### TOWN OF FALMOUTH, MAINE

## REQUEST FOR CONDITIONAL REZONING APPROVAL TO INCREASE THE HEIGHT

OF AN EXISTING
TIER II PERSONAL WIRELESS SERVICE FACILITY
LOCATED AT
356 US RTE. 1

PROPOSAL BY AT&T MOBILITY

**EXHIBIT #19** 

SUMMARY OF ATTACHED STRUCTURAL ASSESSMENT OF 90' WITH 10' EXTENSION MONOPOLE

# SUMMARY OF ATTACHED STRUCTURAL ASSESSMENT OF 90' WITH 10' EXTENSION MONOPOLE TOWER

REQUEST FOR CONDITIONAL REZONING APPROVAL
TO INCREASE THE HEIGHT
OF AN EXISTING
TIER II PERSONAL WIRELESS SERVICE FACILITY
LOCATED AT
356 US RTE 1, FALMOUTH, ME

#### **SUMMARY**

The following is a brief summary of the attached Structural Assessment of the 90' monopole with the proposed 10' extension.

The structural assessment of the 90' monopole tower with a 10' extension was performed by C.H. David Tan, P.E. (ME License No. 9599), Senior Engineer for *Morrison Hershfield*. The assessment involved an evaluation of the proposed loading based on the monopole's design. Based on this evaluation, Mr. Tan's analysis determined that the proposed loading will have "no detrimental impact on tower stresses." Therefore, AT&T's proposed installation of the 10' extension on the 90' monopole is considered acceptable and within the structures original design envelope.

### MORRISON HERSHFIELD 66 Perimeter Center East, Suite 600, Atlanta, Georgia 30346 USA Tel. 770 379 8500 Fax. 770 379 8501



June 3, 2008

Ms. Nicole Stoltzfus Lightower 80 Central Street Boxborough, MA 01719 978-264-6000

Subject:

Structural Assessment of 90 ft with 10 ft Extension Monopole Tower

Site: ME-0601 / "Falmouth"/ Cumberland County, ME

AT&T Proposed Antenna Loading MH Project No. 6073124: NG0-080

Dear Ms. Stoltzfus:

As requested, we have performed a <u>structural assessment</u> of the 90 ft monopole tower with a 10 ft tower extension in Falmouth, ME for the addition of AT&T's proposed antenna installation given in Table 2. This assessment involves an evaluation of the proposed loading based on the tower's design loading (Sabre Communications Corp. Drawing No. 07-11177-PE, dated 11/10/2006), with a determination that the proposed loading will have no detrimental impact on tower stresses. No actual structural analysis of the tower is performed. The base assumptions of this assessment are that the tower and foundation were properly designed in the first instance, are in satisfactory condition to carry their full design capacity, and that no major changes to the tower have occurred since the original design.

Our analysis findings show that all proposed loadings are within the tower's original design envelope. The original design for this tower was performed in accordance with the requirements of TIA/EIA-222-G Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, for a 3-second gust wind speed of 100 mph with no radial ice meeting the requirements of the 2003 International Building Code. Based on the foregoing, the AT&T installation is considered acceptable.

We trust that this report is satisfactory. If you have any questions, please feel free to contact our office.

Yours very truly, Morrison Hershfield

C. H. David Tan, P.E. (ME License No. 9599) Senior Engineer

**Table 1: Tower Details** 

Site Name	ME-0601 / Falmouth	
Location	356 Route 1, Falmouth, ME / Cumberland County (Lat 43-44-10.7, Long -70-13-35)	
Tower Description	90 ft with 10 ft extension monopole tower, manufactured by Sabre.	
Current Standard and Loading		
Previous MH Analyses	None.	

Table 2: Existing and Proposed Antenna Loads

Elev. (ft)	Antenna Description	Carrier	Location	TX-Lines
_	***PROPOSED***			
97.0+	(3) Powerwave 7770 Panels		30, 150, 270°	(6) 7/8"
	(6) Powerwave LGP17205 TMA's	AT0.T	-	-
	(3) Powerwave 7020 RET's	AT&T	-	_
	(3) Flush Mounts		_	_
	***FUTURE***	***************************************		
87.5	-	Sprint		(3) 1/2"
	***EXISTING***			
87.5	(3) Andrew UMWD-09016-R2DH	Sprint	-	(12) 1/2"
77.5	(3) RFS APXV 18-209014	T	-	(12) 7/8"
11.5	(6) Ericcson TMA's	T_mobile		

Note: Any discrepancies in loading from this listing should be brought to Morrison Hershfield's attention; results of this analysis cannot be used if the loading is different.



<sup>+</sup> The proposed antennas and mounts to be installed on the proposed tower extension.

**Table 3: Original Design Loading** 

Elev. (ft)	Antenna Description	Location	TX-Lines/Face
106.0	(3) 7ft x 1ft x 0.5ft antennas		
	(3) Collar Mount	<del>-</del>	-
96.0	(3) 7ft x 1ft x 0.5ft antennas		
90.0	(3) Collar Mount		_
86.0	(3) 7ft x 1ft x 0.5ft antennas	****	
	(3) Collar Mount	-	-
76.0	(3) 7ft x 1ft x 0.5ft antennas	V 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	(3) Collar Mount	-	-
66.0	(3) 7ft x 1ft x 0.5ft antennas		_
	(3) Collar Mount	-	

TIA/EIA-222-G, for a 3-second gust wind speed of 100 mph with no ice.

Original design loading per Sabre Communications Corp. Job. No. 07-11177, dated 11/13/2006

Note: Tower was originally designed with two 10 ft future extension each.

