

Daniel F. Caruso  
Chairman

# 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](mailto:siting.council@ct.gov)

Internet: [ct.gov/csc](http://ct.gov/csc)

January 20, 2009

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

RE: **EM-CING-003-081204**- New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at Ashford Center Road/Fitts Road, Ashford, 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:

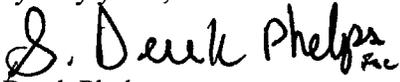
- The proposed coax lines shall be installed inside the monopole's shaft;
- The proposed tower mounted amplifiers and diplexers shall be installed behind the proposed panel antennas; and
- The Council shall be notified in writing that the coax lines, tower mounted amplifiers, and diplexers were installed as specified.

The proposed modifications are to be implemented as specified here and in your notice dated December 4, 2008, 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,

A handwritten signature in black ink that reads "S. Derek Phelps". The signature is written in a cursive style with a small "SRL" or similar mark at the end.

S. Derek Phelps  
Executive Director

SDP/MP/laf

- c: The Honorable Ralph H. Fletcher, First Selectman, Town of Ashford  
Richard Dziadus, Zoning Enforcement Officer, Town of Ashford  
SBA, Inc.



EM-CING-003-081204

New Cingular Wireless PCS, LLC  
500 Enterprise Drive  
Rocky Hill, Connecticut 06067-3900  
Phone: (860) 513-7636  
Fax: (860) 513-7190

ORIGINAL

RECEIVED  
DEC 4 - 2008

Steven L. Levine  
Real Estate Consultant

HAND DELIVERED

December 4, 2008

CONNECTICUT  
SITING COUNCIL

Honorable Daniel F. Caruso, Chairman,  
and Members of the Connecticut Siting Council  
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 Ashford Center Road / Fitts Road, Ashford (owner, Gridcom / 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. Modifications to the existing site include all or some of the following as necessary to bring the site into conformance with the plan:

- Replacement of existing panel antennas with new antennas or, installation of additional antennas of a size required to accommodate UMTS.
- Installation of small tower mount amplifiers ("TMA's") and/or diplexers to the platform on which the panel antennas are mounted to enhance signal reception.
- Installation of additional or larger coaxial cables as required.
- Installation of an additional equipment cabinet in existing shelters, or on existing or enlarged concrete pads.
- Radome enlargement for flagpole and "stick" structures to accommodate larger antennas and additional associated equipment.

None of these modifications will extend the height of the tower.

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**

229-231 Ashford Center Rd (aka 142 Fitts Road), Ashford  
Site Number 5702  
Former AT&T cell site  
Docket 239 Approved 5/03

**Tower Owner/Manager:** Gridcom / SBA

**Equipment Configuration:** Monopole

**Current and/or Approved:** Three Allgon 7250 panel antennas @ 167 ft AGL  
Six runs 1 5/8 inch coax cable  
Concrete pad with outdoor equipment cabinets

**Planned Modifications:** Remove all existing antennas  
Install low profile platform  
Install six Powerwave 7770 antennas (or equivalent) @ 167 ft  
Install six TMA's and six diplexers @ 167 ft  
Install six additional lines 1 5/8 inch coax  
Remove one outdoor cabinet  
Install one new outdoor cabinet for UMTS

**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 6.1 % 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 4.8 % of the standard.

**Existing**

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm <sup>2</sup> )	Standard Limits (mW/cm <sup>2</sup> )	Percent of Limit
Other Users *							1.85
AT&T GSM *	167	1900 Band	11	303	0.0430	1.0000	4.30
<b>Total</b>							<b>6.1%</b>

\* Per CSC records

### Proposed

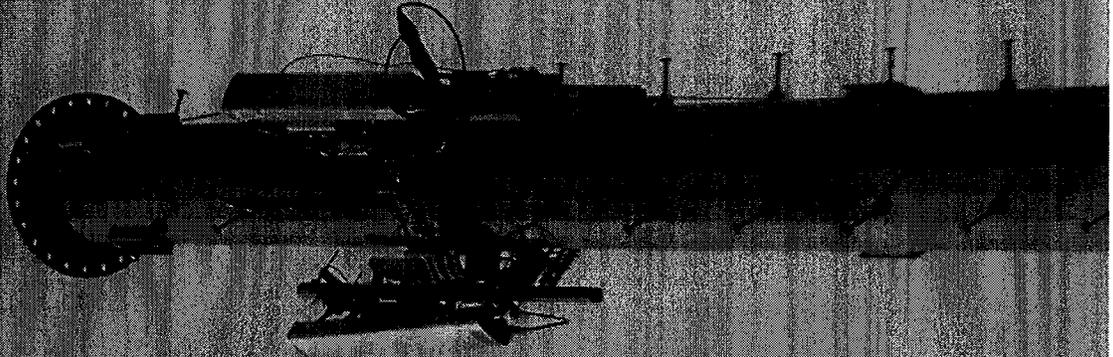
Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm <sup>2</sup> )	Standard Limits (mW/cm <sup>2</sup> )	Percent of Limit
Other Users							0.00 *
AT&T UMTS	167	880 - 894	1	500	0.0064	0.5867	1.10
AT&T GSM	167	1900 Band	2	427	0.0110	1.0000	1.10
AT&T GSM	167	880 - 894	4	296	0.0153	0.5867	2.60
<b>Total</b>							<b>4.8%</b>

\* See Structural Information, below

#### Structural information:

The attached structural analysis demonstrates that the tower and foundation have adequate structural capacity to accommodate the proposed equipment modifications. (FDH Engineering, 12/2/08)

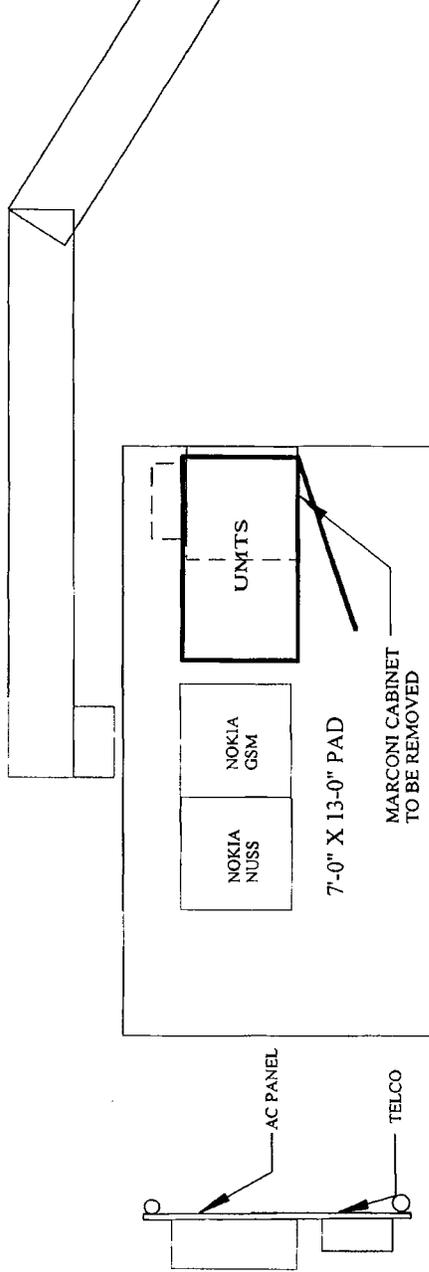
Note that Council records reflect approval in Docket 239 for T-Mobile to co-locate at the 177 ft level of the tower. As shown by a recent photograph of the tower (following page), only AT&T mounted antennas on the tower. Given that T-Mobile's approval is over 5 years old, it was deemed reasonable to omit T-Mobile from the structural analysis.





SITE NUMBER 5702  
SITE NAME Ashford Southeast

TITLE:	EQUIPMENT PLAN
MISC. INFO:	
DWG. BY:	SGB
DATE:	07/07/08
SCALE:	N.T.S.
SHEET:	1 OF 1





**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

December 4, 2008

Ralph H. Fletcher, 1<sup>st</sup> Selectman  
Town of Ashford  
Town Office Bldg.                      5 Town Hall Road  
Ashford, CT 06278

Re:    Telecommunications Facility – Ashford Center Rd / Fitts Road

Dear Mr. Fletcher:

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”) 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 AT&T’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



**Structural Analysis for  
SBA Network Services, Inc.**

**176' Monopole**

**Site Name: BSA  
Site ID: CT13611-A**

# 5702  
ASHFORD  
FITTS RD - ASHFORD CNTR RD

FDH Project Number 08-11114E S1

Prepared By:

Krystyn Wagner, EI  
Project Engineer

Reviewed By:

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

December 2, 2008



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

**TABLE OF CONTENTS**

EXECUTIVE SUMMARY..... 3  
    Conclusions  
    Recommendations

APPURTENANCE LISTING..... 4

RESULTS..... 5

GENERAL COMMENTS..... 6

LIMITATIONS..... 6

POLE PROFILE..... 7

BASE LEVEL SKETCH..... 8

## **EXECUTIVE SUMMARY**

At the request of SBA Network Services, FDH Engineering performed a structural analysis of the monopole located in Ashford, CT to determine whether the tower is structurally adequate to support both the existing and proposed loads, pursuant to the *Structural Standard 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 EEI (Job No. 11863-E01) original design drawings dated August 21, 2003, and SBA Network Services, Inc.

The *basic design wind speed* per *ANSI/TIA-222-G* standards is 105 MPH without ice and 50 MPH with 1" radial ice.

## **Conclusions**

With the existing and proposed antennas from AT&T in place at 167 ft, the tower meets the requirements of the *ANSI/TIA-222-G* standards. Furthermore, provided the foundation was constructed per the original design drawings (see EEI Drawing No. 11863-SPREAD), the foundation should have the necessary capacity to support the existing and proposed 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, existing and proposed antenna loading) and that the tower was 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 lines should be installed inside the monopole shaft.
2. The proposed TMAs and diplexers should be installed behind the proposed panel antennas.

**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:**

No.	Centerline Elevation (ft)	Coax and Lines <sup>1</sup>	Carrier	Mount Type	Description
1-3	167	(6) 1-5/8" <sup>2</sup>	AT&T	Flush	(3) 6' x 1' Panels (assumed)

<sup>1</sup> The existing coax is located inside the pole's shaft, unless otherwise noted.  
<sup>2</sup> The loading for AT&T at 167 ft will be altered. See the proposed loading below.

**Proposed Loading:**

No.	Centerline Elevation (ft)	Coax and Lines	Carrier	Mount Type	Description
1-6	167	(12) 1-5/8" <sup>1</sup>	AT&T	13' Low Profile Platform	(6) Powerwave 7770 (6) Powerwave LGP21401 TMAs (6) Powerwave diplexers

<sup>1</sup> This represents the final loading for AT&T at 167 ft. According to information provided by SBA, AT&T will replace their existing loading with (6) Powerwave 7770 antennas, (6) Powerwave LGP21401 TMAs, and (6) Powerwave diplexers. AT&T will also add (6) 1-5/8" coax, for a total of (12) coax.

## 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	Yield Strength
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 capacities. Values greater than 100% indicate locations where the maximum force in the member exceeds its 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 **Appendix** for detailed modeling information.

**Table 3 – Summary of Working Percentage of Structural Components**

Section No.	Elevation ft	Component Type	Size	% Capacity	Pass Fail
L1	176 - 139.08	Pole	TP26.13x17.5x0.1875	30.5	Pass
L2	139.08 - 91.41	Pole	TP36.76x24.8597x0.3125	35.2	Pass
L3	91.41 - 45.29	Pole	TP46.79x34.9404x0.375	39.4	Pass
L4	45.29 - 0	Pole	TP56.5x44.5568x0.375	47.5	Pass
			Anchor Bolts	OK	Pass
			Base Plate	OK	Pass

**Table 4 – Maximum Base Reactions**

Load Type	Current Analysis (ANSI/TIA-222-G)	Original Design (TIA/EIA-222-F)
Axial	36 k	36 k
Shear	22 k	27 k
Moment	2,033 k-ft	3,414 k-ft

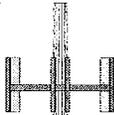
## **GENERAL COMMENTS**

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 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.

176.0 ft



139.1 ft

91.4 ft

45.3 ft

0.0 ft

Section	Length (ft)	Number of Sides	Thickness (in)	Lap Splice (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	36.92	18	0.1875	3.83	17.5000	26.1300	A572-65	1.6
2	51.50	18	0.3125	5.17	24.8897	36.7800	A572-65	5.3
3	51.29	18	0.3750	6.42	34.9404	46.7900	A572-65	8.4
4	51.71	18	0.3750	6.42	44.5568	56.5900	A572-65	10.5

**DESIGNED APPURTENANCE LOADING**

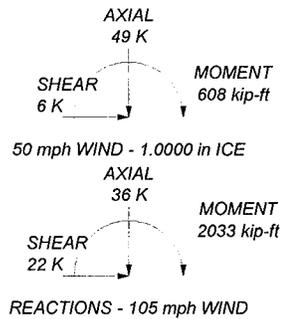
TYPE	ELEVATION	TYPE	ELEVATION
(2) Powerwave 7770 w/ Mount Pipe (ATI)	167	(2) TMA - Powerwave LGP21401 (ATI)	167
(2) Powerwave 7770 w/ Mount Pipe (ATI)	167	(2) TMA - Powerwave LGP21401 (ATI)	167
(2) Powerwave 7770 w/ Mount Pipe (ATI)	167	(2) Diplexer - Powerwave (ATI)	167
(2) TMA - Powerwave LGP21401 (ATI)	167	(2) Diplexer - Powerwave (ATI)	167
		(2) Diplexer - Powerwave (ATI)	167
		13' Low Profile Platform (ATI)	167

**MATERIAL STRENGTH**

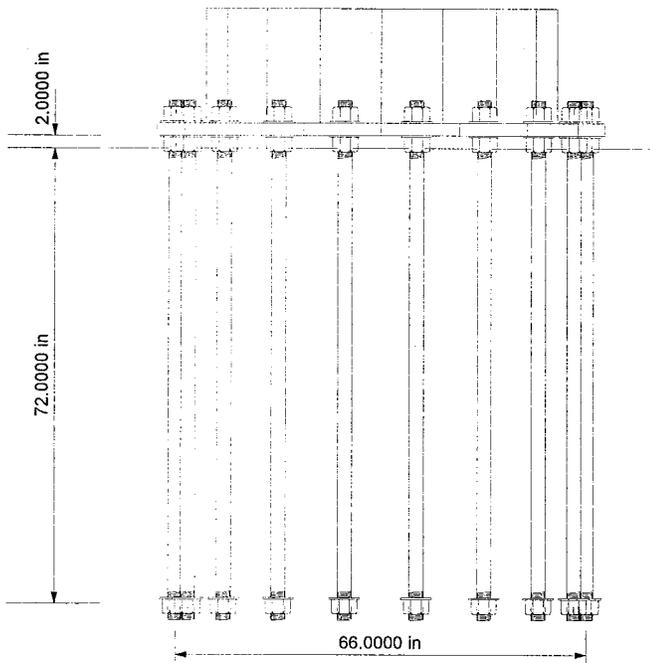
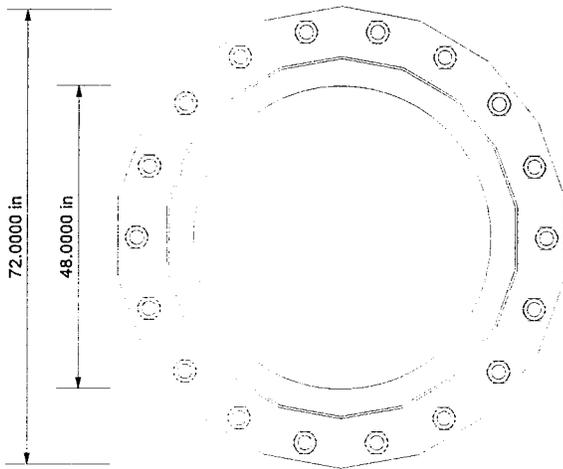
GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

**TOWER DESIGN NOTES**

1. Tower is located in Windham County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 105 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.



<p><b>FDH Engineering</b> 2730 Rowland Road, Suite 100 Raleigh, NC 27615 Phone: (919) 755-1012 FAX: (919) 755-1031</p> <p>Tower Analysis</p>	Job: <b>BSA, CT13611-A</b>		
	Project: <b>08-11114E S1</b>		
	Client: SBA	Drawn by: Krystyn Wagner	App'd:
	Code: TIA-222-G	Date: 12/02/08	Scale: NTS
	Path: \\fdh-server\projects\2008\Projects\11-November\08-11114E\BSA_CTA\Analysis\BSA_CT13611-A.ed		Dwg No. <b>E-1</b>



**FOUNDATION NOTES**

1. Plate thickness is 2.0000 in.
2. Plate grade is A572-60.
3. Anchor bolt grade is A615-75.
4.  $f_c$  is 4 ksi.

<b>FDH Engineering</b> 2730 Rowland Road, Suite 100 Raleigh, NC 27615 Phone: (919) 755-1012 FAX: (919) 755-1031		Job: <b>BSA, CT13611-A</b>	
		Project: <b>08-11114E S1</b>	
Tower Analysis	Client: SBA	Drawn by: Krystyn Wagner	App'd:
	Code: TIA-222-G	Date: 12/02/08	Scale: NTS
	Path: \\fdh-server\projects\2008\Project\11-November\08-11114E\BSA_CT13611-A.dwg		Dwg No. F-1



# 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](mailto:siting.council@ct.gov)

[www.ct.gov/csc](http://www.ct.gov/csc)

December 10, 2008

The Honorable Ralph H. Fletcher  
First Selectman  
Town of Ashford  
Knowlton Memorial Town Hall  
5 Town Hall Road  
Ashford, CT 06278

RE: **EM-CING-003-081204**- New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at Ashford Center Road/Fitts Road, Ashford, Connecticut.

Dear Mr. Fletcher:

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 December 24, 2008.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps  
Executive Director

SDP/jb

Enclosure: Notice of Intent

c: Richard Dziadus, Zoning Enforcement Officer, Town of Ashford