



March 11, 2016

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

Re: Notice of Exempt Modification – Antenna Swap
Property Address: 58 Montano Rd Glastonbury, CT 06033
Applicant: AT&T Mobility, LLC

Dear Ms. Bachman:

On behalf of AT&T, 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).

AT&T currently maintains a wireless telecommunications facility consisting of 12 (12) wireless telecommunication antennas at an antenna center line height of 100-feet on an existing 119 -foot monopole tower, owned by American Tower Corporation and located at 58 Montano Rd Glastonbury, CT 06033. AT&T now intends to integrate only three (3) RRUS-12 units with A2 modules on the existing monopole (Typ. 1 per sector).

This facility was unanimously approved by the Connecticut Siting Council with stipulations that the facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Omnipoint Communications, Inc. and other entities, both public and private, but such tower shall not exceed a height of 120 feet above ground level. The tower shall be designed and constructed to include a yield point at the height of 82 feet above ground level.
2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Glastonbury for comment, and all parties and interveners as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping; and



b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new state or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Glastonbury public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.

7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.

8. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and interveners, as listed in the service list, and the Town of Glastonbury. Any proposed modifications to this Decision and Order shall likewise be so served.

9. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.



10. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.

11. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction and the commencement of site operation.

Please accept this letter pursuant to Regulation of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b) (2). In accordance with R.C.S.A., a copy of this letter is being sent to Town Manager Richard J. Johnson Town Hall 2155 Main Street Glastonbury, CT 06033. A copy of this letter is also being sent to SBA Communications Corporation 8051 Congress Avenue Boca Raton FL 3348.

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).

1. The proposed modifications will not result in an increase in the height of the existing tower. AT&T's replacement antennas will be installed at the 100-foot level of the 119-foot monopole.
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 modifications will not increase the noise levels 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 the Federal Communications Commission (FCC) safety standard. A cumulative worst-case RF emissions calculation for AT&T's modified facility is provided in the RF Emissions Compliance Report, included in Tab 2.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (See Structural Analysis Report included in Tab 3).



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

Sincerely,

David Barbagallo

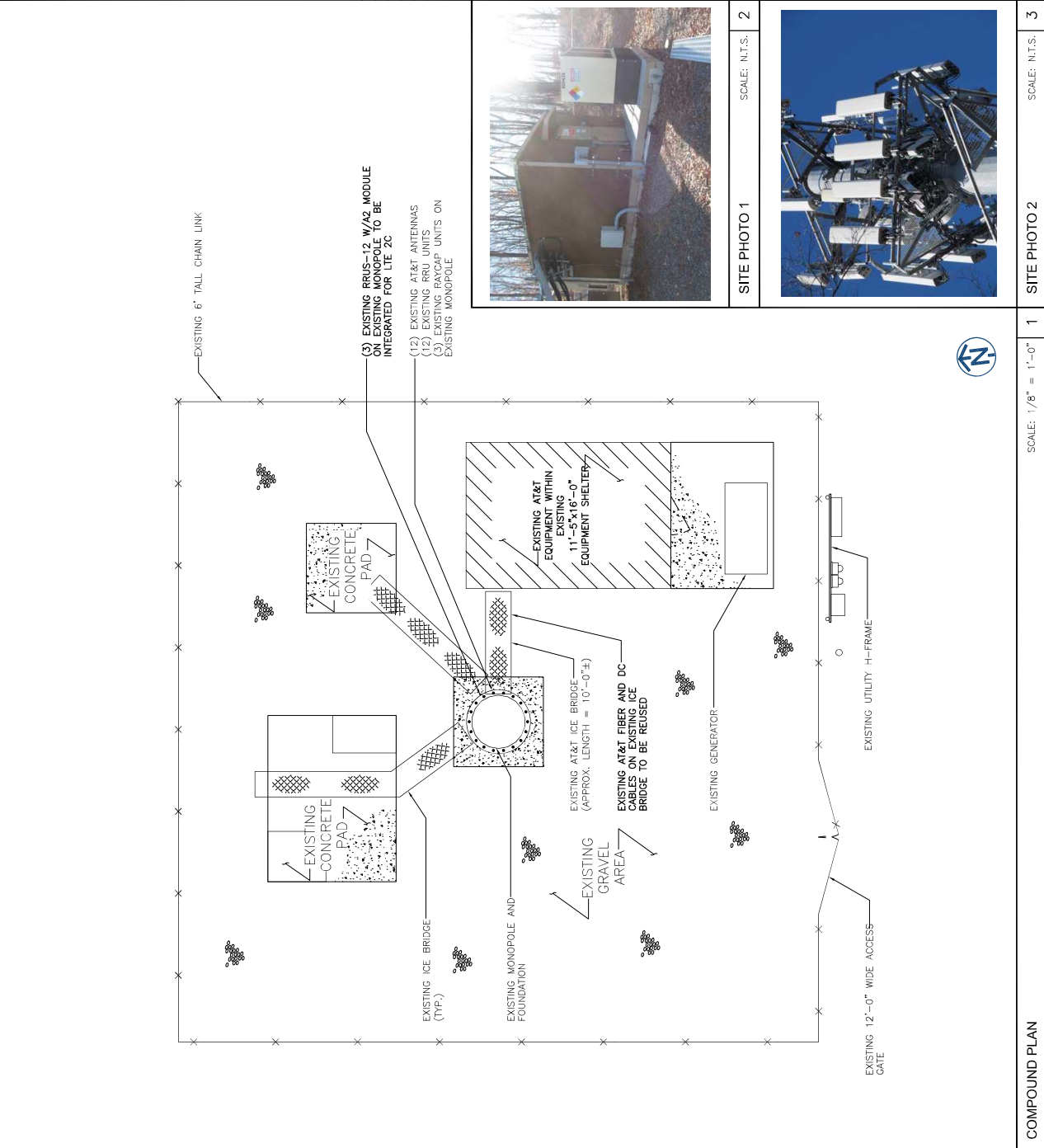
Enclosures

CC w/enclosures:

| Town Manager of Glastonbury Richard J. Johnson
 Structure Owner- SBA Communications Corporation



[illegible]



ABBREVIATIONS	
AFF	ABOVE FINISHED FLOOR
AGL	ABOVE GRADE LEVEL
APX	APPROXIMATE
APPROX	APPROXIMATE SEA LEVEL
ATS	AUTOMATIC TRANSFER SWITCH
AWC	AMERICAN WIRE GAUGE
BIS	BASE TRANSMISSION STATION
C	CENTERLINE
CL	COLUMN
CLF	CONCRETE
CONC	CONDUIT
CND	CONDUIT
CP	FOOT(FEET)
CPB	EQUIPMENT GROUND BAR
ECB	ELECTRICAL
ELEC	ELEVATION
ELEV	ELEVATION
EQUIP	EQUIPMENT
EX	EXTERIOR
EXC	EXCAVATION
F	FIBER
FF	PROPERTY INTERFACE FRAME
GA	GAUGE
GALV	GALVANIZED
GPS	GROUND POSITIONING SYSTEM
GND	GROUNDING
GSM	GLOBAL SYSTEM FOR MOBILE COMMUNICATION
LTE	LONG-RANGE EVOLUTION
MAX	MAXIMUM
MCFA	MULTI-CARRIER POWER AMPLIFIER
MFR	MANUFACTURER
MIN	MINIMUM
MIN	MINIMUM GROUND BAR
MIS	MANUAL TRANSFER SWITCH
O.C.	ON CENTER
OE/OT	OVERHEAD ELECTRIC/TELCO
PRC	POWER PROTECTION CABINET
RBS	RADIO BASED STATION
RET	REMOTE ELECTRIC TILT
RRU	REMOTE RADIO UNIT
RT	REINFORCED CONCRETE
STEEL	STEEL
INT	INTERIOR
INCHES	INCHES
OUND'S FOOT	SOUND'S FOOT
STL	STEEL
TMA	TOWER MOUNTED AMPLIFIER
UE/UT	UNDERGROUND ELECTRIC/TELCO
UNO	UNDERGROUND, OTHERWISE
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
VF	VERIFY IN FIELD
W/	WITH
XFMR	TRANSFORMER

SYMBOLS	
	REVISION
	WORK POINT
	UTILITY POLE
	COMPRESSED STONE
	BRICK
	CONCRETE
	EARTH
	CENTERLINE
	PROPERTY LINE
	LEASE LINE
	EASEMENT LINE
	CHAIN LINK FENCE
	WOOD FENCE
	BELOW GRADE ELECTRIC
	BELOW GRADE TELEPHONE
	OVER/UNDER
	SECTION REFERENCE

REV	DATE	DESCRIPTION	BY
0	02/10/16	90% REVIEW	KC
1	02/29/16	FINAL	AS

I HEREBY CERTIFY THAT THESE DRAWING WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.



SITE NAME

GLASTONBURY
MONTANO ROAD

SITE NUMBER:

CTL01809

SITE ADDRESS

58A MONTANO ROAD
GLASTONBURY, CT 06033

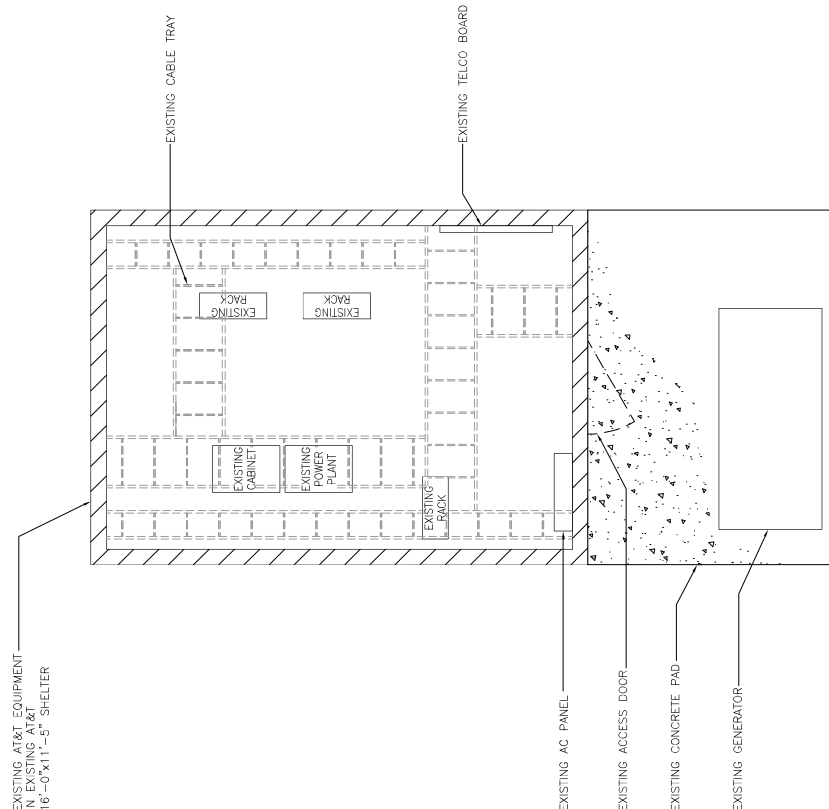
SHEET NAME

EQUIPMENT
PLAN

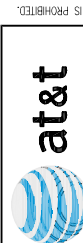
SHEET NUMBER

A2

FEC# 2015.0046.0003


$$\text{SCALE: } 1/4^{\text{th}} = 1'-0'' \quad 1$$

EQUIPMENT PLAN



550 COCHITUATE ROAD
SUITE 550 13 AND 14
FRAMINGHAM, MA 01701



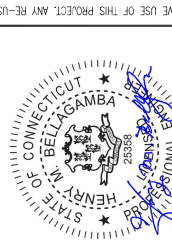
1363 WELDON ROAD
SUITE 140
HANOVER, MD 21076



9600 W BRYN MAWR AVE SUITE 200
ROSELAND, NJ 07068
TEL: 817-292-0200
FAX: 817-292-0206
CAD: REC-0001444
www.fullerton-engineering.com

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**GLASTONBURY
MONTANO ROAD**

SITE NUMBER:
CTL01809

SITE ADDRESS
**58A MONTANO ROAD
GLASTONBURY, CT 06033**

SHEET NAME
**ANTENNA &
CABLE
CONFIGURATION**

SHEET NUMBER
A4

THESE DRAWINGS ARE THE PROPERTY OF FULLERTON ENGINEERING CONSULTANTS, INC. IT IS FOR THE EXCLUSIVE USE OF THIS PROJECT. ANY RE-USE OF THESE DRAWINGS WITHOUT THE WRITTEN CONSENT OF FULLERTON ENGINEERING CONSULTANTS, INC. IS PROHIBITED.

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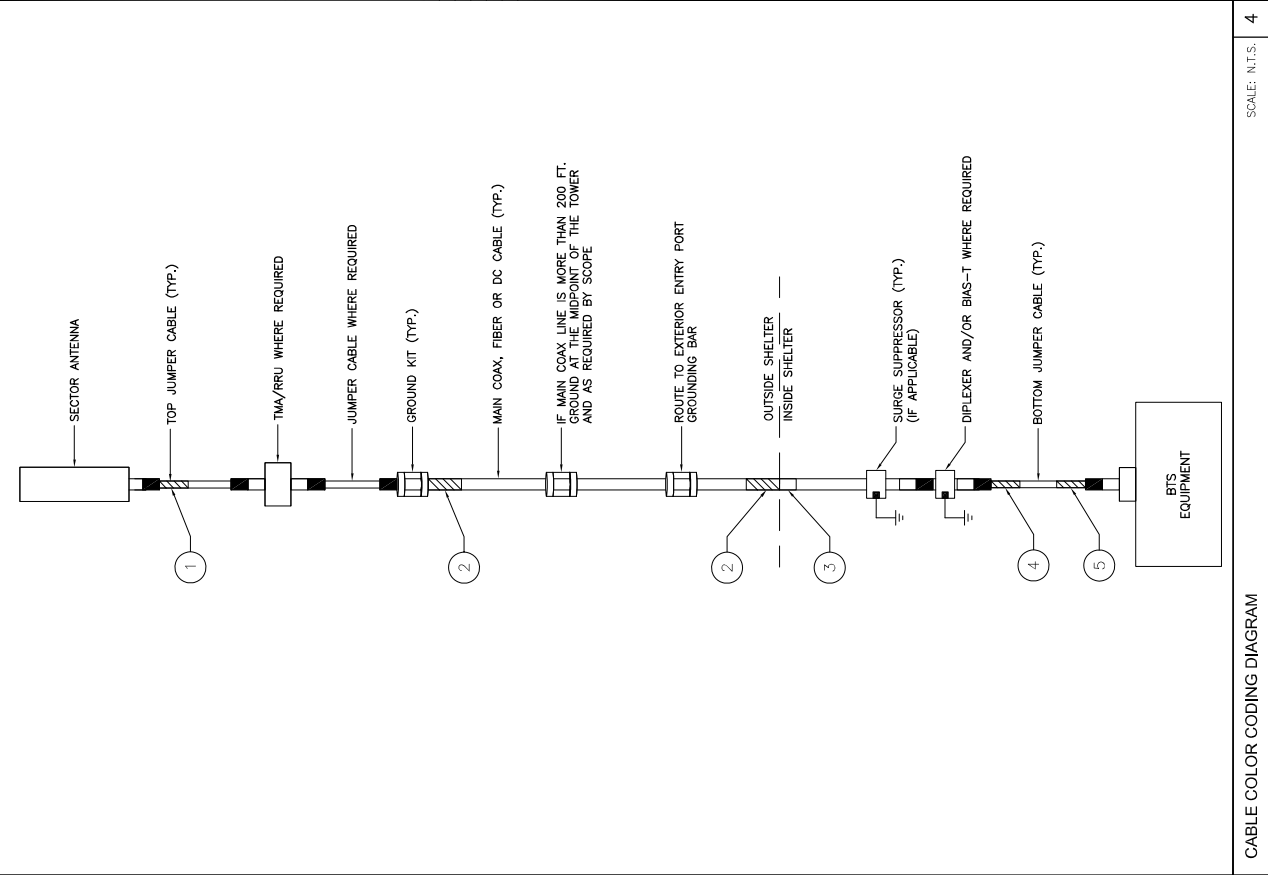
ANTENNA & CABLE CONFIGURATION

FINAL ANTENNA CONFIGURATION AND CABLE SCHEDULE SUPPLIED BY AT&T WIRELESS, FROM RF CONFIG. DATED (09/15/16)										
SECTOR	ANTENNA NUMBER	ANTENNA STATUS & TYPE	ANTENNA MODEL NUMBER	ANTENNA VENDOR	TMA/RRU UNIT	AZIMUTH	ANTENNA CL. FROM GROUND	CABLE FEEDER		RAYCAP UNIT
								TYPE	LENGTH	
ALPHA	A-1	(E) UMTS ANTENNA	HPA-65R-BUU-H8	CCI	(2) EXISTING RRU UNITS	20°	100'-0"	-		
	A-2	SPARE	HPA-65R-BUU-H8	CCI	-	20°	100'-0"	(1) EXISTING FIBER CABLE	130'-0"	
	A-3	SPARE	HPA-65R-BUU-H8	CCI	-	20°	100'-0"	(2) EXISTING DC POWER CABLES	130'-0"	
	A-4	(E) LTE1C/2C ANTENNA	HPA-65R-BUU-H8	CCI	(1) EXISTING RRUS-11 UNIT AND (1) EXISTING RRUS-12 UNIT W/ AZ MODULE	20°	100'-0"	(1) EXISTING FIBER CABLE	130'-0"	
BETA	B-1	(E) UMTS ANTENNA	HPA-65R-BUU-H8	CCI	(2) EXISTING RRU UNITS	140°	100'-0"	-		
	B-2	SPARE	HPA-65R-BUU-H8	CCI	-	140°	100'-0"	SEE ANTENNA A-2 FOR CABLE TYPE AND LENGTH		
	B-3	SPARE	HPA-65R-BUU-H8	CCI	-	140°	100'-0"	SEE ANTENNA A-3 FOR CABLE TYPE AND LENGTH		
	B-4	(E) LTE1C/2C ANTENNA	HPA-65R-BUU-H8	CCI	(1) EXISTING RRUS-11 UNIT AND (1) EXISTING RRUS-12 UNIT W/ AZ MODULE	140°	100'-0"	SEE ANTENNA A-4 FOR CABLE TYPE AND LENGTH		
GAMMA	C-1	(E) UMTS ANTENNA	HPA-65R-BUU-H8	CCI	(2) EXISTING RRU UNITS	260°	100'-0"	-		
	C-2	SPARE	HPA-65R-BUU-H8	CCI	-	260°	100'-0"	SEE ANTENNA A-2 FOR CABLE TYPE AND LENGTH		
	C-3	SPARE	HPA-65R-BUU-H8	CCI	-	260°	100'-0"	SEE ANTENNA A-3 FOR CABLE TYPE AND LENGTH		
	C-4	(E) LTE1C/2C ANTENNA	HPA-65R-BUU-H8	CCI	(1) EXISTING RRUS-11 UNIT AND (1) EXISTING RRUS-12 UNIT W/ AZ MODULE	260°	100'-0"	SEE ANTENNA A-4 FOR CABLE TYPE AND LENGTH		

(3) (E) DC6-48-60-18-8F UNIT

(3) (E) DC6-48-60-18-8F UNIT

 550 COCHITUATE ROAD FRAMINGHAM, MA 01701		 1362 MELLON ROAD HANOVER, MD 21076		FULLERTON ENGINEERING • DESIGN 9400 W. BRYN MAWR AVE., SUITE 200 ROSELAND, NJ 07068 TEL: 877-292-0200 FAX: 847-292-0206 COAH# PEC 0001444 www.fullertonengineering.com		<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>02/10/16</td> <td>90% REVIEW</td> <td>KC</td> </tr> <tr> <td>1</td> <td>02/28/16</td> <td>FINAL</td> <td>AS</td> </tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> I HEREBY CERTIFY THAT THESE DRAWING WERE PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.		REV	DATE	DESCRIPTION	BY	0	02/10/16	90% REVIEW	KC	1	02/28/16	FINAL	AS																			SITE NAME GLASTONBURY MONTANO ROAD		SITE NUMBER: CTL01809		SITE ADDRESS 58A MONTANO ROAD GLASTONBURY, CT 06033		SHEET NAME CABLE NOTES AND COLOR CODING		SHEET NUMBER A5	
REV	DATE	DESCRIPTION	BY																																												
0	02/10/16	90% REVIEW	KC																																												
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1. CONTRACTOR IS TO REFER TO AT&T'S MOST CURRENT RADIO FREQUENCY DATA SHEET (RFD'S) PRIOR TO CONSTRUCTION.
2. THE SIZE, HEIGHT, AND DIRECTION OF THE ANTENNAS SHALL BE ADJUSTED TO ACHIEVE THE AZIMUTHS SPECIFIED AND LIMIT SHADOWING AND TO MEET THE SYSTEM REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY THE HEIGHT OF THE ANTENNA WITH THE AT&T WIRELESS PROJECT MANAGER.
4. VERIFY TYPE AND SIZE OF TOWER LEG PRIOR TO ORDERING ANY ANTENNA MOUNT.
5. UNLESS NOT OTHERWISE THE CONTRACTOR MUST PROVIDE ALL MATERIAL NECESSARY.
6. ANTENNA AZIMUTHS ARE DEGREES OFF OF TRUE NORTH, BEARING CLOCKWISE, IN WHICH ANTENNA FACE IS DIRECTED. ALL ANTENNAS (AND SUPPORTING STRUCTURES AS PRACTICAL) SHALL BE ACCURATELY ORIENTED IN THE SPECIFIED DIRECTION.
7. CONTRACTOR SHALL VERIFY ALL RF INFORMATION PRIOR TO CONSTRUCTION.
8. SWEEP TEST SHALL BE PERFORMED BY GENERAL CONTRACTOR AND SUBMITTED TO AT&T WIRELESS CONSTRUCTION SPECIALIST. TEST SHALL BE PERFORMED PER AT&T WIRELESS STANDARDS.
9. CABLE LENGTHS WERE DETERMINED BASED ON THE DESIGN DRAWING. CONTRACTOR TO VERIFY ACTUAL LENGTH DURING PRE-CONSTRUCTION WALK.
10. CONTRACTOR TO USE ROSENBERGER FIBER LINE HANGER COMPONENTS (OR ENGINEER APPROVED EQUAL).

ANTENNA AND CABLING NOTES

RF, DC, & COAX CABLE MARKING LOCATIONS TABLE	
NO	LOCATIONS
1	EACH TOP-JUMPER SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS.
2	EACH MAIN COAX SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS. THE OTHER COAX SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE COLOR BANDS JUST PRIOR TO ENTERING THE BIS OR TRANSMITTER BUILDING.
3	CABLE ENTRY PORT ON THE INTERIOR OF THE SHELTER.
4	ALL BOTTOM JUMPER SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.
5	ALL BOTTOM JUMPER SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.

CABLE MARKING DIAGRAM

1. THE ANTENNA SYSTEM COAX SHALL BE LABELED WITH VINYL TAPE.
2. THE STANDARD IS BASED ON EIGHT COLORED TAPES—RED, BLUE, GREEN, YELLOW, ORANGE, BROWN, WHITE, AND VIOLET. THESE TAPES MUST BE 3/4" WIDE & THE RESISTANCE TO SUCH AN APPLICATION OF ELECTRICAL COLOR CODING SHALL BE 100 OHMS PER INCH. THE TAPES SHALL BE APPLIED TO THE ELECTRICAL ON CONTRACTOR ON SITE.
3. USING COLOR BANDS ON THE CABLES, MARK ALL RF CABLE BY SECTOR AND CABLE NUMBER AS SHOWN ON "CABLE COLOR CHART".
4. WHEN AN EXISTING COAXIAL LINE THAT IS INTENDED TO BE A SHARED LINE BETWEEN TECHNOLOGIES IS ENCOUNTERED, THE CONTRACTOR SHALL REMOVE THE EXISTING COLOR CODING SCHEME AND REPLACE IT WITH THE COLOR CODING STANDARD. IN THE ABSENCE OF AN EXISTING COLOR CODING AND TAGGING SCHEME, OR WHEN INSTALLING PROPOSED COAXIAL CABLES, THIS GUIDELINE SHALL BE IMPLEMENTED AT THAT SITE REGARDLESS OF TECHNOLOGY.
5. ALL COLOR CODE TAPE SHALL BE 3W-35 AND SHALL BE INSTALLED USING A MINIMUM OF (3) THREE WRAPS OF TAPE AND SHALL BE NEATLY TRIMMED AND SMOOTHED OUT SO AS TO AVOID UNRAVELING.
6. ALL COLOR BANDS INSTALLED AT THE TOP OF THE TOWER SHALL BE A MINIMUM OF 3" WIDE, AND SHALL HAVE A MINIMUM OF 3/4" OF SPACE BETWEEN EACH COLOR.
7. ALL COLOR CODES SHALL BE INSTALLED SO AS TO ALIGN NEATLY WITH ONE ANOTHER FROM SIDE-TO-SIDE.
8. IF EXISTING CABLES AT THE SITE ALREADY HAVE A COLOR CODING SCHEME AND THEY ARE NOT INTENDED TO BE REUSED OR SHARED WITH THE NEW TECHNOLOGY, THE EXISTING COLOR CODING SCHEME SHALL REMAIN UNTOUCHED.

CABLE MARKING NOTES

SCALE: N.T.S.

CABLE COLOR CODING DIAGRAM

SCALE: N.T.S. 4

4

A5

FEC# 2015.0046.0003

REV	DATE	DESCRIPTION	BY
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MONTANO ROAD

SITE NUMBER:

CTL01809

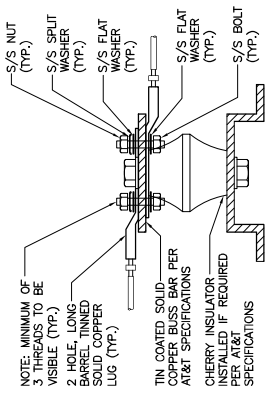
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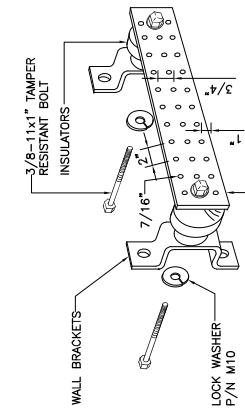
NAME

**GROUNDING
DETAILS**

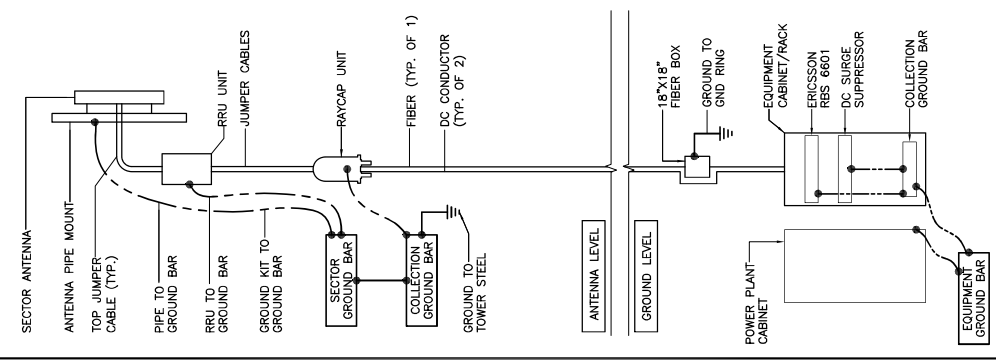
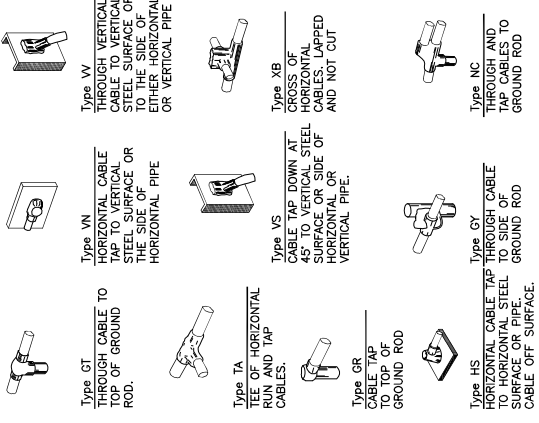
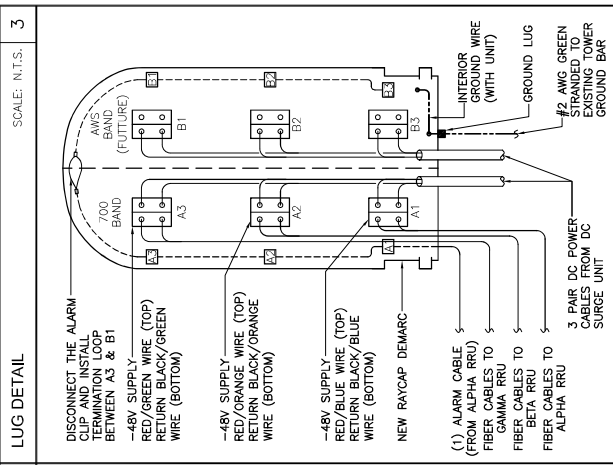
A6



1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING SPLIT WASHERS.
2. COAT WIRE END WITH ANTI-OXIDATION COMPOUND PRIOR TO INSERTION INTO LUG BARREL AND CRIMPING.
3. APPLY ANTI-OXIDATION COMPOUND BETWEEN ALL LUGS AND BUSS BARS PRIOR TO MATING AND BOLTING.



UNIVERSAL COPPER
GROUND BAR (4"x20")
PROVIDED BY ERICSSON





Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
8445 Freeport Parkway, Suite 375, Irving, Texas 75063

Structural Analysis Report

Existing 119 ft SABRE Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT13555-S

Customer Site Name: Montano

Carrier Name: AT&T

Carrier Site ID / Name: CTL01809 / FA# 10577834 / Glastonbury Montano Rd.

Site Location: 58A Montano Road

Glastonbury, CT

Hartford County

Latitude: 41.699444

Longitude: -72.564000

Analysis Result:

Max Structural Usage: 51.7% [Pass]

Max Foundation Usage: 58% [Pass]

Report Prepared By : Jarryd Tibbetts





Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
8445 Freeport Parkway, Suite 375, Irving, Texas 75063

Structural Analysis Report

Existing 119 ft SABRE Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT13555-S

Customer Site Name: Montano

Carrier Name: AT&T

Carrier Site ID / Name: CTL01809 / FA# 10577834 / Glastonbury Montano Rd.

Site Location: 58A Montano Road

Glastonbury, CT

Hartford County

Latitude: 41.699444

Longitude: -72.564000

Analysis Result:

Max Structural Usage: 51.7% [Pass]

Max Foundation Usage: 58% [Pass]

Report Prepared By : Jarryd Tibbetts

Introduction

The purpose of this report is to summarize the analysis results on the 119 ft SABRE Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Tower Drawing prepared by Sabre, Job #09-11137 dated 11/19/08
Foundation Drawing	Foundation Drawing prepared by Sabre, Job #09-11137 dated 11/19/08
Geotechnical Report	Geotechnical Report prepared by TES, Project #082695.01 dated 10/27/08
Modification Drawings	N/A

Analysis Criteria

The analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-F. In accordance with this standard, the structure was analyzed using **TESPoles**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Basic Wind Speed Used in the Analysis:	80.0 mph (Fastest mile)
Basic Wind Speed with Ice:	69 mph (Fastest mile) with 1/2" radial ice concurrent
Operational Wind Speed:	50 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-F / 2005 Connecticut State building Code

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	117.0	3	Ericsson - AIR 21 B2A B4P - Panel	Platform w/ Hand Rail	(12) 1 5/8" (1) 1 5/8" Fiber	T-Mobile
2		3	Ericsson - AIR 21 B4A B2P - Panel			
3		3	Commscope - LNX-6515DS-A1M - Panel			
4		3	Ericsson - KRY 112 144/1 - RRU			
5		3	Ericsson - S11B12 - RRU			
6	110.0	3	Argus - LLPX310R - Panel	Pipe	(2) 1/2" (3) 1/4" (3) 5/8"	Clearwire
7		1	Andrew - VHLP2-18 - Dish			
8		1	Andrew - VHLP2.5-18 - Dish			
9	100.0	12	CCI - HPA-65R-BUU-H8 - Panel	Platform w/ Hand Rail	(2) 1/2" Fiber (8) 3/4" DC (3) 3/8" RET	AT&T
10		9	Ericsson - RRUS 11 - RRU			
11		6	Ericsson - RRUS 12 - RRU			
12		3	Ericsson - RRU-32 - RRU			
13		3	Ericsson - RRU E2 - RRU			
14		6	Ericsson - RRUS A2 - RRU			
15		4	Raycap - DC6-48-60-18-8F - Squid			
17	90.0	6	Andrew - HBXX-6517DS-A2M - Panel	Low Profile Platform	(2) 1 5/8" Hybrid	Verizon
18		6	Andrew - LNX-6514DS-A1M - Panel			
19		3	Alcatel Lucent - B13 RRH4x30 - RRH			
20		3	Alcatel Lucent - RRH2X60-AWS - RRH			
21		3	Alcatel Lucent - RRH2x60-PCS - RRH			
22		2	RFS - DB-T1-6Z-8AB-0Z - ODU			

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
9	100.0	12	CCI - HPA-65R-BUU-H8 - Panel	Platform w/ Hand Rail (MTC3067R AD A)	(2) 1/2" Fiber (8) 3/4" DC (3) 3/8" RET	AT&T
10		12	Ericsson - RRU 11 - RRU			
11		6	Ericsson - RRU 12 - RRU			
12		3	Ericsson - RRU-32 - RRU			
14		6	Ericsson - RRU A2 - RRU			
15		4	Raycap - DC6-48-60-18-8F - Surge Suppressor			
16		3	Alcatel Lucent - IBC700-1 - Filters			

All transmission lines are considered running inside of the pole shafts.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	51.7%	49.4%	43.8%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Original Design Reactions	5405.0	52.8	60.8
Analysis Reactions	2574.2	28.8	42.0
% of Design Reactions	47.6%	54.6%	69.0%

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity):

Maximum twist and sway of the microwave dishes under the operational wind speed as specified in the Analysis Criteria are listed in the table below:

Elevation (ft)	Dish	Carrier	Twist (deg)	Sway (deg)
110.0	Andrew - VHLP2-18 - Dish	Clearwire	0.001	0.753
	Andrew - VHLP2.5-18 - Dish			

It is recommended that the carrier reviews the twist and sway values of the microwave dishes.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA/EIA 222-F Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.
3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.
4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.
5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.
6. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed or/and ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
7. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
8. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Stress 51.7% at 0.0ft

Structure: CT13555-S-SBA
Site Name: Montano
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69

12/30/2015

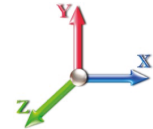
Page: 1



Dead Load Factor: 1.00
Wind Load Factor: 1.00

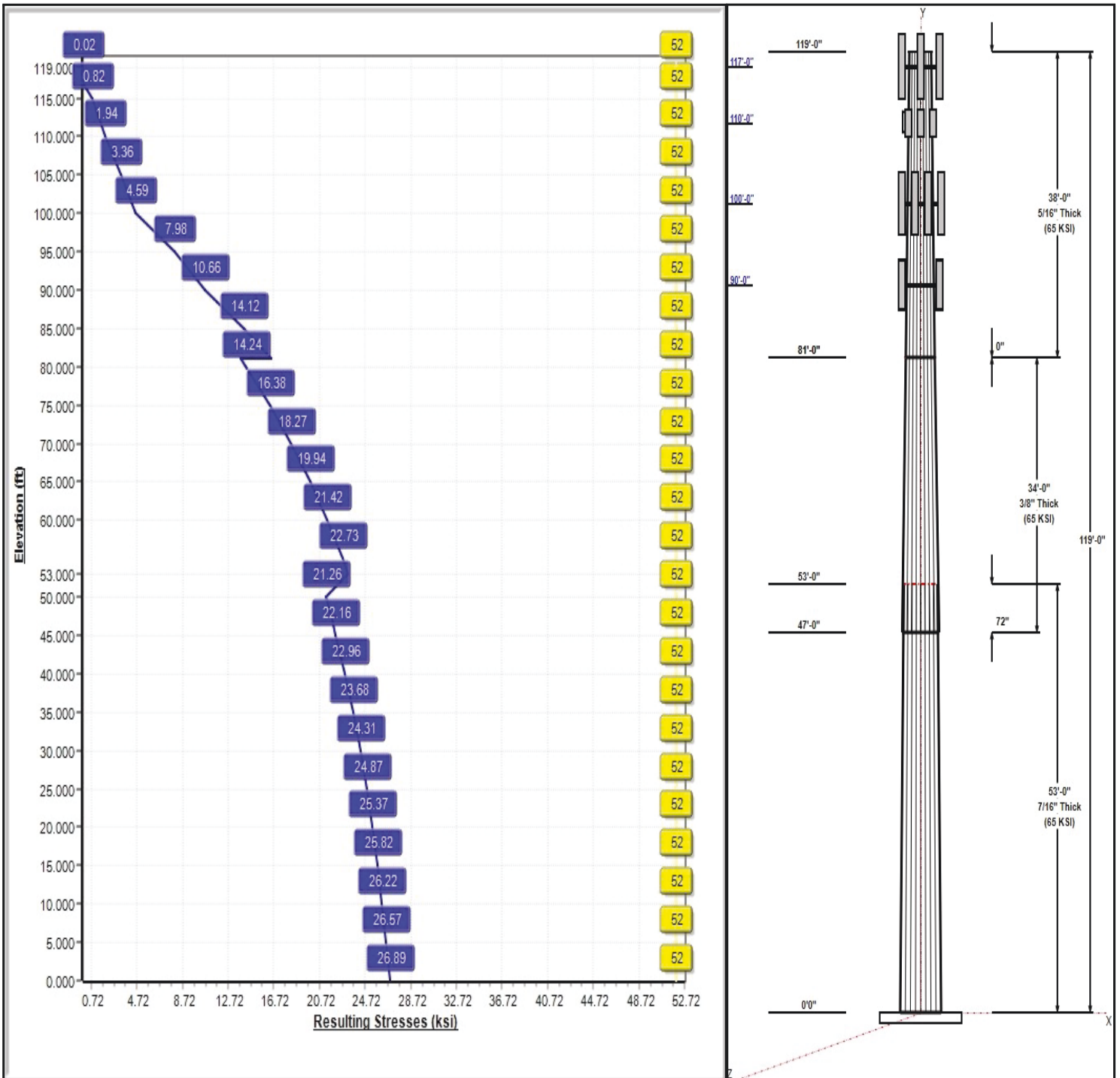
Load Case : 80 mph Wind with 0 in Ice

52 Allowable Stress
27 Resulting Stress



Iterations: 18

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Structure: CT13555-S-SBA

Type: Tapered
Site Name: Montano
Height: 119.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.26403

12/30/2015

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Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.00	44.82	58.81	0.438		0.26403	65
2	34.00	38.17	47.15	0.375	Slip	0.26403	65
3	38.00	28.14	38.17	0.313	Butt	0.26403	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
117.00	117.00	1	6' Lightning rod	
117.00	117.00	3	AIR 21 B2A B4P	T-Mobile
117.00	117.00	3	AIR 21 B4A B2P	T-Mobile
117.00	117.00	3	KRY 112 144/1	T-Mobile
117.00	117.00	3	LNx-6515DS-A1M	T-Mobile
117.00	117.00	1	Platform w/ Hand Rail	T-Mobile
117.00	117.00	3	S11B12	T-Mobile
110.00	110.00	1	Flush Mount	Clearwire
110.00	110.00	3	LLPX310R	Clearwire
110.00	110.00	1	VHLP2-18	Clearwire
110.00	110.00	1	VHLP2.5-18	Clearwire
100.00	100.00	4	DC6-48-60-18-8F	AT&T
100.00	100.00	12	HPA-65R-BUU-H8	AT&T
100.00	100.00	3	IBC700-1	AT&T
100.00	100.00	1	Platform w/ Hand Rail	AT&T
100.00	100.00	3	RRU-32	AT&T
100.00	100.00	12	RRUS 11	AT&T
100.00	100.00	6	RRUS 12	AT&T
100.00	100.00	6	RRUS A2	AT&T
90.00	90.00	3	B13 RRH4x30	Verizon
90.00	90.00	2	DB-T1-6Z-8AB-0Z	Verizon
90.00	90.00	6	HBXX-6517DS-A2M	Verizon
90.00	90.00	6	LNx-6514DS-A1M	Verizon
90.00	90.00	1	Low Profile Platform	Verizon
90.00	90.00	3	RRH2X60-AWS	Verizon
90.00	90.00	3	RRH2x60-PCS	Verizon

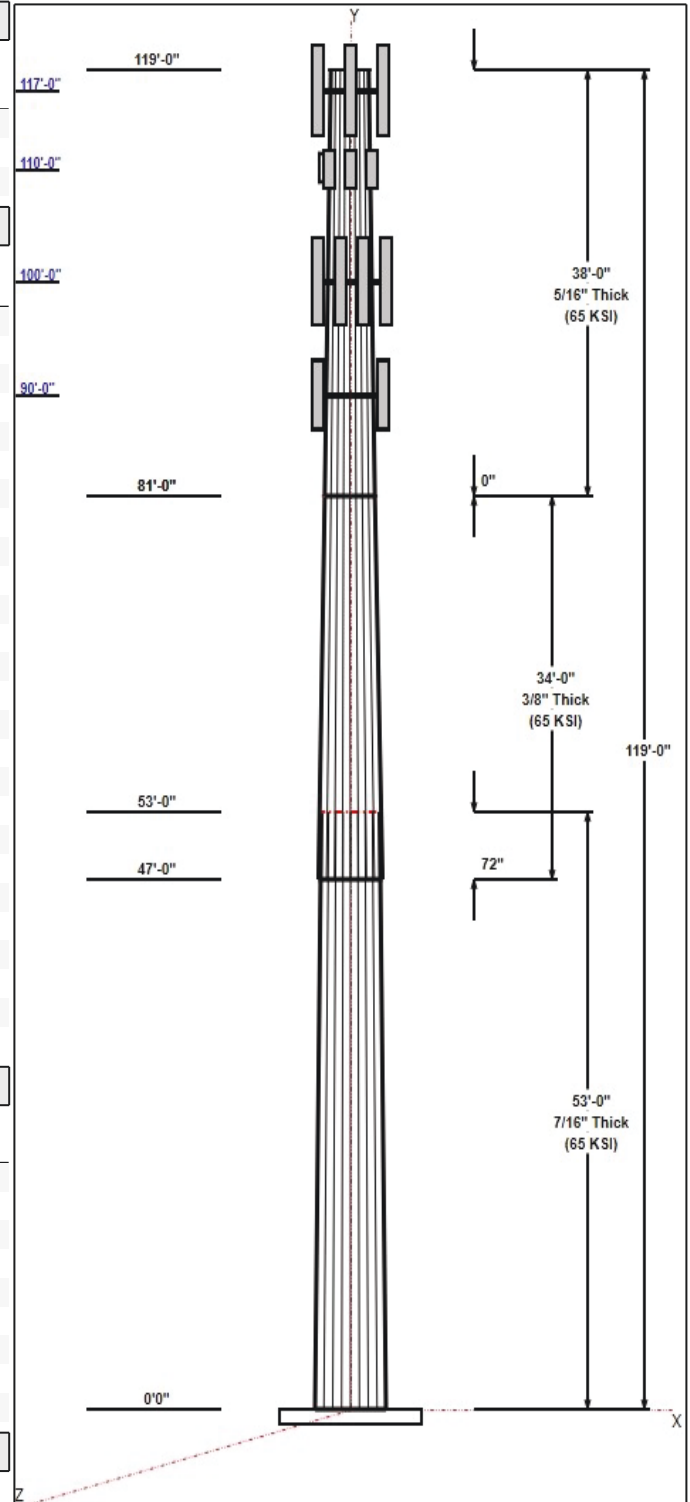
Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	117.00	Inside	1 5/8" Coax	T-Mobile
0.00	117.00	Inside	1 5/8" Hybrid Cable	T-Mobile
0.00	110.00	Inside	1/2" Coax	Clearwire
0.00	110.00	Inside	1/4" Coax	Clearwire
0.00	110.00	Inside	5/8" Hybrid Cable	Clearwire
0.00	100.00	Inside	1/2" Coax	AT&T
0.00	100.00	Inside	3/4" DC	AT&T
0.00	100.00	Inside	3/8" Fiber	AT&T
0.00	90.00	Inside	1 5/8" Hybrid Cable	Verizon

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
20	2.25" 18J	75.0	Cluster

Base Plate



Structure: CT13555-S-SBA

Type: Tapered
Site Name: Montano
Height: 119.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.26403

12/30/2015

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Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.2500	66.0	50.0	Clipped

Reactions

Load Case	Moment	Shear	Axial
80 mph Wind with 0" Ice	2574.2	28.8	34.4
69.28 mph Wind with 0.5" Ice	2071.9	22.9	42.0
50 mph Wind with 0" Ice	1005.7	11.3	34.4

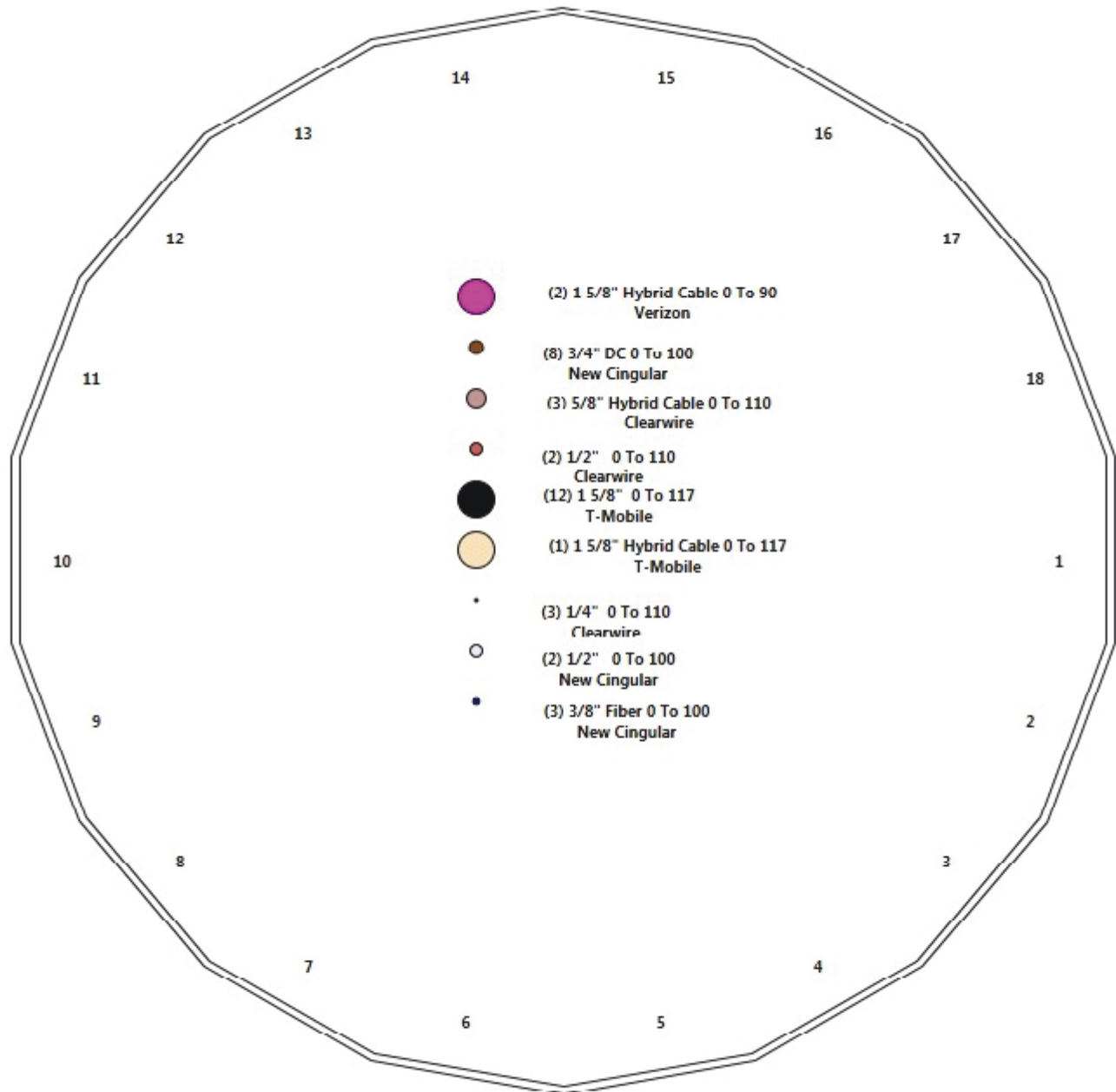
Structure: CT13555-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Montano
Height: 119.00 (ft)

12/30/2015



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Shaft Properties

Structure: CT13555-S-SBA

Code: EIA/TIA-222-F

12/30/2015

Site Name: Montano

Exposure: C

Height: 119.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	53.000	0.4375	65		0.00	12,866
2	18	34.000	0.3750	65	Slip	72.00	5,823
3	18	38.000	0.3125	65	Flange	0.00	4,212
Total Shaft Weight:							22,901

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	58.81	0.00	81.05	34893.72	22.29	134.4	44.82	53.00	61.62	15333.6	16.65	102.4	0.264034
2	47.15	47.00	55.67	15389.65	20.75	125.7	38.17	81.00	44.99	8120.67	16.53	101.7	0.264034
3	38.17	81.00	37.55	6800.85	20.12	122.1	28.14	119.0	27.60	2700.33	14.46	90.04	0.264034

Loading Summary

Structure: CT13555-S-SBA

Code: EIA/TIA-222-F

12/30/2015

Site Name: Montano

Exposure: C

Height: 119.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

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No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	117.0	6' Lightning rod	1	6.50	0.38	1.00	11.80	0.980	1.00	0.00	0.00
2	117.0	AIR 21 B2A B4P	3	91.50	6.52	0.83	129.20	6.970	0.83	0.00	0.00
3	117.0	AIR 21 B4A B2P	3	90.30	6.52	0.83	128.10	6.970	0.83	0.00	0.00
4	117.0	KRY 112 144/1	3	11.00	0.41	0.72	14.10	0.550	0.75	0.00	0.00
5	117.0	LNx-6515DS-A1M	3	50.30	11.45	0.84	115.60	12.34	0.84	0.00	0.00
6	117.0	Platform w/ Hand Rail	1	1600.00	32.00	1.00	2200.00	40.00	1.00	0.00	0.00
7	117.0	S11B12	3	51.00	3.31	0.71	67.10	3.520	0.72	0.00	0.00
8	110.0	Flush Mount	1	350.00	5.00	1.00	450.00	6.000	1.00	0.00	0.00
9	110.0	LLPX310R	3	28.60	4.83	0.75	54.50	5.360	0.77	0.00	0.00
10	110.0	VHLP2-18	1	27.00	4.68	1.00	55.00	5.050	1.00	1.00	0.00
11	110.0	VHLP2.5-18	1	47.60	8.43	1.00	97.00	8.920	1.00	1.00	0.00
12	100.0	DC6-48-60-18-8F	4	32.80	3.34	1.00	55.88	3.580	1.00	0.00	0.00
13	100.0	HPA-65R-BUU-H8	12	60.80	13.56	0.78	130.68	14.17	0.78	0.00	0.00
14	100.0	IBC700-1	3	63.30	3.03	0.91	82.22	3.240	0.91	0.00	0.00
15	100.0	Platform w/ Hand Rail	1	1600.00	40.00	1.00	2200.00	40.00	1.00	0.00	0.00
16	100.0	RRU-32	3	77.00	4.05	0.85	100.66	4.300	0.85	0.00	0.00
17	100.0	RRUS 11	12	54.00	2.99	0.70	68.53	3.190	0.71	0.00	0.00
18	100.0	RRUS 12	6	58.00	3.67	0.70	75.70	3.890	0.71	0.00	0.00
19	100.0	RRUS A2	6	22.00	2.43	0.61	32.31	2.610	0.63	0.00	0.00
20	90.00	B13 RRH4x30	3	57.20	2.52	0.88	72.45	2.710	0.88	0.00	0.00
21	90.00	DB-T1-6Z-8AB-0Z	2	44.00	5.60	1.00	71.06	5.870	1.00	0.00	0.00
22	90.00	HBXX-6517DS-A2M	6	47.00	8.74	0.80	93.81	9.230	0.80	0.00	0.00
23	90.00	LNx-6514DS-A1M	6	38.80	8.41	0.82	85.41	8.890	0.82	0.00	0.00
24	90.00	Low Profile Platform	1	1500.00	25.00	1.00	1800.00	27.00	1.00	0.00	0.00
25	90.00	RRH2X60-AWS	3	55.00	3.78	0.77	75.35	4.050	0.78	0.00	0.00
26	90.00	RRH2x60-PCS	3	55.00	2.35	0.78	67.79	2.530	0.79	0.00	0.00
Totals:			94	9,613.30			14,014.55				

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Bottom Elev. (ft)	Top Elev. (ft)	Description	No Ice		Ice		Exposed
			Weight (lb/ft)	CaAa (sf/ft)	Weight (lb/ft)	CaAa (sf/ft)	
0.00	117.0	(12) 1 5/8" Coax	1.04	0.00	0.00	0.00	Inside
0.00	117.0	(1) 1 5/8" Hybrid Cable	3.30	0.00	0.00	0.00	Inside
0.00	110.0	(2) 1/2" Coax	0.16	0.00	0.00	0.00	Inside
0.00	110.0	(3) 1/4" Coax	0.04	0.00	0.00	0.00	Inside
0.00	110.0	(3) 5/8" Hybrid Cable	1.56	0.00	0.00	0.00	Inside
0.00	100.0	(2) 1/2" Coax	0.48	0.00	0.00	0.00	Inside
0.00	100.0	(8) 3/4" DC	4.80	0.00	0.00	0.00	Inside
0.00	100.0	(3) 3/8" Fiber	0.48	0.00	0.00	0.00	Inside
0.00	90.00	(2) 1 5/8" Hybrid Cable	6.60	0.00	0.00	0.00	Inside
Totals:			1,871.93		0.00		

Shaft Section Properties

Structure: CT13555-S-SBA

Code: EIA/TIA-222-F

12/30/2015

Site Name: Montano

Exposure: C

Height: 119.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

Page: 7



Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)
0.00		0.4375	58.810	81.055	34893.7	22.29	134.42	65	52	0.0
5.00		0.4375	57.490	79.221	32579.4	21.76	131.41	65	52	1363.5
10.00		0.4375	56.170	77.388	30369.7	21.23	128.39	65	52	1332.3
15.00		0.4375	54.849	75.555	28262.2	20.70	125.37	65	52	1301.1
20.00		0.4375	53.529	73.722	26254.6	20.16	122.35	65	52	1269.9
25.00		0.4375	52.209	71.889	24344.4	19.63	119.34	65	52	1238.7
30.00		0.4375	50.889	70.056	22529.1	19.10	116.32	65	52	1207.5
35.00		0.4375	49.569	68.223	20806.4	18.57	113.30	65	52	1176.3
40.00		0.4375	48.249	66.389	19173.9	18.04	110.28	65	52	1145.1
45.00		0.4375	46.928	64.556	17629.0	17.50	107.27	65	52	1113.9
47.00	Bot - Section 2	0.4375	46.400	63.823	17035.1	17.29	106.06	65	52	436.8
50.00		0.4375	45.608	62.723	16169.5	16.97	104.25	65	52	1209.4
53.00	Top - Section 1	0.3750	45.566	53.787	13878.3	20.01	121.51	65	52	1188.6
55.00		0.3750	45.038	53.158	13397.5	19.77	120.10	65	52	363.9
60.00		0.3750	43.718	51.587	12244.2	19.15	116.58	65	52	891.1
65.00		0.3750	42.398	50.016	11159.1	18.53	113.06	65	52	864.3
70.00		0.3750	41.078	48.445	10140.1	17.90	109.54	65	52	837.6
75.00		0.3750	39.757	46.873	9185.1	17.28	106.02	65	52	810.9
80.00		0.3750	38.437	45.302	8292.0	16.66	102.50	65	52	784.1
81.00	Top - Section 2	0.0000	0.000	0.000	0.0	NAN	NAN	0	0	153.6
81.00	Bot - Section 3	0.3750	38.173	44.988	8120.7	16.54	101.80	65	52	
85.00		0.3125	37.117	36.504	6247.4	19.53	118.77	65	52	504.0
90.00		0.3125	35.797	35.195	5599.0	18.79	114.55	65	52	609.9
95.00		0.3125	34.477	33.886	4997.0	18.04	110.33	65	52	587.7
100.00		0.3125	33.157	32.576	4439.8	17.30	106.10	65	52	565.4
105.00		0.3125	31.836	31.267	3925.7	16.55	101.88	65	52	543.1
110.00		0.3125	30.516	29.957	3452.9	15.81	97.65	65	52	520.8
115.00		0.3125	29.196	28.648	3019.6	15.06	93.43	65	52	498.6
117.00		0.3125	28.668	28.124	2857.0	14.77	91.74	65	52	193.2
119.00		0.3125	28.140	27.600	2700.3	14.47	90.05	65	52	189.6
										22901.0

Wind Loading - Shaft

Structure: CT13555-S-SBA

Code: EIA/TIA-222-F

12/30/2015

Site Name: Montano

Exposure: C

Height: 119.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

Page: 8

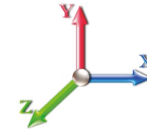


Load Case: 80 mph Wind with 0" Ice

Iterations: 18

Dead Load Factor 1.00

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		0.00	1.00	16.384	27.69	392.07	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00	16.384	27.69	383.27	0.650	0.000	5.00	24.229	15.75	436.1	0.0	1363.5
10.00		0.00	1.00	16.384	27.69	374.46	0.650	0.000	5.00	23.679	15.39	426.2	0.0	1332.3
15.00		0.00	1.00	16.384	27.69	365.66	0.650	0.000	5.00	23.129	15.03	416.3	0.0	1301.1
20.00		0.00	1.00	16.384	27.69	356.86	0.650	0.000	5.00	22.579	14.68	406.4	0.0	1269.9
25.00		0.00	1.00	16.384	27.69	348.06	0.650	0.000	5.00	22.029	14.32	396.5	0.0	1238.7
30.00		0.00	1.00	16.384	27.69	339.26	0.650	0.000	5.00	21.479	13.96	386.6	0.0	1207.5
35.00		0.00	1.02	16.662	28.16	333.25	0.650	0.000	5.00	20.929	13.60	383.1	0.0	1176.3
40.00		0.00	1.06	17.310	29.25	330.62	0.650	0.000	5.00	20.379	13.25	387.5	0.0	1145.1
45.00		0.00	1.09	17.902	30.25	327.03	0.650	0.000	5.00	19.829	12.89	389.9	0.0	1113.9
47.00	Bot - Section 2	0.00	1.11	18.126	30.63	325.37	0.650	0.000	2.00	7.777	5.06	154.9	0.0	436.8
50.00		0.00	1.13	18.449	31.18	322.65	0.650	0.000	3.00	11.689	7.60	236.9	0.0	1209.4
53.00	Top - Section 1	0.00	1.14	18.759	31.70	319.70	0.650	0.000	3.00	11.491	7.47	236.8	0.0	1188.6
55.00		0.00	1.16	18.959	32.04	322.98	0.650	0.000	2.00	7.550	4.91	157.2	0.0	363.9
60.00		0.00	1.19	19.436	32.85	317.44	0.650	0.000	5.00	18.491	12.02	394.8	0.0	891.1
65.00		0.00	1.21	19.885	33.61	311.39	0.650	0.000	5.00	17.941	11.66	391.9	0.0	864.3
70.00		0.00	1.24	20.311	34.33	304.91	0.650	0.000	5.00	17.391	11.30	388.0	0.0	837.6
75.00		0.00	1.26	20.715	35.01	298.03	0.650	0.000	5.00	16.841	10.95	383.2	0.0	810.9
80.00		0.00	1.29	21.101	35.66	290.80	0.650	0.000	5.00	16.291	10.59	377.6	0.0	784.1
81.00	Top - Section 2	0.00	1.29	21.176	35.79	289.32	0.650	0.000	1.00	3.192	2.07	74.3	0.0	153.6
85.00		0.00	1.31	21.469	36.28	283.26	0.650	0.000	4.00	12.548	8.16	295.9	0.0	504.0
90.00	Appurtenance(s)	0.00	1.33	21.823	36.88	275.42	0.650	0.000	5.00	15.190	9.87	364.2	0.0	609.9
95.00		0.00	1.35	22.163	37.45	267.32	0.650	0.000	5.00	14.640	9.52	356.4	0.0	587.7
100.00	Appurtenance(s)	0.00	1.37	22.490	38.01	258.98	0.650	0.000	5.00	14.090	9.16	348.1	0.0	565.4
105.00		0.00	1.39	22.806	38.54	250.41	0.650	0.000	5.00	13.540	8.80	339.2	0.0	543.1
110.00	Appurtenance(s)	0.00	1.41	23.111	39.06	241.62	0.650	0.000	5.00	12.990	8.44	329.8	0.0	520.8
115.00		0.00	1.43	23.406	39.56	232.64	0.650	0.000	5.00	12.440	8.09	319.9	0.0	498.6
117.00	Appurtenance(s)	0.00	1.44	23.522	39.75	229.00	0.650	0.000	2.00	4.822	3.13	124.6	0.0	193.2
119.00		0.00	1.44	23.636	39.94	225.32	0.650	0.000	2.00	4.734	3.08	122.9	0.0	189.6
Totals:									119.00			9,025.0		22,901.0

Discrete Appurtenance Forces

Structure: CT13555-S-SB
Site Name: Montano
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

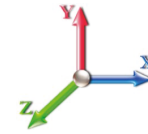
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

12/30/2015
 Page: 9



Load Case: 80 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 18

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	117.00	AIR 21 B4A B2P	3	23.522	39.752	0.83	16.16	270.90	0.000	0.000	642.25	0.00	0.00
2	117.00	6' Lightning rod	1	23.522	39.752	1.00	0.38	6.50	0.000	0.000	15.11	0.00	0.00
3	117.00	AIR 21 B2A B4P	3	23.522	39.752	0.83	16.16	274.50	0.000	0.000	642.25	0.00	0.00
4	117.00	S11B12	3	23.522	39.752	0.71	7.01	153.00	0.000	0.000	278.68	0.00	0.00
5	117.00	KRY 112 144/1	3	23.522	39.752	0.72	0.89	33.00	0.000	0.000	35.25	0.00	0.00
6	117.00	LNx-6515DS-A1M	3	23.522	39.752	0.84	28.72	150.90	0.000	0.000	1141.53	0.00	0.00
7	117.00	Platform w/ Hand Rail	1	23.522	39.752	1.00	32.00	1600.00	0.000	0.000	1272.05	0.00	0.00
8	110.00	VHLP2.5-18	1	23.111	39.057	1.00	8.43	47.60	2.291	0.000	329.25	754.36	0.00
9	110.00	VHLP2-18	1	23.111	39.057	1.00	4.68	27.00	2.291	0.000	182.79	418.79	0.00
10	110.00	LLPX310R	3	23.111	39.057	0.75	10.87	85.80	0.000	0.000	424.45	0.00	0.00
11	110.00	Flush Mount	1	23.111	39.057	1.00	5.00	350.00	0.000	0.000	195.29	0.00	0.00
12	100.00	RRUS A2	6	22.490	38.008	0.61	8.92	132.00	0.000	0.000	339.14	0.00	0.00
13	100.00	RRUS 12	6	22.490	38.008	0.70	15.48	348.00	0.000	0.000	588.36	0.00	0.00
14	100.00	RRUS 11	12	22.490	38.008	0.70	25.30	648.00	0.000	0.000	961.43	0.00	0.00
15	100.00	Platform w/ Hand Rail	1	22.490	38.008	1.00	40.00	1600.00	0.000	0.000	1520.32	0.00	0.00
16	100.00	IBC700-1	3	22.490	38.008	0.91	8.26	189.90	0.000	0.000	314.05	0.00	0.00
17	100.00	HPA-65R-BUU-H8	12	22.490	38.008	0.78	126.76	729.60	0.000	0.000	4817.84	0.00	0.00
18	100.00	DC6-48-60-18-8F	4	22.490	38.008	1.00	13.36	131.20	0.000	0.000	507.79	0.00	0.00
19	100.00	RRU-32	3	22.490	38.008	0.85	10.30	231.00	0.000	0.000	391.60	0.00	0.00
20	90.00	HBXX-6517DS-A2M	6	21.823	36.881	0.80	41.95	282.00	0.000	0.000	1547.22	0.00	0.00
21	90.00	B13 RRH4x30	3	21.823	36.881	0.88	6.62	171.60	0.000	0.000	243.97	0.00	0.00
22	90.00	DB-T1-6Z-8AB-0Z	2	21.823	36.881	1.00	11.20	88.00	0.000	0.000	413.07	0.00	0.00
23	90.00	RRH2x60-PCS	3	21.823	36.881	0.78	5.52	165.00	0.000	0.000	203.59	0.00	0.00
24	90.00	LNx-6514DS-A1M	6	21.823	36.881	0.82	41.43	232.80	0.000	0.000	1527.89	0.00	0.00
25	90.00	Low Profile Platform	1	21.823	36.881	1.00	25.00	1500.00	0.000	0.000	922.02	0.00	0.00
26	90.00	RRH2X60-AWS	3	21.823	36.881	0.77	8.74	165.00	0.000	0.000	322.45	0.00	0.00
Totals:								9,613.30			19,779.65		

Total Applied Force Summary

Structure: CT13555-S-SB

Code: EIA/TIA-222-F

12/30/2015

Site Name: Montano

Exposure: C

Height: 119.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

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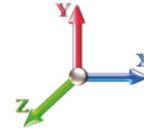


Load Case: 80 mph Wind with 0" Ice

Iterations: 18

Dead Load Factor 1.00

Wind Load Factor 1.00



Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		436.07	1455.78	0.00	0.00
10.00		426.17	1424.60	0.00	0.00
15.00		416.27	1393.41	0.00	0.00
20.00		406.37	1362.22	0.00	0.00
25.00		396.47	1331.03	0.00	0.00
30.00		386.57	1299.84	0.00	0.00
35.00		383.06	1268.65	0.00	0.00
40.00		387.49	1237.46	0.00	0.00
45.00		389.94	1206.27	0.00	0.00
47.00		154.86	473.78	0.00	0.00
50.00		236.89	1264.82	0.00	0.00
53.00		236.78	1243.97	0.00	0.00
55.00		157.24	400.84	0.00	0.00
60.00		394.78	983.39	0.00	0.00
65.00		391.90	956.66	0.00	0.00
70.00		388.01	929.92	0.00	0.00
75.00		383.22	903.19	0.00	0.00
80.00		377.60	876.46	0.00	0.00
81.00		74.25	172.08	0.00	0.00
85.00		295.94	577.85	0.00	0.00
90.00	(24) appurtenances	5544.36	3306.67	0.00	0.00
95.00		356.43	646.99	0.00	0.00
100.00	(47) appurtenances	9788.64	4634.41	0.00	0.00
105.00		339.21	573.63	0.00	0.00
110.00	(6) appurtenances	1461.56	1061.75	1173.15	0.00
115.00		319.86	520.25	0.00	0.00
117.00	(17) appurtenances	4151.73	2690.66	0.00	0.00
119.00		122.91	189.62	0.00	0.00
Totals:		28,804.60	34,386.19	1,173.15	0.00

Resulting Forces and Deflections

Structure: CT13555-S-SB
Site Name: Montano
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

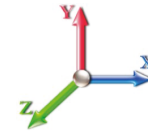
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

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Load Case: 80 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 18

Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	Deflect X (in)	Deflect Z (in)	Deflect Resultant (in)	Rotation Sway (deg)	Rotation Twist (deg)
0.00	-28.836	-34.360	0.000	-0.003	-1.170	-2574.1	0.000	0.000	0.000	0.000	0.000
5.00	-28.458	-32.853	0.000	-0.003	-1.170	-2430.0	-0.055	0.000	0.055	-0.102	0.000
10.00	-28.084	-31.379	0.000	-0.003	-1.170	-2287.7	-0.218	0.000	0.218	-0.205	0.000
15.00	-27.716	-29.937	0.000	-0.004	-1.170	-2147.3	-0.489	0.000	0.489	-0.309	0.000
20.00	-27.353	-28.528	0.000	-0.004	-1.171	-2008.7	-0.870	0.000	0.870	-0.413	0.000
25.00	-26.996	-27.150	0.000	-0.005	-1.171	-1871.9	-1.360	0.000	1.360	-0.519	0.000
30.00	-26.644	-25.805	0.000	-0.005	-1.171	-1736.9	-1.960	0.000	1.960	-0.624	0.000
35.00	-26.291	-24.493	0.000	-0.006	-1.171	-1603.7	-2.671	0.000	2.671	-0.729	0.000
40.00	-25.929	-23.214	0.000	-0.007	-1.171	-1472.3	-3.493	0.000	3.493	-0.835	0.000
45.00	-25.549	-21.981	0.000	-0.008	-1.171	-1342.6	-4.424	0.000	4.424	-0.939	-0.001
47.00	-25.406	-21.487	0.000	-0.008	-1.171	-1291.5	-4.827	0.000	4.827	-0.982	-0.001
50.00	-25.168	-20.199	0.000	-0.009	-1.171	-1215.3	-5.464	0.000	5.464	-1.044	-0.001
53.00	-24.925	-18.937	0.000	-0.010	-1.171	-1139.8	-6.141	0.000	6.141	-1.107	-0.001
55.00	-24.785	-18.506	0.000	-0.011	-1.171	-1089.9	-6.614	0.000	6.614	-1.148	-0.001
60.00	-24.402	-17.486	0.000	-0.013	-1.171	-966.06	-7.876	0.000	7.876	-1.257	-0.001
65.00	-24.018	-16.495	0.000	-0.015	-1.172	-844.05	-9.251	0.000	9.251	-1.362	-0.001
70.00	-23.634	-15.535	0.000	-0.017	-1.172	-723.96	-10.733	0.000	10.733	-1.462	-0.001
75.00	-23.250	-14.606	0.001	-0.020	-1.172	-605.80	-12.316	0.000	12.316	-1.555	-0.001
80.00	-22.859	-13.721	0.001	-0.022	-1.172	-489.55	-13.993	0.001	13.993	-1.640	-0.002
81.00	-22.789	-13.536	0.001	-0.023	-1.172	-466.69	-14.338	0.001	14.338	-1.657	-0.002
85.00	-22.492	-12.941	0.001	-0.025	-1.172	-375.53	-15.753	0.001	15.753	-1.716	-0.002
90.00	-16.860	-9.787	0.001	-0.029	-1.172	-263.08	-17.593	0.001	17.593	-1.788	-0.002
95.00	-16.490	-9.138	0.001	-0.032	-1.172	-178.78	-19.498	0.001	19.498	-1.845	-0.002
100.00	-6.558	-4.821	0.000	-0.035	-1.173	-96.332	-21.454	0.001	21.454	-1.884	-0.003
105.00	-6.202	-4.257	0.000	-0.036	-1.173	-63.540	-23.441	0.002	23.441	-1.909	-0.003
110.00	-4.707	-3.244	0.000	0.002	0.000	-32.530	-25.451	0.002	25.451	-1.927	-0.003
115.00	-4.369	-2.734	0.000	0.001	0.000	-8.997	-27.475	0.002	27.475	-1.935	-0.003
117.00	-0.129	-0.185	0.000	0.000	0.000	-0.258	-28.286	0.002	28.286	-1.936	-0.003
119.00	-0.123	0.000	0.000	0.000	0.000	0.000	0.000	0.000	29.096	-1.936	-0.003

Resulting Stresses

Structure: CT13555-S-SBA

Code: EIA/TIA-222-F

12/30/2015

Site Name: Montano

Exposure: C

Height: 119.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

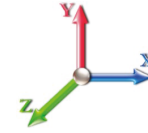
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Load Case: 80 mph Wind with 0" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations: 18

Applied Stresses

Elev (ft)	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fvt Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	fb Combined (ksi)	Fb Allow Stress (ksi)	f/Fb Stress Ratio
0.00	0.42	0.72	0.00	0.01	0.00	26.43	26.89	52.0	0.517
5.00	0.41	0.72	0.00	0.01	0.00	26.12	26.57	52.0	0.511
10.00	0.41	0.73	0.00	0.01	0.00	25.78	26.22	52.0	0.504
15.00	0.40	0.74	0.00	0.01	0.00	25.39	25.82	52.0	0.497
20.00	0.39	0.75	0.00	0.01	0.00	24.95	25.37	52.0	0.488
25.00	0.38	0.76	0.00	0.01	0.00	24.46	24.87	52.0	0.478
30.00	0.37	0.77	0.00	0.01	0.00	23.90	24.31	52.0	0.468
35.00	0.36	0.78	0.00	0.01	0.00	23.28	23.68	52.0	0.455
40.00	0.35	0.79	0.00	0.01	0.00	22.57	22.96	52.0	0.442
45.00	0.34	0.80	0.00	0.01	0.00	21.78	22.16	52.0	0.426
47.00	0.34	0.80	0.00	0.01	0.00	21.43	21.82	52.0	0.420
50.00	0.32	0.81	0.00	0.01	0.00	20.89	21.26	52.0	0.409
53.00	0.35	0.93	0.00	0.01	0.00	22.80	23.21	52.0	0.447
55.00	0.35	0.94	0.00	0.01	0.00	22.32	22.73	52.0	0.437
60.00	0.34	0.95	0.00	0.01	0.00	21.02	21.42	52.0	0.412
65.00	0.33	0.97	0.00	0.01	0.00	19.54	19.94	52.0	0.384
70.00	0.32	0.98	0.00	0.01	0.00	17.87	18.27	52.0	0.351
75.00	0.31	1.00	0.00	0.02	0.00	15.98	16.38	52.0	0.315
80.00	0.30	1.02	0.00	0.02	0.00	13.83	14.24	52.0	0.274
81.00	0.30	1.02	0.00	0.02	0.00	13.37	13.78	52.0	0.265
81.00	0.30	1.02	0.00	0.02	0.00	13.37	13.78	52.0	0.317
85.00	0.35	1.24	0.00	0.02	0.00	13.59	14.12	52.0	0.272
90.00	0.28	0.97	0.00	0.02	0.00	10.25	10.66	52.0	0.205
95.00	0.27	0.98	0.00	0.02	0.00	7.52	7.98	52.0	0.153
100.00	0.15	0.41	0.00	0.03	0.00	4.38	4.59	52.0	0.088
105.00	0.14	0.40	0.00	0.03	0.00	3.14	3.36	52.0	0.065
110.00	0.11	0.32	0.00	0.00	0.00	1.75	1.94	52.0	0.037
115.00	0.10	0.31	0.00	0.00	0.00	0.53	0.82	52.0	0.016
117.00	0.01	0.01	0.00	0.00	0.00	0.02	0.03	52.0	0.001
119.00	0.00	0.01	0.00	0.00	0.00	0.00	0.02	52.0	0.000

Wind Loading - Shaft

Structure: CT13555-S-SBA

Code: EIA/TIA-222-F

12/30/2015



Site Name: Montano

Exposure: C

Height: 119.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

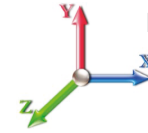
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Load Case: 69.28 mph Wind with 0.5" Ice

Iterations: 17

Dead Load Factor 1.00

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		0.00	1.00	12.287	20.77	339.53	0.650	0.500	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00	12.287	20.77	331.91	0.650	0.500	5.00	24.646	16.02	332.7	178.9	1542.4
10.00		0.00	1.00	12.287	20.77	324.29	0.650	0.500	5.00	24.096	15.66	325.2	174.9	1507.1
15.00		0.00	1.00	12.287	20.77	316.66	0.650	0.500	5.00	23.546	15.30	317.8	170.8	1471.9
20.00		0.00	1.00	12.287	20.77	309.04	0.650	0.500	5.00	22.996	14.95	310.4	166.7	1436.6
25.00		0.00	1.00	12.287	20.77	301.42	0.650	0.500	5.00	22.446	14.59	303.0	162.6	1401.3
30.00		0.00	1.00	12.287	20.77	293.80	0.650	0.500	5.00	21.895	14.23	295.5	158.6	1366.1
35.00		0.00	1.02	12.496	21.12	288.59	0.650	0.500	5.00	21.345	13.87	293.0	154.5	1330.8
40.00		0.00	1.06	12.982	21.94	286.32	0.650	0.500	5.00	20.795	13.52	296.5	150.4	1295.6
45.00		0.00	1.09	13.426	22.69	283.21	0.650	0.500	5.00	20.245	13.16	298.6	146.4	1260.3
47.00	Bot - Section 2	0.00	1.11	13.594	22.97	281.77	0.650	0.500	2.00	7.944	5.16	118.6	57.9	494.7
50.00		0.00	1.13	13.836	23.38	279.42	0.650	0.500	3.00	11.939	7.76	181.5	86.8	1296.2
53.00	Top - Section 1	0.00	1.14	14.068	23.78	276.86	0.650	0.500	3.00	11.741	7.63	181.4	85.3	1273.9
55.00		0.00	1.16	14.218	24.03	279.70	0.650	0.500	2.00	7.717	5.02	120.5	56.2	420.1
60.00		0.00	1.19	14.576	24.63	274.90	0.650	0.500	5.00	18.908	12.29	302.7	136.4	1027.5
65.00		0.00	1.21	14.913	25.20	269.67	0.650	0.500	5.00	18.357	11.93	300.7	132.4	996.7
70.00		0.00	1.24	15.232	25.74	264.05	0.650	0.500	5.00	17.807	11.57	298.0	128.3	965.9
75.00		0.00	1.26	15.536	26.26	258.10	0.650	0.500	5.00	17.257	11.22	294.5	124.2	935.1
80.00		0.00	1.29	15.825	26.74	251.84	0.650	0.500	5.00	16.707	10.86	290.4	120.1	904.3
81.00	Top - Section 2	0.00	1.29	15.881	26.84	250.55	0.650	0.500	1.00	3.275	2.13	57.1	23.9	177.5
85.00		0.00	1.31	16.101	27.21	245.30	0.650	0.500	4.00	12.882	8.37	227.8	92.9	596.9
90.00	Appurtenance(s)	0.00	1.33	16.366	27.66	238.52	0.650	0.500	5.00	15.607	10.14	280.6	112.0	721.9
95.00		0.00	1.35	16.621	28.09	231.50	0.650	0.500	5.00	15.057	9.79	274.9	107.9	695.6
100.00	Appurtenance(s)	0.00	1.37	16.866	28.50	224.27	0.650	0.500	5.00	14.507	9.43	268.8	103.9	669.2
105.00		0.00	1.39	17.103	28.90	216.85	0.650	0.500	5.00	13.957	9.07	262.2	99.8	642.9
110.00	Appurtenance(s)	0.00	1.41	17.332	29.29	209.25	0.650	0.500	5.00	13.407	8.71	255.3	95.7	616.5
115.00		0.00	1.43	17.554	29.67	201.47	0.650	0.500	5.00	12.857	8.36	247.9	91.6	590.2
117.00	Appurtenance(s)	0.00	1.44	17.640	29.81	198.31	0.650	0.500	2.00	4.989	3.24	96.7	36.0	229.2
119.00		0.00	1.44	17.726	29.96	195.13	0.650	0.500	2.00	4.901	3.19	95.4	35.4	225.0
Totals:									119.00			6,927.9		26,091.4

Discrete Appurtenance Forces

Structure: CT13555-S-SB

Code: EIA/TIA-222-F

12/30/2015

Site Name: Montano

Exposure: C

Height: 119.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

Page: 14

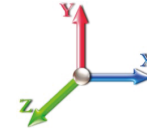


Load Case: 69.28 mph Wind with 0.5" Ice

Iterations: 17

Dead Load Factor 1.00

Wind Load Factor 1.00



No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	117.00	AIR 21 B4A B2P	3	17.640	29.812	0.83	17.42	384.30	0.000	0.000	519.27	0.00	0.00
2	117.00	6' Lightning rod	1	17.640	29.812	1.00	0.98	11.80	0.000	0.000	29.22	0.00	0.00
3	117.00	AIR 21 B2A B4P	3	17.640	29.812	0.83	17.42	387.60	0.000	0.000	519.27	0.00	0.00
4	117.00	S11B12	3	17.640	29.812	0.72	7.56	201.30	0.000	0.000	225.41	0.00	0.00
5	117.00	KRY 112 144/1	3	17.640	29.812	0.75	1.23	42.30	0.000	0.000	36.70	0.00	0.00
6	117.00	LNx-6515DS-A1M	3	17.640	29.812	0.84	31.10	346.80	0.000	0.000	927.06	0.00	0.00
7	117.00	Platform w/ Hand Rail	1	17.640	29.812	1.00	40.00	2200.00	0.000	0.000	1192.48	0.00	0.00
8	110.00	VHLP2.5-18	1	17.332	29.291	1.00	8.92	97.00	2.291	0.000	261.28	598.62	0.00
9	110.00	VHLP2-18	1	17.332	29.291	1.00	5.05	55.00	2.291	0.000	147.92	338.90	0.00
10	110.00	LLPX310R	3	17.332	29.291	0.77	12.38	163.50	0.000	0.000	362.67	0.00	0.00
11	110.00	Flush Mount	1	17.332	29.291	1.00	6.00	450.00	0.000	0.000	175.75	0.00	0.00
12	100.00	RRUS A2	6	16.866	28.504	0.63	9.80	193.86	0.000	0.000	279.43	0.00	0.00
13	100.00	RRUS 12	6	16.866	28.504	0.71	16.62	454.20	0.000	0.000	473.69	0.00	0.00
14	100.00	RRUS 11	12	16.866	28.504	0.71	27.37	822.36	0.000	0.000	780.17	0.00	0.00
15	100.00	Platform w/ Hand Rail	1	16.866	28.504	1.00	40.00	2200.00	0.000	0.000	1140.17	0.00	0.00
16	100.00	IBC700-1	3	16.866	28.504	0.91	8.87	246.66	0.000	0.000	252.96	0.00	0.00
17	100.00	HPA-65R-BUU-H8	12	16.866	28.504	0.78	132.97	1568.16	0.000	0.000	3790.25	0.00	0.00
18	100.00	DC6-48-60-18-8F	4	16.866	28.504	1.00	14.32	223.52	0.000	0.000	408.18	0.00	0.00
19	100.00	RRU-32	3	16.866	28.504	0.85	11.02	301.98	0.000	0.000	314.02	0.00	0.00
20	90.00	HBXX-6517DS-A2M	6	16.366	27.659	0.80	44.47	562.86	0.000	0.000	1230.00	0.00	0.00
21	90.00	B13 RRH4x30	3	16.366	27.659	0.88	7.16	217.35	0.000	0.000	198.11	0.00	0.00
22	90.00	DB-T1-6Z-8AB-OZ	2	16.366	27.659	1.00	11.74	142.12	0.000	0.000	324.72	0.00	0.00
23	90.00	RRH2x60-PCS	3	16.366	27.659	0.79	6.02	203.37	0.000	0.000	166.48	0.00	0.00
24	90.00	LNx-6514DS-A1M	6	16.366	27.659	0.82	43.90	512.46	0.000	0.000	1214.20	0.00	0.00
25	90.00	Low Profile Platform	1	16.366	27.659	1.00	27.00	1800.00	0.000	0.000	746.79	0.00	0.00
26	90.00	RRH2X60-AWS	3	16.366	27.659	0.78	9.51	226.05	0.000	0.000	263.13	0.00	0.00
Totals:								14,014.55			15,979.29		

Total Applied Force Summary

Structure: CT13555-S-SB

Code: EIA/TIA-222-F

12/30/2015

Site Name: Montano

Exposure: C

Height: 119.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

Page: 15

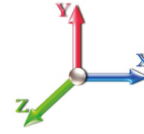


Load Case: 69.28 mph Wind with 0.5" Ice

Iterations: 17

Dead Load Factor 1.00

Wind Load Factor 1.00



Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		332.66	1634.72	0.00	0.00
10.00		325.23	1599.46	0.00	0.00
15.00		317.81	1564.20	0.00	0.00
20.00		310.38	1528.94	0.00	0.00
25.00		302.96	1493.67	0.00	0.00
30.00		295.54	1458.41	0.00	0.00
35.00		293.00	1423.15	0.00	0.00
40.00		296.55	1387.89	0.00	0.00
45.00		298.58	1352.62	0.00	0.00
47.00		118.63	531.66	0.00	0.00
50.00		181.45	1351.57	0.00	0.00
53.00		181.44	1329.25	0.00	0.00
55.00		120.53	457.05	0.00	0.00
60.00		302.74	1119.83	0.00	0.00
65.00		300.73	1089.03	0.00	0.00
70.00		297.97	1058.22	0.00	0.00
75.00		294.51	1027.41	0.00	0.00
80.00		290.43	996.61	0.00	0.00
81.00		57.14	195.95	0.00	0.00
85.00		227.84	670.71	0.00	0.00
90.00	(24) appurtenances	4424.01	4478.48	0.00	0.00
95.00		274.91	754.92	0.00	0.00
100.00	(47) appurtenances	7707.65	6739.31	0.00	0.00
105.00		262.22	673.41	0.00	0.00
110.00	(6) appurtenances	1202.87	1412.56	937.52	0.00
115.00		247.91	611.89	0.00	0.00
117.00	(17) appurtenances	3546.06	3811.96	0.00	0.00
119.00		95.43	224.97	0.00	0.00
Totals:		22,907.18	41,977.86	937.52	0.00

Resulting Forces and Deflections

Structure: CT13555-S-SB
Site Name: Montano
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

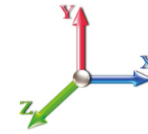
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

12/30/2015
 Page: 16



Load Case: 69.28 mph Wind with 0.5" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 17

Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	Deflect X (in)	Deflect Z (in)	Deflect Resultant (in)	Rotation Sway (deg)	Rotation Twist (deg)
0.00	-22.937	-41.961	0.000	-0.002	-0.936	-2071.9	0.000	0.000	0.000	0.000	0.000
5.00	-22.662	-40.294	0.000	-0.002	-0.936	-1957.2	-0.045	0.000	0.045	-0.082	0.000
10.00	-22.389	-38.662	0.000	-0.002	-0.936	-1843.9	-0.176	0.000	0.176	-0.165	0.000
15.00	-22.120	-37.067	0.000	-0.003	-0.936	-1732.0	-0.394	0.000	0.394	-0.249	0.000
20.00	-21.854	-35.507	0.000	-0.003	-0.936	-1621.4	-0.701	0.000	0.701	-0.333	0.000
25.00	-21.592	-33.984	0.000	-0.003	-0.936	-1512.1	-1.096	0.000	1.096	-0.418	0.000
30.00	-21.333	-32.496	0.000	-0.004	-0.936	-1404.1	-1.580	0.000	1.580	-0.503	0.000
35.00	-21.073	-31.044	0.000	-0.004	-0.936	-1297.5	-2.154	0.000	2.154	-0.589	0.000
40.00	-20.805	-29.629	0.000	-0.005	-0.936	-1192.1	-2.816	0.000	2.816	-0.674	0.000
45.00	-20.519	-28.259	0.000	-0.005	-0.936	-1088.1	-3.568	0.000	3.568	-0.758	0.000
47.00	-20.414	-27.714	0.000	-0.006	-0.936	-1047.0	-3.894	0.000	3.894	-0.793	0.000
50.00	-20.236	-26.347	0.000	-0.006	-0.936	-985.85	-4.409	0.000	4.409	-0.844	-0.001
53.00	-20.053	-25.006	0.000	-0.007	-0.936	-925.14	-4.956	0.000	4.956	-0.894	-0.001
55.00	-19.952	-24.530	0.000	-0.008	-0.936	-885.04	-5.338	0.000	5.338	-0.928	-0.001
60.00	-19.666	-23.385	0.000	-0.009	-0.937	-785.28	-6.358	0.000	6.358	-1.016	-0.001
65.00	-19.377	-22.274	0.000	-0.010	-0.937	-686.96	-7.470	0.000	7.470	-1.102	-0.001
70.00	-19.087	-21.195	0.000	-0.011	-0.937	-590.07	-8.669	0.000	8.669	-1.183	-0.001
75.00	-18.797	-20.151	0.000	-0.013	-0.937	-494.64	-9.951	0.000	9.951	-1.259	-0.001
80.00	-18.497	-19.148	0.000	-0.014	-0.937	-400.66	-11.309	0.000	11.309	-1.329	-0.001
81.00	-18.446	-18.943	0.000	-0.015	-0.937	-382.16	-11.589	0.000	11.589	-1.342	-0.001
85.00	-18.220	-18.260	0.000	-0.017	-0.937	-308.38	-12.735	0.000	12.735	-1.391	-0.001
90.00	-13.699	-13.881	0.000	-0.019	-0.937	-217.28	-14.227	0.001	14.227	-1.450	-0.002
95.00	-13.414	-13.124	0.000	-0.020	-0.937	-148.79	-15.773	0.001	15.773	-1.497	-0.002
100.00	-5.533	-6.588	0.000	-0.022	-0.937	-81.722	-17.361	0.001	17.361	-1.530	-0.002
105.00	-5.255	-5.920	0.000	-0.023	-0.937	-54.055	-18.975	0.001	18.975	-1.551	-0.002
110.00	-4.015	-4.540	0.000	0.001	0.000	-27.780	-20.609	0.001	20.609	-1.566	-0.003
115.00	-3.751	-3.935	0.000	0.000	0.000	-7.705	-22.254	0.001	22.254	-1.574	-0.003
117.00	-0.101	-0.222	0.000	0.000	0.000	-0.203	-22.914	0.002	22.914	-1.574	-0.003
119.00	-0.095	0.000	0.000	0.000	0.000	0.000	0.000	0.000	23.573	-1.574	-0.003

Resulting Stresses

Structure: CT13555-S-SBA

Code: EIA/TIA-222-F

12/30/2015

Site Name: Montano

Exposure: C

Height: 119.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

Page: 17

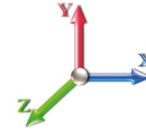


Load Case: 69.28 mph Wind with 0.5" Ice

Iterations: 17

Dead Load Factor 1.00

Wind Load Factor 1.00



Applied Stresses

Elev (ft)	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fvt Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	fb Combined (ksi)	Fb Allow Stress (ksi)	f/Fb Stress Ratio
0.00	0.52	0.57	0.00	0.00	0.00	21.28	21.82	52.0	0.420
5.00	0.51	0.58	0.00	0.01	0.00	21.04	21.57	52.0	0.415
10.00	0.50	0.58	0.00	0.01	0.00	20.78	21.30	52.0	0.410
15.00	0.49	0.59	0.00	0.01	0.00	20.48	21.00	52.0	0.404
20.00	0.48	0.60	0.00	0.01	0.00	20.14	20.65	52.0	0.397
25.00	0.47	0.61	0.00	0.01	0.00	19.76	20.26	52.0	0.390
30.00	0.46	0.61	0.00	0.01	0.00	19.32	19.82	52.0	0.381
35.00	0.46	0.62	0.00	0.01	0.00	18.83	19.32	52.0	0.372
40.00	0.45	0.63	0.00	0.01	0.00	18.28	18.76	52.0	0.361
45.00	0.44	0.64	0.00	0.01	0.00	17.65	18.12	52.0	0.349
47.00	0.43	0.64	0.00	0.01	0.00	17.38	17.85	52.0	0.343
50.00	0.42	0.65	0.00	0.01	0.00	16.94	17.40	52.0	0.335
53.00	0.46	0.75	0.00	0.01	0.00	18.51	19.02	52.0	0.366
55.00	0.46	0.76	0.00	0.01	0.00	18.13	18.64	52.0	0.359
60.00	0.45	0.77	0.00	0.01	0.00	17.08	17.59	52.0	0.338
65.00	0.45	0.78	0.00	0.01	0.00	15.90	16.40	52.0	0.316
70.00	0.44	0.79	0.00	0.01	0.00	14.56	15.07	52.0	0.290
75.00	0.43	0.81	0.00	0.01	0.00	13.04	13.55	52.0	0.261
80.00	0.42	0.82	0.00	0.01	0.00	11.32	11.83	52.0	0.228
81.00	0.42	0.83	0.00	0.01	0.00	10.95	11.46	52.0	0.220
81.00	0.42	0.83	0.00	0.01	0.00	10.95	11.46	52.0	0.263
85.00	0.50	1.01	0.00	0.02	0.00	11.16	11.80	52.0	0.227
90.00	0.39	0.78	0.00	0.02	0.00	8.46	8.97	52.0	0.172
95.00	0.39	0.80	0.00	0.02	0.00	6.25	6.79	52.0	0.131
100.00	0.20	0.34	0.00	0.02	0.00	3.72	3.97	52.0	0.076
105.00	0.19	0.34	0.00	0.02	0.00	2.67	2.93	52.0	0.056
110.00	0.15	0.27	0.00	0.00	0.00	1.50	1.71	52.0	0.033
115.00	0.14	0.26	0.00	0.00	0.00	0.45	0.75	52.0	0.014
117.00	0.01	0.01	0.00	0.00	0.00	0.01	0.02	52.0	0.000
119.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	52.0	0.000

Wind Loading - Shaft

Structure: CT13555-S-SBA

Code: EIA/TIA-222-F

12/30/2015



Site Name: Montano

Exposure: C

Height: 119.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

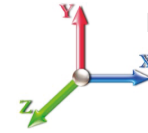
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Load Case: 50 mph Wind with 0" Ice

Iterations: 17

Dead Load Factor 1.00

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		0.00	1.00	6.400	10.82	245.04	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00	6.400	10.82	239.54	0.650	0.000	5.00	24.229	15.75	170.3	0.0	1363.5
10.00		0.00	1.00	6.400	10.82	234.04	0.650	0.000	5.00	23.679	15.39	166.5	0.0	1332.3
15.00		0.00	1.00	6.400	10.82	228.54	0.650	0.000	5.00	23.129	15.03	162.6	0.0	1301.1
20.00		0.00	1.00	6.400	10.82	223.04	0.650	0.000	5.00	22.579	14.68	158.7	0.0	1269.9
25.00		0.00	1.00	6.400	10.82	217.54	0.650	0.000	5.00	22.029	14.32	154.9	0.0	1238.7
30.00		0.00	1.00	6.400	10.82	212.04	0.650	0.000	5.00	21.479	13.96	151.0	0.0	1207.5
35.00		0.00	1.02	6.509	11.00	208.28	0.650	0.000	5.00	20.929	13.60	149.6	0.0	1176.3
40.00		0.00	1.06	6.762	11.43	206.64	0.650	0.000	5.00	20.379	13.25	151.4	0.0	1145.1
45.00		0.00	1.09	6.993	11.82	204.39	0.650	0.000	5.00	19.829	12.89	152.3	0.0	1113.9
47.00	Bot - Section 2	0.00	1.11	7.080	11.97	203.35	0.650	0.000	2.00	7.777	5.06	60.5	0.0	436.8
50.00		0.00	1.13	7.207	12.18	201.66	0.650	0.000	3.00	11.689	7.60	92.5	0.0	1209.4
53.00	Top - Section 1	0.00	1.14	7.328	12.38	199.81	0.650	0.000	3.00	11.491	7.47	92.5	0.0	1188.6
55.00		0.00	1.16	7.406	12.52	201.87	0.650	0.000	2.00	7.550	4.91	61.4	0.0	363.9
60.00		0.00	1.19	7.592	12.83	198.40	0.650	0.000	5.00	18.491	12.02	154.2	0.0	891.1
65.00		0.00	1.21	7.768	13.13	194.62	0.650	0.000	5.00	17.941	11.66	153.1	0.0	864.3
70.00		0.00	1.24	7.934	13.41	190.57	0.650	0.000	5.00	17.391	11.30	151.6	0.0	837.6
75.00		0.00	1.26	8.092	13.68	186.27	0.650	0.000	5.00	16.841	10.95	149.7	0.0	810.9
80.00		0.00	1.29	8.242	13.93	181.75	0.650	0.000	5.00	16.291	10.59	147.5	0.0	784.1
81.00	Top - Section 2	0.00	1.29	8.272	13.98	180.82	0.650	0.000	1.00	3.192	2.07	29.0	0.0	153.6
85.00		0.00	1.31	8.387	14.17	177.04	0.650	0.000	4.00	12.548	8.16	115.6	0.0	504.0
90.00	Appurtenance(s)	0.00	1.33	8.525	14.41	172.14	0.650	0.000	5.00	15.190	9.87	142.2	0.0	609.9
95.00		0.00	1.35	8.657	14.63	167.08	0.650	0.000	5.00	14.640	9.52	139.2	0.0	587.7
100.00	Appurtenance(s)	0.00	1.37	8.785	14.85	161.86	0.650	0.000	5.00	14.090	9.16	136.0	0.0	565.4
105.00		0.00	1.39	8.908	15.06	156.50	0.650	0.000	5.00	13.540	8.80	132.5	0.0	543.1
110.00	Appurtenance(s)	0.00	1.41	9.028	15.26	151.01	0.650	0.000	5.00	12.990	8.44	128.8	0.0	520.8
115.00		0.00	1.43	9.143	15.45	145.40	0.650	0.000	5.00	12.440	8.09	124.9	0.0	498.6
117.00	Appurtenance(s)	0.00	1.44	9.188	15.53	143.12	0.650	0.000	2.00	4.822	3.13	48.7	0.0	193.2
119.00		0.00	1.44	9.233	15.60	140.83	0.650	0.000	2.00	4.734	3.08	48.0	0.0	189.6
Totals:									119.00			3,525.4		22,901.0

Discrete Appurtenance Forces

Structure: CT13555-S-SB
Site Name: Montano
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

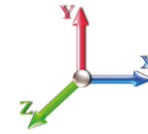
12/30/2015

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Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 17

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	117.00	AIR 21 B4A B2P	3	9.188	15.528	0.83	16.16	270.90	0.000	0.000	250.88	0.00	0.00
2	117.00	6' Lightning rod	1	9.188	15.528	1.00	0.38	6.50	0.000	0.000	5.90	0.00	0.00
3	117.00	AIR 21 B2A B4P	3	9.188	15.528	0.83	16.16	274.50	0.000	0.000	250.88	0.00	0.00
4	117.00	S11B12	3	9.188	15.528	0.71	7.01	153.00	0.000	0.000	108.86	0.00	0.00
5	117.00	KRY 112 144/1	3	9.188	15.528	0.72	0.89	33.00	0.000	0.000	13.77	0.00	0.00
6	117.00	LNx-6515DS-A1M	3	9.188	15.528	0.84	28.72	150.90	0.000	0.000	445.91	0.00	0.00
7	117.00	Platform w/ Hand Rail	1	9.188	15.528	1.00	32.00	1600.00	0.000	0.000	496.90	0.00	0.00
8	110.00	VHLP2.5-18	1	9.028	15.257	1.00	8.43	47.60	2.291	0.000	128.61	294.67	0.00
9	110.00	VHLP2-18	1	9.028	15.257	1.00	4.68	27.00	2.291	0.000	71.40	163.59	0.00
10	110.00	LLPX310R	3	9.028	15.257	0.75	10.87	85.80	0.000	0.000	165.80	0.00	0.00
11	110.00	Flush Mount	1	9.028	15.257	1.00	5.00	350.00	0.000	0.000	76.28	0.00	0.00
12	100.00	RRUS A2	6	8.785	14.847	0.61	8.92	132.00	0.000	0.000	132.48	0.00	0.00
13	100.00	RRUS 12	6	8.785	14.847	0.70	15.48	348.00	0.000	0.000	229.83	0.00	0.00
14	100.00	RRUS 11	12	8.785	14.847	0.70	25.30	648.00	0.000	0.000	375.56	0.00	0.00
15	100.00	Platform w/ Hand Rail	1	8.785	14.847	1.00	40.00	1600.00	0.000	0.000	593.87	0.00	0.00
16	100.00	IBC700-1	3	8.785	14.847	0.91	8.26	189.90	0.000	0.000	122.68	0.00	0.00
17	100.00	HPA-65R-BUU-H8	12	8.785	14.847	0.78	126.76	729.60	0.000	0.000	1881.97	0.00	0.00
18	100.00	DC6-48-60-18-8F	4	8.785	14.847	1.00	13.36	131.20	0.000	0.000	198.35	0.00	0.00
19	100.00	RRU-32	3	8.785	14.847	0.85	10.30	231.00	0.000	0.000	152.97	0.00	0.00
20	90.00	HBXX-6517DS-A2M	6	8.525	14.407	0.80	41.95	282.00	0.000	0.000	604.38	0.00	0.00
21	90.00	B13 RRH4x30	3	8.525	14.407	0.88	6.62	171.60	0.000	0.000	95.30	0.00	0.00
22	90.00	DB-T1-6Z-8AB-OZ	2	8.525	14.407	1.00	11.20	88.00	0.000	0.000	161.35	0.00	0.00
23	90.00	RRH2x60-PCS	3	8.525	14.407	0.78	5.52	165.00	0.000	0.000	79.53	0.00	0.00
24	90.00	LNx-6514DS-A1M	6	8.525	14.407	0.82	41.43	232.80	0.000	0.000	596.83	0.00	0.00
25	90.00	Low Profile Platform	1	8.525	14.407	1.00	25.00	1500.00	0.000	0.000	360.16	0.00	0.00
26	90.00	RRH2X60-AWS	3	8.525	14.407	0.77	8.74	165.00	0.000	0.000	125.96	0.00	0.00
Totals:								9,613.30			7,726.42		

Total Applied Force Summary

Structure: CT13555-S-SB

Code: EIA/TIA-222-F

12/30/2015

Site Name: Montano

Exposure: C

Height: 119.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

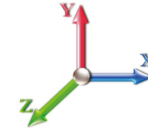
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Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations: 17

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		170.34	1455.78	0.00	0.00
10.00		166.47	1424.60	0.00	0.00
15.00		162.61	1393.41	0.00	0.00
20.00		158.74	1362.22	0.00	0.00
25.00		154.87	1331.03	0.00	0.00
30.00		151.00	1299.84	0.00	0.00
35.00		149.63	1268.65	0.00	0.00
40.00		151.37	1237.46	0.00	0.00
45.00		152.32	1206.27	0.00	0.00
47.00		60.49	473.78	0.00	0.00
50.00		92.53	1264.82	0.00	0.00
53.00		92.49	1243.97	0.00	0.00
55.00		61.42	400.84	0.00	0.00
60.00		154.21	983.39	0.00	0.00
65.00		153.09	956.66	0.00	0.00
70.00		151.57	929.92	0.00	0.00
75.00		149.70	903.19	0.00	0.00
80.00		147.50	876.46	0.00	0.00
81.00		29.01	172.08	0.00	0.00
85.00		115.60	577.85	0.00	0.00
90.00	(24) appurtenances	2165.76	3306.67	0.00	0.00
95.00		139.23	646.99	0.00	0.00
100.00	(47) appurtenances	3823.69	4634.41	0.00	0.00
105.00		132.50	573.63	0.00	0.00
110.00	(6) appurtenances	570.92	1061.75	458.26	0.00
115.00		124.94	520.25	0.00	0.00
117.00	(17) appurtenances	1621.77	2690.66	0.00	0.00
119.00		48.01	189.62	0.00	0.00
Totals:		11,251.80	34,386.19	458.26	0.00

Resulting Forces and Deflections

Structure: CT13555-S-SB
Site Name: Montano
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

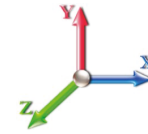
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

12/30/2015
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Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 17

Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	Deflect X (in)	Deflect Z (in)	Deflect Resultant (in)	Rotation Sway (deg)	Rotation Twist (deg)
0.00	-11.264	-34.382	0.000	0.000	-0.458	-1005.6	0.000	0.000	0.000	0.000	0.000
5.00	-11.116	-32.919	0.000	0.000	-0.458	-949.36	-0.022	0.000	0.022	-0.040	0.000
10.00	-10.970	-31.486	0.000	0.000	-0.458	-893.78	-0.085	0.000	0.085	-0.080	0.000
15.00	-10.826	-30.086	0.000	-0.001	-0.458	-838.93	-0.191	0.000	0.191	-0.121	0.000
20.00	-10.685	-28.716	0.000	-0.001	-0.458	-784.80	-0.340	0.000	0.340	-0.162	0.000
25.00	-10.545	-27.378	0.000	-0.001	-0.458	-731.37	-0.531	0.000	0.531	-0.203	0.000
30.00	-10.408	-26.071	0.000	-0.001	-0.458	-678.65	-0.766	0.000	0.766	-0.244	0.000
35.00	-10.270	-24.796	0.000	-0.001	-0.458	-626.61	-1.044	0.000	1.044	-0.285	0.000
40.00	-10.129	-23.552	0.000	-0.001	-0.458	-575.25	-1.365	0.000	1.365	-0.326	0.000
45.00	-9.981	-22.342	0.000	-0.001	-0.458	-524.61	-1.728	0.000	1.728	-0.367	0.000
47.00	-9.925	-21.865	0.000	-0.001	-0.458	-504.65	-1.886	0.000	1.886	-0.384	0.000
50.00	-9.833	-20.597	0.000	-0.001	-0.458	-474.87	-2.135	0.000	2.135	-0.408	0.000
53.00	-9.738	-19.350	0.000	-0.002	-0.458	-445.38	-2.399	0.000	2.399	-0.432	0.000
55.00	-9.683	-18.945	0.000	-0.002	-0.458	-425.90	-2.584	0.000	2.584	-0.448	0.000
60.00	-9.534	-17.956	0.000	-0.002	-0.458	-377.48	-3.077	0.000	3.077	-0.491	0.000
65.00	-9.384	-16.994	0.000	-0.002	-0.458	-329.82	-3.614	0.000	3.614	-0.532	0.000
70.00	-9.234	-16.059	0.000	-0.003	-0.458	-282.89	-4.194	0.000	4.194	-0.571	0.000
75.00	-9.085	-15.152	0.000	-0.003	-0.458	-236.72	-4.812	0.000	4.812	-0.608	-0.001
80.00	-8.932	-14.274	0.000	-0.003	-0.458	-191.30	-5.467	0.000	5.467	-0.641	-0.001
81.00	-8.905	-14.100	0.000	-0.003	-0.458	-182.37	-5.602	0.000	5.602	-0.647	-0.001
85.00	-8.789	-13.520	0.000	-0.004	-0.458	-146.75	-6.155	0.000	6.155	-0.670	-0.001
90.00	-6.588	-10.236	0.000	-0.004	-0.458	-102.80	-6.874	0.000	6.874	-0.699	-0.001
95.00	-6.444	-9.589	0.000	-0.005	-0.458	-69.866	-7.619	0.000	7.619	-0.721	-0.001
100.00	-2.563	-5.003	0.000	-0.005	-0.458	-37.645	-8.383	0.000	8.383	-0.736	-0.001
105.00	-2.424	-4.431	0.000	-0.005	-0.458	-24.831	-9.160	0.000	9.160	-0.746	-0.001
110.00	-1.839	-3.377	0.000	0.000	0.000	-12.712	-9.945	0.000	9.945	-0.753	-0.001
115.00	-1.708	-2.858	0.000	0.000	0.000	-3.516	-10.736	0.000	10.736	-0.756	-0.001
117.00	-0.050	-0.189	0.000	0.000	0.000	-0.101	-11.053	0.000	11.053	-0.757	-0.001
119.00	-0.048	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11.370	-0.757	-0.001

Resulting Stresses

Structure: CT13555-S-SBA

Code: EIA/TIA-222-F

12/30/2015



Site Name: Montano

Exposure: C

Height: 119.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

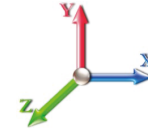
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Tower Engineering Solutions

Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations: 17

Applied Stresses

Elev (ft)	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fv _t Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	fb Combined (ksi)	Fb Allow Stress (ksi)	f/Fb Stress Ratio
0.00	0.42	0.28	0.00	0.00	0.00	10.33	10.76	52.0	0.207
5.00	0.42	0.28	0.00	0.00	0.00	10.21	10.63	52.0	0.205
10.00	0.41	0.29	0.00	0.00	0.00	10.07	10.49	52.0	0.202
15.00	0.40	0.29	0.00	0.00	0.00	9.92	10.33	52.0	0.199
20.00	0.39	0.29	0.00	0.00	0.00	9.75	10.15	52.0	0.195
25.00	0.38	0.30	0.00	0.00	0.00	9.56	9.95	52.0	0.191
30.00	0.37	0.30	0.00	0.00	0.00	9.34	9.73	52.0	0.187
35.00	0.36	0.30	0.00	0.00	0.00	9.10	9.47	52.0	0.182
40.00	0.35	0.31	0.00	0.00	0.00	8.82	9.19	52.0	0.177
45.00	0.35	0.31	0.00	0.00	0.00	8.51	8.87	52.0	0.171
47.00	0.34	0.31	0.00	0.00	0.00	8.37	8.73	52.0	0.168
50.00	0.33	0.32	0.00	0.00	0.00	8.16	8.51	52.0	0.164
53.00	0.36	0.36	0.00	0.00	0.00	8.91	9.29	52.0	0.179
55.00	0.36	0.37	0.00	0.00	0.00	8.72	9.10	52.0	0.175
60.00	0.35	0.37	0.00	0.00	0.00	8.21	8.58	52.0	0.165
65.00	0.34	0.38	0.00	0.01	0.00	7.63	8.00	52.0	0.154
70.00	0.33	0.38	0.00	0.01	0.00	6.98	7.34	52.0	0.141
75.00	0.32	0.39	0.00	0.01	0.00	6.24	6.60	52.0	0.127
80.00	0.32	0.40	0.00	0.01	0.00	5.40	5.76	52.0	0.111
81.00	0.31	0.40	0.00	0.01	0.00	5.22	5.58	52.0	0.107
81.00	0.31	0.40	0.00	0.01	0.00	5.22	5.58	52.0	0.128
85.00	0.37	0.49	0.00	0.01	0.00	5.31	5.75	52.0	0.111
90.00	0.29	0.38	0.00	0.01	0.00	4.00	4.35	52.0	0.084
95.00	0.28	0.38	0.00	0.01	0.00	2.94	3.29	52.0	0.063
100.00	0.15	0.16	0.00	0.01	0.00	1.71	1.89	52.0	0.036
105.00	0.14	0.16	0.00	0.01	0.00	1.23	1.40	52.0	0.027
110.00	0.11	0.12	0.00	0.00	0.00	0.68	0.83	52.0	0.016
115.00	0.10	0.12	0.00	0.00	0.00	0.21	0.37	52.0	0.007
117.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01	52.0	0.000
119.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	52.0	0.000

Final Analysis Summary

Structure: CT13555-S-SBA

Code: EIA/TIA-222-F

12/30/2015

Site Name: Montano

Exposure: C

Height: 119.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

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Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
80 mph Wind with 0" Ice	28.8	0.00	34.36	0.00	1.17	2574.19
69.28 mph Wind with 0.5" Ice	22.9	0.00	41.96	0.00	0.94	2071.95
50 mph Wind with 0" Ice	11.3	0.00	34.38	0.00	0.46	1005.68

.....

Load Case	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fvz Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	Combined Stress (ksi)	Allowable Stress (ksi)	Elev (ft)	Stress Ratio
80 mph Wind with 0" Ice	0.42	0.72	0.00	0.01	0.00	26.43	26.89	52.0	0.00	0.517
69.28 mph Wind with 0.5" Ice	0.52	0.57	0.00	0.00	0.00	21.28	21.82	52.0	0.00	0.420
50 mph Wind with 0" Ice	0.42	0.28	0.00	0.00	0.00	10.33	10.76	52.0	0.00	0.207



Monopole Mat Foundation Design

Date
12/30/2015

Customer Name:	AT&T	EIA/TIA Standard:	EIA-222-F
Site Name:	Montano	Structure Height (Ft.):	119
Site Nmbre:	CT13555-S-SBA	Engineer Name:	J. Tibbetts
Engr. Number:	19665	Engineer Login ID:	

Foundation Info Obtained from:

Structure Type:

Analysis or Design?

Base Reactions (Unfactored)

Axial Load (Kips):	34.4	Shear Force (Kips):	28.8
Uplift Force (Kips):	0.0	Moment (Kips-ft):	2574.2

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	6.0
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	2.00
Length of Pad (ft.):	26.5	Width of Pad (ft.):	26.5

Final Length of pad (ft)	26.5	Final width of pad (ft):	26.5
Control Value for Cell D18:	0	Control Value for Cell F18:	0

Material Properties and Rebar Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	36	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

Qty. of Rebar in Pad (L):	45	Qty. of Rebar in Pad (W):	45
---------------------------	----	---------------------------	----

Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	45	Qty. of Rebar in Pad (W):	45
---------------------------	----	---------------------------	----

Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

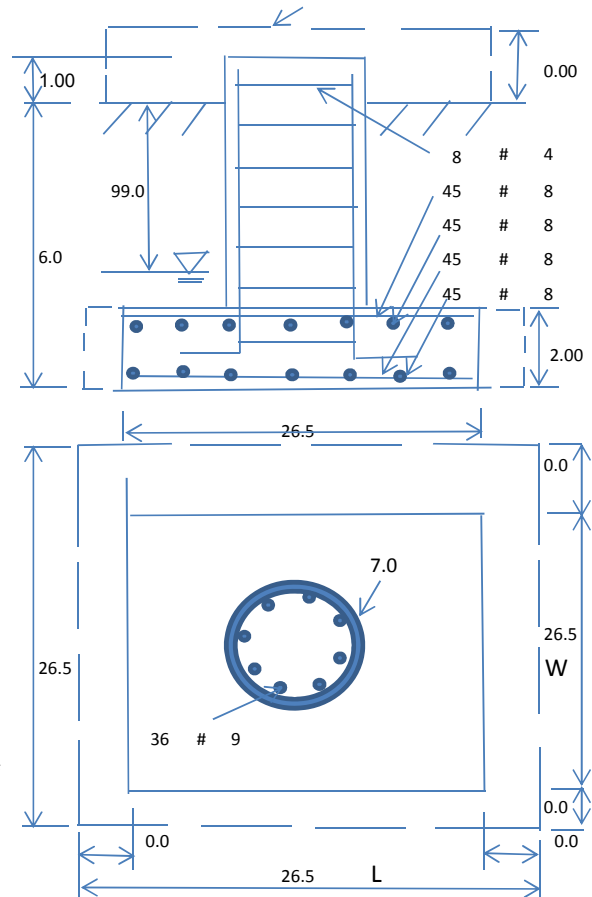
Soil Unit Weight (pcf):	110.0	Soil Buoyant Weight:	50.0	Pcf	
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:
Allowable Net Soil Bearing (psf):	3500	Allowable Skin Friction:	1200	Psf	Angle from Bottm of Pad:
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:
Consider soil hori. force for O.T.M.:	No	Reduction factor on the maximum soil bearing pressure:	1.00		

Foundation Analysis and Design:

Total Dry Soil Volume (cu. Ft.):	2655.06	Total Dry Soil Weight (Kips):	292.06
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	292.06	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1596.92	Total Dry Concrete Weight (Kips):	239.54
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	239.54	Total Vertical Load on Base (Kips):	565.96

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	1460	<	Allowable Soil Bearing (psf):	3500	0.42	OK!
Allowable Foundation Overturning Resistance (SF=1.5, kips-ft.):	4999.3	>	Applied Momont (kips-ft):	2776	0.56	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	2.70					OK!



Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):

0.90

Strength reduction factor (Shear):

0.75

Strength reduction factor (Axial compression):

0.65

Wind Load Factor on Concrete Design:

1.30

Load/
Capacity
Ratio**(1) Concrete Pier:**

Vertical Steel Rebar Area (sq. in./each):

1.00

Tie / Stirrup Area (sq. in./each):

0.20

Calculated Moment Capacity (Mn,Kips-Ft):

6090.2

>

Design Factored Moment (Mu, Kips-Ft):

3533.7

0.58

OK!

Calculated Shear Capacity (Kips):

660.1

>

Design Factored Shear (Kips):

37.4

0.06

OK!

Calculated Tension Capacity (Tn, Kips):

1944.0

>

Design Factored Tension (Tu Kips):

0.0

0.00

OK!

Calculated Compression Capacity (Pn, Kips):

9734.2

>

Design Factored Axial Load (Pu Kips):

44.7

0.00

OK!

Moment & Axial Strength Combination(Pu/Pn+Mu/Mn):

0.58

OK!

Check Tie Spacing (Design/Required):

1

OK!

Pier Reinforcement Ratio:

0.006

>

Reinforcement Ratio is satisfied per ACI

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):

618.4

>

One-Way Factored Shear (L-D. Kips):

214.3

0.35

OK!

One-Way Design Shear Capacity (W-Direction, Kips):

618.4

>

One-Way Factored Shear (W-D., Kips)

214.3

0.35

OK!

One-Way Design Shear Capacity (Corner-Corner. Kips):

711.3

>

One-Way Factored Shear (C-C, Kips):

278.0

0.39

OK!

Lower Steel Pad Reinforcement Ratio (L-Direct.):

0.0055

OK!

Lower Steel Pad Reinf. Ratio (W-Direct

0.0055

Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):

3121.7

>

Moment at Bottom (L-Direct. K-Ft):

662.7

0.21

OK!

Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):

3121.7

>

Moment at Bottom (W-Direct. K-Ft):

662.7

0.21

OK!

Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):

4363.5

>

Moment at Bottom (C-C Dir. K-Ft):

937.2

0.21

OK!

Upper Steel Pad Reinforcement Ratio (L-Direct.):

0.0055

OK!

Upper Steel Reinf. Ratio (W-Direct.):

0.0055

Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):

3121.7

>

Moment at the top (L-Dir Kips-Ft):

505.3

0.16

OK!

Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):

3121.7

>

Moment at the top (W-Dir Kips-Ft):

505.3

0.16

OK!

Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):

4363.5

>

Moment at the top (C-C Direc. K-Ft):

630.0

0.14

OK!

	Pier Foundation Design For Monopole			Date
				12/30/2015
	Customer Name:	AT&T	EIA/TIA Standard:	EIA-222-F
	Site Name:	Montano	Structure Height (Ft.):	119
	Site Number:	CT13555-S-SBA	Engineer Name:	J. Tibbetts
	Engr. Number:	19665	Engineer Login ID:	

Foundation Info Obtained from:

Structure Type:

Analysis or Design?

Base Reactions (Unfactored)

Axial Load (Kips):	34.4	Shear Force (Kips):	28.8
Uplift Force (Kips):	0.0	Moment (Kips-ft):	2574.2

Foundation Geometries:

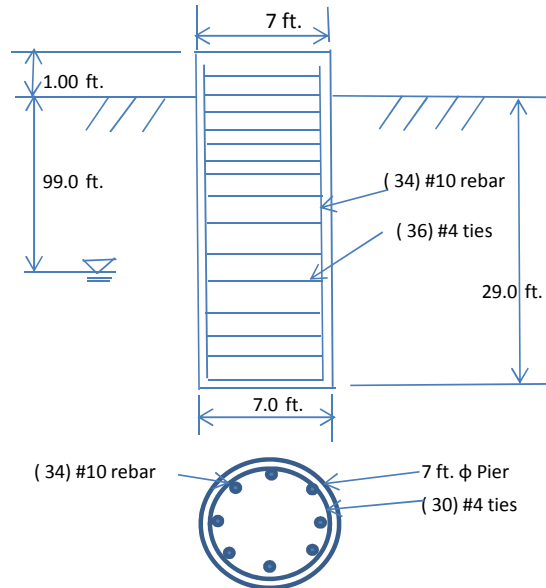
Moderators required -Yes/No ?:	No		ft.
Diameter of Pier (ft.):	7.0	Depth of Base B. G. S. :	29.0 ft.
Pier Height A. G. (ft.):	1.00		

Material Properties and Rebar Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi):	60	Tie steel yield strength:	60	ksi
Vertical Rebar Size #:	10	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	34	Tie Spacing:	12.0	in.
Concrete Cover (in.):	3	Concrete unit weight:	150.0	pcf

Soil Design Parameters:

Water Table B.G.S. (ft):	99.0	Unit weight of water:	62.4	psf
Ratio of Uplift/Axial Skin Friction:	1.0	Pullout failure Angle:	30	(°)
Skin Frictions are to be obtained from:		Soil Report		



Monopole Pier Foundation

Depth of Layers (ft)		γ_{soil} (pcf)	ϕ (°)	Cohesion (psf)	Allowable Skin Friction (psf)	Allowable Bearing (psf)	Soil Types						
Top	Bottom												
0.0	3.0	100	0	0	0	0	Sand						
3.0	25.0	110	33	0	500	3000	Sand						
25.0	50.0	105	30	0	800	4000	Sand						
50.0	55.0	100	30	0	800	4000	Sand						

Soil weight Increase Factor for bouyant soils (1.0 to 1.15):

1.1

Foundation Analysis and Design:

Total Dry Soil Volume from Conical Failure (cu. Ft.):	13814	Dry Soil Weight from Conical Failure:	1468	Kips
Total Buoyant Soil Volume from Conical Failure (cu. Ft.):	0	Buoyant Soil Weight from Conical Failure (K	0	Kips
Total Dry Concrete Volume (cu. Ft.):	1155	Total Dry Concrete Weight:	173.2	Kips
Total Buoyant Concrete Volume (cu. Ft.):	0.0	Total Buoyant Concrete Weight:	0.00	Kips
Total Effective Concrete Weight (Kips):	173.2	Total Effective Soil Weight:	1468.0	Kips
Total Effective Vertical Load on Base (Kips):	88.9			

Check Soil Capacities:

Allowable Foundation Overturning Resistance (kips-ft.):	7165.5	>	Applied Moment (kips-ft):	3163	Usage	0.44	OK!
Factor of Safety of Passive Soil Resistance against Moment:	4.53	OK!					

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75				
Strength reduction factor (Axial compresion):	0.65	Wind Load Factor on Concrete Design:	1.30				
Reinforcing Concrete Pier:					Usage		
Vertical Steel Rebar Area (sq. in./each):	1.27	Tie / Stirrup Area (sq. in./each):	0.20				
Calculated Moment Capacity (Mn,Kips-Ft):	7293	>	Design Factored Moment (Mu, K-Ft):	3514.5	0.48	OK!	
Calculated Shear Capacity (Kips):	1120.9	>	Design Factored Shear (Kips):	319.2	0.28	OK!	
Calculated Tension Capacity (Tn, Kips):	2331.7	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!	
Calculated Compression Capacity (Pn, Kips):	9722	>	Design Factored Axial Load (Pu Kips):	44.7	0.00	OK!	
Moment & Axial Strength Combination(Tu/Tn+Mu/Mn):	0.49	OK!	Max. Allowable Tie/Stirrup Spacing:	12.00	in.		
Pier Reinforcement Ratio:	0.008	Reinforcement Ratio is satisfied per ACI					



SITE SAFE
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**SmartLink, LLC on behalf of
AT&T Mobility, LLC
Site FA – 10577834
Site ID – CT1809 (2C)
USID – 155250
Site Name – Glastonbury
Montano RD
Site Compliance Report**

**58A Montano Road
Glastonbury, CT 06033**

Latitude: N41-41-58.00
Longitude: W72-33-50.40
Structure Type: Monopole

Report generated date: February 24, 2016
Report by: Young Kim
Customer Contact: Kristen Smith

**AT&T Mobility, LLC will be compliant when the
remediation recommended in section 5.2 or
other appropriate remediation is implemented.**

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**Klaus Bender
Registered Professional Engineer (Electrical)
Expires December 31, 2018**

Klaus Bender

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1 General Site Summary

1.1 Report Summary

AT&T Mobility, LLC	Summary
Access to Antennas Locked?	No
RF Sign(s) @ access point(s)	None
RF Sign(s) @ antennas	None
Barrier(s) @ sectors	None
Max cumulative simulated Radio Frequency Exposure (RFE) level on Ground Level	<5% of General Public limit
FCC & AT&T Compliant?	Will Be Compliant

Note: Data concerning all other carriers on site was unavailable and therefore not included.

The following documents were provided by the client and were utilized to create this report:

RFDS: NEW-ENGLAND_CONNECTICUT_CTL01809_2016-LTE-Next-Carrier_LTE-2C_cb6561_PTN_10577834_155250_09-15-2015_Preliminary-Approved_v1.00

CD's: 10577834_AE201_160203_CTL01809_REV0

RF Configuration Datasheet: CT_33 sites with power density form

2 Map of Site

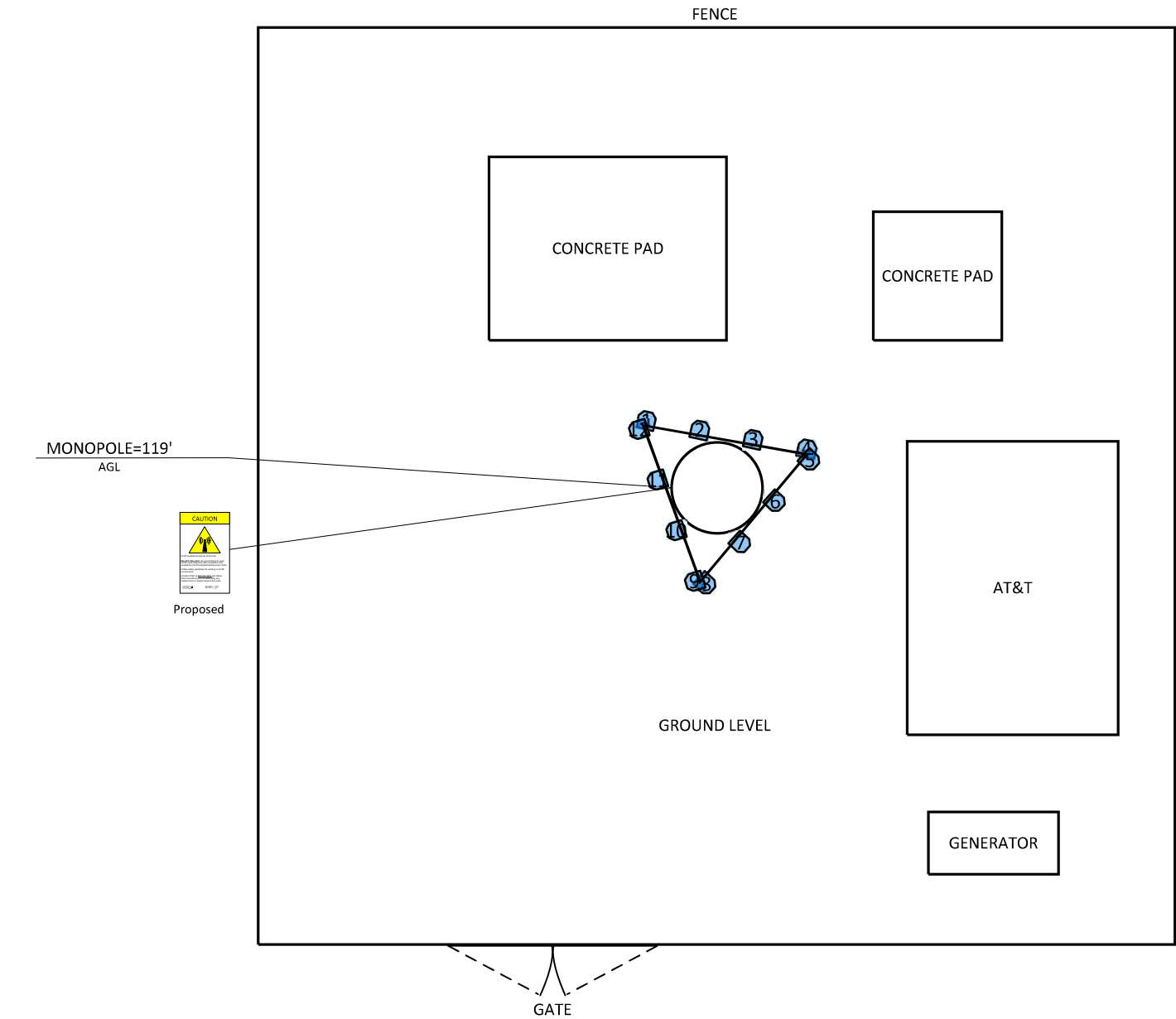
In the RF Emissions Simulations below all heights are reflected with respect to main site level. In most rooftop cases this is the height of the main rooftop and in other cases this can be ground level. Each different height area, rooftop, or platform level is labeled with its height relative to the main site level. Emissions are calculated appropriately based on the relative height and location of that area to all antennas.

The Antenna Inventory heights are referenced to the same level.

The following diagrams are included:

- Site Map
- RF Emissions Diagram
- Elevation View

Site Map For: Glastonbury Montano RD



AT&T MOBILITY LLC	VERIZON WIRELESS	T-MOBILE	METROPCS	CRICKET COMMUNICATIONS	CLEARWIRE	SPRINT

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3 Antenna Inventory

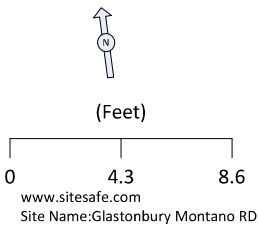
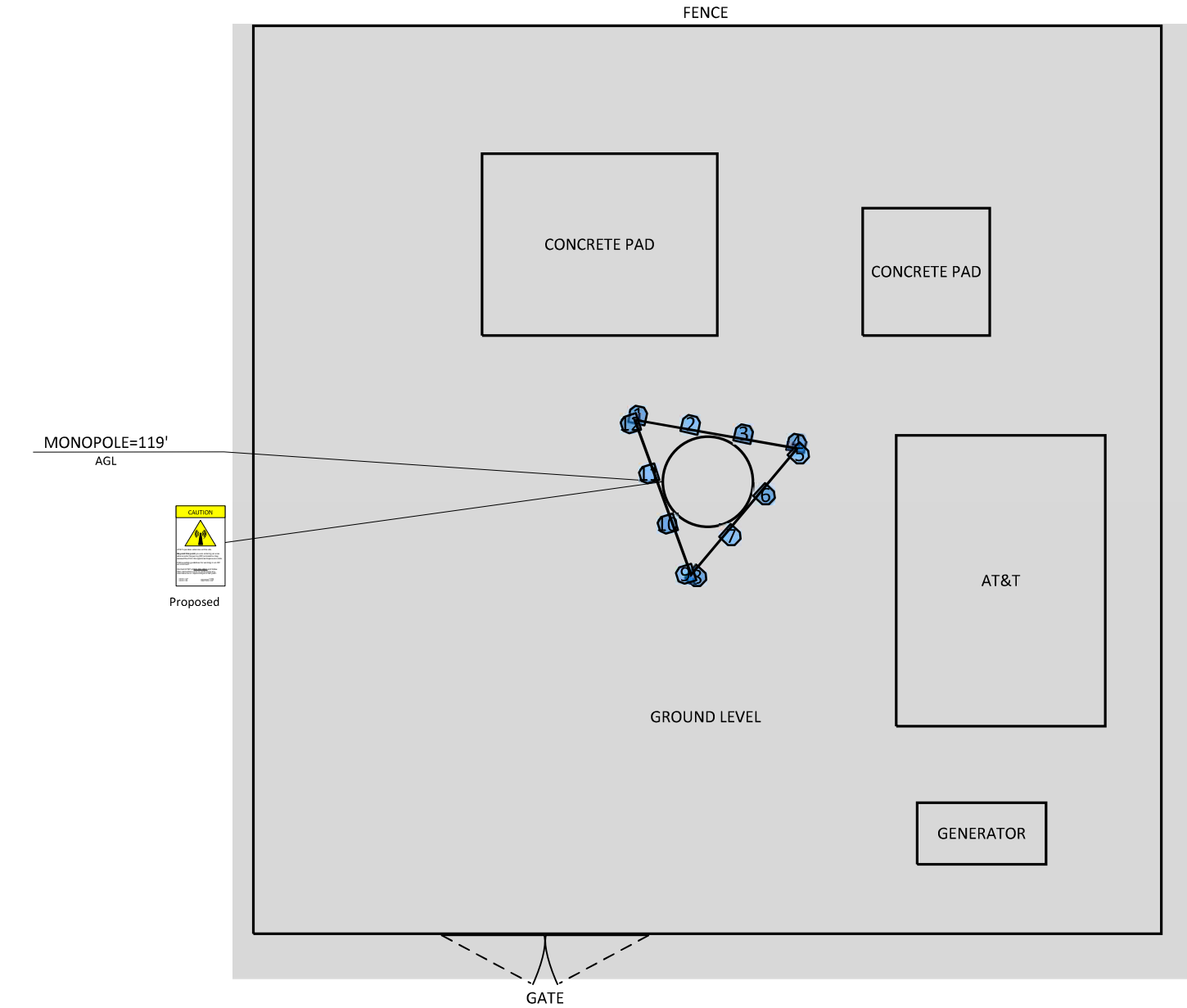
The following antenna inventory, on this and the following page, were obtained by the customer and utilized to create the site model diagrams:

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Ant Gain (dBd)	2G GSM Radio(s)	3G UMTS Radio(s)	4G Radio(s)	Total ERP (Watts)	X	Y	Z (AGL)
1	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	850	20	58.1	7.7	14.46	0	1	0	487.7	34.8'	53.5'	96.2'
1	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	1900	20	63.1	7.7	14.76	0	1	0	803.8	34.8'	53.5'	96.2'
2	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	737	20	64.9	7.7	13.26	0	0	1	637	37.7'	53'	96.2'
2	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	2300	20	63.3	7.7	15.26	0	0	1	783.7	37.7'	53'	96.2'
3	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	850	20	58.1	7.7	14.46	0	0	1	609.8	40.6'	52.5'	96.2'
4	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	737	20	64.9	7.7	13.26	0	0	1	637	43.5'	52'	96.2'
4	AT&T MOBILITY LLC (Proposed)	CCI Antennas HPA-65R-BUU-H8	Panel	1900	20	63.1	7.7	14.76	0	0	1	2061.4	43.5'	52'	96.2'
5	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	850	140	58.1	7.7	14.46	0	1	0	487.7	43.7'	51.4'	96.2'
5	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	1900	140	63.1	7.7	14.76	0	1	0	803.8	43.7'	51.4'	96.2'
6	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	737	140	64.9	7.7	13.26	0	0	1	637	41.8'	49.1'	96.2'
6	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	2300	140	63.3	7.7	15.26	0	0	1	783.7	41.8'	49.1'	96.2'
7	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	850	140	58.1	7.7	14.46	0	0	1	609.8	39.9'	46.9'	96.2'
8	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	737	140	64.9	7.7	13.26	0	0	1	637	38'	44.6'	96.2'
8	AT&T MOBILITY LLC (Proposed)	CCI Antennas HPA-65R-BUU-H8	Panel	1900	140	63.1	7.7	14.76	0	0	1	2061.4	38'	44.6'	96.2'
9	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	850	260	58.1	7.7	14.46	0	1	0	487.7	37.4'	44.8'	96.2'
9	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	1900	260	63.1	7.7	14.76	0	1	0	803.8	37.4'	44.8'	96.2'
10	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	737	260	64.9	7.7	13.26	0	0	1	637	36.4'	47.5'	96.2'
10	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	2300	260	63.3	7.7	15.26	0	0	1	783.7	36.4'	47.5'	96.2'
11	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	850	260	58.1	7.7	14.46	0	0	1	609.8	35.4'	50.3'	96.2'
12	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	737	260	64.9	7.7	13.26	0	0	1	637	34.4'	53'	96.2'
12	AT&T MOBILITY LLC (Proposed)	CCI Antennas HPA-65R-BUU-H8	Panel	1900	260	63.1	7.7	14.76	0	0	1	2061.4	34.4'	53'	96.2'

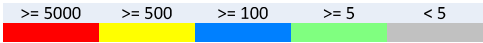
NOTE: X, Y and Z indicate relative position of the bottom of the antenna to the origin location on the site, displayed in the model results diagram. Specifically, the Z reference indicates the bottom of the antenna height **above ground level (AGL)**. The distance to the bottom of the antenna is calculated by subtracting half of the length of the antenna from the antenna centerline. Effective Radiated Power (ERP) is provided by the operator or based on Sitesafe experience. The values used in the modeling may be greater than are currently deployed.

Note: The 1900MHz LTE technology is being added to an existing antenna.

RF Emissions Simulation For: Glastonbury Montano RD



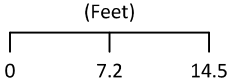
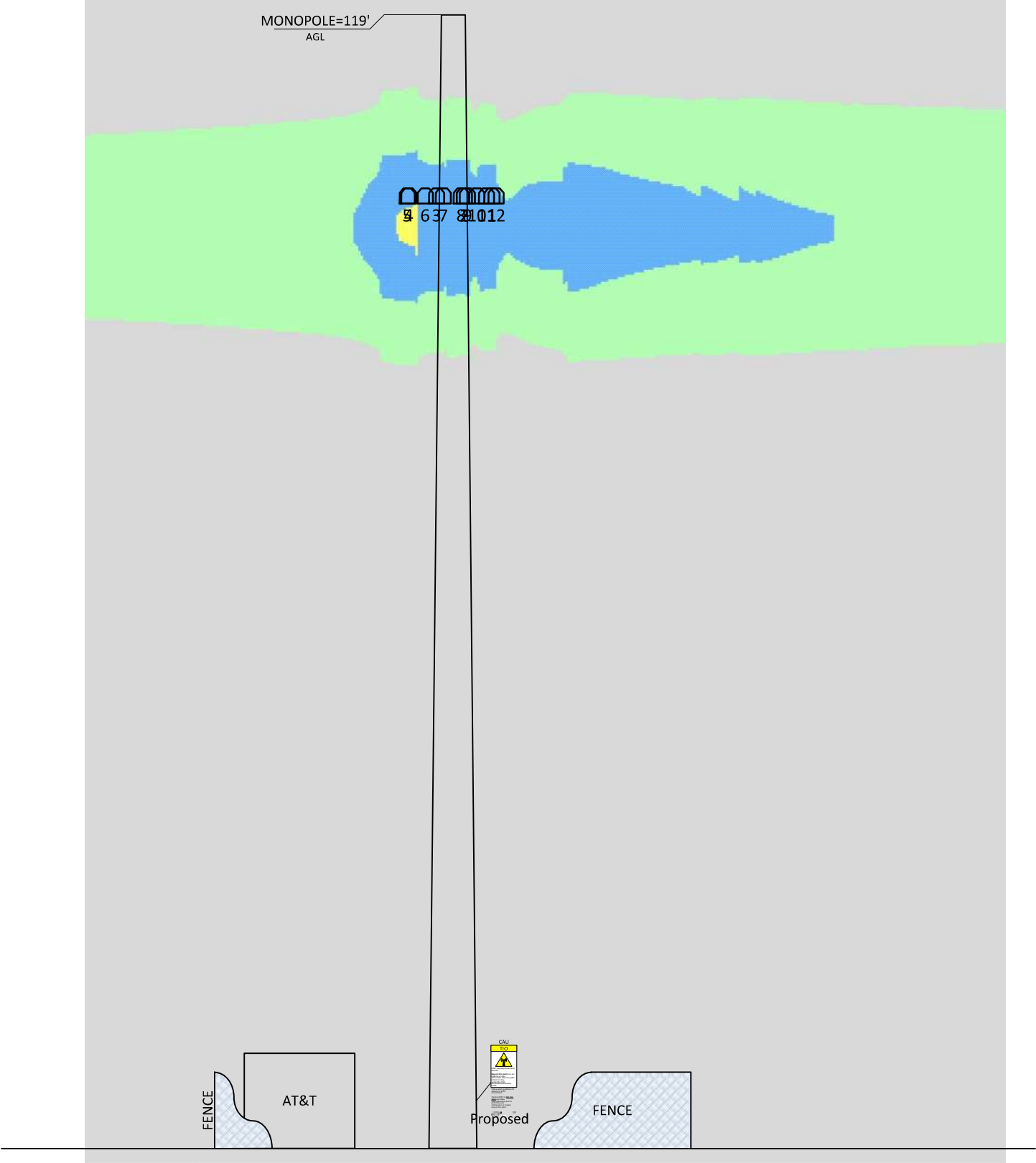
% of FCC Public Exposure Limit
Spatial average 0' - 6'



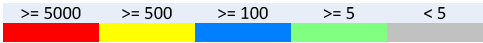
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RF Emissions Simulation For: Glastonbury Montano RD
Elevation View – North



% of FCC Public Exposure Limit
Spatial average 0' - 6'



AT&T MOBILITY LLC	VERIZON WIRELESS	T-MOBILE	METROPICS	CRICKET COMMUNICATIONS	CLEARWIRE	SPRINT

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5 Site Compliance

5.1 Site Compliance Statement

Upon evaluation of the cumulative RF emission levels from all operators at this site, RF hazard signage and antenna locations, Sitesafe has determined that:

AT&T Mobility, LLC will be compliant when the remediation recommended in section 5.2 or other appropriate remediation is implemented.

The compliance determination is based on General Public RFE levels derived from theoretical modeling, RF signage placement, proposed antenna inventory and the level of restricted access to the antennas at the site. Any deviation from the AT&T Mobility, LLC's proposed deployment plan could result in the site being rendered non-compliant.

Modeling is used for determining compliance and the percentage of MPE contribution.

5.2 Actions for Site Compliance

Based on FCC regulations, common industry practice, and our understanding of AT&T Mobility, LLC RF Safety Policy requirements, this section provides a statement of recommendations for site compliance. Recommendations have been proposed based on our understanding of existing access restrictions, signage, and an analysis of predicted RFE levels.

The site will be made compliant if the following changes are implemented:

Monopole Base

Yellow caution 2 sign required.

6 Engineer Certification

The professional engineer whose seal appears on the cover of this document hereby certifies and affirms that:

I am registered as a Professional Engineer in the jurisdiction indicated in the professional engineering stamp on the cover of this document; and

That I am an employee of Sitesafe, Inc., in Arlington, Virginia, at which place the staff and I provide RF compliance services to clients in the wireless communications industry; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission (FCC) as well as the regulations of the Occupational Safety and Health Administration (OSHA), both in general and specifically as they apply to the FCC Guidelines for Human Exposure to Radio-frequency Radiation; and

That I have thoroughly reviewed this Site Compliance Report and believe it to be true and accurate to the best of my knowledge as assembled by and attested to by Young Kim.

February 24, 2016

Appendix A – Statement of Limiting Conditions

Sitesafe has provided computer generated model(s) in this Site Compliance Report to show approximate dimensions of the site, and the model is included to assist the reader of the compliance report to visualize the site area, and to provide supporting documentation for Sitesafe's recommendations.

Sitesafe may note in the Site Compliance Report any adverse physical conditions, such as needed repairs, that Sitesafe became aware of during the normal research involved in creating this report. Sitesafe will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because Sitesafe is not an expert in the field of mechanical engineering or building maintenance, the Site Compliance Report must not be considered a structural or physical engineering report.

Sitesafe obtained information used in this Site Compliance Report from sources that Sitesafe considers reliable and believes them to be true and correct. Sitesafe does not assume any responsibility for the accuracy of such items that were furnished by other parties. When conflicts in information occur between data collected by Sitesafe provided by a second party and data collected by Sitesafe, the data will be used.

Appendix B – Regulatory Background Information

FCC Rules and Regulations

In 1996, the Federal Communication Commission (FCC) adopted regulations for the evaluating of the effects of RF emissions in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 ("OET Bulletin 65"), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996 the FCC periodically reviews these rules and regulations as per their congressional mandate.

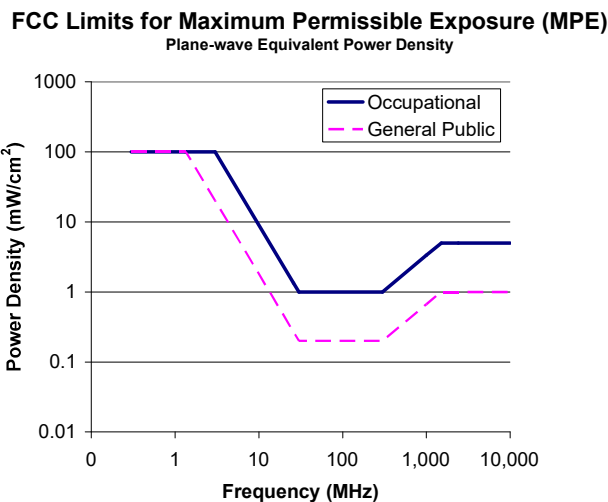
FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Public or "Uncontrolled environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to *accessible* areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:



Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz

*Plane-wave equivalent power density

OSHA Statement

The General Duty clause of the OSHA Act (Section 5) outlines the occupational safety and health responsibilities of the employer and employee. The General Duty clause in Section 5 states:

(a) Each employer –

- (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
- (2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA has defined Radiofrequency and Microwave Radiation safety standards for workers who may enter hazardous RF areas. Regulation Standards 29 CFR § 1910.147 identify a generic Lock Out Tag Out procedure aimed to control the unexpected energization or start up of machines when maintenance or service is being performed.

Appendix C – Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

General Maintenance Work: Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

Training and Qualification Verification: All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a workers understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet based courses).

Physical Access Control: Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- Locked door or gate
- Alarmed door
- Locked ladder access
- Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

RF Signage: Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

Assume all antennas are active: Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

Maintain a 3 foot clearance from all antennas: There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.

Site RF Emissions Diagram: Section 4 of this report contains an RF Diagram that outlines various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.

Appendix D – RF Emissions

The RF Emissions Simulation(s) in this report display theoretical spatially averaged percentage of the Maximum Permissible Exposure for all systems at the site unless otherwise noted. These diagrams use modeling as prescribed in OET Bulletin 65 and assumptions detailed in Appendix E.

The key at the bottom of each RF Emissions Simulation indicates percentages displayed referenced to FCC General Public Maximum Permissible Exposure (MPE) limits. Color coding on the diagram is as follows:

- Areas indicated as Gray are predicted to be below 5% of the MPE limits. **Gray represents areas more than 20 times below the most conservative exposure limit.**
- Green represents areas are predicted to be between 5% and 100% of the MPE limits. **Green areas are accessible to anyone.**
- Blue represents areas predicted to exceed the General Public MPE limits but are less than Occupational limits. **Blue areas should be accessible only to RF trained workers.**
- Yellow represents areas predicted to exceed Occupational MPE limits. **Yellow areas should be accessible only to RF trained workers able to assess current exposure levels.**
- Red represents areas predicted to have exposure more than 10 times the Occupational MPE limits. **Red indicates that the RF levels must be reduced prior to access.** An RF Safety Plan is required which outlines how to reduce the RF energy in these areas prior to access.

Appendix E – Assumptions and Definitions

General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at **full power at all times**. Software modeling was performed for all transmitting antennas located on the site. Sitesafe has further assumed a 100% duty cycle and maximum radiated power.

The site has been modeled with these assumptions to show the maximum RF energy density. Sitesafe believes this to be a *worst-case* analysis, based on best available data. Areas modeled to predict emissions greater than 100% of the applicable MPE level may not actually occur, but are shown as a *worst-case* prediction that could be realized real time. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

Thus, at any time, if power density measurements were made, we believe the real-time measurements would indicate levels below those depicted in the RF emission diagram(s) in this report. By modeling in this way, Sitesafe has conservatively shown exclusion areas – areas that should not be entered without the use of a personal monitor, carriers reducing power, or performing real-time measurements to indicate real-time exposure levels.

Use of Generic Antennas

For the purposes of this report, the use of “Generic” as an antenna model, or “Unknown” for an operator means the information about a carrier, their FCC license and/or antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of equipment, antenna models, and transmit power to model the site. If more specific information can be obtained for the unknown measurement criteria, Sitesafe recommends remodeling of the site utilizing the more complete and accurate data. Information about similar facilities is used when the service is identified and associated with a particular antenna. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer's published data regarding the antenna's physical characteristics makes more conservative assumptions.

Where the frequency is unknown, Sitesafe uses the closest frequency in the antenna's range that corresponds to the highest Maximum Permissible Exposure (MPE), resulting in a conservative analysis.

Definitions

5% Rule – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible taking corrective actions to bring the site into compliance.

Compliance – The determination of whether a site is safe or not with regards to Human Exposure to Radio Frequency Radiation from transmitting antennas.

Decibel (dB) – A unit for measuring power or strength of a signal.

Duty Cycle – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

Effective (or Equivalent) Isotropic Radiated Power (EIRP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

Effective Radiated Power (ERP) – In a given direction, the relative gain of a transmitting antenna with respect to the maximum directivity of a half wave dipole multiplied by the net power accepted by the antenna from the connecting transmitter.

Gain (of an antenna) – The ratio of the maximum intensity in a given direction to the maximum radiation in the same direction from an isotropic radiator. Gain is a measure of the relative efficiency of a directional antennas as compared to an omni directional antenna.

General Population/Uncontrolled Environment – Defined by the FCC, as an area where exposure to RF energy may occur to persons who are **unaware** of the potential for exposure and who have no control of their exposure. General Population is also referenced as General Public.

Generic Antenna – For the purposes of this report, the use of "Generic" as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of antenna models to select a worst case scenario antenna to model the site.

Isotropic Antenna – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.

Maximum Measurement – This measurement represents the single largest measurement recorded when performing a spatial average measurement.

Maximum Permissible Exposure (MPE) – The maximum levels of RF exposure a person may be exposed to without harmful effect and with acceptable safety factor.

Occupational/Controlled Environment – Defined by the FCC, as an area where Radio Frequency Radiation (RFR) exposure may occur to persons who are **aware** of the

potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.

OET Bulletin 65 – Technical guideline developed by the FCC's Office of Engineering and Technology to determine the impact of Radio Frequency radiation on Humans. The guideline was published in August 1997.

OSHA (Occupational Safety and Health Administration) – Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA's role is to promote the safety and health of America's working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit www.osha.gov.

Radio Frequency (RF) – The frequencies of electromagnetic waves which are used for radio communications. Approximately 3 kHz to 300 GHz.

Radio Frequency Exposure (RFE) – The amount of RF power density that a person is or might be exposed to.

Spatial Average Measurement – A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average power density an average sized human will be exposed to at a location.

Transmitter Power Output (TPO) – The radio frequency output power of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load.

Appendix F – References

The following references can be followed for further information about RF Health and Safety.

Sitesafe, Inc.

<http://www.sitesafe.com>

FCC Radio Frequency Safety

<http://www.fcc.gov/encyclopedia/radio-frequency-safety>

National Council on Radiation Protection and Measurements (NCRP)

<http://www.ncrponline.org>

Institute of Electrical and Electronics Engineers, Inc., (IEEE)

<http://www.ieee.org>

American National Standards Institute (ANSI)

<http://www.ansi.org>

Environmental Protection Agency (EPA)

<http://www.epa.gov/radtown/wireless-tech.html>

National Institutes of Health (NIH)

<http://www.niehs.nih.gov/health/topics/agents/emf/>

Occupational Safety and Health Agency (OSHA)

<http://www.osha.gov/SLTC/radiofrequencyradiation/>

International Commission on Non-Ionizing Radiation Protection (ICNIRP)

<http://www.icnirp.org>

World Health Organization (WHO)

<http://www.who.int/peh-emf/en/>

National Cancer Institute

<http://www.cancer.gov/cancertopics/factsheet/Risk/cellphones>

American Cancer Society (ACS)

http://www.cancer.org/docroot/PED/content/PED_1_3X_Cellular_Phone_Towers.asp?sitearea=PED

European Commission Scientific Committee on Emerging and Newly Identified Health Risks

http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_022.pdf

Fairfax County, Virginia Public School Survey

<http://www.fcps.edu/fts/safety-security/RFEESurvey/>

UK Health Protection Agency Advisory Group on Non-ionising Radiation

http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1317133826368

Norwegian Institute of Public Health

<http://www.fhi.no/dokumenter/545eea7147.pdf>

StartAntennaData

It is advisable to provide an ID (ant 1) for all antennas

ID	Name	(MHz) Freq	Trans Power	Trans Count	Coax Len	Coax Type	Other Losses	Input Power
1	AT&T MOBILITY LLC	850	17.4983738	1	0			17.4983738
1	AT&T MOBILITY LLC	1900	26.91541463	1	0			26.91541463
2	AT&T MOBILITY LLC	737	30.13005392	1	0			30.13005392
2	AT&T MOBILITY LLC	2300	23.38843317	1	0			23.38843317
3	AT&T MOBILITY LLC	850	21.87761624	1	0			21.87761624
4	AT&T MOBILITY LLC	737	30.13005392	1	0			30.13005392
4	AT&T MOBILITY LLC (Proposed)	1900	69.02401383	1	0			69.02401383
5	AT&T MOBILITY LLC	850	17.4983738	1	0			17.4983738
5	AT&T MOBILITY LLC	1900	26.91541463	1	0			26.91541463
6	AT&T MOBILITY LLC	737	30.13005392	1	0			30.13005392
6	AT&T MOBILITY LLC	2300	23.38843317	1	0			23.38843317
7	AT&T MOBILITY LLC	850	21.87761624	1	0			21.87761624
8	AT&T MOBILITY LLC	737	30.13005392	1	0			30.13005392
8	AT&T MOBILITY LLC (Proposed)	1900	69.02401383	1	0			69.02401383
9	AT&T MOBILITY LLC	850	17.4983738	1	0			17.4983738
9	AT&T MOBILITY LLC	1900	26.91541463	1	0			26.91541463
10	AT&T MOBILITY LLC	737	30.13005392	1	0			30.13005392
10	AT&T MOBILITY LLC	2300	23.38843317	1	0			23.38843317
11	AT&T MOBILITY LLC	850	21.87761624	1	0			21.87761624
12	AT&T MOBILITY LLC	737	30.13005392	1	0			30.13005392
12	AT&T MOBILITY LLC (Proposed)	1900	69.02401383	1	0			69.02401383

StartSymbolData

Calc			(ft)	(ft)	(ft)		(ft)	dBd	BWdth	Uptime
Power	Mfg	Model	X	Y	Z	Type	Aper	Gain	Pt Dir	Profile
	CCI Antennas	HPA-65R-BUU-H8	34.78	53.52	96.15	Panel	7.7	14.46	58.1;20	100%
	CCI Antennas	HPA-65R-BUU-H8	34.78	53.52	96.15	Panel	7.7	14.76	63.1;20	100%
	CCI Antennas	HPA-65R-BUU-H8	37.69	53.01	96.15	Panel	7.7	13.26	64.9;20	100%
	CCI Antennas	HPA-65R-BUU-H8	37.69	53.01	96.15	Panel	7.7	15.26	63.3;20	100%
	CCI Antennas	HPA-65R-BUU-H8	40.6	52.5	96.15	Panel	7.7	14.46	58.1;20	100%
	CCI Antennas	HPA-65R-BUU-H8	43.51	51.98	96.15	Panel	7.7	13.26	64.9;20	100%
	CCI Antennas	HPA-65R-BUU-H8	43.51	51.98	96.15	Panel	7.7	14.76	63.1;20	100%
	CCI Antennas	HPA-65R-BUU-H8	43.69	51.35	96.15	Panel	7.7	14.46	58.1;140	100%
	CCI Antennas	HPA-65R-BUU-H8	43.69	51.35	96.15	Panel	7.7	14.76	63.1;140	100%
	CCI Antennas	HPA-65R-BUU-H8	41.8	49.11	96.15	Panel	7.7	13.26	64.9;140	100%
	CCI Antennas	HPA-65R-BUU-H8	41.8	49.11	96.15	Panel	7.7	15.26	63.3;140	100%
	CCI Antennas	HPA-65R-BUU-H8	39.92	46.86	96.15	Panel	7.7	14.46	58.1;140	100%
	CCI Antennas	HPA-65R-BUU-H8	38.03	44.61	96.15	Panel	7.7	13.26	64.9;140	100%
	CCI Antennas	HPA-65R-BUU-H8	38.03	44.61	96.15	Panel	7.7	14.76	63.1;140	100%
	CCI Antennas	HPA-65R-BUU-H8	37.4	44.75	96.15	Panel	7.7	14.46	58.1;260	100%
	CCI Antennas	HPA-65R-BUU-H8	37.4	44.75	96.15	Panel	7.7	14.76	63.1;260	100%
	CCI Antennas	HPA-65R-BUU-H8	36.39	47.51	96.15	Panel	7.7	13.26	64.9;260	100%
	CCI Antennas	HPA-65R-BUU-H8	36.39	47.51	96.15	Panel	7.7	15.26	63.3;260	100%
	CCI Antennas	HPA-65R-BUU-H8	35.37	50.27	96.15	Panel	7.7	14.46	58.1;260	100%
	CCI Antennas	HPA-65R-BUU-H8	34.36	53.03	96.15	Panel	7.7	13.26	64.9;260	100%
	CCI Antennas	HPA-65R-BUU-H8	34.36	53.03	96.15	Panel	7.7	14.76	63.1;260	100%

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DOCKET NO. 359 - Optasite Towers LLC and Omnipoint } Connecticut
Communications, Inc. application for a Certificate of }
Environmental Compatibility and Public Need for the } Siting
construction, maintenance and operation of a telecommunications }
facility located at 58 Montano Road or 618 Neipsic Road, } Council
Glastonbury, Connecticut.

September 11, 2008

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Optasite Towers LLC, hereinafter referred to as the Certificate Holder, for a telecommunications facility at 58 Montano Road (Site A), Glastonbury, Connecticut. The Council denies certification of the proposed Site B at 618 Neipsic Road, Glastonbury, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Omnipoint Communications, Inc. and other entities, both public and private, but such tower shall not exceed a height of 120 feet above ground level. The tower shall be designed and constructed to include a yield point at the height of 82 feet above ground level.
2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Glastonbury for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping; and
 - b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
4. Upon the establishment of any new state or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Glastonbury public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.
8. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Glastonbury. Any proposed modifications to this Decision and Order shall likewise be so served.
9. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
10. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.
11. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction and the commencement of site operation.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Hartford Courant and the Manchester Journal-Inquirer.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

APPLICANT

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Westborough, MA 01581

Omnipoint Communications, Inc.
35 Griffin Road South
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ITS REPRESENTATIVE

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