



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Ten Franklin Square
New Britain, Connecticut 06051
Phone: (860) 827-2935
Fax: (860) 827-2950

December 24, 2002

Peter W. van Wilgen
Southwestern Bell Mobile Systems, LLC
500 Enterprise Drive
Rocky Hill, CT 06067-3900

RE: **EM-CING-041-068-082-095-115-154-021212** - Southwestern Bell Mobile Systems, LLC d/b/a Cingular Wireless notice of intent to modify existing telecommunications facilities located in East Haddam, Kent, Middlefield, New London, Prospect, and Westbrook, Connecticut.

Dear Mr. van Wilgen:

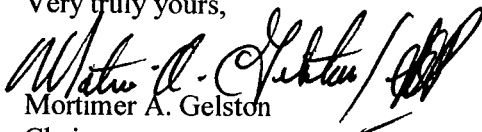
At a public meeting held on October 7, 2002, the Connecticut Siting Council (Council) acknowledged your notice to modify these existing telecommunications facilities, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the condition that, in New London, SBMS either strengthens the tower or removes existing antennas per the recommendations of Bayar Engineering and that a professional engineer certify to the Council the successful implementation of such measures.

The proposed modifications are to be implemented as specified here and in your notice dated December 11, 2002 and additional correspondence received on December 17, 2002. 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 sites that would not increase tower heights, extend the boundaries of the tower site, increase noise levels at the tower site boundaries by six decibels, and increase the total radio frequencies electromagnetic radiation power density 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. Any additional change to 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,


Mortimer A. Gelston
Chairman

MAG/DM/laf

c: See attached list.

List Attachment.

- c: Honorable Susan D. Mellow, First Selectman, Town of East Haddam
- James Ventres, Land-Use Administrator, Town of East Haddam
- Honorable Dolores R. Schiesel, First Selectman, Town of Kent
- Judith Wick, Zoning Enforcement Officer, Town of Kent
- Honorable Charles R. Augur, First Selectman, Town of Middlefield
- Geoffrey Colegrove, Town Planner, Town of Middlefield
- Honorable Lloyd H. Beachy, Mayor, City of New London
- Richard M. Brown, City Manager, City of New London
- Susan Brant, Zoning Enforcement Officer, City of New London
- Honorable Robert J. Chatfield, Mayor, Town of Prospect
- William J. Donovan, Zoning Enforcement Officer, Town of Prospect
- Honorable Tony A. Palermo, First Selectman, Town of Westbrook
- Anthony Beccia, Zoning Enforcement Officer, Town of Westbrook

cingular

RECEIVED

DEC 17 2002

WIRELESS CONNECTICUT SITING COUNCIL

FACSIMILE TRANSMITTAL SHEET

TO: DAVE MARTIN FROM: STEVE LEVINE

COMPANY: CT SITING COUNCIL DATE: 12-17-02

FAX NUMBER: 827-2950 TOTAL NO. OF PAGES INCLUDING COVER: 6

PHONE NUMBER: SENDER'S REFERENCE NUMBER:

RE: YOUR REFERENCE NUMBER:

STRUCTURAL LETTER FOR WASHINGTON ST, NEW LONDON SITE - CSC AGENDA ITEM # 31, 12-19-02 MFG.

- URGENT
- FOR REVIEW
- PLEASE COMMENT
- PLEASE REPLY
- PLEASE RECYCLE

NOTES/COMMENTS:

STRUCTURAL LETTER, AS PROMISED.
CERTIFICATION OF HORN ANTENNA
REMOVAL WILL FOLLOW.

Thanks.
[Signature]

BE BAYAR ENGINEERING, P.C.
 Structural Engineers
 P.O. Box 1287, Port Chester, N.Y. 10573-8287
 TEL: (914) 881-8748 FAX: (914) 421-0416

Demirtas C. Bayar, P.E.

RECEIVED

December 5, 2002

DEC 17 2002

**CONNECTICUT
SITING COUNCIL**

RECEIVED
 DEC 14 2002
 By _____

Mr. V. G. Duvall
 Director of Engineering
 o2wireless Solutions
 10430 Rodgers Road
 Houston, TX 77070

Re: New London, CT tower
 BE Job No. 0217-B

Dear Mr. Duvall,

We analyzed the existing 128'-5" tower located on the roof of the SNET building at 26 Washington Street, New London, CT for a condition of replacing the existing 9 DB846H80 cellular antennas with 9 new cellular antennas that have maximum dimensions of 48"x14"x9". Two antennas in each sector will receive a TMA diplexer. Sketch No. 0217-B shows the existing and the proposed new antenna configuration.

This tower is composed of a 78'-5" building extension and a 50'-0" type "M" tower above the building extension. Our previous analysis of the tower was made for the existing antenna configuration as follows:

- 2 - 10' parabolic antennas 10' above the top platform.
- 2 - KS15676 horn antennas 7' above the top platform.
- 1 - 6' parabolic antenna 5' below the top platform.
- 1 - 8' parabolic antenna 11' below the top platform.
- 9 - DB840 cellular antennas 36' above the base of the type M tower.
- 6 - Sprint cellular antennas 23' above the base of the type M tower.

This previous analysis indicated that the cross bracing members at the second panel above the roof of the building extension was overstressed by 3.2%. Other parts of the tower were adequate. We believe that this condition exists at present. By replacing the (9) DB840 antennas with the new cellular antennas the overstress now will become 4.5%. Our latest analysis indicates that other than the above mentioned members all other members of the tower are adequate to support the proposed loading conditions.

BAYAR ENGINEERING, P.C.

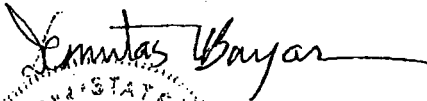
Page 2.

One way to eliminate the overstress is to strengthen the tower. The alternative to strengthening the steel members in order to remove the overstresses would be to remove the existing 6' and the 8' parabolic antennas that are now located on the type M tower. The relative elevations of these antennas are shown on Sketch No. 0217-B. These removals will then make the type M tower and the building extension adequate to support the loads that are imposed on them without overstressing any member.

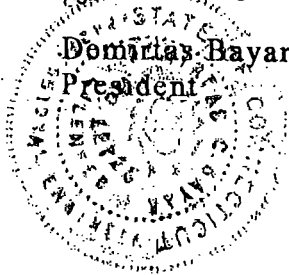
Removal of the two KS15676 horn antennas located above the type M tower will also make the type M tower and the building extension adequate to support the loads imposed on them.

Kindly give us a call should you wish to further discuss any of the items in this report.

Yours truly,



Dominick Bayar, P.E.
President

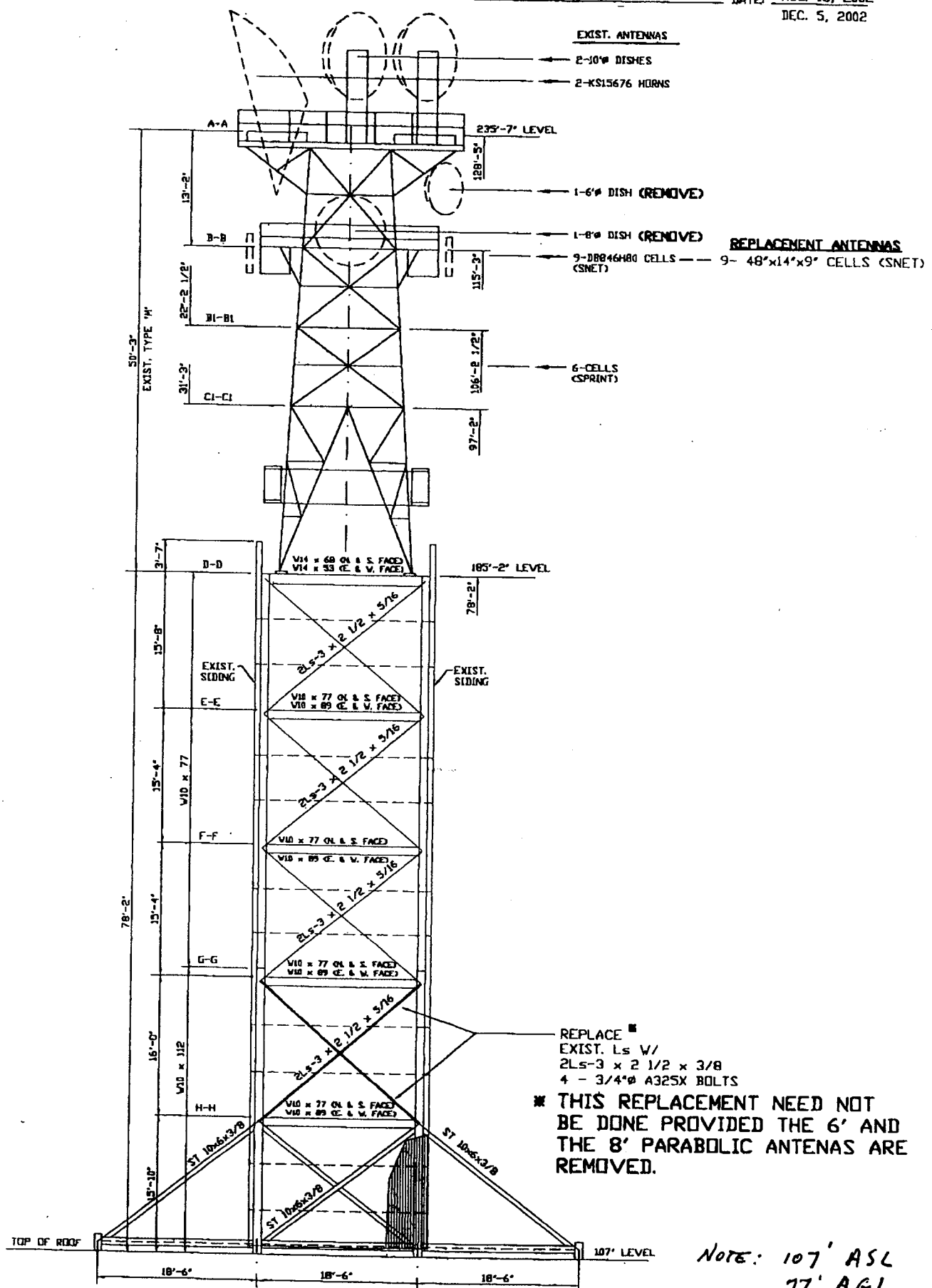


BAYAR ENGINEERING, P.C.

Project NEW LONDON, CT., 26 WASHINGTON ST. EXIST. 78'-2" STRUCTURE + 50' TYPE 'M'

SKETCH NO. 0217-B

DATE: AUG. 15, 2002
DEC. 5, 2002



TOWER ELEVATION

URS Greiner Woodward-Clyde, Inc. A U.S.

Site # 80
New London
26 Washington Street
New London, Connecticut

ELEVATIONS:

Ground Elevation:	30' AMSL
Note: All subsequent measurements are distances above ground elevation (AGL)	
Top of Structure (description: lattice tower on building)	206.1'
Highest Point (description: lighting rod)	225.3'
Top of Building (top of parapet)	82.2'

APPURTENANCES:

Top of SNET Antennas (8)	196.3'
(1)	194.3'
Top of Antenna (1)	220.4'
Top of Antenna (1)	220.1
Top of Antennas (2)	219.6'
Top of Antenna (1)	204.9'
Top of Antenna (1)	204.2'
Top of Antenna (1)	174.6'
Top of Lighting Rod	225.3'

SITE INFORMATION:

Latitude (Center of Structure)	41° 21' 13.61"
Longitude (Center of Structure)	72° 05' 54.05"
NAD 27 Values obtained by field survey.	

Latitude (Center of Structure)	41° 21' 13.97"
Longitude (Center of Structure)	72° 05' 52.33"
NAD 83 Values obtained with NADCON.	

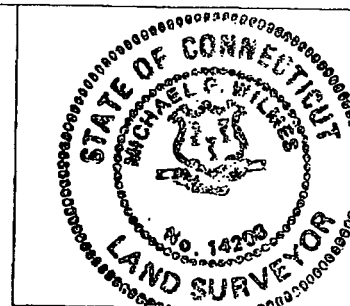
FAA/FCC INFORMATION:

FCC Tower Registration Number: "Not Evident"
 FAA Marking/Lighting: Red Lights, Painted

Locations were determined by traverse from CGS monuments. Elevations were determined using differential leveling from a CGS monument.

I certify that the latitude and longitude noted hereon are accurate to within ± 3 feet horizontally, and that the site elevation is accurate to within ± 1 foot vertically and meets FAA Accuracy Code of 1-A.

To my knowledge and belief this survey is substantially correct as noted hereon.



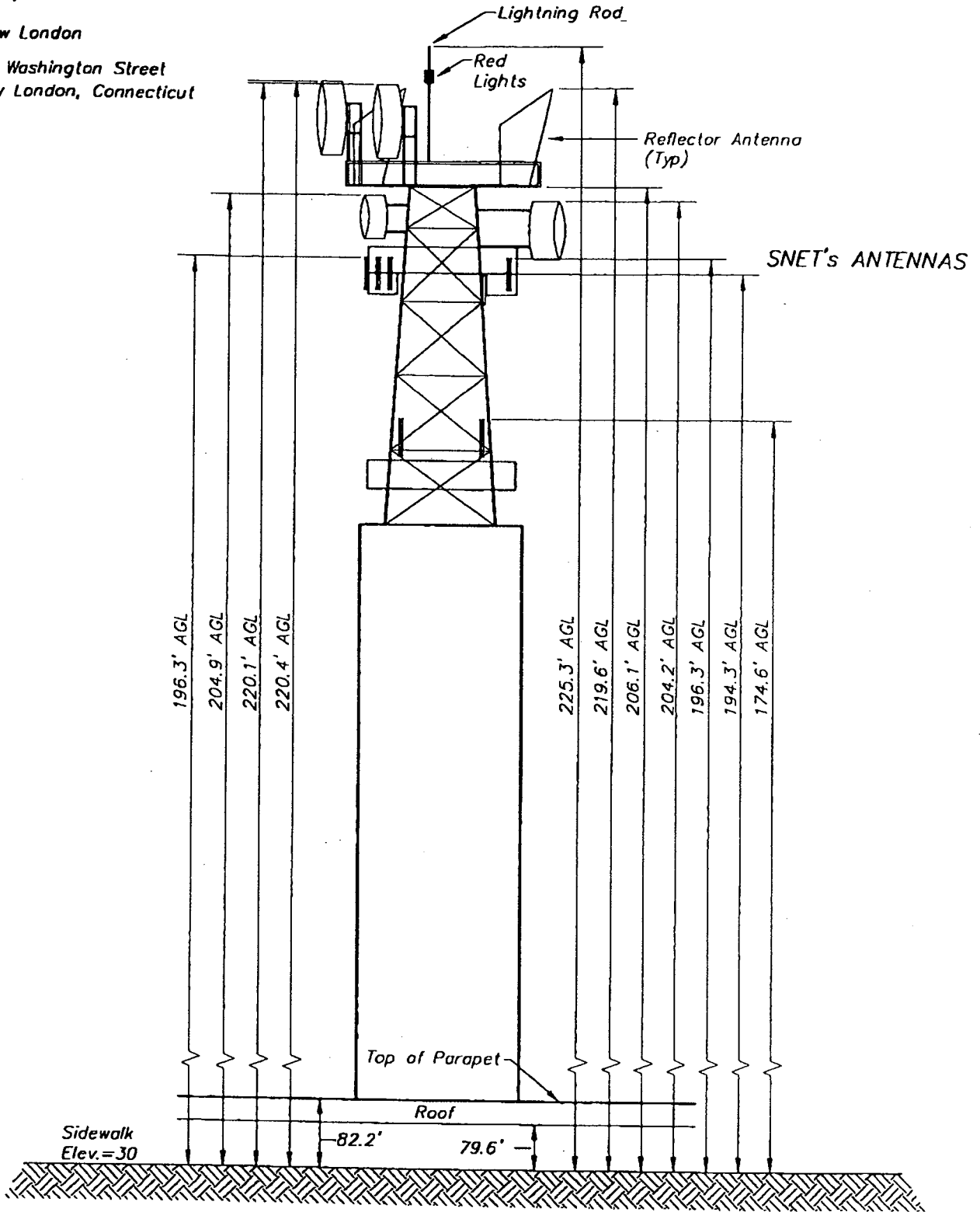
Michael G. Wilmes
 Michael G. Wilmes, L.S.

License No. 14206

April 15, 1999

SNET MOBILITY, INC.

SITE NAME: New London
ADDRESS: 26 Washington Street
 New London, Connecticut



EAST TOWER ELEVATION

NOTE:

- ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

URS Greiner Woodward Clyde

Surveying and Mapping by:
URS Greiner Woodward-Clyde, Inc. A-E-S
 500 Enterprise Drive, Suite 3B
 Rocky Hill, Connecticut 06067-4002
 Tel. (860) 529-8882

Scale: NTS
 Date: APRIL 1999

Field book # 1467-47	Crew Chief F. SEGALINE	Project # F3-00001787.17	
Search # ~	Drawn by E. LEWIS	Checked by [Signature]	Map Title # 2 of 4



Southwestern Bell Mobile Systems, LLC
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 513-7730
Fax: (860) 513-7190

Peter W. van Wilgen
Senior Manager - Construction

HAND DELIVERED

December 11, 2002

RECEIVED

DEC 11 2002

CONNECTICUT
SITING COUNCIL

Mr. Mortimer A. Gelston, Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Re: Southwestern Bell Mobile Systems, LLC notice of intent to modify existing telecommunications facilities located in East Haddam (GSM prev. EM-CING-041-020913), Kent (GSM prev. EM-CING-068-020730), Middlefield (GSM prev. EM-CING-082-020702), New London, and Prospect (GSM prev. EM-CING-115-020828); with structural update for Westbrook (GSM prev. EM-CING-154-020828).

Dear Mr. Gelston:

In order to accommodate technological changes, implement E-911 capability and enhance system performance, Southwestern Bell Mobile Systems, LLC ("SNET" or "Cingular Wireless"; formerly SNET Mobility, LLC) plans to modify the antenna configurations at 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 located.

Attached are summary sheets detailing the planned changes, including power density calculations reflecting the change in the effect of Cingular's operations at each 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. The height of the overall structure will be unaffected. At almost all sites, new panel antennas approximately the same size will replace those previously installed. Tower mount amplifiers, approximately 5" x 9" x 13", will be added to the platform on which the panel antennas are mounted to enhance signal reception at the cell site. In addition, the mandated provision of E-911 capability *may* require installation of one LMU ("location measurement unit"), approximately nine inches high, on either the tower, the equipment shelter, or the ice bridge. At this writing, however, it appears that the new panel antennas will serve this purpose as well. One GPS receive-only antenna will be attached to the equipment shelter at each site. None of the 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.
3. The proposed changes will not increase the noise level at the existing facility by six decibels or more.
4. Radio frequency power density will increase due to use of additional channels broadcasting at higher power. 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).

Also attached to this letter, please find the resolution of one or more conditional approval(s) recently granted by the Council.

Please feel free to call me at (860) 513-7730 with questions concerning these matters. Thank you for your consideration.

Sincerely,



Peter W. van Wilgen
Senior Manager - Construction

Enclosures

**CINGULAR WIRELESS
Antenna Modification -REVISED**

Site Address: 126 Parker Road, East Haddam
Co-location approved July 6, 1989
EM-CING-041-020913 approved 9/25/02

Tower Owner/Manager: Century Cable Management Corp.

Antenna configuration Antenna center line – 188
Heavier coax cables

Current and/or approved: 9 CSS DUO1417-8686-4-0 or comparable
6 tower mount amplifiers
Nine 7/8 inch coax cables

Planned: 9 CSS DUO1417-8686-4-0 or comparable
6 tower mount amplifiers
9 1-5/8 inch coax cables

Power Density:

Calculations for Cingular's currently-approved operations at the site indicate a radio frequency electromagnetic radiation power density, measured at the tower base, of approximately 4.7% of the standard adopted by the FCC. No change will result from this modification.

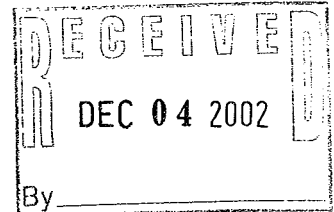
Cingular Currently-Approved and Planned

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
SNET TDMA	188	880 - 894	16	100	0.0163	0.5867	2.8
SNET GSM	188	880 - 894	2	296	0.0060	0.5867	1.0
SNET GSM	188	1930 - 1935	2	427	0.0087	1.0000	0.9
Total							4.7%

Structural information: Please see attached.



o2 wireless Solutions



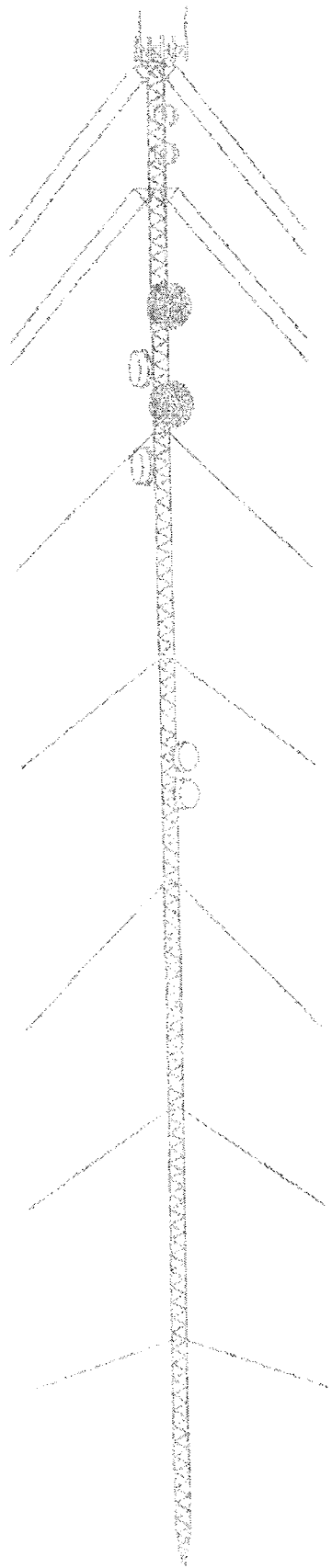
**GUYED TOWER
STRUCTURAL ANALYSIS REPORT**

for

BECHTEL CORPORATION
175 CAPITAL BOULEVARD
SUITE 100
ROCKY HILL, CT 06067

November 26, 2002
Revision 1

SITE:
East Haddam 2053
Middlesex County, CT
300' Guyed Tower
Project Designer: Hachem k. Domloj
o2wireless Job No. 103-3637-07



INTRODUCTION

This report summarizes the results of the structural analysis performed on the 300' guyed tower at the East Haddam site in Middlesex County, Connecticut. The tower analysis was performed using 1999 GuyMast/Mast program.

ANALYSIS CRITERIA

The tower was analyzed for the specified loads in accordance with the current EIA-222-F publication, "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures." This analysis derives its applied forces from EIA minimum 85 MPH basic wind speed with no ice accumulation and 74 MPH wind speed with 1/2" ice.

TOWER LOADING INFORMATION

Bechtel Corporation requested o2wireless Solutions analyze the tower to verify its structural integrity under the following antenna and transmission line loading:

ELEVATION	STATUS	DESCRIPTION	LINE
297'	EXISTING	1- 12' YAGI	1- 3/8" COAX
294'	EXISTING	1- 8' YAGI	1- 5/8" COAX
293'	EXISTING	1- LINSAY 4- 8' ELEMENT	NONE
288'	EXISTING	1- 6' YAGI	1- 3/8" COAX
288'	EXISTING	1- LINSAY 4- 8' ELEMENT	NONE
262'	EXISTING	1- 6' YAGI	1- 3/8" COAX
259'	EXISTING	2- 10' YAGI	2- 3/8" COAX
256'	EXISTING	1- 10' YAGI	1- 3/8" COAX
251'	EXISTING	2- 10' YAGI	2- 3/8" COAX
245'	EXISTING	2- 10' YAGI	2- 3/8" COAX
238'	EXISTING	2- 10' YAGI	2- 3/8" COAX
225'	EXISTING	2- 5' WHIP	1- 3/8" COAX
214'	EXISTING	1- 5' WHIP	1- 3/8" COAX
208'	EXISTING	1- 5' WHIP	SHARED W/ 214'
196'	EXISTING	2- 12' WHIP	2- 1 5/8" COAX
196'	EXISTING	1- 8' WHIP	1- 1/2" COAX
194'	EXISTING	1- 8' WHIP	1- 1 1/4" COAX
191'	EXISTING	1- 10' YAGI	1- 3/8" COAX
188'	PROPOSED	9- DUO1417-8686-4-0 *	9- 1 5/8" COAX
181'	EXISTING	2- 4' 6" YAGI	2- 3/8" COAX
171'	EXISTING	1- 4' 6" YAGI	1- 3/8" COAX
161'	EXISTING	1- 4' 6" YAGI	1- 3/8" COAX
141'	EXISTING	1- 4' 6" YAGI	1- 3/8" COAX
129'	EXISTING	1- 4' 6" YAGI	1- 3/8" COAX

* 6 DDD TMA 1900 to accompany the antennas at level 188'.

AVAILABLE DOCUMENTS

- All tower data information, antenna types and locations were obtained from tower mapping.
- RF sheet.

RESULTS

The graphs enclosed summarize the results of the tower study and itemize the structural components, specifying member function, elevation, and size. Values for allowable and actual member loads are reported along with the corresponding allowable wind conditions. The graphs summarize the existing structural components and their corresponding applied loads.

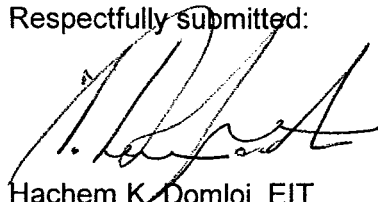
CONCLUSIONS AND RECOMMENDATIONS:

The East Haddam tower will support the proposed loading and meet the requirements of the EIA Standard without any modifications required. The analysis is reflected in run GM3637-07 and shown in the drawing pages.

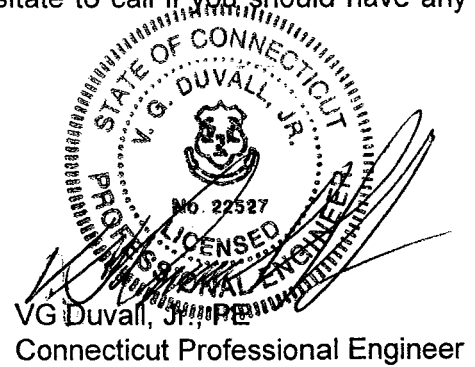
Information on the foundations and geotechnical report were not provided, thus, precluding any comments on their performance under the proposed loading criteria.

Thank you for this opportunity to work with you and do not hesitate to call if you should have any questions.

Respectfully submitted:



Hachem K. Domloj, EIT
Project Designer



VG Duvall, Jr., PE
Connecticut Professional Engineer



Southwestern Bell Mobile Systems, LLC
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 513-7730
Fax: (860) 513-7190

Peter W. van Wilgen
Senior Manager - Construction

December 11, 2002

Honorable Susan D. Merrow
First Selectman, Town of East Haddam
Town Office Bldg., 7 Main St.
East Haddam, CT 06423

Re: Telecommunications facility – 126 Parker Road -- REVISED

Dear Ms. Merrow:

In order to meet the requirements for improved E-911 capability and to implement a more advanced telecommunications system, Southwestern Bell Mobile Systems, LLC, a/k/a Cingular Wireless (“SBMS” or “Cingular”; formerly SNET Mobility, LLC) will be changing its antenna configuration at certain cell sites. Cingular will install panel antennas, heavier coax cables, and small amplifiers on the tower. 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 fully describes Cingular’s proposal. 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) 513-7730 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

Peter W. van Wilgen
Senior Manager – Construction

Enclosure

Cingular Planned

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
Cingular TDMA	182	880 - 894	19	100	0.0206	0.5867	3.5
Cingular GSM	160	880 - 894	2	296	0.0083	0.5867	1.4
Cingular GSM	160	1930 - 1935	2	427	0.0120	1.0000	1.2
Total							6.1%

Structural information:

Please see attached.



SpectraSite

RE: CT-0014 [Kent]
 Structural Evaluation of 180' EEI Monopole
 136 Bulls Bridge Road
 Kent, CT 06757
 Litchfield County

Date: November 19, 2002

SpectraSite Engineering has performed a *Level 1 evaluation*¹ for the above-noted tower. The evaluation was based on the requirements of the TIA/EIA-222-F Standard for a basic wind speed of **80 mph** without ice and 75% of the wind load with 1/2" radial ice.

Table 1. Existing and Proposed Antennas

ELEVATION (Ft-AGL)	ANTENNA	CARRIER	COAX*	NOTES
185	(3) Ant-Special ASP-952 w/ Low Profile Platform Mount	Cingular	(3) 1-1/4"	Existing
171	(3) Antel LPD-7907/4 (3) Antel RWA-80012 (2) Allgon 7262.01 w/ Low Profile Platform Mount	AT&T	(3) 1-1/4" (3) 1-1/4" (4) 1-5/8"	Existing
160	(9) CSS DUO1417-8686 w/ Low Profile Platform Mount	Cingular	(9) 1-5/8"	Proposed
143	(2) Decibel DB809K-XT w/ Sidearm Mount	CT State Police Dept.	(4) 1-5/8"	Existing
125	(2) Decibel DB980H90T4E-M (4) Decibel DB980H90T3E-M w/ Low Profile Platform Mount	Sprint	(2) 7/8" (4) 1-5/8"	Existing
119	(1) 2' Dish w/ Pipe Mount	WMNR	(1) 7/8"	Existing

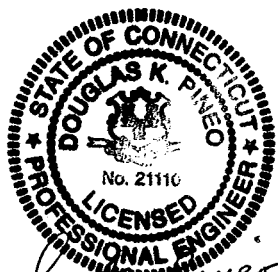
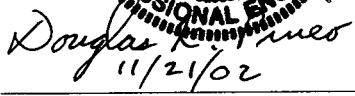
*Coax installed inside monopole.

The subject tower and foundation are *adequate* to support the above stated loads and *in conformance* with the requirements of TIA/EIA-222-F Standard.

The tower should be re-evaluated as future loads are added or if actual loads are found different from those mentioned in Table 1.

Should any questions arise concerning this report, please contact the undersigned.


 Ashley Miller
 Engineering Associate
 (919) 466-5527



 Douglas K. Pineo, P.E.
 Senior Design Engineer

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Connecticut.

- 1 *Level 1 evaluation* means:
- the applied (existing and proposed) loads (Table 1) on the tower are compared to the original design loads,
 - the design wind criteria is compared to the recent code requirements.

LEVINE, STEVEN

To: File
Subject: 1008-Kent-(CT-0014) (Bull's Bridge Rd.)

RE: Bull's Bridge Road ---- TMA's included in 11/02 structural analysis.

-----Original Message-----

From: Nugent, Hubert [mailto:hsnugent@bechtel.com]
Sent: Wednesday, December 04, 2002 9:53 AM
To: STEVEN LEVINE (E-mail); AARON D. BRODBAR (E-mail)
Cc: Ellen Dalmus (E-mail)
Subject: FW: 1008-Kent-(CT-0014)

Please see below. Note that 1008-Kent-(CT0014)-did consider the TMA's. This was noted in the earlier rev., but the latest, which was done to reflect larger coax., does not explicitly note this. Thanks, Hugh

-----Original Message-----

From: Harris, Mona [mailto:Mona.Harris@spectrasite.com]
Sent: Wednesday, December 04, 2002 9:41 AM
To: Nugent, Hubert
Subject: RE: 1008-Kent-(CT-0014) & 1014-Berlin-(CT-0019)

Hugh,

Yes, TMA's were included in the analysis for CT-0014, we generally don't document this on the structural since they are installed behind the existing antennas.

Give me a call should you wish to discuss further.

Mona Harris
Project Manager - Northeast
office: 919-466-5542
mobile: 919-795-0624

-----Original Message-----

From: Nugent, Hubert [mailto:hsnugent@bechtel.com]
Sent: Wednesday, December 04, 2002 8:31 AM
To: Scott Lewis (E-mail); Mona Harris (E-mail)
Cc: Mincks, Nicholas
Subject: 1008-Kent-(CT-0014) & 1014-Berlin-(CT-0019)

For 1008-Kent CT-0014- were TMA's included in latest analysis?...they were in the earlier, July 2002, but it is not clear from the recent. This is probably just editorial, but Cingular is asking.
Thanks, Hugh

12/4/02



Southwestern Bell Mobile Systems, LLC
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 513-7730
Fax: (860) 513-7190

Peter W. van Wilgen
Senior Manager - Construction

December 11, 2002

Honorable Dolores R. Schiesel
First Selectman
Town Hall
41 Kent Green Boulevard, P.O. Box 678
Kent, Connecticut 06757-0678

Re: Telecommunications facility – Bulls Bridge Road --- REVISED and CORRECTED

Dear Ms. Schiesel:

In order to meet the requirements for improved E-911 capability and to implement a more advanced telecommunications system, Southwestern Bell Mobile Systems, LLC, a/k/a Cingular Wireless (“SBMS” or “Cingular”; formerly SNET Mobility, LLC) will be changing its antenna configuration at certain cell sites. Cingular will install panel antennas and small amplifiers on the tower. 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 fully describes Cingular’s proposal. 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) 513-7730 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

Peter W. van Wilgen
Senior Manager – Construction

Enclosure

CINGULAR WIRELESS
Antenna Modification ---- REVISED

Site Address: 134 Kikapoo Road, Middlefield
Docket No. 40
EM-CING-082-020702 (acknowledged 7/11/02)

Tower Owner/Manager: Southwestern Bell Mobile Systems, LLC;
managed by SpectraSite Communications, Inc.

Antenna configuration Antenna center line – 77' / 78'
1 additional panel antenna

Current and/or approved: 9 DUO4-8670 panels or comparable at 77 ft
6 tower mount amplifiers
1 LMU (at 19.75')

Planned: 10 DUO1417-8686 panels or comparable at 78 ft
6 tower mount amplifiers

Power Density:

Calculations for Cingular's formerly-approved operations at the site indicate a radio frequency electromagnetic radiation power density, measured at the tower base, of approximately 27.8% of the standard adopted by the FCC. As depicted in the second table below, the total radio frequency electromagnetic radiation power density for Cingular's planned operations would be approximately 27.1%, or a decrease of 0.7% of the standard.

Cingular Approved

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
Cingular TDMA	77	880 - 894	16	100	0.0970	0.5867	16.5
Cingular GSM	77	880 - 894	2	296	0.0359	0.5867	6.1
Cingular GSM	77	1930 - 1935	2	427	0.0518	1.0000	5.2
Total							27.8%

Cingular Planned

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
Cingular TDMA	78	880 - 894	16	100	0.0946	0.5867	16.1
Cingular GSM	78	880 - 894	2	296	0.0350	0.5867	6.0
Cingular GSM	78	1930 - 1935	2	427	0.0505	1.0000	5.0
Total							27.1%

Structural information: Please see attached.



RE: CT-0021 [Mdfd-Middlefield]
 Structural Evaluation of 79' Monopole
 134 Kikapoo Road
 Middlefield, CT 06450
 Middlesex County

Date: November 18, 2002

SpectraSite Engineering has performed a *Level 1 evaluation*¹ for the above-noted tower. The evaluation was based on the requirements of the TIA/EIA-222-F Standard for a basic wind speed of **85 mph** without ice and 75% of the wind load with 1/2" radial ice.

Table 1. Existing and Proposed Antennas


ELEVATION (Ft-AGL)	ANTENNA	CARRIER	COAX*	NOTES
84.0 82.5 77.0	(2) 10' Omni (2) 9' Omni (10) Swedcom ALP 11011 on Platform Mount with Handrails	Cingular	(2) 1-1/4" (2) 1-1/4" (10) 7/8"	Remove Existing
84.0 82.5 78.0 78.0	(2) 10' Omni (2) 9' Omni (10) CSS DUO1417-8686 (6) Amplifiers on Platform Mount with Handrails	Cingular	(2) 1-1/4" (2) 1-1/4" (10) 7/8"	Proposed Replacement
19.75	(1) Nokia CS72187.01 On Standoff Mount	Cingular	(1) 1/2"	Proposed

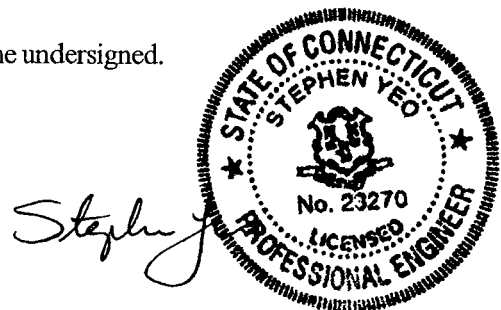
*Coax installed inside monopole.

The subject tower and foundation are *adequate* to support the above stated loads and *in conformance* with the requirements of TIA/EIA-222-F Standard.

The tower should be re-evaluated as future loads are added or if actual loads are found different from those mentioned in Table 1.

Should any questions arise concerning this report please contact the undersigned.


 Jason R. Manners, E.I.
 Engineering Associate
 919/466-4833

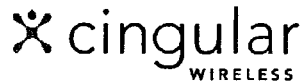


NOV 19 2002
 Stephen Yeo, P.E.
 Structural Design Manager

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Connecticut.

¹ Level 1 evaluation means:

- the applied (existing and proposed) loads (Table 1) on the tower are compared to the original design loads,
- the design wind criteria is compared to the recent code requirements.



Southwestern Bell Mobile Systems, LLC
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 513-7730
Fax: (860) 513-7190

Peter W. van Wilgen
Senior Manager - Construction

December 11, 2002

Honorable Charles R. Augur
First Selectman
Town Administration Building
393 Jackson Hill Road, P.O. Box 179
Middlefield, Connecticut 06455-0179

Re: Telecommunications facility – Kikapoo Road --- REVISED

Dear Mr. Augur:

In order to meet the requirements for improved E-911 capability and to implement a more advanced telecommunications system, Southwestern Bell Mobile Systems, LLC, a/k/a Cingular Wireless (“SBMS” or “Cingular”; formerly SNET Mobility, LLC) will be changing its antenna configuration at certain cell sites. Cingular will install panel antennas and amplifiers on the tower. 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 fully describes Cingular’s proposal. 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) 513-7730 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

Peter W. van Wilgen
Senior Manager – Construction

Enclosure

Structural information:

Please see the attached document, which is a draft structural analysis letter from Bayar Engineering. SBMS expects to receive the letter in final form (P.E. stamped) in the next few days, and we will make every effort to provide the final document prior to the Council meeting of December 19, 2002. Should the final letter not arrive in time for the meeting, we request that the New London matter be tabled.

According to this structural analysis, the tower would be overstressed if SBMS simply mounted its equipment without taking other measures. Removal of two existing parabolic antennas or two 1-ton microwave horn reflectors will restore more-than-ample structural capacity to accommodate the SBMS proposal. At this writing, SBMS' plan is to remove the horn reflectors.

December 5, 2002

Mr. V. G. Duvall
Director of Engineering
o2wireless Solutions
10430 Rodgers Road
Houston, TX 77070

DRAFT

Re: New London, CT tower
BE Job No. 0217-B

Dear Mr. Duvall,

We analyzed the existing 128'-5" tower located on the roof of the SNET building at 26 Washington Street, New London, CT for a condition of replacing the existing 9 DB846H80 cellular antennas with 9 new cellular antennas that have maximum dimensions of 48"x14"x9". Two antennas in each sector will receive a TMA diplexer. Sketch No. 0217-B shows the existing and the proposed new antenna configuration.

This tower is composed of a 78'-5" building extension and a 50'-0" type "M" tower above the building extension. Our previous analysis of the tower was made for the existing antenna configuration as follows:

- 2 - 10' parabolic antennas 10' above the top platform.
- 2 - KS15676 horn antennas 7' above the top platform.
- 1 - 6' parabolic antenna 5' below the top platform.
- 1 - 8' parabolic antenna 11' below the top platform.
- 9 - DB840 cellular antennas 36' above the base of the type M tower.
- 6 - Sprint cellular antennas 23' above the base of the type M tower.

This previous analysis indicated that the cross bracing members at the second panel above the roof of the building extension was overstressed by 3.2%. Other parts of the tower were adequate. We believe that this condition exists at present. By replacing the (9) DB840 antennas with the new cellular antennas the overstress now will become 4.5%. Our latest analysis indicates that other than the above mentioned members all other members of the tower are adequate to support the proposed loading conditions.

Page 2.

One way to eliminate the overstress is to strengthen the tower. The alternative to strengthening the steel members in order to remove the overstresses would be to remove the existing 6' and the 8' parabolic antennas that are now located on the type M tower. The relative elevations of these antennas are shown on Sketch No. 0217-B. These removals will then make the type M tower and the building extension adequate to support the loads that are imposed on them without overstressing any member.

Removal of the two KS15676 horn antennas located above the type M tower will also make the type M tower and the building extension adequate to support the loads imposed on them.

Kindly give us a call should you wish to further discuss any of the items in this report.

Yours truly,

Demirtas Bayar, P.E.
President

DRAFT



Southwestern Bell Mobile Systems, LLC
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 513-7730
Fax: (860) 513-7190

Peter W. van Wilgen
Senior Manager - Construction

December 11, 2002

Hon. Richard M. Brown
City Manager, City of New London
City Hall, 181 State St.
New London, CT 06320

Re: Telecommunications facility – 26 Washington Street

Dear Mr. Brown:

In order to meet the requirements for improved E-911 capability and to implement a more advanced telecommunications system, Southwestern Bell Mobile Systems, LLC, a/k/a Cingular Wireless (“SBMS” or “Cingular”; formerly SNET Mobility, LLC) will be changing its antenna 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 fully describes Cingular’s proposal. 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) 513-7730 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

Peter W. van Wilgen
Senior Manager – Construction

Enclosure

**CINGULAR WIRELESS
Antenna Modification --REVISED**

Site Address: 54 Waterbury Road, Prospect
TS-SCLP-115-990315
EM-CING-115-020828 approved 9/5/02

Tower Owner/Manager: Charles Bradshaw

Antenna configuration Antenna Centerline – 124 ft
Pre-existing RS90's to remain

Current and/or approved: Two EMS MB96RR900200 panels or comparable
4 tower mount amplifiers

Planned: Two RS90-12-00-A2 panels (pre-existing)
Two EMS MB96RR900200 panels or comparable
4 tower mount amplifiers

Power Density:

Calculations for Cingular's currently-approved operations at the site indicate a radio frequency electromagnetic radiation power density, measured at the tower base, of approximately 10.7 % of the standard adopted by the FCC. Retaining the pre-existing RS90 antennas in addition to the approved array, will result in no change in the number of channels used or their powers, and therefore no change in power density

Cingular Current and Planned

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
SBMS TDMA	124	880 - 894	16	100	0.0374	0.5867	6.4
SBMS GSM	124	880 - 894	2	296	0.0138	0.5867	2.4
SBMS GSM	124	1930 - 1935	2	427	0.0200	1.0000	2.0
Total							10.7%

Structural information: Please see attached.

GEM ENGINEERING COMPANY

2500 Wilcrest, Suite 100
Houston, Texas 77042

Phone 713-339-1550
Fax 713-339-9922



A Subsidiary
of Quanta
Services, Inc.



TOWER ANALYSIS REPORT

Bechtel Telecommunications

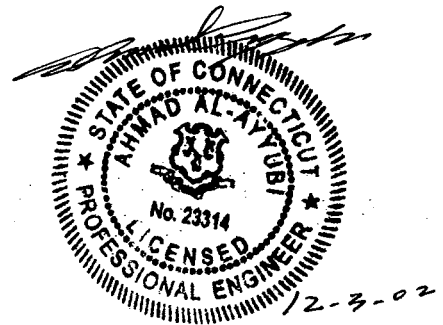
Site Name: Prospect-Bradshaw

Site Number: 2218

Prospect, CT

Revision 2

(160' Guyed Tower)



GEM Engineering Company, Inc.
November 27, 2002

Section 1 Introduction

The purpose of this report is to investigate the structural adequacy of an existing tower, to support the new antennas, in addition to the load from existing antennas.

The existing tower is a 160' guyed tower. Information on this tower and existing antennas was obtained from tower mapping. Information on new antennas was supplied by "Bechtel".

The new and existing antennas are listed in the "Tower Loading Information & Criteria" section. The main forces that are considered in the analysis of the tower are those resulting from wind. Per TIA/EIA-222-F, the basic wind speed for New Haven County in Connecticut is 85 mph with 1/2" ice. Wind load combination with ice includes reduction in the tower loading.

The tower was analyzed for the following load combination:

- Dead Load + Wind Load
- Dead Land + Wind Load + Ice

Allowable stresses were increased by 1/3 for these load combinations. This is according to TIA/EIA code. Dead Load consists of the loads due to the weight of all existing and future antennas, coaxes, tower members, and all related appurtenances.

Section 2 Tower Loading Information & Criteria

Customer Name: Bechtel
Site: Prospect-Bradshaw, CT

TOWER ANALYSIS DATA:

Tower Analysis Criteria: TIA-EIA-222-F

Tower Height: 160'

Ice Load: 0.5"

Wind Load: 85 mph

Frequency: -

ANTENNAS:

Model/Size	Carrier	Level	Azimuth	Existing / New	Mount Type	Coaxials
(1) Yagi		50'3"		E		(1) 1/2"φ
(1) 14' Whip		94'9"		E		(1) 1/2"φ
(1) 20' Omni		116'10"		E		(1) 7/8"φ
(2) RS90-12-00-A2		124'		E		(6) 1 5/8"φ
(2) MB96RR900200_BL and (4) TMA		124'		N		(4) 1 1/4"φ
(3) 16' Omni		140'6"		E		(3) 1 5/8"φ
(5) 12' Omni		160'		E		(5) 7/8"φ
(1) Yagi		160'		E		(1) 1/2"φ

Section 3 Results

Structural Element	Stress	Maximum Ratio	Notes
Legs	O.K.	0.672	-
Leg Bolts	O.K.	0.223	-
Diagonals	O.K.	0.656	-
Diagonal Bolts	N/A	-	Welded*
Girts	O.K.	0.205	-
Girt Bolts	N/A	-	Welded*
Guy Wires	O.K.	0.934	-

N/A = Not Applicable, N.G. = Not Good (Structurally)

Acceptable Maximum Ratio is 1.05

BASE REACTIONS	Down (k)	Horizontal (k)
Original Design Loads**	-	-
New Foundation Loads	59	0.55

GUY ANCHOR REACTIONS @ 115 ft.	Up (k)	Horizontal (k)
Original Design Loads**	-	-
New Foundation Loads	22.4	24.6

* A detailed analysis of the welded end connections has not been performed, as this was not a part of the scope of work. Based on engineering judgment and the acceptable stress ratios of the girts and diagonals, the welded end connections have been assumed to be adequate.

**The existing foundation could not be checked in the absence of the foundation drawings and the soil report of the site.

Section 4 Conclusions

The existing 160' guyed tower was analyzed for loadings from existing and new proposed antennas, including 85 mph basic wind speed & 0.5" ice load. The analysis shows that **the existing tower is structurally adequate** to support two (2) new antennas and their four (4) TMA's at elevation 124', in addition to all existing antennas loads.

Based on our visual inspection, along with our mapping done on 8/10/02, we found no damage to the physical structure of the tower, including the guy wires. For future guy wire maintenance, it is recommended to be maintained according to industry standard, such as TIA/EIA-222-F requirements.



Southwestern Bell Mobile Systems, LLC
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 513-7730
Fax: (860) 513-7190

Peter W. van Wilgen
Senior Manager - Construction

December 11, 2002

Honorable Robert J. Chatfield, Mayor
Town Office Building
36 Center Street
Prospect, Connecticut 06712-1669

Re: Telecommunications facility – 54 Waterbury Road --- REVISED

Dear Mayor Chatfield:

In order to meet the requirements for improved E-911 capability and to implement a more advanced telecommunications system, Southwestern Bell Mobile Systems, LLC, a/k/a Cingular Wireless (“SBMS” or “Cingular”; formerly SNET Mobility, LLC) will be changing its antenna configuration at certain cell sites. Cingular will install panel antennas and small amplifiers on the tower. 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 fully describes Cingular’s proposal. 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) 513-7730 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

Peter W. van Wilgen
Senior Manager – Construction

Enclosure



Southwestern Bell Mobile Systems, LLC
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 513-7636
Fax: (860) 513-7190

Steven L. Levine
Real Estate Consultant

December 11, 2002

Follow-up Structural Analyses Per Conditional Approvals

During the preceding months, the Council has given conditional approval to a number of exempt modification notices in connection with Cingular's GSM upgrade project. The Council is requiring certification that specified tower tests and/or repairs have been made prior to installation of Cingular's new equipment in some instances. This letter addresses the resolution of one or more of these conditions.

- Cingular is electing in some cases to reduce proposed tower loading to the extent that existing towers will support the load without strengthening. Confirmations in the form of new tower analyses are attached hereto. The reduced loads will have no effect, however, on power densities or other parameters.
- In other cases, the tower owner/manager has determined that Cingular's relatively minor modifications will not by themselves cause a tower to be overloaded. Confirmations in the form of new tower analyses are attached hereto. These are instances where multiple carriers have future co-location plans for the same tower and all were included in the original analysis. Where appropriate, the tower owner/manager has eliminated proposed modifications by other carriers from the analyses where: 1) the other carriers' proposed modifications are sufficient, by themselves, to cause overloading; 2) the other carriers are not as far advanced in their projects as Cingular and have no critical need to proceed immediately; and 3) the owner/manager has committed to upgrading the tower for the other carriers.
- Other miscellaneous requirements of the Council that have been satisfied are also listed below.

Attached are passing structural data for the following tower(s):

- 315 Spencer Plains Road, Westbrook (State Police Tower) - EM-CING-154-020828

Siting Council approval was conditioned on the completion of modifications described in a structural analysis dated 8/20/02. As explained in a newer structural analysis by URS

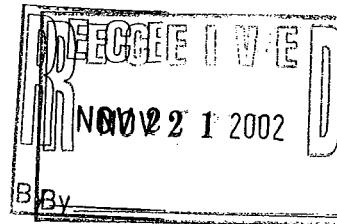
dated 10/4/02 and a supplementary letter dated 11/21/02 (both attached hereto), reinforcement had already been recommended to and completed by T-Mobile in 1998. These repairs were not reflected in the tower data first provided to SBMS by the State Police. Upon clarification of the facts, URS has certified that the existing tower is adequate to support the proposed Cingular equipment upgrades without further structural repairs.

Please feel free to call Steve Levine at (860) 513-7730 with questions concerning this matter. Thank you for your consideration.



November 21, 2002

Mr. Hugh Nugent
Bechtel Telecommunications
175 Capitol Boulevard, Suite 100
Rocky Hill, CT 06067



**Reference: Existing Telecommunications Facility
Cingular Wireless Site No.: 2047
315 Spencer Plains Road
Westbrook, Connecticut
36911725.0000**

Dear Mr. Nugent:

URS Corporation AES (URS) was retained by Bechtel Corporation to provide a tower analysis for upgrading the existing Cingular installation at the above referenced site. This letter serves as a supplement to the URS analysis dated October 04, 2002 Revision 2.

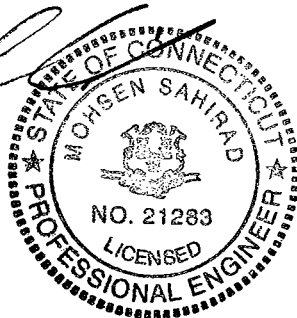
Based on all available tower geometry provided by the Connecticut State Police (tower owner), URS completed the analysis, which indicated an overstress in the horizontal members of the tower at elevation 83' 4". As a result, the URS analysis indicated that the tower would require reinforcing for the proposed Cingular antenna upgrades. On November 19, 2002, URS received additional information from the Connecticut State Police that the horizontal members at elevation 83 had already been reinforced. As such, this letter is to certify that the tower as reinforced is adequate to support the proposed Cingular antenna loading specified in the URS report dated October 4, 2002.

For additional information, assumptions and limitations, see the above referenced report. If you should have any questions, please call.

Sincerely,
URS Corporation AES


Mohsen Sahirad, P.E.
Senior Structural Engineer

MS/mks



cc: Doug Roberts - URS
Ignacio Artaiz - URS
Alitz Abadjian - URS
CF/Book

URS Corporation
500 Enterprise Drive, Suite 3B
Rocky Hill, CT 06067
Tel: 860.529.8882
Fax: 860.529.3991

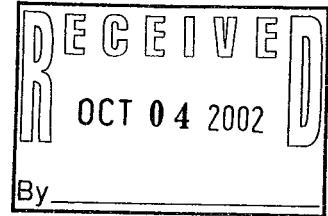
DETAILED STRUCTURAL ANALYSIS AND EVALUATION OF 180' EXISTING LATTICE TOWER FOR REPLACEMENT ANTENNA ARRANGEMENT WITH PROPOSED REINFORCEMENT

315 Spencer Plains Road
Westbrook, Connecticut
Site No.: 2047

prepared for



Cingular Wireless
500 Enterprise Drive, Suite 3A
Rocky Hill, CT 06067



prepared by



URS CORPORATION
795 BROOK STREET, BUILDING 5
ROCKY HILL, CT 06067
TEL. 860-529-8882

36911725.00000

Revision 2: October 04, 2002

1. EXECUTIVE SUMMARY

This report summarizes the structural analysis of the 180' lattice tower located on 315 Spencer Plains Road in Westbrook, Connecticut. The analysis was conducted in accordance with the Connecticut State Police requirements and the TIA/EIA-222-F standard for wind velocity of 90 mph concurrent with ½" ice design wind load. The antenna loading considered in the analysis consists of all existing and proposed antennas, transmission lines, and ancillary items as outlined in the Analysis Methodology and Loading Condition Section of this report. The proposed Cingular Wireless modification is to add the antennas listed below:

(9) DUO4-8670 antennas and (6) TMA
and (3) Duplexers with (3) T-Frame
mounts and (9) 1 1/4" coax cables

Cingular @ 148' elevation

The results of the analysis indicate that the original tower structure is overstressed with the proposed loading conditions. However, Techstar Communication, Inc. had performed an analysis dated June 4, 1998 for T-Mobile formally Omnipoint Communications. The report indicated that the tower would need to be reinforced. URS visited the site on October 4, 2002 and observed the tower from ground elevation concluding that the reinforcement has not been implemented as specified in the Techstar analysis. Therefore, URS reinforcement shall be implemented prior to the Cingular Wireless improvement. Upon completion of the of the reinforcement the tower and its foundation are considered feasible with the Connecticut State Police requirements and the TIA/EIA-222-F wind load classification specified above and all the existing and proposed antenna loading.

This analysis is based on:

- 1) The tower structure's theoretical capacity not including any assessment of the condition of the tower.
- 2) Tower and Foundation report prepared by Stainless Incorporated report no. 35881.
- 3) Antenna inventory as specified in section 2 and 6 of this report.
- 4) TIA/EIA-222-F wind load classification.

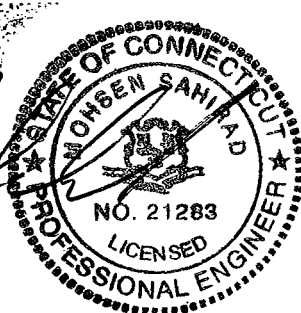
This report is only valid as per the assumptions and data utilized in this report for antenna inventory, mounts and associated cables. The user of this report shall field verify the assumption of the antenna and mount configuration. Notify the engineer in writing immediately if any of the assumptions in this report are found to be other than specified.

If you should have any questions, please call.

Sincerely,
URS Corporation AES



Mohsen Sahirad, P.E.
Senior Structural Engineer



MS/rmn

cc: Steve Levine – Cingular Wireless
Tim Burks – Cingular Wireless
Doug Roberts – URS
N.A. – URS
A.A. – URS
CF/Book

2. INTRODUCTION

The subject tower is located on 315 Spencer Plains Road in Westbrook, Connecticut. The structure is a self supporting 180' steel triangular tapered lattice tower manufactured by Stainless Incorporated.

The tower is constructed of pipe legs, diagonal angle braces and horizontal braces. The tower sections are all bolted together. The width of the face is 10'-7 3/16" at the top and 25' at the bottom. The tower geometry and structural member sizes were taken from Stainless Incorporated project no. 35881.

The existing structure supports several communication antennas. The antenna and mount configuration as specified below:

Load Type	Antennas Description	Elevation	Coax Lines
Existing	(4) Decibel DB806D Dual Whip Antennas, (1) Celwave BA6312 Omni Whip Antenna, (2) Celwave PD206 Yagi Antennas, and (1) 20' Dipole on Existing T-Frame Sector Mounts	180'	(8) 7/8" Coax
Existing	(2) Celwave PA6-65 6 ft. Diameter Dish Antenna with Radome on Existing Leg Mounts	177'	(2) 1 5/8" Coax
Existing	(1) Andrew P6-F 6 ft. Diameter Dish Antenna with Radome on Existing Leg Mount	170'	(1) 1 5/8" Coax
Existing	(1) Decibel DB225 Yagi Antenna on Existing Leg Mount	167'	(1) 7/8" Coax
Existing	(1) Celwave PAF4-19 4 ft. Diameter Dish Antenna with Radome on Existing Leg Mount	164'	(1) 1 5/8" Coax
Existing	(1) Decibel DB225 Yagi Antenna on Existing Leg Mount	155'	(1) 7/8" Coax
Existing	(9) EMS RR90-17-00DP Panel Antennas on Existing T-Frame Sector Mounts (To be Removed and Replaced with Proposed Antennas)	148'	(9) 1 1/4" Coax
Existing	(3) EMS RR90-17-00DP Panel Antennas on Existing T-Frame Sector Mounts	133'	(6) 1 1/4" Coax
Existing	(1) Celwave PD100543 Panel Antenna on Existing Leg Mount	122'	(1) 7/8" Coax
Existing	(1) Decibel DB225 Antenna on Existing Leg Mount	120'	(1) 7/8" Coax
Existing	(1) 4 ft. Paraflector Grid Dish Antenna on Existing Leg Mount	115'	(1) 7/8" Coax
Existing	(1) Celwave PD322 Antenna on Existing Leg Mount	100'	(1) 7/8" Coax
Existing	(1) Decibel PD340 Dipole Antenna on Existing Leg Mount	81'	(1) 7/8" Coax
Existing	(1) Decibel DB003MX7 Omni Whip Antenna on Existing Leg Mount	32'	(1) 1/2" Coax
Existing	(1) Decibel DB003MX7 Omni Whip Antenna on Existing Leg Mount	28'	(1) 1/2" Coax
Future State Police Antennas	(3) Celwave PA6-65 6 ft. Diameter Dish Antennas with Radome on Existing Tower Legs	180'	(3) 1 5/8" Coax
Proposed Cingular Antennas	(9) DUO4-8670 Panel Antennas and (6) TMA and (3) Duplexers on Existing T-Frame Sector Mounts	148'	Utilize Existing 1 1/4" Coax

This structural analysis of the communications tower was performed by URS Corporation, AES (URS) for Cingular Wireless. The purpose of this analysis was to investigate the structural integrity of the existing tower with its existing and proposed antenna loads. This analysis was conducted to evaluate twist (rotation), sway (deflection) and stress on the tower, and the effect of forces to the foundation of the tower resulting from existing and proposed antenna arrangements.

3. ANALYSIS METHODOLOGY AND LOADING CONDITIONS

Methodology:

The structural analysis was done in accordance with the Connecticut State Police requirements and the TIA/EIA-222-F June 1996, Structural Standard for Steel Antenna Towers and Antenna Supporting Structures, the American Institute of Steel Construction (AISC) and the Manual of Steel Construction; Allowable Stress Design (ASD).

The analysis was conducted using ERI Tower 2.0. One load condition was evaluated as shown below which was compared to allowable stresses according to AISC and TIA/EIA. The load combination was investigated in ERI Tower 2.0 to determine the stress, sway and rotation.

Load Condition 1 = 90 mph Wind Load (with ice) + Ice Load + Tower Dead Load

The TIA/EIA standard permits one-third increase in allowable stresses for towers and monopoles less than 700 feet tall. For purposes of this analysis, the allowable stresses of the tower members were increased by one-third in computing the load capacity; in addition, the appropriate "k" factors were assigned to each member.

4. FINDINGS AND EVALUATION

Upon the completion of the tower reinforcement, the combined axial and bending stresses on the reinforced tower structure were evaluated to compare with the allowable stress in accordance with AISC. The evaluation indicates that the reinforced tower legs, diagonal members, horizontal members and foundation have sufficient capacity to carry the loads applied.

The tower base reactions are as follows:

Proposed Reinforced Tower Reactions	
Compression (kips)	313
Uplift (kips)	257
Total Shear (kips)	60
Moment (kips-ft)	6330

For detailed proposed tower reactions, see drawing no. E-1 in section 6 of this report.

5. CONCLUSIONS

The results of the analysis indicate the reinforced structure to be in compliance with the loading conditions and the materials and member sizes for the tower. The tower, upon installation of reinforcement, is considered feasible with the Connecticut State Police requirements and the TIA/EIA-222-F wind load classification specified above and all the existing and proposed antenna loading. Notify the engineer in writing immediately if any of the assumptions in this report are found to be other than specified.

Limitations/Assumptions:

This report is based on the following:

- A. Tower is properly installed and maintained.
- B. All members were as specified in the original Construction Documents and are in good condition.
- C. All required members are in place.
- D. All bolts are in place and are properly tightened.
- E. Tower is in plumb condition.
- F. All member coatings are in condition.
- G. All tower members were properly designed, detailed, fabricated, installed, and have been properly maintained since erection.

URS is not responsible for any modifications completed prior to or hereafter in which URS is not or was not directly involved. Modifications include but are not limited to:

- A. Adding antennas
- B. Adding mounts
- C. Adding coaxial cables

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

Ongoing and Periodic Inspection and Maintenance by the Owner:

1. After the Contractor has successfully completed the installation and the work has been accepted, the owner will be responsible for the ongoing and periodic inspection and maintenance of the tower and reinforcing system.
2. The owner shall refer to TIA/EIA-222-F, Section 14 and Annex E for recommendations for maintenance and inspection. The frequency of the inspection and maintenance intervals is to be determined by the owner based upon actual site and environmental conditions. It is recommended that a complete and thorough inspection of the entire tower structural system is performed at least yearly and more frequently as conditions warrant. According to TIA/EIA-222-F Section 14.1, Note 1: It is recommended that the structure be inspected after severe wind and/or ice storms or other extreme loading conditions.