

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 24, 2010

Jennifer Young Gaudet
Project Manager
HPC Development LLC
46 Mill Plain Road
Danbury, CT 06811

RE: **EM-CLEARWIRE-002-100504** – Clearwire Corporation notice of intent to modify an existing telecommunications facility located at 401 Wakelee Avenue, Ansonia, Connecticut.

Dear Mrs. Gaudet:

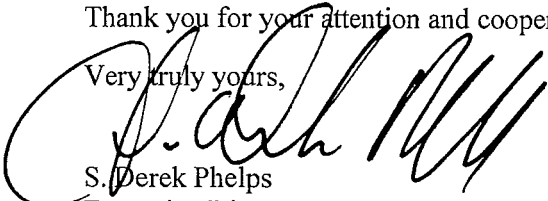
The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated April 30, 2010, and additional information dated May 5, 2010, including the placement of all necessary equipment and shelters within the tower compound. 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. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,


S. Derek Phelps
Executive Director

SDP/CDM/laf

c: The Honorable James T. DellaVolpe, Mayor, City of Ansonia
Peter Crabtree, Zoning Enforcement Officer, City of Ansonia
American Tower Corporation

ORIGINAL

May 5, 2010

Mr. David Martin
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RECEIVED
MAY - 6 2010

CONNECTICUT
SITING COUNCIL

Re: Clearwire Corporation - Notice to Make an Exempt Modification to an Existing Facility
at 401 Wakelee Avenue, Ansonia

Dear Mr. Martin:

Following our telephone conversation this day regarding the height of the antennas and microwave dishes for the proposed Clearwire installation on the above-noted tower, this letter corrects the center line height reflected in the narrative dated April 30, 2010. The proposed center line height for the Clearwire antennas and microwave dishes will be 194' AGL, not 120' as reflected in the narrative. Enclosed is a substitute page 1 of the letter narrative with the correct height noted. All back-up documentation submitted with the filing was based on the correct height of 194'.

I apologize for any inconvenience. Please contact me if any further information is required. Thank you for your consideration.

Respectfully submitted,

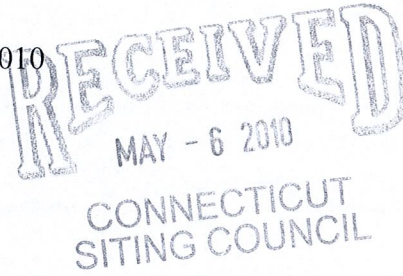


Jennifer Young Gaudet
for Clearwire Corporation

Attachment

ORIGINAL

April 30, 2010



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 401 Wakelee Avenue, Ansonia

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 City of Ansonia, Connecticut of Clearwire's intent to make an exempt modification to an existing lattice tower ("tower") located at 401 Wakelee Avenue, Ansonia. 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 196' self-support lattice tower located at 401 Wakelee Avenue, Ansonia, Connecticut (Latitude 41°21'21.85" N, Longitude 73°05'29.6" W). The tower is owned by American Tower Corp. Several other wireless carriers are located on the tower. Clearwire will replace six panel antennas operated by Sprint (originally installed for Nextel) with 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 194'. 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 sufficient to support the proposed loading.



EM-CLEARWIRE-002-100504

April 30, 2010

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

ORIGINAL

RECEIVED
MAY - 4 2010

CONNECTICUT
SITING COUNCIL

Re: Clearwire Corporation - Notice to Make an Exempt Modification to an Existing Facility at 401 Wakelee Avenue, Ansonia

Dear Mr. Phelps:

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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 196' self-support lattice tower located at 401 Wakelee Avenue, Ansonia, Connecticut (Latitude 41°21'21.85" N, Longitude 73°05'29.6" W). The tower is owned by American Tower Corp. Several other wireless carriers are located on the tower. Clearwire will replace six panel antennas operated by Sprint (originally installed for Nextel) with 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 120'. 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 sufficient to support the proposed loading.

Mr. S. Derek Phelps

April 30, 2010

Page 2

Within the existing compound, 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 0.000252% of the NCRP's standard for maximum permissible exposure. The cumulative power density analysis indicates that all the antennas on the structure will emit 28.38% of the NCRP'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 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: James Della Volpe, Mayor, City of Ansonia (also underlying property owner)

Attachments

clearwire®
wireless broadband

CLEARWIRE NY METRO MARKET
MILA WARD
365 WEST PASSAIC STREET
ROCHELLE PARK, NJ 07762
(732) 896-5778

THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OF SERVICE, ARE THE EXCLUSIVE PROPERTY OF AMERICAN TOWER CORPORATION AND THEIR USE AND PUBLICATION SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. REUSE, REPRODUCTION OR PUBLICATION BY ANY METHOD, IN WHOLE OR IN PART, IS PROHIBITED EXCEPT BY WRITTEN PERMISSION FROM AMERICAN TOWER CORPORATION TITLE TO THESE PLANS AND/OR SPECIFICATIONS SHALL REMAIN WITH AMERICAN TOWER CORPORATION WITHOUT PREJUDICE AND VISUAL CONTACT WITH THEM SHALL CONSTITUTE PRIMA FACIE EVIDENCE OF ACCEPTANCE OF THESE RESTRICTIONS.



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STRUCTURAL ENGINEERING
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SUITE 135
IRVING, TX 75063
(972) 999-8900 Tel.
(972) 999-8940 Fax
NYSE: AMT

SITE NUMBER:

302470

SITE NAME:

ANSONIA
WAKELEE

SITE ADDRESS:

401 WAKELEE AVE
ANSONIA, CT 06401

STAMP HERE:

DRAWN BY:	JH
CHECKED BY:	SAE
DATE DRAWN:	04-08-10
JOB NO:	438746K2

SHEET TITLE:

TOWER
ELEVATION

SHEET NUMBER:

A-2

REV. #

0

TOP OF EXISTING SELF-SUPPORT
TOWER

ELEV. 196'-0" A.G.L.

PROPOSED CLEARWIRE
ANTENNAS

ELEV. 194'-0" A.G.L.

EXISTING SPRINT NEXTEL ANTENNAS

ELEV. 194'-0" A.G.L.

(6) EXISTING SPRINT PANEL ANTENNAS
TO BE REPLACED BY (3) ARGUS
PANEL ANTENNAS WITH (2) DISHES

EXISTING SPRINT NEXTEL ANTENNAS

ELEV. 184'-0" A.G.L.

EXISTING VERIZON ANTENNAS

ELEV. 178'-0" A.G.L.

EXISTING AT&T MOBILITY ANTENNAS

ELEV. 167'-0" A.G.L.

EXISTING YOUGHIOGHENY ANTENNAS

ELEV. 157'-0" A.G.L.

EXISTING T-MOBILE ANTENNAS

ELEV. 148'-0" A.G.L.

EXISTING CITY OF ANSONIA ANTENNA

ELEV. 125'-0" A.G.L.

EXISTING VERIZON GPS

ELEV. 124'-0" A.G.L.

EXISTING SPRINT NEXTEL GPS

ELEV. 104'-0" A.G.L.

EXISTING ANSONIA FIRE DEPT. ANTENNA

ELEV. 82'-0" A.G.L.

EXISTING SPRINT NEXTEL GPS

ELEV. 76'-0" A.G.L.

NOTE:

INSTALL PROPOSED CLEARWIRE
ANTENNAS AND COAX CABLES AS
INDICATED IN STRUCTURAL
ANALYSIS #43874621, DATED
08/24/2009.

PROPOSED
CLEARWIRE ICE
BRIDGE

PROPOSED
CLEARWIRE
GPS

PROPOSED
CLEARWIRE
CABINET

PROPOSED
CLEARWIRE
PLATFORM

EXISTING YOUGHIOGHENY ANTENNA

ELEV. 12'-0" A.G.L.

EXISTING 8' CHAIN
LINK FENCE

1 TOWER ELEVATION
NOT TO SCALE

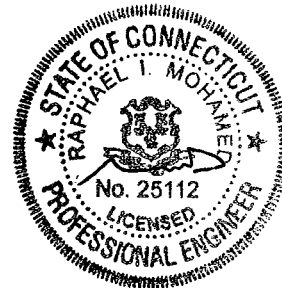


Structural Analysis Report

Structure : 196 ft Rohn Self Supported Tower
ATC Site Name : Ansonia Wakelee, CT
ATC Site Number : 302470
Proposed Carrier : Clearwire
Carrier Site Name : N/A
Carrier Site Number : CT-NHN0063
County : New Haven
Engineering Number : 43874621
Date : August 24, 2009*
Usage : 100% Legs, 99% Diagonals,
18% Horizontals

Submitted by:
Esha Shah, E.I.
Design Engineer

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



8/25/09

Introduction

The purpose of this report is to summarize results of the structural analysis performed on the 196 ft Rohn Self Supported Tower located at 401 Wakelee Ave., Ansonia, CT 06401, New Haven County (ATC Site No. 302470). The tower was originally designed and manufactured by Rohn (Drawing No. A991899, dated July 7, 1999).

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: 90 mph (Fastest Mile) / 110 mph (3-Second Gust)
 Radial Ice: 78 mph (Fastest Mile) w/ 1/2" ice
 Code: ANSI/TIA/EIA-222-F / 2003 IBC, Sec. 1609.1.1, Exception (5) & Sec. 3108.4 w/ 2005 CT Supplements & 2008 CT Amendments

Antenna Loads

The following antenna loads were used in the tower analysis.

Existing Antennas

Elev. (ft)	Qty	Antennas	Mount	Coax (in)	Carrier
194.0	9	48" x 12" Panels	Sector Frames	(10) 1 1/4 (6) 1 5/8	Sprint Nextel
	3	72" x 12" Panels			
	3	KMW HB-X-WM-17-65-00T			
184.0	6	Decibel DB950F65E-M	Sector Frames	(6) 1 5/8	
178.0	6	Decibel DB844H90E-XY	Sector Frames	(12) 1 5/8	Verizon
	6	Decibel 948F85T2E-M			
167.0	6	CSS DUO1417-8686	Sector Frames	(12) 1 1/4	AT&T Mobility
	3	Powerwave 7770.00			
	6	14" x 9" TTA			
	3	Powerwave LGP21902			
157.0	3	RFS APXV18-206517-C	Leg	(6) 1 5/8	Youghiogheny
148.0	3	EMS DR65-18-02DPL2Q	Sector Frames	(18) 1 5/8	T-Mobile
	3	RFS ATMAA1412D-1A20			
	3	RFS APX16DWV-16DWVS-E-A20			
	3	CCI DTMA-1819-DD-12			
125.0	2	Motorola PTP54600	Leg	(2) 1/4	City Of Ansonia
124.0	1	2" x 8" GPS	Side Arm	(1) 1/2	Verizon
104.0	2	2" x 8" GPS	Side Arms	(2) 1/2	Sprint Nextel
82.0	1	10' Omni	Side Arm	(1) 1/2	Ansonia Fire Dept.
76.0	1	2" x 8" GPS	Side Arm	(1) 1/2	Sprint Nextel
12.0	1	Nortel NTGB01MA	Leg	(1) 7/8	Youghiogheny

Proposed Antennas

Elev. (ft)	Qty	Antennas	Mount	Coax (in)	Carrier
194.0	2	DragonWave Horizon Compact	Sector Frames	(6) 5/16 (2) 1/2 (1) 2" Conduit	Clearwire
	3	NextNet BTS-2500			
	2	DragonWave A-ANT-18G-2-C			
	3	Argus LLPX310R			

Double stack proposed coax on tower face with existing (6) 1 5/8" Sprint Nextel coax .

Results

The maximum structure usage is: 100% Legs, 99% Diagonals, 18% Horizontals

Leg Forces	Original Design Reactions	Current Analysis Reactions	% Of Design
Uplift (Kips)	301.1	323.8	108
Axial (Kips)	343.0	383.8	112
Shear (Kips)	36.3	38.0	105

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/EIA-222-F and 2003 IBC with 2005 CT Supplements & 2008 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 919-463-6280.

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.



To:
From: Mark Brauer – Radio Frequency Engineer
Cc: Cameron Syme
Subject: Power Density Report for CT-NHN0063
Date: April, 29, 2010

1. Introduction:

This report is the result of Electromagnetic Field Intensities (EMF – Power Densities) study for the Clearwire broadband antenna installation on a tower at 401 Wakelee Ave, Ansonia, CT. 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:

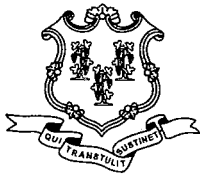
- 1) The emissions from Clearwire transmitters are in the (2496 – 2960) Frequency Band
- 2) The emissions from the Clearwire Microwave dishes are in the 11 GHz Frequency Band
- 3) The model number for Clearwire Antenna is Argus LLPX310R
- 4) The model number for the Microwave dish is Andrew VHLP2-23 with 24" Diameter.
- 5) The Clearwire Panel antenna centerline is 194 feet.
- 6) The Clearwire Microwave dish centerline is 194 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 Tower at 401 Wakelee Ave, Ansonia, CT is 0.000003 mW/cm^2 . This value represents 0.000252% 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 licensed 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 28.37 %. The combined Power Density for this site is 28.38 % of the M.P.E. standard.



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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Internet: ct.gov/csc

Daniel F. Caruso
Chairman

May 4, 2010

The Honorable James T. DellaVolpe
Mayor
City of Ansonia
City Hall
253 Main Street
Ansonia, CT 06401-1866

RE: **EM-CLEARWIRE-002-100504** -- Clearwire Corporation notice of intent to modify an existing telecommunications facility located at 401 Wakelee Avenue, Ansonia, Connecticut.

Dear Mayor DellaVolpe:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

If you have any questions or comments regarding this proposal, please call me or inform the Council by May 18, 2010.

Thank you for your cooperation and consideration.

Very truly yours,



S. Derek Phelps
Executive Director

SDP/jbw

Enclosure: Notice of Intent

c: Peter Crabtree, Zoning Enforcement Officer, City of Ansonia