

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 Internet: ct.gov/csc

June 1, 2009

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

RE: EM-CING-023-090422- New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 96 Powder Mill Road, Canton, Connecticut.

Dear Mr. Levine:

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:

- The proposed coax lines shall be installed inside the monopole shaft; and
- The Council shall be notified in writing that the coax was installed as specified.

The proposed modifications are to be implemented as specified here and in your notice dated April 21, 2009, 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 your

S. Derek Phelps

Executive Director

SDP/MP/laf

c: The Honorable Richard J. Barlow, First Selectman, Town of Canton Robert H. Skinner, Chief Administrative Officer, Town of Canton Neil Pade, Town Planner, Town of Canton SBA Network Services, LLC

Tans Out

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

April 23, 2009

The Honorable Richard J. Barlow First Selectman Town of Canton 4 Market Street P. O. Box 168 Collinsville, CT 06022-0168

RE: **EM-CING-023-090422-** New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 96 Powder Mill Road, Canton, Connecticut.

Dear Mr. Barlow:

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 7, 2009.

Thank you for your cooperation and consideration.

Very truly/yours

Executive Director

SDP/jb

Enclosure: Notice of Intent

c: Neil Pade, Town Planner, Town of Canton Robert H. Skinner, Chief Administrative Officer, Town of Canton



EM-CING-023-090422





Cingular Wireless PCS, LLC Enterprise Drive

Rocky Hill, Connecticut 06067-3900 Phone: (860) 513-7636

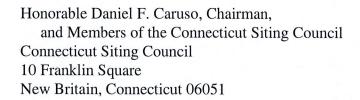
Fax: (860) 513-7190

ORIGINAL

Steven L. Levine Real Estate Consultant

HAND DELIVERED

April 21, 2009





CONNECTICUT SITING COUNCIL

Re: New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 96 Powder Mill Road, Canton (owner, SBA)

Dear Chairman Caruso and Members of the Council:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System ("UMTS") capability, 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.

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. 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) 513-7636 with questions concerning this matter. Thank you for your consideration.

Sincerely,

Steven L. Levine

Real Estate Consultant

Attachments

NEW CINGULAR WIRELESS Equipment Modification

96 Powder Mill Road, Canton

Site Number 1114

Exempt Modification approved 2/04

Tower Owner/Manager:

SBA

Equipment Configuration:

Monopole

Current and/or Approved: Nine CSS panel antennas @ 137 ft AGL Six TMA's and three diplexers @ 137 ft

Nine runs 1 5/8 inch coax cable

Equipment shelter

Planned Modifications:

Remove existing antennas, TMA's, and diplexers

Install six Powerwave 7770 antennas (or equivalent) @ 137 ft

Install six TMA's and six diplexers @ 137 ft Install three additional runs 1 5/8 inch coax

Power Density:

Worst-case calculations for existing wireless operations at the site indicate a radio frequency electromagnetic radiation power density, measured at ground level beside the tower, of approximately 14.1 % 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 17.6 % of the standard.

Existing

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm²)	Standard Limits (mW/cm²)	Percent of Limit
Other Users *							10.49
AT&T GSM *	137	1900 Band	2	427	0.0164	1.0000	1.64
AT&T GSM *	137	880 - 894	2	296	0.0113	0.5867	1.93
Total		1000	1 4 4 5 T		" (A)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	14.1%

^{*} Per CSC records

Proposed

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm²)	Standard Limits (mW/cm²)	Percent of Limit
Other Users *							10.49
AT&T UMTS	137	880 - 894	1	500	0.0096	0.5867	1.63
AT&T GSM *	137	1900 Band	2	427	0.0164	1.0000	1.64
AT&T GSM *	137	880 - 894	4	296	0.0227	0.5867	3.87
Total							17.6%

^{*} Per CSC records

Structural information:

The attached structural analysis by FDH Engineering (9/12/08; for Pocket's recent installation under EM-Pocket-023-080924) accounts for an AT&T equipment inventory of 12 CSS antennas, 6 TMA's, and 12 lines 1 5/8 inch coax. As shown on the attached loading comparison, this *configuration* represents both greater weight and greater wind loading than the proposed new array of 6 Powerwave antennas, 6 TMA's, 6 diplexers, and 12 lines 1 5/8 inch coax. No load-affecting equipment changes have taken place on this tower since the 9/12/08 structural was performed. Accordingly, the 9/12/08 structural is still valid for assessing the structural impacts of the proposed equipment modifications and demonstrates that there is adequate structural capacity to accommodate the proposed modifications.





New Cingular Wireless PCS, LLC

500 Enterprise Drive

Rocky Hill, Connecticut 06067-3900

Phone: (860) 513-7636 Fax: (860) 513-7190

Steven L. Levine Real Estate Consultant

April 21, 2009

Honorable Richard J. Barlow 1st Selectman, Town of Canton Town Hall 4 Market St. Canton, CT 06022

Re: Telecommunications Facility – 96 Power Mill Road, Canton

Dear Mr. Barlow:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System ("UMTS") capability, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC ("Cingular") 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 Cingular'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) 513-7636 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

Steven L. Levine

Real Estate Consultant

Enclosure

Loading	Comparison	- 1114 -	Canton

		QTY	<u>Length</u>	Width	<u>Depth</u>	Weight	Sail Area	Total Sail Area (sq in)	Total Weight (Ibs)
Utilized in 9/	08 Structural Analysis								
Antennas	CSS DUO 1417-8686	12	48	14	9	30.8	672	8064	369.6
TMAs	ADC CG1900W850	6	11.7	11.3	2.8	15.4	132.21	793.26	92.4
Diplexers	CSS DBC-750	0	7.9	6.6	1.3	4.9	52.14	0	0
coax	twelve 1 5/8 inch	12	140			0.8			1344
Proposed								8857.26	1806
Antennas	Powerwave 7770	6	55	11	5	35	605	3630	210
TMAs	Powerwave LGP 21401	6	14	9	2.7	19	126	756	114
Diplexers	Powerwave LGP 13519	6	4.4	6.3	3	5.3	27.72	166.32	31.8
coax	twelve 1 5/8 inch	12	140	0.0	•	0.8	21.12	100.52	1344
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Specs Antennas								SOCIOLOGIST COM ESCALABORISTA DE CONTROLOGISTA DE CONTROL	
	CSS DUO 1417-8686		48	14	9	30.8			
	Powerwave 7770		55	11	5	35			
TMAs	ADC CG1900W850		11.7	11.3	2.8	15.4			
	Powerwave LGP 21401		14	9	2.7	19			
Diplexers	CSS DBC-750		7.9	6.6	1.3	4.9			
Diblexers	Powerwave LGP 13519		4.4	6.3					
	Powerwave LGP 21903		4.4	6.3	3 3	5.3 5.3			
coax	7/8 inch					.34 / ft			
COAX	1 1/4 inch					.34 / ft			
	1 5/8 inch					.8 / ft			



Structural Analysis for SBA Network Services, Inc.

180' Monopole

Site Name: South Canton Site ID: CT01722-S

FDH Project Number 08-08176E S2

Prepared By:

Blu A. 75+

Blake A. Bartok, El Project Engineer Reviewed By:

Christopher M. Murphy

Christopher M. Murphy, PE Vice President CT PE License No. 25842

FDH Engineering, Inc.

2730 Rowland Road, Suite 100 Raleigh, NC 27615 (919)-755-1012 info@fdh-inc.com



September 12, 2008

Prepared pursuant to ANSI/TIA-222-G Structural Standards for Antenna Supporting Structures and Antennas

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EXECUTIVE SUMMARY

At the request of SBA Network Services, FDH Engineering performed a structural analysis of the monopole located in Canton, CT to determine whether the tower is structurally adequate to support both the existing and proposed loads, pursuant to *Structural Standards for Antenna Supporting Structures and Antennas, ANSI/TIA-222-G.* Information pertaining to the existing/proposed antenna loading, current tower geometry, and member sizes was obtained from Valmont Microflect (Order No. 12156-00) Communication Pole Design Calculations dated August 3, 2000, Valmont Microflect (Order No. 12156-00) Communication Pole Record Drawings dated August 3, 2000, and SBA Network Services, Inc.

The basic design wind speed per ANSI/TIA-222-G standards is 100 MPH without ice and 50 MPH with 1" radial ice.

Conclusions

With the existing and proposed antennas from Pocket at 167 ft, the tower meets the requirements of the ANSI/TIA-222-G standards. Furthermore, provided the foundation was constructed to support the original design reactions (Valmont Microflect Drawing No. DD0954Z), the foundation should have the necessary capacity to support both the proposed and existing loading. For a more detailed description of the analysis of the tower, see the **Results** section of this report.

Our structural analysis has been performed assuming all information provided to FDH is accurate (i.e., the steel data, tower layout, current and proposed antenna loading) and that the tower will be properly erected and maintained per the original design drawings.

Recommendations

To ensure the requirements of the ANSI/TIA-222-G standards are met with the existing and proposed loading in place, we have the following recommendations:

1. The proposed coax should be installed inside the pole's shaft.

APPURTENANCE LISTING

The proposed and existing antennas with their corresponding cables/coax lines are shown in **Table 1**. If the actual layout determined in the field deviates from this layout, FDH should be contacted to perform a revised analysis.

Table 1 – Appurtenance Loading

Existing Loading:

Antenna	Centerline Elevation (ft)	Coax and Lines ¹	Carrier	Mount Type	Description
1-6	177	(6) 1-5/8"	Sprint	(1) 13' Platform w/Handrails (assumed)	(6) Andrew DB980H90E-M
7-18	147	(12) 1-5/8"	Verizon	(1) 13' Low- Profile Platform (assumed)	(6) Andrew DB844H90E-SXY (6) Andrew DB950F85E-M
19-30	137	(12) 1-5/8" ²	Cingular	(3) 10' T-Arms (assumed)	(12) CSS DUO1417-868-40 (6) TMA

¹ Coax installed inside the pole's shaft, unless otherwise noted.

Proposed Loading:

Antenna	Centerline Elevation (ft)	Coax and Lines	Carrier	Mount Type	Description
1-3	167	(6) 1-5/8	Pocket	(3) Direct Mounts (assumed)	(3) Kathrein 742 213

² Currently, Cingular has (9) CSS DUO1417-868-40 antennas and (9) 1-5/8" coax installed at 137 ft. According to information provided by SBA, Cingular may install up to (12) DUO-1417-868-40 and (12) 1-5/8" coax. Analysis performed with total leased loading in place.

RESULTS

Based on information obtained from the original design drawings, the yield strength of steel for individual members was as follows:

Table 2 - Material Strength

Member Type	
Tower Shaft Sections	65 ksi
Base Plate	60 ksi
Anchor Bolts	75 ksi

Table 3 displays the ratio (as a percentage) of actual force in the member to their allowable capacities. Values greater than 100% indicate locations where the maximum force in the member exceeds its allowable capacity. *Note: Capacities up to 105% are considered acceptable.* **Table 4** displays the maximum foundation reactions.

If the assumptions outlined in this report differ from actual field conditions, FDH should be contacted to perform a revised analysis. Furthermore, as no information pertaining to the allowable twist and sway requirements for the existing or proposed appurtenances was provided, deflection and rotation were not taken into consideration when performing this analysis.

See the **Pole Profile** for detailed modeling information.

Table 3 – Summary of Working Percentage of Structural Components

Section No.	Elevation ft	Component Type	Size	% Capacity	Pass Fail
L1	180 - 131.75	Pole	TP36.25x26.84x0.25	28.5	Pass
L2	131.75 - 91.6667	Pole	TP43.56x34.7261x0.2813	57.0	Pass
L3	91.6667 - 45.4167	Pole	TP52.02x41.7634x0.4375	55.8	Pass
L4	45.4167 - 0	Pole	TP60x49.7146x0.5	61.0	Pass
			Anchor Bolts	OK	Pass
			Base Plate	OK	Pass

Table 4 - Maximum Base Reactions

Base Reactions	Current Analysis (ANSI/TIA-222-G)	Original Design Reactions (TIA/EIA-222-F)*
Axial	57 k	53 k
Shear	36 k	39 k
Moment	3,938 k-ft	4,924 k-ft

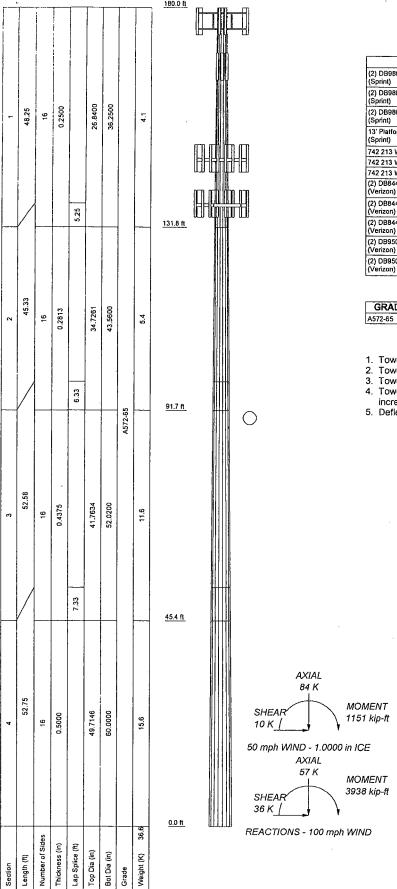
^{*} Current analysis reactions are within an allowable factor of 1.35 per ANSI/TIA-222-G when the original design reactions are based on an allowable stress design.

GENERAL COMMENTS

This engineering analysis is based upon the theoretical capacity of the structure. It is not a condition assessment of the tower and its foundation. It is the responsibility of SBA Network Services, Inc. to verify that the tower modeled and analyzed is the correct structure (with accurate antenna loading information) modeled. If there are substantial modifications to be made or the assumptions made in this analysis are not accurate, FDH Engineering should be notified immediately to perform a revised analysis.

LIMITATIONS

All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of this report. All opinions and conclusions are subject to revision based upon receipt of new or additional/updated information. All services are provided exercising a level of care and diligence equivalent to the standard and care of our profession. No other warranty or guarantee, expressed or implied, is offered. Our services are confidential in nature and we will not release this report to any other party without the client's consent. The use of this engineering work is limited to the express purpose for which it was commissioned and it may not be reused, copied, or distributed for any other purpose without the written consent of FDH Engineering, Inc.



DESIGNED APPURTENANCE LOADING

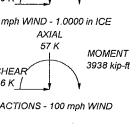
TYPE	ELEVATION	TYPE	ELEVATION	
(2) DB980H90E-M w/Mount Pipe (Sprint)	177	(2) DB950F85E-M w/Mount Pipe (Verizon)	147	
(2) DB980H90E-M w/Mount Pipe (Sprint)	177	13' Low Profile Platform (Monopole) (Verizon)	147	
(2) DB980H90E-M w/Mount Pipe (Sprint)	177	(4) DUO1417-868-40 w/Mount Pipe (Cingular)	137	
13' Platform w/handrails (Monopole) (Sprint)	177	(4) DUO1417-868-40 w/Mount Pipe (Cingular)	137	
742 213 W/Pipe Mount (Pocket)	167	(4) DUO1417-868-40 w/Mount Pipe	137	
742 213 W/Pipe Mount (Pocket)	167	(Cingular)	L	
742 213 W/Pipe Mount (Pocket)	167	(2) TMA (Cingular)	137	
(2) DB844H90E-SXY w/Mount Pipe	147	(2) TMA (Cingular)	137	
(Verizon)		(2) TMA (Cingular)	137	
(2) DB844H90E-SXY w/Mount Pipe (Verizon)	147	2' Standoff T-Arm (10' face width) (Cingular)	137	
(2) DB844H90E-SXY w/Mount Pipe (Verizon)	147	2' Standoff T-Arm (10' face width) (Cingular)	137	
(2) DB950F85E-M w/Mount Pipe (Verizon)	147	2' Standoff T-Arm (10' face width) (Cingular)	137	
(2) DB950F85E-M w/Mount Pipe (Verizon)	147			

MATERIAL STRENGTH

		***************************************	<u> </u>			
GRADE	Fy	Fu	GRADE	Fy	Fu	
A572-65	65 ksi	80 ksi				

TOWER DESIGN NOTES

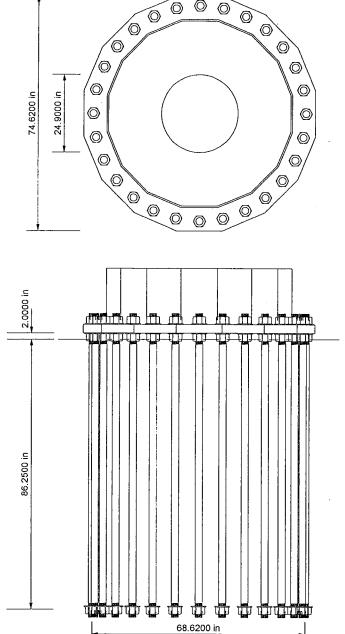
- Tower is located in Hartford County, Connecticut.
 Tower designed for Exposure C to the TIA-222-G Standard.
 Tower designed for a 100 mph basic wind in accordance with the TIA-222-G Standard.
 Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in this tensor with basicht. increase in thickness with height.
- 5. Deflections are based upon a 60 mph wind.



FDH Engineering, Inc. 2730 Rowland Road, Suite 100 Raleigh, North Carolina Phone: (919) 755-1012 Tower Analysis

FAX: (919) 755-1031

South Canton (CT01722-S)				
Project: 08-08176E S2	· · · · · · · · · · · · · · · · · · ·			
Client: SBA	Drawn by: BAB	App'd		
Code: TIA-222-G	Date: 09/12/08	Scale. NT		
Path:	6FSSouth Canton, CTAnalysis South Canton, CT0172	Dwg No. E		



FOUNDATION NOTES

- Plate thickness is 2.7500 in.
 Plate grade is A633-60.
 Anchor bolt grade is A615-75.
 fc is 4 ksi.

San Emmission in the	FDH Engineering, Inc.	Job: South Canton (CT01722-S)		
EFDH	2730 Rowland Road, Suite 100	Project: 08-08176E S2		
	Raleigh, North Carolina	Client: SBA	Drawn by: BAB	App'd
Tower Analysis		Code: TIA-222-G	Date: 09/12/08	Scale: NT
FAX: (919) 755-1031	` '	Path, Z:12008 Projects 8-Augusti08-0817	SELSouth Canton, CTVAnalysis South Canton, CT01722-S.e.	Dwg No. F.