Pinnacle Wireless

800 Marshall Phelps Rd
Building 2A
Windsor, CT 06095

October 21, 2014

Melanie Bachman
Acting Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: **EM-AT&T-151-120503**– AT&T Mobility notification of completion of construction at Farmdale Drive, Waterbury, Connecticut.

Dear Ms. Bachman:

This letter is submitted on behalf of AT&T Mobility ("AT&T"), whose notice of intent to modify an existing telecommunications facility was acknowledged by the Connecticut Siting Council ("Council") on May 18, 2012.

Please accept this letter as notification of completion of construction by AT&T as required as a condition of the Council's acknowledgement.

Respectfully Yours,

Cecilia Post
Project Coordinator

Cc: Kevin Mason, AT&T

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

May 18, 2012

Eric Dahl, Consultant
NexLinx
55 Lynn Road
Ivoryton, CT 06442

RE: **EM-AT&T-151-120503** – AT&T Mobility notice of intent to modify an existing telecommunications facility located at Farmdale Drive, Waterbury, Connecticut.

Dear Mr. Dahl:

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 May 2, 2012. 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/cm

c: The Honorable Neil M. O'Leary, Mayor, City of Waterbury
Gil Grabeline, Zoning Enforcement Officer, City of Waterbury

EM-AT&T-51-120503

ORIGINAL

May 2, 2012

VIA OVERNIGHT DELIVERY

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

RE: AT&T Mobility – Notice of Exempt Modification
Farmdale Drive, Waterbury, CT

Dear Ms. Roberts:

This letter and attachments are submitted on behalf of AT&T Mobility ("AT&T"). AT&T is enhancing the capabilities of its wireless system in Connecticut by implementing LTE technology. In order to do so, AT&T will modify antenna and equipment configurations at a number of existing 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 Mayor of Wallingford.

AT&T plans to modify the existing facility at Farmdale Drive, Waterbury owned by Southern New England Telephone (coordinates 41°34'13"N, -73°01'06"W). Attached are drawings depicting the planned changes, and documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration. Please note that the tower owner, American Tower, prepared the structural analysis using antennas which are larger than those being proposed by AT&T. American Tower indicated that the structural analysis is prepared this way for safety reasons. Also included are a power density calculation reflecting the modification to AT&T's operations at the site.

The changes to the facility do not constitute a modification 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. 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. AT&T proposes to replace six (6) of its nine (9) existing antennas, and add six (6) new RRU's and

one (1) surge arrestor. Additionally, AT&T will install one (1) fiber cable and two (2) DC control cables within the existing monopole.

2. The proposed changes will not extend the site boundaries. AT&T will install additional equipment in the existing equipment shelter. Thus, there will be no effect on the site compound.

3. The proposed changes will not increase the noise level at the existing facility by six decibels or more. The incremental effect of the proposed changes will be negligible.

4. The changes to the facility 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. As indicated in the attached power density calculations, AT&T's operations at the site will result in a power density of 1.83%; the combined site operations will result in a total power density of 20.43%.

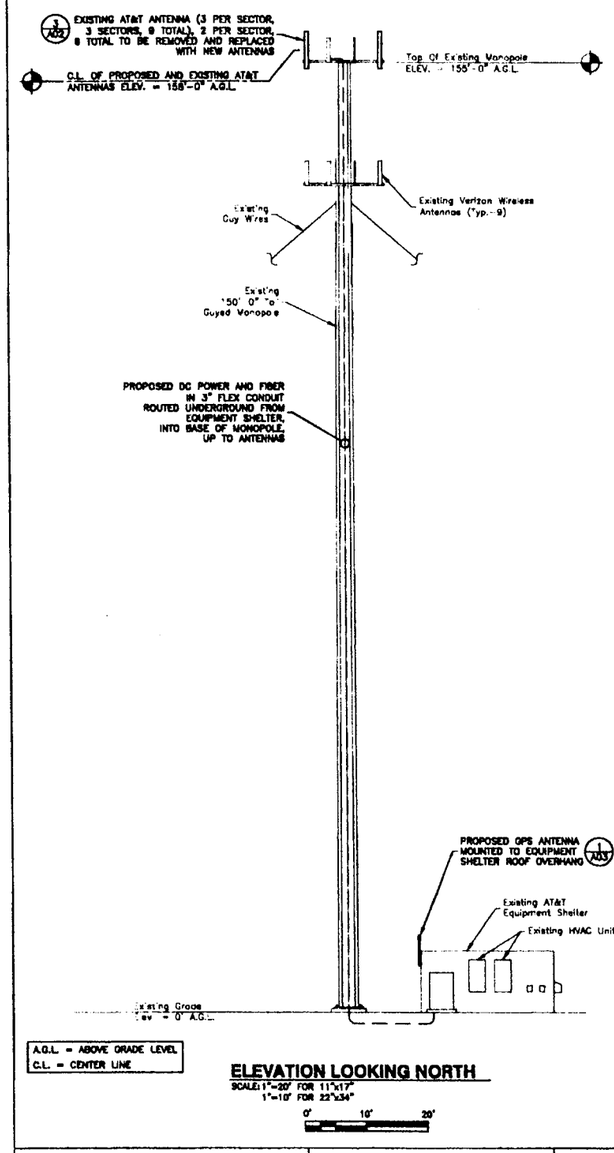
Please feel free to call me with any questions or concerns regarding this matter. Thank you for your consideration.

Respectfully submitted,
AT&T Mobility

By: _____
Eric Dahl, Consultant
edahl@comcast.net
860-227-1975

cc: Honorable Neil M. O'Leary, Mayor, City of Waterbury
Southern New England Telephone, Property Owner

Attachments

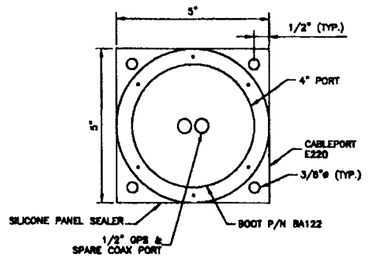


A.G.L. = ABOVE GRADE LEVEL
C.L. = CENTER LINE

ELEVATION LOOKING NORTH

SCALE: 1"=20' FOR 11"x17"
1"=10' FOR 22"x34"

0' 10' 20'

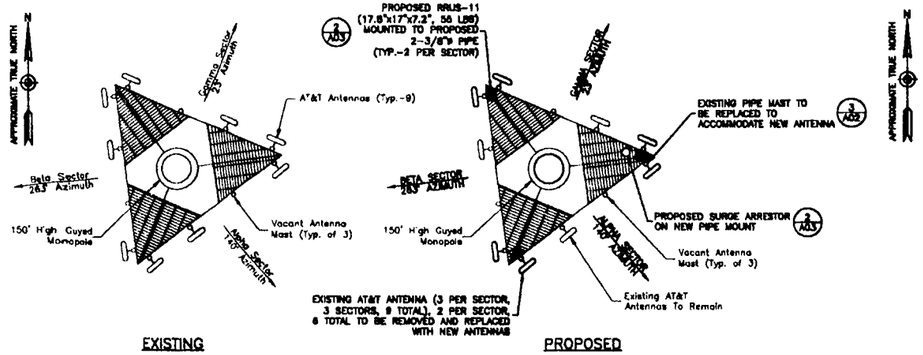


NOTES:

1. CONTRACTOR TO THOROUGHLY DRY AREA BEFORE CORING, INSTALLING AND SEALING CABLEPORT & BOOTS.
2. ALL PART NUMBERS ARE SITE PRO ONE.
3. WATERPROOF ALL EDGES AND HOLES.

SINGLE COAX PORT (1)

SCALE: N.T.S.

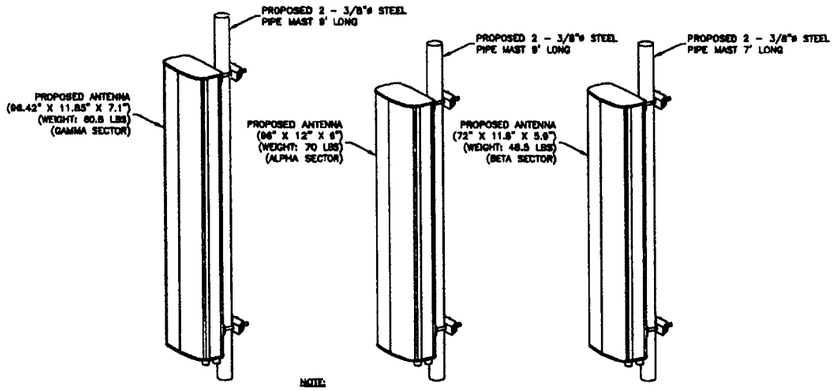


NOTES:

1. AZIMUTHS BASED ON TRUE NORTH.

PLATFORM ANTENNA ORIENTATION (2)

SCALE: N.T.S.



NOTE:

1. PLEASE SEE RFDS FOR SPECIFIC ANTENNA MODEL.

ISOMETRIC ANTENNA DETAIL (3)

SCALE: N.T.S.

NOTES:

1. PRIOR TO START OF ANY WORK, A PASSING STRUCTURAL ANALYSIS SHALL BE PROVIDED BY A CT LICENSED P.E. CONTRACTOR TO OBTAIN COPY BEFORE STARTING ANY WORK.
2. ALL ANTENNAS AND COAX TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY AMERICAN TOWER AND FINAL AT&T RF DATA SHEET.

Dewberry
Dewberry Engineers Inc.
800 PARSIPPANY ROAD
SUITE 201
PARSIPPANY, NJ 07054
PHONE: 973.739.9400
FAX: 973.739.8710

NEXLINK GLOBAL SERVICES
600 MARSHALL PHELPS ROAD, #3A
WINDSOR, CT 06095

WOLCOTT WEST
SITE NO. CT1005

FARMDALE DRIVE
WATERBURY, CT 06704

at&t
500 ENTERPRISE DRIVE,
SUITE 3A
ROCKY HILL, CT 06067

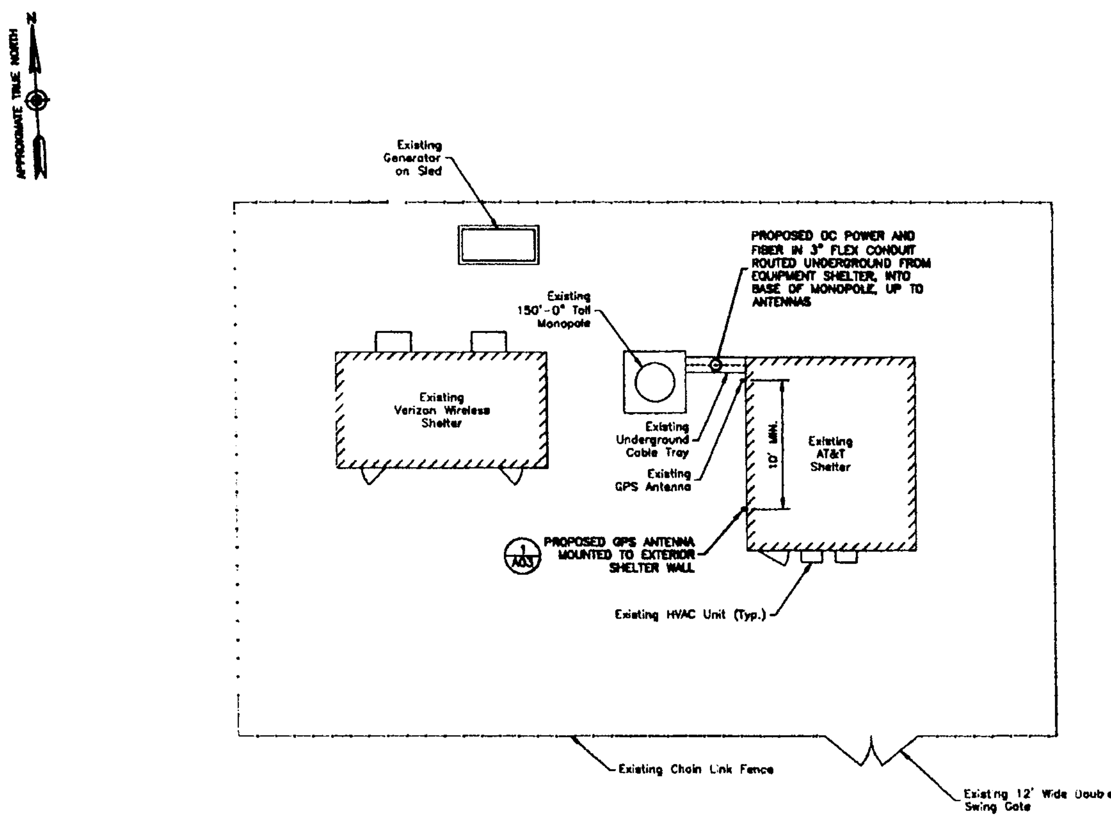
NO.	DATE	REVISIONS	BY	CHK	APP'D
1	04/27/12	ISSUED FOR SUBMITTAL	JME	GMN	CHK
0	03/01/12	PRELIMINARY SUBMISSION	RSA	GMN	CHK

SCALE: AS SHOWN | DESIGNED BY: GMN | DRAWN BY: RSA

STATE OF CONNECTICUT FRANK E. PARKER No. 26... REGISTERED PROFESSIONAL ENGINEER

ELEVATION & CONSTRUCTION DETAILS

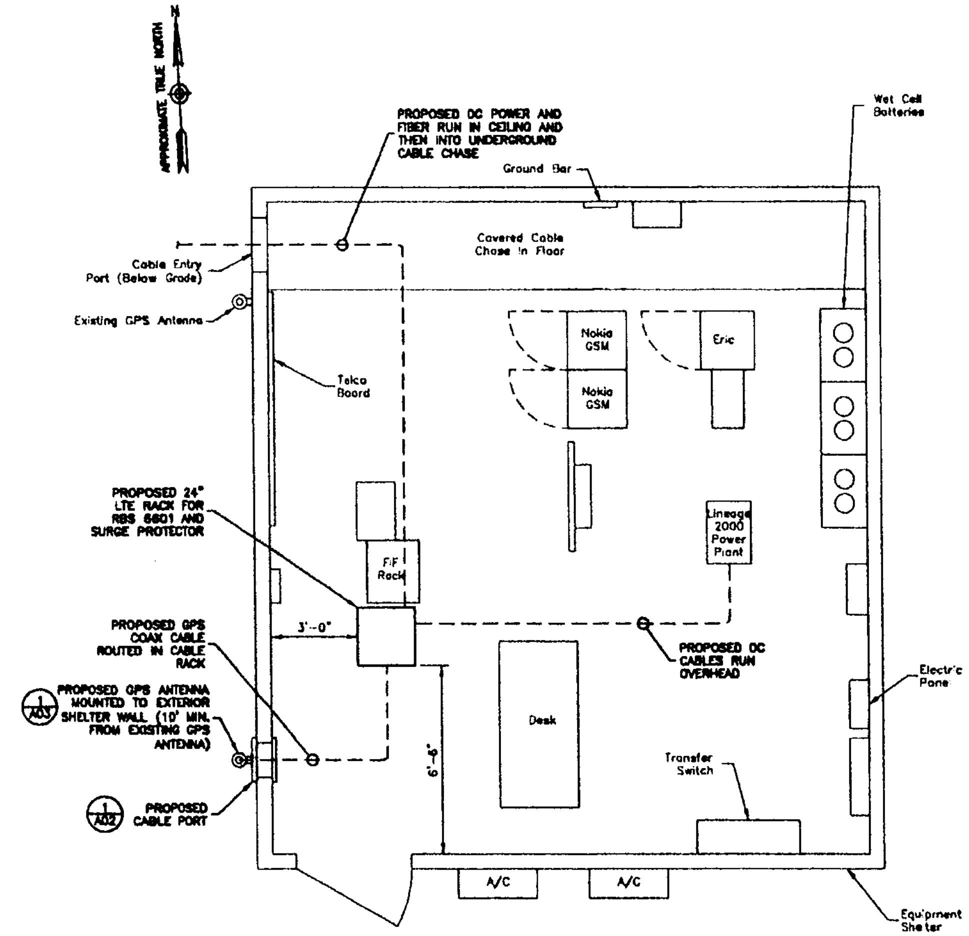
DEWBERRY NO.	DRAWING NUMBER	REV
50048347/50048348	A02	1



SITE PLAN

SCALE: 1"=20' FOR 11"x17"
1"=10' FOR 22"x34"

0' 10' 20'



SHELTER LAYOUT DETAIL

SCALE: 3/16"=1' FOR 11"x17"
3/8"=1' FOR 22"x34"

0' 2' 4' 8'

NOTES:

1. NORTH SHOWN AS APPROXIMATE.
2. MOUNT ALL ANTENNAS, COAX, SURGE ARRESTORS, RRU'S, ETC. IN ACCORDANCE WITH STRUCTURAL ANALYSIS BY OTHERS.
3. NOT ALL INFORMATION SHOWN FOR CLARITY.

Dewberry
Dewberry Engineers Inc.
600 PARSIPPANY ROAD
SUITE 301
PARSIPPANY, NJ 07054
PHONE: 973.739.9400
FAX: 973.739.9710

NEXLINK GLOBAL SERVICES
800 MARSHALL PHELPS ROAD, #2A
WINDSOR, CT 06095

WOLCOTT WEST
SITE NO. CT1005
FARMDALE DRIVE
WATERBURY, CT 06704

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	04/27/12	ISSUED FOR SUBMITTAL	JME	GMN	CH
0	03/01/12	PRELIMINARY SUBMISSION	RSA	GMN	GH

SCALE: AS SHOWN | DESIGNED BY: GMN | DRAWN BY: RSA

STATE OF CONNECTICUT · FRANK E. PAZDEN · NO. 26186 · LICENSED PROFESSIONAL ENGINEER

SITE PLAN & SHELTER LAYOUT

DEWBERRY NO.	DRAWING NUMBER	REV
50048347/50048349	A01	1

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	150 ft ITT Meyer Type "B" Guyed Monopole
ATC Site Name	:	Wtbr - Waterbury, CT
ATC Site Number	:	302476
Proposed Carrier	:	AT&T Mobility
Carrier Site Name	:	Waterbury
Carrier Site Number	:	CT1005/10034976
County	:	New Haven
Eng. Number	:	48948221
Date	:	April 3, 2012
Usage	:	100%
Portholes Required	:	No
Result	:	Pass

Submitted by:
Joseph R. Johnston
Project Engineer

4/19/12

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

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**150 ft ITT Meyer Type "B" Guyed Monopole**
ATC Site Name	:	**Wtbr - Waterbury, CT**
ATC Site Number	:	**302476**
Proposed Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**Waterbury**
Carrier Site Number	:	**CT1005/10034976**
County	:	**New Haven**
Eng. Number	:	**48948221**
Date	:	**April 3, 2012**
Usage	:	**100%**
Portholes Required	:	**No**
Result	:	**Pass**

Submitted by:
Joseph R. Johnston
Project 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 150 ft ITT Meyer Type "B" guyed monopole located off Garden Circle on Farmdale Drive, Waterbury, CT 06704, New Haven County (ATC site #302476). The tower was originally designed and manufactured per ITT Meyer Type "B" specifications (AT&T Spec AT-8935, dated April 13, 1984). Tower information was obtained from a mapping completed by Smith Cullum, Inc. (Acquisition #CT-0012, dated June 7, 2001). Tower modifications per design by SpectraSite Communications (Drawing #CT-0012-M1, dated January 12, 2005) have been completed and were considered in this analysis.

Analysis

The tower was analyzed using RISA Tower Version 5.4.0.9 and RISA 3-D Version 9.1.1, Software

Basic Wind Speed:	85 mph (Fastest Mile) Note – Basic wind speed reduced to 73 mph to account for reduced Gh. See conclusion section of report for additional information)
Radial Ice:	74 mph (Fastest Mile) w/ ½" ice
Code:	ANSI/TIA-222-F / 2003 IBC w/ 2005 CT Supplement and 2009 CT Amendments

Antenna Loads

The following antenna loads were used in the tower analysis.

Existing Antennas

Elev. (ft)	Qty	Antennas	Mount	Coax (in)	Carrier
145.0	6	Powerwave 7250.03	T-Arms	(12) 1 5/8	AT&T Mobility
129.0	6	Decibel 948F85T2E-M	Platform w/ Handrails	(15) 1 5/8	Verizon
	6	Decibel DB844G65ZAXY			
	3	Antel BXA-70063/4CF			
	3	RFS FD9R6004/1C-3L			

Proposed Antennas

Elev. (ft)	Qty	Antennas	Mount	Coax (in)	Carrier
154.0	3	Powerwave 7770.00	Platform w/ Handrails	(12) 1 1/4 (1) 10 mm (2) 19.7 mm	AT&T Mobility
	2	Andrew SBNH-1D6565C			
	2	KMW AM-X-CD-16-65-00T-RET			
	1	Raycap DC6-48-60-18-8F			
	6	Ericsson RRUS 11			
	3	CCI DTMABP7819VG12A			
	9	ADC DD1900			
	2	Powerwave P65-17-XLH-RR			

Install proposed coax inside monopole.

Results

The maximum structure usage is: 100%

Pole Reactions	Current Analysis Reactions
Moment (ft-kips)	152.91
Shear (kips)	4.5
Guy Tension (kips)	33.8

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Conclusion

Based on the analysis results, the structure meets the requirements per ANSI/TIA-222-F and the 2003 IBC w/ 2005 CT supplements and 2009 CT amendments standards. The tower and foundation can support the existing and proposed antennas with the transmission line distribution as described in this report.

Basic wind speed was reduced to 73 mph to account for reduced Gh. Per ANSI/TIA-222-F, applicable Gh (gust factor) for monopole is 1.69 and applicable Gh (gust factor) for a guyed tower is 1-1.25. As this is a guyed monopole, RISA 3-D was used to calculate the actual fundamental frequency of the guyed pole in order to calculate an accurate Gh. From analysis, F=.957 Hz. Using an assumed typical damping ratio of .05, an applicable Gh multiplier of .947 was calculated. The applicable Gh is therefore .947*1.3 or 1.23. The wind speed reduction was calculated

If you have any questions or require additional information, please call 919-466-5696.

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.

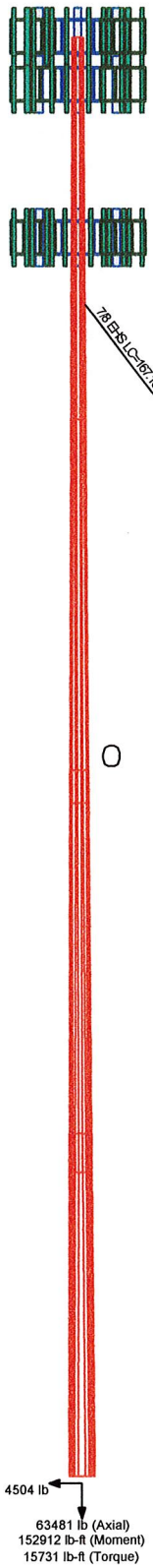
It is the responsibility of the client to ensure that the information provided to ATC Engineering Services and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with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

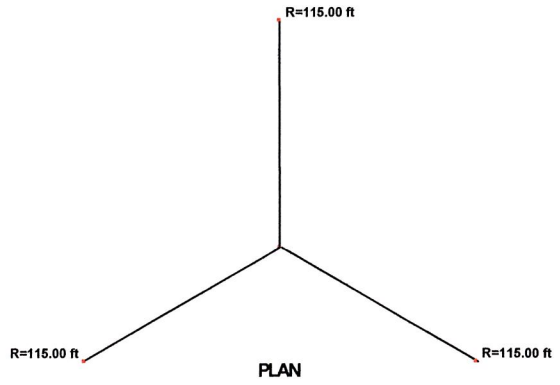
All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall 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.

Section	1	2	3	4
Length (ft)	40.00	40.00	42.00	35.67
Number of Sides	12	12	12	12
Thickness (in)	0.1875	0.2500	0.3130	0.3750
Socket Length (ft)		3.50	4.17	
Top Dia (in)	15.0000	21.2500	26.5535	31.8245
Bot Dia (in)	21.2500	27.6100	33.1000	37.3800
Grade	A572-65			
Weight (lb)	1474.1	2649.4	4251.2	5016.0

13390.7





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
(3) 7770.00 (ATT Mobility)	150	(2) 7250.3 (ATT Mobility)	145
(2) SBNH-1D6565C (ATT Mobility)	150	(2) 7250.3 (ATT Mobility)	145
P65-17-XLH-RR (ATT Mobility)	150	(2) 7250.3 (ATT Mobility)	145
(2) AM-X-CD-16-65-00T-RET (ATT Mobility)	150	Round T-Arms (ATT Mobility)	145
		BXA-70063/4CF (Verizon)	129
P65-17-XLH-RR (ATT Mobility)	150	BXA-70063/4CF (Verizon)	129
DC6-48-60-18-8F (ATT Mobility)	150	BXA-70063/4CF (Verizon)	129
(2) RRUS 11 (ATT Mobility)	150	(2) 948F85T2E-M (Verizon)	129
(2) RRUS 11 (ATT Mobility)	150	(2) 948F85T2E-M (Verizon)	129
(2) RRUS 11 (ATT Mobility)	150	(2) 948F85T2E-M (Verizon)	129
DTMABP7819VG12A (ATT Mobility)	150	FD9R6004/1C-3L (Verizon)	129
		FD9R6004/1C-3L (Verizon)	129
DTMABP7819VG12A (ATT Mobility)	150	FD9R6004/1C-3L (Verizon)	129
DTMABP7819VG12A (ATT Mobility)	150	(2) DB844G45ZAXY (Verizon)	129
		(2) DB844G45ZAXY (Verizon)	129
(3) DD1900 (ATT Mobility)	150	(2) DB844G45ZAXY (Verizon)	129
(3) DD1900 (ATT Mobility)	150	Flat Platform w/ Handrails (ATT Mobility)	129
(3) DD1900 (ATT Mobility)	150		
Flat Platform w/ Handrails (ATT Mobility)	150		

8 lb

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

R=115.00 ft

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for a 73 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 63 mph basic wind with 0.50 in ice.
4. TOWER RATING: 100.2%

American Tower, Inc.
400 Regency Forest Drive
Cary, NC 27518
Phone: (919) 466-5030
FAX: (919) 466-5415

Job: 48948221			
Project: 302476 - Wtbr-Waterbury, CT			
Client: AT&T Mobility	Drawn by: Joseph.Johnston		App'd:
Code: TIA/EIA-222-F	Date: 04/03/12		Scale: NTS
Path: C:\Documents and Settings\Joseph.Johnston\Desktop\302476-48948221.dwg\Plot			Dwg No. E-1

C Squared Systems, LLC
65 Dartmouth Drive, Unit A3
Auburn, NH 03032
(603) 644-2800
support@csquaredsystems.com

Calculated Radio Frequency Emissions

CT1005

(Wolcott West)

Farmdale Drive, Waterbury, CT 06704

(a.k.a. Garden Circle (Farmdale Drive))

April 23, 2012

Table of Contents

List of Tables

List of Figures

1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modifications to the existing AT&T antenna arrays mounted on the monopole tower located off Farmdale Drive (Garden Circle) in Waterbury, CT. The coordinates of the tower are 41-34-14.31 N, 73-01-03.35 W.

AT&T is proposing the following modifications:

1) Replace six of nine existing dual-band (850/1900 MHz) panel antennas with six multi-band (700/850/1900/2100 MHz) antennas (two per sector).

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{1.6^2 \times EIRP}{4\pi \times R^2} \right) \text{x Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

R = Radial Distance = $\sqrt{(H^2 + V^2)}$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the finished modifications.

4. Calculation Results

Table 1 below outlines the power density information for the site. Because the proposed AT&T antennas are directional in nature, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to Attachment C for the vertical pattern of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm^2)	Limit	%MPE
Cingular UMTS	153	880	1	500	0.0077	0.5867	1.31%
Cingular GSM	153	880	8	296	0.0364	0.5867	6.20%
Cingular GSM	153	1900	3	427	0.0197	1.0000	1.97%
Verizon	129	869	9	280	0.0545	0.5793	9.40%
Verizon	129	1970	3	301	0.0195	1.0000	1.95%
Verizon	129	757	1	652	0.0141	0.5047	2.79%
Arch Paging	161	931.19	1	1990	0.0276	0.6208	4.45%
AT&T UMTS	152	880	2	565	0.0018	0.5867	0.30%
AT&T UMTS	152	1900	2	875	0.0027	1.0000	0.27%
AT&T LTE	152	734	1	1615	0.0025	0.4893	0.51%
AT&T GSM	152	880	1	647	0.0010	0.5867	0.17%
AT&T GSM	152	1900	4	934	0.0058	1.0000	0.58%
						Total	20.43%

Table 1: Carrier Information[1] [2]

[1] The existing CSC filing for Cingular should be removed and replaced with the updated AT&T technologies and values provided in Table 1. The power density information for carriers other than AT&T was taken directly from the CSC database dated 3/29/2012. The total %MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not reflect the total value listed in the table.

[2] In the case where antenna models are not uniform across all 3 sectors for the same frequency band, the antenna model with the highest gain was used for the calculations to present a worse-case scenario.

5. Conclusion

The above analysis verifies that emissions from the existing site will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Even when using conservative methods, the cumulative power density from the proposed transmit antennas at the existing facility is well below the limits for the general public. The highest expected percent of Maximum Permissible Exposure at ground level is **20.43% of the FCC limit**.

As noted previously, obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels are more conservative (higher) than the actual signal levels will be from the finished modifications.

6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.

Daniel L. Goulet
C Squared Systems, LLC

April 23, 2012
Date

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

ANSI C95.1-1982, American National Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz. IEEE-SA Standards Board

IEEE Std C95.3-1991 (Reaff 1997), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave. IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure[3]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (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

(B) Limits for General Population/Uncontrolled Exposure[4]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (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

Table 2: FCC Limits for Maximum Permissible Exposure (MPE)

[3] Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure

[4] General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure

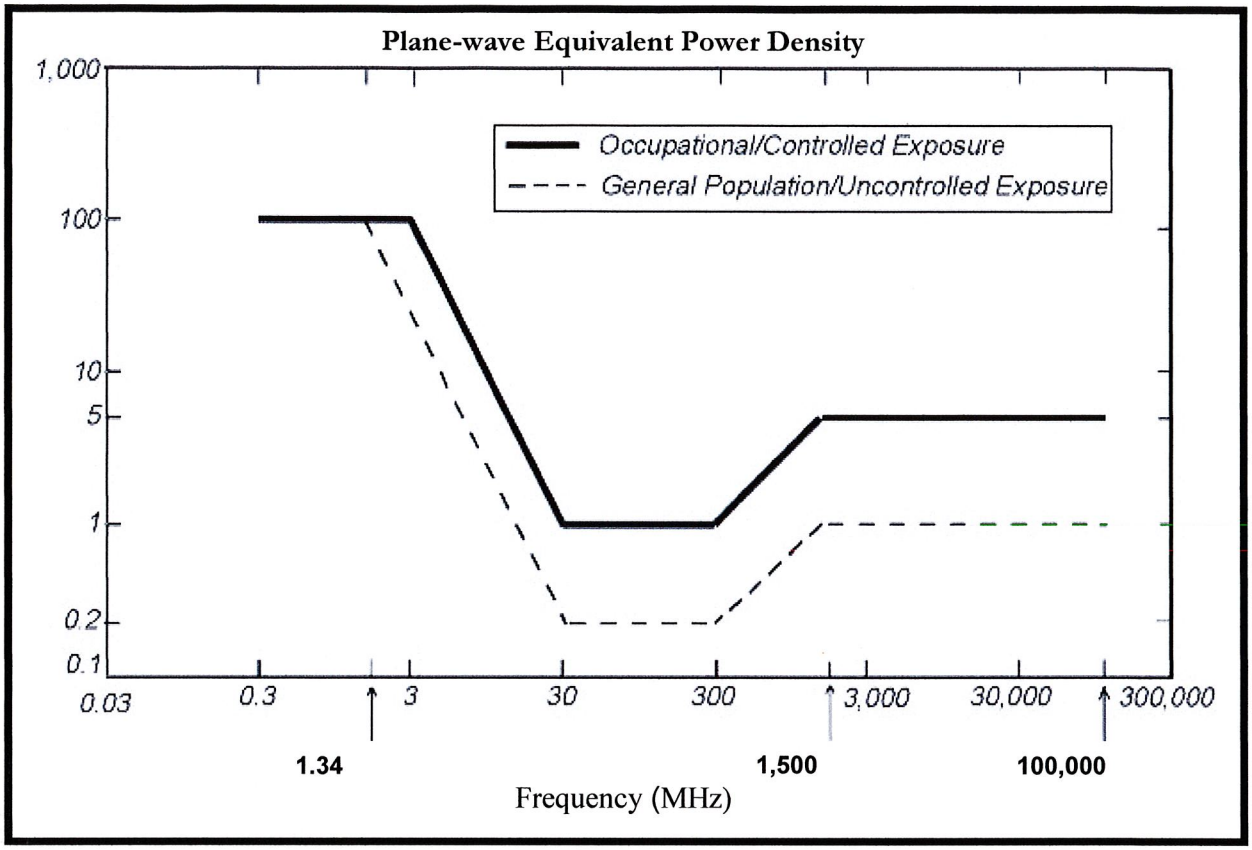
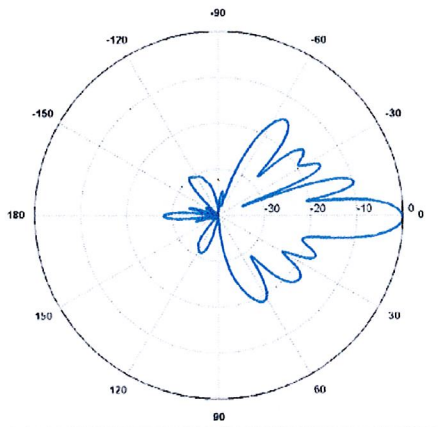


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: AT&T Antenna Data Sheets and Electrical Patterns

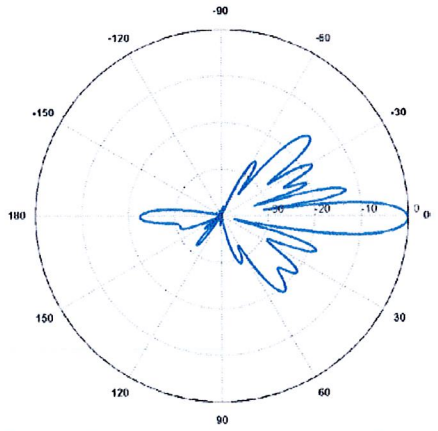
700 MHz

Manufacturer:	Powerwave
Model #:	P65-17-XLH-RR
Frequency Band:	698-806 MHz
Gain:	14.3 dBd
Vertical Beamwidth:	8.4°
Horizontal Beamwidth:	70°
Polarization:	Dual Linear ± 45°
Size L x W x D:	96.0" x 12.0" x 6.0"



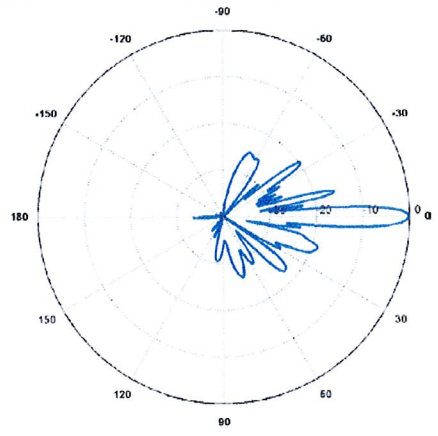
850 MHz GSM

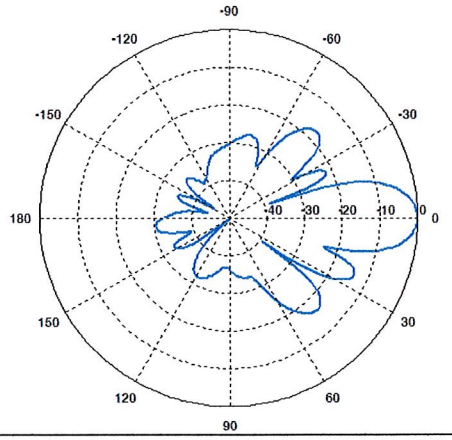
Manufacturer:	Powerwave
Model #:	P65-17-XLH-RR
Frequency Band:	806-894 MHz
Gain:	15.1 dBd
Vertical Beamwidth:	8.4°
Horizontal Beamwidth:	63°
Polarization:	Dual Linear ±45°
Size L x W x D:	96.0" x 12.0" x 6.0"



1900 MHz GSM

Manufacturer:	Commscope
Model #:	SBNH-1D6565C
Frequency Band:	1850-1990 MHz
Gain:	15.9 dBd
Vertical Beamwidth:	5.1°
Horizontal Beamwidth:	57°
Polarization:	± 45°
Size L x W x D:	96.4" x 11.9" x 7.1"



850 MHz UMTS Manufacturer: Powerwave Model #: 7770.00 Frequency Band: 824-896 MHz Gain: 11.4 dBd Vertical Beamwidth: 15° Horizontal Beamwidth: 85° Polarization: Dual Linear ±45° Size L x W x D: 55.4" x 11.0" x 5.0"	
1900 MHz UMTS Manufacturer: Powerwave Model #: 7770.00 Frequency Band: 1850-1990 MHz Gain: 13.4 dBd Vertical Beamwidth: 7° Horizontal Beamwidth: 90° Polarization: Dual Linear ±45° Size L x W x D: 55.4" x 11.0" x 5.0"