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

Daniel F. Caruso
Chairman

October 1, 2007

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

RE: **EM-CING-008-049-080-132-151-070904** – New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 719 Amity Road, Bethany; Bright Meadow Boulevard, Enfield; 462 (a/k/a 450-478) West Main Street, Meriden; 300 Governors Highway, South Windsor; and 670 Captain Neville Drive, Waterbury, Connecticut.

Dear Mr. Levine:

At a public meeting held on September 25, 2007, the Connecticut Siting Council (Council) acknowledged your notice to modify these existing telecommunications facilities, 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 September 4, 2007, including the placement of all necessary equipment and shelters within the tower compounds. 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 existing facility sites that would not increase tower heights, extend the boundaries of the tower sites, increase noise levels at the tower site boundaries by six decibels, and increase the total radio frequencies electromagnetic radiation power densities measured at the tower site boundaries to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. These facilities have also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on these towers.

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 any of these facilities 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,

Daniel F. Caruso FOC

Daniel F. Caruso
Chairman

DFC/MP/cm

c: The Honorable Michael J. Jarjura, Mayor, City of Waterbury
Gil Grabeline, Zoning Enforcement Officer, City of Waterbury
The Honorable Mark Benigni, Mayor, City of Meriden
Dominick Caruso, City Planner, City of Meriden
The Honorable Matthew Streeter, Mayor, Town of South Windsor
Marcia Banach, Director of Planning, Town of South Windsor
The Honorable Derrylyn Gorski, First Selectman, Town of Bethany
Robert H. Brinton, Zoning Enforcement Officer, Town of Bethany
The Honorable Patrick L. Tallarita, Mayor, Town of Enfield
Jose Giner, Director of Planning and Community Development, Town of Enfield
Crown Castle
Christine Farrell, T-Mobile

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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E-Mail: siting.council@ct.gov
Internet: ct.gov/csc

Daniel F. Caruso
Chairman

September 5, 2007

The Honorable Derrylyn Gorski
First Selectman
Town of Bethany
Town Hall
40 Peck Road
Bethany, CT 06524-3338

RE: **EM-CING-008-049-080-132-151-070904** – New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 719 Amity Road, Bethany; Bright Meadow Boulevard, Enfield; 462 (a/k/a 450-478) West Main Street, Meriden; 300 Governors Highway, South Windsor; and 670 Captain Neville Drive, Waterbury, Connecticut.

Dear Ms. Gorski:

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.

The Council will consider this item at the next meeting scheduled for September 25, 2007, at 1:30 p.m. in Hearing Room Two, Ten Franklin Square, New Britain, Connecticut.

If you have any questions or comments regarding this proposal, please call me or inform the Council by September 24, 2007.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/cm

Enclosure: Notice of Intent

c: Robert H. Brinton, Zoning Enforcement Officer, Town of Bethany

G:\EM\CINGULAR\BETHANY\gorski2.DOC

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

EM-CING-008-049-080-132-151-070904

HAND DELIVERED

RECEIVED
SEP 04 2007
CONNECTICUT
SITING COUNCIL

September 4, 2007

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 5 existing telecommunications facilities located in Bethany, Enfield, Meriden, South Windsor, and Waterbury

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 ("Cingular") 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 each of the municipalities in which an affected cell site is locate.

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 are summary sheets detailing the planned changes, including power density calculations reflecting the change in the effect of Cingular's operations at each affected site. Also included is documentation of the structural sufficiency of each tower to accommodate the revised antenna configuration.

The changes to the facilities do not constitute modifications as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facilities will not be significantly changed or altered. Rather, the planned changes to the facilities fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

1. In each instance, the height of the overall structure will be unaffected. Modifications to the existing sites include all or some of the following as necessary to bring each site into conformance with the plan:

- Replacement of existing panel antennas with new antennas of similar size, shape, and weight, or, installation of additional antennas of similar size, shape, and weight.
- 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.

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 noted in the following 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 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, Cingular Wireless respectfully submits that the proposed changes at the referenced sites 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

CINGULAR WIRELESS
Equipment Modification

719 Amity Road, Bethany, CT
Site Number 2162
Docket 168; Exempt Modification 8/1/02

Tower Owner/Manager: Cingular Wireless

Equipment configuration: Monopole

Current and/or approved: Nine CSS DUO1417 antennas @ 151 ft c.l
Nine runs 1 ¼ inch coax
Six TMA's @ 151 ft

Planned Modifications: Remove three existing antennas
Install 3 Powerwave 7770 antennas @ 151 ft (or equivalent)
Install three runs 1 ¼ inch coax (total of 12)
Install three diplexers @ 151 ft

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 17.5 % 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 14.5 %.

Existing

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm^2)	Standard Limits (mW/cm^2)	Percent of Limit
Other Users *							10.24
Cingular TDMA *	151	880 - 894	16	100	0.0252	0.5866	4.30
Cingular GSM *	151	880 - 894	2	296	0.0093	0.5867	1.59
Cingular GSM *	151	1900 Band	2	427	0.0135	1.0000	1.35
Total							17.5%

* Per CSC records.

Proposed

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm^2)	Standard Limits (mW/cm^2)	Percent of Limit
Other Users *							10.24
Cingular GSM	151	880 - 894	2	296	0.0093	0.5867	1.59
Cingular GSM	151	1900 Band	2	427	0.0135	1.0000	1.35
Cingular UMTS	151	880 - 894	1	500	0.0079	0.5867	1.34
Total							14.5%

* Per CSC records.

Structural information:

The attached structural analysis demonstrates that the tower and foundation have adequate structural capacity to accommodate the proposed modifications (Malouf Engineering Intl., dated 8/20/07)

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

September 4, 2007

Honorable Derrylyn Gorski
1st Selectman, Town of Bethany
Town Hall 40 Peck Rd.
Bethany, CT 06524-3338

Re: Telecommunications Facility – 719 Amity Road, Bethany

Dear Ms. Gorski:

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

Structural Analysis Report

at&t

Bethany Site # 2162

719 Amity Road Rte 63, Bethany, CT 06524

August 20, 2007

MEI PROJECT ID: CT00876M-07V0

MALOUF ENGINEERING INTL., INC.

STRUCTURAL CONSULTANTS

7950 PRESTON ROAD, SUITE 720 ▪ DALLAS, TEXAS 75252-5635 ▪ TEL. 972 -783-2578 FAX 972-783-2583
www.maloufengineering.com

TIA PROFESSIONAL MEMBER ACEC MEMBER

MALOUF ENGINEERING INTL., INC.

STRUCTURAL CONSULTANTS

Aug 20, 2006

STRUCTURAL ANALYSIS

Structure:	150 ft **Monopole**		Valmont / 12-sided	
Client/ Site Name /#:	**Hudson D.G. / AT&T**	**Bethany**		**# 2162**
Owner/Site Name /#:	Unknown			
MEI Project ID:	**CT00876M-07-V0**			
Location:	719 Amity Road RTE 63, Bethany, CT 06524		New Haven County FCC #	
	LAT	41-26-33.9 N	LON	72-59-32.9 W

EXECUTIVE SUMMARY:

Malouf Engineering Int'l (MEI), as requested, has performed a structural analysis of the above mentioned structure to assess the impact of the changed condition as noted in Table 1.

Based on the stress analysis performed, the existing structure is **in conformance** with the ANSI/TIA **222-F** Standard for the loading considered under the criteria listed and referenced in the report sections.

The installation of the proposed changed condition *of the replacement of (3) existing AT&T panels with new (3) LGP Allgon 7770 Panels, (3) Powerwave 13519 Diplexers, (3) Powerwave 7020 RET's, (3) Powerwave 7060 CiLOC onto existing platform at Elev. 150 ft c.l. fed, in addition to existing lines, with new (3) 1-¼" dia. coax Lines (internal)* ***is structurally acceptable***.

MEI appreciates the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance on this or any other projects please contact us.

Respectfully submitted,

MALOUF ENGINEERING INT'L, INC.

Analysis performed by:

Krishna Manda. PE
Project Engineer

Reviewed & Approved by:

E. Mark Malouf, PE
Connecticut # 17715
972-783-2578 ext. 106
mmalouf@maloufengineering.com

STATE OF CONNECTICUT LICENSED PROFESSIONAL ENGINEER No. 17715

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1. INTRODUCTION & SCOPE

A structural analysis was performed by Malouf Engineering Int'l (MEI), as requested and authorized by. Mr. Derek Creaser, Hudson Design Group, LLC, on behalf of AT&T to determine the acceptance of the proposed changed conditions in conformance with the ANSI/TIA-222-F Standard, "*Structural Standard for Antenna Supporting Structures and Antennas*".

The scope of this independent analysis is to determine the overall stability and the adequacy of structural members, foundations, and member connections, as available and stated. This analysis considers the structure to have been properly installed and maintained with no structural defects. Installation procedures and related loading are not with the scope of this analysis and should be performed and evaluated by a competent person of the erection contractor.

The different report sections detail the applicable information used in this evaluation, relating to the tower data, the appurtenances configuration and the wind and ice loading considered.

2. SOURCE OF DATA

The following information has been used in this evaluation as source data that accurately represent the existing structure and the related appurtenances:

	Source	Information	Reference
STRUCTURE			
Tower	Husdon D.G. / Derek Creaser	Previous Structural Analysis Report	SpectraSite Job #CT-0061 [Bethany] Dated 05/22/2002
Foundation		Not Available	
Material Grade	Partial information is available from supplied documents noted above and assumed as per typical towers of this type – refer to Appendix.		
CURRENT APPURTENANCES			
	Husdon D.G. / Derek Creaser	Previous Analysis Report / Recent Photos	SpectraSite Job #CT-0061 [Bethany] Dated 05/22/2002
CHANGED CONDITION			
	Husdon D.G. / Derek Creaser	Cingular RF Data sheet	Cingular RF Data sheet Rev. 2007-02 Dated 4/24/07

Background Information:

Based on available information, the following is known regarding this structure:

DESIGNER / FABRICATOR	Valmont / 12-sided
DESIGN CRITERIA	TIA/EIA 222-F – 85 Mph
PRIOR STRUCTURAL MODIFICATIONS	None known

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3. ANALYSIS CRITERIA

The structural analysis performed used the following criteria:

CODE / STANDARD	ANSI/TIA-222-F Standard	
LOADING CASES	*Full Wind*:	85 Mph (with No Radial Ice)
	Iced Case:	73.61 Mph + 0.5" Radial Ice
	Service:	50 Mph

Appurtenances Configuration

The following appurtenances configuration has been considered:

Table 1: Proposed Changed Condition Appurtenances

Elev (ft)	Tenant	Ants Qty	Appurtenance Model / Description	Mount Description	Lines Qty	Line size & Location
150[4]	AT&T	3	LGP Allgon 7770 Panels	[exist platform]	3	1-1/4" / (I)
		3	Powerwave 13519 Diplexer			
		3	Powerwave 7020 RET's			
		3	Powerwave 7060 CiLOC			

Table 2: Current and Reserved/Future Appurtenances

Elev (ft)	Tenant	Ants Qty	Appurtenance Model / Description	Mount Description	Lines Qty	Line size & Location
158	City	1	DB806 Omni antenna	LP Platform w/ Rails	1	1-1/4" (I)
153		1	Yagi antenna		1	1-1/4" (I)
151	AT&T	6	CSS DUO1417-8686 Panels		9	1-1/4" (I)
151		6	ADC/CG-1900W850 Amplifiers			
140				Empty LP Platform w/ Rails		
130	Sprint-Nextel	12	DB980F90E-M Panels	(3) T-Arm Mounts	12	1-5/8"(I)
37	AT&T	1	Nokia CS72187.01	Standoff Mount	1	1/2" (I)

Notes:

1. *Please note appurtenances not listed above are to be removed/not present as per data supplied.*
2. (I) = internal; (E) = External; (FZ) = Within Face Zone & (OFZ) = Outside Face Zone - as per TIA-222-F.
3. The above antennas, mounts, and lines represent MEI's understanding of the appurtenances configuration. If different than above, the analysis is invalid. Please refer to Appendix 2 for EPA wind areas used in the calculations. Please contact MEI if any discrepancies are found.
4. AT&T replacing existing (1) panel antenna/sector with proposed panels and adding diplexers/duplexers and (1) 1 1/4" dia. Coax per sector.

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4. ANALYSIS PROCEDURE

The subject structure is analyzed for feasibility of the installation of the proposed changed condition previously noted. The data records furnished were reviewed and a computer stress analysis was performed in accordance with the TIA-222 Standard provisions and with the agreed scope of work terms and the results of this analysis are reported.

Analysis Program

The computer program used to model the structure is a rigorous Finite Element Analysis program, RISATower (ver. 5.2.2), a commercially available program developed by C-Concepts, WI and now maintained by RISA Technologies. The latticed structures members are modeled using beam/truss and cable members and the pole members using tubular beam elements. The structural parameters and geometry of the members are included in the model. The dead and temperature loads and the wind loads are internally calculated by the program for the different wind directions and then applied as external loads on the structure.

Assumptions

This engineering study is based on the theoretical capacity of the members and is not a condition assessment of the structure. This analysis is based on information supplied, and therefore, its results are based on and as accurate as that supplied data. MEI has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural stress analysis:

- This existing tower is assumed, for the purpose of this analysis, to have been properly maintained and to be in good condition with no structural defects and with no deterioration to its member capacities ('as-new' condition).
- The tower member sizes and configuration are considered accurate as supplied. The material grade is as per data supplied and/or as assumed and as stated.
- The appurtenances configuration is as supplied and/or as stated in the report. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements.
- Some assumptions are made regarding antennas and mounts sizes and their projected areas based on best interpretation of data supplied and of best knowledge of antenna type & industry practice.
- Mounts/Platforms are considered adequate to support the loading. No actual analysis of the platform/mount itself is performed, with the analysis being limited to analyzing the structure.
- The soil parameters are as per data supplied or as assumed and stated in the calculations. Refer to the Appendix. If no data is available, the foundation system is assumed to support the structure with its new reactions.
- All welds and connections are assumed to develop at least the member capacity, unless determined otherwise and explicitly stated in this report. All guy cable assemblies, as applicable, are assumed to develop the rated breaking strength of the wire.
- All prior structural modifications, if any, are assumed to be as per data supplied/available, and to have been properly installed and to be fully effective.

If any of the above assumptions are not valid or have been made in error, this analysis results may be invalided, MEI should be contacted to review any contradictory information to determine its effect.

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5. ANALYSIS RESULTS

The results of the structural stress analysis based on data available and with the previous listed criteria, indicated the following:

Table 3: Stress Analysis Results

Member Type	Maximum Stress Ratio	Controlling Location / Component	Pass/Fail	Comment
POLE SHAFT	104.9%	98.7883 – 50.25ft	**Acceptable**	Refer Note 3
BASE PLATE/ ANCHOR RODS	**105.0%**	Bolt Tension	**Acceptable**	Refer Note 3
FOUNDATION	Cannot Determine		Cannot Determine	Data Not available- Consider Acceptable.

Notes:

1. The Maximum Stress Ratio is the percentage that the maximum load in the member is relative to the allowable load as determined by Code requirements.
2. Refer to the Appendix 2 for more details on the member loads.
3. A maximum stress ratio between 100% to 105% may be considered as *Acceptable* according to industry standard practice.

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6. FINDINGS & RECOMMENDATIONS

- Based on the rigorous stress analysis results, the subject structure is **rated at 105.0%** of its support capacity (controlling component: Anchor Bolt) with the proposed changed condition considered. Please refer to Table 3 and to Appendix 2 for more details of the analysis results.

- Based on the stress analysis performed, the existing structure is **in conformance** with the ANSI/TIA **222-F** Standard for the loading considered under the criteria listed and referenced in the report sections.

- ***The installation of the proposed changed condition*** *of the replacement of (3) existing AT&T panels with new (3) LGP Allgon 7770 Panels, (3) Powerwave 13519 Diplexers, (3) Powerwave 7020 RET's, (3) Powerwave 7060 CiLOC onto existing platform at Elev. 150 ft c.l. fed, in addition to existing lines, with new (3) 1-¼" dia. coax Lines (internal)* ***is structurally acceptable***.

- This structure is at its maximum support capacity for the appurtenances and loading criteria considered. Therefore, No changes to the configuration considered should be made without performing a new proper evaluation.

Rigging and temporary supports required for the erection/modification shall be determined, documented, furnished and installed by the erector/contractor accounting for the loads imposed on the structure due to the proposed construction method.

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7. REPORT DISCLAIMER

The engineering services rendered by **M**alouf **E**ngineering **I**nternational, Inc. *('MEI') in connection with this Structural Analysis are limited to a computer analysis of the tower structure, size and capacity of its members. MEI does not analyze the fabrication, including welding and connection capacities, except as included in this Report.*

The analysis performed and the conclusions contained herein are based on the assumption that the tower has been properly installed and maintained, including, but not limited to the following:

1. Proper alignment and plumbness.
2. Correct guy tensions, as applicable.
3. Correct bolt tightness or slip jacking of sleeved connections.
4. No significant deterioration or damage to any structural component.

Furthermore, the information and conclusions contained in this Report were determined by application of the current "state-of-the-art" engineering and analysis procedures and formulae. MALOUF ENGINEERING INTERNATIONAL, INC. Assumes no obligation to revise any of the information or conclusions contained in this Report in the event that such engineering and analysis procedures and formulae are hereafter modified or revised. In addition, under no circumstances will MALOUF ENGINEERING INTERNATIONAL, INC. Have any obligation or responsibility whatsoever for or on account of consequential or incidental damages sustained by any person, firm or organization as a result of any information or conclusions contained in the Report, and the maximum liability of MALOUF ENGINEERING INTERNATIONAL, INC., if any, pursuant to this Report shall be limited to the total funds actually received by MALOUF ENGINEERING INTERNATIONAL, INC. For preparation of this Report.

Customer has requested MALOUF ENGINEERING INTERNATIONAL, INC. To prepare and submit to Customer an engineering analysis with respect to the Subject Tower and has further requested MALOUF ENGINEERING INTERNATIONAL, INC. to make appropriate recommendations regarding suggested structural modifications and changes to the Subject Tower. In making such request of MALOUF ENGINEERING INTERNATIONAL, INC., Customer has informed MALOUF ENGINEERING INTERNATIONAL, INC. that Customer will make a determination as to whether or not to implement any of the changes or modifications which may be suggested by MALOUF ENGINEERING INTERNATIONAL, INC. and that Customer will have any such changes or modifications made by riggers, erectors and other subcontractors of Customer's choice. MALOUF ENGINEERING INTERNATIONAL, INC. shall have the right to rely upon the accuracy of the information supplied by the customer and shall not be held responsible for the Customer's misrepresentation or omission of relevant fact whether intentional or otherwise.

Customer hereby agrees and acknowledges that MALOUF ENGINEERING INTERNATIONAL, INC. shall have no liability whatsoever to Customer or to others for any work or services performed by any persons other than MALOUF ENGINEERING INTERNATIONAL, INC. in connection with the implementation of services including but not limited to any services rendered for Customer or for others by riggers, erectors or other subcontractors. Customer acknowledges and agrees that any riggers, erectors or subcontractors retained or employed by Customer shall be solely responsible to Customer and to others for the quality of work performed by them and that MALOUF ENGINEERING INTERNATIONAL, INC. shall have no liability or responsibility whatsoever as a result of any negligence or breach of contract by any such rigger, erector or subcontractor and that Customer and rigger, erector, or subcontractor will provide MALOUF ENGINEERING INTERNATIONAL, INC. with a Certificate of Insurance naming MALOUF ENGINEERING INTERNATIONAL, INC. as additional insured.

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APPENDIX 1 - TOWER DRAWING

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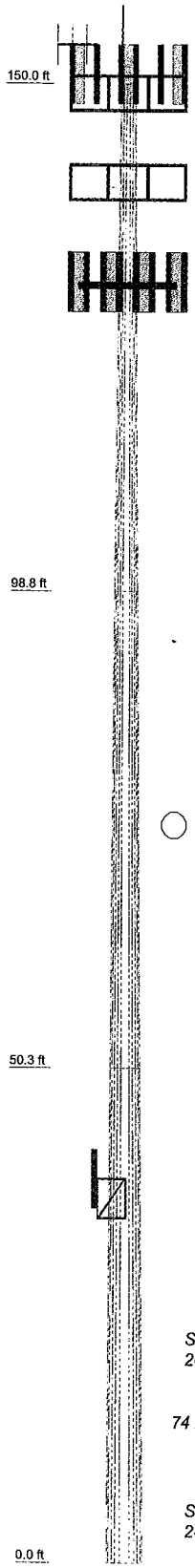
Section	1	2	3
Length (ft)	51.21	48.54	50.25
Number of Sides	12	12	12
Thickness (in)	0.2190	0.3130	0.3750
Top Dia (in)	17.6100	27.2203	35.1947
Bot Dia (in)	27.2203	35.1947	44.6000
Grade	A572-65		
Weight (K)	2.7	5.1	8.2



16.0

AXIAL
29 K
SHEAR
20 K
MOMENT
2102 kip-ft
TORQUE 1 kip-ft
74 mph WIND - 0.5000 in ICE

AXIAL
24 K
SHEAR
24 K
MOMENT
2443 kip-ft
TORQUE 1 kip-ft
REACTIONS - 85 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
(2) DUO1417-8686 w/Mount Pipe (E)	151	Powerwave 7060 Ciloc (Cingular/P)	151
(2) DUO1417-8686 w/Mount Pipe (E)	151	Powerwave 7060 Ciloc (Cingular/P)	151
(2) DUO1417-8686 w/Mount Pipe (E)	151	7020 RET (Cingular/P)	151
(2) ADC/CG 1900W850 TMA (E)	151	7020 RET (Cingular/P)	151
(2) ADC/CG 1900W850 TMA (E)	151	7020 RET (Cingular/P)	151
(2) ADC/CG 1900W850 TMA (E)	151	Lightning Rod 5/8x4' w/ Pipe (E)	150
7770.00 w/ Pipe Mount (Cingular/P)	151	DB806 (E)	150
7770.00 w/ Pipe Mount (Cingular/P)	151	Yagi (E)	150
7770.00 w/ Pipe Mount (Cingular/P)	151	LP Platform w/handrail (Cingular/P)	149
(2) LGP 13519 Diplexer + ADC Diplexer (Cingular/P)	151	LP Platform w/ Rails (E)	140
		(4) DB980F90E-M w/Mount Pipe (E/R)	130
(2) LGP 13519 Diplexer+ADC Diplexer (Cingular/P)	151	(4) DB980F90E-M w/Mount Pipe (E/R)	130
		(4) DB980F90E-M w/Mount Pipe (E/R)	130
(2) LGP 13519 Diplexer+ADC Diplexer (Cingular/P)	151	T-Arm mounts (3) (E)	130
Powerwave 7060 Ciloc (Cingular/P)	151	CS72187.01w/ Mount pipe (R)	37
		Standoff mount (R)	37

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 74 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 105%

Malouf Engineering Int'l
17950 Preston Road, Suite #720
Dallas, Texas 75252-5635
Phone: (972) 783 2578
FAX: (972) 783 2583

Job: **150' MONOPOLE, BETHANY SITE # 2162, CT**			
Project: **CT00876M-07V0**			
Client: HUDSON DESIGN GROUP/ AT&T	Drawn by: MM	App'd:	
Code: TIA/EIA-222-F	Date: 08/20/07	Scale: NTS	
Path: C:\Users\admin\Desktop\CT00876M-07V0 - HUDS - #2162-Working Data\Risa\CT00876M-07V0.ed		Dwg No. E-1	

CINGULAR WIRELESS
Equipment Modification

Bright Meadow Boulevard, Enfield, CT
Site Number 5157
Former AT&T Wireless Cell Site
Exempt Modifications 11/9/99, 4/25/02, and 3/11/03

Tower Owner/Manager: Crown Castle

Equipment configuration: Monopole

Current and/or approved: Nine Allgon 7184 antennas @ 117 ft c.l.
Nine runs 1 5/8 inch coax

Planned Modifications: Remove three existing antennas
Install 3 Powerwave 7770 antennas at 117 ft (or equivalent)
Install six TMA's @ 117 ft

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 16.9 % 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 19.9 % of the standard.

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm^2)	Standard Limits (mW/cm^2)	Percent of Limit
Other Users *							13.97
Cingular GSM *	117	1900 Band	4	275	0.0289	1.0000	2.89
Total							16.9%

* Per Council Records

Proposed

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm^2)	Standard Limits (mW/cm^2)	Percent of Limit
Other Users *							13.97
Cingular UMTS	117	880 - 894	1	500	0.0131	0.5867	2.24
Cingular GSM	117	1900 Band	3	467	0.0368	1.0000	3.68
Total							19.9%

* Per Council Records

Structural information:

The attached structural analysis demonstrates that the tower and foundation have adequate structural capacity to accommodate the proposed modifications. (IETS Engineering Services, dated 6/27/07)

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

September 4, 2007

Mr. Matthew Coppler, Town Manager
Town of Enfield
Town Hall 820 Enfield St.
Enfield, CT 06082-2997

Re: Telecommunications Facility – Bright Meadow Boulevard, Enfield

Dear Mr. Coppler:

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

www.iets.com
IETS
Engineering Services

Date: **June 27, 2007**

Mr. Ed Carroll
Crown Castle International
9105 Monroe Road
Suite 150
Charlotte, NC 28270
(704) 321-3848

IETS, P.C.
129 Greenwich Road
Charlotte, NC 28211
(704) 522-1131 Phone
(704) 522-1280 Fax
towerdata@iets.com

Subject: Analysis Structural Report

Carrier Designation	**Cingular Co-Locate**	
	Cingular Site Number:	**5157**
	Cingular Site Name:	**North Thompsonville**
Crown Castle Designation	**Crown Castle BU Number:**	**876348**
	Crown Castle Site Name:	**Enfield**
	Crown Castle JDE Job Number	**89767**
Engineering Firm Designation	**IETS Project Number:**	**2007-70734**
Site Data	**Bright Meadow Blvd., Enfield, CT, Hartford County** **Latitude 42° 1' 14.844", Longitude -72° 35' 6.936".** **148 Foot – Monopole Tower**	

Dear Mr. Carroll,

IETS is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the aforementioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 242897, in accordance with application 45763, revision 0.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC1: Existing + Reserved + Proposed Equipment **Sufficient Capacity**

Note: See Table I and Table II for the proposed and existing/reserved loading.

The analysis has been performed in accordance with the TIA/EIA 222-F standard and 2003 IBC based upon a wind speed of 80 mph fastest mile (100 mph 3-second gust).

All equipment proposed in this report shall be installed in accordance with the attached drawings for the determined available structural capacity to be effective.

We at IETS appreciate the opportunity of providing our continuing professional services to you and Crown Castle International. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted,

Binh Vo
Project Engineer

William A. Griswold, Jr., P.E.
Chief Engineer

STATE OF CONNECTICUT
WILLIAM A. GRISWOLD, JR.
No. 23736
LICENSED PROFESSIONAL ENGINEER

National Society of Professional Engineers®
Signatory, NSPE Licensed Member

NATE
NATIONAL ASSOCIATION OF TOWER ERECTORS

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IETS Base Level Drawing 2007-70734-01

6) APPENDIX C
Additional Calculations

1) INTRODUCTION

The subject tower is a 148' monopole tower manufactured by Summit. The tower was originally designed for a 85 mph basic wind speed according to TIA/EIA-222-F.

2) ANALYSIS CRITERIA

- TIA/EIA-222-F
- 80 mph wind speed with no radial ice and a 70 mph wind speed with ½" of radial ice
- 2003 IBC
- Crown Castle provided proposed, existing, and reserved antenna and transmission line information.

Table 1 – Proposed Antenna and Cable Information

Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount Information	Number of Feed Lines	Feed Line Size (in)
117	3 6	Powerwave Technologies	7770 LGP21401	Existing	-	-

Refer to IETS drawing 2007-70734-01 for existing and proposed cable routing.

Table 2 – Existing and Reserved Antenna and Cable Information

Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
147	6 (Existing) 3 (Reserved) *9 (MLA)	Decibel Decibel -	DB980H90E-M DB980H90E-M 72" x 12" Antenna	6 (Existing) 3 (Reserved) *9 (MLA)	1 5/8
137	6	Swedcom	ALP 9212-N	12	1 5/8
127	12	Swedcom	7130.11.33	12	7/8
117	6 (Existing) *12 (MLA) *6 (MLA)	Allgon - LGP	7184.14 84" x 14" Antenna DD 800/1950 TMA's	9 (Existing) *12 (MLA)	1 5/8

*MLA loading was used in the analysis.

Table 3 – Design Antenna and Cable Information

Center Line Elevation (ft)	Number of Antennas	Antenna Model
148	12	DB980H
132	12	CaAa = 3.9 ft^2 Antenna
117	12	
50	1	GPS

3) ANALYSIS PROCEDURE

Table 4 – Documents Provided

Document	Remarks	Reference	Source
Tower Drawings	Paul J. Ford	1613591	CCI Sites
Foundation Drawings	EET Paul J. Ford	1614596 1613614	CCI Sites
Soils Report	Clough, Harbour & Associates Geotechnical	1532963 1531884	CCI Sites

3.1) Analysis Method

RISA Tower (version 4.7.0.2), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various dead, live, wind, and ice load cases. All loads were computed in accordance with the ANSI/EIA/TIA 222F or the local building code requirements. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1. This structural analysis/modification **does not** include a grouted base plate.
2. All proposed and future transmission cables are installed in the locations noted on the cable routing drawing in *Appendix B.*
3. When applicable, transmission cables were considered to be structural components for calculating wind loads, as allowed by TIA/EIA-222-F.
4. Information in the original design drawings and specifications that could not be verified by IETS personnel is assumed to be correct. For this analysis, IETS will assume conformance with the original design drawings and specifications.
5. IETS shall assume that all tower components are in sufficient condition to carry their full design capacity.
6. We have not based the adequacy of the tower on limitations for antenna twist, tilt, roll, or lateral translation.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and IETS should be allowed to review any new information to determine its effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

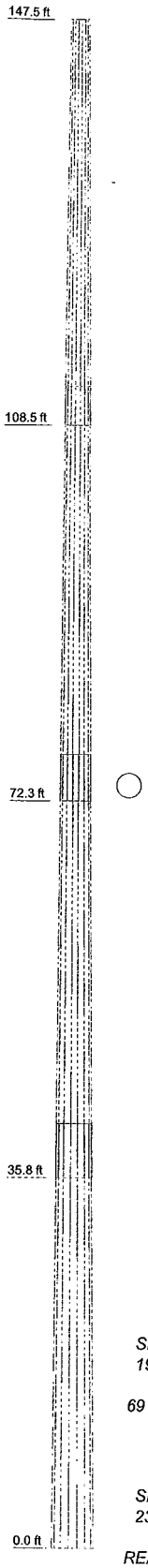
Table 5 – Tower Component Stresses vs. Capacity – LC1

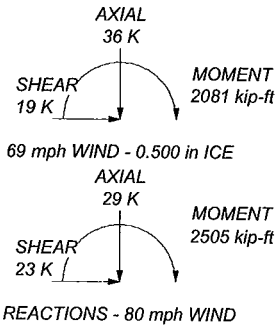
Notes	Component	Elevation (ft)	% Capacity	Pass/Fail
RISA Tower Analysis Summary:(Monopole)				
			Summary	
Notes:	**Component**	**Elevation**	**% Capacity**	**Pass/Fail**
	L1	147.5 - 108.5	42.0	Pass
	L2	108.5 - 72.25	89.8	Pass
	L3	72.25 - 35.75	90.5	Pass
	L4	35.75 - 0	86.4	Pass
Individual Components:				
Notes:	**Component**	**Elevation**	**% Capacity**	**Pass/Fail**
1	Anchor Rods	-	94.7	Pass
1	Base Plate	-	99.2	Pass
1	Base Foundation (Compared w/ Design Loads)	-	100.2	Pass
Structure Rating (max from all components) =				**100.2%**

*Notes:

1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity listed.
2) The percent capacities shown above (excluding foundations) include the 1/3 increase in allowable stresses as allowed by TIA/EIA-222-F.
3) Capacities up to 105% are considered acceptable based on the analysis procedures.

Section	Length (ft)	Number of Sides	Thickness (in)	Lap Splice (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	39'	18	0.250	3'9"	22.000	29.400	A572-65	2.7
2	40'	18	0.250	4'6"	28.188	35.700		3.4
3	41'	18	0.313	5'3"	34.355	42.500		5.3
4	41'	18	0.375		40.832	48.400		7.3
								18.7





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Mount - 13' Low Profile Platform	147	(4) 7130.16.33.00	127
(3) 72" x 12" Antenna	147	(4) 7130.16.33.00	127
(3) 72" x 12" Antenna	147	Mount - 13' Low Profile Platform	117
(3) 72" x 12" Antenna	147	(4) 84" x 14" Antenna	117
(2) ALP 9212-N	137	(4) 84" x 14" Antenna	117
(2) ALP 9212-N	137	(4) 84" x 14" Antenna	117
(2) ALP 9212-N	137	(2) LGP DD-800/1950 (TMA)	117
Mount - 13' Low Profile Platform	135	(2) LGP DD-800/1950 (TMA)	117
Mount - 13' Low Profile Platform	127	(2) LGP DD-800/1950 (TMA)	117
(4) 7130.16.33.00	127		

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 69 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 90.5%

IETS 129 Greenwich Rd Charlotte Phone: (704) 522-1131 FAX: (704) 522-1280	Job: **2007-70734 BU# 876348 "Enfield"**		
	Project: **Cingular Co-Locate "North Thompsonville"**		
	Client: Crown Castle International	Drawn by: Binh Vo	App'd:
	Code: TIA/EIA-222-F	Date: 06/26/07	Scale: NTS
	Path:		Dwg No. E-1

CINGULAR WIRELESS
Equipment Modification

462 (a/k/a 450-478) West Main Street, Meriden, CT
Site Number 5378
Former AT&T site
Exempt Modification 3/21/02

Tower Owner/Manager: Cingular

Equipment configuration: Monopole

Current and/or approved: Three Allgon 7250 antennas @ 100 ft c.l.
Six runs 1 1/4 inch coax
Four outdoor cabinets on existing concrete pad

Planned Modifications: Remove all three existing antennas
Install 3 Powerwave 7770 antennas @ 100 ft (or equivalent)
Install six TMA's @ 100 ft
Remove one existing outdoor cabinet
Install two additional outdoor cabinets

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 70.1 % 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 80.9 % of the standard.

Existing

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm^2)	Standard Limits (mW/cm^2)	Percent of Limit
Other Users *							66.51
Cingular GSM *	100	1900 Band	4	250	0.0360	1.0000	3.60
Total							70.1%

* Per CSC Records

Proposed

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm^2)	Standard Limits (mW/cm^2)	Percent of Limit
Other Users *							66.51
Cingular GSM	100	1900 Band	4	787	0.1132	1.0000	11.32
Cingular UMTS	100	880 - 894	1	500	0.0180	0.5867	3.06
Total							80.9%

* Per CSC Records

Structural information:

The attached structural analysis demonstrates that the tower and foundation have adequate structural capacity to accommodate the proposed modifications. (All-Points Technology Corp., dated 8/20/07)

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

September 4, 2007

Lawrence J. Kendzior, City Manager
City of Meriden
City Hall, 142 East Main St.
Meriden, Connecticut 06450-5667

Re: Telecommunications Facility – Hunters Ambulance, 450-478 West Main St, Meriden

Dear Mr. Kendzior:

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

ALL-POINTS TECHNOLOGY CORPORATION, P.C.

STRUCTURAL ANALYSIS REPORT
100' MONOPOLE TOWER
MERIDEN, CONNECTICUT

Prepared for
Hudson Design Group, LLC

Cingular Site #5378

August 20, 2007

STATE OF CONNECTICUT
ROBERT E. ADAIR
No. 20278
LICENSED
PROFESSIONAL ENGINEER

APT Project #CT198380

☐ 3 SADDLEBROOK DRIVE • KILLINGWORTH, CONNECTICUT 06419 • PHONE: 860-663-1697 • FAX: 860-663-0935
☒ 150 OLD WESTSIDE ROAD • NORTH CONWAY, NEW HAMPSHIRE 03860 • PHONE/FAX: 603-356-5214

STRUCTURAL ANALYSIS REPORT
100' MONOPOLE TOWER
MERIDEN, CONNECTICUT
prepared for
Hudson Design Group, LLC

EXECUTIVE SUMMARY:

All-Points Technology Corporation, P.C. (APT) performed a structural analysis of this 100-foot monopole tower located at 450-478 West Main Street in Meriden, Connecticut. The analysis was performed for Cingular Wireless's replacement of three panel antennas currently installed on an existing antenna mounting platform at 100'.

Our analysis indicates the tower meets the requirements of the Connecticut State Building Code and TIA-222 with the proposed changes. The tower foundation could not be evaluated, as information on its design or construction was not available to APT. Since the tower has significant remaining capacity, the foundation is likely to be adequate.

INTRODUCTION:

A structural analysis of this communications tower was performed by APT for Hudson Design Group, LLC. The tower is located at 450-478 West Main Street in Meriden, Connecticut.

APT did not visit the tower site. This analysis relied solely on information provided by others, which included recent photographs, a structural analysis report by URS Corporation dated March 8, 2005, and proposed antenna changes.

The structure is a 100-foot, galvanized steel, monopole tower of unknown manufacturer. The analysis was conducted using the following antenna inventory (proposed antenna changes shown in **bold** text):

Antenna	Elev.	Mount	Feed Lines
20' & 6' omnidirectional whips	103'	13' platform with rails	(2) 7/8"
(3) DB201-A ground plane omnis	107'	Pipe extensions	(3) 7/8"
(4) 3' yagis	100'	On above platform	(4) 7/8"
(3) 7770.0 panels, (6) LGP 21401 TMAs [1]	100'	On above platform	(6) 1-1/4"
(9) DR65-19-00DPQ, 2' square panel, (18) TMAs [2]	90'	13' low-profile platform	(18) 1-5/8"
(12) 844G65VTA-SX panels	80'	13' low-profile platform	(12) 1-5/8"

[1] Currently three ALP7250.03 panel antennas installed.
[2] Currently three antennas, 2' square panel, and six TMAs installed.

STRUCTURAL ANALYSIS:

Methodology:

The structural analysis was done in accordance with TIA/EIA-222, Revisions F and G (TIA), Structural Standards for Steel Antenna Towers and Antenna Supporting Structures; and the American Institute of Steel Construction (AISC), Manual of Steel Construction, Allowable Stress Design, Ninth Edition. The more stringent of the two TIA revisions, Revision F, was used to compute the tower capacity values shown below.

The analysis was conducted using a 85 mph fastest mile wind speed (equivalent to 105 mph 3-second gust) and one-half inch of radial ice over the structure and associated appurtenances. The TIA Standard requires a basic wind speed of 85 miles per hour for New Haven County, Connecticut.

Two loading conditions were evaluated in accordance with TIA/EIA-222-F to determine tower capacity. The more demanding of the two cases is used to calculate tower capacity:

- Case 1 = Wind Load (without ice) + Tower Dead Load
- Case 2 = 0.75 Wind Load (with ice) + Ice Load + Tower Dead Load

The TIA/EIA standard permits a one-third increase in allowable stresses for towers less than 700-feet tall. Allowable stresses of tower members were increased by one-third when computing the tower capacity values shown below.

Analysis Results:

The following table summarizes the capacity of the tower based on combined axial and bending stresses:

Elevation	Capacity
47'-100'	26%
0'-47'	38%

Base reactions imposed with the proposed changes were calculated to be as follows:

Compression:	23.7 kips
Total Shear:	18.7 kips
Overturning Moment:	1220 ft-kips

CONCLUSIONS AND SUGGESTIONS:

As detailed above, our analysis indicates that the existing 100' monopole tower located at 450-478 West Main Street in Meriden, Connecticut meets the requirements of the Connecticut State Building Code and TIA-222 with Cingular Wireless's proposed antenna changes.

The tower foundation could not be evaluated, as information on its design or construction was not available to APT. Since the tower has significant remaining capacity, the foundation is likely to be adequate.

LIMITATIONS:

This report is based on the following:

1. Tower is properly installed and maintained.
2. All members are in new condition.
3. All bolts are in place and are properly tightened.
4. Tower is in plumb condition.

All-Points Technology Corporation, P.C. (APT) is not responsible for any modifications completed prior to or hereafter which APT is not or was not directly involved. Modifications include but are not limited to:

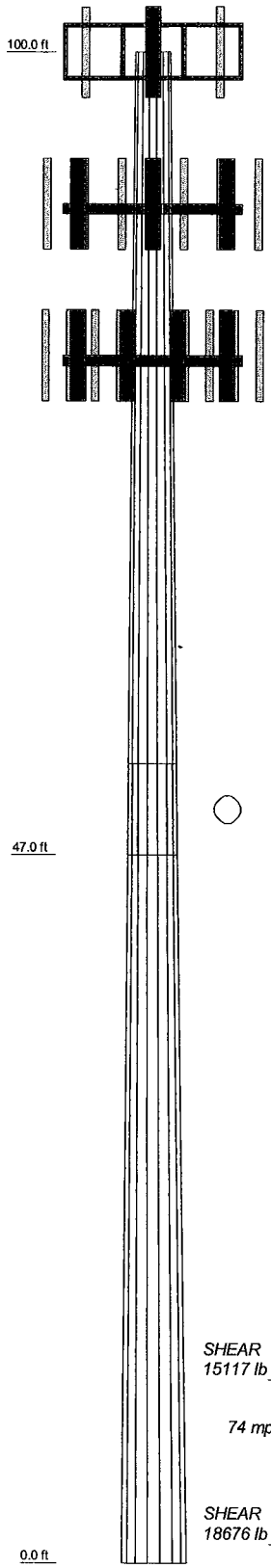
1. Adding or relocating antennas.
2. Installing antenna mounts or waveguide cables.
3. Extending tower.

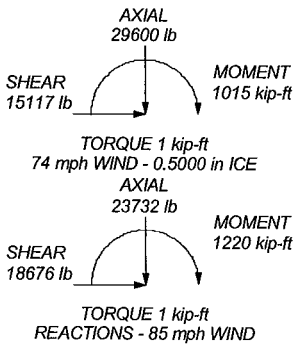
APT hereby states that this document represents the entire report and that it assumes no liability for any factual changes that may occur after the date of this report. All representations, recommendations, and conclusions are based upon the information contained and set forth herein. If you are aware of any information which conflicts with that which is contained herein, or you are aware of any defects arising from original design, material, fabrication, or erection deficiencies, you should disregard this report and immediately contact APT. APT disclaims all liability for any representation, recommendation, or conclusion not expressly stated herein.

Appendix A

Tower Schematic

Section	1	2
Length (ft)	53.00	53.00
Number of Sides	16	16
Thickness (in)	0.3125	0.3750
Lap Splice (ft)	6.00	
Top Dia (in)	28.0000	38.5974
Bot Dia (in)	40.6550	51.2524
Grade	A572-65	
Weight (lb)	6115.3	9611.2
		15726.5





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
DB201-A	100	(2) LGP2140X TMA	100
DB201-A	100	(3) DR65-19-00DPQ	90
DB201-A	100	(3) DR65-19-00DPQ	90
20' x 2.5" omni whip	100	(3) DR65-19-00DPQ	90
6' x 1" omni whip	100	(6) KRY 112 7 1/2 TMA	90
(2) 3' Yagi	100	(6) KRY 112 7 1/2 TMA	90
3' Yagi	100	(6) KRY 112 7 1/2 TMA	90
3' Yagi	100	2' square panel	90
13' platform w/rails	100	13' low-profile platform	90
7770.00	100	(4) 844G80VTA-SX	80
7770.00	100	(4) 844G80VTA-SX	80
7770.00	100	(4) 844G80VTA-SX	80
(2) LGP2140X TMA	100	13' low-profile platform	80
(2) LGP2140X TMA	100		

MATERIAL STRENGTH

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

All-Points Technology Corp.
150 Old Westside Road
North Conway, NH 03860
Phone: 603-496-5853
FAX: 603-356-5214

Job: ***100' Monopole Tower***			
Project: ***CT198380 Meriden***			
Client: HDG: Cingular Site #5378	Drawn by: Robert E. Adair, P.E.	App'd:	
Code: TIA/EIA-222-F	Date: 08/20/07	Scale: NTS	
Path: C:\Documents and Settings\Robert Adair\My Documents\Mt\Hutton - Grp\Jr Proj\CT198380 Meriden\CT198380 Meriden E.ep		Dwg No. E-1	

CINGULAR WIRELESS
Equipment Modification

300 Governors Highway, South Windsor, CT
Site Number 1135
Exempt Modification 8/26/03

Tower Owner/Manager: T-Mobile

Equipment configuration: Monopole

Current and/or approved: Nine CSS DUO1417 antennas @ 162 ft c.l.
Nine runs 1 5/8 inch coax
Six TMA's / three diplexers @ 162 ft

Planned Modifications: Remove three existing antennas
Install 3 Powerwave 7770 antennas @ 162 ft (or equivalent)
Install three additional runs 1 5/8 inch coax (total of 12)
Install three additional diplexers @ 162 ft

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 47.3 % 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 47.9 % of the standard.

Existing

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm^2)	Standard Limits (mW/cm^2)	Percent of Limit
Other Users *							44.75
Cingular GSM *	162	880 - 894	2	296	0.0081	0.5867	1.38
Cingular GSM *	162	1930 - 1970	2	427	0.0117	1.0000	1.17
Total							47.3%

* Per CSC Records

Proposed

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm^2)	Standard Limits (mW/cm^2)	Percent of Limit
Other Users *							44.75
Cingular GSM	162	880 - 894	2	296	0.0081	0.5867	1.38
Cingular GSM	162	1900 Band	1	427	0.0059	1.0000	0.59
Cingular UMTS	162	880 - 894	1	500	0.0069	0.5867	1.17
Total							47.9%

* Per CSC Records

Structural information:

The attached structural analysis demonstrates that the tower and foundation have adequate structural capacity to accommodate the proposed modifications. (Malouf Engineering Intl., dated 8/20/07)

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

September 4, 2007

Mr. Matthew B. Galligan, Town Manager
Town of South Windsor
Town Hall 1540 Sullivan Ave.
South Windsor, CT 06074-2786

Re: Telecommunications Facility – 300 Governors Highway, South Windsor

Dear Mr. Galligan:

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

Structural Analysis Report

at&t

South Windsor Site #1135

300 Governors High Way, South Windsor, CT 06074

August 20, 2007

MEI PROJECT ID: CT00877M-07V0

MALOUF ENGINEERING INTL., INC.

STRUCTURAL CONSULTANTS

7950 PRESTON ROAD, SUITE 720 ▪ DALLAS, TEXAS 75252-5635 ▪ TEL. 972 -783-2578 FAX 972-783-2583

www.maloufengineering.com

TIA PROFESSIONAL MEMBER ACEC MEMBER

MALOUF ENGINEERING INTL., INC.

STRUCTURAL CONSULTANTS

August 20, 2007

STRUCTURAL ANALYSIS

Structure:	169ft **Monopole**		EEI / 18-sided	
Client/ Site Name /#:	**Hudson D.G. / AT&T**	**South Windsor**		**# 1135**
Owner/Site Name /#:	T-Mobile			
MEI Project ID:	**CT00877M-07V0**			
Location:	300 Governors High Way, South Windsor, CT 06074		Hartford County FCC #	
	LAT	41-50-0.58 N	LON	72-36-10.9 W

EXECUTIVE SUMMARY:

Malouf Engineering Int'l (MEI), as requested, has performed a structural analysis of the above mentioned structure to assess the impact of the changed condition as noted in Table 1.

Based on the stress analysis performed, the existing structure is **in conformance** with the ANSI/TIA **222-F** Standard for the loading considered under the criteria listed and referenced in the report sections.

The installation of the proposed changed condition *of the replacement of (3) existing AT&T panels with new (3) LGP Allgon 7770 Panels, addition of (3) Powerwave 13519 Diplexers, (3) Powerwave 7020 RET's, (3) Powerwave 7060 CiLOC onto existing platform at Elev. 162 ft c.l. fed, in addition to existing lines, with new (3) 1-5/8" dia. coax Lines* ***is structurally acceptable.***

MEI appreciates the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance on this or any other projects please contact us.

Respectfully submitted,

MALOUF ENGINEERING INT'L, INC.

Analysis performed by:

Krishna Manda, PE
Project Engineer

Reviewed & Approved by:

E. Mark Malouf, PE
Connecticut # 17715
972-783-2578 ext. 106
mmalouf@maloufengineering.com

STATE OF CONNECTICUT
PROFESSIONAL ENGINEER

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1. INTRODUCTION & SCOPE

A structural analysis was performed by Malouf Engineering Int'l (MEI), as requested and authorized by Mr. Derek Creaser, Hudson Design Group, LLC, on behalf of AT&T to determine the acceptance of the proposed changed conditions in conformance with the ANSI/TIA-222-F Standard, "*Structural Standards for Steel Antenna Towers and Antenna Supporting Structures*".

The scope of this independent analysis is to determine the overall stability and the adequacy of structural members, foundations, and member connections, as available and stated. This analysis considers the structure to have been properly installed and maintained with no structural defects. Installation procedures and related loading are not with the scope of this analysis and should be performed and evaluated by a competent person of the erection contractor.

The different report sections detail the applicable information used in this evaluation, relating to the tower data, the appurtenances configuration and the wind and ice loading considered.

2. SOURCE OF DATA

The following information has been used in this evaluation as source data that accurately represent the existing structure and the related appurtenances:

	Source	Information	Reference
STRUCTURE			
Tower	Husdon D.G. / Derek Creaser	Previous Structural Analysis report	Semaan Engineering Solutions job #CT11279D Dated 9/12/2006
Foundation		Not Available	
Material Grade	Partial information is available from supplied documents noted above and assumed as per typical towers of this type – refer to Appendix.		
CURRENT APPURTENANCES			
	Husdon D.G. / Derek Creaser	Previous Analysis Report/ Recent Photos	Semaan Engineering Solutions job #CT11279D Dated 9/12/2006
CHANGED CONDITION			
	Husdon D.G. / Derek Creaser	Cingular RF Data sheet	Cingular RF Data sheet Rev. 2007-02 Dated 4/26/2007

Background Information:

Based on available information, the following is known regarding this structure:

DESIGNER / FABRICATOR	EEI / 12-sided
DESIGN CRITERIA	TIA/EIA 222-Unknown
PRIOR STRUCTURAL MODIFICATIONS	None known

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3. ANALYSIS CRITERIA

The structural analysis performed used the following criteria:

CODE / STANDARD	ANSI/TIA-222-F Standard	
LOADING CASES	*Full Wind*:	80 Mph (with No Radial Ice)
	Iced Case:	69.2 Mph + 0.5" Radial Ice
	Service:	50 Mph

Appurtenances Configuration

The following appurtenances configuration has been considered:

Table 1: Proposed Changed Condition Appurtenances

Elev (ft)	Tenant	Ants Qty	Appurtenance Model / Description	Mount Description	Lines Qty	Line size & Location
162[4]	AT&T	3	LGP Allgon 7770 Panels	[exist platform]	3	1-5/8" / (I)
		3	Powerwave 13519 Diplexer			
		3	Powerwave 7020 RET's			
		3	Powerwave 7060 CiLOC			

Table 2: Current and Reserved/Future Appurtenances

Elev (ft)	Tenant	Ants Qty	Appurtenance Model / Description	Mount Description	Lines Qty	Line size & Location
169		1	Beacon			
169	T-MOBILE	12	RR65-19-00XP Panels	LP Platform w/o Rails	12	1-5/8" (I)
		12	S20045AI LNA		12	1-5/8" (I)
162	AT&T	6	DU01417-8686-4-0_C Panels	LP Platform w/o Rails	9	1-5/8" (I)
		3	CSS DBC-750 Diplexer			
		6	ADC/CG-1900W850 TMA's			
152	SPRINT	3	AP15/18-880/1940/065D /ADT/XP PANELS	Close contact mount	15	1-5/8" (I)
122	T-MOBILE	1	HP MW DISH-4' Dia	pipe mount	1	1-5/8" (I)

Notes:

1. *Please note appurtenances not listed above are to be removed/not present as per data supplied.*
2. (I) = internal; (E) = External; (FZ) = Within Face Zone & (OFZ) = Outside Face Zone - as per TIA-222-G.
3. The above antennas, mounts, and lines represent MEI's understanding of the appurtenances configuration. If different than above, the analysis is invalid. Please refer to Appendix 2 for EPA wind areas used in the calculations. Please contact MEI if any discrepancies are found.
4. AT&T replacing existing (1) panel antenna/sector with proposed panels and adding (1) 1 5/8" dia. Coax and (1) Diplexer per sector.

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4. ANALYSIS PROCEDURE

The subject structure is analyzed for feasibility of the installation of the proposed changed condition previously noted. The data records furnished were reviewed and a computer stress analysis was performed in accordance with the TIA-222 Standard provisions and with the agreed scope of work terms and the results of this analysis are reported.

Analysis Program

The computer program used to model the structure is a rigorous Finite Element Analysis program, RISATower (ver.5.2.2), a commercially available program developed by C-Concepts, WI and now maintained by RISA Technologies. The latticed structures members are modeled using beam/truss and cable members and the pole members using tubular beam elements. The structural parameters and geometry of the members are included in the model. The dead and temperature loads and the wind loads are internally calculated by the program for the different wind directions and then applied as external loads on the structure.

Assumptions

This engineering study is based on the theoretical capacity of the members and is not a condition assessment of the structure. This analysis is based on information supplied, and therefore, its results are based on and as accurate as that supplied data. MEI has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural stress analysis:

- This existing tower is assumed, for the purpose of this analysis, to have been properly maintained and to be in good condition with no structural defects and with no deterioration to its member capacities ('as-new' condition).
- The tower member sizes and configuration are considered accurate as supplied. The material grade is as per data supplied and/or as assumed and as stated.
- The appurtenances configuration is as supplied and/or as stated in the report. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements.
- Some assumptions are made regarding antennas and mounts sizes and their projected areas based on best interpretation of data supplied and of best knowledge of antenna type & industry practice.
- Mounts/Platforms are considered adequate to support the loading. No actual analysis of the platform/mount itself is performed, with the analysis being limited to analyzing the structure.
- The soil parameters are as per data supplied or as assumed and stated in the calculations. Refer to the Appendix. If no data is available, the foundation system is assumed to support the structure with its new reactions.
- All welds and connections are assumed to develop at least the member capacity, unless determined otherwise and explicitly stated in this report. All guy cable assemblies, as applicable, are assumed to develop the rated breaking strength of the wire.
- All prior structural modifications, if any, are assumed to be as per data supplied/available, and to have been properly installed and to be fully effective.

If any of the above assumptions are not valid or have been made in error, this analysis results may be invalided, MEI should be contacted to review any contradictory information to determine its effect.

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5. ANALYSIS RESULTS

The results of the structural stress analysis based on data available and with the previous listed criteria, indicated the following:

Table 3: Stress Analysis Results

Member Type	Maximum Stress Ratio	Controlling Location / Component	Pass/Fail	Comment
POLE SHAFT	**103.4%**	133.33 – 87.83ft	**Acceptable**	
BASE PLATE	Cannot Determine		Cannot Determine	Data Not available-Consider Acceptable.
FOUNDATION	98.5%		**Pass**	Based on comparison with design reaction.

Notes:

1. The Maximum Stress Ratio is the percentage that the maximum load in the member is relative to the allowable load as determined by Code requirements.
2. Refer to the Appendix 2 for more details on the member loads.
3. A maximum stress ratio between 100% to 105% may be considered as *Acceptable* according to industry standard practice.

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6. FINDINGS & RECOMMENDATIONS

- Based on the rigorous stress analysis results, the subject structure is **rated at 103.4%** of its support capacity (controlling component: shaft) with the proposed changed condition considered. Please refer to Table 3 and to Appendix 2 for more details of the analysis results.

- Based on the stress analysis performed, the existing structure is **in conformance** with the ANSI/TIA **222-F** Standard for the loading considered under the criteria listed and referenced in the report sections.

- ***The installation of the proposed changed condition*** *of the replacement of (3) existing AT&T panels with new (3) LGP Allgon 7770 Panels, addition of (3) Powerwave 13519 Diplexers, (3) Powerwave 7020 RET's, (3) Powerwave 7060 CiLOC onto existing platform at Elev. 162 ft c.l. fed, in addition to existing lines, with new (3) 1-5/8" dia. coax Lines* ***is structurally acceptable***.

- This structure is at its maximum support capacity for the appurtenances and loading criteria considered. Therefore, No changes to the configuration considered should be made without performing a new proper evaluation.

Rigging and temporary supports required for the erection/modification shall be determined, documented, furnished and installed by the erector/contractor accounting for the loads imposed on the structure due to the proposed construction method.

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7. REPORT DISCLAIMER

The engineering services rendered by **M**alouf **E**ngineering **I**nternational, Inc. *('MEI') in connection with this Structural Analysis are limited to a computer analysis of the tower structure, size and capacity of its members. MEI does not analyze the fabrication, including welding and connection capacities, except as included in this Report.*

The analysis performed and the conclusions contained herein are based on the assumption that the tower has been properly installed and maintained, including, but not limited to the following:

1. Proper alignment and plumbness.
2. Correct guy tensions, as applicable.
3. Correct bolt tightness or slip jacking of sleeved connections.
4. No significant deterioration or damage to any structural component.

Furthermore, the information and conclusions contained in this Report were determined by application of the current "state-of-the-art" engineering and analysis procedures and formulae. MALOUF ENGINEERING INTERNATIONAL, INC. Assumes no obligation to revise any of the information or conclusions contained in this Report in the event that such engineering and analysis procedures and formulae are hereafter modified or revised. In addition, under no circumstances will MALOUF ENGINEERING INTERNATIONAL, INC. Have any obligation or responsibility whatsoever for or on account of consequential or incidental damages sustained by any person, firm or organization as a result of any information or conclusions contained in the Report, and the maximum liability of MALOUF ENGINEERING INTERNATIONAL, INC., if any, pursuant to this Report shall be limited to the total funds actually received by MALOUF ENGINEERING INTERNATIONAL, INC. For preparation of this Report.

Customer has requested MALOUF ENGINEERING INTERNATIONAL, INC. To prepare and submit to Customer an engineering analysis with respect to the Subject Tower and has further requested MALOUF ENGINEERING INTERNATIONAL, INC. to make appropriate recommendations regarding suggested structural modifications and changes to the Subject Tower. In making such request of MALOUF ENGINEERING INTERNATIONAL, INC., Customer has informed MALOUF ENGINEERING INTERNATIONAL, INC. that Customer will make a determination as to whether or not to implement any of the changes or modifications which may be suggested by MALOUF ENGINEERING INTERNATIONAL, INC. and that Customer will have any such changes or modifications made by riggers, erectors and other subcontractors of Customer's choice. MALOUF ENGINEERING INTERNATIONAL, INC. shall have the right to rely upon the accuracy of the information supplied by the customer and shall not be held responsible for the Customer's misrepresentation or omission of relevant fact whether intentional or otherwise.

Customer hereby agrees and acknowledges that MALOUF ENGINEERING INTERNATIONAL, INC. shall have no liability whatsoever to Customer or to others for any work or services performed by any persons other than MALOUF ENGINEERING INTERNATIONAL, INC. in connection with the implementation of services including but not limited to any services rendered for Customer or for others by riggers, erectors or other subcontractors. Customer acknowledges and agrees that any riggers, erectors or subcontractors retained or employed by Customer shall be solely responsible to Customer and to others for the quality of work performed by them and that MALOUF ENGINEERING INTERNATIONAL, INC. shall have no liability or responsibility whatsoever as a result of any negligence or breach of contract by any such rigger, erector or subcontractor and that Customer and rigger, erector, or subcontractor will provide MALOUF ENGINEERING INTERNATIONAL, INC. with a Certificate of Insurance naming MALOUF ENGINEERING INTERNATIONAL, INC. as additional insured.

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APPENDIX 1 - TOWER DRAWING

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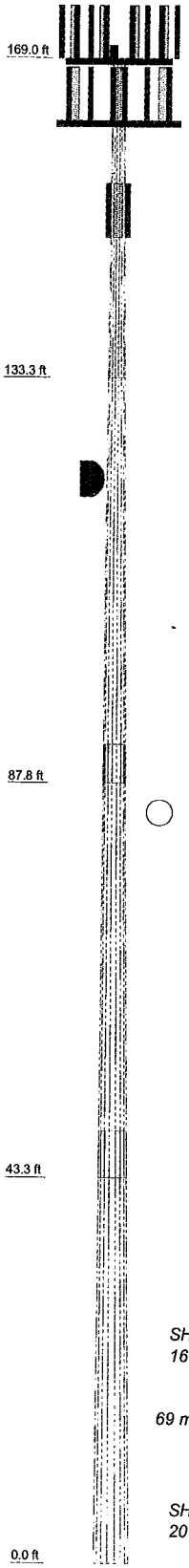
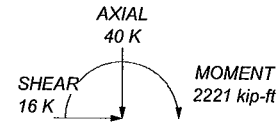
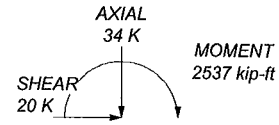
Section	1	2	3	4
Length (ft)	35.67	48.83	48.83	48.67
Number of Sides	18	18	18	18
Thickness (in)	0.2500	0.3125	0.3750	0.3750
Lap Splice (ft)	3.33	4.33	5.33	
Top Dia (in)	15.5000	21.0993	28.8667	36.3201
Bot Dia (in)	22.2280	30.3090	38.0760	45.5000
Grade	A572-65			
Weight (K)	1.8	4.2	6.5	8.0





TORQUE 1 kip-ft
69 mph WIND - 0.5000 in ICE



TORQUE 1 kip-ft
REACTIONS - 80 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Flash Beacon Lighting (E)	169	DBC-750 Diplexer (ATI/E)	162
(4) RR65-19-00DP w/Mount Pipe (E/R)	169	7770.00 w/ Pipe Mount (ATI/P)	162
(4) RR65-19-00DP w/Mount Pipe (E/R)	169	7770.00 w/ Pipe Mount (ATI/P)	162
(4) RR65-19-00DP w/Mount Pipe (E/R)	169	7770.00 w/ Pipe Mount (ATI/P)	162
(4) S20045A1 LNA (E)	169	LGP 13519 Diplexer (ATI/P)	162
(4) S20045A1 LNA (E)	169	LGP 13519 Diplexer (ATI/P)	162
(4) S20045A1 LNA (E)	169	LGP 13519 Diplexer (ATI/P)	162
LP Platform (E)	169	Powerwave 7060 Cloc (ATI/P)	162
(2) DUO1417-8686 w/Mount Pipe (ATI/E)	162	Powerwave 7060 Cloc (ATI/P)	162
(2) DUO1417-8686 w/Mount Pipe (ATI/E)	162	Powerwave 7060 Cloc (ATI/P)	162
(2) DUO1417-8686 w/Mount Pipe (ATI/E)	162	7020 RET (ATI/P)	162
(2) ADC/CG1900W850 TMA (ATI/E)	162	7020 RET (ATI/P)	162
(2) ADC/CG1900W850 TMA (ATI/E)	162	7020 RET (ATI/P)	162
(2) ADC/CG1900W850 TMA (ATI/E)	162	Low Profile Platform (ATI/E)	162
DBC-750 Diplexer (ATI/E)	162	AP15/18-800/1940/065D/ADT/XXP w/Mount Pipe (E)	152
DBC-750 Diplexer (ATI/E)	162	AP15/18-800/1940/065D/ADT/XXP w/Mount Pipe (E)	152
		AP15/18-800/1940/065D/ADT/XXP w/Mount Pipe (E)	152
		Close contact Mounts (3) (E)	152
		HP4 (T-Mobile/R)	122

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 69 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 103.4%

Malouf Engineering Int'l
17950 Preston Road, Suite #720
Dallas, Texas 75252-5635
Phone: (972) 783 2578
FAX: (972) 783 2583

Job: 169' MONOPOLE, SOUTH WINDSOR SITE # 1135, C			
Project: CT00877M-07V0			
Client: HUDSON DESIGN GROUP/ AT&T	Drawn by: MM	App'd:	
Code: TIA/EIA-222-F	Date: 08/20/07	Scale: NTS	
Path:		Dwg No. E-1	

CINGULAR WIRELESS
Equipment Modification

670 Captain Neville Drive, Waterbury, CT
Site Number 1127
Exempt Mods approved 4/12/00 and 8/15/02

Tower Owner/Manager: Crown Castle

Equipment configuration: Monopole

Current and/or approved: Nine CSS DUO1417 antennas @ 152 ft c.l
Nine runs 7/8 inch coax (approved for 9 runs 1 ¼ inch coax)

Planned Modifications: Remove existing antennas & coax
Install 6 Powerwave 7770 antennas @ 152 ft (or equivalent)
Install six diplexers & six TMA's @ 152 ft
Install twelve 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 8 % 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 will be approximately 6 %.

Existing

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm^2)	Standard Limits (mW/cm^2)	Percent of Limit
Other Users *							0.89
Cingular TDMA *	152	880 - 894	16	100	0.0249	0.5867	4.24
Cingular GSM *	152	880 - 894	2	296	0.0092	0.5867	1.57
Cingular GSM *	152	1900 Band	2	427	0.0133	1.0000	1.33
Total							8.0%

* Per CSC records

Proposed

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm^2)	Standard Limits (mW/cm^2)	Percent of Limit
Other Users *							0.89
Cingular GSM	150	880 - 894	3	296	0.0142	0.5867	2.42
Cingular GSM	150	1900 Band	2	427	0.0136	1.0000	1.36
Cingular UMTS	150	880 - 894	1	500	0.0080	0.5867	1.36
Total							6.0%

* Per CSC records.

Structural information:

The attached structural analysis demonstrates that the tower and foundation have sufficient structural capacity to accommodate the proposed modifications. (B&T Engineering, dated 7/13/07)

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

September 4, 2007

Honorable Michael J. Jarjura, Mayor
City of Waterbury
City Hall, 235 Grand Street
Waterbury, Connecticut 06702

Re: Telecommunications Facility – 670 Captain Neville Drive, Waterbury

Dear Mayor Jarjura:

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

July 13, 2007

Mr. Ben Goodhart
Crown Castle International
9105 Monroe Road, Suite 150
Charlotte, NC 28270
(704) 321-3845

B&T Engineering, Inc.
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
ctuttle@btengineering.com

Subject: **Structural Analysis Report**

Carrier Designation:
Cingular Co-Locate
Carrier Site Number: *1127*
Carrier Site Name: *Waterbury-Captain Neville Road*

Crown Castle Designation:
Crown Castle BU Number: *881534*
Crown Castle Site Name: *Waterbury Tower*
Crown Castle JDE Job Number: *89019*

Engineering Firm Designation: **B&T Engineering Project Number:** ***77957***

Site Data:
Waterbury, CT, New Haven County
Latitude 41°-*32'-3.55"*, Longitude -*72°-58'-10.0"*
150 Foot – Monopole Tower

Dear Mr. Goodhart,

B&T Engineering is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the aforementioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 244108, in accordance with Application 45902, Revision 1.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC1: Existing + Reserved + Proposed Equipment **Sufficient Capacity**
Note: See Table 1 and Table 2 for the proposed and existing/reserved loading.

The analysis has been performed in accordance with the TIA/EIA-222-F standard and the Connecticut Building Code based upon a wind speed of 85 mph fastest mile (105 mph 3-second gust).

All equipment proposed in this report shall be installed in accordance with the attached drawings for the determined available structural capacity to be effective.

We at B&T Engineering appreciate the opportunity of providing our continuing professional services to you and Crown Castle International. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted,

Jeff Roberts
Project Engineer

Chad E. Tuttle, P.E.
President

STATE OF CONNECTICUT
CHAD E. TUTTLE
No. 23924
LICENSED
PROFESSIONAL ENGINEER
7/13/07

ENG-FRM-10034, Rev – (3/22/06)

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1) INTRODUCTION

The subject structure is a 150 foot tapered monopole manufactured in 2000 by Engineered Endeavors, Inc.

2) ANALYSIS CRITERIA

Specific code

- TIA/EIA-222-F – 85 mph fastest mile wind speed
- Connecticut Building Code – 105 mph 3-second gust

The controlling wind loads for this analysis were derived from TIA/EIA-222-F therefore the tower was analyzed for a fastest mile wind speed of 85 mph with no ice and 74 mph with ½" of radial ice. The tower was originally designed for a fastest mile wind speed of 85 mph with no ice and 74 mph with ½" of radial ice per the TIA/EIA-222-F standard.

Table 1 – Proposed Antenna and Cable Information

Center Line Elev. (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount	Number of Feed Lines	Feed Line Size (in)
150#	6 6 6 12 (MLA)	Powerwave Powerwave Powerwave --	7770.00 LGP21401 TMA LGP13519 Diplexer 84" x 14" Panels	Existing	12	1 5/8

Table 2 – Existing and Reserved Antenna and Cable Information

Center Line Elev. (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount	Number of Feed Lines	Feed Line Size (in)
160	1 (MLA) 1 (MLA)	Til-Tek	TA-2350-LCC-H TA-2324-LHCP	Pipe Mount (MLA)	2 (MLA)	1 5/8
150**	**9 (remove)** **9 (remove)**	**Allgon** **--**	**7120.16** **TMA**	Low Profile Platform	**9 (remove)**	**1 5/8**
140	--	--	--	Low Profile Platform	--	--

*Refer to Cable Routing Drawing in Appendix B for Feedline Placement.
****Designated antennas, TMA's and feedlines to be removed.**
Structural Analysis performed using 12 MLA antennas along with proposed TMA's and Diplexers rather than with 6 proposed antennas.

Table 3 – Design Antenna and Cable Information

Center Line Elev. (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount	Number of Feed Lines	Feed Line Size (in)
150	12	Allgon	A-800-110	Low Profile Platform	--	--
140	12	Allgon	A-800-110	Low Profile Platform	--	--
130	12	Allgon	A-800-110	Low Profile Platform	--	--
120	9	Allgon	A-800-110	Low Profile Platform	--	--

3) ANALYSIS PROCEDURE

Table 4 – Documents Provided

Document	Remarks	Reference	Source
Tower Manufacturing Drawings	Engineered Endeavors, Inc	CCI Doc ID# 1406232	CCIsites
Foundation Drawings	URS Greiner Woodward Clyde	CCI Doc ID# 1406237	CCIsites
Geotech Report	DR. Clarence Welti Engineering	CCI Doc ID# 1405752	CCIsites
Antenna Configuration	Configuration Change CheckList	Date: 6/27/07	CCI

3.1) Analysis Method

RISA Tower (version 5.0.2.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various dead, live, wind, and ice load cases. All loads were computed in accordance with the TIA/EIA-222-F or the local building code requirements. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1. This structural analysis **does not** include a grouted base plate.
2. Tower and structures were built in accordance with the manufacturer's specifications.
3. The tower and structures have been maintained in accordance with manufacturer's specifications.
4. The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
5. When applicable, transmission cables are considered to be structural components for calculating wind loads, as allowed by TIA/EIA-222-F.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and B&T Engineering, Inc. should be allowed to review any new information to determine its effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 5 – Tower Component Stresses vs. Capacity – LC1

Notes	Component	Elevation (ft)	% Capacity	Pass/Fail
RISA Tower Analysis Summary:				
			Summary	
Notes:	**Component**	**Elevation (ft)**	**% Capacity**	**Pass/Fail**
	L1	150 - 123.302	65.4	Pass
	L2	123.302 - 87.8203	62.5	Pass
	L3	87.8203 - 43.2214	60.9	Pass
	L4	43.2214 - 0	55.5	Pass
Individual Components:				
Notes:	**Component**	**Elevation**	**% Capacity**	**Pass/Fail**
1	Base Plate	Base	82.8	Pass
1	Anchor Rods	Base	51.1	Pass
1	Base Foundation	Base	40.7	Pass
Structure Rating (max from all components) =				**82.8 %**

*Notes:

1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity listed.
2) Capacities up to 105% are considered acceptable based on analysis procedures used.

4.1) Recommendations

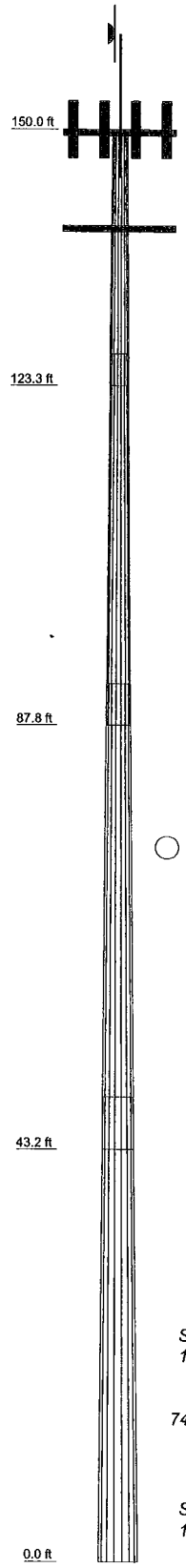
N/A

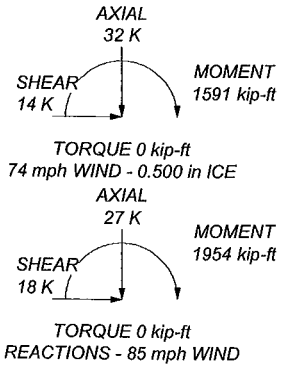
APPENDIX A

RISA TOWER OUTPUT

Section	1	2	3	4
Length (ft)	26.698	38.875	48.956	48.776
Number of Sides	18	18	18	18
Thickness (in)	0.188	0.313	0.375	0.438
Lap Splice (ft)	8.393	4.357	5.555	
Top Dia (in)	17.000	21.997	29.240	38.401
Bot Dia (in)	23.154	30.858	40.419	49.500
Grade	A572-65			
Weight (K)	1.1	3.4	6.8	10.0

21.4





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
TA-2350-LCC-H (MLA)	160	(2) LGP2140X TMA (P)	150
TA-2324-LHCP (MLA)	160	(2) LGP2140X TMA (P)	150
10'6"x4" Pipe Mount (MLA)	155	(2) LGP2140X TMA (P)	150
(4) MLA Antenna (84x14x7 46 lb) (MLA)	150	(2) LGP13519 Diplexer (P)	150
		(2) LGP13519 Diplexer (P)	150
(4) MLA Antenna (84x14x7 46 lb) (MLA)	150	(2) LGP13519 Diplexer (P)	150
		Low Profile Platform (E)	150
(4) MLA Antenna (84x14x7 46 lb) (MLA)	150	Lightning Rod (E)	150
		Low Profile Platform (E)	140

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 74 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 65.4%

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Job: 77957 - Waterbury Tower, CT (BU 881534)			
Project: 150' EEI Monopole / App ID: 45902 Rev 1			
Client: Crown Castle International	Drawn by: jr	App'd:	
Code: TIA/EIA-222-F	Date: 07/16/07	Scale: NTS	
Path: S:\B&T Engineering\Projects\Crown Castle\77957_881534_Waterbury Tower\Engineering\RISA\77957_Waterbury Tower.r3d		Dwg No. E-1	