

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

Internet: ct.gov/csc

October 1, 2007

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

RE: **EM-CING-054-054-077-134-164-070911** – New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 2108 Main Street, Glastonbury; 577 Bell Street, Glastonbury; 60 Adams Street, Manchester; 46 Brendon Street, Stafford; and 419 Broad Street, Windsor, Connecticut.

Dear Mr. Levine:

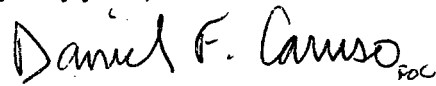
At a public meeting held on September 25, 2007, the Connecticut Siting Council (Council) acknowledged your notice to modify these existing telecommunications facilities, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated August 31, 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,

Handwritten signature of Daniel F. Caruso in cursive, with a small "DFC" monogram at the end.

Daniel F. Caruso
Chairman

DFC/MP/cm

- c: The Honorable Susan Karp, Chairman Town Council, Town of Glastonbury
- Kenith Leslie, Community Development Director, Town of Glastonbury
- The Honorable Allen Bacchiochi, First Selectman, Town of Stafford
- Wendell Avery, Zoning Enforcement Officer, Town of Stafford
- The Honorable Donald Trinks, Mayor, Town of Windsor
- Mario Zavarella, Town Planner, Town of Windsor
- The Honorable Josh M. Howroyd, Mayor, Town of Manchester
- Thomas R. O'Marra, Zoning Enforcement Officer, Town of Manchester
- Cox Communications
- W. B. Thornton Real Estate
- Crown Castle



the new



Your world. Delivered.

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

HAND DELIVERED

August 31, 2007

RECEIVED
SEP 11 2007

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 5 existing tele-communications facilities located in Glastonbury (2), Manchester, Stafford, and Windsor

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**

2108 Main Street, Glastonbury, CT
Site Number 1083
Exempt Modifications 8/20/97 and 9/25/02

Tower Owner/Manager: Town of Glastonbury

Equipment configuration: Self-supporting Lattice Tower

Current and/or approved: Nine CSS DUO4-8670 @ 166 ft c.l.
Nine runs 1 ¼ inch coax
Six TMA's / three diplexers

Planned Modifications: Remove three CSS antennas
Install 3 Powerwave 7770 antennas (or equivalent) @ 166 ft
Install three additional diplexers @ 166 ft (total of 6)
Install three additional runs 1 ¼ inch coax (total of 12)

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 6.0 % 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 6.7 % 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 *							
Cingular TDMA *	166	880 - 894	16	100	0.0209	0.5867	0.00
Cingular GSM *	166	880 - 894	2	296	0.0077	0.5867	1.32
Cingular GSM *	166	1900 Band	2	427	0.0111	1.0000	1.11
Total							6.0%

* Per CSC Records

Proposed

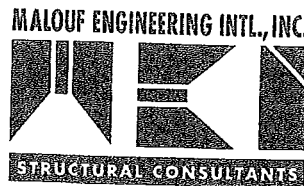
Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm ²)	Standard Limits (mW/cm ²)	Percent of Limit
Other Users							0.00
Cingular GSM	166	880 - 894	6	296	0.0232	0.5867	3.95
Cingular GSM	166	1900 Band	3	427	0.0167	1.0000	1.67
Cingular UMTS	166	880 - 894	1	500	0.0065	0.5867	1.11
Total							6.7%

Structural information:

The attached structural analysis demonstrates that the tower and foundation have sufficient structural capacity to accommodate the proposed modifications. (Malouf Engineering Intl., dated 8/17/07)

August 17, 2007

Mr. Derek Creaser
 HUDSON DESIGN GROUP, LLC
 representing AT&T
 46 Beechwood Drive
 North Andover, MA 01845



SUBJECT				FEASIBILITY STRUCTURAL EVALUATION			
Structure:		170 ft Self-Supporting		Rohn			
Client/ Site Name /#:		Hudson D.G./ AT&T		Glastonbury - PD		# 1083	
Owner/Site Name /#:		Glastonbury Police Dept		Glastonbury			
MEI Project ID:		CT00872S-07V0					
Location:		2108 S. Main St Glastonbury, CT 06033		Hartford County F.CC # 1215088			
		LAT	41-42-22.4 N	LON	72-36-24.9 W		

Malouf Engineering Int'l (MEI), as requested, has performed a feasibility structural evaluation of the above mentioned structure to assess the impact of the changed condition as noted below.

The structural evaluation performed used the following criteria:

CODE / STANDARD	ANSI/TIA-222-F-96 Standard / IBC 2003 Code - CT Building Code		
LOADING CASES	Full Wind:	80 Mph (with No Radial Ice)	
	Iced Case:	69 Mph + 0.50" Radial Ice	
	Service:	50 Mph	

Table 1: Proposed Changed Condition Appurtenances

Elev (ft)	Tenant	Ants Qty	Appurtenance Model / Description	Mount Description	Lines Qty	Line size & Location
166 ± *	AT&T	3	7770 Panel Antennas	[exist 3-way close contact mount]	3	1-1/4"-FZ [in addition to exist] 3/8" -(I)
		3	LGP 13519 Diplexers			
		1	Powerwave 7060 CILOC			
		3	Powerwave 7020 RCU/RET's			

* Note: Existing (3) panel antennas (1/sector) are to be removed and replaced with above.

Table 2: Previous Analysis Appurtenances

Elev (ft)	Tenant	Ants Qty	Appurtenance Model / Description	Mount Description	Lines Qty	Line size & Location
175		2	12' Whip Antenna	T-Frame Mount	2	7/8" Coax
166.5	AT&T	1	PD455	T-Frame Mount	1	1/2" Coax
		9	DUO1417-8686	(3) 12' T-Frame	9	1 1/4" Coax
		6	TMA			
		3	Duplexers			
159			Dish P-21A48GF-U	Mount to Leg	1	1 5/8" Coax
156		1	MFF-900B	4' Side Arm	1	1 1/4" Coax
155.5		1	MFF-900B	4' Side Arm	1	1 1/4" Coax
155		1	MFF-900B	4' Side Arm	1	1 1/4" Coax
153		1	MFF-900B	4' Side Arm	1	1 1/4" Coax
144		1	PD455	4' Side Arm	1	7/8" Coax
140				4' Side Arm		
139		1	ASP 923	4' Side Arm	1	1 1/4" Coax
133		1	11' Folded Dipole	4' Side Arm	1	1/2" Coax
120				4' Side Arm		
133		1	DB536	4' Side Arm	1	7/8" Coax
111		1	11' Folded Dipole	Clamped to Leg	1	1/2" Coax

109		1	PD220	4' Side Arm	1	7/8" Coax
102		1	11' Folded Dipole	Clamped to Leg	1	1/2" Coax
94		1	ASP 973	4' Side Arm	1	7/8" Coax
90				4' Side Arm		
79, 15		1	DB636	4' Side Arm	1	7/8" Coax
69		1	11' Folded Dipole	Clamped to Leg	1	1/2" Coax
64		1	PD220	4' Side Arm	1	7/8" Coax
57		1	ASP 973	4' Side Arm	1	7/8" Coax
54		1	1' Antenna	4' Side Arm	1	1/2" Coax
54		1	PD455	4' Side Arm	1	1/2" Coax
50		1	18' Whip Antenna	4' Side Arm	1	1/2" Coax
41		1	PD220	4' Side Arm	1	1/2" Coax

The information used as source data to represent the existing structure and the related appurtenances is as follows:

Structure & Current Appurtenances	Structure data and design appurtenances loading as per previous analysis data by URS, ref. job # 36911654, dated 09/17/02 - Tower analysis <i>Max. Stress at 75.4%</i> .
Changed Condition	As per AT&T /Cingular Wireless RF approval email, dated 04/26/07 Version 2007-02, Supplied by Hudson Design Group, LLC on 08/15/07.

The subject structure is evaluated for the feasibility of the installation of the proposed changed condition previously noted. The data records furnished were reviewed and the appurtenances loading was evaluated (no computer analysis performed, only relative loading magnitude comparison), in accordance with the TIA-222 Standard provisions and with the agreed limited scope of work terms and the results of this feasibility evaluation are reported. This evaluation 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 of its accuracy. This existing structure is assumed, for the purpose of this evaluation, to have been properly maintained and to be in good condition with no structural defects and with no deterioration to its capacity ('as-new').



Based on the feasibility structural evaluation of the data provided, the subject structure, including foundation, would meet the minimum requirements of ANSI/TIA 222-F Standard for the proposed changed condition as stated above when considering the structure to have been properly designed for the stated appurtenances. The proposed loading would stress the structure slightly more (about 5% or less) than the previous structural analysis.

Therefore, **the installation of the noted proposed changed condition is structurally acceptable** on this existing structure in accordance with the ANSI/TIA 222-F Standard for the loading considered under the criteria listed and referenced.

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

Respectfully submitted,

MALOUF ENGINEERING INT'L, INC.

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



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

August 30, 2007

Richard J. Johnson, Town Manager
Town of Glastonbury
Town Hall 2155 Main St.
Glastonbury, CT 06033-6523

Re: Telecommunications Facility – 2108 Main Street, Glastonbury (Police Department)

Dear Mr. Johnson:

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

**CINGULAR WIRELESS
Equipment Modification**

577 Bell Street, Glastonbury, CT
Site Number 1245
Exempt Modification 6/9/04

Tower Owner/Manager: Cox Communications

Equipment configuration: Self-supporting Lattice Tower

Current and/or approved: Nine CSS DUO4-8670 @ 88 ft c.l.
Nine runs 1 5/8 inch coax
Six TMA's

Planned Modifications: Remove three CSS antennas
Install 3 Powerwave 7770 antennas (or equivalent) @ 88 ft
Install six diplexers @ 88 ft
Install three additional runs 1 5/8 inch coax (total of 12)

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 24.8 % 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 would be approximately 28.7 % 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 *							16.12
Cingular GSM *	88	880 - 894	2	296	0.0275	0.5867	4.69
Cingular GSM *	88	1900 Band	2	427	0.0397	1.0000	3.97
Total							24.8%

* 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							
Cingular GSM	88	880 - 894	2	296	0.0275	0.5867	16.12
Cingular GSM	88	1900 Band	2	427	0.0397	1.0000	4.69
Cingular UMTS	88	880 - 894	1	500	0.0232	0.5867	3.97
Total							28.7%

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 8/23/07)



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

August 30, 2007

Richard J. Johnson, Town Manager
Town of Glastonbury
Town Hall 2155 Main St.
Glastonbury, CT 06033-6523

Re: Telecommunications Facility – 577 Bell Street, Glastonbury

Dear Mr. Johnson:

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

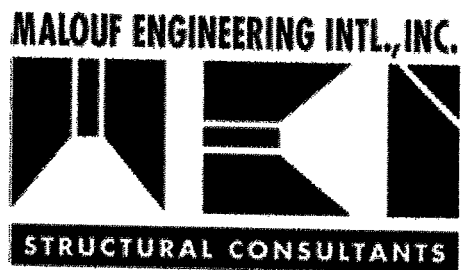
Structural Analysis Report



Glastonbury RT-94 Site #1245
577 Bell ST., Glastonbury, CT 06033

August 23, 2007

MEI PROJECT ID: CT00875S-07V0



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





Aug 23, 2007

STRUCTURAL ANALYSIS

Structure:	92ft SST		Rohn / SSV	
Client/ Site Name /#:	Hudson D.G. / AT&T	Glastonbury	#1245	
Owner/Site Name /#:	Unknown			
MEI Project ID:	CT00878S-07V0			
Location:	577 Bell Street, Glastonbury, CT 06033		Hartford County	
	LAT	41-44-1.1 N	LON	72-32-58.9 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, (6) Powerwave 13519 Diplexers, (3) Powerwave 7020 RET's, (3) Powerwave 7060 CiLOC onto existing frame mounts at Elev. 88 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



TABLE OF CONTENT

1. INTRODUCTION & SCOPE _____ 4

2. SOURCE OF DATA _____ 4

 Background Information:-----4

3. ANALYSIS CRITERIA _____ 5

 Appurtenances Configuration-----5

4. ANALYSIS PROCEDURE _____ 6

 Analysis Program -----6

 Assumptions -----6

5. ANALYSIS RESULTS _____ 7

6. FINDINGS & RECOMMENDATIONS _____ 8

7. REPORT DISCLAIMER _____ 9

APPENDIX 1 - TOWER DRAWING _____ 10

APPENDIX 2 - ANALYSIS PRINTOUT & GRAPHICS _____ 11

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	Mr. Derek Creaser/ AT&T	Previous Structural Analysis	Paul J. Ford Proj. #34804-018 Dated 05/14/2004
Foundation	-	-	-
Material Grade	Available from supplied documents – Assumed based on similar structures – refer to Appendix.		
CURRENT APPURTENANCES			
	Mr. Derek Creaser/ AT&T	Previous Analysis, Photos	Paul J. Ford Proj. #34804-018 Dated 05/14/2004
CHANGED CONDITION			
	Mr. Derek Creaser/ AT&T	Cingular RF Data sheet	Version 2007-02 Dated 4/26/07

Background Information:

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

DESIGNER / FABRICATOR	Rohn-SSV
DESIGN CRITERIA	TIA/EIA 222-Unknown
PRIOR STRUCTURAL MODIFICATIONS	None known

3. ANALYSIS CRITERIA

The structural analysis performed used the following criteria:

CODE / STANDARD	ANSI/TIA-222-F Standard	
LOADING CASES	<i>Full Wind:</i>	80 Mph (with No Radial Ice)
	<i>Iced Case:</i>	69.282 Mph + 0.5" Radial Ice
	<i>Service:</i>	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
88 ⁴	AT&T	3	LPG 7770 Panels	[existing Frame Mounts]	3	1-5/8"
		6	LGP 13519 Diplexers			
		3	RET 7020			
		3	CILOC 7060			

Table 2: Current and Reserved/Future Appurtenances

Elev (ft)	Tenant	Ants Qty	Appurtenance Model / Description	Mount Description	Lines Qty	Line size & Location
92		1	ASP-705 Omni		1	7/8"
		1	DB420 Dipole (8 Elem.)		1	7/8"
		1	ASPA-685 Omni		1	1/2"
88	AT&T	6	CSS DUO1417-8686	(3) T-Frame Sector Mounts	9	1 5/8"
		6	ADC/CG-1900W850 TMA			
73		1	DB806-XT Omni	6ft Side Arm	1	1/2"
		1	PR-950 Paraflector		1	1/2"

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, adding (2) Diplexers and (1) 1-5/8" Dia. Tx-Line per sector.

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.5.02.2), 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 invalidated, MEI should be contacted to review any contradictory information to determine its effect.

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
LEGS	83.6%	40 - 20 ft	Pass	
DIAGONALS	76.3%	60 - 40 ft	Pass	
HORIZONTAL	9.6%	90 - 80 ft	Pass	
FOUNDATION	-		Cannot Determine	No Data Available Cannot Determine Condition - Considered 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.

6. FINDINGS & RECOMMENDATIONS

- Based on the rigorous stress analysis results, the subject structure is **rated at 83.6%** of its support capacity (controlling component: legs) 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, (6) Powerwave 13519 Diplexers, (3) Powerwave 7020 RET's, (3) Powerwave 7060 CiLOC onto existing frame mounts at Elev. 88 ft c.l. fed, in addition to existing lines, with new (3) 1-5/8" dia. coax Lines **is structurally acceptable.**
- Install the proposed (3) 1-5/8" Dia. Coaxes equally distributed onto three faces and bundled with the existing AT&T coaxes.
- This structure is near 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.

7. REPORT DISCLAIMER

The engineering services rendered by Malouf Engineering International, 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.

Section	T1	T2	T3	T4	T5
Legs	P2x.154	P2.5x.203	A572-50	P2.5x.276	P3x.3
Leg Grade					
Diagonals	L1 1/2x1 1/2x3/16	L1 3/4x1 3/4x3/16	L2x3/16	L2 1/2x2 1/2x3/16	L2 1/2x2 1/2x3/16
Diagonal Grade			A36		
Top Girts	L2x2x1/8		N.A.		
Face Width (ft)	6.52083	8.56	10.56	12.6	14.6563
# Panels @ (ft)	3 @ 3.97222	4 @ 5	9 @ 6.66667	1.5	4.4
Weight (K)	0.4	0.7	0.8	1.0	1.5

93.0 ft
92.0 ft

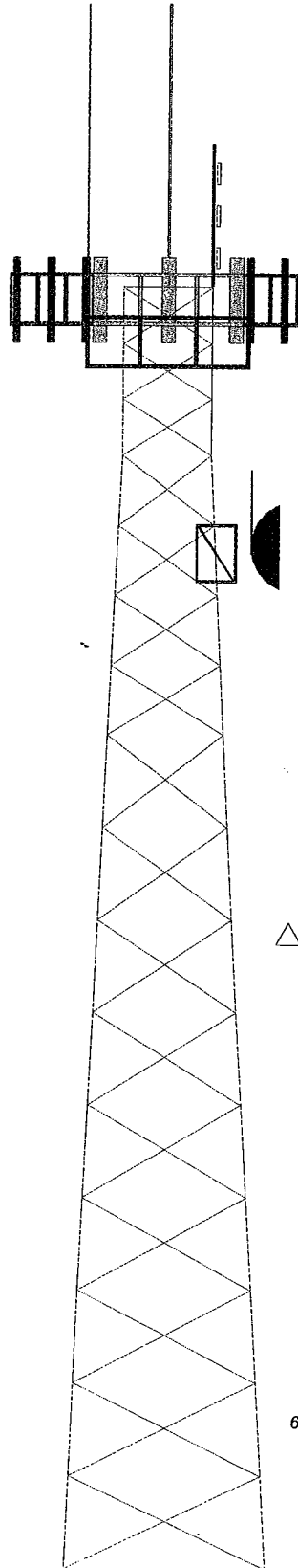
80.0 ft

60.0 ft

40.0 ft

20.0 ft

0.0 ft



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
ASP-705	92	(2) LGP 13519 Diplexers	88
DB420	92	(2) LGP 13519 Diplexers	88
ASP685	92	Powerwave 7020 RET	88
(2) DUO1417-8686 w/Mount Pipe	88	Powerwave 7020 RET	88
(2) DUO1417-8686 w/Mount Pipe	88	Powerwave 7020 RET	88
(2) DUO1417-8686 w/Mount Pipe	88	Powerwave 7060 CILOC	88
(2) ADC/CG DD1900W850 TMA's	88	Powerwave 7060 CILOC	88
(2) ADC/CG DD1900W850 TMA's	88	Powerwave 7060 CILOC	88
(2) ADC/CG DD1900W850 TMA's	88	Sector Mounts (3)	88
7770.00 w/ Pipe Mount	88	DB806-XT	73
7770.00 w/ Pipe Mount	88	PR-950	73
7770.00 w/ Pipe Mount	88	6' Side Arm	73
(2) LGP 13519 Diplexers	88		

MATERIAL STRENGTH

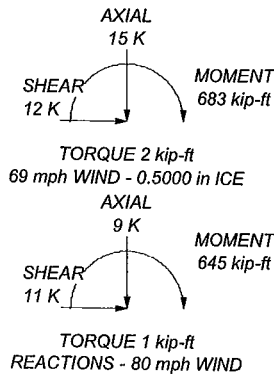
GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi


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: 83.6%

MAX. CORNER REACTIONS AT BASE:

DOWN: 59 K
UPLIFT: -46 K
SHEAR: 7 K



 Malouf Engineering Int'l 17950 Preston Road, Suite #720 Dallas, TX 75252-5635 Phone: (972) 783 2578 FAX: (972) 783 2583	Job: 92FT - GLASTONBURY RT-94 SITE, CT
	Project: CT00878S-07V0
	Client: HUDSON DESIGN GROUP/ AT&T
	Code: TIA/EIA-222-F
	Path: C:\projects\92ft\92ft.dwg
Drawn by: MM	App'd:
Date: 08/24/07	Scale: NTS
	Dwg No. E-1

**CINGULAR WIRELESS
Equipment Modification**

60 Adams Street, Manchester, CT
Site Number 1080
Exempt Modifications 12/17/98 and 10/7/02

Tower Owner/Manager: W. B. Thornton Real Estate

Equipment configuration: Monopole

Current and/or approved: Nine CSS DUO4-8670 @ 127 ft c.l.
Nine runs 1 ¼ inch coax
Six TMA's / three diplexers

Planned Modifications: Remove three CSS antennas
Install 3 Powerwave 7770 antennas (or equivalent) @ 127 ft
Install three additional diplexers @ 127 ft (total of 6)
Install three additional runs 1 ¼ inch coax (total of 12)

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 48.9 % 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 49.2 % 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 *							38.30
Cingular TDMA *	125	880 - 894	16	100	0.0368	0.5867	6.28
Cingular GSM *	125	880 - 894	2	296	0.0136	0.5867	2.32
Cingular GSM *	125	1900 Band	2	427	0.0197	1.0000	1.97
Total							48.9%

* 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							38.30
Cingular GSM	127	880 - 894	5	296	0.0330	0.5867	5.62
Cingular GSM	127	1900 Band	3	501	0.0335	1.0000	3.35
Cingular UMTS	127	880 - 894	1	500	0.0111	0.5867	1.90
Total							49.2%

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 8/17/07)



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

August 30, 2007

Mr. Scott Shanley, General Manager
Town of Manchester
Town Hall 41 Center St.
Manchester, CT 06045-0191

Re: Telecommunications Facility – 60 Adams Street, Manchester

Dear Mr. Shanley:

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

Structural Analysis Report



Manchester-Sand & Gravel Site #1080

60 Adams Street, Manchester, Connecticut

Aug 17, 2007

MEI PROJECT ID: CT00874M-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





Aug 17, 2007

STRUCTURAL ANALYSIS

Structure:	140ft Monopole			Unknown / 18-sided	
Client/ Site Name /#:	AT&T	Manchester Sand & Gravel		# 1080	
Owner/Site Name /#:	Unknown				
MEI Project ID:	CT00874M-07V0				
Location:	60 Adams Street, Manchester, CT 06040		Hartford County		
	LAT	41-47-38.6 N	FCC #		
			LON	72-33-19.3 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. 125 ft c.l. fed, in addition to existing lines, with new (3) 1-1/4" 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.

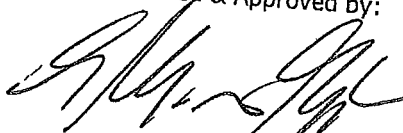
Respectfully submitted,

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

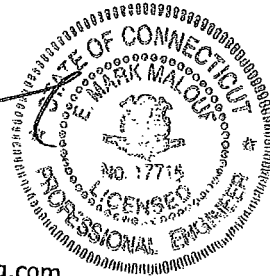


TABLE OF CONTENT

1. INTRODUCTION & SCOPE	4
2. SOURCE OF DATA	4
Background Information:-----	4
3. ANALYSIS CRITERIA	5
Appurtenances Configuration-----	5
4. ANALYSIS PROCEDURE	6
Analysis Program-----	6
Assumptions-----	6
5. ANALYSIS RESULTS	7
6. FINDINGS & RECOMMENDATIONS	8
7. REPORT DISCLAIMER	9
APPENDIX 1 - TOWER DRAWING	10
APPENDIX 2 - ANALYSIS PRINTOUT & GRAPHICS	11

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 within 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	Hudson D.G. / Derek Creaser	Previous Structural Analysis report	URS Corporation job #36911668.00000 Dated 9/16/2002
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			
	Hudson D.G. / Derek Creaser	Previous Analysis Report/ Recent Photos	URS Corporation job #36911668.00000
CHANGED CONDITION			
	Hudson D.G. / Derek Creaser	Cingular RF Data sheet	Cingular RF Data sheet Rev. 2007-02 Dated 4/25/2007

Background Information:

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

DESIGNER / FABRICATOR	EI (Project #4795 dated 3/26/1999)
DESIGN CRITERIA	TIA/EIA 222-E -Unknown
PRIOR STRUCTURAL MODIFICATIONS	None known

3. ANALYSIS CRITERIA

The structural analysis performed used the following criteria:

CODE / STANDARD	ANSI/TIA-222-F Standard	
LOADING CASES	<i>Full Wind:</i>	80 Mph (with No Radial Ice)
	<i>Iced Case:</i>	69.2 Mph + 0.5" Radial Ice
	<i>Service:</i>	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
125 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
125	AT&T	6	DUO1417-8686 Panels	LP Platform w/ Rails	6	1 1/4" (I)
		3	ADC Diplexers		3	1 1/4" (I)
		6	ADC/CG-1900W850 TMA			
115	Sprint	6	DB980H90 Panels	LP Platform w/o Rails	6	1 1/4" (I)
110		1	6' Whip antenna	4' Side arm mount	1	7/8" (I)
100	Sprint-Nextel	12	DB844H90 Panels	LP Platform w/ Rails	12	7/8" (I)
90	Verizon Wireless	6	ALP 9212 Panels	LP Platform w/ Rails	6	1 5/8" (I)
		6	6' Panels			

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 1/4" dia. Coax and the (1) Diplexer per sector.

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 invalidated, MEI should be contacted to review any contradictory information to determine its effect.

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	94.13%	45.04 - 0ft	Pass	
BASE PLATE	Cannot Determine		Cannot Determine	Data Not available- Consider Acceptable.
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.

6. FINDINGS & RECOMMENDATIONS

- Based on the rigorous stress analysis results, the subject structure is **rated at 94.13%** 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, (3) Powerwave 13519 Diplexers, (3) Powerwave 7020 RET's, (3) Powerwave 7060 CiLOC onto existing platform at Elev. 125 ft c.l. fed, in addition to existing lines, with new (3) 1-1/4" dia. coax Lines is structurally acceptable.***
- This structure is near 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.

7. REPORT DISCLAIMER

The engineering services rendered by Malouf Engineering International, 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:

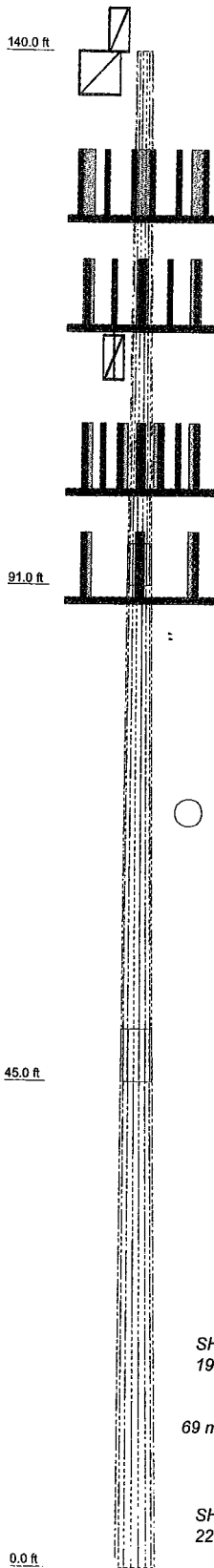
1. Proper alignment and plumbness.
2. Correct guy tensions, as applicable.
3. Correct bolt tightness or slip jacking of sleeved connections.
4. No significant deterioration or damage to any structural component.

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.

Section	1	2	3
Length (ft)	48.95	49.91	49.95
Number of Sides	18	18	18
Thickness (in)	0.1880	0.3125	0.3750
Lap Splice (ft)		4.91	
Top Dia (in)	18.0000	25.7321	33.3190
Bot Dia (in)	26.8100	34.8400	43.0000
Grade		A572-65	
Weight (K)	2.2	5.0	7.6



DESIGNED APPURTENANCE LOADING

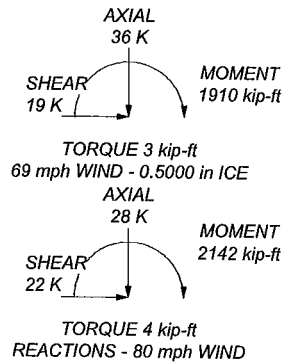
TYPE	ELEVATION	TYPE	ELEVATION
(2) 4' Standoff (2) (E)	142	Powerwave 7060 Ciloc (Cingular/P)	125
8' Standoff (E)	138	Powerwave 7060 Ciloc (Cingular/P)	125
(2) DUO1417-8686 w/Mount Pipe (Cingular/E)	125	7020 RET (Cingular/P)	125
(2) DUO1417-8686 w/Mount Pipe (Cingular/E)	125	7020 RET (Cingular/P)	125
(2) DUO1417-8686 w/Mount Pipe (Cingular/E)	125	PIROD 13' Platform w/handrail (Cingular/P)	125
(2) ADC/CG 1900W850 TMA (Cingular/E)	125	(3) DB980H90 w/Pipe Mount (E/R)	115
(2) ADC/CG 1900W850 TMA (Cingular/E)	125	(3) DB980H90 w/Pipe Mount (E/R)	115
(2) ADC/CG 1900W850 TMA (Cingular/E)	125	(3) DB980H90 w/Pipe Mount (E/R)	115
(2) ADC/CG 1900W850 TMA (Cingular/E)	125	PIROD 15' Low Profile Platform (E)	115
7770.00 w/ Pipe Mount (Cingular/P)	125	6' Omni (E)	110
7770.00 w/ Pipe Mount (Cingular/P)	125	(2) 4' Side Mount Standoff (E)	110
7770.00 w/ Pipe Mount (Cingular/P)	125	(4) DB844H90 w/Mount Pipe (E)	100
(2) LGP 13519 Diplexer + ADC Diplexer (Cingular/P/E)	125	(4) DB844H90 w/Mount Pipe (E)	100
(2) LGP 13519 Diplexer + ADC Diplexer (Cingular/P/E)	125	(4) DB844H90 w/Mount Pipe (E)	100
(2) LGP 13519 Diplexer + ADC Diplexer (Cingular/P/E)	125	PIROD 15' Platform with handrail (E)	100
(2) LGP 13519 Diplexer + ADC Diplexer (Cingular/P/E)	125	(2) ALP 9212 w/ Mount pipe (E)	90
(2) LGP 13519 Diplexer + ADC Diplexer (Cingular/P/E)	125	(2) ALP 9212 w/ Mount pipe (E)	90
(2) LGP 13519 Diplexer + ADC Diplexer (Cingular/P/E)	125	(2) 6' Panels w/Mount Pipe (E)	90
Powerwave 7060 Ciloc (Cingular/P)	125	(2) 6' Panels w/Mount Pipe (E)	90
		PIROD 13' Platform w/handrail (E)	90

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: 94.1%



<p>Malouf Engineering Int'l 17950 Preston Road, Suite #720 Dallas, Texas 75252-5635 Phone: (972) 783 2578 FAX: (972) 783 2583</p>	Job: 140' MONOPOLE, SAND & GRAVEL SITE # 1080, C
	Project: CT00874M-07V0
	Client: HUDSON DESIGN GROUP/ AT&T
	Code: TIA/EIA-222-F
	Path: C:\Users\Administrator\Desktop\CT00874M-07V0 - HUDS - #106002-Working Data\Res\CT100874M-07V0.dwg
Drawn by: MM	App'd:
Date: 08/18/07	Scale: NTS
Dwg No. E-1	

**CINGULAR WIRELESS
Equipment Modification**

46 Brendon Street, Stafford, CT
Site Number 1049
Exempt Modification 7/15/99 and 8/1/02

Tower Owner/Manager: Crown Castle

Equipment configuration: Monopole

Current and/or approved: Nine CSS DUO1417 antennas @ 90 ft c.l.
Nine runs 1 ¼ inch coax
Six TMA's

Planned Modifications: Remove three CSS antennas @ 90 ft
Install 3 Powerwave 7770 antennas (or equivalent) at 90 ft
Install six diplexers @ 90 ft
Install three additional runs 1 ¼ inch coax (total of 12)

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 48.3 % 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 40 % 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 *							27.94
Cingular TDMA *	90	880 - 894	16	100	0.0710	0.5867	12.11
Cingular GSM *	90	880 - 894	2	296	0.0263	0.5867	4.48
Cingular GSM *	90	1900 Band	2	427	0.0379	1.0000	3.79
Total							48.3%

* 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 *							
Cingular UMTS	90	880 - 894	1	500	0.0222	0.5867	27.94
Cingular GSM	90	1900 Band	2	427	0.0379	1.0000	3.79
Cingular GSM	90	880 - 894	2	296	0.0263	0.5867	4.48
Total							40.0%

* Per CSC Records

Structural information:

The attached structural analysis demonstrates that the tower and foundation have adequate structural capacity to accommodate the proposed modifications. (Paul J. Ford & Co., dated 5/31/07)



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

August 30, 2007

Honorable Allen Bacchiochi
1st Selectman, Town of Stafford
Warren Memorial Town Hall 1 Main St.
Stafford Springs, CT 06076-0011

Re: Telecommunications Facility – 46 Brendon Street, Stafford Springs

Dear Mr. Bacchiochi:

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



PAUL J. FORD AND COMPANY
 STRUCTURAL ENGINEERS
 250 East Broad Street • Suite 1500 • Columbus, Ohio 43215-3708

May 31, 2007

Veronica Harris
 Crown Castle International
 1200 McArthur Blvd.
 Mahwah, NJ 07430
 (201) 236-9094

Existing Structure is Adequate
 Existing Monopole is Adequate
 Existing Foundation is Adequate

Subject: Structural Analysis Report of 115 Foot Monopole

Carrier Designation	Cingular Wireless Co-Locate Carrier Site Number: 1049 Carrier Site Name: Stafford Springs
Crown Castle Designation	Crown Castle BU Number: 806365 Crown Castle Site Name: HRT 303 943203 Crown Castle JDE Job Number: 88066 Crown Castle PO Number: 239508 Crown Castle WO Number: 140301
Engineering Firm Designation	Paul J. Ford and Company 37507-0640
Site Data	Brendon & Quinn Streets, Stafford, Tolland County, CT Latitude 41° 57' 51.2", Longitude -72° 18' 17.8"

Dear Veronica Harris,


Paul J. Ford and Company is pleased to submit this "Structural Analysis Report" to determine the structural adequacy of the above monopole. This analysis has been performed in accordance with the Crown Castle Structural "Statement of Work", the terms of the Purchase Order, and the TIA/EIA-222-F Standard for the following Basic Wind Speeds: 85 mph without ice, 74 mph with 0.5" radial ice, and 60 mph (Operational) without ice.

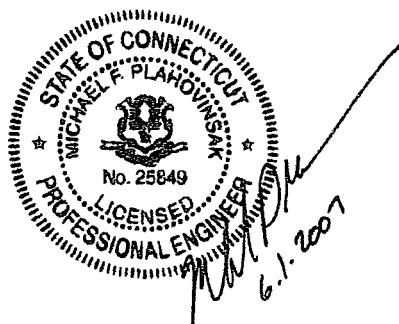
The monopole was analyzed with the addition of the proposed antenna loading shown in the table below combined with the existing and reserved loading on the structure:

Elevation -ft	Count	Antenna Description
90	3	Powerwave Technologies 7770 w/ Mount Pipe
	6	Powerwave LGP13519

Based on our analysis, we have determined that the existing monopole structure and foundation have sufficient capacity to adequately support the existing, reserved, and proposed loading. Modifications are not required at this time.

Respectfully submitted,


 Guy S. Allison, E.I.T.
 Structural Engineer
 gallison@pjfweb.com



File T:\1375_Crown_Castle_Report\20070731-0840.doc

TABLE OF CONTENTS

INTRODUCTION	3
ANALYSIS CRITERIA	3
TABLE 1A - PROPOSED ANTENNA INFORMATION	3
TABLE 1B - PROPOSED CABLE INFORMATION	3
TABLE 2A - EXISTING AND RESERVED ANTENNA INFORMATION	3
TABLE 2B - EXISTING AND RESERVED CABLE INFORMATION	3
TABLE 3 - REFERENCE DOCUMENTS PROVIDED	4
ANALYSIS PROCEDURE	4
ANALYSIS METHODS	4
ASSUMPTIONS	4
ANALYSIS RESULTS.....	5
TABLE 4 - COMPONENT STRESSES VS. CAPACITY	5
APPENDIX A	6
OUTPUT FROM COMPUTER PROGRAMS	6
APPENDIX B	18
CABLE ROUTING DRAWING.....	18
APPENDIX C	19
TABLE C1 - LIST OF ATTACHED DOCUMENTS	19

INTRODUCTION

At the request of Crown Castle International, Paul J. Ford and Company has analyzed the monopole at the HRT 303 943203 site located in Stafford, Tolland County, CT. This structural analysis has been performed in accordance with the TIA/EIA-222-F-1996 Standard, "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures" to determine if the monopole structure has adequate capacity to support the existing, reserved, and proposed antenna loading.

ANALYSIS CRITERIA

The existing monopole has been analyzed for the antenna and coax loading listed in Tables 1A, 1B, 2A, and 2B below. The monopole has been analyzed in accordance with the TIA/EIA-222-F-1996 Standard for the following fastest-mile Basic Wind Speeds: 85 mph without ice, 74 with 0.5" radial ice, and 60 mph without ice as recommended for Tolland County, CT.

Table 1A - Proposed Antenna Information

Elevation - ft	Count	Antenna Description	Status
90	3	Powerwave Technologies 7770 w/ Mount Pipe	Proposed
	6	Powerwave LGP13519	Proposed

Table 1B - Proposed Cable Information

Elevation - ft	Count	Cable Description	Location	Status
90 - 0	12	FLC 158-50J (1 5/8 FOAM)	Internal	Proposed

Table 2A - Existing and Reserved Antenna Information

Elevation - ft	Count	Antenna Description	Status
125	3	DR65-19-02DPQ	Existing
	3	DR65-19-02DPQ	Reserved
122	3	2.5" x 14" Antenna Mount Pipe	Existing
115	12	ALP 9212-N w/Mount Pipe	Existing
113	1	Sabre 12' Low Pro Platform w/ Handrail	Existing
100	9	DB980H90E-M w/Mount Pipe	Existing
	1	PIROD 13' Low Profile Platform (Monopole)	Existing
	6	DU04-8670 w/Mount Pipe	Existing
90	6	ADC 800/1900	Existing
	3*	DU04-8670 w/Mount Pipe *	Existing
	1	PIROD 15' Low Profile Platform (Monopole)	Existing
76	12	DB844H80-XY w/Mount Pipe	Existing
75	3	Sabre C10-113-021 12' T Arm (1)	Existing

* To be removed

Table 2B - Existing and Reserved Cable Information

Elevation - ft	Count	Cable Description	Location	Status
115 - 0	6	LDF7-50A (1 5/8" foam)	External	Reserved
	6	LDF7-50A (1 5/8" foam)	External	Existing
113 - 0*	12	LDF7-50A (1 5/8" foam)	Internal	Reserved
	3	LDF7-50A (1 5/8" foam)	Internal	Reserved
100 - 0	6	LDF7-50A (1 5/8" foam)	Internal	Existing
	9	LDF6-50 (1 1/4" foam)	Internal	Reserved
90 - 0**	12	LDF7-50A (1 5/8" foam)	Internal	Reserved

* SLA is shown; actual coax (12) 7/8"

** To be removed

*** SLA is shown; actual coax (12) 7/8"

Information for the existing monopole and foundation is based on the available drawings, documents, and/or information listed in Table 3 below.

Table 3 - Reference Documents Provided

Document	Source	Reference	Remarks
Proposed Antenna Loading	Crown Castle	806365	
Existing Antenna Loading	Crown Castle	806365	
Original Tower Drawings	Crown Castle	CCI Sites	Valmont, 11298-94, 03/16/95
Geotechnical Report	Crown Castle	CCI Sites	Dr. Clarence Welti, P.E., 01/09/94

ANALYSIS PROCEDURE

ANALYSIS METHODS

RISA Tower (Version 4.7.2.1), a commercially available software program, was used to create a three-dimensional model of the monopole and calculate member stresses for various dead, live, wind, and ice load cases. The analysis was performed in accordance with the TIA/EIA-222-F Standard. Selected output from the analysis is included in Appendix A.

ASSUMPTIONS

1. Monopole was fabricated and installed in accordance with the manufacturer's specifications.
2. Monopole has been properly maintained in accordance with manufacturer's specifications.
3. The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1A, 1B, 2A, and 2B and the referenced drawings.

If any of the above assumptions are not valid or have been made in error, then the results of this analysis may be affected. In that case, please notify Paul J. Ford and Company immediately so that we can review any new and/or modified information and determine its affect on the analysis results regarding the structural adequacy of the monopole and foundation.

ANALYSIS RESULTS

Our structural analysis indicates that the existing monopole structure and foundation have sufficient capacity to adequately support the existing, reserved, and proposed loading.

Table 4 - Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
Risa Tower Analysis Summary:				
	L1	115 - 73.75	90.6	Pass
	L2	73.75 - 36.75	102.6	Pass
	L3	36.75 - 0	100.5	Pass
Additional Components:				
	Anchor Rods	0 - 0	93.6	Pass
	Base Plate	0 - 0	92.7	Pass
	Foundation (By Comparison)	0 - 0	104.9	Pass
Structural Rating (maximum capacity of all components) =				104.9

* With the information that was provided to us, we were able to compare the design loads to our calculated loads. Refer to the chart below:

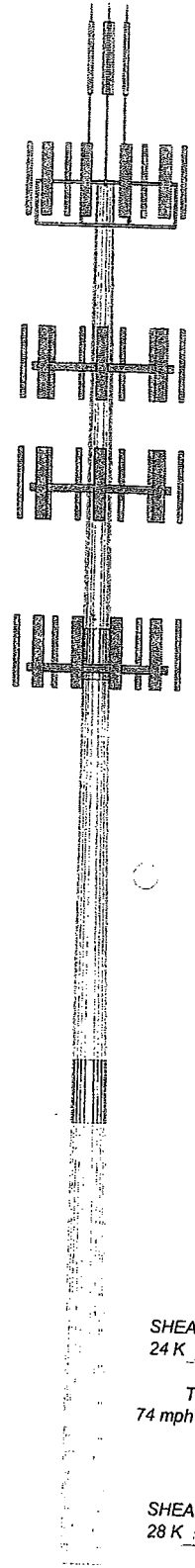
Foundation	Vector	Design Load	Actual Load	Ratio
Base	OTM	2242.0 Kips-Ft	2331.0 Kips-Ft	104.0%
	Shear	26.7 Kips	28.0 Kips	104.9%

As you can see, our calculated loads are lower than the design loads. The foundation should be adequate to support the revised antenna loads.

As summarized in Table 4 above, our analysis indicates that the existing monopole structure and foundation have sufficient capacity to adequately support the existing, reserved, and proposed loading. Modifications are not required at this time.

Section	1	2	3
Length (ft)	41.25	41.25	42.00
Number of Stages	12	12	12
Thickness (in)	0.2188	0.3125	0.3750
Lap Splice (ft)		5.25	
Top Dia (in)	17.8100	25.8847	33.5291
Bot Dia (in)	27.3000	35.3600	43.2000
Grade		A572-65	
Weight (K)	2.2	4.3	6.6

115.0 ft
73.8 ft
36.8 ft
0.0 ft



DESIGNED APPURTENANCE LOADING

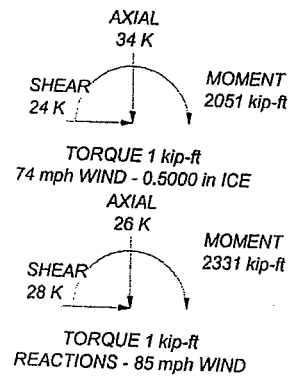
TYPE	ELEVATION	TYPE	ELEVATION
DR65-19-02DPQ (E)	125	Powerwave Technologies 7770 w/ Mount Pipe (P)	90
DR65-19-02DPQ (E)	125	Powerwave Technologies 7770 w/ Mount Pipe (P)	90
DR65-19-02DPQ (R)	125	(2) ADC 800/1900 (E)	90
DR65-19-02DPQ (R)	125	(2) ADC 800/1900 (E)	90
2.5' x 14' Antenna Mount Pipe (EM)	122	(2) ADC 800/1900 (E)	90
2.5' x 14' Antenna Mount Pipe (EM)	122	(2) Powerwave LGP13519 (P)	90
2.5' x 14' Antenna Mount Pipe (EM)	122	(2) Powerwave LGP13519 (P)	90
(4) ALP 9212-N w/Mount Pipe (E)	115	(2) Powerwave LGP13519 (P)	90
(4) ALP 9212-N w/Mount Pipe (E)	115	PIROD 15' Low Profile Platform (Monopole) (EM)	90
(4) ALP 9212-N w/Mount Pipe (E)	115	(4) DB844H80-XY w/Mount Pipe (E)	76
Sabra 12' Low Pro Platform w/ Handrail (EM)	113	(4) DB844H80-XY w/Mount Pipe (E)	76
(3) DB980H90E-M w/Mount Pipe (E)	100	Sabra C10-113-021 12' T Arm (1) (EM)	75
(3) DB980H90E-M w/Mount Pipe (E)	100	(3) DB980H90E-M w/Mount Pipe (E)	100
(3) DB980H90E-M w/Mount Pipe (E)	100	Sabra C10-113-021 12' T Arm (1) (EM)	75
PIROD 13' Low Profile Platform (Monopole) (EM)	100	Sabra C10-113-021 12' T Arm (1) (EM)	75
(2) DU04-8670 w/Mount Pipe (E)	90	Sabra C10-113-021 12' T Arm (1) (EM)	75
(2) DU04-8670 w/Mount Pipe (E)	90		
(2) DU04-8670 w/Mount Pipe (E)	90		
Powerwave Technologies 7770 w/ Mount Pipe (P)	90		

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in Tolland 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 60 mph wind.
5. TOWER RATING: 102.6%



Paul J. Ford & Company 250 East Broad Street Columbus, OH 43215 Phone: (614) 221-6679 FAX: (614) 448-4105	Job: Ex. 115' Monopole
	Project: PJF #37507-0640 / BU #806365
	Client: Crown Castle International Drawn by: JHK App'd:
	Code: TIA/EIA-222-F Date: 05/31/07 Scale: NTS
	Path: T:\375 Crown Castle\2007\37507-0640.dwg Dwg No. E-1

**CINGULAR WIRELESS
Equipment Modification**

419 Broad Street, Windsor, CT
Site Number 1026
Exempt Modifications 5/23/94, 7/9/98, and 6/25/02

Tower Owner/Manager: AT&T Corporation

Equipment configuration: Monopole

Current and/or approved: Nine CSS DUO1417 antennas @ 100 ft c.l.
Nine runs 1 ¼ inch coax
Six TMA's

Planned Modifications: Remove three existing antennas
Install 3 Powerwave 7770 antennas (or equivalent) @ 100 ft
Install three additional runs 1 ¼ inch coax (total of 12)
Install three diplexers @ 100 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 20.6 % 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 14.8 % 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 *							5.01
Cingular TDMA *	103	880 - 894	16	100	0.0542	0.5867	9.24
Cingular GSM *	103	880 - 8 94	2	296	0.0201	0.5867	3.42
Cingular GSM *	103	1930 - 1970	2	427	0.0289	1.0000	2.89
Total							20.6%

* 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 *							5.01
Cingular GSM	100	880 - 894	2	296	0.0213	0.5867	3.63
Cingular GSM	100	1900 Band	2	427	0.0307	1.0000	3.07
Cingular UMTS	100	880 - 894	1	500	0.0180	0.5867	3.06
Total							14.8%

* 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., 8/17/07)



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

August 30, 2007

Peter Souza, Town Manager
Town of Windsor
Town Hall 275 Broad St.
Windsor, CT 06095-0472

Re: Telecommunications Facility – 419 Broad Street, Windsor

Dear Mr. Souza:

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 - Windsor Site # 1026
419 Broad Street, Windsor, Connecticut

Aug 17, 2007

MEI PROJECT ID: CT00873M-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





Aug 17, 2007

STRUCTURAL ANALYSIS

Structure:	100ft Monopole	EEI /18-sided	
Client/ Site Name /#:	Hudson D.G. / AT&T	Windsor	#1026
Owner/Site Name /#:	Unknown		
MEI Project ID:	CT00873M-07V0		
Location:	419 Broad Street, Windsor, CT 06095	Hartford County FCC #	
	LAT	41-50-45.2 N	LON 72-38-46.1 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 *marginally 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. 100 ft c.l. fed, in addition to existing lines, with new (3) 1-1/4" 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

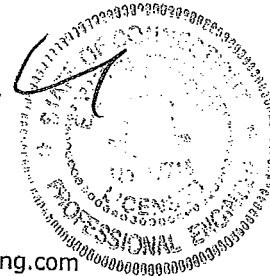


TABLE OF CONTENT

1. INTRODUCTION & SCOPE	4
2. SOURCE OF DATA	4
Background Information:-----	4
3. ANALYSIS CRITERIA	5
Appurtenances Configuration-----	5
4. ANALYSIS PROCEDURE	6
Analysis Program-----	6
Assumptions-----	6
5. ANALYSIS RESULTS	7
6. FINDINGS & RECOMMENDATIONS	8
7. REPORT DISCLAIMER	9
APPENDIX 1 - TOWER DRAWING	10
APPENDIX 2 - ANALYSIS PRINTOUT & GRAPHICS	11

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, 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 within 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	Hudson D.G. / Derek Creaser	Partial Tower Original Drawing and Design Calculations	EI Job# 3746 Dated 10/14/1998
Foundation	-	Not Available	
Material Grade	Available from supplied documents noted above - refer to Appendix.		
CURRENT APPURTENANCES			
	Hudson D.G. / Derek Creaser	Previous Analysis Report /RF Sheet /Photos	All Points Technology Corp., Job #CT-107850 Dated 12/14/2005 / RF Sheet Version 2007-02 dated 4/26/2007
CHANGED CONDITION			
	Hudson D.G. / Derek Creaser	RF Sheet	RF Sheet Version 2007-02 dated 4/26/2007

Background Information:

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

DESIGNER / FABRICATOR	EI
DESIGN CRITERIA	TIA/EIA 222-F -85 mph/73.6 + 0 / 1/2" Ice
PRIOR STRUCTURAL MODIFICATIONS	None known

3. ANALYSIS CRITERIA

The structural analysis performed used the following criteria:

CODE / STANDARD	ANSI/TIA-222-F-96 Standard	
LOADING CASES	<i>Full Wind:</i>	80 Mph (with No Radial Ice)
	<i>Iced Case:</i>	69.2 Mph + 0.25" Radial Ice
	<i>Service:</i>	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
100 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
100	AT&T	6	DUO1417-8686-4 Panels	LP Platform w/o Rails	6	1-1/4" / I
		3	ADC Diplexers		3	1-1/4" / I
		6	ADC/CG-1900W850 TMA			
94 ⁵	T-Mobile	9	DR65-19-00DPQ	LP Platform w/o Rails	24	1-1/4"/I ⁶
		18	Tower Mounted Amplifier			
75 ⁵	T-Mobile	1	GPS	3ft Standoff	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.
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 1/4" dia. Coax and the (1) Diplexer per sector.
5. T-Mobile reserved antenna loading has been considered in this structural analysis.
6. All (24) Reserved 1-1/4" dia. Coaxes for T-Mobile are considered internal to pole as per Allpoint Structural Analysis report.

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 invalidated, MEI should be contacted to review any contradictory information to determine its effect.

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	105.5%	0 - 45.373ft	Acceptable	
BASE PLATE	104%	Bending	Pass	
ANCHOR BOLT	59%	Tension	Pass	
FOUNDATION	103.3%	O.T.M.	Acceptable	Based on comparison with design reactions

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.
4. Foundation details are not made available and could not be analyzed. However the ratio is based on a comparison with the original design reactions using 1.3 factor.

6. FINDINGS & RECOMMENDATIONS

- Based on the rigorous stress analysis results, the subject structure is **rated at 105.5%** 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 *marginally 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. 100 ft c.l. fed, in addition to existing lines, with new (3) 1-1/4" 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.

7. REPORT DISCLAIMER

The engineering services rendered by Malouf Engineering International, 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:

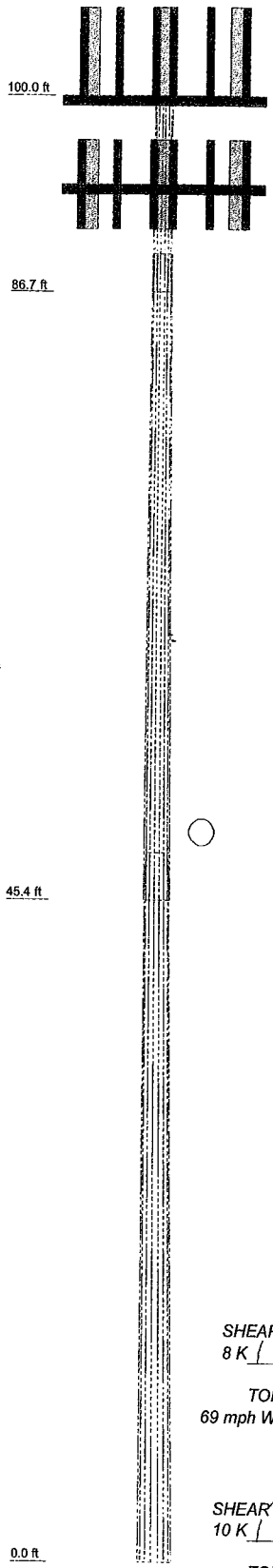
1. Proper alignment and plumbness.
2. Correct guy tensions, as applicable.
3. Correct bolt tightness or slip jacking of sleeved connections.
4. No significant deterioration or damage to any structural component.

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.

Section	1	2	3
Length (ft)	13.29	43.92	48.62
Number of Sides	18	18	18
Thickness (in)	0.1875	0.2500	0.3125
Lap Splice (ft)	2.56	3.25	20.7701
Top Dia (in)	14.5000	15.6396	20.7701
Bot Dia (in)	16.3800	21.7200	27.5000
Grade		A572-65	
Weight (K)	0.4	2.2	3.9



DESIGNED APPURTENANCE LOADING

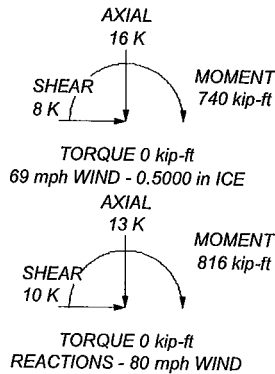
TYPE	ELEVATION	TYPE	ELEVATION
(2) DUO1417-8686 w/Mount Pipe (AT/I/E)	100	Powerwave 7020 RET (AT/I/P)	100
(2) DUO1417-8686 w/Mount Pipe (AT/I/E)	100	Powerwave 7020 RET (AT/I/P)	100
(2) DUO1417-8686 w/Mount Pipe (AT/I/E)	100	Powerwave 7060 CILOC (AT/I/P)	100
(2) DUO1417-8686 w/Mount Pipe (AT/I/E)	100	Powerwave 7060 CILOC (AT/I/P)	100
ADC Diplexers (AT/I/E)	100	LP Platform w/o Rails (AT/I/E)	100
ADC Diplexers (AT/I/E)	100	(3) DR65-19-00DPQ w/Mount Pipe (T-Mobile/R)	94
ADC Diplexers (AT/I/E)	100	(3) DR65-19-00DPQ w/Mount Pipe (T-Mobile/R)	94
(2) ADC/CG DD1900 TMA's (AT/I/E)	100	(3) DR65-19-00DPQ w/Mount Pipe (T-Mobile/R)	94
(2) ADC/CG DD1900 TMA's (AT/I/E)	100	(3) DR65-19-00DPQ w/Mount Pipe (T-Mobile/R)	94
(2) ADC/CG DD1900 TMA's (AT/I/E)	100	(3) DR65-19-00DPQ w/Mount Pipe (T-Mobile/R)	94
7770.00 w/ Pipe Mount (AT/I/P)	100	(6) TMA's (T-Mobile/R)	94
7770.00 w/ Pipe Mount (AT/I/P)	100	(6) TMA's (T-Mobile/R)	94
7770.00 w/ Pipe Mount (AT/I/P)	100	(6) TMA's (T-Mobile/R)	94
LGP 13519 Diplexers (AT/I/P)	100	Valmont 10ft LP Platform w/o Rails (T-Mobile/R)	94
LGP 13519 Diplexers (AT/I/P)	100	GPS (T-Mobile/R)	75
LGP 13519 Diplexers (AT/I/P)	100	3' Standoff (T-Mobile/R)	75
Powerwave 7020 RET (AT/I/P)	100		


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: 105.5%



 Malouf Engineering Int'l 17950 Preston Road, Suite #720 Dallas, Texas 75252-5635 Phone: (972) 783 2578 FAX: (972) 783 2583	Job: 100ft Monopole, Windsor Site #1026, CT Project: CT00873M-07V0
	Client: Hudson Design Group / AT&T Code: TIA/EIA-222-F Path: <small>C:\Users\Admin\Desktop\CT00873M-07V0 - HUDS - #10262-Working Data\Risk\CT00873M-07V0.dwg</small>