HPC DEVELOPMENT LLC

EM-CLEARWIRE-049-090930

ORIGINAL

September 29, 2009

VIA FEDERAL EXPRESS

RECEIVED
SEP 30 2009
CONNECTICUT
SITING COUNCIL

S. Derek Phelps, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Clearwire Corporation - Notice to Make an Exempt Modification to an Existing Facility at Town Farm Road, Enfield

Dear Mr. Phelps:

Pursuant to Conn. Agencies Regs. Sections 16-50j-73 and 16-50j-72(b), Clearwire Corporation ("Clearwire") hereby gives notice to the Connecticut Siting Council ("Council") and the Town of Enfield, Connecticut of Clearwire's intent to make an exempt modification to an existing monopole tower ("tower") located on Town Farm Road, Enfield. Specifically, Clearwire plans to add antennas, microwave dishes and related equipment to the tower site. Under the Council's regulations, (Conn. Agencies Regs. Section 16-50j-72(b)), Clearwire's plans do not constitute a modification subject to the Council's review because Clearwire will not change the height of the tower, will not extend the boundaries of the compound, will not increase the noise levels at the site and will not increase the total radio frequency electromagnetic radiation power density at the site to levels above applicable standards.

Clearwire is currently developing a 4G wireless broadband network to provide high-speed wireless data and VoIP service within the State of Connecticut. Clearwire's 4G service leverages the WiMAX technology to enable enhanced wireless data communications.

The tower is an approximately 150' monopole tower located on Town Farm Road, Enfield, Connecticut (Latitude 41°57'53" N, Longitude 72°33'10" W). The tower is owned by American Tower Corp. Several other wireless carriers are located on the tower. Clearwire will add three panel antennas, two microwave dishes and two related radio units for backhaul. Drawings with the tower elevation and compound specifications are attached.

Clearwire will install three panel antennas and three TMAs, one each per sector, and mount two microwave dishes and two related radio units at a center line of 112'. Eight coaxial cables will be added to the structure. To confirm that the tower can support these changes, American Tower performed a structural analysis of the tower with the proposed changes (attached). According to that analysis, the structure is capable of supporting the proposed loading.

Within the existing lease area, Clearwire will install one equipment cabinet on a platform within its lease area at the site. No extension of the lease area will be required. Excluding brief, construction related noise during the addition of this equipment, the proposed changes to the tower will not increase noise levels at the site.

The addition of new antennas and microwave dishes will not adversely impact the health and safety of the surrounding community or the people working on the tower. The total radio frequency exposure measured around the base of the tower will be well below the National Council on Radiation Protection and Measurements (NCRP) standard adopted by the Federal Communications Commission (FCC). The worst case power density analysis for the WiMAX antennas and dishes, measured at the base of the tower, indicates that the WiMAX antennas and dishes will emit 0.00026% of the NCRP's standard for maximum permissible exposure. The cumulative power density analysis indicates that all the antennas on the structure will emit 27.79026% of the NRCP's standard for maximum permissible exposure. Therefore, the power density levels will be well below the FCC mandated radio frequency exposure limits in all locations around the base of the tower. The power density analysis is attached.

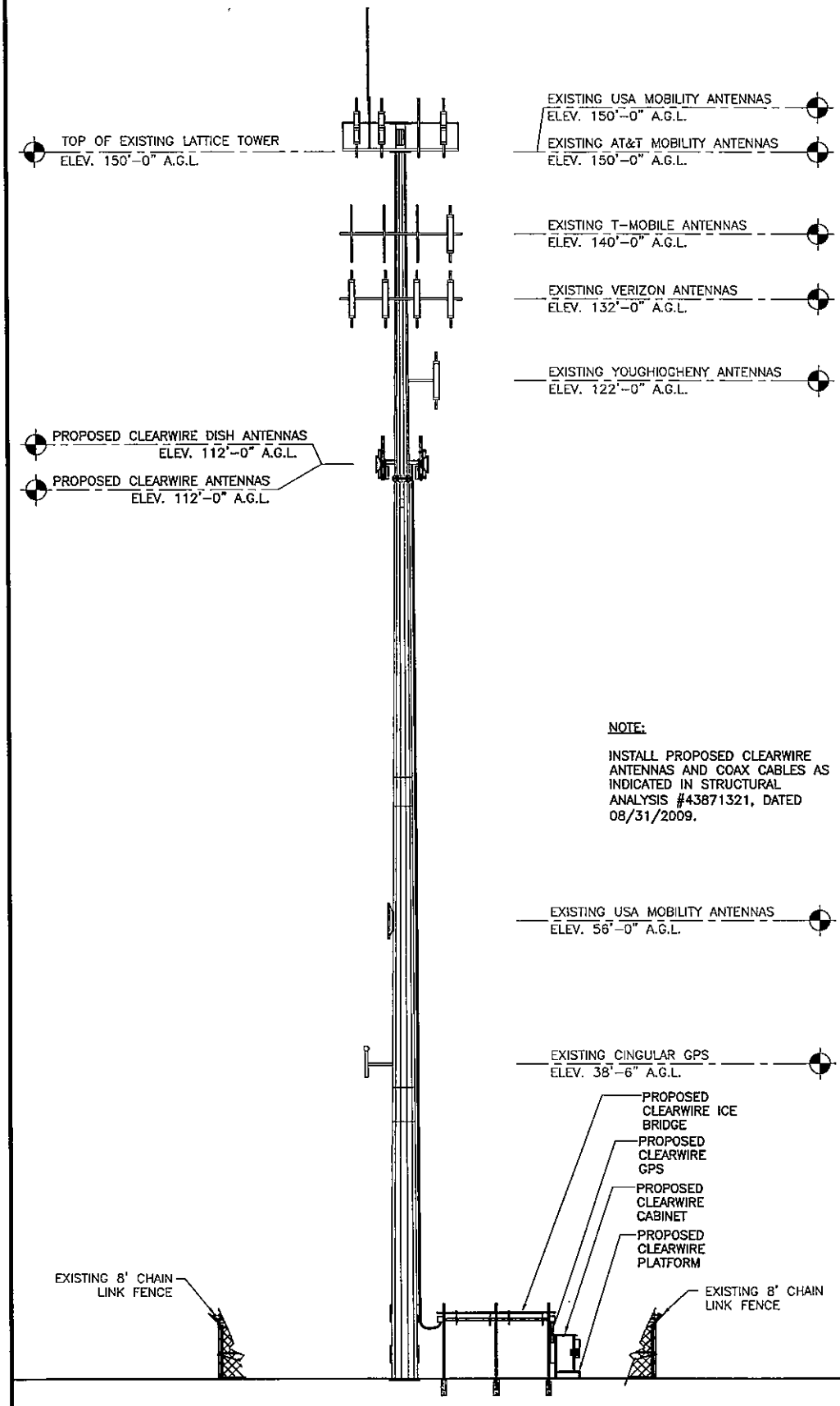
In conclusion, Clearwire's proposed plan to add three antennas, two microwave dishes and associated radio units, as well as the associated ground equipment does not constitute a modification subject to the Council's jurisdiction because Clearwire will not increase the height of the tower, will not extend the boundaries of the compound at the site, will not increase the noise levels at the site and the radio frequency electromagnetic radiation power density will stay within all applicable standards.

Respectfully submitted,

Jennifer Young Gaudet
for Clearwire Corporation

cc: Mayor Scott R. Kaupin, Town of Enfield
Town of Enfield (underlying property owner)

Attachments



1 TOWER ELEVATION
NOT TO SCALE

clearwire
wireless broadband

CLEARWIRE NY METRO MARKET
CHARLES REGULBUTO
385 WEST PASSAIC STREET
ROCHELLE PARK, NJ 07762
(860) 394-7021

AMERICAN TOWER®
STRUCTURAL ENGINEERING
8505 FREEPORT PARKWAY
SUITE 135
IRVING, TX 75063
(972) 999-8900 Tel.
(972) 999-8940 Fax
NYSE AMT

SITE NUMBER:
302489

SITE NAME:
ENFD-ENFIELD

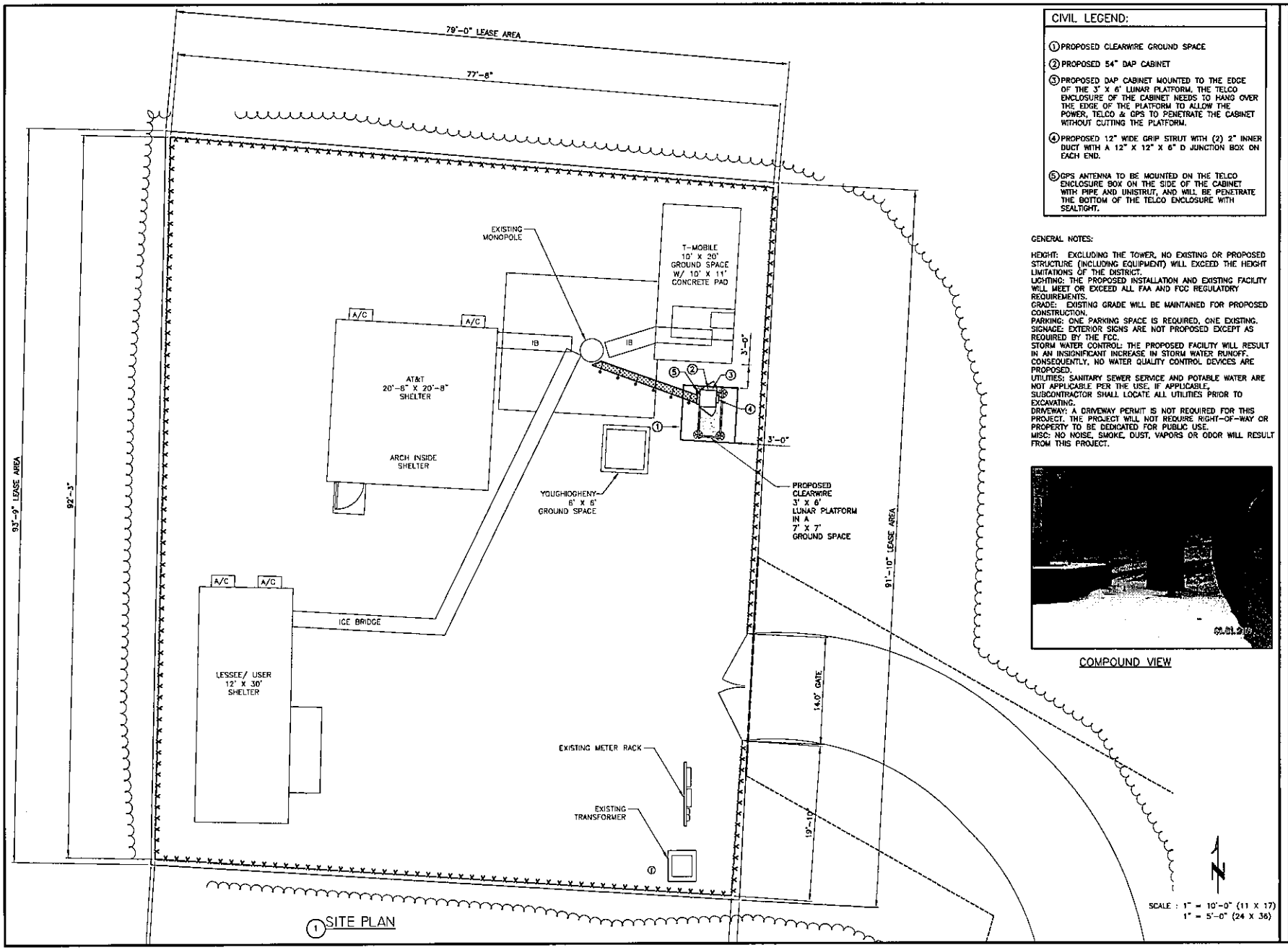
SITE ADDRESS:
TOWN FARM RD
ENFIELD, CT 06082

STAMP HERE:

DRAWN BY:	DH
CHECKED BY:	SAE
DATE DRAWN:	9-4-09
JOB NO:	43871312

SHEET TITLE:
TOWER ELEVATION

SHEET NUMBER:	REV. #
A-2	0



1 SITE PLAN

CIVIL LEGEND:
1 PROPOSED CLEARWIRE GROUND SPACE
2 PROPOSED 54" DAP CABINET
3 PROPOSED DAP CABINET MOUNTED TO THE EDGE OF THE 3' X 6' LUNAR PLATFORM, THE TELCO ENCLOSURE OF THE CABINET NEEDS TO HANG OVER THE EDGE OF THE PLATFORM TO ALLOW THE POWER, TELCO & GPS TO PENETRATE THE CABINET WITHOUT CUTTING THE PLATFORM.
4 PROPOSED 12" WIDE GRIP STRUT WITH (2) 2" INNER DUCT WITH A 12" X 12" X 6" D JUNCTION BOX ON EACH END.
5 GPS ANTENNA TO BE MOUNTED ON THE TELCO ENCLOSURE BOX ON THE SIDE OF THE CABINET WITH PIPE AND UNISTRUT, AND WILL BE PENETRATE THE BOTTOM OF THE TELCO ENCLOSURE WITH SEALTIGHT.

GENERAL NOTES:

HEIGHT: EXCLUDING THE TOWER, NO EXISTING OR PROPOSED STRUCTURE (INCLUDING EQUIPMENT) WILL EXCEED THE HEIGHT LIMITATIONS OF THE DISTRICT.
LIGHTING: THE PROPOSED INSTALLATION AND EXISTING FACILITY WILL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS.
GRADE: EXISTING GRADE WILL BE MAINTAINED FOR PROPOSED CONSTRUCTION.
PARKING: ONE PARKING SPACE IS REQUIRED, ONE EXISTING.
SIGNAGE: EXTERIOR SIGNS ARE NOT PROPOSED EXCEPT AS REQUIRED BY THE FCC.
STORM WATER CONTROL: THE PROPOSED FACILITY WILL RESULT IN AN INSIGNIFICANT INCREASE IN STORM WATER RUNOFF. CONSEQUENTLY, NO WATER QUALITY CONTROL DEVICES ARE PROPOSED.
UTILITIES: SANITARY SEWER SERVICE AND POTABLE WATER ARE NOT APPLICABLE PER THE USE, IF APPLICABLE, SUBCONTRACTOR SHALL LOCATE ALL UTILITIES PRIOR TO EXCAVATING.
DRIVEWAY: A DRIVEWAY PERMIT IS NOT REQUIRED FOR THIS PROJECT. THE PROJECT WILL NOT REQUIRE RIGHT-OF-WAY OR PROPERTY TO BE DEDICATED FOR PUBLIC USE.
MISC: NO NOISE, SMOKE, DUST, VAPORS OR ODOR WILL RESULT FROM THIS PROJECT.

COMPOUND VIEW

SCALE : 1" = 10'-0" (11 X 17)
1" = 5'-0" (24 X 36)

clearwire
CLEARWIRE NY METRO MARKET
CHARLES REGULBUTO
300 WEST PASSAIC STREET
ROCHELLE PARK, NJ 07662
(860) 364-7021

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SUITE 135
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www.amt

SITE NUMBER:
302489

SITE NAME:
ENFD-ENFIELD

SITE ADDRESS:
TOWN FARM RD
ENFIELD, CT 06082

STAMP HERE

DRAWN BY:	DH
CHECKED BY:	BMC
DATE DRAWN:	8-4-08
JOB NO:	43871302

SHEET TITLE
SITE PLAN

SHEET NUMBER: A-1
REV. #: 0

AMERICAN TOWER

Structural Analysis Report

Structure	:	**150 ft ITT Meyer Monopole**
ATC Site Name	:	**Enfd - Enfield, CT**
ATC Site Number	:	**302489**
Proposed Carrier	:	**Clearwire**
Carrier Site Name	:	**N/A**
Carrier Site Number	:	**CT-HFD0006**
County	:	**Hartford**
Engineering Number	:	**43871321**
Date	:	**August 31, 2009***
Usage	:	**93 %**
Portholes Required	:	**No**

Submitted by:
Michael Deese, E.I.
Project Engineer

8/31/09

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 Monopole located at 5 Town Farm Road, Enfield, CT 06082, Hartford County (ATC site #302489). The tower was originally designed and manufactured by ITT Meyer (Drawing #Type "B"). The tower has been modified per design by ATC (ATC Job #40071639, dated December 6, 2007).

Analysis

The tower was analyzed using Semaan Engineering Solutions, Inc., Software. The analysis assumes that the tower is in good, undamaged, and non-corroded condition.

Basic Wind Speed: 95 mph (3-Second Gust)
Radial Ice: 50 mph (3-Second Gust) w/ 1.25" ice
Code: ANSI/TIA-222-G / 2003 IBC with 2005 CT Supplement and 2008 CT Amendments

Antenna Loads

The following antenna loads were used in the tower analysis.

Existing Antennas

Elev. (ft)	Qty	Antennas	Mount	Coax	Carrier
150.0	6	TTA	Platform w/ Handrails	(12) 1 5/8"	AT&T Mobility
	6	Powerwave LGP 13519			
	6	Allgon 7770.00			
150.0	2	Decibel DB809KE-SY		(1) 1 5/8"	USA Mobility
140.0	6	Andrew Dual Duplex TMA	Low Profile Platform	(12) 1 5/8"	T-Mobile
	3	RFS APX16DWV-16DWV-S-E-ACU			
	3	EMS RR90-17-02DP			
132.0	6	Antel LPA-185080/12CF	Low Profile Platform	(12) 1 5/8"	Verizon
	6	Antel LPA-80080/6CF			
122.0	3	RFS APXV18-206517S-C	Pipe	(6) 1 5/8"	Youghiogheny
56.0	1	Channel Master Type 120	Dish	(1) RG6	USA Mobility
38.5	1	GPS	Pipe	(1) 1/2"	Cingular

Proposed Antennas

Elev. (ft)	Qty	Antennas	Mount	Coax	Carrier
112.0	3	Argus LLPX310R	Collar	(2) 1/2" (6) 5/16"	Clearwire
	3	NextNet BTS-2500			
	2	DragonWave A-ANT-18G-2-C			
	2	DragonWave Horizon Compact			

Proposed coax may be installed on the outside of the monopole shaft.

Results

The maximum structure usage is: 93 %

Pole Reactions	Original Design Reactions	Factored Design Reactions*	Current Analysis Reactions	% Of Design
Moment (ft-kips)	1,197.0	1,616.0	2,902.4	180
Shear (kips)	13.1	17.7	29.3	166

(*) The original design reactions have been factored by 1.35 per ANSI/TIA-222-G

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-G standards and the 2003 IBC with 2005 CT Supplements and 2008 CT Amendments.

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 919-466-5146.

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.

4400 Carillon Point
Kirkland, WA 98033

CLEAR

To: HPC
From: Praveen Meesarapu – Radio Frequency Engineer
Cc: Cameron Syme
Subject: Power Density Report for CT-HFD0006
Date: September 25, 2009

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1. Introduction:

This report is the result of Electromagnetic Field Intensities (EMF – Power Densities) study for the Clearwire broadband antenna installation on a Self Support Tower at Town Farm Road, Enfield, CT, 06082. This study incorporates the most conservative consideration for determining the practical combined worst case power density levels that would be theoretically encountered from locations surrounding the transmitting location:

2: Discussion:

The following assumptions were used in the calculations:

1) The emissions from Clearwire transmitters are in the (2496 – 2960) Frequency Band
2) The emissions from the Clearwire Microwave dishes are in the 11 GHz Frequency Band
3) The model number for Clearwire Antenna is Argus LLPX310R
4) The model number for the Microwave dish is Andrew VHLP2-11 with 24" Diameter.
5) The Clearwire Panel antenna centerline is 112 feet.
6) The Clearwire Microwave dish centerline is 112 feet.
7) The Maximum Transmit power from any Clearwire panel antenna is 251 Watts Effective Isotropic Radiated Power (EiRP) assuming 2 channels per sector.
8) The Maximum Transmit power from any Clearwire Microwave Dish is 346 Watts Effective Isotropic Radiated Power (EiRP) assuming 1 channel per dish.
9) All antennas are simultaneously transmitting and receiving 24 hours per day.
10) The average ground level of the studied area does not change significantly with respect to the transmitting location.

Equations given in "FCC OET Bulletin 65, Edition 97-01" were used with the above information to perform the calculations.

3: Conclusion:

Based on the above worst case assumptions, the power density calculation from the Clearwire antenna installation on a Self Support Tower at Town Farm Road, Enfield, CT is 0.0000026 mW/cm^2. This value represents 0.00026% of the Maximum Permissible Exposure (MPE) standard of 1 milliwatt per square centimeter (mW/cm^2) set forth in the FCC/ANSI/IEEE C95-1-1991. Furthermore, the proposed antenna location for Clearwire will not interfere with existing public safety communications, AM or FM radio broadcasts, TV, Police Communications, HAM Radio communications or any other signals in the area.

The combined Power Density from all other carriers is 27.78 %. The combined Power Density for this site is 27.79026 % of the M.P.E. standard.