



August 18, 2015

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

Regarding: Notice of Exempt Modification – Addition of 3 radio heads previously approved
Property Address: 14 Booth Hill Road, Shelton, CT (the “Property”)
Applicant: AT&T Mobility (“AT&T”)

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 201.5 foot self-supporting lattice tower (“tower”) location on the Property. AT&T’s facility consists of six (6) wireless telecommunications antennas at 143 feet. The tower is controlled by American Towers Inc. The Council approved the previous application on July 11, 2011 reference number EM-CING-126-110624. This application (attached) granted AT&T the use of 6 radio heads at this location. The approval expired one year from the issue date. During that time AT&T made the changes to the site per the approval but only installed three (3) of the six (6) radio heads that they received approval. AT&T would now like to install the additional three (3) radio heads that were originally approved under EM-CING-126-110624.

Please accept this application as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72 (b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the Mayor, and the Town Planner for the City of Shelton. A copy of this letter is also being sent to American Towers Inc., the owner of the structure that AT&T is located.

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 planned modifications will not result in an increase in the height of the existing structure. AT&T’s additional, previously approved 3 radio heads will be installed at 143 foot level of the 201.5 foot self-supporting lattice tower.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore will not require an extension of the site boundary.
3. The proposed modification will not increase the noise level at the facility by six decibel 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. An RF emissions calculation (attached) for AT&T's modified facility was provided in the application which led to the July 11, 2011 Decision.

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. (Please see attached Structural analysis completed by The American Tower Corporation dated May 9, 2011).

For the foregoing reasons AT&T respectfully requests that the proposed addition of 3 radio heads previously approved be allowed within the exempt modifications under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

A handwritten signature in cursive script that reads "David P. Cooper".

David P. Cooper
Director of Site Acquisition
Empire Telecom

CC: The Honorable Mark A. Laretti, Mayor, City of Shelton
Richard Schultz, Planning Administrator, City of Shelton
American Tower Corporation



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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

E-Mail: siting.council@ct.gov

www.ct.gov/csc

July 11, 2011

Douglas L. Culp, Real Estate Consultant
New Cingular Wireless PCS, LLC
500 Enterprise Drive
Rocky Hill, CT 06067-3900

RE: **EM-CING-126-110624** - New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 14 Oxford Drive (Booth Hill Road), Shelton, Connecticut.

Dear Mr. Culp:

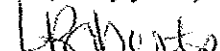
The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- Any deviation from the proposed modification as specified in this notice and supporting materials with Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Not less than 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated June 23, 2011. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,


Linda Roberts
Executive Director

LR/CDM/laf

c: The Honorable Mark A. Laretti, Mayor, City of Shelton
Richard Schultz, Planning Administrator, City of Shelton
American Tower Corporation



EM-CING-126-110624



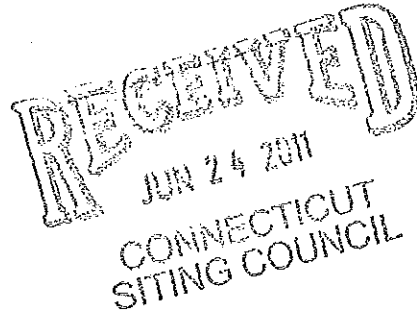
New Cingular Wireless PCS, LLC
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 463-5511
Fax: (860) 513-7190

Douglas L. Culp
Real Estate Consultant

HAND DELIVERED

June 23, 2011

Ms. Linda Roberts
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051



Re: New Cingular Wireless PCS, LLC notice of intent to modify an existing tele-communications facility located at 14 Oxford Drive (Booth Hill Road) Shelton, CT (owner American Tower).

Dear Ms. Roberts:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System ("UMTS") and/or Long Term Evolution ("LTE") capabilities, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC ("AT&T") plans to modify the equipment configurations at many of its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the chief elected official of the municipality in which the affected cell site is located.

UMTS technology offers services to mobile computer and phone users anywhere in the world. Based on the Global System for Mobile ("GSM") communication standard, UMTS is the planned worldwide standard for mobile users. UMTS, fully implemented, gives computer and phone users high-speed access to the Internet as they travel. They have the same capabilities even when they roam, through both terrestrial wireless and satellite transmissions.

LTE is a new high-performance air interface for cellular mobile communications. It is designed to increase the capacity and speed of mobile telephone networks.

Attached is a summary of the planned modifications, including power density calculations reflecting the change in AT&T's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

The changes to the facility do not constitute modifications as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed or altered. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

1. The height of the overall structure will be unaffected.
2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound other than some enlarged equipment pads as may be noted in the attachments.
3. The proposed changes will not increase the noise level at the existing facility by six decibels or more.
4. Radio frequency power density may increase due to use of one or more GSM channel for UMTS transmissions. Moreover, LTE will utilize additional radio frequencies newly-licensed by the FCC for cellular mobile communications. However, the changes will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

For the foregoing reasons, New Cingular Wireless respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (860) 463-5511 with questions concerning this matter. Thank you for your consideration.

Sincerely,



Douglas L. Culp
Real Estate Consultant

Attachments

**NEW CINGULAR WIRELESS PCS, LLC
Equipment Modification**

14 Oxford Drive (Booth Hill Road) Shelton, CT
Site Number CT5542
Exempt Mod

Tower Owner/Manager: American Tower

Equipment configuration: SSLT

Current and/or approved: Three PowerWave P7770 antennas @ 144 ft
Six PowerWave TMA's @ 144 ft
Six runs 1 5/8 inch coax to 144 ft
Equipment on Concrete Pad

Planned Modifications: Retain existing PowerWave P7770 Antenna's, TMA's @ 144 ft
Retain all Coax Cabling
Install three PowerWave P65-16 antennas or equivalent @ 144 ft
Install six remote radio heads Ericsson RRUS-11 @ 144 ft
Install one Raycap Fiber Power Connector/ Surge Suppressor – DC6-48-60-18-8F @ 144 ft
Install one fiber and two DC power cables @ 144 ft
Add additional H-Frame mount within existing Compound Area to support Purcell Cabinet
Remove existing NUSS cabinet and replace with Emerson cabinet on existing concrete pad

Power Density:

Worst-case calculations for existing wireless operations at the site, using standard parameters for other carriers, indicate a radio frequency electromagnetic radiation power density, measured at ground level beside the Tower, of approximately 30.4 % of the standard adopted by the FCC. As depicted in the second table below, the total radio frequency electromagnetic radiation power density following proposed modifications would be approximately 29.3 % of the standard.

Existing

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm ²)	Standard Limits (mW/cm ²)	Percent of Limit
Other Users							18.40
AT&T UMTS	144	1900 Band	1	500	0.0087	1.0000	0.87
AT&T UMTS	144	800 Band	1	500	0.0087	0.5867	1.48
AT&T GSM	144	800Band	6	296	0.0308	0.5867	5.25
AT&T GSM	144	1900 Band	6	427	0.0444	1.0000	4.44
Total							30.4%

* Data for other users are from Siting Council records.

Proposed

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm ²)	Standard Limits (mW/cm ²)	Percent of Limit
Other Users							18.40
AT&T UMTS	144	800 Band	1	500	0.0087	0.5867	1.48
AT&T UMTS	144	1900 Band	1	500	0.0087	1.0000	0.87
AT&T GSM	144	1900 Band	6	427	0.0444	1.0000	4.44
AT&T GSM	144	880 - 894	6	296	0.0308	0.5867	5.25
AT&T LTE	144	740 - 746	1	500	0.0087	0.4933	1.76
Total							32.2%

* Data for other users are from Siting Council records.

Structural information:

The attached structural analysis demonstrates that the monopole and foundation have adequate structural capacity to accommodate the proposed modifications. (American Tower Engineering Services dated 5-10-11).

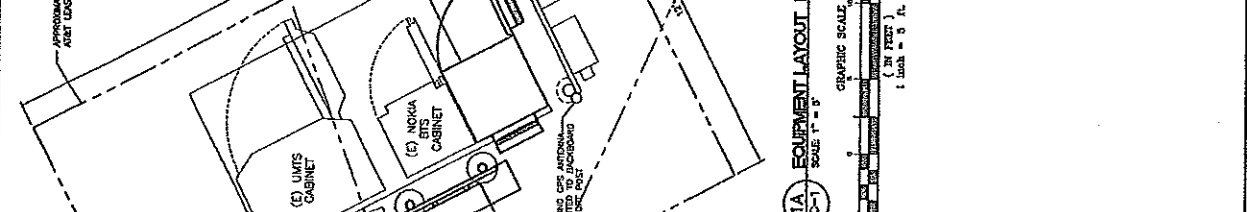
DATE: 07/11/11	PROJECT: AT&T MOBILITY
DESIGNER: AT&T MOBILITY	PROJECT: AT&T MOBILITY
DATE: 07/11/11	PROJECT: AT&T MOBILITY
DESIGNER: AT&T MOBILITY	PROJECT: AT&T MOBILITY

AT&T MOBILITY
 700 SOUTH MAIN STREET, SUITE 100
 SHELTON, CT 06484
 PHONE: 203.375.4242
 FAX: 203.375.4242
 WWW.ATTMOBILITY.COM

PLANS AND ELEVATION
C-1
 Sheet No. 1 of 2



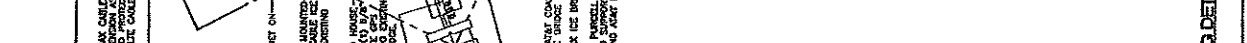
1A EQUIPMENT LAYOUT PLAN
 SCALE: 1" = 5'
 GRAPHIC SCALE: 1" = 5' (1" = 10')



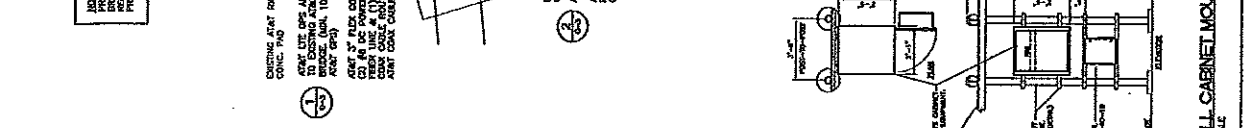
2 PURCELL CABINET MOUNTING DETAIL
 NOT TO SCALE



3 EQUIPMENT MOUNTING FRAME DETAIL
 NOT TO SCALE



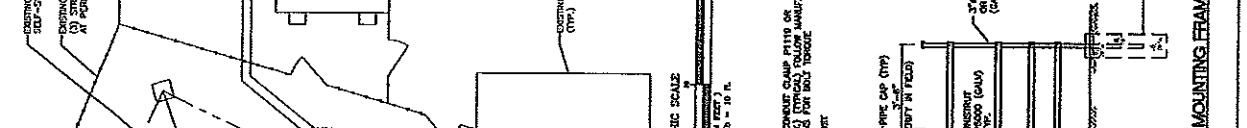
4 SURGE ARRESTOR DETAIL
 NOT TO SCALE



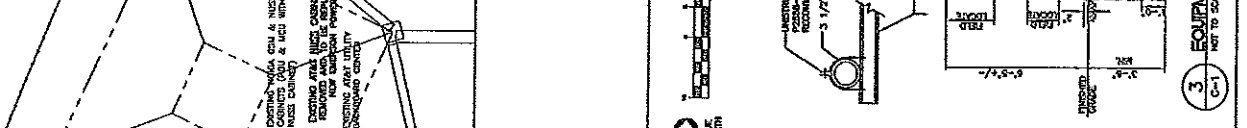
1 EXISTING CONDITIONS
 SCALE: 1" = 10'
 GRAPHIC SCALE: 1" = 10' (1" = 20')



2 PURCELL CABINET MOUNTING DETAIL
 NOT TO SCALE



3 EQUIPMENT MOUNTING FRAME DETAIL
 NOT TO SCALE

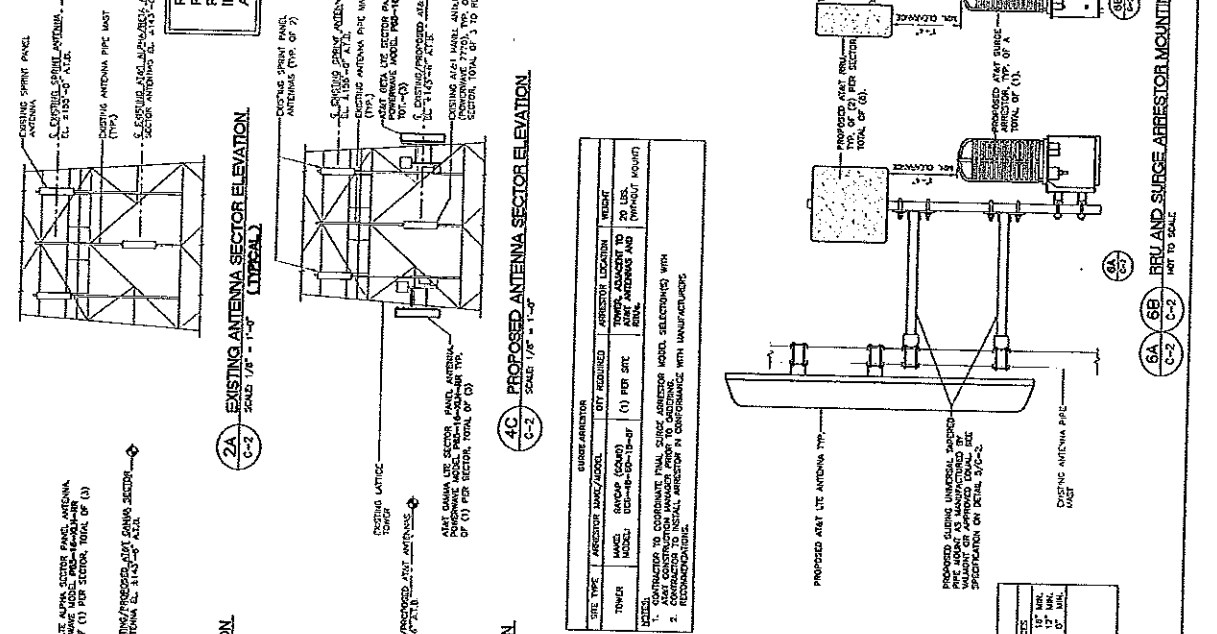
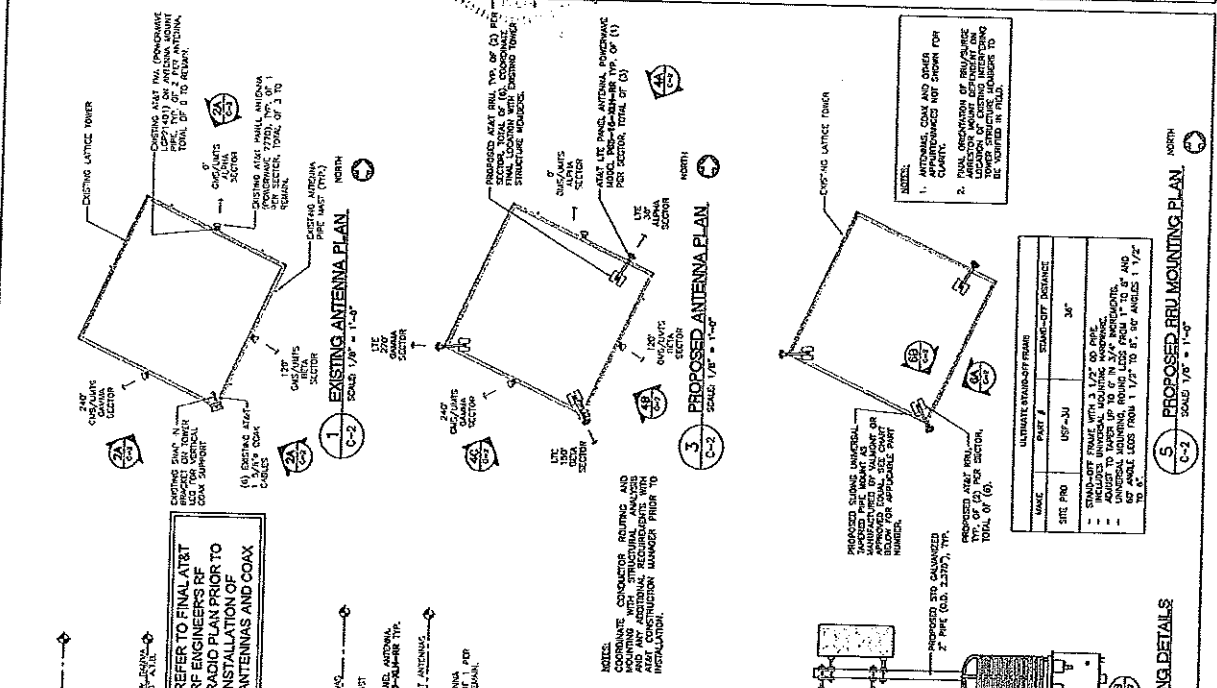


4 SURGE ARRESTOR DETAIL
 NOT TO SCALE

ITEM NO.	DESCRIPTION	QUANTITY	LOCATION
1	SURGE ARRESTOR	1	AS SHOWN
2	EQUIPMENT MOUNTING FRAME	1	AS SHOWN
3	PURCELL CABINET	1	AS SHOWN

CONTRACTOR TO COORDINATE FINAL SURGE ARRESTOR MODEL SELECTIONS WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING. PURCELL ARRESTOR IS COMPATIBLE WITH MANUFACTURERS RECOMMENDATIONS.

DATE: 07/11/11
 PROJECT: AT&T MOBILITY
 DESIGNER: AT&T MOBILITY
 PROJECT: AT&T MOBILITY



EQUIPMENT	MANUFACTURER	DESCRIPTION	HEIGHT	CLEARANCES
RRU	ARRIS	RRU11	17.5"	17.5" x 17.5" x 17.5"
ARRIS	ARRIS	RRU11	17.5"	17.5" x 17.5" x 17.5"
ARRIS	ARRIS	RRU11	17.5"	17.5" x 17.5" x 17.5"

MAKE	MODEL	DESCRIPTION	HEIGHT	CLEARANCES
ARRIS	RRU11	RRU11	17.5"	17.5" x 17.5" x 17.5"
ARRIS	RRU11	RRU11	17.5"	17.5" x 17.5" x 17.5"
ARRIS	RRU11	RRU11	17.5"	17.5" x 17.5" x 17.5"

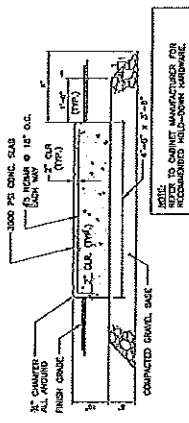
MAKE	MODEL	DESCRIPTION	HEIGHT	CLEARANCES
ARRIS	RRU11	RRU11	17.5"	17.5" x 17.5" x 17.5"
ARRIS	RRU11	RRU11	17.5"	17.5" x 17.5" x 17.5"
ARRIS	RRU11	RRU11	17.5"	17.5" x 17.5" x 17.5"

REFER TO FINAL AT&T RF ENGINEERS RF RADIO PLAN PRIOR TO INSTALLATION OF ANTENNAS AND COAX

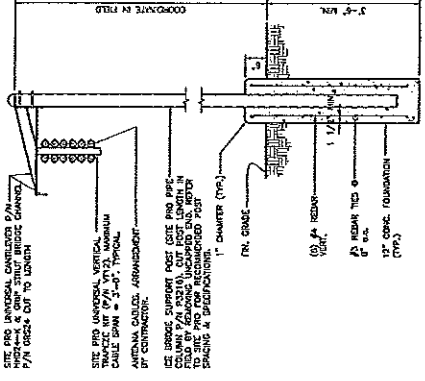
NOTE: CONSULT CONTRACTOR, ARCHITECT AND ELECTRICAL ENGINEER FOR ADDITIONAL REQUIREMENTS WITH REGARD TO ANTENNA INSTALLATION.

NOTE: CONSULT CONTRACTOR, ARCHITECT AND ELECTRICAL ENGINEER FOR ADDITIONAL REQUIREMENTS WITH REGARD TO ANTENNA INSTALLATION.

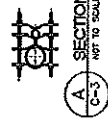
NOTE: CONSULT CONTRACTOR, ARCHITECT AND ELECTRICAL ENGINEER FOR ADDITIONAL REQUIREMENTS WITH REGARD TO ANTENNA INSTALLATION.



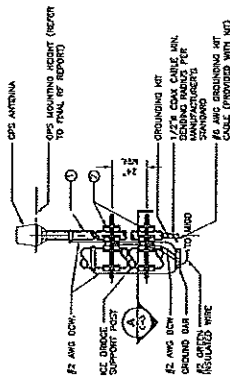
2. EMERSON POWER CABINET PAD DETAIL
 NOT TO SCALE
 C-3



3. ICE BRIDGE DETAIL
 NOT TO SCALE
 C-3



A. SECTION
 NOT TO SCALE
 C-3



GPS ANTENNA MOUNTING BRACKET

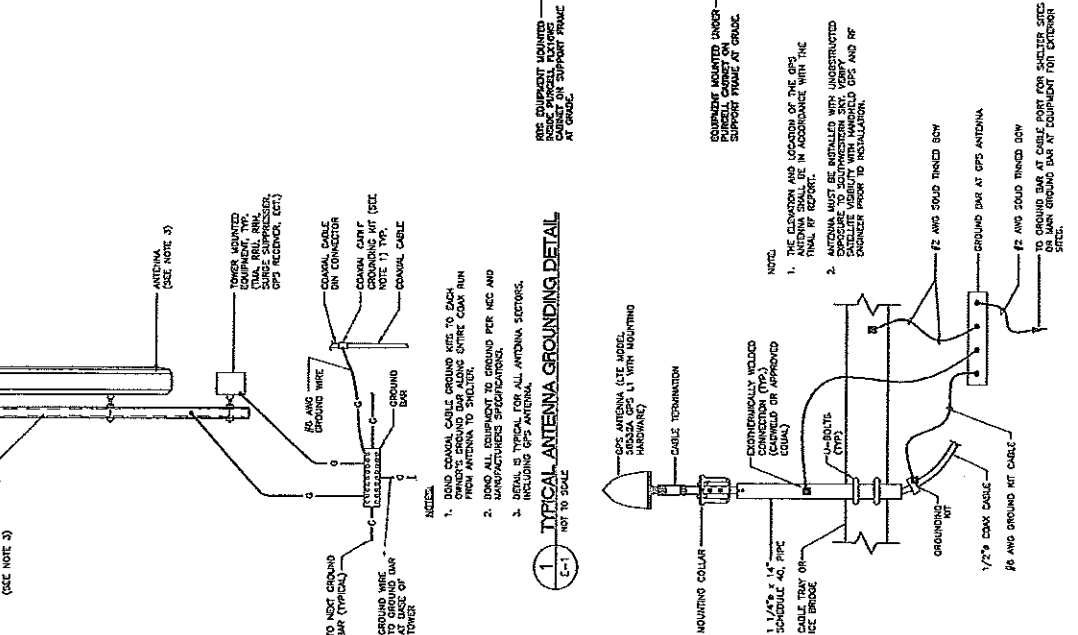
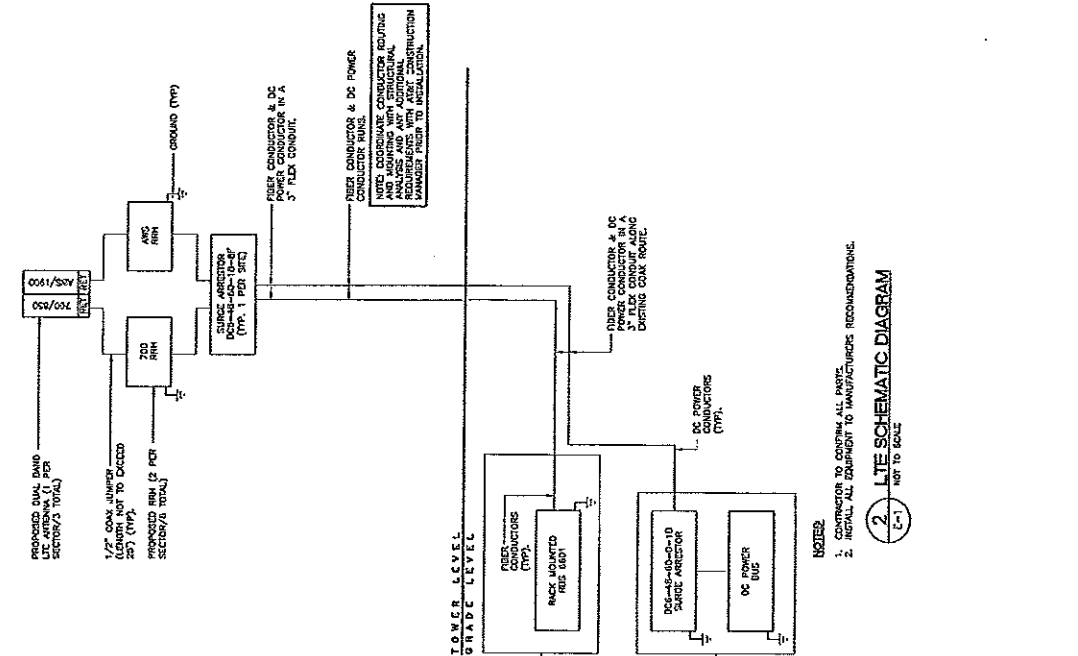
ITEM	DESCRIPTION	QUANTITY
1	2-1/2\"/>	1
2	UNIVERSAL CLAMP SET	2

1. GPS GROUNDING/MOUNTING BRACKET DETAILS
 NOT TO SCALE
 C-3

- NOTES:**
1. THE ELEVATION AND LOCATION OF THE GPS ANTENNA SHALL BE IN ACCORDANCE WITH THE FINAL RF REPORT AND CORROBORATED WITH AT&T CONSTRUCTION MANAGER.
 2. THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 2-1/2\"/>
 3. ATTACH TO ICE BRIDGE POST NEAREST ANTENNA CABLE PORT AT EQUIPMENT.
 4. PRIOR TO INSTALLATION CONTRACTOR SHALL TEST GPS LOCATION WITH HAND HELD GPS ACCURATE SOCIAL FINDER TO VERIFY APPROPRIATE SOCIAL WITH A HAND HELD GPS. ALTERNATE INSTALLATION LOCATION FOR GPS ANTENNA.

ELECTRICAL NOTES

1. REFER TO SHEET OF CONSTRUCTION CONTRACTORS SHALL COORDINATE WITH LOCAL INSURANCE COMPANY FOR ALL CONSTRUCTION STANDARDS AND SPECIFICATIONS, AND ALL MANUFACTURER'S REQUIREMENTS FOR ALL EQUIPMENT TO BE INSTALLED.
2. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH LOCAL BUILDING CODE, NATIONAL ELECTRICAL CODE, AND ALL MANUFACTURER'S SPECIFICATIONS.
3. CONDUCT ALL NEW CONDUIT TO BEING TIED AS REQUIRED BY MANUFACTURER.
4. MANAGE ALL CONDUITS REQUIRED BY REC AND EQUIPMENT MANUFACTURER.
5. ALL WIRING SHALL BE IN ACCORDANCE WITH LOCAL BUILDING CODE, NATIONAL ELECTRICAL CODE, AND ALL MANUFACTURER'S SPECIFICATIONS.
6. MANAGE ALL CONDUITS REQUIRED BY REC AND EQUIPMENT MANUFACTURER.
7. ALL TRANSDUCER WIRING SHALL BE COMPLETED FIRST, AND APPROVED BY THE OWNER. ALL TRANSDUCER WIRING MUST BE COMPLETED AND APPROVED BY THE OWNER BEFORE ANY OTHER WIRING IS INSTALLED.
8. PROVIDE AND INSTALL GROUND WTS FOR ALL NEW SIGNAL CABLES AND GROUND TO EXISTING EXTERIOR CHANNEL SYSTEM PER SPECIFICATIONS AND REC.
9. ALL CONDUITS SHALL BE TYPE WITH (SEE APPLICATIONS AND NOTES FOR APPLICATIONS) 75 KVA/C, 600 VOLT INSULATION, SOFT ANNEALED STEEL, SCHEDULE 40, WITH 1/2" RADIUS, WITH 1/2" DIA. HOLES FOR CONDUITS. PROVIDE PRESSURE CONNECTORS FOR ALL CONDUITS. ALL CONDUITS SHALL BE ESD (ELECTROSTATIC DISCHARGE) PROTECTED PER THE CONSTRUCTION SPECIFICATIONS. PROVIDE 12 AWG GROUND WIRE TO EACH CONDUIT FOR ESD PROTECTION. PROVIDE 12 AWG GROUND WIRE TO EACH CONDUIT FOR ESD PROTECTION. PROVIDE 12 AWG GROUND WIRE TO EACH CONDUIT FOR ESD PROTECTION.
10. PROVIDE AND INSTALL GROUND WTS FOR ALL NEW SIGNAL CABLES AND GROUND TO EXISTING EXTERIOR CHANNEL SYSTEM PER SPECIFICATIONS AND REC.
11. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND OBTAINING ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND OBTAINING ALL NECESSARY APPROVALS AND PERMITS FOR THE PROJECT.
12. THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE COMPLETE INSTALLATION AND COMPLETION OF THE ENTIRE ELECTRICAL SYSTEM, INCLUDING ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND OBTAINING ALL NECESSARY APPROVALS AND PERMITS FOR THE PROJECT.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND OBTAINING ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND OBTAINING ALL NECESSARY APPROVALS AND PERMITS FOR THE PROJECT.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND OBTAINING ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND OBTAINING ALL NECESSARY APPROVALS AND PERMITS FOR THE PROJECT.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND OBTAINING ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND OBTAINING ALL NECESSARY APPROVALS AND PERMITS FOR THE PROJECT.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND OBTAINING ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND OBTAINING ALL NECESSARY APPROVALS AND PERMITS FOR THE PROJECT.
17. ALL NEW CONDUIT CARRIERS SHALL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS FOR LOCAL INSPECTOR.
18. ALL NEW CONDUIT CARRIERS SHALL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS FOR LOCAL INSPECTOR.
19. ALL NEW CONDUIT CARRIERS SHALL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS FOR LOCAL INSPECTOR.
20. CONTRACTORS SHALL PROVIDE A COLLAS (ELECTRICAL) WITH THE MAXIMUM AS RESISTANCE TO GROUND OF 5 OHM BETWEEN ANY POINT ON THE CIRCUITING SYSTEM AS INDICATED BY 3-PHASE INCLUDING TEST. (REFER TO SECTION 18000).



REV	DATE	BY	CHKD	DESCRIPTION
1	02/11/11	JK	JK	CONSTRUCTION - CLEAR REVIEW
2	03/11/11	JK	JK	
3	03/11/11	JK	JK	
4	03/11/11	JK	JK	
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74	03/11/11	JK	JK	
75	03/11/11	JK	JK	
76	03/11/11	JK	JK	
77	03/11/11	JK	JK	
78	03/11/11	JK	JK	
79	03/11/11	JK	JK	
80	03/11/11	JK	JK	
81	03/11/11	JK	JK	
82	03/11/11	JK	JK	
83	03/11/11	JK	JK	
84	03/11/11	JK	JK	
85	03/11/11	JK	JK	
86	03/11/11	JK	JK	
87	03/11/11	JK	JK	
88	03/11/11	JK	JK	
89	03/11/11	JK	JK	
90	03/11/11	JK	JK	
91	03/11/11	JK	JK	
92	03/11/11	JK	JK	
93	03/11/11	JK	JK	
94	03/11/11	JK	JK	
95	03/11/11	JK	JK	
96	03/11/11	JK	JK	
97	03/11/11	JK	JK	
98	03/11/11	JK	JK	
99	03/11/11	JK	JK	
100	03/11/11	JK	JK	

2011 MILLER BLVD
 SUITE 100
 HOUSTON, TX 77058
 PHONE: 281.461.0000
 FAX: 281.461.0001
 WWW.CENTEK.COM

PROJECT: AT&T MOBILITY
 SITE NAME: SHELTON-BOOTH HILL
 SITE NUMBER: CT6542
 DRAWN BY: [REDACTED]
 CHECKED BY: [REDACTED]
 DATE: 03/11/11
 SCALE: AS SHOWN
 JOB NO.: 11071.0048



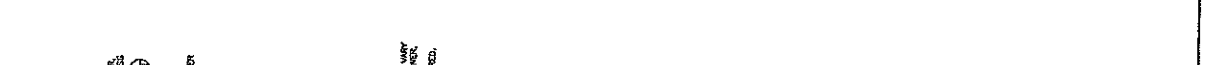
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

3. CONNECTION OF GROUND WIRES TO GROUND BAR
 E-2 NOT TO SCALE



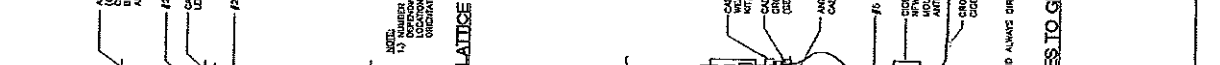
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

1. ANTENNA CABLE GROUNDING - LATTICE
 E-2 NOT TO SCALE



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

2. GROUND BAR DETAIL
 E-2 NOT TO SCALE



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

LEGEND

1. TRINCO COPPER GROUND BAR, 1/4" x 1/4" x .207, NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEW BUSHING (U.S.).
2. INSULATORS, NEWTON INSTRUMENT CAT. NO. 2, 3509-1.
3. 3/16" LOCK WASHERS, NEWTON INSTRUMENT CO. CAT. NO. 2015-3.
4. WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-5055.
5. STAINLESS STEEL SECURITY SCREWS.

3. CONNECTION OF GROUND WIRES TO GROUND BAR
 E-2 NOT TO SCALE

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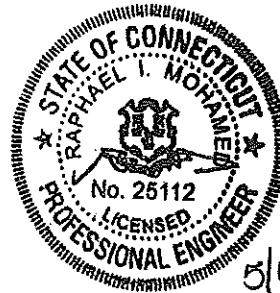
AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 200 ft AT&T Tag Self Supported Tower
ATC Site Name : Shelton/Trumbull, CT
ATC Site Number : 88017
Proposed Carrier : AT&T Mobility
Carrier Site Name : Shelton/Booth Hill
Carrier Site Number : 10071232/CT 5542
County : Fairfield
Engineering Number : 47141723
Date : May 9, 2011*
Usage : 100%

Submitted by:
Scott Wirgau
Senior Design Engineer

American Tower Engineering Services
400 Regency Forest Drive
Cary, NC 27518
Phone: 919-468-0112



Introduction

The purpose of this report is to summarize results of the structural analysis performed on the 200 ft AT&T Tag Self Supported Tower located at 14 Oxford Drive, Shelton, CT 06484, Fairfield County (ATC Site No. 88017). The tower information was taken from a mapping by TEP (TEP #070851, dated May 30, 2007). The tower has been modified per design by ATC (Job Project #40480232, dated July 13, 2007).

Analysis

The tower was analyzed using Power Line Systems, Inc., Software.

Basic Wind Speed: 105 mph (3-Second Gust)
 Radial Ice: 40 mph (3-Second Gust) w/ 1/2" ice
 Code: TIA-222-G / 2003 IBC w/ 2005 Connecticut Supplement and 2009 Connecticut Amendments

Antenna Loads

The following antenna loads were used in the tower analysis.

Existing Antennas

Elev. (ft)	Qty	Antennas	Mount	Coax	Carrier
200.0	1	10' Dipole	Platform w/ Handrails	(1) 1 5/8"	State of CT
	1	14' Omni		(1) 1 5/8"	
	2	8' Dish w/ Radome		(2) EW65	
187.5	-	-	Catwalk	-	-
183.0	1	BTS	Side Arm	(4) 3/8"	State of CT
180.0	2	Scala AP14-850/150N		(2) 1 5/8"	
	1	10' Omni		(1) 1 5/8"	
	2	Scala OGT9-840D		(2) 1 5/8"	
168.0	12	Decibel DB844H90E-XY	Sector Frame	(12) 1 5/8"	Sprint/Nextel
162.0	1	DragonWave A-ANT-11G-3-C	Side Arms	(1) 2" Conduit (6) 5/16" (4) 1/2"	Clearwire
	3	NextNet BTS-2500			
	3	Argus LLPX310R			
	1	DragonWave A-ANT-11G-2-C			
	4	DragonWave Horizon Compact			
	1	DragonWave A-ANT-11G-3-C			
1	Andrew PX2F-52				
155.0	9	Dapa 58010	Platform w/ Handrails	(9) 1 5/8"	Sprint/Nextel
144.0	6	Powerwave 7770	Sector Frame	(12) 1 5/8"	AT&T Mobility
	6	Powerwave LGP21401		-	

Existing Antennas (Continued)

Elev. (ft)	Qty	Antennas	Mount	Coax	Carrier
130.0	1	Andrew DB589-Y	Side Arms	(1) 7/8"	American Messaging
126.0	1	8' Dish w/ Radome	Dish	(1) EW65	State of CT
112.5	-	-	Platform w/ Handrails	-	-
75.0	-	-	Platform w/ Handrails	-	-
55.0	1	GPS	Pipe	(1) 1/2"	Sprint/Nextel
50.0	1	Channel Master Type 120	Dish	(1) RG6	American Messaging

Proposed Antennas

Elev. (ft)	Qty	Antennas	Mount	Coax	Carrier
144.0	6	Ericsson RRUS 11 (Band 12)	Sector Frame	(1) RG6 (2) 8 AWG 7 (1) 3" Conduit	AT&T Mobility
	6	Powerwave LGP21401			
	1	Raycap DC6-48-60-18-8F			
	3	Powerwave P65-16-XLH-RR			

Install proposed coax in same location as existing coax.

Results

The maximum structure usage is: 100%

Leg Forces	Current Analysis Reactions
Uplift (Kips)	203.3
Axial (Kips)	277.2

The structure base reactions resulting from this analysis are acceptable based on analysis of the existing foundation and onsite soil conditions. Factor of safety of the foundation with respect to bearing and overturning exceed two. Therefore no modification or reinforcement of the foundation will be required. Detailed calculation is shown at the end of the analysis.

Conclusion

Based on the analysis results, the structure meets the requirements per TIA-222-G and 2003 IBC w/ 2005 CT supplement and 2009 CT amendments standards.

The tower and foundation can support the existing and proposed antennas with the TX line distribution as described in this report.

If you have any questions or require additional information, please call 919-466-5086.

Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

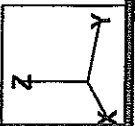
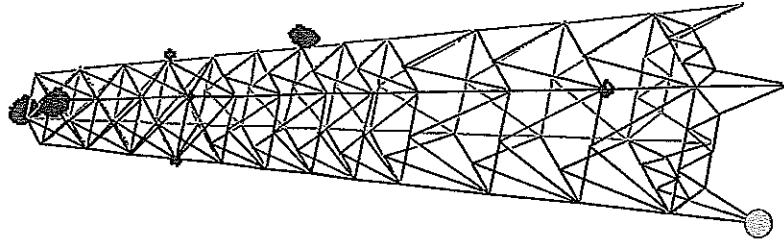
- Information supplied by the client regarding the structure itself, the antenna and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to ATC Engineering Services and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/EIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Engineering Services is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

American Tower Corp., Project "88017-L2-AT&T Mobility-05_09_11"
Tower Version 10.62, 5:44:28 PM Monday, May 09, 2011
Undeformed geometry displayed



Project Name : 88017 - Shelton/Trumbull, CT
Project Notes: 200' AT&T Tower
Project File : E:\Engineering Services\12 - ATC\88017\AT&T Mobility 05-09-11\88017-L2-AT&T Mobility-05_09_11.tow
Date run : 5:39:01 PM Monday May 09, 2011
by : Tower Version 10.6z
Licensed to : American Tower Corp.

Successfully performed nonlinear analysis
The model has 0 warnings.

Member check option: ANSITIA 222-G-1
Connection rupture check: Not Checked
Crossing diagonal check: Fixed
Loads from file: r:\engineering services\12 - atc\88017\at&t mobility 05-09-11\88017-loads-at&t mobility-05_09_11.eia

*** Analysis Results:

Maximum element usage is 99.74% for Angle "ID 4Y" in load case "W 180"

Summary of Joint Support Reactions For All Load Cases:

Load Case	Joint	Long. Force (kips)	Trans. Force (kips)	Vert. Force (kips)	Shear (kips)	Trans. Moment (ft-k)	Long. Moment (ft-k)	Vert. Moment (ft-k)	Bending Found.	Total Long. Force (kips)	Total Trans. Force (kips)	Total Vert. Force (kips)
W 0	OP	-27.49	18.31	202.13	33.03	-0.25	-5.69	-1.73	5.70	0.00	0.00	0.00
W 0	OX	-26.80	18.44	192.13	32.23	0.08	-5.49	1.73	5.49	0.00	0.00	0.00
W 0	OXY	-30.73	-9.81	-128.50	33.55	0.40	-5.98	1.79	6.99	0.00	0.00	0.00
W 0	OY	-31.84	9.91	-125.21	33.55	-0.33	-7.23	-1.78	7.24	0.00	0.00	0.00
W 180	OP	31.99	9.76	-124.77	33.45	-0.23	7.29	-1.75	7.29	0.00	0.00	0.00
W 180	OX	30.71	-9.82	-120.59	32.24	0.43	7.29	-1.90	7.29	0.00	0.00	0.00
W 180	OXY	26.75	18.45	197.21	32.50	0.04	5.91	-1.75	5.91	0.00	0.00	0.00
W 180	OY	27.55	-18.16	201.64	32.99	-0.28	-5.72	1.72	5.72	0.00	0.00	0.00
W 45	OP	-29.24	-29.23	277.18	41.34	4.20	-4.20	-0.78	4.20	0.00	0.00	0.00
W 45	OX	-15.58	-12.91	388.13	20.23	3.74	-3.88	0.65	3.95	0.00	0.00	0.00
W 45	OXY	-28.33	-28.34	-200.15	40.24	4.10	-0.09	-0.02	5.71	0.00	0.00	0.00
W 45	OY	-12.97	15.54	37.94	20.24	3.48	-5.75	-2.61	6.73	0.00	0.00	0.00
W -45	OP	-16.30	13.00	41.95	20.85	-5.88	-8.61	-2.59	6.90	0.00	0.00	0.00
W -45	OX	-28.82	-29.23	274.78	41.05	4.32	-4.08	-0.00	5.94	0.00	0.00	0.00
W -45	OXY	-12.31	15.66	40.03	19.92	-3.46	-5.59	2.63	5.88	0.00	0.00	0.00
W -45	OY	-28.02	-29.57	-203.27	40.72	4.08	-4.23	0.01	5.88	0.00	0.00	0.00
W 90	OP	-18.06	-27.18	199.62	32.63	5.64	0.36	1.79	7.16	0.00	0.00	0.00
W 90	OX	-9.54	-31.33	-122.04	32.75	7.16	0.30	1.79	7.03	0.00	0.00	0.00
W 90	OXY	-30.62	-119.27	32.11	32.11	7.01	-0.42	-1.80	7.02	0.00	0.00	0.00
W 90	OY	18.19	-26.62	195.19	32.24	5.52	-0.72	-1.72	5.52	0.00	0.00	0.00
W -90	OP	9.56	31.32	-121.99	32.74	-7.16	0.30	-1.77	7.16	0.00	0.00	0.00
W -90	OX	18.10	26.71	198.57	32.63	-5.64	0.25	-1.73	5.64	0.00	0.00	0.00
W -90	OXY	-30.84	-118.59	32.26	32.26	-7.11	-0.42	1.80	7.12	0.00	0.00	0.00
W -90	OY	-18.06	27.18	-199.62	32.75	-7.16	0.30	-1.79	7.03	0.00	0.00	0.00
W 0	Ice	8.94	7.72	86.04	12.28	1.18	0.53	-0.21	1.30	0.00	0.00	0.00
W 0	Ice	8.94	7.72	86.04	12.22	1.14	0.56	-0.21	1.27	0.00	0.00	0.00
W 0	Ice	2.37	4.21	45.72	4.86	1.17	-1.79	0.21	2.13	0.00	0.00	0.00
W 0	Ice	2.37	4.21	45.72	4.86	1.20	-1.81	0.21	2.17	0.00	0.00	0.00
W 180	Ice	2.37	4.21	45.72	4.86	-1.19	1.83	0.21	2.18	0.00	0.00	0.00
W 180	Ice	2.37	4.21	45.72	4.86	-1.17	1.82	0.21	2.16	0.00	0.00	0.00
W 180	Ice	9.50	7.68	83.28	12.30	1.16	-0.25	0.21	1.33	0.00	0.00	0.00
W 180	Ice	9.50	7.68	83.28	12.30	1.16	-0.25	0.21	1.33	0.00	0.00	0.00
W 45	Ice	10.06	-10.05	97.59	14.23	-0.70	0.25	-0.21	1.30	0.00	0.00	0.00
W 45	Ice	10.06	-10.05	97.59	14.23	-0.70	0.25	-0.21	1.30	0.00	0.00	0.00
W 45	Ice	7.33	4.55	56.47	6.63	1.63	0.71	0.30	1.38	0.00	0.00	0.00
W 45	Ice	7.33	4.55	56.47	6.63	1.63	0.71	0.30	1.38	0.00	0.00	0.00
W 45	Ice	1.94	1.95	26.82	2.76	1.64	-1.44	0.00	1.72	0.00	0.00	0.00
W 45	Ice	1.94	1.95	26.82	2.76	1.64	-1.44	0.00	1.72	0.00	0.00	0.00
W -45	Ice	4.56	-7.34	66.84	8.64	-0.72	-1.64	-0.31	1.82	0.00	0.00	0.00
W -45	Ice	4.56	-7.34	66.84	8.64	-0.72	-1.64	-0.31	1.82	0.00	0.00	0.00
W -45	Ice	7.50	10.04	67.80	8.79	-1.67	0.70	0.00	0.97	0.00	0.00	0.00
W -45	Ice	7.50	10.04	67.80	8.79	-1.67	0.70	0.00	0.97	0.00	0.00	0.00
W -45	Ice	4.53	7.37	65.93	8.65	0.68	-1.62	0.32	1.76	0.00	0.00	0.00
W -45	Ice	4.53	7.37	65.93	8.65	0.68	-1.62	0.32	1.76	0.00	0.00	0.00
W 90	Ice	1.91	1.95	27.24	2.73	-1.69	1.18	0.21	1.30	0.00	0.00	0.00
W 90	Ice	1.91	1.95	27.24	2.73	-1.69	1.18	0.21	1.30	0.00	0.00	0.00
W 90	Ice	4.24	2.39	47.26	4.87	1.80	1.19	0.21	2.14	0.00	0.00	0.00
W 90	Ice	4.24	2.39	47.26	4.87	1.80	1.19	0.21	2.14	0.00	0.00	0.00
W -90	Ice	4.25	2.39	46.83	4.88	1.79	-1.17	-0.21	2.18	0.00	0.00	0.00
W -90	Ice	4.25	2.39	46.83	4.88	1.79	-1.17	-0.21	2.18	0.00	0.00	0.00
W -90	Ice	7.60	9.48	85.98	12.21	-1.83	1.19	-0.21	1.29	0.00	0.00	0.00
W -90	Ice	7.60	9.48	85.98	12.21	-1.83	1.19	-0.21	1.29	0.00	0.00	0.00
W -90	Ice	4.33	4.33	85.02	12.19	0.51	-1.14	0.21	1.25	0.00	0.00	0.00
W -90	Ice	4.33	4.33	85.02	12.19	0.51	-1.14	0.21	1.25	0.00	0.00	0.00

Summary of Joint Support Reactions For All Load Cases in Direction of Leg:

Load Case	Support	Origin	Leg Force In Residual Shear (kips)	Residual Shear (kips)	Horizontal Residual Shear (kips)	Vertical Residual Shear (kips)	Total Long. Force (kips)	Total Trans. Force (kips)	Total Vert. Force (kips)
W 0	OP	31.99	33.03	-0.25	-5.69	-1.73	33.03	-5.94	-1.73
W 180	OP	31.99	33.45	-0.23	7.29	-1.90	33.45	5.39	-1.90
W 45	OP	27.55	41.34	4.20	-4.20	-0.78	41.34	3.42	-0.78
W -45	OP	27.55	41.05	4.32	-4.08	-0.00	41.05	4.32	0.00
W 90	OP	-9.54	32.75	7.16	0.30	1.79	32.75	7.16	1.79
W -90	OP	-9.54	32.74	-7.16	0.30	-1.77	32.74	-7.16	-1.77
W 0	Ice	8.94	12.28	1.18	0.53	-0.21	12.28	1.18	0.53
W 180	Ice	8.94	12.22	1.14	0.56	-0.21	12.22	1.14	0.56
W 45	Ice	2.37	4.86	1.17	-1.79	0.21	4.86	1.17	-1.79
W -45	Ice	2.37	4.86	-1.19	1.83	0.21	4.86	-1.19	1.83
W 90	Ice	1.91	2.73	-1.69	1.18	0.21	2.73	-1.69	1.18
W -90	Ice	1.91	2.73	1.69	-1.18	-0.21	2.73	1.69	-1.18
W 45	Ice	4.24	4.87	1.80	1.19	0.21	4.87	1.80	1.19
W -45	Ice	4.24	4.88	1.79	-1.17	-0.21	4.88	1.79	-1.17
W 90	Ice	4.25	4.98	-1.83	1.19	-0.21	4.98	-1.83	1.19
W -90	Ice	4.25	4.98	1.83	-1.19	0.21	4.98	1.83	-1.19
W 0	Ice	7.60	85.02	0.51	-1.14	0.21	85.02	0.51	-1.14
W 180	Ice	7.60	85.02	0.51	-1.14	0.21	85.02	0.51	-1.14
W 45	Ice	4.33	47.79	-1.83	-1.18	0.21	47.79	-1.83	-1.18
W -45	Ice	4.33	47.79	1.83	1.18	-0.21	47.79	1.83	1.18

W O	OP	L P	204.340	13.811	4.074	13.252	-27.45	-18.31	202.13
W 0	OP	L P	204.340	13.811	4.074	13.252	-27.45	-18.31	202.13
W 0	OP	L P	200.390	13.447	-4.478	12.843	-26.80	18.44	198.20
W 0	OP	L P	173.815	22.146	1.267	22.171	-30.73	-9.81	-121.57
W 0	OP	L P	137.567	22.584	-1.267	23.059	-31.84	9.91	-125.26
W 180	OP	L P	127.080	23.164	0.972	-23.203	31.99	9.76	-124.77
W 180	OP	L P	122.837	23.192	3.245	-22.826	30.71	-18.42	-120.59
W 180	OP	L P	109.410	13.595	1.858	-12.242	26.55	18.42	157.21
W 45	OP	L P	279.908	13.669	9.709	-13.392	26.55	18.42	157.21
W 45	OP	L P	38.524	20.239	15.722	18.717	-26.23	-28.91	271.64
W 45	OP	L P	203.135	20.442	11.248	12.870	-26.23	-28.91	271.64
W 45	OP	L P	37.931	20.252	11.248	14.236	-26.23	-28.91	271.64
W 45	OP	L P	41.971	20.800	12.669	15.236	-26.23	-28.91	271.64
W 45	OP	L P	277.500	20.799	13.980	13.980	-26.23	-28.91	271.64
W 45	OP	L P	40.064	19.847	13.687	15.472	-26.23	-28.91	271.64
W 45	OP	L P	206.301	19.847	14.841	15.112	-26.23	-28.91	271.64
W 50	OP	L P	201.805	13.661	13.714	13.118	-26.23	-28.91	271.64
W 90	OP	L P	134.306	22.690	22.750	4.000	-18.06	27.18	199.62
W 90	OP	L P	121.510	22.193	22.731	-4.000	-18.06	27.18	199.62
W 90	OP	L P	137.369	13.563	22.217	1.285	-9.58	30.62	-119.27
W 90	OP	L P	164.259	22.684	12.872	-4.441	18.19	-26.62	195.19
W 90	OP	L P	207.636	22.684	22.724	-0.964	9.56	31.32	-121.99
W 90	OP	L P	137.177	13.678	-13.115	4.022	-18.08	27.17	199.57
W 90	OP	L P	150.834	22.524	-13.008	-4.399	18.10	26.71	194.51
W 90	OP	L P	188.207	22.463	-22.490	1.240	-18.08	27.17	199.57
W 90	OP	L P	66.818	3.851	1.566	3.518	-5.67	7.72	87.42
W 90	OP	L P	47.397	1.310	-1.855	3.422	-4.88	7.71	86.04
W 90	OP	L P	46.842	1.380	-0.365	2.37	-4.25	46.61	
W 90	OP	L P	47.598	1.373	0.365	0.962	-2.37	-4.22	47.17
W 180	OP	L P	48.235	3.864	1.386	-1.083	-2.37	-4.22	47.17
W 180	OP	L P	47.598	3.864	1.373	-0.962	-2.37	-4.22	47.17
W 180	OP	L P	98.425	4.889	4.811	-3.489	5.50	7.66	85.28
W 180	OP	L P	96.974	2.645	3.182	-3.509	5.57	7.62	86.58
W 45	OP	L P	66.717	0.688	0.326	2.136	-10.06	-10.05	97.50
W 45	OP	L P	67.148	2.646	0.426	0.698	-7.33	4.35	66.47
W 45	OP	L P	68.315	2.730	0.426	0.198	-4.34	1.35	36.62
W 45	OP	L P	97.185	4.494	4.516	3.425	-7.33	4.35	66.47
W 45	OP	L P	66.437	2.720	-2.724	0.411	4.34	1.35	36.62
W 45	OP	L P	67.148	0.971	-0.710	0.670	-1.35	-1.91	37.21
W 45	OP	L P	68.315	3.807	3.486	1.570	-7.71	-9.62	87.14
W 45	OP	L P	37.326	1.307	0.376	0.934	-4.44	2.39	47.26
W 45	OP	L P	47.489	1.313	0.306	-0.951	4.45	2.39	46.63
W 45	OP	L P	86.762	3.779	3.795	-1.645	7.70	-9.48	85.98
W 45	OP	L P	48.525	1.369	-0.387	0.950	-4.35	-2.41	48.29
W 90	OP	L P	66.313	3.841	3.858	-1.635	-7.60	9.60	86.13
W 90	OP	L P	85.806	3.882	-3.522	1.635	-7.60	9.60	86.13
W 90	OP	L P	48.019	1.395	-1.008	-0.964	4.33	-2.36	47.79

Overturning Moment Summary For All Load Cases:

Load Case	Transverse Moment (ft-k)	Longitudinal Moment (ft-k)	Resultant Moment (ft-k)
W 0	5.059	13428.401	13428.402
W 180	5.067	-13367.323	13367.324
W 45	9692.268	9916.697	14007.064
W 90	-9679.685	9959.394	14028.461
W 90	13199.580	34.394	13199.625
W 90	-13169.379	34.363	13169.424
W 180	40.312	1653.323	1653.814
W 45	1266.677	-1587.269	1587.780
W 90	-1185.808	1259.452	1782.250
W 0	1640.536	33.410	1640.876
W 90	-1357.943	33.408	1358.301

EIA Sections Information:

Section Label	Top Z (ft)	Bottom Z (ft)	Joint Member	Top Width (ft)	Bottom Width (ft)	Gross Area (ft²)	Face Adjust Factor	Face Adjust Factor	Dead Load
187.5-200.0	200.000	187.500	8	20.13.33	15.09	177.63	1.1270	1.1270	1.239
175.0-187.5	187.500	175.000	8	16.15.09	16.15	199.64	1.1800	1.1800	1.298
162.5-175.0	175.000	162.500	8	16.16.85	18.51	221.64	1.2080	1.2080	1.329
150.0-162.5	162.500	150.000	12	24.18.61	20.37	243.65	1.2150	1.2150	1.333
137.5-150.0	150.000	137.500	16	24.20.37	22.13	265.66	1.5180	1.2180	1.462
125.0-137.5	137.500	125.000	16	24.22.13	23.89	287.67	1.2240	1.2240	1.487
112.5-125.0	125.000	112.500	16	24.23.89	25.65	309.68	1.2390	1.2390	1.467
100.0-112.5	112.500	100.000	16	24.25.65	27.42	331.68	1.2450	1.2450	1.494

Table with columns: Group Label, Group Angle Desc. Type, Angle Size Strength Usage Max In Control Member, Comp. Force (kips), Control Case Load Case, L/R Comp. Capacity (kips), Shear Capacity (kips), Conn. Capacity (kips), Bearing Capacity (kips), Conn. Capacity (kips), RLX RLY RLZ, L/R Length Member (ft), Comp. Member (ft), No. Bolts, Curve No. Of, Comp.

Printed capacities do not include the strength factor entered for each load case. The Group Summary reports on the member and load case that resulted in maximum usage which may not necessarily be the same as that which produces maximum force.

Group Summary (Compression Portion): Table with columns: Group Label, Group Angle Desc. Type, Angle Size Strength Usage Max In Control Member, Comp. Force (kips), Control Case Load Case, L/R Comp. Capacity (kips), Shear Capacity (kips), Conn. Capacity (kips), Bearing Capacity (kips), Conn. Capacity (kips), RLX RLY RLZ, L/R Length Member (ft), Comp. Member (ft), No. Bolts, Curve No. Of, Comp.

Group Summary (Tension Portion): Table with columns: Group Label, Group Angle Desc. Type, Angle Size Strength Usage Max In Control Member, Comp. Force (kips), Control Case Load Case, L/R Comp. Capacity (kips), Shear Capacity (kips), Conn. Capacity (kips), Bearing Capacity (kips), Conn. Capacity (kips), RLX RLY RLZ, L/R Length Member (ft), Comp. Member (ft), No. Bolts, Curve No. Of, Comp.

Table with columns: Group Label, Group Angle Desc. Type, Angle Size Strength Usage Max In Control Member, Comp. Force (kips), Control Case Load Case, L/R Comp. Capacity (kips), Shear Capacity (kips), Conn. Capacity (kips), Bearing Capacity (kips), Conn. Capacity (kips), RLX RLY RLZ, L/R Length Member (ft), Comp. Member (ft), No. Bolts, Curve No. Of, Comp.

Site #: 68017
 Name: Shelton/Trumbull, CT

Engineer: SAW
 Date: 05/09/11

Windspeed: No Ice: 105 mph Ice: 40 mph
 Carrier AT&T Mobility

Taper @ Base: -0.14085
 Taper @ Top: 13.33 ft

Taper Change: 200 ft
 PW @ Top: 13.33 ft

Joint Label	Symmetry Code	X Coord. (ft)	Y Coord. (ft)	Z Coord. (ft)	X Disp. Rest.	Y Disp. Rest.	Z Disp. Rest.	X Rot. Rest.	Y Rot. Rest.	Z Rot. Rest.	Drop (ft)	Drop (ft)	Type	Count	Z-Elev. (ft)	PW (ft)	# Sub-Brace
0	X-Symmetry	20.75	20.75	0	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	8.3333	0	2	1	0	41.5	3
1	X-Symmetry	18.989375	18.989375	25	Free	Free	Free	Free	Free	Free	25	25	A	2	25	37.97875	2
2	X-Symmetry	17.22875	17.22875	50	Free	Free	Free	Free	Free	Free	25	50	A	2	50	34.4575	2
3	X-Symmetry	15.468125	15.468125	75	Free	Free	Free	Free	Free	Free	25	75	A	3	75	30.93625	2
4	X-Symmetry	13.7075	13.7075	100	Free	Free	Free	Free	Free	Free	12.5	100	A	4	100	27.415	2
5	X-Symmetry	12.8271875	12.8271875	112.5	Free	Free	Free	Free	Free	Free	12.5	112.5	A	5	112.5	25.654375	1
6	X-Symmetry	11.946875	11.946875	125	Free	Free	Free	Free	Free	Free	12.5	125	A	6	125	23.89375	1
7	X-Symmetry	11.0665625	11.0665625	137.5	Free	Free	Free	Free	Free	Free	12.5	137.5	A	7	137.5	22.133125	1
8	X-Symmetry	10.18625	10.18625	150	Free	Free	Free	Free	Free	Free	12.5	150	X	8	150	20.3725	1
9	X-Symmetry	9.3059375	9.3059375	162.5	Free	Free	Free	Free	Free	Free	12.5	162.5	X	9	162.5	18.611875	1
10	X-Symmetry	8.425625	8.425625	175	Free	Free	Free	Free	Free	Free	12.5	175	X	10	175	16.85125	1
11	X-Symmetry	7.5453125	7.5453125	187.5	Free	Free	Free	Free	Free	Free	12.5	187.5	X	11	187.5	15.090625	1
12	X-Symmetry	6.665	6.665	200	Free	Free	Free	Free	Free	Free	12.5	200	X	12	187.5	13.33	1
A1	X-Symmetry	18.989375	6.329791667	25	Free	Free	Free	Free	Free	Free	Free	Free	Free	13	200	13.33	1
A2	X-Symmetry	17.22875	18.989375	50	Free	Free	Free	Free	Free	Free	Free	Free	Free	13	200	13.33	1
A3	X-Symmetry	15.468125	17.22875	75	Free	Free	Free	Free	Free	Free	Free	Free	Free	13	200	13.33	1
A4	X-Symmetry	13.7075	15.468125	100	Free	Free	Free	Free	Free	Free	Free	Free	Free	13	200	13.33	1
A5	X-Symmetry	12.8271875	13.7075	112.5	Free	Free	Free	Free	Free	Free	Free	Free	Free	13	200	13.33	1
A6	X-Symmetry	11.946875	12.8271875	125	Free	Free	Free	Free	Free	Free	Free	Free	Free	13	200	13.33	1
A7	X-Symmetry	11.0665625	11.946875	137.5	Free	Free	Free	Free	Free	Free	Free	Free	Free	13	200	13.33	1
A8	X-Symmetry	10.18625	11.0665625	150	Free	Free	Free	Free	Free	Free	Free	Free	Free	13	200	13.33	1
A9	X-Symmetry	9.3059375	10.18625	162.5	Free	Free	Free	Free	Free	Free	Free	Free	Free	13	200	13.33	1
A10	X-Symmetry	8.425625	9.3059375	175	Free	Free	Free	Free	Free	Free	Free	Free	Free	13	200	13.33	1
A11	X-Symmetry	7.5453125	8.425625	187.5	Free	Free	Free	Free	Free	Free	Free	Free	Free	13	200	13.33	1
A12	X-Symmetry	6.665	7.5453125	200	Free	Free	Free	Free	Free	Free	Free	Free	Free	13	200	13.33	1
A13	X-Symmetry	19.57624765	11.13650855	15.6667	Free	Free	Free	Free	Free	Free	Free	Free	Free	13	200	13.33	1
A14	X-Symmetry	19.57624765	16.6667	16.6667	Free	Free	Free	Free	Free	Free	Free	Free	Free	13	200	13.33	1
A15	X-Symmetry	19.57624765	16.6667	16.6667	Free	Free	Free	Free	Free	Free	Free	Free	Free	13	200	13.33	1
A16	X-Symmetry	19.57624765	16.6667	16.6667	Free	Free	Free	Free	Free	Free	Free	Free	Free	13	200	13.33	1

NOTES:
 1: Built up Horiz. w/ A
 2: Built up Horiz. w/ M
 A: Typical A brace
 X: Typical X brace
 Drop: Use only for types 1 & 2
 # Sections: 12

Legs

Site No.:	88017
Engineer:	SAW
Date:	05/09/2011
Carrier:	AT&T Mobility

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape ^[1]	Diameter or Length (in)	Thickness ^[2] (in)	F _y (ksi)
1	0.000-25.00	L	8	1.125	33
2	25.00-50.00	L	8	1	33
3	50.00-75.00	L	8	0.875	33
4	75.00-100.0	L	8	0.75	33
5	100.0-112.5	L	6	0.875	33
6	112.5-125.0	L	6	0.875	33
7	125.0-137.5	L	6	0.75	33
8	137.5-150.0	L	6	0.75	33
9	150.0-162.5	L	6	0.75	33
10	162.5-175.0	L	6	0.75	33
11	175.0-187.5	L	6	0.5	33
12	187.5-200.0	L	6	0.5	33

Notes:

^[1] Type of Leg Shape: R = Round or P = Bent Plate or S = Schifferized Angle. L = Even Leg

^[2] For Solid Round Leg Shapes Thickness Equals Zero.

^[3] Adjust for Bent Plate Leg Shapes.

Diagonals

Site No.:	88017
Engineer:	SAW
Date:	05/09/2011
Carrier:	AT&T Mobility

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape ⁽¹⁾	Diameter ⁽²⁾ (in)	Web Length ⁽³⁾ (in)	Flange Length ⁽³⁾ (in)	Thickness (in)	F _y (ksi)	Is Diag. Tension Only? (Y/N)
1	0.000-25.00	2L		3	3	0.25	33	
2	25.00-50.00	2L		2.5	3	0.3125	33	
3	50.00-75.00	2L		2.5	3	0.25	33	
4	75.00-100.0	2L		2.5	3	0.25	33	
5	100.0-112.5	2L		2.5	2.5	0.25	33	
6	112.5-125.0	2L		2.5	2.5	0.25	33	
7	125.0-137.5	2L		2.5	2.5	0.25	33	
8	137.5-150.0	2L		2.5	2.5	0.25	33	
9	150.0-162.5	L		3	4	0.25	33	
10	162.5-175.0	L		3	4	0.25	33	
11	175.0-187.5	L		3.5	3.5	0.25	33	
12	187.5-200.0	L		3.5	3.5	0.25	33	

Notes:

- ⁽¹⁾ Type of Diagonal Shape: R = Round, L = Single-Angle or 2L = Double-Angle.
- ⁽²⁾ Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.
- ⁽³⁾ Applies to Single-Angle and Double-Angle Shapes only.
- ⁽⁴⁾ Applies to Double-Angle Shapes only.
- ⁽⁵⁾ Applies to Single-Angle Shapes only.

Horizontals

Site No.:	88017
Engineer:	SAW
Date:	05/09/2011
Carrier:	AT&T Mobility

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape ^[1]	Diameter ^[2] (in)	Web Length ^[3] (in)	Flange Length ^[3] (in)	Thickness (in)	F _y (ksi)	
1	0.000-25.00	2L		3	3	0.3125	33	
2	25.00-50.00	2L		3.5	2.5	0.3125	33	
3	50.00-75.00	2L		3	2.5	0.25	33	
4	75.00-100.0	2L		3	2.5	0.25	33	
5	100.0-112.5	2L		2.5	2.5	0.25	33	
6	112.5-125.0	2L		2.5	2.5	0.25	33	
7	125.0-137.5	2L		3	2.5	0.25	33	
8	137.5-150.0	2L		3	2.5	0.25	33	
9	150.0-162.5	2L		3	2.5	0.25	33	
10	162.5-175.0	2L		3	2.5	0.25	33	
11	175.0-187.5	L		4	3	0.3125	33	
12	187.5-200.0	L		4	3	0.3125	33	

Notes:

- ^[1] Type of Horizontal Shape: R = Round, L = Single-Angle, 2L = Double-Angle, C = Channel, W = W Shape
- ^[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.
- ^[3] Applies to Single-Angle and Double-Angle Shapes only.
- ^[4] Applies to Double-Angle Shapes only.
- ^[5] Applies to Single-Angle Shapes only.

Built-up Diagonals

Site No.:	88017
Engineer:	SAW
Date:	05/09/2011
Carrier:	AT&T Mobility

When inputting thickness values, include all decimal places.
Input diags. from left to center & from base section upward.

Tower Built-up Diag. #	Section Elevations (ft)	Type of Shape ⁽¹⁾	Diameter ⁽²⁾ (in)	Web Length ⁽³⁾ (in)	Flange Length ⁽³⁾ (in)	Thickness (in)	F _y (ksi)
1	0.000-25.00	2L		2.5	2	0.25	33
2	0.000-25.00	2L		2.5	2.5	0.25	33
3	0.000-25.00	2L		3	3	0.25	33

Notes:

- ⁽¹⁾ Type of Diagonal Shape: R = Round, L = Single-Angle or 2L = Double-Angle.
- ⁽²⁾ Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.
- ⁽³⁾ Applies to Single-Angle and Double-Angle Shapes only.
- ⁽⁴⁾ Applies to Double-Angle Shapes only.
- ⁽⁵⁾ Applies to Single-Angle Shapes only.

Built-up Horizontals

Site No.:	88017
Engineer:	SAW
Date:	05/09/2011
Carrier:	AT&T Mobility

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape ⁽¹⁾	Diameter ⁽²⁾ (in)	Web Length ⁽³⁾ (in)	Flange Length ⁽³⁾ (in)	Thickness (in)	F _y (ksi)	Is Horiz. Tension Only? (Y/N)
1	0.000-25.00	2L		2.5	2.5	0.25	33	Y

Notes:

⁽¹⁾ Type of Horizontal Shape: R = Round, L = Single-Angle or 2L = Double-Angle.

⁽²⁾ Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

⁽³⁾ Applies to Single-Angle and Double-Angle Shapes only.

⁽⁴⁾ Applies to Double-Angle Shapes only.

⁽⁵⁾ Applies to Single-Angle Shapes only.

Coax & Dishes

Dish Types	Joint Orientation
Standard	XY 0°
Standard w/ Radome	XY Y
High Performance	XY Y
Grid	X X
	P P

Dish Elevation (ft)	Dish Dia. (ft)	Dish Angle (deg)	Dish Type	Joint Orientation
200	8	180	R	P
200	8	0	R	P
200	8	270	R	Y
50	4	180	S	P
162	2	0	S	Y
162	3	90	H	X
162	2	180	H	P
162	3	270	H	Y

Equipment Label	Attach Label	Equipment Property Set	EIA Antenna Orientation Angle (deg)
8' RAD 1 @ 200'	12P	8 ft RAD Dish	180
8' RAD 2 @ 200'	12XY	8 ft RAD Dish	0
8' RAD 3 @ 125'	5Y	8 ft RAD Dish	270
4' STD 4 @ 50'	2P	4 ft STD Dish	180
2' STD 5 @ 162'	5XY	2 ft STD Dish	0
3' HP 6 @ 162'	5X	3 ft HP Dish	90
2' HP 7 @ 162'	5P	2 ft HP Dish	180
3' HP 8 @ 162'	5Y	3 ft HP Dish	270

Site No.: 88017
 Engineer: SAW
 Date: 05/09/11
 Carrier: AT&T Mobility

Description	From (ft)	To (ft)	Quantity	Shape	Width or Diameter (in)	Perimeter (ft)	Unit Weight (lb/ft)	Part of Face Solidity Ratio (Yes/No)	Include in Wind Load (Yes/No)
StateofCT1	5	200	2	Round	1.88	6.22	1.08	Yes	Yes
StateofCT2	5	200	2	Round	2.01	6.31	0.51	Yes	Yes
StateofCT3	5	183	4	Round	0.44	1.38	0.08	Yes	Yes
StateofCT4	5	180	5	Round	1.98	6.22	1.08	Yes	Yes
Sprint1	5	168	1	Flat	8.91	27.99	9.84	Yes	Yes
Clearwire1	5	162	1	Round	1.26	3.96	0.60	Yes	Yes
Clearwire2	5	162	6	Round	0	0.00	0.30	Yes	Yes
Clearwire3	5	162	1	Round	2.38	7.48	3.65	Yes	Yes
Sprint2	5	155	1	Flat	8.91	27.99	7.38	Yes	Yes
ATT Mob1	5	144	1	Flat	6.3	19.79	9.84	Yes	Yes
ATT Mob2	5	144	3	Round	0.41	1.29	0.06	No	No
ATT Mob3	5	144	1	Round	3.5	11.00	7.58	Yes	Yes
Amer Mess.	5	130	1	Round	1.09	3.42	0.14	Yes	Yes
StateofCT5	5	126	1	Round	2.01	6.31	0.57	Yes	Yes
Sprint3	5	55	1	Round	0.63	1.98	0.14	Yes	Yes
Amer Mess2	5	50	1	Round	0.28	0.88	0.03	Yes	Yes
Ladder	5	200	1	Round	2.5	7.85	0.59	Yes	Yes
Wave Guide	5	200	4	Flat	1.5	4.71	2.50	Yes	Yes

Coax	Dia. (in)	Weight (lb/ft)
1/4"	0.3	0.064
3/8"	0.44	0.084
1/2"	0.63	0.144
7/8"	1.11	0.544
EW90	1.32	0.32
1-1/4"	1.55	0.664
1-5/8"	1.98	1.08
EW65	2.01	0.51
EW52	2.25	0.59
Ladder	3	5
WC281	3.11	5.39

Site #: 88017

Name: AT&T Mobility

Engineer: SAW

Date: 05/09/11

Section Label	Section Color	Joint Defining Bottom Section	Dead Load Adj. Factor	Adj. Factor Flat	Adj. Factor Round	Area Multiplier	Weight Multiplier
0.000-25.00		0P	1.457705293	1.214754411	1.214754411	1	1.2
25.00-50.00		1P	1.601894572	1.334912143	1.334912143	1	1.2
50.00-75.00		2P	1.551102587	1.292585489	1.292585489	1	1.2
75.00-100.0		3P	1.5321069	1.27675575	1.27675575	1	1.2
100.0-112.5		4P	1.494062132	1.245051776	1.245051776	1	1.2
112.5-125.0		5P	1.486743903	1.238953253	1.238953253	1	1.2
125.0-137.5		6P	1.46902112	1.224184266	1.224184266	1	1.2
137.5-150.0		7P	1.462099418	1.218416182	1.218416182	1	1.2
150.0-162.5		8P	1.336168305	1.214698459	1.214698459	1	1.1
162.5-175.0		9P	1.32864151	1.207855918	1.207855918	1	1.1
175.0-187.5		10P	1.298160839	1.180146218	1.180146218	1	1.1
187.5-200.0		11P	1.299494338	1.126813034	1.126813034	1	1.1

Site #: 88017
 Name: AT&T Mobility

Engineer: SAW
 Date: 05/09/11

Group Label	Group Description	Angle Type	Angle Size	Material Type	Element Type	Group Type	Optimize Group
Leg S1	L 8" x 8" x 1.125"	SAE	8X8X1.13	A500A	Beam	Leg	None
Leg S2	L 8" x 8" x 1"	SAE	8X8X1	A500A	Beam	Leg	None
Leg S3	L 8" x 8" x 0.875"	SAE	8X8X0.88	A500A	Beam	Leg	None
Leg S4	L 8" x 8" x 0.75"	SAE	8X8X0.75	A500A	Beam	Leg	None
Leg S5	L 6" x 6" x 0.875"	SAE	6X6X0.88	A500A	Beam	Leg	None
Leg S6	L 6" x 6" x 0.875"	SAE	6X6X0.88	A500A	Beam	Leg	None
Leg S7	L 6" x 6" x 0.75"	SAE	6X6X0.75	A500A	Beam	Leg	None
Leg S8	L 6" x 6" x 0.75"	SAE	6X6X0.75	A500A	Beam	Leg	None
Leg S9	L 6" x 6" x 0.75"	SAE	6X6X0.75	A500A	Beam	Leg	None
Leg S10	L 6" x 6" x 0.75"	SAE	6X6X0.75	A500A	Beam	Leg	None
Leg S11	L 6" x 6" x 0.5"	SAE	6X6X0.5	A500A	Beam	Leg	None
Leg S12	L 6" x 6" x 0.5"	SAE	6X6X0.5	A500A	Beam	Leg	None
Diag S1	B/B L3"x3"x0.25"	DAE	3X3X0.25	A500A	Beam	Leg	None
Diag S2	B/B L2.5"x3"x0.3125"	DAS	3X2.5X0.31	A500A	Beam	Other	None
Diag S3	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	A500A	Beam	Other	None
Diag S4	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	A500A	Beam	Other	None
Diag S5	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	A500A	Beam	Other	None
Diag S6	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	A500A	Beam	Other	None
Diag S7	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	A500A	Beam	Other	None
Diag S8	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	A500A	Beam	Other	None
Diag S9	L 3" x 4" x 0.25"	SAU	4X3X0.25	A500A	Beam	Other	None
Diag S10	L 3" x 4" x 0.25"	SAU	4X3X0.25	A500A	Beam	Other	None
Diag S11	L 3.5" x 3.5" x 0.25"	SAE	3.5X3.5X0.25	A500A	Beam	Other	None
Diag S12	L 3.5" x 3.5" x 0.25"	SAE	3.5X3.5X0.25	A500A	Beam	Other	None
Horiz 1	B/B L3"x3"x0.3125"	DAE	3X3X0.31	A500A	Beam	Other	None
Horiz 2	B/B L3.5"x2.5"x0.3125"	DAL	3.5X2.5X0.31	A500A	Beam	Other	None
Horiz 3	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	A500A	Beam	Other	None
Horiz 4	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	A500A	Beam	Other	None
Horiz 5	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	A500A	Beam	Other	None
Horiz 6	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	A500A	Beam	Other	None
Horiz 7	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	A500A	Beam	Other	None
Horiz 8	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	A500A	Beam	Other	None
Horiz 9	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	A500A	Beam	Other	None
Horiz 10	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	A500A	Beam	Other	None
Horiz 11	L 4" x 3" x 0.3125"	SAU	4X3X0.31	A500A	Beam	Other	None
Horiz 12	L 4" x 3" x 0.3125"	SAU	4X3X0.31	A500A	Beam	Other	None
LD 1	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	A500A	Beam	Other	None
LD 2	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	A500A	Beam	Other	None
LD 3	B/B L3"x3"x0.25"	DAE	3X3X0.25	A500A	Beam	Other	None
LH 1	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	A500A	T-Only	Other	None
DUM 1	Dummy Bracing Member	DUM	0.1X0.1X1	A 36	Beam	Fictitious	None

Site #: 88017
 Name: AT&T Mobility

Engineer: SAW
 Date: 05/09/11

Member Label	Group Label	Section Label	Symmetry Code	Origin Joint	End Joint	Ecc. Code	Rest. Code	Ratio RLX	Ratio RLY	Ratio RLZ
L 1	Leg S1		XY-Symmetry	0P	1P	1	4	0.333332	0.333332	0.333332
L 2	Leg S2		XY-Symmetry	1P	2P	1	4	0.33333333	0.33333333	0.33333333
L 3	Leg S3		XY-Symmetry	2P	3P	1	4	0.33333333	0.33333333	0.33333333
L 4	Leg S4		XY-Symmetry	3P	4P	1	4	0.33333333	0.33333333	0.33333333
L 5	Leg S5		XY-Symmetry	4P	5P	1	4	0.5	0.5	0.5
L 6	Leg S6		XY-Symmetry	5P	6P	1	4	0.5	0.5	0.5
L 7	Leg S7		XY-Symmetry	6P	7P	1	4	0.5	0.5	0.5
L 8	Leg S8		XY-Symmetry	7P	8P	1	4	0.5	0.5	0.5
L 9	Leg S9		XY-Symmetry	8P	9P	1	4	0.5	0.5	0.5
L 10	Leg S10		XY-Symmetry	9P	10P	1	4	0.5	0.5	0.5
L 11	Leg S11		XY-Symmetry	10P	11P	1	4	0.5	0.5	0.5
L 12	Leg S12		XY-Symmetry	11P	12P	1	4	0.5	0.5	0.5
D 1	Diag S1		XY-Symmetry	0P	H2P	1	6	0.3217	0.64388	0.3217
D 2	Diag S1		XY-Symmetry	0P	H1P	1	6	0.3217	0.64388	0.3217
D 3	Diag S2		XY-Symmetry	1P	A3P	1	6	0.3262	0.65251	0.3262
D 4	Diag S2		XY-Symmetry	1P	A4P	1	6	0.3262	0.65251	0.3262
D 5	Diag S3		XY-Symmetry	2P	A5P	1	6	0.3259	0.651809	0.3259
D 6	Diag S3		XY-Symmetry	2P	A6P	1	6	0.3259	0.651809	0.3259
D 7	Diag S4		XY-Symmetry	3P	A7P	1	6	0.33	0.65	0.33
D 8	Diag S4		XY-Symmetry	3P	A8P	1	6	0.33	0.65	0.33
D 9	Diag S5		XY-Symmetry	4P	A9P	1	6	0.482	0.964063	0.482
D 10	Diag S5		XY-Symmetry	4P	A10P	1	6	0.482	0.964063	0.482
D 11	Diag S6		XY-Symmetry	5P	A11P	1	6	0.5	1	0.5
D 12	Diag S6		XY-Symmetry	5P	A12P	1	6	0.5	1	0.5
D 13	Diag S7		XY-Symmetry	6P	A13P	1	6	0.5	1	0.5
D 14	Diag S7		XY-Symmetry	6P	A14P	1	6	0.5	1	0.5
D 15	Diag S8		XY-Symmetry	7P	A15P	1	6	0.5	1	0.5
D 16	Diag S8		XY-Symmetry	7P	A16P	1	6	0.5	1	0.5
D 17	Diag S9		XY-Symmetry	8P	9Y	1	6	0.4856	0.728407	0.4856
D 18	Diag S9		XY-Symmetry	8P	9X	1	6	0.4856	0.728407	0.4856
D 19	Diag S10		XY-Symmetry	9P	10Y	1	6	0.52	0.5	0.52
D 20	Diag S10		XY-Symmetry	9P	10X	1	6	0.52	0.5	0.52
D 21	Diag S11		XY-Symmetry	10P	11Y	1	6	0.52	0.5	0.52
D 22	Diag S11		XY-Symmetry	10P	11X	1	6	0.52	0.5	0.52
D 23	Diag S12		XY-Symmetry	11P	12Y	1	6	0.52	0.5	0.52
D 24	Diag S12		XY-Symmetry	11P	12X	1	6	0.52	0.5	0.52
H 1	Horiz 1		XY-Symmetry	1P	A1P	1	6	0.982	0.982	0.982
H 2	Horiz 1		XY-Symmetry	1P	A2P	1	6	0.982	0.982	0.982
H 3	Horiz 2		XY-Symmetry	2P	A3P	1	6	1	1	1
H 4	Horiz 2		XY-Symmetry	2P	A4P	1	6	1	1	1
H 5	Horiz 3		XY-Symmetry	3P	A5P	1	6	1	1	1
H 6	Horiz 3		XY-Symmetry	3P	A6P	1	6	1	1	1
H 7	Horiz 4		XY-Symmetry	4P	A7P	1	6	1	1	1
H 8	Horiz 4		XY-Symmetry	4P	A8P	1	6	1	1	1
H 9	Horiz 5		XY-Symmetry	5P	A9P	1	6	1	1	1
H 10	Horiz 5		XY-Symmetry	5P	A10P	1	6	1	1	1
H 11	Horiz 6		XY-Symmetry	6P	A11P	1	6	1	1	1
H 12	Horiz 6		XY-Symmetry	6P	A12P	1	6	1	1	1
H 13	Horiz 7		XY-Symmetry	7P	A13P	1	6	1	1	1
H 14	Horiz 7		XY-Symmetry	7P	A14P	1	6	1	1	1
H 15	Horiz 8		XY-Symmetry	8P	A15P	1	6	1	1	1
H 16	Horiz 8		XY-Symmetry	8P	A16P	1	6	1	1	1
H 17	Horiz 9		Y-Symmetry	9P	9X	1	6	0.5	1	0.5
H 18	Horiz 9		X-Symmetry	9P	9Y	1	6	0.5	1	0.5
H 19	Horiz 10		Y-Symmetry	10P	10X	1	6	0.5	1	0.5
H 20	Horiz 10		X-Symmetry	10P	10Y	1	6	0.5	1	0.5
H 21	Horiz 11		Y-Symmetry	11P	11X	1	6	0.5	1	0.5
H 22	Horiz 11		X-Symmetry	11P	11Y	1	6	0.5	1	0.5
H 23	Horiz 12		Y-Symmetry	12P	12X	1	6	1	1	1
H 24	Horiz 12		X-Symmetry	12P	12Y	1	6	1	1	1
H 25	Horiz 1		Y-Symmetry	A1P	A1X	1	6	0.982	0.982	0.982

Member Label	Group Label	Section Label	Symmetry Code	Origin Joint	End Joint	Ecc. Code	Rest. Code	Ratio RLX	Ratio RLY	Ratio RLZ
H 26	Horiz 1		X-Symmetry	A2P	A2Y	1	6	0.982	0.982	0.982
LH 1	LH 1		XY-Symmetry	H1P	H3P	1	6	1	2	1
LH 2	LH 1		XY-Symmetry	H2P	H4P	1	6	1	2	1
LD 1	LD 1		XY-Symmetry	H1P	1P	1	6	1	1	1
LD 2	LD 1		XY-Symmetry	H2P	1P	1	6	1	1	1
LD 3	LD 2		XY-Symmetry	H1P	A1P	1	6	0.975	0.975	0.975
LD 4	LD 2		XY-Symmetry	H2P	A2P	1	6	0.975	0.975	0.975
LD 5	LD 3		XY-Symmetry	A1P	H3P	1	6	1	1	1
LD 6	LD 3		XY-Symmetry	A2P	H4P	1	6	1	1	1
BR 1	DUM 1		XY-Symmetry	A1P	A2P	1	4	1	1	1
BR 2	DUM 1		XY-Symmetry	A1P	A2XY	1	4	1	1	1
BR 3	DUM 1		XY-Symmetry	A3P	A4P	1	4	1	1	1
BR 5	DUM 1		XY-Symmetry	A5P	A6P	1	4	1	1	1
BR 7	DUM 1		XY-Symmetry	A7P	A8P	1	4	1	1	1
BR 9	DUM 1		XY-Symmetry	A9P	A10P	1	4	1	1	1
BR 11	DUM 1		XY-Symmetry	A11P	A12P	1	4	1	1	1
BR 13	DUM 1		XY-Symmetry	A13P	A14P	1	4	1	1	1
BR 15	DUM 1		XY-Symmetry	A15P	A16P	1	4	1	1	1
BR 61	DUM 1		XY-Symmetry	H1P	H2P	1	4	1	1	1
BR 62	DUM 1		XY-Symmetry	H1P	H2XY	1	4	1	1	1
BR 63	DUM 1		XY-Symmetry	H3P	H4P	1	4	1	1	1

No.	Elevation (ft)	C _p A _c (ft ²)	C _p A _c (ice) (ft ²)	Force (lb)	Force (ice) (lb)	Weight (lb)	Weight (ice) (lb)	GO Azl Mult.	Force		Height Flag	Sun GO Azl
									mean	f (ice) mean		
1	200	9.00	11.08	353.742	32.685	216	474	1.00	194.56	17.65		
	200							1.00	0.00	0.00	0.0000010	353.7415185
2	200	0.01	0.05	0.382	0.035	2	4	1.00	0.21	0.02	0.0000020	
	200	75.00	101.25	2947.845	267.378	6000	9360	1.00	1621.32	147.06	1.5060000	3301.969534
3	187.5	0.01	0.05	0.375	0.034	2	4	1.00	0.21	0.02	1.5050010	
	187.5	60.00	81.00	2315.150	209.595	4800	7488	1.00	1273.35	115.50	1.5053333	2315.564784
4	183	9.00	13.67	344.876	31.281	252	460	1.00	189.88	17.20	1.5053343	
	183	9.35	12.64	322.804	29.279	120	187	1.00	177.54	16.10	1.5053343	667.680733
5	183	21.00	29.86	804.871	73.004	177	489	1.00	442.63	40.15	1.5053353	
	183	9.36	12.64	322.804	29.279	120	187	1.00	177.54	16.10	1.5054645	1795.355947
6	168	25.09	30.72	938.155	85.094	450	662	1.00	515.59	46.80	1.5054655	
	168	60.28	54.37	1129.551	102.454	480	749	1.00	621.25	56.35	1.5059524	2057.707049
7	162	8.09	9.45	299.573	27.172	206	377	1.00	164.77	14.94	1.5059534	
	162	10.45	14.11	385.603	35.085	180	281	1.00	212.74	19.30	1.5059534	686.3811967
8	152	0.28	0.62	10.513	0.954	252	307	1.00	5.78	0.52	1.5059544	
	152	1.15	1.56	34.118	3.065	12	19	1.00	18.77	1.70	1.5061728	731.0123291
9					#DIV/0!			1.00	#DIV/0!	#DIV/0!	1.5061738	
								1.00	0.00	0.00	#DIV/0!	#DIV/0!
10	155	13.89	17.74	507.656	46.047	156	269	1.00	279.22	25.33	#DIV/0!	
	155	55.00	74.25	2009.917	182.305	4200	6552	1.00	1105.45	100.27	1.5054516	2517.581677
11					#DIV/0!			1.00	#DIV/0!	#DIV/0!	1.5064526	
								1.00	0.00	0.00	#DIV/0!	#DIV/0!
12	130	1.83	3.25	63.714	5.779	28	138	1.00	35.04	3.18	#DIV/0!	
	130	5.20	7.02	180.715	16.391	120	187	1.00	99.39	9.02	1.5076923	244.428251
13	112.5					2	4	1.00	0.00	0.00	1.5076933	
	112.5	55.00	74.25	1834.056	166.354	4200	6552	1.00	1008.73	91.49	1.5088889	1834.056253
14	75	0.01	0.05	0.289	0.026	2	3	1.00	0.16	0.01	1.5088899	
	75	55.00	74.25	1633.431	148.157	4200	6552	1.00	898.39	81.49	1.5133343	1633.220002
15	55	1.40	1.77	38.052	3.451	35	86	1.00	20.93	1.90	1.5133343	
	55	1.00	1.35	27.180	2.465			1.00	14.95	1.36	1.5181818	65.23251294
16					#VALUE!			1.00	#VALUE!	#VALUE!	1.5181828	
								1.00	0.00	0.00	1.5181828	#VALUE!
17	144	7.93	10.18	283.748	25.737	254	339	1.00	156.06	14.16	1.5181838	
	144	40.28	54.37	1441.176	93.039	600	936	1.00	792.65	58.92	1.5069444	1724.923607
18	144	10.05	11.86	359.661	32.622	594	789	1.00	197.81	17.94	1.5069454	
	144							1.00	0.00	0.00	1.5069444	2084.584763
19	144	1.17	1.42	41.986	3.808	76	180	1.00	23.09	2.09	1.5069454	
	144							1.00	0.00	0.00	1.5069444	2126.570598
20	144	21.14	24.68	756.620	68.628	378	615	1.00	415.14	37.75	1.5069454	
	144							1.00	0.00	0.00	1.5069444	2683.180326
21	144	15.72	18.05	562.515	51.022	382	690	1.00	309.38	28.06	1.5069454	
	144							1.00	0.00	0.00	1.5069444	3445.705088
22					#VALUE!			1.00	#VALUE!	#VALUE!	1.5069454	
								1.00	0.00	0.00	#DIV/0!	#VALUE!
23					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!
								1.00	0.00	0.00	#DIV/0!	#VALUE!
24					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!
								1.00	0.00	0.00	#DIV/0!	#VALUE!
25					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!
								1.00	0.00	0.00	#DIV/0!	#VALUE!
26					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!
								1.00	0.00	0.00	#DIV/0!	#VALUE!
27					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!
								1.00	0.00	0.00	#DIV/0!	#VALUE!
28					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!
								1.00	0.00	0.00	#DIV/0!	#VALUE!
29					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!
								1.00	0.00	0.00	#DIV/0!	#VALUE!
30					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!
								1.00	0.00	0.00	#DIV/0!	#VALUE!
31					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!
								1.00	0.00	0.00	#DIV/0!	#VALUE!
32					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!
								1.00	0.00	0.00	#DIV/0!	#VALUE!
33					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!
								1.00	0.00	0.00	#DIV/0!	#VALUE!
34					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!
								1.00	0.00	0.00	#DIV/0!	#VALUE!
35					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!
								1.00	0.00	0.00	#DIV/0!	#VALUE!

Wind Speed:	105	mph
Ice Wind Sp.	40	mph
Ice Thick.	0.75	in

FW@Base	41.5
Height	200
Slope	-0.14085
Apex	294.639688

φ:	0.85
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Site No.:	88017
Engineer:	SAW
Date:	40672
Carrier:	AT&T Mobility

Load Case Description	Dead Load Factor	Wind Load Factor	Strength Factor	Load Case Type	Basic Wind Speed	Wind Dir. (deg)	Mean Wind Start El.	Mean Wind Stop El.	Ice Thick.	Ice Density	Temp.	Point Loads
W 0	1.2	1.6	1	Regular	105	0			0	56	50	
W 180	1.2	1.6	1	Regular	105	180			0	56	50	
W 45	1.2	1.6	1	Regular	105	45			0	56	50	
W -45	1.2	1.6	1	Regular	105	-45			0	56	50	
W 90	1.2	1.6	1	Regular	105	90			0	56	50	
W -90	1.2	1.6	1	Regular	105	-90			0	56	50	

W 0 Ice	1.2	1	1	Regular	40	0			0.75	56	10	
W 180 Ice	1.2	1	1	Regular	40	180			0.75	56	10	
W 45 Ice	1.2	1	1	Regular	40	45			0.75	56	10	
W -45 Ice	1.2	1	1	Regular	40	-45			0.75	56	10	
W 90 Ice	1.2	1	1	Regular	40	90			0.75	56	10	
W -90 Ice	1.2	1	1	Regular	40	-90			0.75	56	10	
Serviceability	1	1	1	Service	60	180			0	56	10	

Site: 88017
 Carrier: AT&T Mobility

Engineer: SAW
 Date: 05/09/11

Full Wind Loading

Angle: 0

No Ice

Joint Label	Force X-Dir (lbs)	Force Y-Dir (lbs)	Force Vertical (lbs)	Moment X-Axis (ft-lbs)	Moment Y-Axis (ft-lbs)	Moment Z-Axis (ft-lbs)
12P	176.87	0.00	237.0399131			
12X	176.87	0.00	237.0399131			
12Y	0.00	0.00	0			
12XY	0.00	0.00	0			
12P	737.34	0.00	1503.584486			
12X	736.96	0.00	1500			
12Y	736.96	0.00	1500			
12XY	736.96	0.00	1500			
11P	579.17	0.00	1203.577435			
11X	578.80	0.00	1200			
11Y	578.80	0.00	1200			
11XY	578.80	0.00	1200			
11P	276.36	0.00	213.1994261			
11X	276.36	0.00	213.1994261			
11Y	114.96	0.00	153.1994261			
11XY	0.00	0.00	0			
11P	563.84	0.00	304.5194041			
11X	563.84	0.00	304.5194041			
11Y	0.00	0.00	0			
11XY	0.00	0.00	0			
10P	689.24	0.00	380.5940169			
10X	689.24	0.00	380.5940169			
10Y	689.24	0.00	380.5940169			
10XY	0.00	0.00	0			
9P	228.79	0.00	185.6476932			
9X	228.79	0.00	185.6476932			
9Y	228.79	0.00	185.6476932			
9XY	0.00	0.00	0			
9P	20.56	0.00	108.4303493			
9X	20.56	0.00	108.4303493			
9Y	3.50	0.00	102.4303493			
9XY	0.00	0.00	0			
9P	671.70	0.00	1139.635915			
9X	671.70	0.00	1139.635915			
9Y	671.70	0.00	1139.635915			
9XY	502.48	0.00	1050			
7P	244.43	0.00	258.2928222			
7X	0.00	0.00	0			
7Y	0.00	0.00	0			
7XY	0.00	0.00	0			
5P	458.51	0.00	1053.524291			
5X	458.51	0.00	1050			
5Y	458.51	0.00	1050			
5XY	458.51	0.00	1050			
3P	408.65	0.00	1053.485285			
3X	408.36	0.00	1050			
3Y	408.36	0.00	1050			
3XY	408.36	0.00	1050			
2P	65.23	0.00	85.1296594			
2X	0.00	0.00	0			
2Y	0.00	0.00	0			
2XY	0.00	0.00	0			
8P	574.97	0.00	313.0362544			
8X	574.97	0.00	313.0362544			
8Y	574.97	0.00	313.0362544			
8XY	0.00	0.00	0			
8P	119.89	0.00	263.0507588			
8X	119.89	0.00	263.0507588			
8Y	119.89	0.00	263.0507588			
8XY	0.00	0.00	0			
8P	41.99	0.00	179.7233076			
8X	0.00	0.00	0			
8Y	0.00	0.00	0			
8XY	0.00	0.00	0			
8P	252.21	0.00	205.006802			

With Ice

Joint Label	Force X-Dir (lbs)	Force Y-Dir (lbs)	Force Vertical (lbs)
12P	16.04	0.00	237.0399131
12X	16.04	0.00	237.0399131
12Y	0.00	0.00	0
12XY	0.00	0.00	0
12P	66.88	0.00	2343.584486
12X	66.84	0.00	2340
12Y	66.84	0.00	2340
12XY	66.84	0.00	2340
11P	52.53	0.00	1875.577435
11X	52.50	0.00	1872
11Y	52.50	0.00	1872
11XY	52.50	0.00	1872
11P	25.07	0.00	246.7994261
11X	25.07	0.00	246.7994261
11Y	10.43	0.00	153.1994261
11XY	0.00	0.00	0
11P	51.14	0.00	338.1194041
11X	51.14	0.00	338.1194041
11Y	0.00	0.00	0
11XY	0.00	0.00	0
10P	62.52	0.00	470.1940169
10X	62.52	0.00	470.1940169
10Y	62.52	0.00	470.1940169
10XY	0.00	0.00	0
9P	20.75	0.00	219.2476932
9X	20.75	0.00	219.2476932
9Y	20.75	0.00	219.2476932
9XY	0.00	0.00	0
9P	1.87	0.00	111.7903493
9X	1.87	0.00	111.7903493
9Y	0.32	0.00	102.4303493
9XY	0.00	0.00	0
9P	60.93	0.00	1727.635915
9X	60.93	0.00	1727.635915
9Y	60.93	0.00	1727.635915
9XY	45.58	0.00	1638
7P	22.17	0.00	325.4928222
7X	0.00	0.00	0
7Y	0.00	0.00	0
7XY	0.00	0.00	0
5P	41.59	0.00	1641.524291
5X	41.59	0.00	1638
5Y	41.59	0.00	1638
5XY	41.59	0.00	1638
3P	37.07	0.00	1641.485285
3X	37.04	0.00	1638
3Y	37.04	0.00	1638
3XY	37.04	0.00	1638
2P	5.92	0.00	85.1296594
2X	0.00	0.00	0
2Y	0.00	0.00	0
2XY	0.00	0.00	0
8P	41.26	0.00	425.0362544
8X	41.26	0.00	425.0362544
8Y	41.26	0.00	425.0362544
8XY	0.00	0.00	0
8P	10.87	0.00	263.0507588
8X	10.87	0.00	263.0507588
8Y	10.87	0.00	263.0507588
8XY	0.00	0.00	0
8P	3.81	0.00	179.7233076
8X	0.00	0.00	0
8Y	0.00	0.00	0
8XY	0.00	0.00	0
8P	22.88	0.00	205.006802

8X	252.21	0.00	205.006802
8Y	252.21	0.00	205.006802
8XY	0.00	0.00	0
8P	187.50	0.00	229.8733293
8X	187.50	0.00	229.8733293
8Y	187.50	0.00	229.8733293
8XY	0.00	0.00	0

8X	22.88	0.00	205.006802
8Y	22.88	0.00	205.006802
8XY	0.00	0.00	0
8P	17.01	0.00	229.8733293
8X	17.01	0.00	229.8733293
8Y	17.01	0.00	229.8733293
8XY	0.00	0.00	0

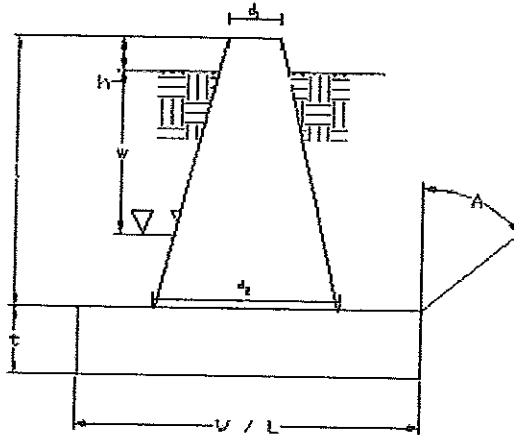
Foundation

Design Loads (Factored)

Site No.:	88017
Engineer:	SAW
Date:	05/09/11
Carrier:	AT&T Mobility

Compression/Leg:	277.18 k
Uplift/Leg:	203.27 k

Face Width @ Top of Pier (d_1):	3.50 ft
Face Width @ Bottom of Pier (d_2):	7.00 ft
Total Length of Pier (l):	7.00 ft
Height of Pedestal Above Ground (h):	0.50 ft
Width of Pad (W):	16.00 ft
Length of Pad (L):	16.00 ft
Thickness of Pad (t):	2.50 ft
Unit Weight of Concrete:	150.0 pcf
Unit Weight of Soil:	129.0 pcf
Friction Angle of Uplift (A):	35°
Ultimate Compressive Bearing Pressure:	16000 psf



Volume Pier:	200.08	ft ³
Volume Pad:	640.00	ft ³
Weight Pad:	96.00	kips
Weight Pier:	30.01	kips
Volume Soil:	2596.70	ft ³
Weight Soil:	334.97	kips

Uplift Check

ϕ_s Uplift Resistance (k)	Ratio	Result
311.17	0.65	OK

$\phi_s = 0.75$ therefore w/o ϕ_s FS = 2.04.

Axial Check

ϕ_s Axial Resistance (k)	Ratio	Result
3072.00	0.09	OK

P65-16-XLH-RR Dual Broadband Antennas

POLARIZATION: Dual linear $\pm 45^\circ$
 FREQUENCY (MHz): 698-894, 1710-2170
 HORIZONTAL BEAM WIDTH ($^\circ$): 65, 65
 GAIN (dBi/dBd): 15.5/13.4 17.5/15.4
 TILT: 1-12, 0-8
 LENGTH: 72"

ELECTRICAL SPECIFICATIONS

	698-894		1710-1880	1710-2170	
	698-806 14.8/12.7	806-894 15.5/13.4		1850-1990 17.2/15.1	1900-2170 17.5/15.4
Frequency range (MHz)	698-894			1710-2170	
Frequency band (MHz)	698-806 806-894			1850-1990 1900-2170	
Gain (dBi/dBd)	14.8/12.7 15.5/13.4		16.9/14.8	17.2/15.1 17.5/15.4	
Polarization	Dual Linear +/- 45			Dual Linear +/- 45	
Nominal Impedance (Ω)	50			50	
VSWR	< 1.5:1			< 1.5:1	
Horizontal beam width, -3 dB ($^\circ$)	66	65	60	63	63
Vertical beam width, -3 dB ($^\circ$)	14.7	12.5	6.8	6.4	5.7
Electrical down tilt ($^\circ$)	1 to 12			0 to 8	
Side lobe suppression, vertical 1st upper (dB)	> 16	> 16	> 16		
	> 16	> 16			
	> 30	> 30	> 30	> 30	
Isolation between Inputs (dB)	> 30			> 30	
Inter band Isolation (dB)	> 40			> 40	
Tracking, horizontal plane $\pm 60^\circ$ (dB)	< 2			< 2	
First null fill (dB)	> 20			> 20	
Vertical beam squint ($^\circ$)	< 0.8	< 0.8	< 0.5	< 0.5	< 0.5
Front to back ratio (dB) $180^\circ \pm 30^\circ$ copolar	> 24	> 24	> 30	> 30	> 28
Front to back ratio (dB) $180^\circ \pm 30^\circ$ total power					
Cross polar discrimination (XPD) 0° (dB)	> 15	> 15	> 15	> 15	> 15
Cross polar discrimination (XPD) $\pm 60^\circ$ (dB)	> 10	> 10	> 10	> 10	> 10
Far field coupling					
IM3, 2xTx@43dBm (dBc)	< -153			< -153	
IM7, 2xTx@43dBm (dBc)					
Power handling, average per input (W)	500			250	
Power handling, average total (W)	1000			500	

MECHANICAL SPECIFICATIONS

Connector	4 X 7/16 DIN Female, IP67
Connector position	Bottom
Dimensions, HxWxD, mm (ft)	72" x 12" x 6" (1829 x 305 x 152)
Mounting	Pre-mounted Tilt Brackets
Weight, with brackets, kg (lbs)	29 (64)
Weight, without brackets, kg (lbs)	24 (53)
Wind load, frontal/lateral/rear side 42 m/s Cd=1.6 (N)	1380
Maximum operational wind speed, m/s (mph)	100 (45)
Survival wind speed, m/s (mph)	150 (67)
Lightning protection	DC Ground
Operating Temperature	-40C to +60C
Radome material	PVC, IP55
Packet size, HxWxD, mm (ft)	87" x 16" x 10" (2225 x 400 x 225)
Radome colour	Light Grey
Shipping weight, kg (lbs)	34 (75)
RET	IRET AISGv1.1, MET and AISGv2.0
Brackets	7256.00, 7454.00A



*All specifications subject to change without notice. Please contact your Powerwave representative for complete performance data.

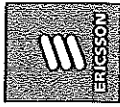
ANTENNA PATTERNS

For detailed patterns visit <http://www.powerwave.com/rpa/>.

RRUS 11 – Dual PA RRU.

Technical Data

- > Multi standard
- > RF: 2x30 Watts
- > Carrier BW: 1.4 – 20 MHz
- > Alarms: 2
- > Dimensions (with sunshield):
 - Width: 17.0 in
 - Height: 17.8 in
 - Depth: 7.2 in
 - Weight: 55 lbs (Band 12)
 - Weight: 50 lbs (Band 4)
- > Temperature: -40 to +131 F
- > Cooling: Self convection
- > Power: -48 VDC
- > Rec. fuse size 20 Amp
 - Rec. DC cable:
 - 6 mm² up to 60 meters
 - 10 mm² over 60 meters
- > Power Cons: 200 Watts typ.



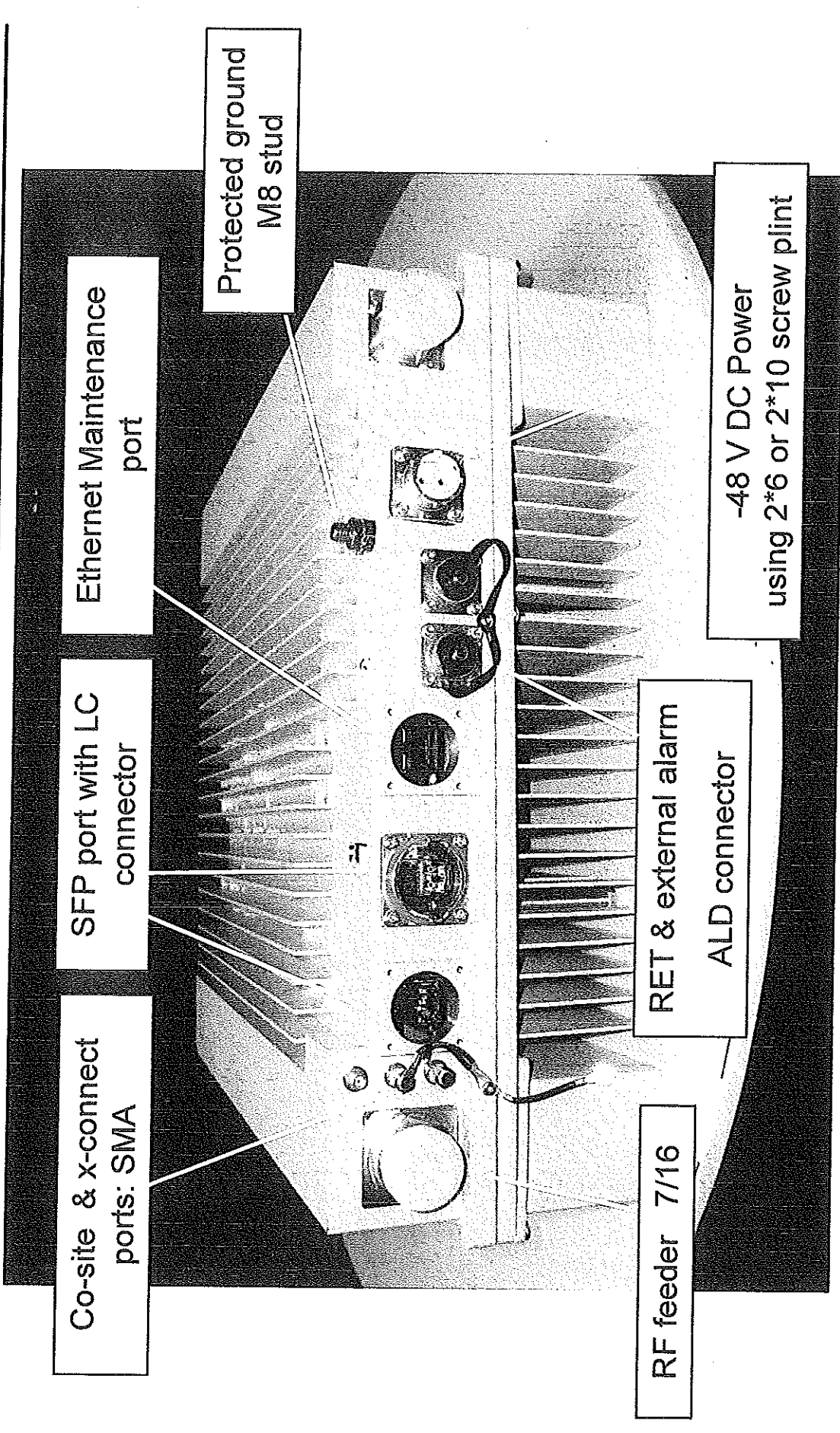
RBS6000



RRUS-11 I/F



RBS6000



Co-site & x-connect ports: SMA

SFP port with LC connector

Ethernet Maintenance port

Protected ground M8 stud

RF feeder 7/16

RET & external alarm ALD connector

-48 V DC Power using 2*6 or 2*10 screw plint

POWER

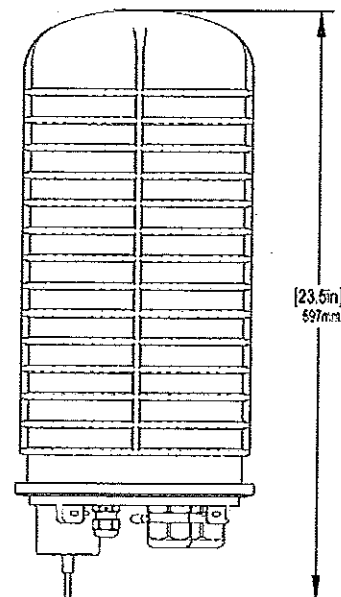
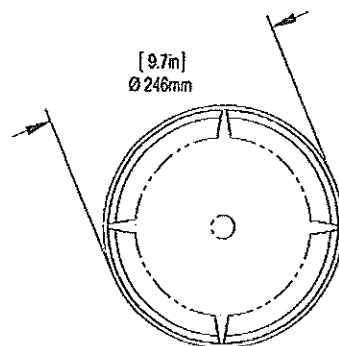
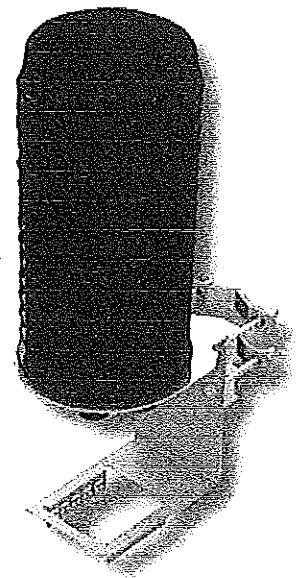
DC6-48-60-18-8F

DC Surge Suppression Solution

The DC6-48-60-18 is a dual chambered, DC surge suppression system for use in multi-circuit, Distributed Antenna Systems. The system will protect up to 6 Remote Radio Heads from voltage surges and lightning, and connect up to 18 fiber pairs. The system is enclosed in a NEMA 4 rated, waterproof enclosure.

FEATURES

- Protects up to 6 Remote Radio Heads, each with its own protection circuit.
- Flexible design allows for installation at the top of a tower for Remote Radio Head protection.
- Includes fiber connections for up to 18 pairs of fiber.
- LED indicators on individual circuits provide visual indication of suppressor status.
- Form 'C' relays allow for remote monitoring of the suppressor status.
- Patented Strikesorb technology provides over 60 kA of surge current capacity per circuit.
- Strikesorb suppression modules are fully recognized to UL 1449-3rd Edition Safety Standard, meeting all intermediate and high current fault requirements to facilitate use in OEM applications.
- Raycap recommends that DC protection system be installed within 2 meters or 6 feet of the radio.
- Dome design is lightweight and aerodynamic providing maximum flexibility for installation on top of towers.



Raycap

DC6-48-60-18-8F

DC Power Surge Protection

Electrical Specifications	
Model Number	DC6-48-60-18-8F
Nominal Operating Voltage	48 VDC
Nominal Discharge Current (I_n)	20 kA 8/20 μ s
Maximum Discharge Current (I_{max}) per NEMA LS-1	60 kA 8/20 μ s
Maximum Continuous Operating Voltage (U_c)	75 VDC
Voltage Protection Rating	400 V

Mechanical Specifications	
Suppression Connection Method	Compression lug, #2-#14 AWG Copper, #2-#12 Aluminum
Fiber Connection Method	LC-LC Single mode duplex
Environmental Rating	IP 68, 7m 72hrs
Operating Temperature	-40° C to + 80° C
Storage Temperature	-70° C to + 80° C
Cold Temperature Cycling	IEC 61300-2-22e -30° C to + 60° C 200 hrs @ 5 psi
Resistance to Aggressive Materials	CEI IEC 61073-2 including acids and bases
UV Protection	ISO 4892-2 Method A Xenon-Arc 2160 hrs
Weight	20 lbs without Mounting Bracket

STANDARDS

Strikesorb modules are compliant to the following Surge Protection Device (SPD) Standards:

- ANSI/UL 1449 - 3rd Edition
- IEEE C62.41
- NEMA LS-1, IEC 61643-1:2005 2nd Edition:2005
- IEC 61643-12
- EN 61643-11:2002 (including A11:2007)



Raycap

G02-00-068 REV 050610



GS-07F-0435V



Certified to
ISO 9001:2000



TUV Rheinland
of North America

Raycap, Inc. 806 W. Clearwater Loop • Post Falls • Idaho • 83854 • USA
Phone 208.777.1166 • Toll Free 800.890.2569 • Fax 208.777.4466 • www.raycapsurgeprotection.com



New Cingular Wireless PCS, LLC
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 463-5511
Fax: (860) 513-7190

Douglas L. Culp
Real Estate Consultant

June 23, 2011

Mark A. Lauretti, Mayor
City Hall, Room 202
54 Hill Street
Shelton CT, 06484

Re: Telecommunications Facility – 14 Oxford Drive (Booth Hill Road) Shelton, CT

Dear Mayor Lauretti:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System (“UMTS”) and Long Term Evolution (“LTE”) capabilities, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC (“AT&T”) will be changing its equipment configuration at certain cell sites.

As required by Regulations of Connecticut State Agencies (“R.C.S.A.”) Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review AT&T’s proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The accompanying letter to the Siting Council fully describes Cingular’s proposal for the referenced cell site. However, if you have any questions or require any further information on our plans or the Siting Council’s procedures; please call me at (860) 463-5511 or Ms. Linda Roberts, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

Douglas L. Culp
Real Estate Consultant

Enclosure