

### 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@po.state.ct.us www.ct.gov/csc

October 20, 2005

New Cingular Wireless PCS, LLC c/o David Malko 36 Quarry Road Chester, VT 05143

RE: EM-CING-138-126-103-018-051025 - New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 155 Harvest Ridge Road, Stratford; 17 Daybreak Lane, Shelton; 219 Nell's Rock Road, Shelton; 10 Willard Road, Norwalk; and on Route 7, Brookfield, Connecticut.

Dear Mr. Malko:

At a public meeting held on November 3, 2005, 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 following conditions for the Norwalk site:

- 1. The applicant is responsible for the maintenance and replacement (if necessary) of the existing chain link fence enclosure, and for the removal of weeds and other debris within and immediately surrounding the enclosure.
- 2. A total of six new evergreen trees shall be planted along the north and west sides of the enclosure to provide a year-round buffer between the telecommunications equipment and adjacent residences on Strawberry Hill Avenue.
- 3. The replacement antennas shall be a color (or painted accordingly) to match the existing structure.

The proposed modifications are to be implemented as specified here and in your notice dated October 25, 2005, 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,

Ramela B. Katz, P.E.

Chairman

PBK/laf

The Honorable Jerome T. Murphy, First Selectman, Town of Brookfield Clare Ann Walsh, Land Use Enforcement Officer, Town of Brookfield Heather Paton, Land Use Office, Town of Brookfield The Honorable Alex A. Knopp, Mayor, City of Norwalk Dorothy Wilson, Senior Planner, City of Norwalk Michael Greene, Director of Planning and Zoning, City of Norwalk The Honorable Mark A. Lauretti, Mayor, City of Shelton Richard Schultz, Planning Administrator, City of Shelton The Honorable Michael Feeney, Town Manager, Town of Stratford Gary Lorentson, Planning and Zoning Administrator, Town of Stratford Michael Green, Real Estate Department, Northeast Utilities Christine Farrell, T-Mobile **RCC Consultants** Christopher B. Fisher, Esq., Cuddy & Feder LLP Thomas J. Regan, Esq., Brown Rudnick Berlack Israels, LLP Richard Krigsman, Director of Technical Operations, Skytel PageNet, Inc.



November 2, 2005

Ms. Pamela B. Katz, Chairman Connecticut Siting Council Ten Franklin Square New Britain, CT 06051

Re: EM – Cingular – 138-126-103-018-051025 – New Cingular Wireless, LLC - Modification of an existing telecommunications facility located at 10 Willard Road Norwalk, Connecticut

Dear Ms. Katz;

This letter is in response to notification we received from your office regarding the applicant's filing of the above-referenced modification to an existing tower located at 10 Willard Road in Norwalk.

We request that the applicant be responsible for the maintenance and replacement (if needed) of the existing chain link fence enclosure, for the removal of weeds and other debris within and immediately surrounding the enclosure, and provide for the planting of 6 new evergreen trees on the north and west side of the enclosure to provide a year round buffer between the telecommunication equipment and adjacent residences on Strawberry Hill Avenue. In addition, as with previous applications, we request that the replacement antennas are of a color that matches the existing structure to which they will be attached.

This office can provide additional details on the suggested improvements, if requested. Please call me at (203) 854-7780, if you have any questions regarding the above.

Dorothy Wilson Senior Planner

cc. Alex Knopp, Mayor, City of Norwalk David S. Malko, P.E.

FAX 860 827-2950

TAX

TO: DAVIS MARTIN

FROM DAVE MALKO

DAR 10/26/05

SUBT: Power Density detail for 10/25/05 filing

Attacked is the power density detail for the exempt mod filing that I

mdde yesterdag.

Call with any questions, Dave

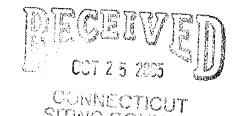
Hone/office 802-875-4514 Cell: 860-301-6378

Cuidale offer offe		Carrier	#Channels	ERP/Ch	Ant H	Density (m)	Z .	n	% <b>5</b> DE	7 To 1
2185	Brookfield - 761 Federal Road(Rt. 7)	SCLP/SNET/Cingular	11	40	8.86	ก ก169	850	0 5667	7980/	Suid lotal
2185		CINGLE AR GSM	<b>.</b>	308	0	2 1	) (		1.00/0	
707				720	80.0	0.0227	ORR	0.5867	3.87%	
2		CINGULAR GSM	-1	427	96.8	0.0164	1930	1.0000	1.64%	8.49%
23.2	Norwalk - 10 Willard Road	SNET Mobility	23	17	280	0.0018	850	0.5667	/10 L U	
132			•	3	i :		0	0.000	0.4.70	
٠ . ١		CINGULAR GUM	7	296	347	0.0062	880	0.5867	1.05%	
30.		CINGULAR GSM	_	427	347	0.0013	1930	1.0000	0 13%	1 50%
2044		CINGULAR GSM	3	296	102	0.0307	980	0.5867	70EC 3	
04A		CINGUI AR GSM	•	75.7	3	0 0 0 0 0			0.4076	
<b>1044</b>	Orbiton AV Daybenak I asa		; •	į	Š	0.0140	900	1.0000	1.40%	
2013	Cheston - 17 Daybreak Laste	Cingular	12	40	89	0.0218	880	0.5867	3.71%	10.42%
040		Cingular GSM	5	296	126	0.0335	RRO	0 5867	E 740/	
043		Cincular GCM		2	3				6	
243	000000 00000 00000 00000 0000000000000		: -	174	120	7,600.0	1930	1.0000	0.97%	
1070	Strations - Chaper Street(Chap#1321)	SCLP	13	40	123	0.0124	880	0.5867	2.11%	8.79%
2113	Shelton - 219 Nell's Rock Road	CINGULAR GSM	2	296	162	0 0081	980	0 8987	1 200/	
i i	Shelton - 319 Nollie Dock Door		)		,	0.000	000	0.0007	1.30%	
	CHAICH - KIN NEW A NOW YORK	CINGULAR GSM	κ,	427	162	0.0117	1930	1.0000	1.17%	
٥	Shelton - 219 Nell's Rock Road	SNET	19	40	167	0.0098	825	0 5500	1 780/	/0 C C V



EM-CING-138-126-103-018-051025

October 25, 2005



Mr. S. Derek Phelps Executive Director Connecticut Siting Council 10 Franklin Square New Britain, CT 06051

Re:

Notice of Exempt Modifications to Various Facilities in the Towns of Stratford, Shelton, Norwalk and Brookfield, Connecticut

Dear Mr. Phelps:

As part of its merger and integration efforts, New Cingular Wireless PCS, LLC ("Cingular" or "the Company") intends to modify instrumentation and/or antenna configurations at five existing facilities located in the Towns of Stratford, Shelton, Norwalk and Brookfield, Connecticut. Please accept this letter and attachments as notification, pursuant to R.C.S.A. § 16-50j-73, of construction that constitutes exempt modifications pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 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 is located.

The five sites which are the subject of this filing have been grouped based on their location and proximity and are discussed in more detail below. Additional exempt modification notifications will follow in the near future and will cover similarly grouped facilities within the balance of Fairfield County.

### <u>General</u>

The current project involves changes at most of Cingular's cell sites in Fairfield County including over 40 sites under Council jurisdiction. The modifications will allow Cingular to operate its wireless communications services in the 1900 MHz frequency band in addition to its 850 MHz operations. At a typical site, this will be accomplished through the removal of nine (9) existing 850 MHz only antennas and their replacement with six (6) 850/1900 MHz dual-band antennas. Since each of the new, dual-band antennas is fed by two transmission lines, the typical number of such transmission lines at each site will increase from nine to a total of 12. In addition, tower mounted amplifiers, diplexers and small miscellaneous electronics will also be installed on the antenna platforms. The new antennas, transmission lines and tower mounted equipment have been properly reflected in the structural analyses performed for the towers and attached to this filing. A more detailed analysis of each of the five sites follows.

### Site 1

Site 1 is located at 155 Harvest Ridge Road, Stratford, CT and is owned by Northeast Utilities (Cingular Site #2043). On the property are a 126' monopole tower contained within a lattice transmission line tower, and an equipment shelter. In addition to Cingular, the tower currently supports antennas of wireless carrier T-Mobile.

Cingular proposes to remove their nine (9) existing single-band antennas and install six (6) Powerwave Model 7770.00 dual-band directional antennas. The new antennas are 55" in height and will be mounted on the same platform as the existing antennas will a center of radiation of 126' above ground level (AGL). Six (6) tower mounted amplifiers and six (6) diplexers along with miscellaneous electronics to provide remote downtilting capabilities will also be installed on the existing antenna platform. Technical specification sheets for the antennas, amplifiers and diplexers are included the General Information section of the attachments to this notice. Additional radio equipment will be located within the Company's existing 8' x 30' equipment shelter at the base of the tower. Since each new antenna requires two feeds from the radio equipment, new transmission lines will be added to the tower bringing the total number of lines to 12. An analysis has been performed for the tower by Northeast Utilities taking into account the new antennas, transmission lines and other equipment. As is their practice, the result of this analysis, in the form of an e-mail and attachment from an NU senior engineer, has been provided to Cingular and is included in the site specific section of the attachments. Site plans, elevations and photographs of the site are also included.

Based on the most recent filing for this site, the "worst-case" predicted RF power density for a point at the base of the tower, excluding the operations of Cingular, is calculated to be approximately 1.12% of the applicable standard for uncontrolled environments as calculated for a mixed frequency site. A similar "worst-case" calculation for a point at the base of the tower indicates that when fully implemented, New Cingular's dual-band operations would contribute approximately 8.79% of the standard. The calculated "worst-case" power density for the combined operations at the site would therefore be approximately 9.91% of the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

### Site 2

Site 2 is located at 17 Daybreak Lane, Shelton, CT and is owned by Northeast Utilities (Cingular Site #2044). On the property are a 102' monopole tower contained within a lattice transmission line tower, and an equipment shelter. No other wireless carriers are on the site.

Cingular proposes to remove their nine (9) existing single-band antennas and install six (6) Powerwave Model 7770.00 dual-band directional antennas. The new antennas are 55" in height and will be mounted on the same platform as the existing antennas will a center of radiation of 102' above ground level (AGL). Six (6) tower mounted amplifiers and six (6) diplexers along with miscellaneous electronics to provide

Mr. S. Derek Phelps October 25, 2005 Page 3

remote downtilting capabilities will also be installed on the existing antenna platform. Technical specification sheets for the antennas, amplifiers and diplexers are included the General Information section of the attachments to this notice. Additional radio equipment will be located within the Company's existing 11' x 26' equipment shelter at the base of the tower. Since each new antenna requires two feeds from the radio equipment, new transmission lines will be added to the tower bringing the total number of lines to 12. An analysis has been performed for the tower by Northeast Utilities taking into account the new antennas, transmission lines and other equipment. As is their practice, the result of this analysis, in the form of an e-mail and attachment from an NU senior engineer, has been provided to Cingular and is included in the site specific section of the attachments. Site plans, elevations and photographs of the site are also included.

The "worst-case" predicted RF power density for a point at the base of the tower, when New Cingular's dual-band operations is fully implemented, is calculated to be approximately 10.42% of the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

#### Site 3

Site 3 is located at 219 Nell's Rock Road, Shelton, CT and is owned by RCC Consultants (Cingular Site #2113). On the property are a 162-foot lattice tower and several equipment shelters. In addition to Cingular, the tower currently supports antennas of wireless carriers AT&T Wireless, Sprint and T-Mobile as well as Arrow Bus, Metricom and PageNet.

Cingular proposes to remove their nine (9) existing single-band antennas and install six (6) Powerwave Model 7770.00 dual-band directional antennas. The new antennas are 55" in height and will be mounted on the same platform as the existing antennas will a center of radiation of 162' above ground level (AGL). Six (6) tower mounted amplifiers and six (6) diplexers along with miscellaneous electronics to provide remote downtilting capabilities will also be installed on the existing antenna platform. Technical specification sheets for the antennas, amplifiers and diplexers are included the General Information section of the attachments to this notice. Additional radio equipment will be located within the Company's existing 20' x 20' equipment shelter at the base of the tower. Since each new antenna requires two feeds from the radio equipment, new transmission lines will be added to the tower bringing the total number of lines to 12. A structural analysis has been performed for the tower taking into account the new antennas, transmission lines and other equipment and is included in the site specific section of the attachments. Site plans, elevations and photographs of the site are also included.

Based on the most recent filing for this site, the "worst-case" predicted RF power density for a point at the base of the tower, excluding the operations of Cingular and AT&T Wireless, is calculated to be approximately 7.87% of the applicable standard for uncontrolled environments as calculated for a mixed frequency site. A similar "worst-case" calculation for a point at the base of the tower indicates that when fully

Mr. S. Derek Phelps October 25, 2005 Page 4

implemented, New Cingular's dual-band operations would contribute approximately 4.33% of the standard. The calculated "worst-case" power density for the combined operations at the site would therefore be approximately 12.20% of the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

### Site 4

**Site 4** is located at 10 Willard Road, Norwalk, CT and is owned by RCC Consultants (Cingular Site #2132). On the property are a 350-foot lattice tower and several equipment shelters. In addition to Cingular, the tower currently supports antennas of wireless carriers AT&T Wireless, Sprint and T-Mobile as well as PageNet, SkyTel, RAM Mobile Data, XM Radio, American Mobile Com. and GNARC.

Cingular proposes to remove their nine (9) existing single-band antennas and install six (6) Powerwave Model 7770.00 dual-band directional antennas. The new antennas are 55" in height and will be mounted on the same platform as the existing antennas will a center of radiation of 347' above ground level (AGL). Six (6) tower mounted amplifiers and six (6) diplexers along with miscellaneous electronics to provide remote downtilting capabilities will also be installed on the existing antenna platform. Technical specification sheets for the antennas, amplifiers and diplexers are included the General Information section of the attachments to this notice. Additional radio equipment will be located within the Company's existing 19' x 28' equipment shelter at the base of the tower. Since each new antenna requires two feeds from the radio equipment, new transmission lines will be added to the tower bringing the total number of lines to 12. A structural analysis has been performed for the tower taking into account the new antennas, transmission lines and other equipment and is included in the site specific section of the attachments. Site plans, elevations and photographs of the site are also included.

Based on the most recent filing for this site, the "worst-case" predicted RF power density for a point at the base of the tower, excluding the operations of Cingular and AT&T Wireless, is calculated to be approximately 13.74% of the applicable standard for uncontrolled environments as calculated for a mixed frequency site. A similar "worst-case" calculation for a point at the base of the tower indicates that when fully implemented, New Cingular's dual-band operations would contribute approximately 1.50% of the standard. The calculated "worst-case" power density for the combined operations at the site would therefore be approximately 15.24% of the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

#### Site 5

Site 5 is located on Route 7, Brookfield, CT and is owned by Northeast Utilities (Cingular Site #2185). On the property are an approximate 110' monopole transmission line tower (including an extension for supporting wireless antennas), and two equipment

Mr. S. Derek Phelps October 25, 2005 Page 5

shelters. In addition to Cingular, the tower currently supports antennas of wireless carrier Sprint.

Cingular proposes to remove their three (3) existing single-band antennas and install three (3) Powerwave Model 7770.00 dual-band directional antennas. The new antennas are 55" in height and will be mounted on the same platform as the existing antennas will a center of radiation of 96' above ground level (AGL). Six (6) tower mounted amplifiers along with miscellaneous electronics to provide remote downtilting capabilities will also be installed on the existing antenna platform. Technical specification sheets for the antennas and amplifiers are included the General Information section of the attachments to this notice. Additional radio equipment will be located within the Company's existing 11' x 19' equipment shelter at the base of the tower. Since each new antenna requires two feeds from the radio equipment, new transmission lines will be added to the tower bringing the total number of lines to 6. An analysis has been performed for the tower by Northeast Utilities taking into account the new antennas, transmission lines and other equipment. As is their practice, the result of this analysis, in the form of an e-mail and attachment from an NU senior engineer, has been provided to Cingular and is included in the site specific section of the attachments. Site plans, elevations and photographs of the site are also included.

Based on the most recent filing for this site, the "worst-case" predicted RF power density for a point at the base of the tower, excluding the operations of Cingular, is calculated to be approximately 12.01% of the applicable standard for uncontrolled environments as calculated for a mixed frequency site. A similar "worst-case" calculation for a point at the base of the tower indicates that when fully implemented, New Cingular's dual-band operations would contribute approximately 8.49% of the standard. The calculated "worst-case" power density for the combined operations at the site would therefore be approximately 20.50% of the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

### **Summary**

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

1. The proposed modification will not increase the heights of the towers. In all cases, the number of antennas will be reduced from nine to six and will result in a reduction in the towers' profiles. The enclosed tower drawings confirm that the planned modifications will not increase the heights or the profiles of the towers. Based on the attached structural analyses, the towers are capable of supporting the reconfigured loads discussed herein.

- 2. The installation of the proposed equipment, as reflected on the attached site plans, will not require an extension of the site boundaries.
- 3. The proposed modifications to the facility will not increase the noise levels at the existing facility by six decibels or more.
- 4. As discussed above, the operation of the reconfigured sites will not increase the total radio frequency (RF) power density to a level at or above the applicable standard.

For the foregoing reasons, New Cingular Wireless PCS, LLC respectfully submits that the proposed addition of antennas and equipment at the subject facilities constitute exempt modifications under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

David S. Malko, P.E.

Consultant for New Cingular Wireless

#### **Enclosures**

cc: Honorable Joseph G. Crudo, Town Council Chairman, Stratford Honorable Mark A. Lauretti, Mayor, Shelton Honorable Alex A. Knopp, Mayor, Norwalk Honorable Jerry Murphy, First Selectman, Brookfield

## General Information Attachments

- 1. Antenna Specifications
- 2. Tower Mounted Amplifier Specifications
- 3. Diplexer Specifications

## **Dual Broadband Antenna**

90° 1.4 m MET Antenna

Part Number: 7770.00 Horizontal Beamwidth: 90° Gain: 13.5/16 dBi

Electrical Downtilt: Adjustable Connector Type: 7/16 female

The Powerwave dual band dual polarized broadband antenna has individual adjustable electrical downtilt per band (upgradeable to Remote Electrical Tilt (RET). Four connector ports allow separate tilts on each frequency band and ensure the use of diversity concepts. The phase shifter technology, based on a patented sliding dielectric, minimizes intermodulation distortion and maximizes efficiency. The slant +/- 45° dual polarization system provides the independent fading signals needed for achieving top-quality coverage via diversity concepts. The Powerwave Broadband antenna design is based on a patented stacked aperture-coupled patch technology, which provides high isolation performance and a wide VSWR bandwidth. The antennas have superior radiation patterns due to a unique reflector design which provides a very small variation of the –3dB horizontal beam width over the frequency band as well as a high front-to-back ratio.



#### **Key Benefits**

- · Excellent broad- and multi-band capabilities
- Polarization purity makes good diversity gain
- Excellent pattern performance and high gain over frequency
- · High passive intermodulation performance
- · Light, slim and robust design

# **Preliminary**





### Dual Broadband Antenna

### **Electrical Specifications (Preliminary)**

t ·			
Frequency band (MHz)	806-960		1710-2170
Gain, ± 0.5dB (dBi)	13.5		16.0
Polarization		Dual linear ±45°	
Nominal Impedance (Ohm)		50	
VSWR	1.5:1		
VSWR			1.5:1
Isolation between inputs (dB)	30		
Isolation between inputs (dB)			30
Inter band isolation (dB)		40	
Horizontal -3 dB beamwidth	85 ± 5°		85 ± 5°
Tracking, Horizontal plane, ±60° (dB)	<2.0		
Tracking, Horizontal plane, ±60° (dB)			<2.0
Electrical downtilt range (adjustable)	0° to 10°		0° to 8°
Vertical -3 dB beamwidth	14.3 ± 2.0°		6.6 ± 1°
Sidelobe suppression, Vertical 1 st upper (dB)	>17,16,15		> 17, 16,15
	x=0, 5, 10° MET		x=0, 4, 8° MET
Vertical beam squint	<0.8°		<0.5°
First null-fill (dB)	<-25		<-25
Front-to-back ratio (dB)	>25		>27
Front-to-back ratio, total power (dB)	>20		>23
IM3, 2Tx@43dBm (dBc)	<-153		
IM3, 2Tx@43dBm (dBc)			<-153
IM7, 2Tx@43dBm (dBc)			<-160
Power Handling, Average per input (W)	400		250
Power Handling, Average total (W)	800		500

All specifications are subject to change without notice.

Contact your Powerwave representative for complete performance data.

#### **Mechanical Specifications**

4 x 7/16 DIN female Connector Type

Bottom **Connector Position** 

1408mm x 280mm x 125mm (55"x11"x5") Dimensions, HxWxD

15.8 kg (35 lbs) Weight Including Brackets Wind Load, Frontal, 42m/s Cd=1 435N (98 lbf) Survival Wind Speed (m/s) 70 (156mph) Lightning Protection DC grounded

Radome Material **GRP** Radome Color **Light Gray** 

Mounting **Pre-mounted Standard Brackets** 

Packing Size 1550mm x 355mm x 255mm (61"x14"x10")

Corporate Headquarters

Powerwave Technologies, Inc. Tel: 714-466-1000 1801 East St. Andrew Place Santa Ana, CA 92705 USA

Fax: 714-466-5800 www.powerwave.com

Main European Office Antennvägen 6 SE-187 80 Täby Sweden Tel: +46 8 540 822 00

Fax: +46 8 540 823 40

Main Asia Pacific Office 23 F Tai Yau Building 181 Johnston Road Wanchal, Hong Kong Tel: +852 2512 6123 Fax: +852 2575 4860



Copyright March 2005, Powerwave Technologies, Inc. All Rights reserved. Powerwave, Powerwave Technologies, The Power in Wireless and the Powerwave logo a





North Martines Parameter .

機器

# **Tower Mounted Amplifier**

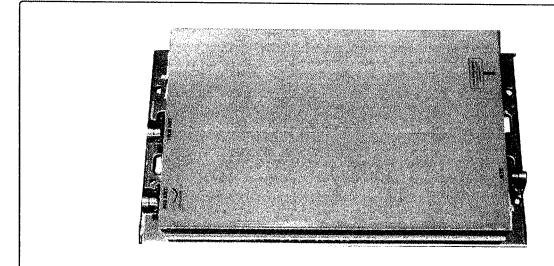
LGP21401 TMA-DD-1900 FB with 850 Bypass Tower Mounted Amplifier

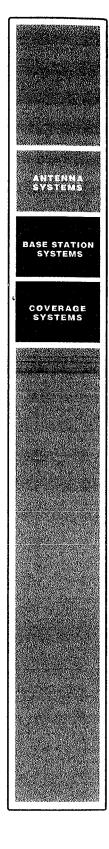
Frequency: 1850-1990 MHz Band Gain: 12 dBd

IMD Specification: <-118dBm Return Loss:18 dB or better

k t v f

Mariana Mariana Marianana Powerwave's 21401 Series of tower mounted amplifiers are designed for full band coverage of the PCS-1900 band with an 800 MHz cellular band bypass. It has dual duplex capability so you can use one line for RX/TX and transmit through the TMA while amplifying RX on the same line. Deployed in a network it will increase capacity and coverage as well as extend the battery life time for the handsets. The 800 MHz cellular band passes through the TMA without amplification.







# LGP21401 - Tower Mount Amplifier

Gain

NAMES OF STREET

over Alexa

Constitution of the Consti

Value Name of the

and the state of

12 dB

Uplink frequency

1850-1910 MHz

Downlink frequency

1930 - 1990 MHz

Return loss

18 dB or better

Noise figure

1.5 dB typical

Intermodulation@2x43dBm

<-118 dBm in receive band

carriers

Output 3<sup>rd</sup> order Intercept

>+22 dBm

Point (OIP3)

Rejection 1912 MHz (RX in

10 dB

Filter)

Rejection in TX band

80 dB

Alarm functionality

Two levels, individually

supervised LNA branches

Power consumption

1.5 W per LNA @12 VDC

Supply voltage

9 - 15 V

### **Mechanical Specifications**

RF connectors

7/16 DIN female(s)

**Dimensions** 

14"x7"x2.7" (365x176x68mm)

Weight

17.5 lbs (<8kg)

Mounting kit

Mounting kit is included for pole and wall. Other types may be

available on request.

Corporate Headquarters Powerwave Technologies, Inc. 1801 East St. Andrew Place Santa Ana, CA 92705 USA Tel: 714-466-1000 Fax: 714-466-5800

www.powerwave.com

Main European Office Antennvägen 6 SE-187 80 Täby Sweden +46 8 540 822 00 +46 8 540 824 85 FAX

THE POWER IN WIRELESS®



Powerwave Technologies, Inc. is an ISO9001 and TL9000 certified company, is a leading supplier of high performance RF Infrastructure products for use in wireless communications networks. Powerwave products are utilized in both cellular and PCS base stations in both digital and analog networks. Copyright February 2003, Powerwave Technologies, Inc. All Rights reserved. Powerwave Technologies are and the Powerwave logo are registered trademarks of Powerwave Technologies, Inc.

COVERAGE AND CAPACITY

er in de la companya de la companya

GLOBAL PARTNER

INTEGRATED SOLUTIONS

QUALITY AND RELIABILITY

# 824-896/1850-1990 MHz Diplexer

Diplexer for 824-896/1850-1990MHz with Configurable DC Transparency

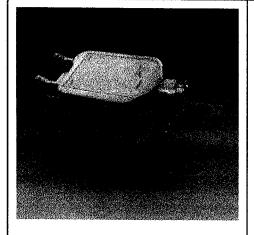
Part Number: LGP13519 Frequency Range: 824-894/1850-

1990 MHz

Return Loss: >20 dB

Insertion Loss: 0.2 dB / 0.3 dB

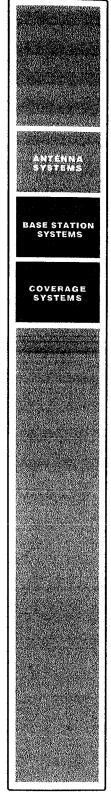
The Powerwave® Diplexer filter DCT is available both as single and double unit. Each diplexer has one port for 824-894 systems, one port for 1850-1990 GSM systems and a common port. It is designed for outdoor use and intended for co-location of base stations to enable sharing of feeder, TMA system and antenna. The unit can be used both at the BTS and for combining frequency bands to a common port and at the antenna end for splitting the frequency bands to separate antennas.



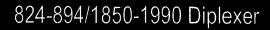
#### 824-894/1850-1990 MHz Diplexer

### **Key Benefits:**

- · Compact Design
- Inbuilt DC Transparency and Subcarrier Support
- Excellent Power Handling
- Negligible Transmit Band Loss
- · Lightning Protected on All Ports









**Electrical Specifications** 

800-900 Port Frequency Range, Full Band (MHz) 824-894 MHz

> Insertion Loss (dB) <0.2 dB Return Loss (dB) >20 dB Rejection 1850-1990 MHz >55 dB Rejection 2110-2170 MHz >55 dB Average Power Handling >500 W Peak Power 10 kW

IM, 2Tx@43dBm (dBc) <-153

1900 Port Frequency Range, Full Band (MHz) 1850-1990 MHz

> Insertion Loss (dB) <0.3 dB Return Loss (dB) >20 dB Rejection 824-896 MHz >54 dB Rejection 896-960 MHz >54 dB Average Power Handling >250 W Peak Power 5 kW IM, 2Tx@43dBm (dBc) <-153

All specifications are subject to change without notice. Contact your Powerwave representative for complete performance data.

### **Mechanical Specifications**

Size, WxHxD (without mounting plate)

Weight Color Housing RF-connectors Mounting Kit Temperature Range **MTBF** Safety

Ingress Protection IP 65 Environmental

4.4" x 6.3" x 3" (112x158x74mm)

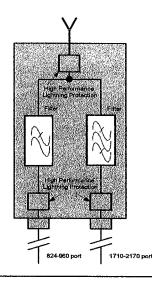
2.4 kg (5.3 lbs) Off White (NCS 1502-R) Aluminum, IP 65 DIN 7/16 female Hose Clamps in Stainless Steel

-40 °C to +65 °C

30 Million Hours

EN 60 950, UL 69 950, ETL

EN 60 529 ETS 300 019



Corporate Headquarters

Powerwave Technologies, Inc. 1801 East St. Andrew Place Santa Ana, CA 92705 USA

Tel: 714-466-1000 Fax: 714-466-5800 www.powerwave.com Main European Office Antennvägen 6 SE-187 80 Täby Tel: +46 8 540 822 00

Fax: +46 8 540 823 40

**Hong Kong Office** 23 F Tai Yau Building 181 Johnston Road Wanchai, Hong Kong Tel: +852 2512 6123 Fax: +852 2575 4860

Copyright September 2003, Powerwave Technologies, Inc. All Rights reserved. Powerwave, Powerwave Technologies, The Power in Wireless and the Powerwave logo are registered trademarks of Powerwave Technologies, Inc.

## Site Specific Attachments

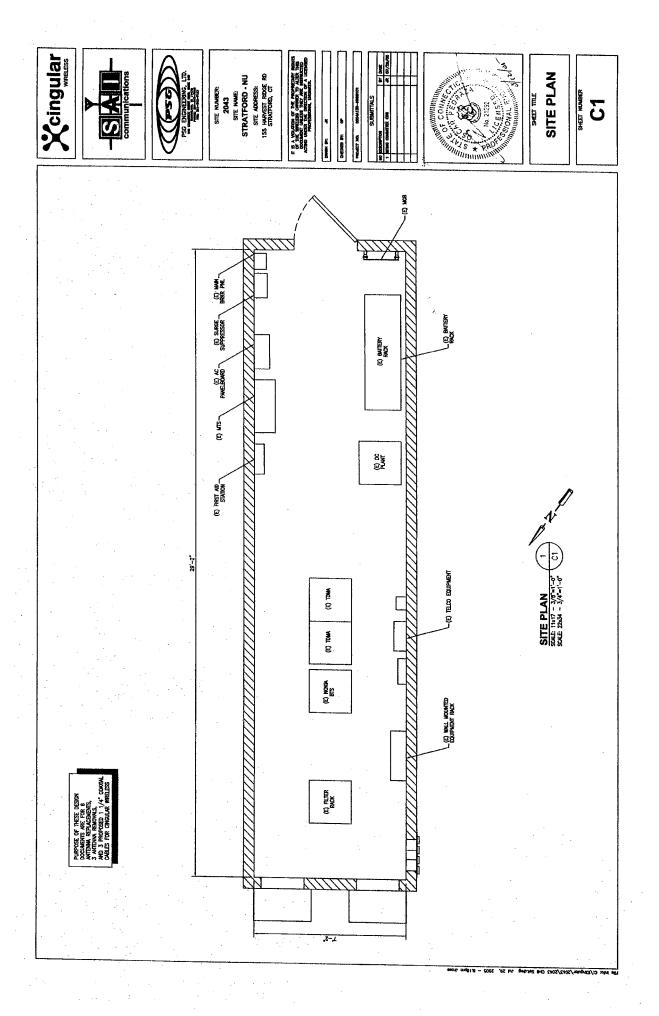
## Site 1

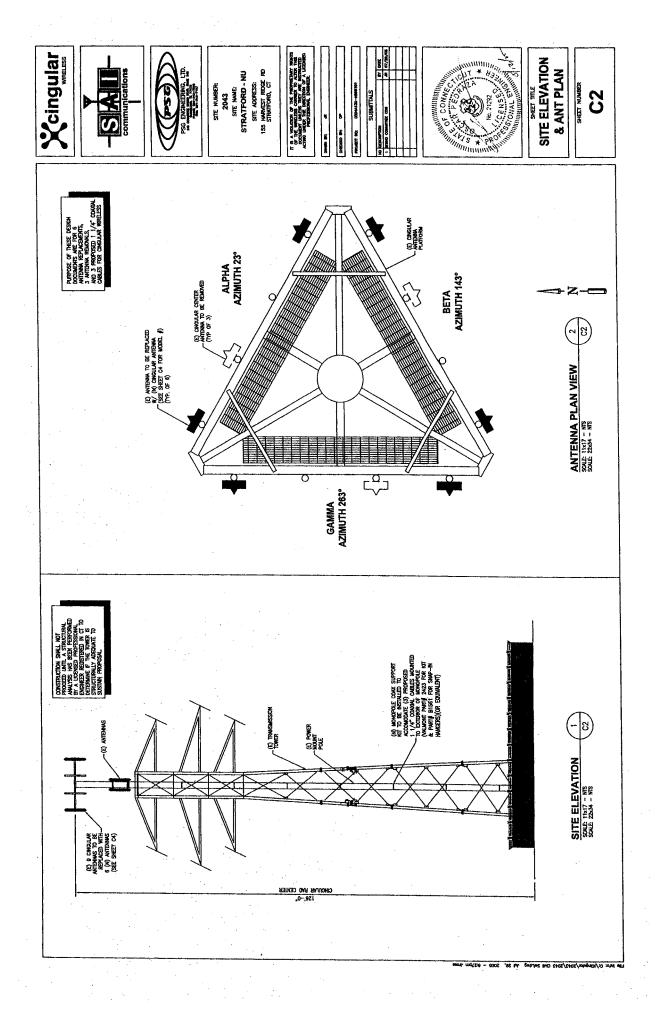
- 1. Site Plans
- 2. Tower Structural Analysis
- 3. Site Photographs

			ユロニ	3	WIRELESS		2043	FORD - NU		BLDG. CODES AND STANDARDS	SERVICE OF THE PROPERTY OF THE	
							SILE NUMBER: 2043	SITE NAME: STRATFORD - NI		MAPS & DIRECTIONS	WER RE IS SOUND TO BUT IS NOT A LET AT THE BOTTON OF BUT, AND FORMER LANGE OF NOTE AND A LET A LESS TO STOP SING BUT I AND A LET A LESS TO STOP SING BUT I AND A LET A LESS TO STOP SING BUT I AND A LET A LESS TO STOP SING BUT I AND A LET A LESS TO STOP SING BUT I AND A LET A LESS TO STOP SING BUT I AND A LET A LESS TO STOP SING BUT I AND A LET A L	The same
APPROVALS	SIGNA			заучине опе		SHOWTURE DATE	STING COLNCY, COMMITTEE	SIGNATURE DATE		DRAWING INDEX	TITLE SHEET SITE PLAM SITE BLAM SITE ANTENNA PLAN SITE ELVATION & ANTENNA PLAN ANTENNA PLUMBING DIAGRAM-ALPHA-BETA-GAMMA RF DATA INFORMATION UNMANED TECOMAUNICATIONS FACILITY MODIFICATIONS STRATOBD - NU STRATOBD - CAT THE COMMUNICATIONS FACILITY THE COMMUNICATION FACILITY THE CO	
L	NAME (PRINT)	OWING BAD		NAME (PRINT)	3	NAME (PRINT)	STERIC COL	NAME (PRINT)	SHER		2843 - T1 2043 - C2 2043 - C3 2043 - C3 2043 - C3 2045 - C3 2045 - C3 2045 - C3 2045 - C4 2045 - C3 2045 - C4 2045 -	

STE NUMBER
2043
STE NAME
STRATFORD - NU
STE ADDRESS
155 HAPPER FOCE RO

TITLE SHEET





### STRUCTURAL ANALYSIS - SITE #2043

From: sahirm@NU.COM [mailto:sahirm@NU.COM]

Sent: Thursday, October 20, 2005 2:18 PM

To: Burks, Tim

Cc: madejra@NU.COM; grayrd@NU.COM; hillde@NU.COM

Subject: Shelton, Stratford and Brookfield approved, Trumbull require full

analysis and is in progress.

Tim,

The attached file below is the evaluation performed for the existing structures for the Cingular antenna modifications. We were able to evaluate and approve the three structures listed below. These three structures are approved for the proposed antenna modifications including their associated TMAs and coaxial cables.

### 1- Stratford, CT - Harvest Ridge Road Structure #1321 Cingular site # 2043

- 2- Shelton, CT Daybreak Lane, Structure #1340 Cingular site # 2044
- 3- West Brookfield, CT Structure #2683 Cingular site # 2185

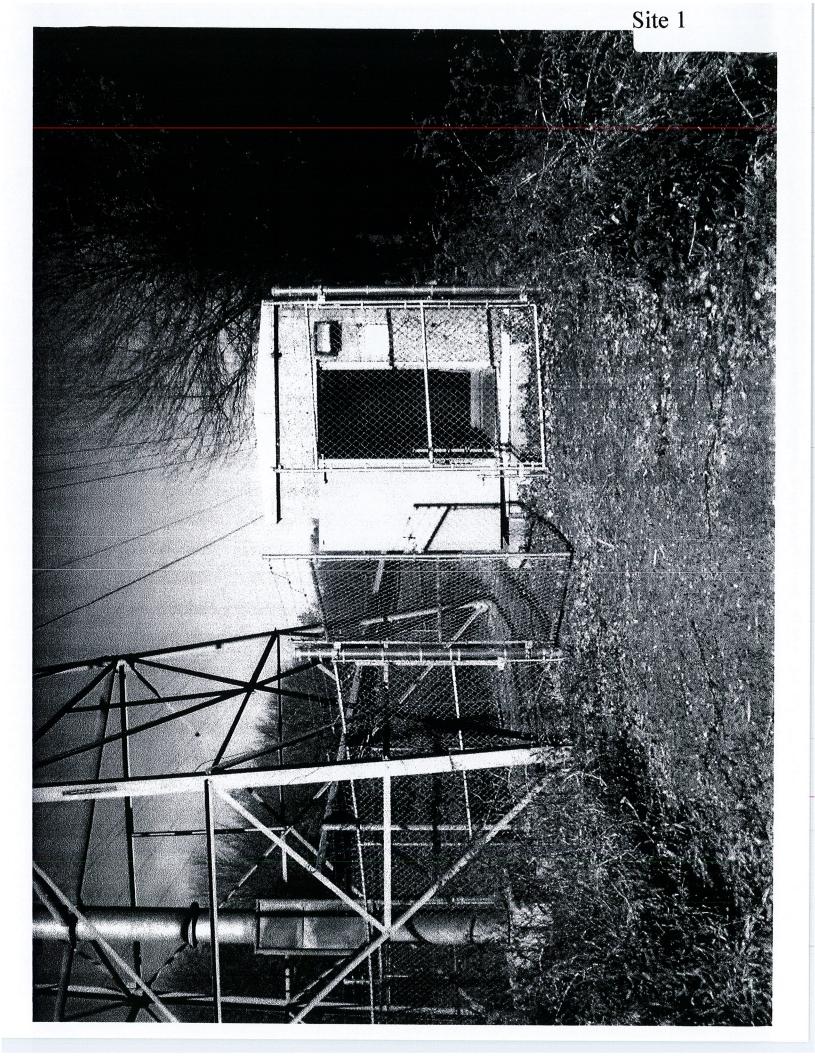
The Trumbull-JCT Old Town Structure #844 Cingular site #CT0089. This structure is a Finney Pole(Built-Up I-Beam Section). The structure requires a full structural analysis of the pole including the baseplate, anchor bolts and foundation. I am scheduling this to the list of my assignments and will inform you about the result. I appreciate your patience as this will take some time.

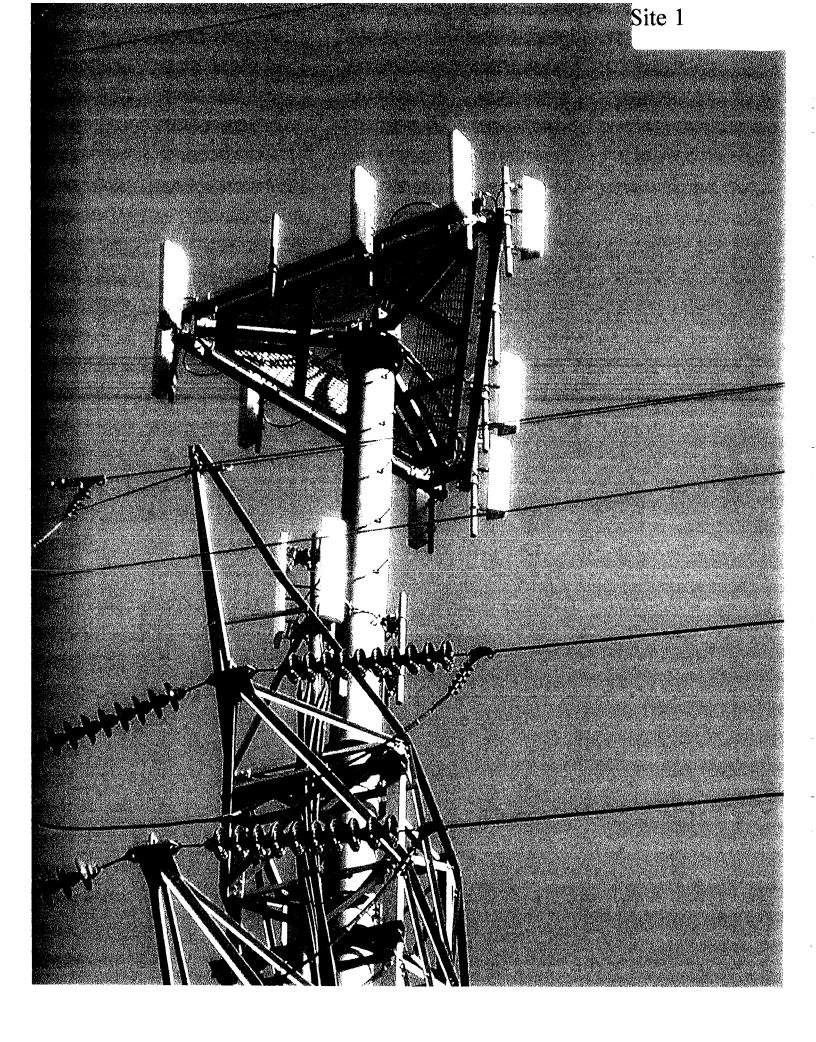
(See attached file: Cingular PCS.pdf)

Best Regards, Mohsen Sahirad, P.E. Senior Engineer Northeast Utilities System Building NUE2, 2nd Floor 107 Selden Street Berlin, CT 06037 Tel: (860) 665-6784

Email: sahirm@nu.com Fax: (860) 665-2820

	Number Of	Antenna	Model	Antenna	Total
	Antennas	AGL	Description	Area Each, ft <sup>2</sup>	Area ft²
Design Antenna	12	123.0	ALP 110 11-N	•	50.35
Design TMAs	0		N/A	0.00	0.00
Proposed Antennas	9	123.0	PW7770	4.20	25.21
Proposed TMAs	9		LPG21401	0.68	4.08





# Site Specific Attachments

## Site 2

- 1. Site Plans
- 2. Tower Structural Analysis
- 3. Site Photographs

						2044		D PWR MOON	BLDG CODES AND STANDARDS	SECONDARY OF THE STREET AND INTERPRETARE	REE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT	EST CREA!, RECOMMENDED PRUCINES ON SPREE VALUAGES IN LOW SYSTEM COPPOSITED.  TELONOM GR-1274, CONERL, INSTILLATON REQUIREDENTS TELONOM GR-1274, CONERL, DELE CONNECTIONS ANST 11.311, FON TELES, CONOM, LOBEL CONNECTIONS ANST 11.311, FON TELES CANADA (TELES CONNECTIONS AND THE ANT CONTROLLED STATUS (TELES CONSTRUCIONS AND THE STATUSTING TELES CANADA (TELES CONSTRUCIONS AND TELES TREATING TELES TREATING TO THE TELES TREATING THE SECURIOR THE SECURIOR TELES TREATING THE SECURIOR TELES TREATING THE SECURIOR TELES TREATING THE SECURIOR THE
						SITE NUMBER: 2044	SITE NAME: SUE! TON A	OTE WAIME, OFFICE NO PWK MOON!	MAPS & DIRECTIONS	MAN THE LET A WAN LET AN BOTTON OF EAST TO RT. 28 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 28 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 28 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 28 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 28 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 28 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 28 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 28 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 28 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 28 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 28 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 28 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 27 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 27 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 27 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 27 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 27 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 27 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 27 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 27 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 27 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 27 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 27 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 27 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 27 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 27 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 27 SOUTH, AT NEXT LIGHT THAN E RIGHT ON RT. 27 SOUTH, AT NEXT LIGHT THAN ETC. 27 SOUTH, AT NEXT LIGHT THAN	A. S. C.	Museumes StationCop Trees   Part   Pa
									REV	00000		9AM 3TI2
APPROVALS	SICH		FIBAT) SIGNATURE DATE		RINT) SIGNATURE DATE	STING COUNCY, COMMUTEE.	ONTE SIGNATURE DATE		DRAWING INDEX	TITLE SHEET SITE PLAN STE ELEVATION & ANTENNA PLAN ANTENNA PLUMBING DAGRAM-ALPHA RF DATA INFORMATION		NORY: UNMANIED TELECOMMUNICATIONS FACILITY MODERATIONS 2044 17 DAYRESK, LANE 18 FECCHAMINACATIONS FACILITY 19 FECCHAMINACATIONS FACILITY 19 FECCHAMINACATIONS FACILITY 10 C-0 17 POWER AND LIGHT
	WAVE (PRINT)	CINGULAR	NAME (PRINT)	3	NAME (PRENT)	SITING CO	NAME (PRINT)	STHER		2644-17 264-02 264-02 264-03 264-03		STE NAMES COOPE OF WORK.  STE NAMES ADMESTS ADMESTS ADMESTS ADMESTS ADMESTS ADMESTS ADMESTS AT THE CHARGE TO BE STE THERE BUG GATTER OWNER.







STE NUMBER
2044
STE NUME
STE NUME
STE NUME
STELTON NU PWR MIT
STE NOMESS
(17 MYSSEWE (AVE
STELTON, CT 06464











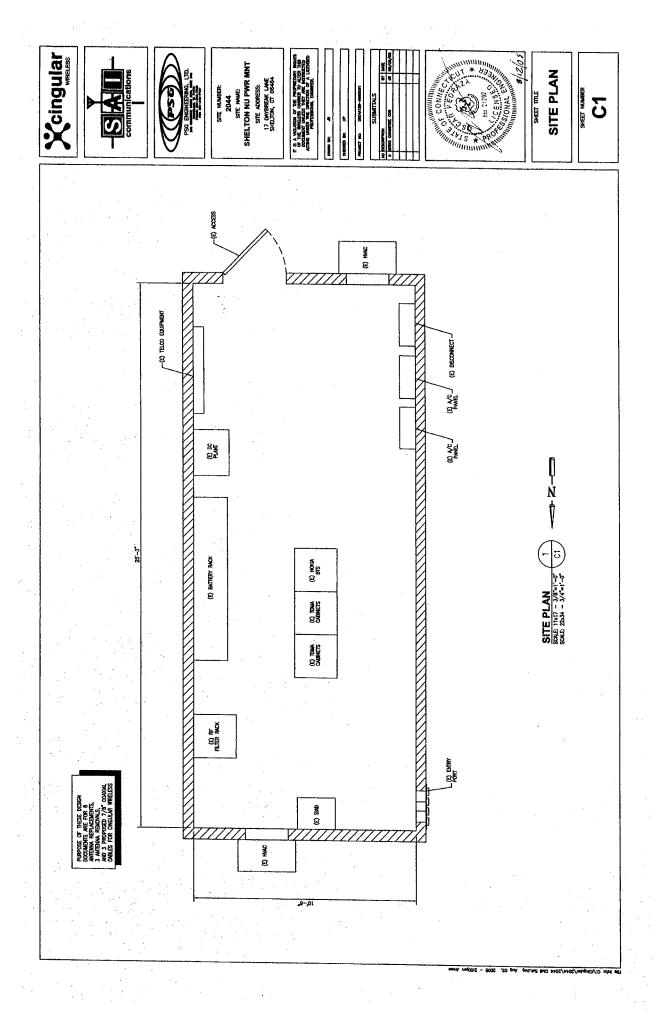


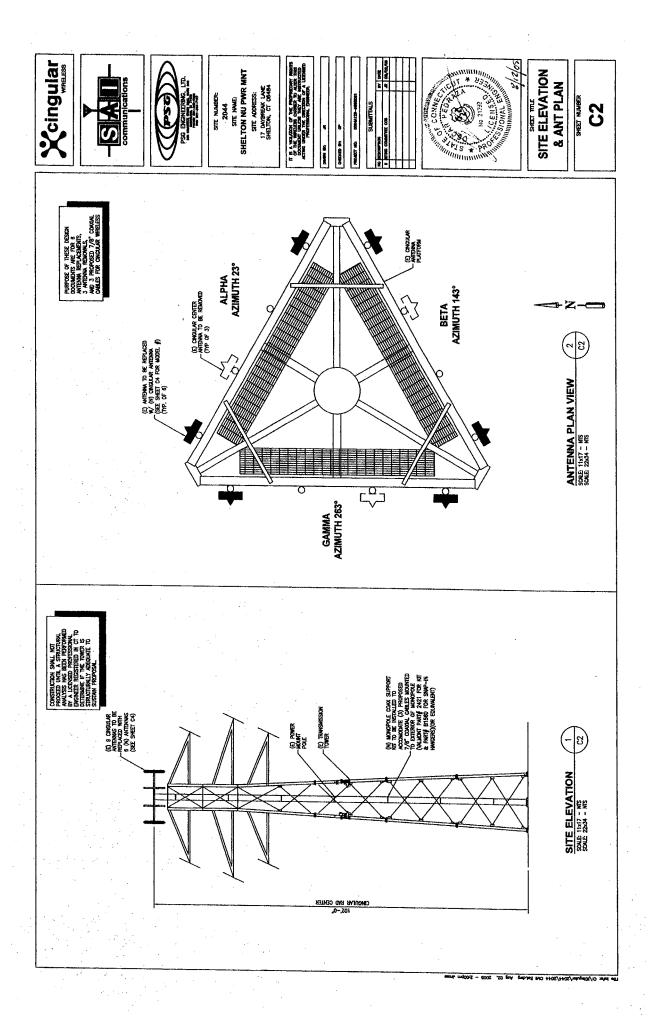




TITLE SHEET

SHEET NUMBER





### STRUCTURAL ANALYSIS - SITE #2044

From: sahirm@NU.COM [mailto:sahirm@NU.COM]

Sent: Thursday, October 20, 2005 2:18 PM

To: Burks, Tim

Cc: madejra@NU.COM; grayrd@NU.COM; hillde@NU.COM

Subject: Shelton, Stratford and Brookfield approved, Trumbull require full

analysis and is in progress.

Tim,

The attached file below is the evaluation performed for the existing structures for the Cingular antenna modifications. We were able to evaluate and approve the three structures listed below. These three structures are approved for the proposed antenna modifications including their associated TMAs and coaxial cables.

- 1- Stratford, CT Harvest Ridge Road Structure #1321 Cingular site # 2043
- 2- Shelton, CT Daybreak Lane, Structure #1340 Cingular site # 2044
- 3- West Brookfield, CT Structure #2683 Cingular site # 2185

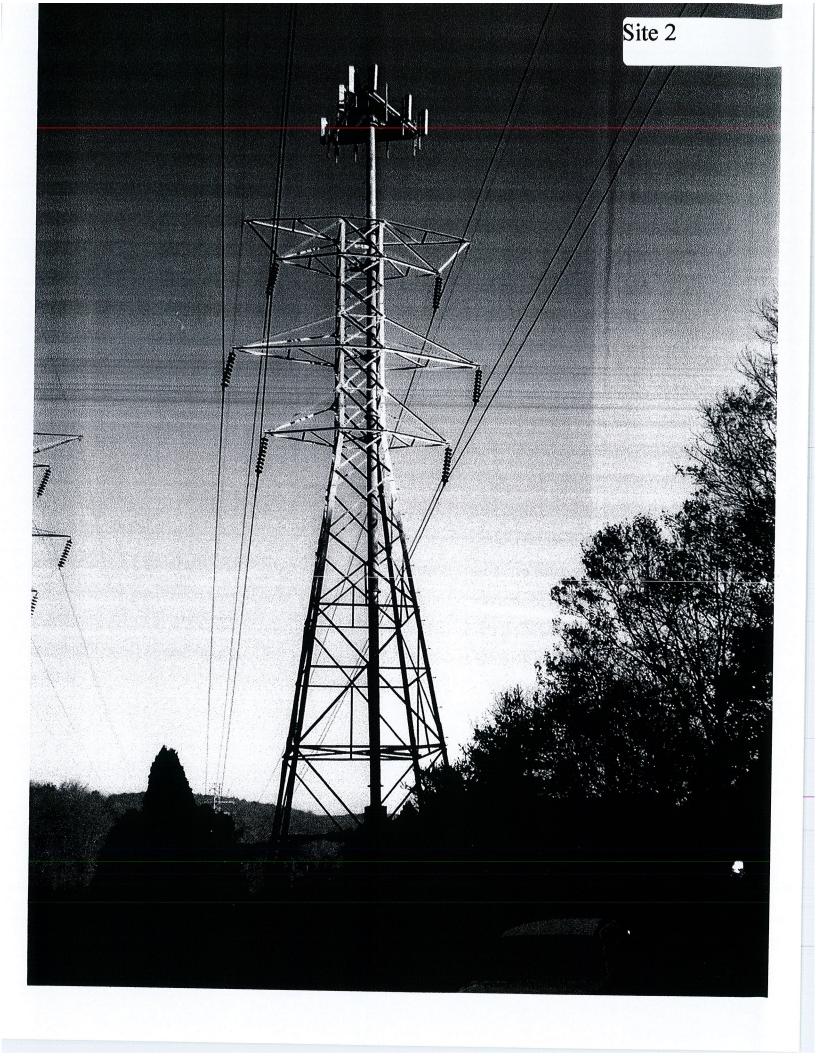
The Trumbull-JCT Old Town Structure # 844 Cingular site # CT0089. This structure is a Finney Pole(Built-Up I-Beam Section). The structure requires a full structural analysis of the pole including the baseplate, anchor bolts and foundation. I am scheduling this to the list of my assignments and will inform you about the result. I appreciate your patience as this will take some time.

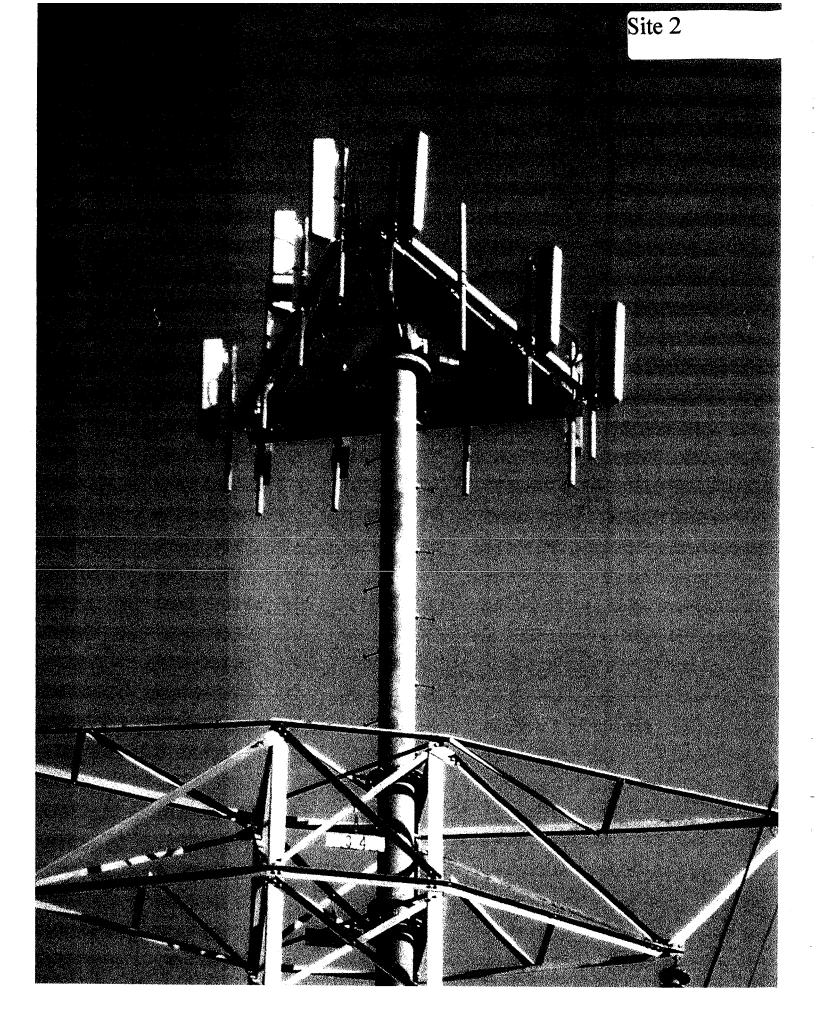
(See attached file: Cingular PCS.pdf)

Best Regards, Mohsen Sahirad, P.E. Senior Engineer Northeast Utilities System Building NUE2, 2nd Floor 107 Selden Street Berlin, CT 06037 Tel: (860) 665-6784

Tel: (860) 665-6784 Email: sahirm@nu.com Fax: (860) 665-2820

Shetton = Daybreak Lane, Structure # 1340 Cinqular Site # 2044 Shelton	e, Structure # 1 elton	340				
	Number Of	Antenna	Model	Antenna	Total	
	Antennas	AGL	Description	Area Each, ft²	Area ft²	
Design Antenna	12	97.5	Allgon 7120.16	4.12	49.40	
Design TMAs	0		N/A	00:00	0.00	
Proposed Antennas	9	97.5	PW7770	4.20	25.21	
Proposed TMAs	9		LPG21401	99.0	4.08	
Net Area Change (ft/):					-20.11	
Percentage Area Change:					41%	< DECREASE IN LOAD



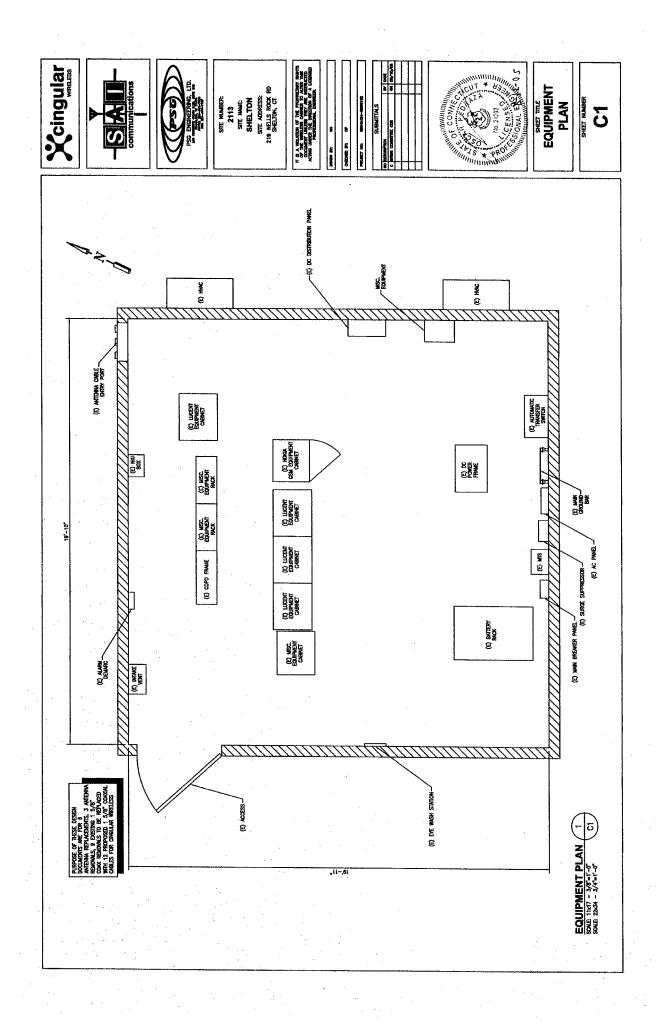


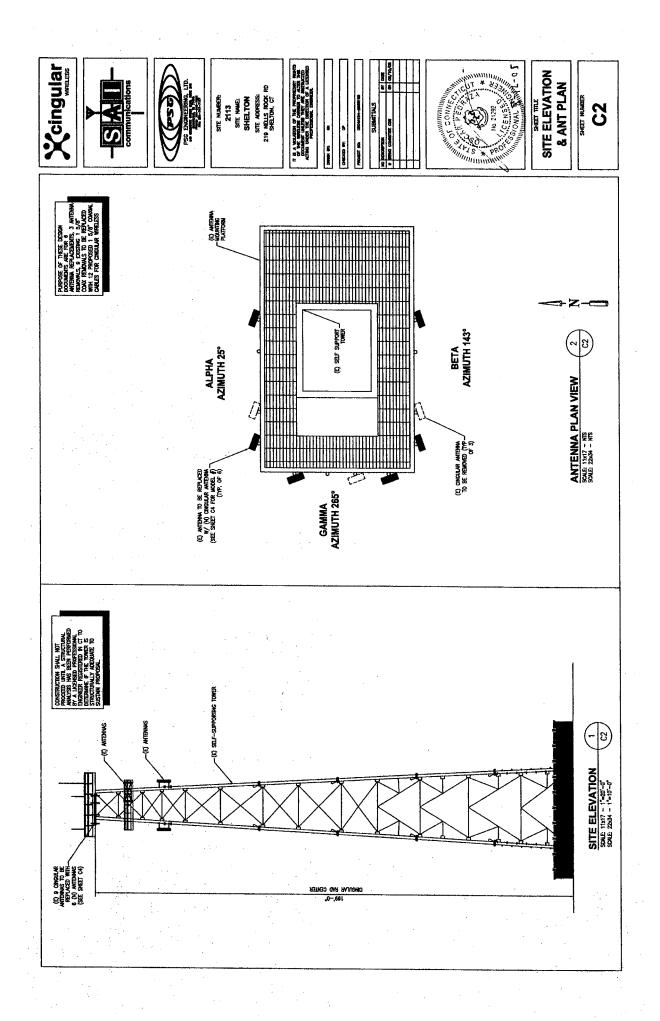
## Site Specific Attachments

## Site 3

- 1. Site Plans
- 2. Tower Structural Analysis
- 3. Site Photographs

		7 <b>г</b>			7	·.		1 [					ח ן		।	<del>                                      </del>			٠.	•		
	Cingular			communications	-	(((654)))	PSG ENGNEERING, LID.		SITE NOMBER:	STE NAME: SHELTON STE ADDRESS: 219 HELS ROCK RD	SHELTON, CT	F B A VOLATION OF THE PROPRESSION MERCEN OF THE WINDERS CONTRICT TO ALTHE THE DOCUMENT WALES THEY ARE IMPRIENTED ACTIVE UNDER THE THE THEY ARE IMPRIENTED ACTIVE THE THE THEY ARE IMPRIENTED.	COMMIN BY GH	CHECKED BY: GP PROACT IC: COOKED-ERFORE	SJENFTALS NO CONCEPTRAL NO CON		HIMMARING SON NEW WITH	THE STATE OF THE S	10 2132 (Cansellante)	20- The Soloward Color	TITLE SHEET	SKET KMBER
		1 (	<b>5</b>	WIRELESS		: 2113	ELTON		BLDG. CODES AND STANDARDS	THES OWNER JUNE OF THE THE THE CHARLES OWNERS	BUILDING CODE: INTERWITIONAL BUILDING CODE (REC), 2003		LICHTHANG PROTECTION CODE NFPA 780 - 2000, LICHTHANG PROTECTION CODE	SUBCOMPRACTION'S WORK SMALL COMPLY WITH THE LATEST ENTION OF THE POLLUMING STANDINGS.  AMERICAN CONCISETE #ISTITUTE (ACT) 518, BUADING CODE REQUIREMENTS	FOR SINGUINAL CONSTRUCTION (ASC.), LANUAL OF STEEL CONSTRUCTION (ASC.), LANUAL OF STEEL CONSTRUCTION (ASC.), LANUAL OF STEEL CONSTRUCTION (ASC.), STEEL STEEL PROSESTEEL ASSOCIATION (ASC.), STEEL STEEL AND ANTERNA SUPPORTION.	TH MOT, COMMENCE BULDING GROUNDING INCLUDING I	EEE 1100 (1989) RECOMBINED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONC EQUIPMENT	EEE CACJ.41, RECOMMENDED PROCTICES ON SLRGE VOLTAGES IN LOW VOLTAGE NO POWER CROUMS (FOR LOCATION CATEGORY "CS" AND "HIGH SYSTEM GROSSINE")	TELOGRAM, 69-1903, CONVAL, INSTALLATION RELUREMENTS TELOGRAM, 69-1903, CONVAL, CASE, CONNECTIONS ANS 71 X11 FTP TO FEMA. IN DAMES OFFITHE. ITS FOUL	FOR ANY COMPLICION OF TOTAL STATEMENT STATEMEN	THE KEST RESIDENT RESIDENCE OF CORRUSAIN, NO THEN TRANSPORTS. THE KEST RESIDENCE REQUESTED YOUR OFFICE THEIR FEATURESHIP, THE SPEETE RESUREMENT SALL OFFICE.	
						SITE NUMBER: 2113	SITE NAME: SHELTON			FROM 1-95 EAST TAKE DOT 27A ONTO TAKE A LEFT ONTO OLD STRAKTORD (ID. MELLS ROCK RO. TOWER SITE IS ON T	E WINDS	Rd CONIN ECT IC USE	Monroe PBO LETT Shelton	FAIRF	SOUTH HA	Stration 1		AVO BOOK	R ( )	Progeniene (	A Sherton	Aspatulors,
				T					REV			dV	MYT	ICINI	<u> </u>					AM:	SITE	
APPROVALS	NAME (PRINKT) SIGNATURE DATE	сиевля	WWE (PRINT) SIGNATURE DATE		INME (PRINT) SIGMITIRE DATE	STING COUNCIL COMMITTEE	WME (PRINT) SIGNATURE DATE		DRAWING INDEX	2113 - C1 EQUIPMENT PLAN 2113 - C1 EQUIPMENT PLAN 2113 - C2 STIFE BLEVITON & ANTENNA PLAN 2413 - C2 ANTENNA PLAN								SCOPE OF WORK. UNMANNED TELECOMMUNICATIONS FACILITY MODIFICATIONS SITE NUMBER: 2713 STEE VAME: SHELTON ADDRESS: 219 NELLS ROCK RO	VICTURE SHETON, CT LATITUDE: 41.3041007 A23.1187887 LIBEROYDOW, CT A23.1187887	:		
	2	18	2	3		境	3	툂	╝	4446	. ~							SCOR STATE OF STATE O	F F S	PROP STEE	O. S.	





BAYAR PAGENTERING PA SECUCION SE CONSTRUCTOR

PAGENTERIA CONSTRUCTOR

PAGENTE

Denvitos C Bayor

October 1 VIAF

M. Arter (OSS) (1008) S. V. Sterr (OSS) (1008) G. M. Arter (OSS) (1008) G. M. Krister (OSS) (1008)

Ré Singued Analysis of tower in Shelton, (SE (She 2143) BE Sell No. 18383-1

Dear Mr. Bullock.

Our previous analysis of the existing 162-6" type A tower at Shelton. Cit an 2002 wits spirite tower to carry the antennas and equipment shown on Sketch No 0509s. That analysis ancided the 12 ALP antennas which now will be replaced by 6 powerways 1770 antennas and 12 powerways TMAs. The number of cables running down the series will be the same. That previous analysis showed that the tower was adequate to carry the imposed loads.

The new proposit of replacing the 12 ALP antennas with 6 Powerwave antennas and 12 Powerwave. TMAs will still allow the tower to be structurally adequate for the proposed configuration. This less analysis assumed that the number of cables will remain the same and no new callle facks will be installed on the tower.

Yours truly,

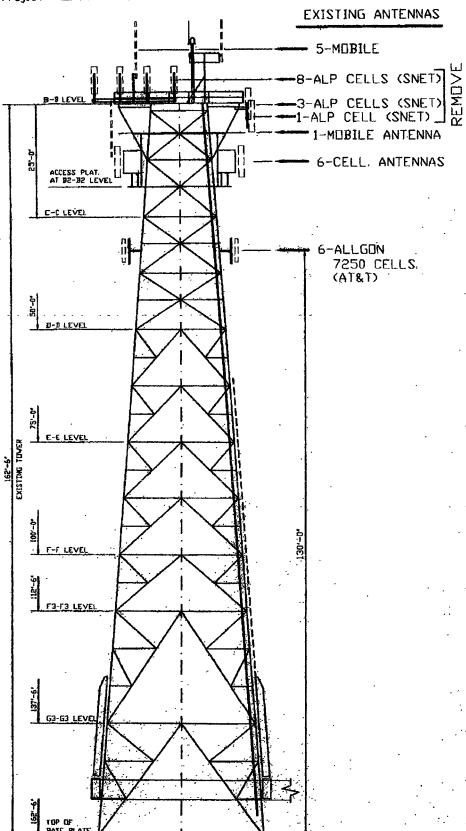
Demities Bayar, P.E. # 12725 (CT)

President



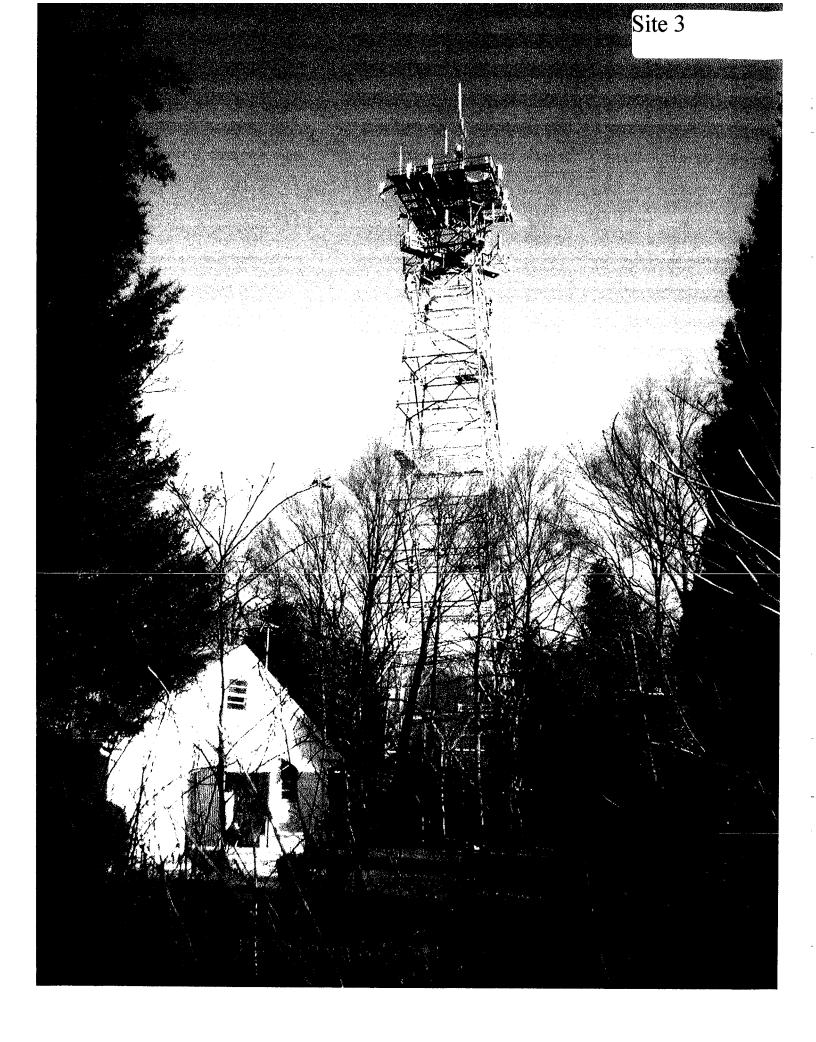
Project SHELTON, CT. EXISTING 162'-6' TYPE 'A' TOWER

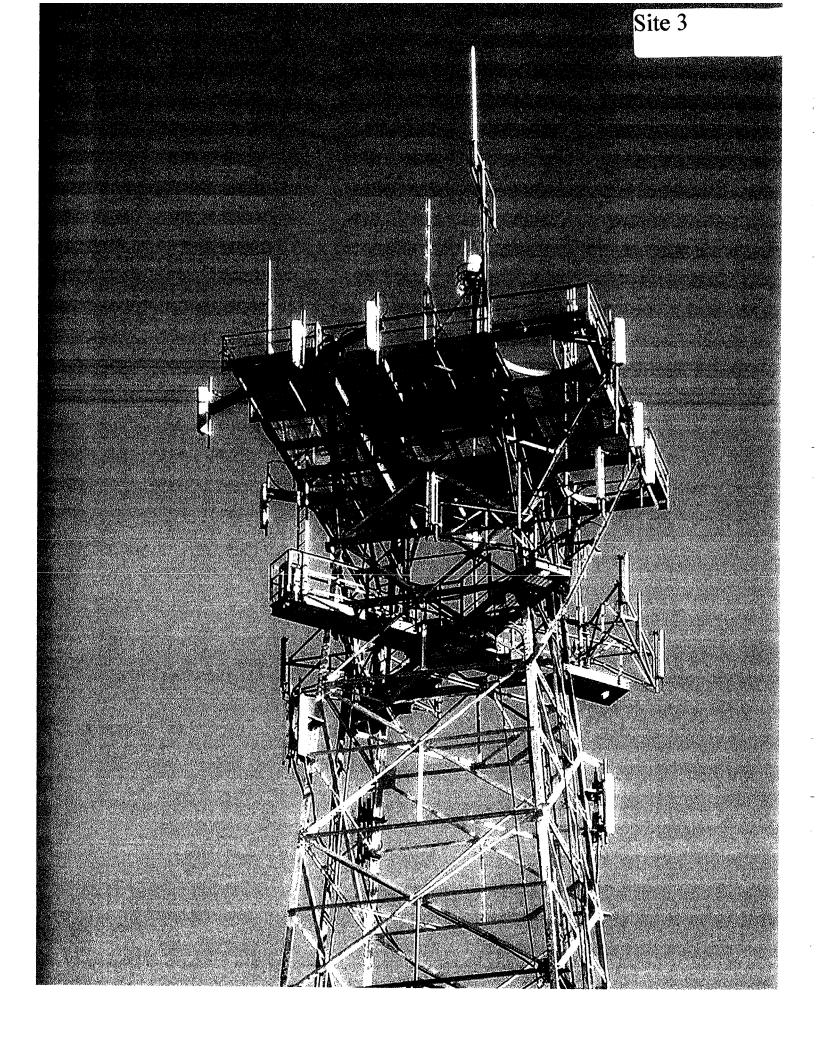
שאיני י



TOWER ELEVATION

REPLACEMENT
ANTENNAS
6-POWERWAVE 7770
12-POWERWAVE TMA





# Site Specific Attachments

## Site 4

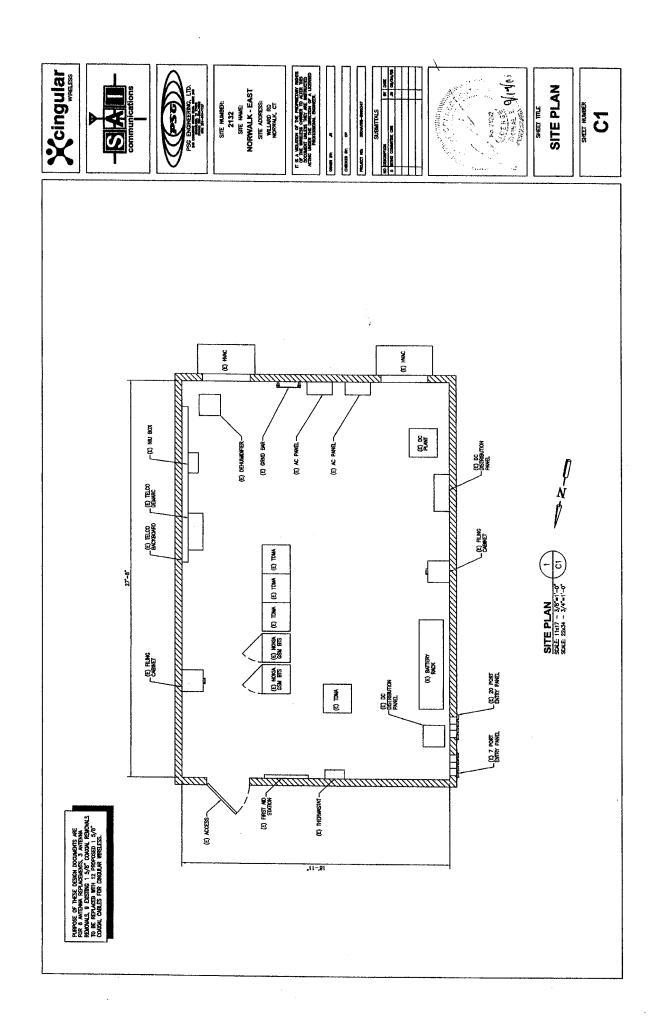
- 1. Site Plans
- 2. Tower Structural Analysis
- 3. Site Photographs

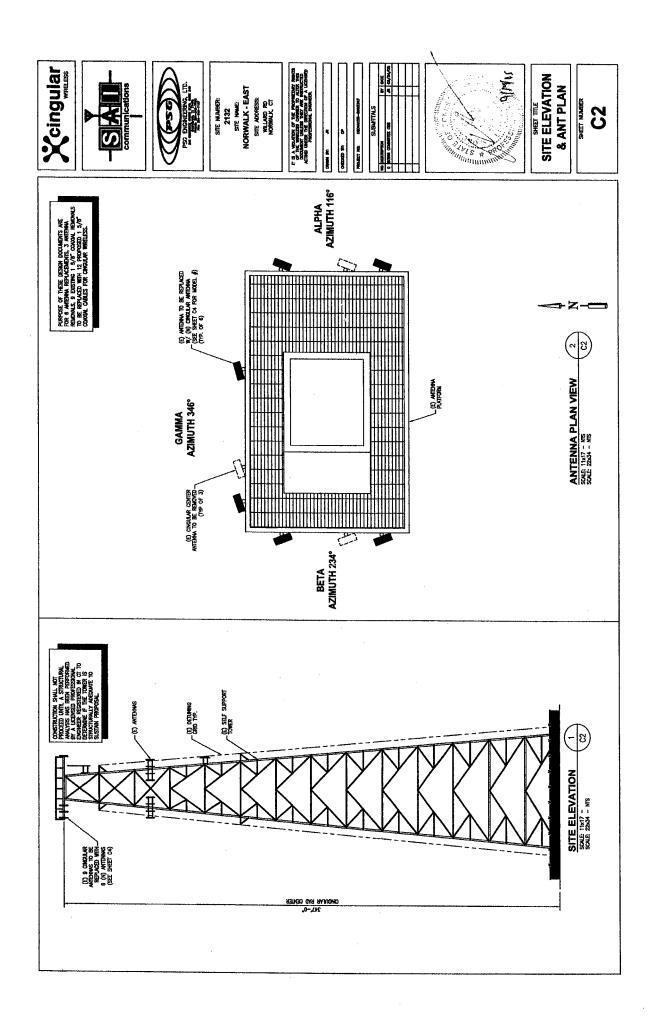
		70		WIRELESS		: 2132	ALK - EAST		BLDG. CODES AND STANDARDS	SUBCOMPACTION'S WORK SAUL COMPLY WITH ALL APPLICABLE MATIONAL, STAIL, AND LOCAL CODES AN EAROPED THE LOCAL MAINTENER HANGE JURISORITIVE (MA) FOR THE LOCATION. THE EDITION OF THE MALADOPED CODES AND SUBMISSIONS OF EFFECT ON THE DATE OF COMPACT MAKES SAULL MATERIAL PROPERTY.	BAILDNE CODE: BA	NITOWAL CODE.  NITOWAL FIRE PROTECTION ASSOCIATION (NFPA) 70 - 2002 INTIONAL ELETTRICAL, CODE.	LIGHTHING PROTESTICN CODE MFPA 780 — 2000, LIGHTHING PROTESTION CODE	SUBCOMINACIOR'S WORK SAML COMPLY WITH THE LATEST EDITION OF THE FULL PRINCIPLY SAME SAML COMPLY WITH THE LATEST EDITION OF THE	MERCHAN CONCRET RESIDENT (A.V.) 519, SOLLAND COLUMBRICATION STREET, AMERICAN PERILITIES, CONCRETE CHESTROOM PERILITIES OF STREET, CONCRETENCING, (ASC.), MANUAL, OF STREET, CONCRETENCING, ASC.) NORM RETITIES.  THE STREET STREET, STREET, STREET, STREET, STREET, SALLAND THE STREET, SALLAND THE STREET, STREET, SALLAND THE SALLAND THE STREET, SALLAND THE STREET, SALLAND THE SALLAND TH	STANDARDS FOR STEEL ANTENNA TOWER AND MITDIAN SUPPORTING STANDARDS TO STANDARD BULDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS.	INSTITUTE FOR ELECTRICAL AND ELECTRICAMES BHONEEDS (FEE) 81, CALOE, FOR MESSURING, SOFTHING, RECOMBLY SURFACE, POTENTIALS OF A COCHAN SISTEM PRICTICE FOR POWERING AND GROUNDING IEEE 1100 (1989). RECOMBLINED PRICTICE FOR POWERING AND GROUNDING	OF ELECTRONIC EQUIPMENT  VETE AND AT DESCRIPTION DOMINICE ON SIDES UNITABLE IN 1 MM		TELCOPON GR-1275, GONERAL INSTALLATION REQUIREMENTS TELCOPON GR-1503, CONVAL CARLE CORNECTIONS	ANSI TI, STI, FOR TELECOM - OC POWER SYSTEMS - TELECOM, EMMICONNESTIAL, PROTECTION	FOR ANY CONFLUTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGURGALING. THE MOST RESUMPLIENT SAME, ONFORE, MEDIE TO THE MOST RESUMPLIEN SAME, SOMERLE IN THE MOST RESIMENTER REQUIREMENT SAME, SOMERLE INFORE THERE IS	COMPLOT RETHERN A GONERAL RECURRICARIO A SPECIFIC RECURRICADIT, THE SPECIFIC RECURRICADIT SIMIL CONDIN.		
						SITE NUMBER: 2132	SITE NAME: NORWALK - EAST		MAPS & DIRECTIONS	FROM 1—55 WEST TAKE BOT 17 AND TAKE SR-35 (SAUGATHOR ARE) NORTH. TURN LEFT ONTO STLUM RD S. TURN LEFT ONTO US-1 (POST RD W). TURN RIGHT ONTO STRAWBERRY MIL ARE. TOHER SITE IS ON THE ROBER.	51 136 138 15 15 15 15 15 15 15 15 15 15 15 15 15	122 106 15	New Canaan Pep licra street Southward	aid9e	~	um of River Springdele	Demoy Geptical 138	€ Aguay				E WEE SO THE SO		Oxford Oxford	S Alman S New S
						-			REV	000															
APPROVALS	SIGNATURE DATE		SIGNATURE DATE		SIGNATURE DATE	COMMUTEE	SIGNATURE DATE		DRAWING INDEX	TITLE SHEET SITE PLAN	SI E ELEVATION & AN EUNA PLAN ANTENNA PLUMBING DIAGRAM-ALPHA-BETA-GAMMA RF DATA INFORMATION							PROJECT INFORMA				•	347"-d' Roc consultants		
	NAME (PRINT)	CHGULAR	NAME (PRINT)	88	NAME (PRUNT)	STING COUNCIL COMMUTEE	NAME (PRINT)	SHES.		2132 - Ti 2132 - Ci	2132 - C2 2132 - C3								SCOPE OF WORI SITE NUMBER: SITE MAME:	ADDRESS: CITY, STATE ZIP	LONGTUDE: JURISDICTION:	CURRENT USE: PROPOSED USE: SITE TYPE:	RAD CENTER: OWNER:		

SITE NAMERE
2132
SITE NAME
NORWALK - EAST
SITE ADDRESS:
WILLIAND RD
NORWALK CT

SHET THE SHEET

Kcingular





RI UUD

BE

BAYAR ENGINEERING, P.C.

P.O. Box 1287, Port Chester, N.Y. 10573-8287 TEL: (914) 681-8749 FAX: (914) 421-0416

Demirtas C. Boyer, P.E.

October 10, 2005

Mr. George Bullock SAI Communications 184 Rockingham Road, Unit A Londonderry, NH 03053

Re: Structural Analysis of tower in Norwalk, CT. (Site 2132)
BE Job No. 0509-4

Dear Mr. Bullock,

Our previous analysis of the existing 350'-0" type L tower at Norwalk, CT. in 2003 was for the tower to carry the antennas and equipment shown on Sketch No 0509-4. The WHSU transmitter wires will be installed shortly. That analysis included the 12 ALP antennas which now will be replaced by 6 powerwave 7770 antennas and 12 powerwave TMAs. The number of cables running down the tower will be the same. That previous analysis showed that one diagonal member was overstressed by 1.3 percent and another by 1.0 percent. We reviewed these two members in detail and determined that the tower is safe for the proposed loads.

The new proposal of replacing the 12 ALP antennas with 6 Powerwave antennas and 12 Powerwave TMAs will reduce the overstresses in the two diagonals and allow the tower to be structurally adequate for the proposed configuration. This last analysis assumed that the number of cables will remain the same and no new cable racks will be installed on the tower.

Yours truly,

Demirtas Bayar, P.E. # 12725 (CT)

President



Date 10/9/2005

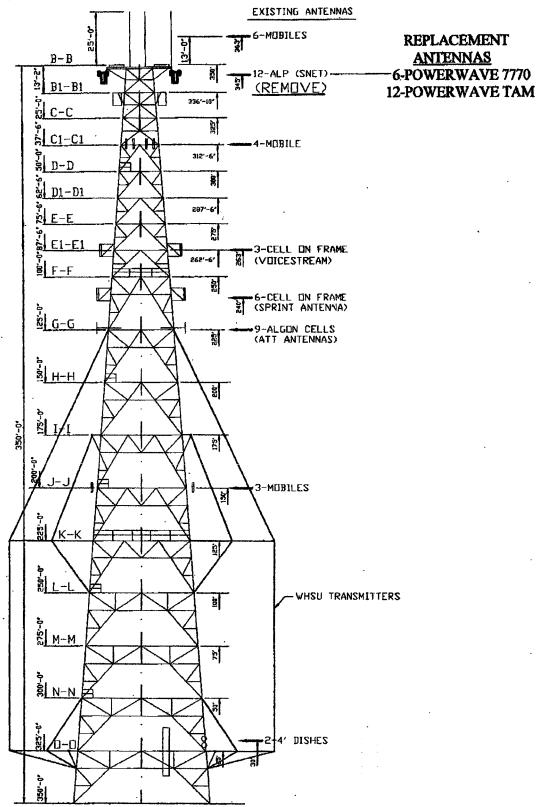
Project: NORWALK,

NORWALK, CT. EXIST. 350'-0' TYPE 'L'

**ELEVATION** 

(85B)

Ву \_





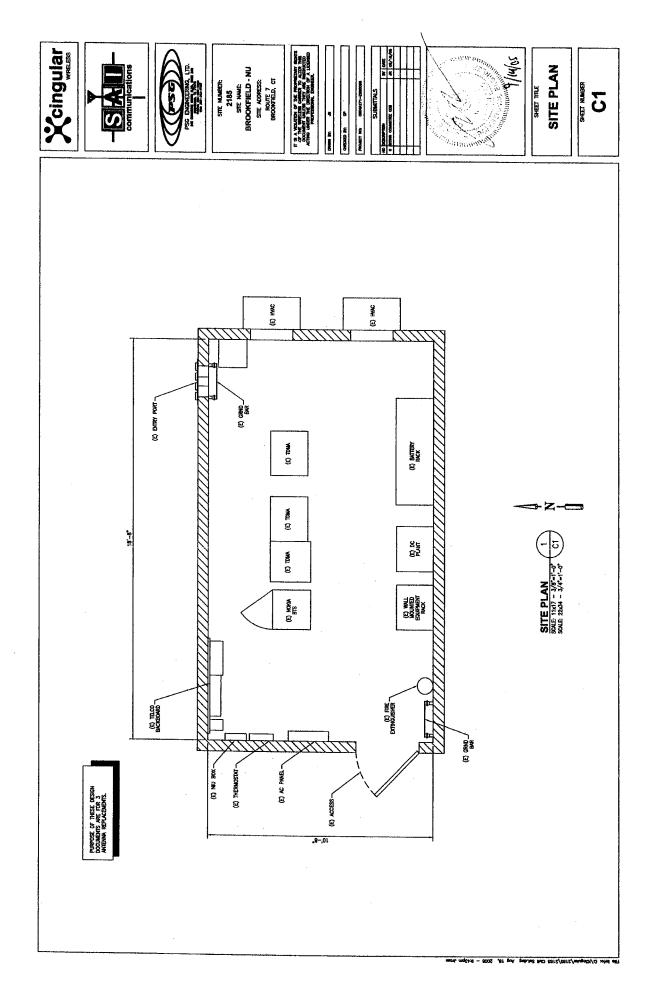


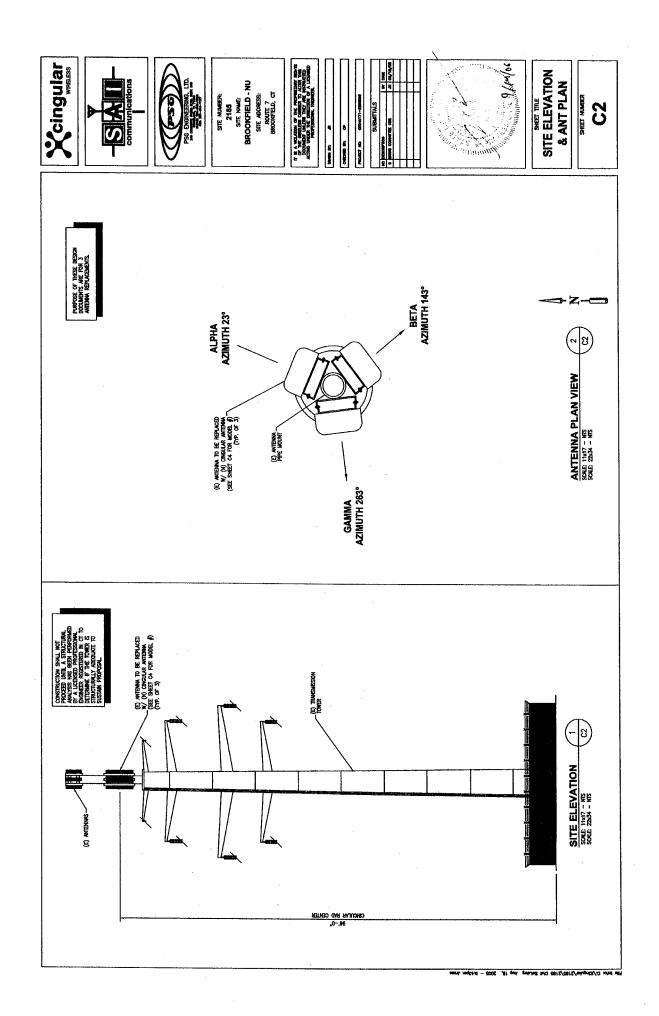
# Site Specific Attachments

## Site 5

- 1. Site Plans
- 2. Tower Structural Analysis
- 3. Site Photographs

Singular	WHELESS	<b>&gt;</b>		communications			PSO ENCHEDRING, LTD.  In might four years  The products	STE NUMBER:	2185	SITE NAME: BROOKFIELD - NU SITE AONESSS	ROUTE 7 BROOKFIELD, CT	IT IS A VICEATION OF THE PROPRESSARY RIGHTS	OCCUPATION OF THE ACTIVITY THE COCCUPATION OF A LECTURED ACTIVE CHECK THE ENGINEER.  ACTIVE CHECK THE ENGINEER.	CRMMH 871. (R	e us decise	PROJECT UR. GEORGY1-CREEDES	NO CONTROLLE ON THE CON			White the state of	1	1		Jens Charles	io (1)	SHEET MLE	TITI E SHEET	SHEET NUMBER	7
		70	5	WIRELESS	070	C917	FIELD - NU		BLDG. CODES AND STANDARDS	SUBCOMPACTICK'S WORK SHALL COMPLY WITH ALL APPLICABLE MATONAL, STATE, AND LOUGH COORS, AND STATE THE LOUGH CORRECT HANGE ALRESTORM (HALL) FOR THE LOUGHD. THE MAJE COPPED COORS, AND STATEMENT IN FIRST ON THE DATE OF CONTRACT PARAD SHALL CONCERN THE PARE OF CONTRACT PARAD SHALL CONCERN.	But rates Avenue	INTERNATIONAL BAILDING CODE (BC), 2003	ELECTRICAL CODE: NATIONAL FIRE PROFECTION ASSOCIATION (MFPA) 70 - 2002 INTIONAL ELECTRICAL CODE.	LIGHTHING PROTECTION CODE. NFPA, 780 — 2000, LIGHTHING PROTECTION CODE.	3	FOLLOWING STRUCKBURGHOSS. AMERICAN CONCRETE NESTTUTE (AC) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.  FOR STRUCTURAL CONCRETE.	MARROWN MISTUTE OF STEEL CHARRACTORY (MSC), MANUAL OF STEEL CONSTITUCTION, ASD, MAINT EDITION CONSTITUCTION, ASD, MAINT EDITION CITY, 22.2., STREATURAL TITLECOMMUNICATIONS, MATCHING (TNA), 22.2., STREATURAL MISTURES, MSC, MAY, MAY, MAY, MAY, MAY, MAY, MAY, MAY	STRUCTURES. THE OFFICE SERVICES STRUCTURES. THE OFFICE SERVICES STRUCTURES. THE OFFICE SERVICES SERVICES STRUCTURES. THE FORM STRUCTURES.	NETECTAMENTALISTS  NETTOTE FOR ELECTRONICS ENGINEERS (FEE) 81, CURDE	TOR MICHAEN EARTH RESSENTY, GROUND INPENINCE, AND EARTH SURFACE RESENTINGS OF A GROUND SYSTEM SPACEMENT OR POWERING WILL GROUNDING RECOMMENDED PRACTICE TOR POWERING AND GROUNDING	OF ELECTRONIC EQUALIFIERS	VOLTAGE AC POWER CRUCHES FOR JOHN VALIMES IN LAN YOUTHER AC POWER CRUCHES FOR LICKINGN CATEGORY TO AND THESE SYSTEM ESPOSSIRE!		TELOROM GR-1903, COMME CABLE COMMECTIONS ANS THE THE THE THE THE FORMED SYSTEMS — THE STAM	ENVECTORISM PROTECTION THE ANY CONTRACT CONTRACT OF HERE ANY CHARLES ANY	TOK MAT COMPLEXE, METHORS OF CONSTRUCTION, OR OTHER RECOMMENDED.  THE MOST RESTRECTIVE REQUIREMENT SHALL CONERW. WHERE THERE IS	CONTICT BETWEEN A CHREAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SPALL GOVERN.		
						SILE NUMBER: 2100	SITE NAME: BROOKFIELD - NU		MAPS & DIRECTIONS	TAKE 1—64 [J.S7] EJGT AND CONTINUE ON US7. TURN ROGHT ONTO US202 [US7].			<b>∀ORK</b> 202 /	Brookfletd	9	CONNECTIC	55 (20) Sipport Sippor		6 Newto	S. Danburde 302 25		Laurel Hill	Brookfleid		1 200 H	*	2/		Second Se
							·		REV	-z-c3		•	d√	/W A	TIN	VICI									<b>d</b> A∧	E	LIS		
NLS	OATE		DATE		DATE		DATE		×		-ALPHA-BETA-GAMMA										RMATION	ACILITY MODIFICATIONS							
APPROVALS	SIGNATURE		SIGNATURE		SKGNATURE	AATTEE	SIGNATURE		DRAWING INDEX	TITLE SHEET SITE PLAN	SHE ELEVATION & ANTENNA PLAN ANTENNA PLUMBING DIAGRAM-ALPHA-BETA-GAMMA	RF DATA INFORMATION													FAIRFIELD COUNTY TELECOMMUNICATIONS FACILITY		NORTHEAST UTILITIES		
	NAME (PRINT)	CHGULAR	NAME (PRINT)	35	NAME (PRINT)	STIENG COUNCIL COMMETTEE	NAME (PRINT)	OTHER		2185 - T1 2185 - C1	2185 - C3	2185 - C4										SCOPE OF WORK: SITE NUMBER:	STE NAME: ADDRESS:	LATTUDE:	JURISDICTION: CURRENT USE:	PROPOSED USE:	KAU CENTER: OWNER:		





## STRUCTURAL ANALYSIS - SITE #2185

From: sahirm@NU.COM [mailto:sahirm@NU.COM]

Sent: Thursday, October 20, 2005 2:18 PM

To: Burks, Tim

Cc: madejra@NU.COM; grayrd@NU.COM; hillde@NU.COM

Subject: Shelton, Stratford and Brookfield approved, Trumbull require full

analysis and is in progress.

Tim,

The attached file below is the evaluation performed for the existing structures for the Cingular antenna modifications. We were able to evaluate and approve the three structures listed below. These three structures are approved for the proposed antenna modifications including their associated TMAs and coaxial cables.

- 1- Stratford, CT Harvest Ridge Road Structure #1321 Cingular site # 2043
- 2- Shelton, CT Daybreak Lane, Structure #1340 Cingular site # 2044
- 3- West Brookfield, CT Structure #2683 Cingular site # 2185

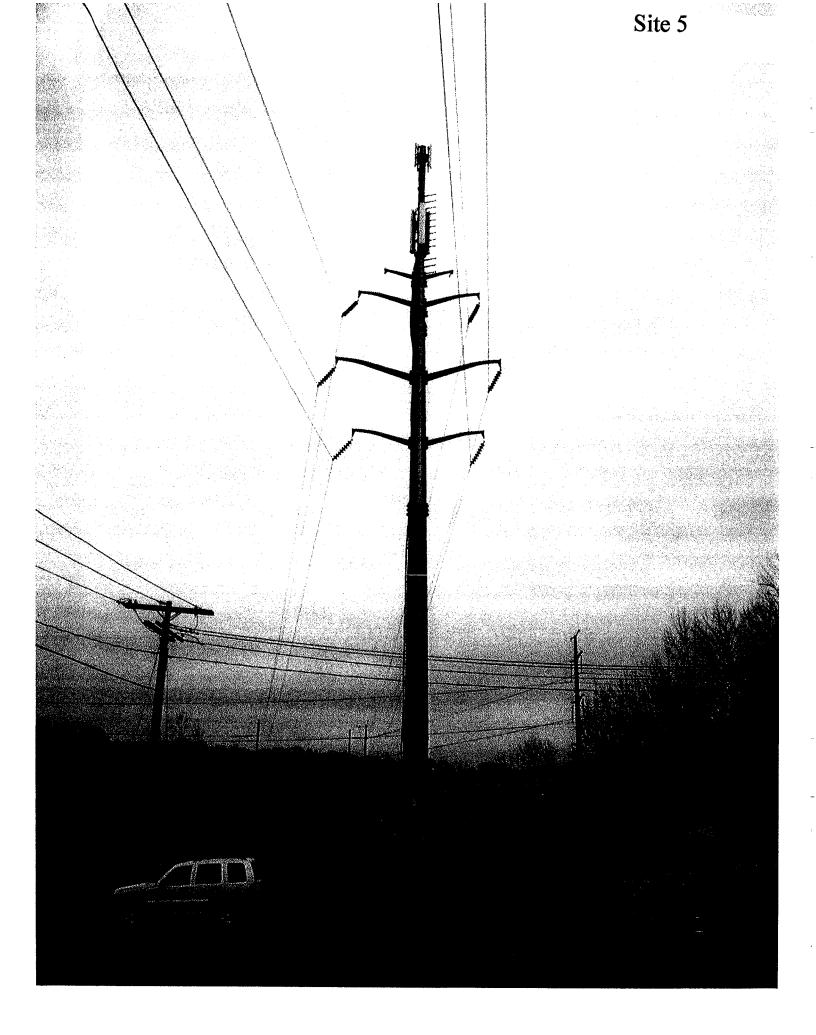
The Trumbull-JCT Old Town Structure # 844 Cingular site # CT0089. This structure is a Finney Pole(Built-Up I-Beam Section). The structure requires a full structural analysis of the pole including the baseplate, anchor bolts and foundation. I am scheduling this to the list of my assignments and will inform you about the result. I appreciate your patience as this will take some time.

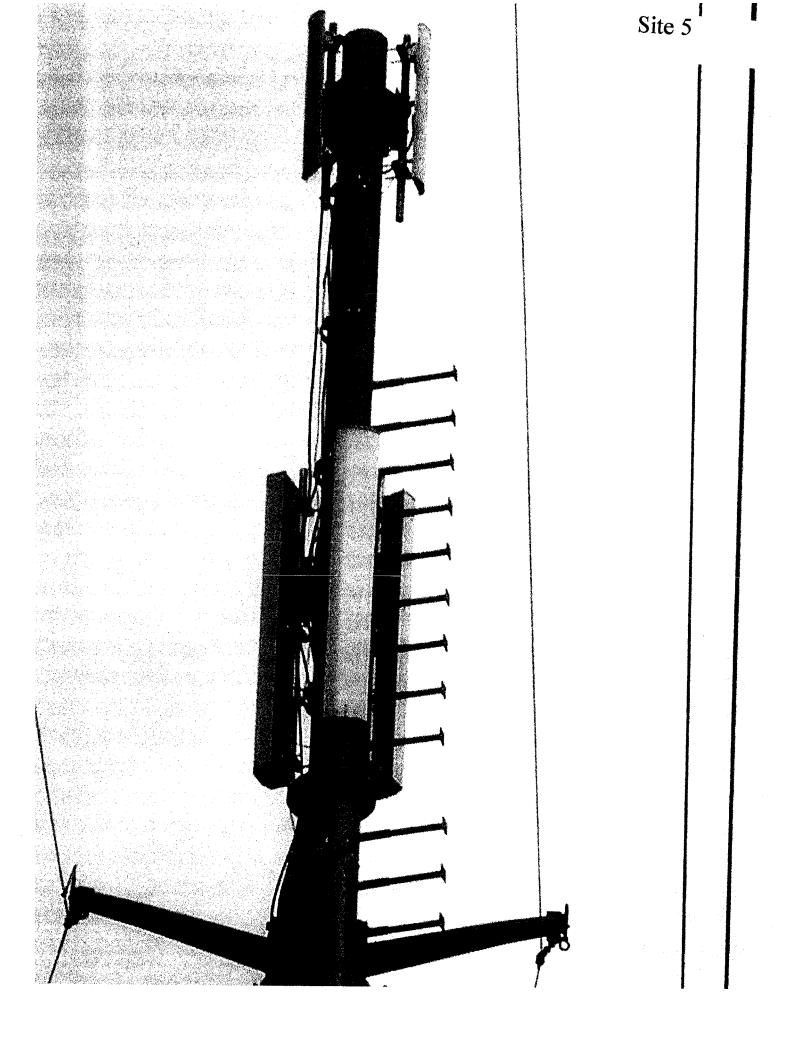
(See attached file: Cingular PCS.pdf)

Best Regards, Mohsen Sahirad, P.E. Senior Engineer Northeast Utilities System Building NUE2, 2nd Floor 107 Selden Street Berlin, CT 06037 Tel: (860) 665-6784

Email: sahirm@nu.com Fax: (860) 665-2820

Antennas         AGL         Description         Area Each, ft²         Area ft²           Design Antenna         3         96.8         EMS RS-90-17-XXDP         6.22         18.67           Design TMAs         0         0         0.00         0.00           Proposed Antennas         3         96.8         PW/7770         4.20         12.60           Proposed TMAs         6         LPG21401         0.68         4.08           Net Area Change (ff*)         -1.98		Number Of	Antenna	Model	Antenna	Total	
3 96.8 EMS RS-90-17-XXDP 6.22 18.67 0 N/A 0.00 0.00 1as 3 96.8 PW7770 4.20 12.60 6 LPG21401 0.68 4.08		Antennas	AGL	Description	Area Each, ft <sup>2</sup>		
NIA 0.00 0.00 0.00 12.60	Design Antenna	3	96.8	EMS RS-90-17-XXDP	6.22		
nas 3 96.8 PW7770 4.20 12.60 12.60 6 4.08 4.08 6 4.08 6 4.08 6 4.08 6 6.66 6.66 6.66 6.66 6.66 6.66 6.66	Design TMAs	0		NA	0.00	0.00	
S(IEC): 6   LPG21401 0.68 4.08 -1.98	Proposed Antennas	ო	96.8	PW7770	4.20	12.60	
-1 <u>.38</u> -1.38	Proposed TMAs	9		LPG21401	99.0	4.08	
	Vet Area Change (ff/)					-1.98	





# Letters to Chief Elected Officials



Honorable Joseph G. Crudo, Town Council Chairman Town of Stratford Town Hall 2725 Main Street Stratford, CT 06615

Re: Notice of Exempt Modifications to Various Facilities in the Towns of Stratford, Shelton, Norwalk and Brookfield, Connecticut

Dear Mr. Crudo,

As part of its merger and integration efforts, New Cingular Wireless PCS, LLC ("Cingular" or "the Company") intends to modify instrumentation and/or antenna configurations at certain wireless telecommunications facilities. As required by the 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 the Company's proposal. Please accept this letter and attachments 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) 301-6378 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincere

David S. Malko, P.E.

Consultant for New Cingular Wireless



Honorable Mark A. Lauretti, Mayor City of Shelton City Hall, Room 202 54 Hill Street Shelton, CT 06484

Re: Notice of Exempt Modifications to Various Facilities in the Towns of Stratford, Shelton, Norwalk and Brookfield, Connecticut

Dear Mr. Lauretti,

As part of its merger and integration efforts, New Cingular Wireless PCS, LLC ("Cingular" or "the Company") intends to modify instrumentation and/or antenna configurations at certain wireless telecommunications facilities. As required by the 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 the Company's proposal. Please accept this letter and attachments 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) 301-6378 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

David S. Malko, P.E.

Consultant for New Cingular Wireless



Honorable Alex A. Knopp, Mayor Office of Mayor & City Clerk City of Norwalk 125 East Avenue P.O. Box 5125 Norwalk, CT 06856-5125

Re: Notice of Exempt Modifications to Various Facilities in the Towns of Stratford, Shelton, Norwalk and Brookfield, Connecticut

Dear Mr. Knopp,

As part of its merger and integration efforts, New Cingular Wireless PCS, LLC ("Cingular" or "the Company") intends to modify instrumentation and/or antenna configurations at certain wireless telecommunications facilities. As required by the 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 the Company's proposal. Please accept this letter and attachments 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) 301-6378 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

David S. Malko, P.E.

Consultant for New Cingular Wireless



Honorable Jerry Murphy, First Selectman Town of Brookfield Town Hall, Room 201 100 Pocono Road Brookfield, CT 06804

Re: Notice of Exempt Modifications to Various Facilities in the Towns of Stratford, Shelton, Norwalk and Brookfield, Connecticut

Dear Mr. Murphy,

As part of its merger and integration efforts, New Cingular Wireless PCS, LLC ("Cingular" or "the Company") intends to modify instrumentation and/or antenna configurations at certain wireless telecommunications facilities. As required by the 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 the Company's proposal. Please accept this letter and attachments 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) 301-6378 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

-David S. Malko, P.E.

Consultant for New Cingular Wireless

# The state of the s

#### 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@po.state.ct.us www.ct.gov/csc

October 25, 2005

The Honorable Alex A. Knopp Mayor City of Norwalk 125 East Avenue P. O. Box 5125 Norwalk, CT 06856-5125

RE: EM-CING-138-126-103-018-051025 – New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 155 Harvest Ridge Road, Stratford; 17 Daybreak Lane, Shelton; 219 Nell's Rock Road, Shelton; 10 Willard Road, Norwalk; and on Route 7, Brookfield, Connecticut.

#### Dear Mayor Knopp:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for November 3, 2005 at 1.30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

If you have any questions or comments regarding this proposal, please call me or inform the council by November 2, 2005.

Thank you for your cooperation and consideration.

Executive Director

SDP/ap

Enclosure: Notice of Intent

c: Michael Greene, Director of Planning and Zoning, City of Norwalk Dorothy Wilson, Senior Planner, City of Norwalk





## 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@po.state.ct.us www.ct.gov/csc

October 25, 2005

The Honorable Jerome T. Murphy First Selectman Town of Brookfield Pocono Road P. O. Box 5106 Brookfield, CT 06804-5106

RE:

EM-CING-138-126-103-018-051025 – New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 155 Harvest Ridge Road, Stratford; 17 Daybreak Lane, Shelton; 219 Nell's Rock Road, Shelton; 10 Willard Road, Norwalk; and on Route 7, Brookfield, Connecticut.

Dear Mayor Knopp:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for November 3, 2005 at 1.30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

If you have any questions or comments regarding this proposal, please call me or inform the council by November 2, 2005.

Thank you for your experation and consideration.

SDP/ap

Enclosure: Notice of Intent

**Executive Director** 

c: Clare Ann Walsh, Land Use Enforcement Officer, Town of Brookfield Heather Paton, Land Use Office, Town of Brookfield





## 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@po.state.ct.us www.ct.gov/csc

October 25, 2005

The Honorable Mark A. Lauretti Mayor City of Shelton 54 Hill Street P. O. Box 364 Shelton, CT 06484

RE:

EM-CING-138-126-103-018-051025 – New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 155 Harvest Ridge Road, Stratford; 17 Daybreak Lane, Shelton; 219 Nell's Rock Road, Shelton; 10 Willard Road, Norwalk; and on Route 7, Brookfield, Connecticut.

Dear Mayor Lauretti:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for November 3, 2005 at 1.30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

If you have any questions or comments regarding this proposal, please call me or inform the council by November 2, 2005.

Thank you for your copperation and consideration.

Executive Director

SDP/ap

Enclosure: Notice of Intent

yøurs.

c: Richard Schultz, Planning Administrator, City of Shelton





## 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@po.state.ct.us www.ct.gov/csc

October 25, 2005

The Honorable Michael Feeney Town Manager Town of Stratford 2725 Main Street Stratford, CT 06497

RE: EM-CING-138-126-103-018-051025 — New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 155 Harvest Ridge Road, Stratford; 17 Daybreak Lane, Shelton; 219 Nell's Rock Road, Shelton; 10 Willard Road, Norwalk; and on Route, 7, Brookfield, Connecticut.

Dear Mr. Feeney:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for November 3, 2005 at 1.30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

If you have any questions or comments regarding this proposal, please call me or inform the council by November 2, 2005.

Thank you for your cooperation and consideration.

S. Derek Phelps

**Executive Director** 

SDP/ap

Enclosure: Notice of Intent

ours,

c: Gary Lorentson, Planning & Zoning Administrator, Town of Stratford

