1,500	1.714	1.177	0.837	0.289	375	1,285
Powerwave 7020.00 Du	106.00	13	1.338	0.176	0.370	0.077	1	11
Kaelus DBC0061F1V51-	106.00	153	1.338	0.176	0.370	0.077	10	131
Powerwave LGP21401	106.00	85	1.338	0.176	0.370	0.077	6	72
Raycap DC6-48-60-18-	106.00	32	1.338	0.176	0.370	0.077	2	27
Raycap DC6-48-60-18-	106.00	32	1.338	0.176	0.370	0.077	2	27
Ericsson RRUS 32 B66	106.00	159	1.338	0.176	0.370	0.077	11	136
Ericsson RRUS-11	106.00	153	1.338	0.176	0.370	0.077	10	131
Ericsson RRUS-32 (55	106.00	165	1.338	0.176	0.370	0.077	11	142
Ericsson RRUS 12	106.00	300	1.338	0.176	0.370	0.077	20	257
Raycap DC6-48-60-0-8	106.00	16	1.338	0.176	0.370	0.077	1	14
Quintel QS46512-2 (7	106.00	225	1.338	0.176	0.370	0.077	15	193
Powerwave 7750.00	106.00	81	1.338	0.176	0.370	0.077	5	69
CCI OPA-65R-LCUU-H4	106.00	171	1.338	0.176	0.370	0.077	11	146
Round Platform w/ Ha	106.00	2,000	1.338	0.176	0.370	0.077	133	1,713
RCU (Remote Control	101.00	3	1.214	0.019	0.266	0.025	0	3
Kathrein 800 10504	101.00	53	1.214	0.019	0.266	0.025	1	45
		30,904	73.965	33.501	27.963	8.725	2,802	26,469

Site Number: 302469

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Site Name: Bridgeport CT 2, CT

Engineering Number: OAA720599_C3_01

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Customer: AT&T MOBILITY

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	-36.96	-2.79	0.00	-308.69	0.00	308.69	3,765.29	1,882.65	6,978.46	3,494.42	0.00	0.00	0.098
5.00	-35.52	-2.77	0.00	-294.74	0.00	294.74	3,697.80	1,848.90	6,673.37	3,341.64	0.02	-0.03	0.098
10.00	-34.10	-2.74	0.00	-280.91	0.00	280.91	3,628.68	1,814.34	6,371.97	3,190.72	0.07	-0.06	0.097
15.00	-32.72	-2.70	0.00	-267.23	0.00	267.23	3,557.92	1,778.96	6,074.51	3,041.77	0.15	-0.10	0.097
20.00	-31.37	-2.66	0.00	-253.73	0.00	253.73	3,485.52	1,742.76	5,781.22	2,894.91	0.27	-0.13	0.097
25.00	-30.04	-2.62	0.00	-240.42	0.00	240.42	3,411.48	1,705.74	5,492.34	2,750.25	0.42	-0.17	0.096
30.00	-28.75	-2.58	0.00	-227.31	0.00	227.31	3,335.81	1,667.90	5,208.12	2,607.93	0.62	-0.20	0.096
35.00	-27.49	-2.54	0.00	-214.39	0.00	214.39	3,258.50	1,629.25	4,928.79	2,468.06	0.85	-0.24	0.095
40.00	-26.62	-2.52	0.00	-201.69	0.00	201.69	3,158.60	1,579.30	4,623.93	2,315.40	1.12	-0.28	0.096
43.50	-26.03	-2.50	0.00	-192.88	0.00	192.88	3,085.84	1,542.92	4,412.25	2,209.40	1.34	-0.31	0.096
45.00	-24.67	-2.44	0.00	-189.13	0.00	189.13	3,054.65	1,527.33	4,323.05	2,164.74	1.44	-0.32	0.095
48.50	-24.35	-2.44	0.00	-180.59	0.00	180.59	2,457.75	1,228.87	3,470.74	1,737.95	1.68	-0.35	0.114
50.00	-23.30	-2.41	0.00	-176.93	0.00	176.93	2,439.67	1,219.84	3,409.59	1,707.33	1.80	-0.36	0.113
55.00	-22.27	-2.39	0.00	-164.90	0.00	164.90	2,378.35	1,189.18	3,208.11	1,606.44	2.20	-0.41	0.112
60.00	-21.26	-2.39	0.00	-152.94	0.00	152.94	2,315.40	1,157.70	3,010.48	1,507.48	2.66	-0.46	0.111
65.00	-20.28	-2.41	0.00	-140.97	0.00	140.97	2,249.69	1,124.84	2,815.52	1,409.85	3.18	-0.52	0.109
70.00	-19.33	-2.45	0.00	-128.91	0.00	128.91	2,163.06	1,081.53	2,601.80	1,302.84	3.75	-0.57	0.108
75.00	-18.40	-2.49	0.00	-116.68	0.00	116.68	2,076.43	1,038.21	2,396.52	1,200.04	4.37	-0.63	0.106
80.00	-17.49	-2.53	0.00	-104.23	0.00	104.23	1,989.80	994.90	2,199.68	1,101.47	5.06	-0.68	0.103
85.00	-16.94	-2.56	0.00	-91.57	0.00	91.57	1,903.17	951.59	2,011.27	1,007.13	5.80	-0.74	0.100
88.13	-16.45	-2.58	0.00	-83.56	0.00	83.56	1,849.03	924.51	1,897.79	950.31	6.30	-0.77	0.097
90.00	-15.97	-2.59	0.00	-78.73	0.00	78.73	1,816.54	908.27	1,831.29	917.01	6.60	-0.80	0.095
91.88	-15.49	-2.60	0.00	-73.87	0.00	73.87	1,456.00	728.00	1,478.84	740.52	6.92	-0.82	0.110
95.00	-14.75	-2.61	0.00	-65.73	0.00	65.73	1,417.09	708.55	1,396.21	699.14	7.47	-0.85	0.104
100.00	-14.60	-2.61	0.00	-52.69	0.00	52.69	1,347.79	673.89	1,262.31	632.09	8.39	-0.91	0.094
101.00	-13.98	-2.59	0.00	-50.08	0.00	50.08	1,333.93	666.96	1,236.34	619.09	8.59	-0.92	0.091
105.00	-13.84	-2.59	0.00	-39.72	0.00	39.72	1,278.48	639.24	1,135.17	568.43	9.38	-0.97	0.081
106.00	-8.93	-2.24	0.00	-37.13	0.00	37.13	1,264.62	632.31	1,110.55	556.10	9.58	-0.98	0.074
110.00	-8.38	-2.17	0.00	-28.18	0.00	28.18	1,209.18	604.59	1,014.77	508.14	10.42	-1.02	0.062
115.00	-7.85	-2.07	0.00	-17.33	0.00	17.33	1,139.88	569.94	901.12	451.23	11.51	-1.05	0.045
120.00	-5.12	-1.47	0.00	-6.95	0.00	6.95	1,070.57	535.29	794.22	397.70	12.63	-1.08	0.022
123.00	-2.79	-0.86	0.00	-2.55	0.00	2.55	1,028.99	514.50	733.32	367.21	13.31	-1.08	0.010
125.00	-2.72	-0.84	0.00	-0.84	0.00	0.84	1,001.27	500.64	694.07	347.55	13.76	-1.09	0.005
126.00	0.00	-0.78	0.00	0.00	0.00	0.00	987.41	493.71	674.85	337.93	13.99	-1.09	0.000

Site Number: 302469

Code: ANSI/TIA-222-G

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Site Name: Bridgeport CT 2, CT

Engineering Number: OAA720599_C3_01

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Customer: AT&T MOBILITY

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	-25.46	-2.79	0.00	-302.62	0.00	302.62	3,765.29	1,882.65	6,978.46	3,494.42	0.00	0.00	0.093
5.00	-24.46	-2.76	0.00	-288.69	0.00	288.69	3,697.80	1,848.90	6,673.37	3,341.64	0.02	-0.03	0.093
10.00	-23.49	-2.72	0.00	-274.90	0.00	274.90	3,628.68	1,814.34	6,371.97	3,190.72	0.06	-0.06	0.093
15.00	-22.54	-2.68	0.00	-261.31	0.00	261.31	3,557.92	1,778.96	6,074.51	3,041.77	0.15	-0.09	0.092
20.00	-21.60	-2.63	0.00	-247.92	0.00	247.92	3,485.52	1,742.76	5,781.22	2,894.91	0.26	-0.13	0.092
25.00	-20.69	-2.59	0.00	-234.75	0.00	234.75	3,411.48	1,705.74	5,492.34	2,750.25	0.42	-0.16	0.091
30.00	-19.80	-2.55	0.00	-221.79	0.00	221.79	3,335.81	1,667.90	5,208.12	2,607.93	0.60	-0.20	0.091
35.00	-18.93	-2.50	0.00	-209.07	0.00	209.07	3,258.50	1,629.25	4,928.79	2,468.06	0.83	-0.23	0.091
40.00	-18.33	-2.47	0.00	-196.57	0.00	196.57	3,158.60	1,579.30	4,623.93	2,315.40	1.10	-0.27	0.091
43.50	-17.92	-2.45	0.00	-187.92	0.00	187.92	3,085.84	1,542.92	4,412.25	2,209.40	1.31	-0.30	0.091
45.00	-16.99	-2.39	0.00	-184.25	0.00	184.25	3,054.65	1,527.33	4,323.05	2,164.74	1.41	-0.31	0.091
48.50	-16.77	-2.39	0.00	-175.87	0.00	175.87	2,457.75	1,228.87	3,470.74	1,737.95	1.65	-0.34	0.108
50.00	-16.04	-2.35	0.00	-172.29	0.00	172.29	2,439.67	1,219.84	3,409.59	1,707.33	1.76	-0.36	0.107
55.00	-15.33	-2.34	0.00	-160.52	0.00	160.52	2,378.35	1,189.18	3,208.11	1,606.44	2.15	-0.40	0.106
60.00	-14.64	-2.33	0.00	-148.84	0.00	148.84	2,315.40	1,157.70	3,010.48	1,507.48	2.60	-0.45	0.105
65.00	-13.96	-2.35	0.00	-137.17	0.00	137.17	2,249.69	1,124.84	2,815.52	1,409.85	3.10	-0.50	0.104
70.00	-13.31	-2.38	0.00	-125.43	0.00	125.43	2,163.06	1,081.53	2,601.80	1,302.84	3.66	-0.56	0.102
75.00	-12.66	-2.42	0.00	-113.53	0.00	113.53	2,076.43	1,038.21	2,396.52	1,200.04	4.27	-0.61	0.101
80.00	-12.04	-2.46	0.00	-101.44	0.00	101.44	1,989.80	994.90	2,199.68	1,101.47	4.94	-0.66	0.098
85.00	-11.66	-2.49	0.00	-89.13	0.00	89.13	1,903.17	951.59	2,011.27	1,007.13	5.66	-0.72	0.095
88.13	-11.32	-2.50	0.00	-81.36	0.00	81.36	1,849.03	924.51	1,897.79	950.31	6.14	-0.75	0.092
90.00	-10.99	-2.52	0.00	-76.67	0.00	76.67	1,816.54	908.27	1,831.29	917.01	6.45	-0.78	0.090
91.88	-10.66	-2.53	0.00	-71.94	0.00	71.94	1,456.00	728.00	1,478.84	740.52	6.75	-0.80	0.104
95.00	-10.15	-2.53	0.00	-64.04	0.00	64.04	1,417.09	708.55	1,396.21	699.14	7.29	-0.83	0.099
100.00	-10.05	-2.53	0.00	-51.38	0.00	51.38	1,347.79	673.89	1,262.31	632.09	8.19	-0.89	0.089
101.00	-9.62	-2.51	0.00	-48.85	0.00	48.85	1,333.93	666.96	1,236.34	619.09	8.38	-0.90	0.086
105.00	-9.52	-2.51	0.00	-38.79	0.00	38.79	1,278.48	639.24	1,135.17	568.43	9.15	-0.94	0.076
106.00	-6.14	-2.19	0.00	-36.28	0.00	36.28	1,264.62	632.31	1,110.55	556.10	9.35	-0.95	0.070
110.00	-5.76	-2.12	0.00	-27.54	0.00	27.54	1,209.18	604.59	1,014.77	508.14	10.17	-0.99	0.059
115.00	-5.39	-2.03	0.00	-16.94	0.00	16.94	1,139.88	569.94	901.12	451.23	11.23	-1.03	0.042
120.00	-3.52	-1.44	0.00	-6.80	0.00	6.80	1,070.57	535.29	794.22	397.70	12.32	-1.05	0.020
123.00	-1.91	-0.84	0.00	-2.49	0.00	2.49	1,028.99	514.50	733.32	367.21	12.98	-1.06	0.009
125.00	-1.87	-0.82	0.00	-0.82	0.00	0.82	1,001.27	500.64	694.07	347.55	13.42	-1.06	0.004
126.00	0.00	-0.78	0.00	0.00	0.00	0.00	987.41	493.71	674.85	337.93	13.64	-1.06	0.000

Site Number: 302469

Code: ANSI/TIA-222-G

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Site Name: Bridgeport CT 2, CT

Engineering Number: OAA720599_C3_01

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Customer: AT&T MOBILITY

Analysis Summary

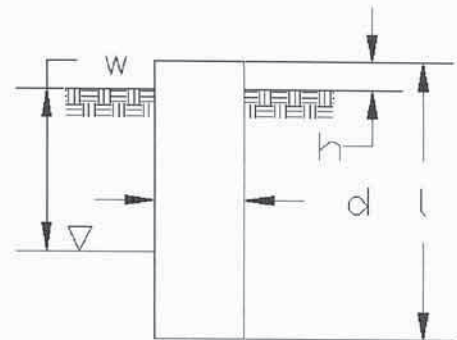
Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	22.25	0.00	37.04	0.00	0.00	2173.00	48.50	0.67
0.9D + 1.6W	21.38	0.00	27.77	0.00	0.00	2105.40	48.50	0.65
1.2D + 1.0Di + 1.0Wi	5.50	0.00	63.47	0.00	0.00	553.38	48.50	0.19
(1.2 + 0.2Sds) * DL + E ELFM	1.21	0.00	36.96	0.00	0.00	133.50	48.50	0.05
(1.2 + 0.2Sds) * DL + E EMAM	2.79	0.00	36.96	0.00	0.00	308.69	48.50	0.11
(0.9 - 0.2Sds) * DL + E ELFM	1.21	0.00	25.46	0.00	0.00	131.08	48.50	0.05
(0.9 - 0.2Sds) * DL + E EMAM	2.79	0.00	25.46	0.00	0.00	302.62	48.50	0.11
1.0D + 1.0W	5.11	0.00	30.90	0.00	0.00	506.66	48.50	0.16

Site Name: Bridgeport CT 2, CT
 Site Number: 302469
 Engineer: MariaRocio.Lopez
 Engineering Number: OAA720599
 Date: 01/08/18

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

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

Analyze or Design a Foundation? Analyze
 Foundation Mapped: N
 Moment (M): 2173.0 k-ft
 Shear/Leg (V): 22.3 k
 Axial Load (P): 37.0 k
 Uplift/Leg (U): 0.0 k
 Tower Type (GT / SST / MP): MP
 Diameter of Caisson (d): 6.0 ft
 Caisson Embedment (L-h): 18.0 ft
 Caisson Height Above Ground (h): 1.0 ft
 Depth Below Ground Surface to Water Table (w): 99.0 ft
 Unit Weight of Concrete: 150.0 pcf
 Unit Weight of Water: 62.4 pcf
 Tension Skin Friction/Compression Skin Friction: 1.00
 Pullout Angle: 30.0 degrees



6.0 ft
 18.0 ft
 1.0 ft
 99.0 ft
 150.0 pcf
 62.4 pcf
 1.00
 30.0 degrees

Engineer Notes

Soil Mechanical Properties

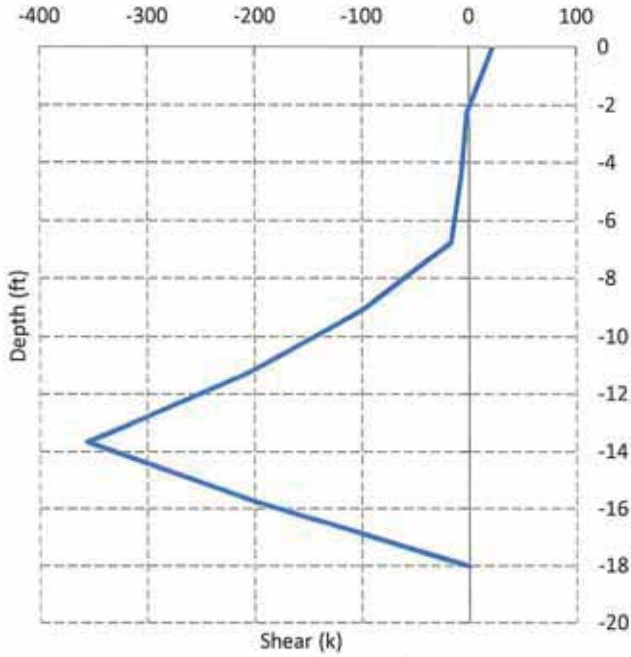
Depth (ft)		γ_{Soil} (pcf)	Cohesion (psf)	ϕ (degree)	Ultimate Skin Friction (psf)	Ultimate Bearing Pressure (psf)
Top	Bottom					
0.0	5.0	120	0	0	0	
5.0	19.0	165	0	942	22000	

Required Embedment: 16.0 ft - OK, Caisson Embedment Satisfactory
 Volume of Concrete: 537.2 ft³ = 19.9 yd³
 Weight of Concrete (Buoyancy Effect Considered): 80.6 k
 Average Soil Unit Weight: 152.5 pcf
 Skin Friction Resistance: 230.8 k
 Compressive Bearing Resistance: 622.0 k
 Pullout Weight (Minus Concrete Weight): 579.3 k
 Nominal Uplift Capacity per Leg ($\phi_s T_n$): 233.6 k
 Nominal Compressive Capacity per Leg ($\phi_s P_n$): 639.7 k
 P_u : 35.5 k
 $T_u / \phi_s T_n$: 0.00 Result: OK
 $P_u / \phi_s P_n$: 0.06 Result: OK
 Total Lateral Resistance: 1792.5 k
 Inflection Point (Below Ground Surface): 13.6 ft
 Design Overturning Moment At Inflection Point (M_D): 2499.0 k-ft
 Nominal Moment Capacity ($\phi_s M_n$): 3745.9 k-ft
 $M_D / \phi_s M_n$: 0.67 Result: OK
 ϕ_s : 0.75

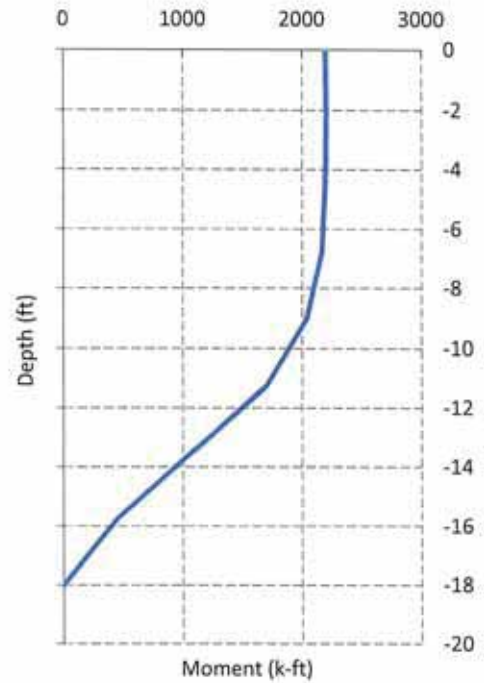
Caisson Strength Capacity

Concrete Compressive Strength (f'_c):	4000 psi
Vertical Steel Rebar Size #:	11
Vertical Steel Rebar Area:	1.56 in ²
# of Vertical Steel Rebars:	16
Vertical Steel Rebar Yield Strength (F_y):	60 ksi
Horizontal Tie / Stirrup Size #:	5
Horizontal Tie / Stirrup Area:	0.31 in ²
Design Horizontal Tie / Stirrup Spacing:	12.0 in
Horizontal Tie / Stirrup Steel Yield Strength (F_y):	60 ksi
Rebar Cage Diameter:	64.0 in
Strength Bending/Tension Reduction Factor (ϕ_B):	0.90 ACI318-05 - 9.3.2.1
Strength Shear Reduction Factor (ϕ_V):	0.75 ACI318-05 - 9.3.2.3
Strength Compression Reduction Factor (ϕ_P):	0.65 ACI318-05 - 9.3.2.2
Steel Elastic Modulus:	29000 ksi
Design Moment (M_u):	2203.1 k-ft
Nominal Moment Capacity ($\phi_B M_n$):	3528.7 k-ft - ACI318-005 - 10.2
$M_u / \phi_B M_n$:	0.62 Result: OK
Design Shear (V_u):	355.7 k
Nominal Shear Capacity ($\phi_V V_n$):	388.0 k - ACI318-05 - 11.3.1.1 or 11.5.7.2
$V_u / \phi_V V_n$:	0.92 Result: OK
Design Tension (T_u):	0.0 k
Nominal Tension Capacity ($\phi_T T_n$):	1347.8 k - ACI318-05 - 10.2
$T_u / \phi_T T_n$:	0.00 Result: OK
Design Compression (P_u):	35.5 k
Nominal Compression Capacity ($\phi_P P_n$):	7154.3 k - ACI318-05 - 10.3.6.2
$P_u / \phi_P P_n$:	0.00 Result: OK
Bending Reinforcement Ratio:	0.006 ACI318-05 - 10.8.4 & 10.9.1
$M_u / \phi_B M_n + T_u / \phi_T T_n$:	0.62 Result: OK

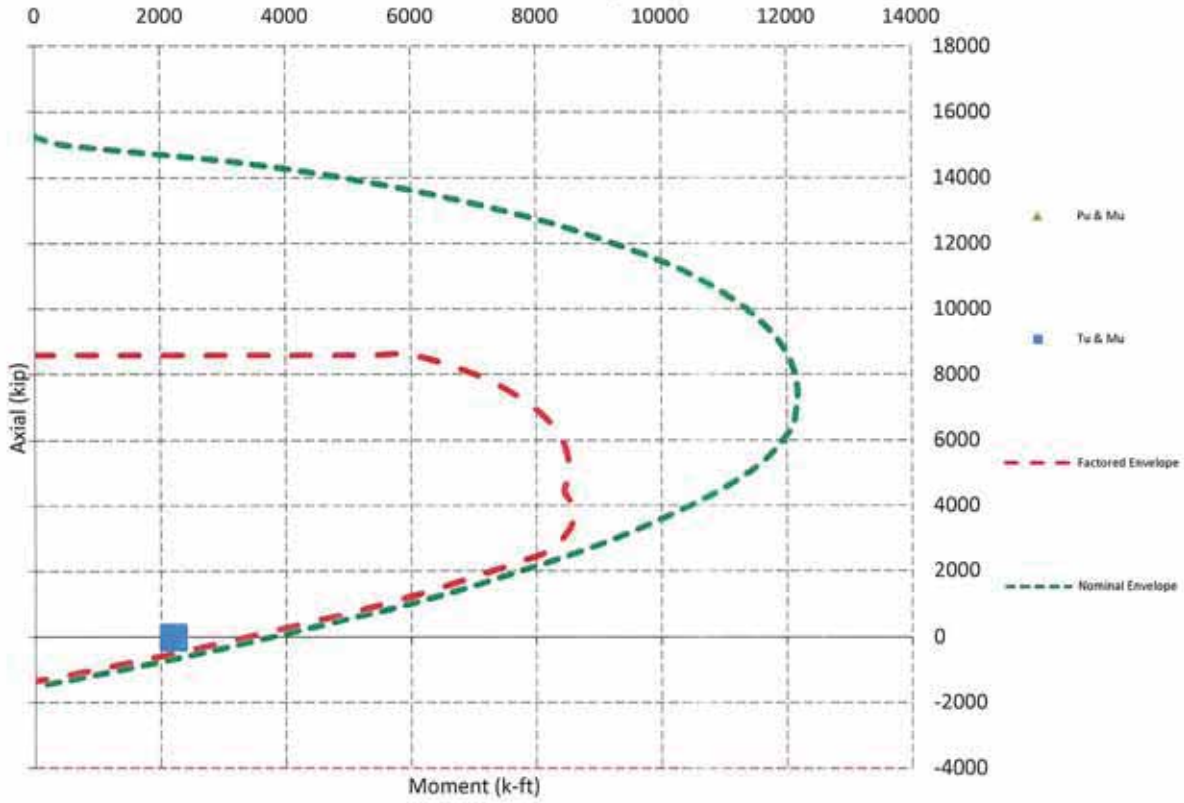
Design Factored Shear / Depth



Design Factored Moment / Depth



Nominal and Factored Moment Capacity and Factored Design Loads



Base/Flange Plate	Plate Type	Baseplate
	Pole Diameter	45.5 in
	Pole Thickness	0.375 in
	Plate Diameter	60 in
	Plate Thickness	1.75 in
	Plate Fy	60 ksi
	Weld Length	0.3125 in
	ϕ_s Resistance	1392.48 k-in
	Applied	450.82 k-in
Stiffeners	#	12 Show
	Thickness	0.5 in
	Length	6 in
	Height	12 in
	Chamfer	1 in
	Offset Angle	0°
	Fy	50 ksi

Bolts	#	12
	Bolt Circle (R)adial / (S)quare	54 in R
	Diameter	2.25 in
	Hole Diameter	2.375 in
	Type	A615-75
	Fy	75 ksi
	Fu	100 ksi
	ϕ_s Resistance	259.82 k
	Applied	163.94 k
Reinforcement	#	0
Extra Bolts	#	0

Code Rev. **G**

Date **1/8/2018**
 Engineer **MariaRocio.Lopez**
 Site # **302469**
 Carrier **AT&T MOBILITY**

Moment **2173.0 k-ft**
 Axial **37.0 k**

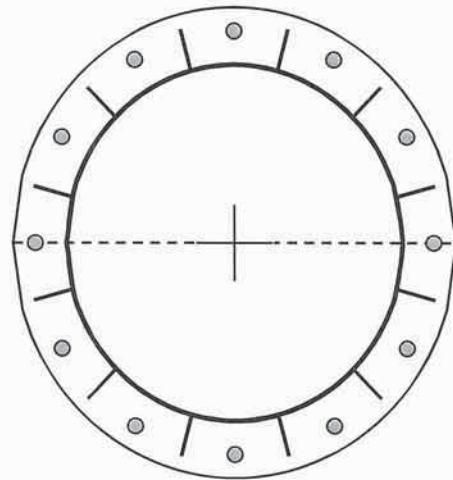


Plate Stress Ratio:
0.32 (Pass)

Bolt Stress Ratio:
0.63 (Pass)

Exhibit 4



Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT2252

FA#: 10084453

Bridgeport CT_Connecticut Avenue
1069 Connecticut Avenue
Bridgeport, CT 06607

May 14, 2018

Centerline Communications Project Number: 950006-118

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	12.33 %



May 14, 2018

AT&T Mobility – New England
Attn: John Benedetto, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CT2252 – Bridgeport CT_Connecticut Avenue**

Centerline Communications, LLC (“Centerline”) was directed to analyze the proposed AT&T facility located at **1069 Connecticut Avenue, Bridgeport, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately $467 \mu\text{W}/\text{cm}^2$ and $567 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.



CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **1069 Connecticut Avenue, Bridgeport, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
UMTS	850 MHz	2	30
LTE	700 MHz	2	40
LTE	2100 MHz (AWS)	4	30
LTE	1900 MHz (PCS)	4	40
LTE	2300 MHz (WCS)	4	30

Table 1: Channel Data Table



The following antennas listed in *Table 2* were used in the modeling for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Powerwave 7750	106
A	2	CCI OPA-65R-LCUU-H4	106
A	3	Quintel QS46512-2	106
B	1	Powerwave 7750	106
B	2	CCI OPA-65R-LCUU-H4	106
B	3	Quintel QS46512-2	106
C	1	Powerwave 7750	106
C	2	CCI OPA-65R-LCUU-H4	106
C	3	Quintel QS46512-2	106

Table 2: Antenna Data

All calculations were done with respect to uncontrolled / general population threshold limits.



RESULTS

Per the calculations completed for the proposed AT&T configurations *Table 3* shows resulting emissions power levels and percentages of the FCC’s allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Powerwave 7750	850 MHz	12.5	2	60	1,066.97	0.68
Antenna A2	CCI OPA-65R-LCUU-H4	700 MHz / 1900 MHz (PCS)	10.55 / 13.55	6	240	4,531.44	2.00
Antenna A3	Quintel QS46512-2	2100 MHz (AWS) / 2300 MHz (WCS)	13.85 / 14.05	8	240	5,961.10	2.14
2100 MHz (AWS) / 2300 MHz (WCS) Sector A Composite MPE%							4.82
Antenna B1	Powerwave 7750	850 MHz	12.5	2	60	1,066.97	0.68
Antenna B2	CCI OPA-65R-LCUU-H4	700 MHz / 1900 MHz (PCS)	10.55 / 13.55	6	240	4,531.44	2.00
Antenna B3	Quintel QS46512-2	2100 MHz (AWS) / 2300 MHz (WCS)	13.85 / 14.05	8	240	5,961.10	2.14
Sector B Composite MPE%							4.82
Antenna C1	Powerwave 7750	850 MHz	12.5	2	60	1,066.97	0.68
Antenna C2	CCI OPA-65R-LCUU-H4	700 MHz / 1900 MHz (PCS)	10.55 / 13.55	6	240	4,531.44	2.00
Antenna C3	Quintel QS46512-2	2100 MHz (AWS) / 2300 MHz (WCS)	13.85 / 14.05	8	240	5,961.10	2.14
Sector C Composite MPE%							4.82

Table 3: AT&T Emissions Levels



The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum AT&T MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each AT&T Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	MPE%
AT&T – Max Sector Value	4.82 %
T-Mobile	4.19 %
Clearwire	0.18 %
Sprint	0.96 %
MetroPCS	2.18 %
Site Total MPE %:	12.33 %

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	4.82 %
AT&T Sector B Total:	4.82 %
AT&T Sector C Total:	4.82 %
Site Total:	12.33 %

Table 5: Site MPE Summary



FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

AT&T _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	533.48	106	3.84	850 MHz	567	0.68%
AT&T 700 MHz LTE	2	454.00	106	3.26	700 MHz	467	0.70%
AT&T 1900 MHz (PCS) LTE	4	905.86	106	13.03	1900 MHz (PCS)	1000	1.30%
AT&T 2100 MHz (AWS) LTE	4	727.98	106	10.47	2100 MHz (AWS)	1000	1.05%
AT&T 2300 MHz (WCS) LTE	4	762.29	106	10.96	2300 MHz (WCS)	1000	1.10%
						Total:	4.82%

Table 6: AT&T Maximum Sector MPE Power Values



Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the AT&T facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector A:	4.82 %
Sector B:	4.82 %
Sector C:	4.82 %
AT&T Maximum Total (per sector):	4.82 %
Site Total:	12.33 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **12.33 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

A handwritten signature in black ink, appearing to read 'Scott Heffernan', is written over a light blue horizontal line.


Scott Heffernan


RF Engineering Director

Centerline Communications, LLC

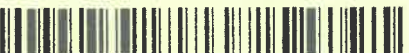
95 Ryan Drive, Suite 1

Raynham, MA 02767

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY																	
<ul style="list-style-type: none"> Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	A. Signature <input checked="" type="checkbox"/> <i>Ann Peretti</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee																	
1. Article Addressed to: WR CT Avenue LLC C/O Westrock Development 440 Mamaroneck Ave, Ste N-503 Harrison, NY 10528  9590 9402 3535 7305 4987 30	B. Received by (Printed Name)	C. Date of Delivery																
2. Article Number (Transfer from service label) 7016 3010 0000 7829 1254	D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No																	
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1. Article Addressed to: Shawn Dunn, APM American Tower Corporation 10 Presidential Way Woburn, MA 01801  9590 9402 3535 7305 4987 47	B. Received by (Printed Name) <i>Shawn Dunn</i>	C. Date of Delivery 5-23-18																
2. Article Number (Transfer from service label) 7016 3010 0000 7829 1247	D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No																	
3. Service Type <table border="0"> <tr> <td><input type="checkbox"/> Adult Signature</td> <td><input type="checkbox"/> Priority Mail Express®</td> </tr> <tr> <td><input type="checkbox"/> Adult Signature Restricted Delivery</td> <td><input type="checkbox"/> Registered Mail™</td> </tr> <tr> <td><input type="checkbox"/> Certified Mail®</td> <td><input type="checkbox"/> Registered Mail Restricted Delivery</td> </tr> <tr> <td><input type="checkbox"/> Certified Mail Restricted Delivery</td> <td><input type="checkbox"/> Return Receipt for Merchandise</td> </tr> <tr> <td><input type="checkbox"/> Collect on Delivery</td> <td><input type="checkbox"/> Signature Confirmation™</td> </tr> <tr> <td><input type="checkbox"/> Collect on Delivery Restricted Delivery</td> <td><input type="checkbox"/> Signature Confirmation Restricted Delivery</td> </tr> <tr> <td><input type="checkbox"/> Insured Mail</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)</td> <td></td> </tr> </table>			<input type="checkbox"/> Adult Signature	<input type="checkbox"/> Priority Mail Express®	<input type="checkbox"/> Adult Signature Restricted Delivery	<input type="checkbox"/> Registered Mail™	<input type="checkbox"/> Certified Mail®	<input type="checkbox"/> Registered Mail Restricted Delivery	<input type="checkbox"/> Certified Mail Restricted Delivery	<input type="checkbox"/> Return Receipt for Merchandise	<input type="checkbox"/> Collect on Delivery	<input type="checkbox"/> Signature Confirmation™	<input type="checkbox"/> Collect on Delivery Restricted Delivery	<input type="checkbox"/> Signature Confirmation Restricted Delivery	<input type="checkbox"/> Insured Mail		<input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)	
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<p>1. Article Addressed to:</p> <p>Hon. Joseph P. Ganim, Mayor Margaret E. Morton Government Center 999 Broad Street Bridgeport, CT 06604</p>	<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>
 9590 9402 3535 7305 4988 53	<p>3. Service Type <input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Adult Signature <input type="checkbox"/> Registered Mail™ <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Certified Mail® <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Signature Confirmation Restricted Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)</p>
<p>2. Article Number (Transfer from service label) 7016 3010 0000 7829 1285</p>	
PS Form 3811, July 2015 PSN 7530-02-000-9053	Domestic Return Receipt

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<p>1. Article Addressed to:</p> <p>Mr. Dennis Buckley, Zoning Admin. Bridgeport Zoning Department 45 Lyon Terrace, Room 210 Bridgeport, CT 06604</p>	<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>
 9590 9402 3535 7305 4989 38	<p>3. Service Type <input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Adult Signature <input type="checkbox"/> Registered Mail™ <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Certified Mail® <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Signature Confirmation Restricted Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)</p>
<p>2. Article Number (Transfer from service label) 7016 3010 0000 7829 1278</p>	
PS Form 3811, July 2015 PSN 7530-02-000-9053	Domestic Return Receipt

Track Another Package +

Tracking Number: 7016301000078291261

Remove X

Expected Delivery by

WEDNESDAY

23 MAY 2018 ⓘ

by **8:00pm** ⓘ

✓ Delivered

May 23, 2018 at 9:11 am
Delivered, Left with Individual
BRIDGEPORT, CT 06604

Get Updates ▾



Text & Email Updates ▾

Tracking History ▲

May 23, 2018, 9:11 am

Delivered, Left with Individual
BRIDGEPORT, CT 06604

Your item was delivered to an individual at the address at 9:11 am on May 23, 2018 in BRIDGEPORT, CT 06604.

May 22, 2018, 9:37 pm

Departed USPS Regional Facility
WHITE PLAINS NY DISTRIBUTION CENTER

May 22, 2018, 11:24 am

Arrived at USPS Regional Facility
WHITE PLAINS NY DISTRIBUTION CENTER

May 22, 2018, 8:15 am

Departed USPS Regional Facility
SPRINGFIELD MA NETWORK DISTRIBUTION CENTER

May 22, 2018, 5:01 am

Arrived at USPS Regional Facility
SPRINGFIELD MA NETWORK DISTRIBUTION CENTER

May 22, 2018, 2:12 am

Departed USPS Regional Facility
BOSTON MA DISTRIBUTION CENTER

May 21, 2018, 10:15 pm

Arrived at USPS Regional Origin Facility
BOSTON MA DISTRIBUTION CENTER

May 21, 2018, 2:42 pm

Departed Post Office
HAVERHILL, MA 01830

May 21, 2018, 7:58 am

USPS in possession of item
HAVERHILL, MA 01830

Product Information



See Less 

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