

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

December 24, 2008

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

RE: **EM-CING-028-081125**- New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 48 Westchester Street, Colchester, Connecticut.

Dear Mr. Levine:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

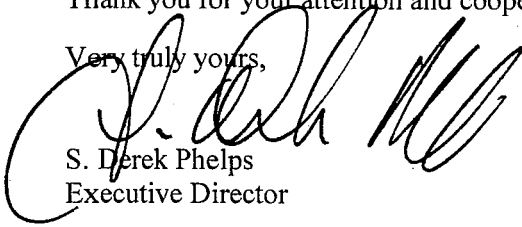
- The proposed coax lines shall be installed inside the monopole's shaft;
- The proposed tower mounted amplifiers and diplexers shall be installed behind the proposed panel antennas; and
- The Council shall be notified in writing that the coax lines, tower mounted amplifiers, and diplexers were installed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

The proposed modifications are to be implemented as specified here and in your notice dated November 25, 2008, including the placement of all necessary equipment and shelters within the tower compound. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

A handwritten signature in black ink, appearing to read 'S. Derek Phelps', written over the typed name.

S. Derek Phelps
Executive Director

SDP/MP/laf

c: The Honorable Linda M. Riley Hodge, First Selectman, Town of Colchester
Christopher Beauchemin, Town Planner, Town of Colchester
SBA, Inc.



EM-CING-028-081125

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

November 25, 2008

RECEIVED
NOV 25 2008

**CONNECTICUT
SITING COUNCIL**

Honorable Daniel F. Caruso, Chairman,
and Members of the Connecticut Siting Council
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Re: New Cingular Wireless PCS, LLC notice of intent to modify an existing tele-
communications facility located at 48 Westchester Street, Colchester (owner, SBA)

Dear Chairman Caruso and Members of the Council:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System ("UMTS") capability, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC ("AT&T") plans to modify the equipment configurations at many of its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the chief elected official of the municipality in which the affected cell site is located.

UMTS technology offers services to mobile computer and phone users anywhere in the world. Based on the Global System for Mobile (GSM) communication standard, UMTS is the planned worldwide standard for mobile users. UMTS, fully implemented, gives computer and phone users high-speed access to the Internet as they travel. They have the same capabilities even when they roam, through both terrestrial wireless and satellite transmissions.

Attached is a summary of the planned modifications, including power density calculations reflecting the change in AT&T's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

The changes to the facility do not constitute modifications as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility

will not be significantly changed or altered. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

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

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

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

2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound other than some enlarged equipment pads as may be noted in the attachments.

3. The proposed changes will not increase the noise level at the existing facility by six decibels or more.

4. Radio frequency power density may increase due to use of one or more GSM channel for UMTS transmissions. However, the changes will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

For the foregoing reasons, New Cingular Wireless respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (860) 513-7636 with questions concerning this matter. Thank you for your consideration.

Sincerely,



Steven L. Levine
Real Estate Consultant

Attachments

**NEW CINGULAR WIRELESS
Equipment Modification**

48 Westchester Street, Colchester
Site Number 5344
Former AT&T cell site
Exempt Modification approved 4/02

Tower Owner/Manager: SBA

Equipment Configuration: Monopole

Current and/or Approved: Three Allgon 7250 panel antennas @ 159 ft AGL
Six runs 1 5/8 inch coax cable
Two concrete pads with outdoor equipment cabinets

Planned Modifications: Remove all existing antennas
Install a new low profile platform
Install six Powerwave 7770 antennas (or equivalent) @ 159 ft
Install six TMA's and six diplexers @ 159 ft
Install six additional lines 1 5/8 inch coax
Remove the smaller concrete pad and one existing cabinet
Install a new 5 x 6 ft concrete pad extension
Install one new outdoor cabinet for UMTS on the new pad

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 6.6 % 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 10.5 % 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 *							5.17
AT&T GSM *	159	1900 Band	4	250	0.0142	1.0000	1.42
Total							6.6%

* 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 *							5.17
AT&T UMTS	159	880 - 894	1	500	0.0071	0.5867	1.21
AT&T GSM	159	1900 Band	2	427	0.0121	1.0000	1.21
AT&T GSM	159	880 - 894	4	296	0.0168	0.5867	2.87
Total							10.5%

* Per CSC records

Structural information:

The attached structural analysis demonstrates that the tower and foundation have adequate structural capacity to accommodate the proposed equipment modifications. (FDH Engineering, 11/14/08)



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

November 25, 2008

Linda M. Hodge, 1st Selectman
Town of Colchester
Town Hall, 127 Norwich Ave.
Colchester, CT 06415

Re: Telecommunications Facility – 48 Westchester Street

Dear Ms. Hodge:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System (“UMTS”) capability, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC (“AT&T”) will be changing its equipment configuration at certain cell sites.

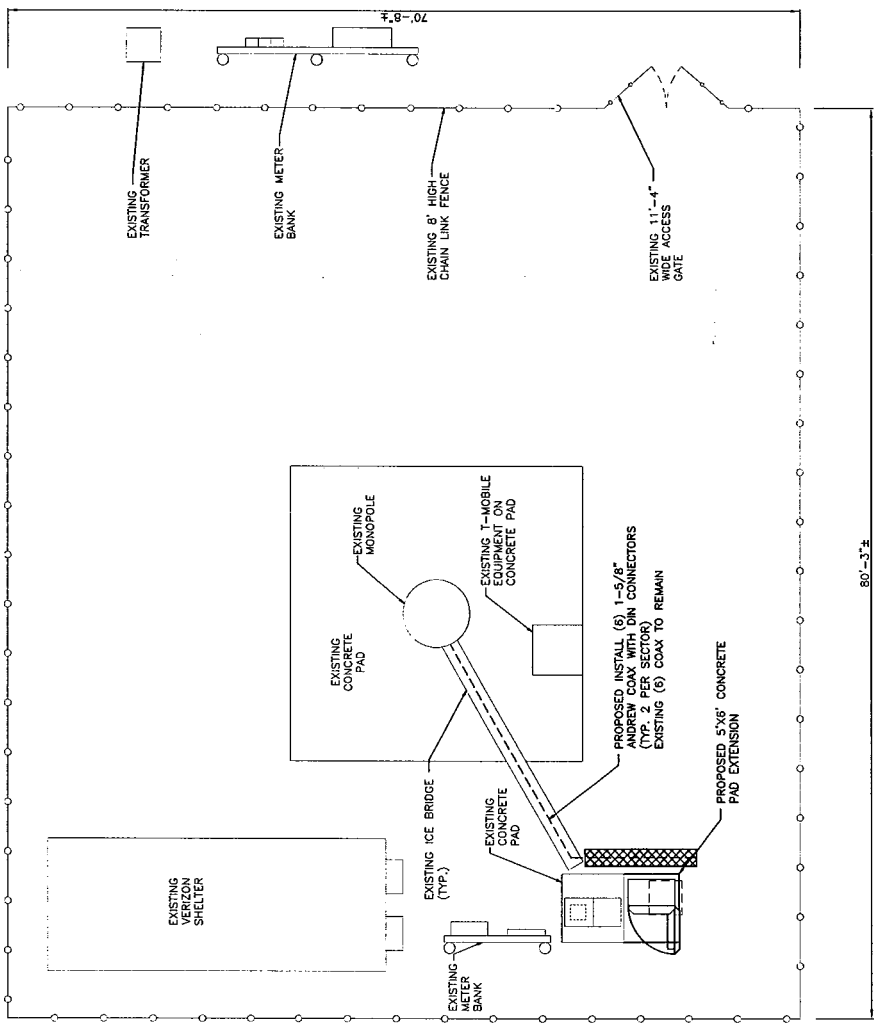
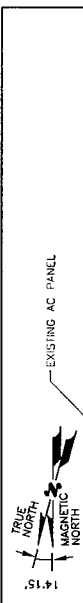
As required by Regulations of Connecticut State Agencies (“R.C.S.A.”) Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review AT&T’s proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The accompanying letter to the Siting Council fully describes AT&T’s proposal for the referenced cell site. However, if you have any questions or require any further information on our plans or the Siting Council’s procedures, please call me at (860) 513-7636 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

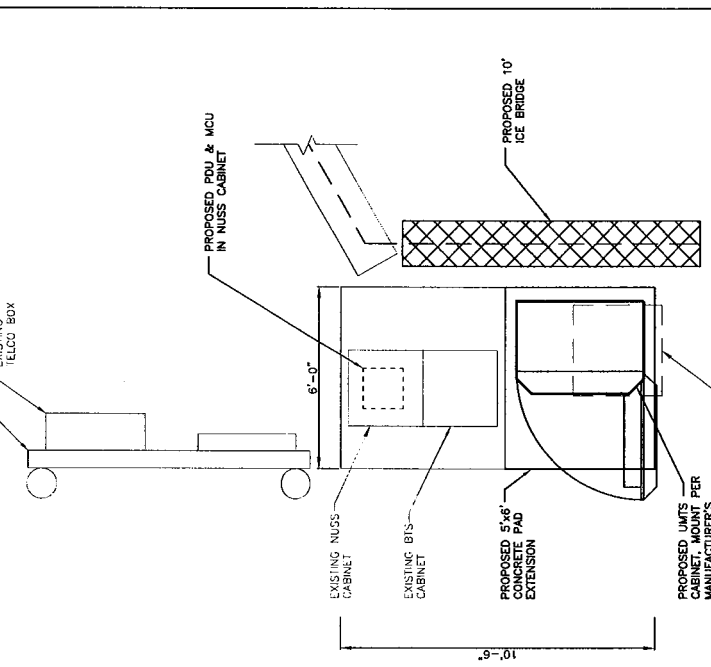
Sincerely,

Steven L. Levine
Real Estate Consultant

Enclosure



COMPOUND PLAN
SCALE: 3/16"=1'-0"
0 2'-0" 5'-4" 10'-8" 16'-0"



SHELTER PLAN
SCALE: 1/2"=1'-0"
0 1'-0" 2'-0" 4'-0" 6'-0"

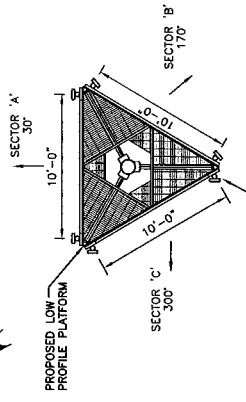
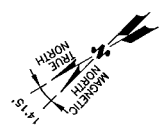
 HUDSON DESIGN GROUP 100 WASHINGTON ST., SUITE 200 N. ANDOVER, MA 01855	 184 ROCKYHILL ROAD, UNIT A LONDONDERRY, NH 03053	 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067	SITE NUMBER: 5344 SITE NAME: COLCHESTER NW 48 WESTCHESTER STREET COLCHESTER, CT 06415 MIDDLESEX COUNTY	AT&T SITE PLAN & COMPOUND PLAN
			DESIGNED BY: PG CHECKED BY: JPH DATE: 10/18/08 SCALE: AS SHOWN	DRAWN BY: BB CHECKED BY: JPH DATE: 10/18/08 SCALE: AS SHOWN

RF TABLE									
SECTOR	SECTOR NAME	ANTENNA MAKE & MODEL	ANTENNA COUNT	AZIMUTH	RAD CENTER	MECHANICAL DOWNTILT	TMA COUNT	DIPLEXER COUNT	# OF COAX CABLES
1	ALPHA	POWERWAVE 7770	2 PROPOSED 0 EXISTING	30°*	159'±	0°*	2 PROPOSED 0 EXISTING	2 PROPOSED 0 EXISTING	2 PROPOSED 2 EXISTING
2	BETA	POWERWAVE 7770	2 PROPOSED 0 EXISTING	170°*	159'±	0°*	2 PROPOSED 0 EXISTING	2 PROPOSED 0 EXISTING	2 PROPOSED 2 EXISTING
3	GAMMA	POWERWAVE 7770	2 PROPOSED 0 EXISTING	300°*	159'±	0°*	2 PROPOSED 0 EXISTING	2 PROPOSED 0 EXISTING	2 PROPOSED 2 EXISTING

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

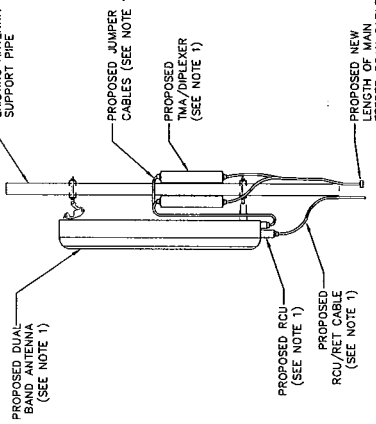
NOTE: *
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTES:
1. REFER TO RF CONFIG & SECTOR SPECIFICS FOR QUANTITY REQUIRED PER SECTOR

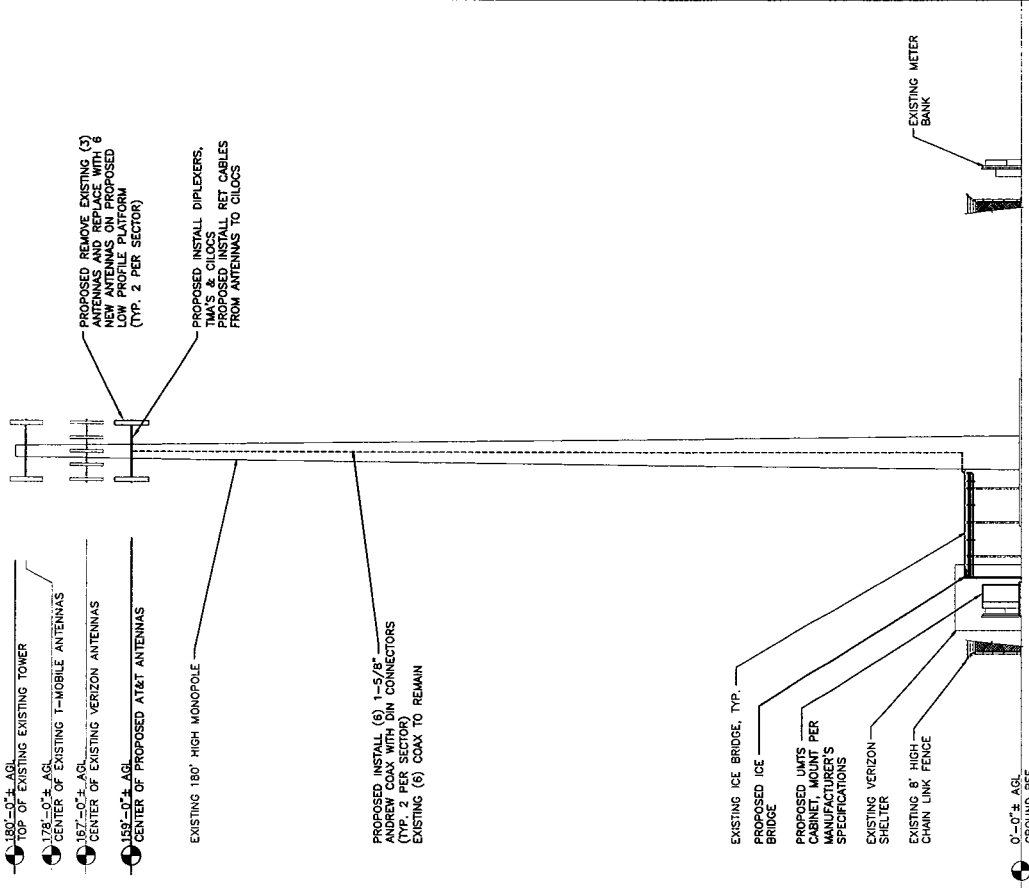


PROPOSED REMOVE EXISTING (3) ANTENNAS AND REPLACE WITH 6 NEW ANTENNAS ON PROPOSED LOW PROFILE PLATFORM (TYP. 2 PER SECTOR)

ANTENNA PLAN
SCALE: N.T.S.



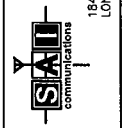
PROPOSED ANTENNA DETAIL
SCALE: N.T.S.



SOUTHWEST ELEVATION
SCALE: 3/32"=1'-0"



SITE NUMBER: 5344
SITE NAME: COLCHESTER NW
48 WESTCHESTER STREET
COLCHESTER, CT 06415
MIDDLESEX COUNTY



184 ROCKINGHAM ROAD, UNIT A
LONDONDERRY, NH 03053



100 WASHINGTON STREET
BRIDGEWATER, MA 01921
N. ANDOVER, MA 01865
TEL: (978) 552-6553
FAX: (978) 552-5864

NO.	DATE	ISSUED FOR	CONSTRUCTION	REVISIONS	DESIGNED BY	PC	DRAWN BY	DB
0	10/19/08	ISSUED FOR CONSTRUCTION			DB	DB	DB	DB

SCALE: AS SHOWN

REV	DATE	DESCRIPTION	DRAWING NUMBER
0			5344.01

AT&T
ANTENNA LAYOUT AND ELEVATION



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

180' Monopole

Site Name: Colchester

Site ID: CT02218-S

5344

48 WESTCHESTER ST.

FDH Project Number 08-11051E S1

Prepared By:

Krystyn Wagner, EI
Project Engineer

Reviewed By:

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

FDH Engineering, Inc.

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



November 14, 2008

Prepared pursuant to TIA/EIA-222-F June 1996 Structural Standards for Steel Antenna Towers and Antenna Supporting Structures

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EXECUTIVE SUMMARY

At the request of SBA Network Services, FDH Engineering performed a structural analysis of the monopole located in Colchester, CT to determine whether the tower is structurally adequate to support both the existing and proposed loads, pursuant to the *Structural Standard for Steel Antenna Towers and Antenna Supporting Structures, TIA/EIA-222-F*. Information pertaining to the existing/proposed antenna loading, current tower geometry, and member sizes was obtained from Valmont (Order No. 19487-99) record drawings dated November 3, 1999, and SBA Network Services, Inc.

The *basic design wind speed* per *TIA/EIA-222-F* standards is 85 MPH without ice and 74 MPH with 1/2" radial ice.

Conclusions

With the existing and proposed antennas from AT&T in place at 157 ft, the tower meets the requirements of the *TIA/EIA-222-F* standards. Furthermore, provided the foundation was constructed per the original design drawings (see Valmont Drawing No. 2985-F), the foundation should have the necessary capacity to support the existing and proposed loading. For a more detailed description of the analysis of the tower, see the **Results** section of this report.

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

Recommendations

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

1. The proposed coax lines should be installed inside the monopole shaft.
2. The proposed TMAs and diplexers should be installed behind the proposed panel antennas.

APPURTENANCE LISTING

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

Table 1 – Appurtenance Loading

Existing Loading:

No.	Centerline Elevation (ft)	Coax and Lines ¹	Carrier	Mount Type	Description
1-3	177	(6) 1-5/8"	Omnipoint	Low Profile Platform	(3) EMS RR90-17-02DP
4-18	167	(15) 1-5/8"	Verizon	Platform w/ handrails	(6) Allgon 7129.16 (3) Allgon 7125.18 (6) Decibel DB948F85T2E-M
19-30	157	(12) 1-5/8" ^{2,3}	AT&T	Low Profile Platform	(12) EMS RR90-18-02DP

¹ The existing coax is located inside the pole's shaft, unless otherwise noted.

² Currently AT&T has (3) antennas and (6) coax installed at 157 ft. According to information provided by SBA, AT&T may install (12) EMS RR90-18-02 antennas and (12) coax.

³ The loading for AT&T at 157 ft will be altered. See the proposed loading below.

Proposed Loading:

No.	Centerline Elevation (ft)	Coax and Lines	Carrier	Mount Type	Description
1-6	157	(12) 1-5/8"	AT&T	Low Profile Platform	(6) Powerwave 7770 (6) Powerwave LGP21401 TMAs (6) Diplexers

¹ This represents the final loading for AT&T at 157 ft. According to information provided by SBA, AT&T will replace their existing antennas with (6) Powerwave 7770 antennas, (6) Powerwave LGP21401 TMAs, and (6) diplexers. AT&T will also add (6) 1-5/8" coax, for a total of (12) coax.

RESULTS

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

Table 2 - Material Strength

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

Table 3 displays the ratio (as a percentage) of actual force in the member to their capacities. Values greater than 100% indicate locations where the maximum force in the member exceeds its capacity. **Table 4** displays the maximum foundation reactions.

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

See the **Appendix** for detailed modeling information.

Table 3 – Summary of Working Percentage of Structural Components

Section No.	Elevation ft	Component Type	Size	% Capacity	Pass Fail
L1	180.09 - 127.09	Pole	TP35.769x24.912x0.219	68.8	Pass
L2	127.09 - 92.92	Pole	TP42.339x34.2555x0.313	72.1	Pass
L3	92.92 - 45.92	Pole	TP51.345x40.4826x0.375	79.8	Pass
L4	45.92 - 0	Pole	TP60x49.144x0.438	80.7	Pass
			Anchor Bolts	OK	Pass
			Base Plate	OK	Pass

Table 4 – Maximum Base Reactions

Load Type	Current Analysis (TIA/EIA-222-F)	Original Design (TIA/EIA-222-F)
Axial	44 k	47 k
Shear	36 k	39 k
Moment	4,118 k-ft	5,045 k-ft

GENERAL COMMENTS

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

LIMITATIONS

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

Section	1	2	3	4
Length (ft)	53.00	39.42	53.00	53.00
Number of Sides	16	16	16	16
Thickness (in)	0.2190	0.3130	0.3750	0.4380
Lap Splice (ft)			7.08	
Top Dia (in)	24.8120	34.2555	40.4826	49.1440
Bot Dia (in)	35.7690	42.3390	51.3450	60.0000
Grade			A572-65	
Weight (lb)	3795.1	5087.3	9824.6	13641.0

180.1 ft

127.1 ft

92.9 ft

45.9 ft

0.0 ft



DESIGNED APPURTENANCE LOADING

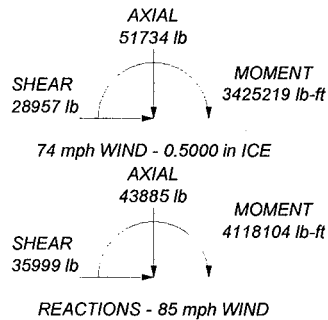
TYPE	ELEVATION	TYPE	ELEVATION
RR90-17-02DP w/Mount Pipe (Omniport)	177	(2) DB948F85T2E-M w/Mount Pipe (Verizon)	167
RR90-17-02DP w/Mount Pipe (Omniport)	177	(2) Powerwave 7770 w/ Mount Pipe (ATI)	157
RR90-17-02DP w/Mount Pipe (Omniport)	177	(2) Powerwave 7770 w/ Mount Pipe (ATI)	157
Low Profile Platform (Omniport)	177	(2) Powerwave 7770 w/ Mount Pipe (ATI)	157
(2) 7129.16 w/Mount Pipe (Verizon)	167	Low Profile Platform (ATI)	157
(2) 7129.16 w/Mount Pipe (Verizon)	167	(2) TMA - Powerwave LGP21401 (ATI)	157
7125.18 w/Mount Pipe (Verizon)	167	(2) TMA - Powerwave LGP21401 (ATI)	157
7125.18 w/Mount Pipe (Verizon)	167	(2) TMA - Powerwave LGP21401 (ATI)	157
Platform w/handrail (Verizon)	167	(2) Diplexer (ATI)	157
(2) DB948F85T2E-M w/Mount Pipe (Verizon)	167	(2) Diplexer (ATI)	157
(2) DB948F85T2E-M w/Mount Pipe (Verizon)	167	(2) Diplexer (ATI)	157

MATERIAL STRENGTH

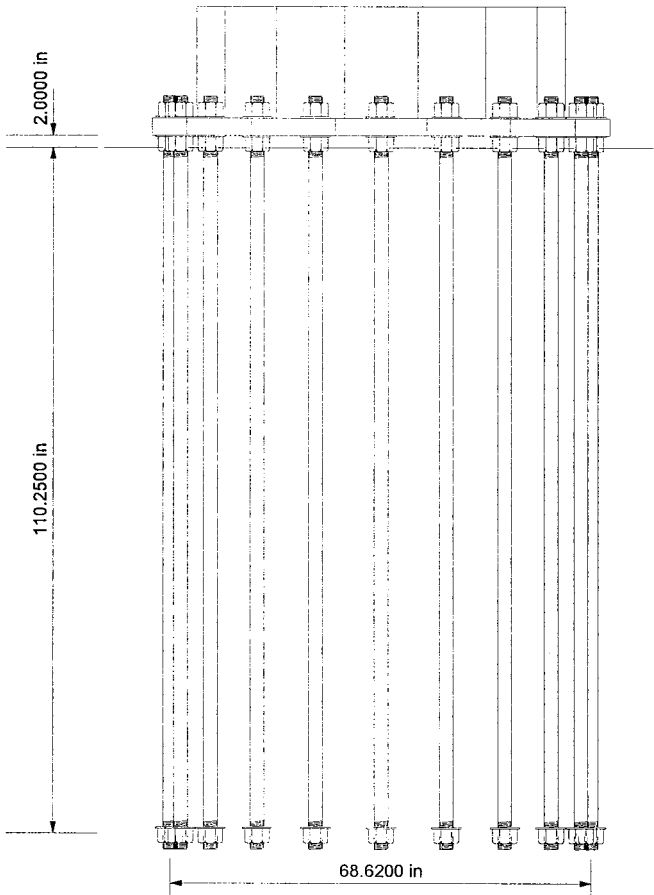
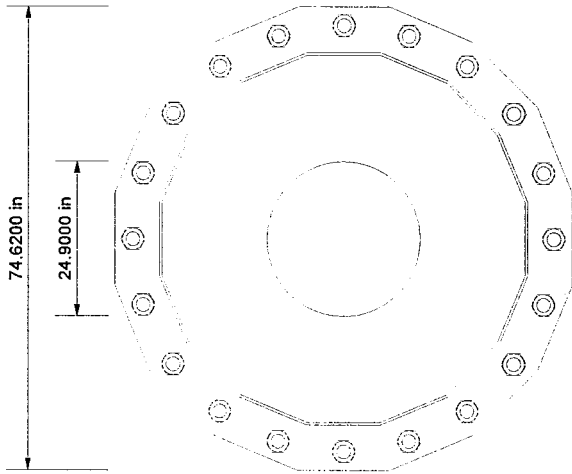
GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in New London County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 74 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 88.4%



FDH Engineering 2730 Rowland Road, Suite 100 Raleigh, NC 27615 Phone: (919) 755-1012 FAX: (919) 755-1031	Job: Colchester, CT02218-S	
	Project: 08-11051E S1	
	Client: SBA	Drawn by: Krystyn Wagner
	Code: TIA/EIA-222-F	Date: 11/18/08
Tower Analysis	Path:	App'd: _____ Scale: NTS Dwg No. E-1



FOUNDATION NOTES

1. Plate thickness is 2.7500 in.
2. Plate grade is A633-60.
3. Anchor bolt grade is A615-75.
4. fc is 3 ksi.

FDH Engineering 2730 Rowland Road, Suite 100 Raleigh, NC 27615 Phone: (919) 755-1012 FAX: (919) 755-1031		Job: Colchester, CT02218-S	
		Project: 08-11051E S1	
Tower Analysis	Client: SBA	Drawn by: Krystyn Wagner	App'd:
	Code: TIA/EIA-222-F	Date: 11/18/08	Scale: NTS
	Path:	Dwg No. F-1	