

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

June 28, 2006

Elizabeth H. Lankenau, AICP
Planner

Kise Straw & Kolodner Inc.
123 Broad Street, Suite 1270
Philadelphia, PA 19109

RE:EM-CING-064-060602 - New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 439-455 Homestead Avenue, Hartford, Connecticut.

Dear Ms. Lankenau:

At a public meeting held on June 27, 2006, the Connecticut Siting Council (Council) acknowledged your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated May 22, 2006, including the placement of all necessary equipment and shelters within the tower compound. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

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

Thank you for your attention and cooperation.

Very truly yours,


Pamela B. Katz, P.E.

Chairman

PBK/laf

- c: The Honorable Eddie A. Perez, Mayor, City of Hartford
- Robert A. LaPorte, Chairman of City Plan Com., City of Hartford
- Jeffrey W. Barbadora, Crown Atlantic Company
- Christine Farrell, T-Mobile
- Christopher B. Fisher, Esq., Cuddy & Feder LLP
- Thomas J. Regan, Esq., Brown Rudnick Berlack Israels LLP
- Kenneth C. Baldwin, Esq., Robinson & Cole LLP



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www.ct.gov/csc

June 7, 2006

The Honorable Eddie A. Perez
Mayor
City of Hartford
Municipal Building
550 Main Street
Hartford, CT 06103

RE: **EM-CING-064-060602** - New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 439-455 Homestead Avenue, Hartford, Connecticut.

Dear Mayor Perez:

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 Wednesday, June 21, 2006 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 June 20, 2006.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/ap

Enclosure: Notice of Intent

c: Robert A. LaPorte, Chairman of City Plan Com., City of Hartford
Lee C. Erdmann, Chief Operating Officer, City of Hartford

EM-CING-064-060602

22 May 2006

Ms. Pam Katz, Chairman, and
Members of the Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RECEIVED
JUN 02 2006

CONNECTICUT
SITING COUNCIL

**RE: Notice of Exempt Modification – Existing AT&T Wireless
Telecommunications Tower Facility at 439-455 Homestead Avenue,
Hartford, Connecticut**

Dear Chairman Katz and Members of the Council:

Kise Straw & Kolodner Inc., in association with Network Building & Consulting, LLC, submits this notice of intent to modify an existing telecommunications facility. New Cingular Wireless PCS, LLC (“Cingular”) proposes to remove and replace telecommunications antennas and associated equipment (formerly owned by AT&T) located on an existing tower at the above-referenced location. Cingular operates under licenses issued by the Federal Communications Commission (FCC) to provide cellular and PCS mobile telephone service in Hartford County, which includes the area to be served by the proposed installation.

Please accept this letter as notification to the Council, pursuant to Regulations of Connecticut State Agencies (RCSA) Section 16-50j-73. This submission will demonstrate that the proposed changes fall within the limits of an exempt modification as described under the RCSA Section 16-50j-72(b)(2).

In accordance with RCSA Section 16-50j-73, the Mayor of the City of Hartford will receive notification of this proposal.

This proposal for modification includes the following attachments:

- Project Location Map,
- Site Layout,
- Tower Elevation,
- Equipment Specifications, and
- Structural Evaluation.

James Bennett Straw, AIA

Harvey D. Kolodner, MBA

James Nelson Kise, AIA/AICP/PP

Scott W. Killinger, AIA

John R. Gibbons, AIA/AICP

Philip E. Scott, EA

Suzanna Barucco

Katherine Bottom, LEED

LaVern Browne

Johnette Davies

Petar D. Glumac, Ph.D

Douglas S. Heckrotte, RA/LEED

Jody Holton, AICP

Marian Maxfield Hull, AICP/PP

Kise Straw & Kolodner Inc.
123 South Broad St.
Suite 1270
Philadelphia, PA 19109
(215) 790-1050 FAX (215) 790-0215
www.ksk1.com

Existing Facility

The NW Hartford facility is located at 439-455 Homestead Avenue, which lies approximately 750' south of Route 44, just west of Baltimore Street. Monopole coordinates are N 41°47'01" and W 72° 42' 18". Please refer to the attached *Project Location Map*.

The facility is controlled and operated by Cingular whose corporate office is located at 500 Enterprise Drive, Rocky Hill, CT 06067. The site hosts a 140' monopole tower on an existing concrete pad. The perimeter of the compound at its longest points measures approximately 61' x 33'. Please refer to the attached *Site Layout*.

Proposed Modifications

As shown on the attached site layout and tower elevation, Cingular proposes to add one (1) new equipment cabinet (Ericsson RBS 3106) on an existing pad within the existing confines of the compound. In addition, Cingular will remove the existing antennas and replace them with a total of six (6) Powerwave #7770 antennas, located at an existing centerline height of approximately 117' above ground level. Cingular will keep the twelve (12) 1 5/8" diameter coaxial cables. Cingular will also remove the existing tower mounted amplifiers and affix twelve (12) new tower mounted amplifiers (LGP 214nn) to the structure at the same height as the antennas. Please refer to the attached *Site Layout*, *Tower Elevation*, and *Equipment Specifications*.

In summary, the facility at 439-455 Homestead Avenue will receive a new equipment cabinet and the final antenna configuration will include:

- 6 antennas,
- 12 coaxial cables, and
- 12 tower mounted amplifiers.

The *Structural Evaluation*, which is attached to this Notice, demonstrates that the monopole will be structurally capable of supporting the proposed Cingular telecommunications equipment once the proposed modifications are complete.

Statutory Considerations

The planned changes to the NW Hartford facility fall within those activities explicitly provided for in RCSA Section 16-50j-72(b)(2). As such, the proposed work does not result in any substantial adverse environmental effect.

1. The proposed work does not affect the height of the structure.
2. The proposed changes do not affect the existing property boundaries. All proposed work will occur on the property controlled by Cingular (formerly AT&T Wireless).
3. The proposed work will not increase noise levels at the monopole site boundary by six (6) decibels or more.

4. Addition of the UMTS broadcasts will not increase the exposure to radio frequency electromagnetic energy, measured at the base of the tower, to or above the standard adopted by the state of Connecticut and the FCC. The table below summarizes the cumulative results for a point of interest at the tower's base of the "worst-case" exposure calculations resulting from all carriers co-located on this tower. The calculations are in accordance with FCC Office of Engineering and Technology Bulletin No. 65 (1997), and for simplicity, an assumption is made that the antennas are all pointed down, thus focusing their energy at the tower's base.

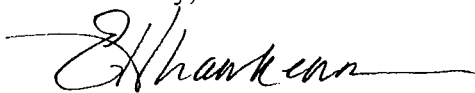
Site # 5131								
Carrier	Antenna Height (ft)	Freq. (MHz) For Limit	# of Channels	W ERP/Channel (ref 1/2-w dipole)	W EIRP/Sector	Power Density ($\mu\text{W}/\text{cm}^2$)	FCC Limit ($\mu\text{W}/\text{cm}^2$)	Percent of Limit (%)
Cingular UMTS	117	1935.0	1	500.0	820.0	13.1	1000	1.31%
Cingular 800	117	880.0	20	250.0	8200.0	131.4	587	22.39%
Cingular 1900	117	1900.0	3	427.0	2100.8	33.7	1000	3.37%
Sprint	104	1900.0	12	500.0	9840.0	199.5	1000	19.95%
T-Mobile	124	1900.0	12	250.0	4920.0	70.2	1000	7.02%
Verizon 800	140	880.0	9	200.0	2952.0	33.0	587	5.63%
Verizon 1900	140	1900.0	3	285.0	1402.2	15.7	1000	1.57%
TOTAL								61.24%

As the table demonstrates, the cumulative worst-case exposure would be approximately 61.24% of the ANSI/IEEE standard, as calculated for mixed frequency sites. Total power density levels resulting from Cingular's use of the monopole facility would be within applicable standards.

For the foregoing reasons, Cingular respectfully submits that proposed changes at the NW Hartford site constitute an exempt modification under RCSA Section 16-50j-72(b)(2).

Please do not hesitate to call me at 215.790.1050 ext. 138 with questions concerning this notice. Thank you for your consideration of this matter.

Sincerely,



Elizabeth H. Lankenau, AICP
Planner

Attachments

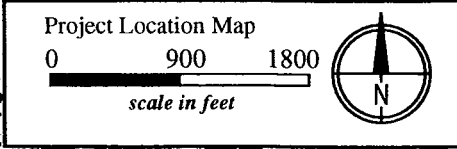
cc: Honorable Eddie A. Perez, Mayor, City of Hartford

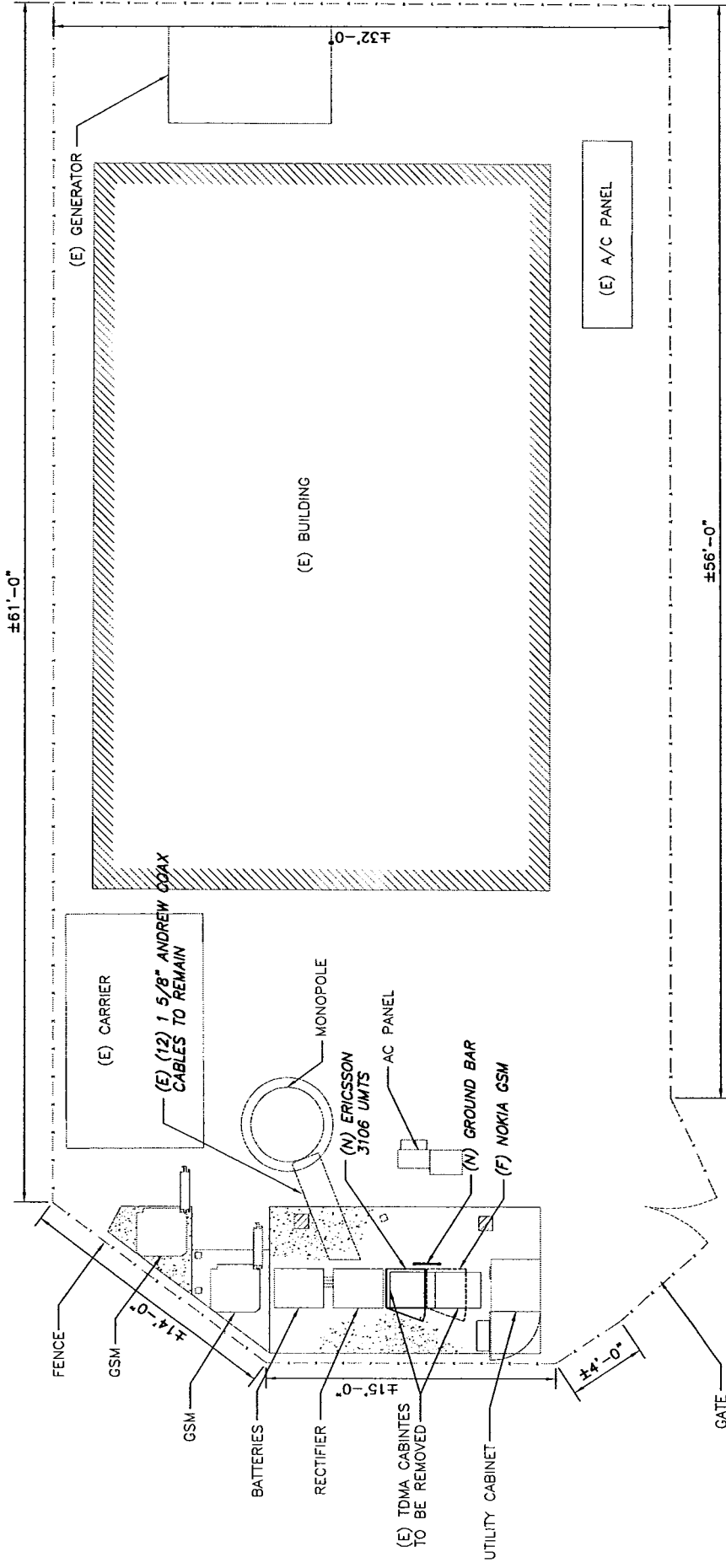
Attachments

439-455 Homestead Avenue, Hartford, CT

- Project Location Map
- Site Layout
- Tower Elevation
- New Equipment Specifications
- Structural Evaluation

439-455 Homestead Avenue
Hartford, CT





SITE LAYOUT
SCALE: 1/8" = 1'-0"



NO.	DATE	REVISION DESCRIPTION	BY	CHK	APP'D
4	05/16/06	MISC. REVISIONS	PHR	CW	CW
3	05/04/06	MISC. REVISIONS	MAK	CW	CW
2	04/28/06	MISC. REVISIONS	PHR	CW	CW
1	04/25/06	MISC. REVISIONS	PHR	CW	CW
0	04/24/06	MISC. REVISIONS	PHR	CW	CW

SITE NAME: NW HARTFORD
SITE NUMBER: 5131
439--608 HONESTAD AVENUE
HARTFORD, CT 06101

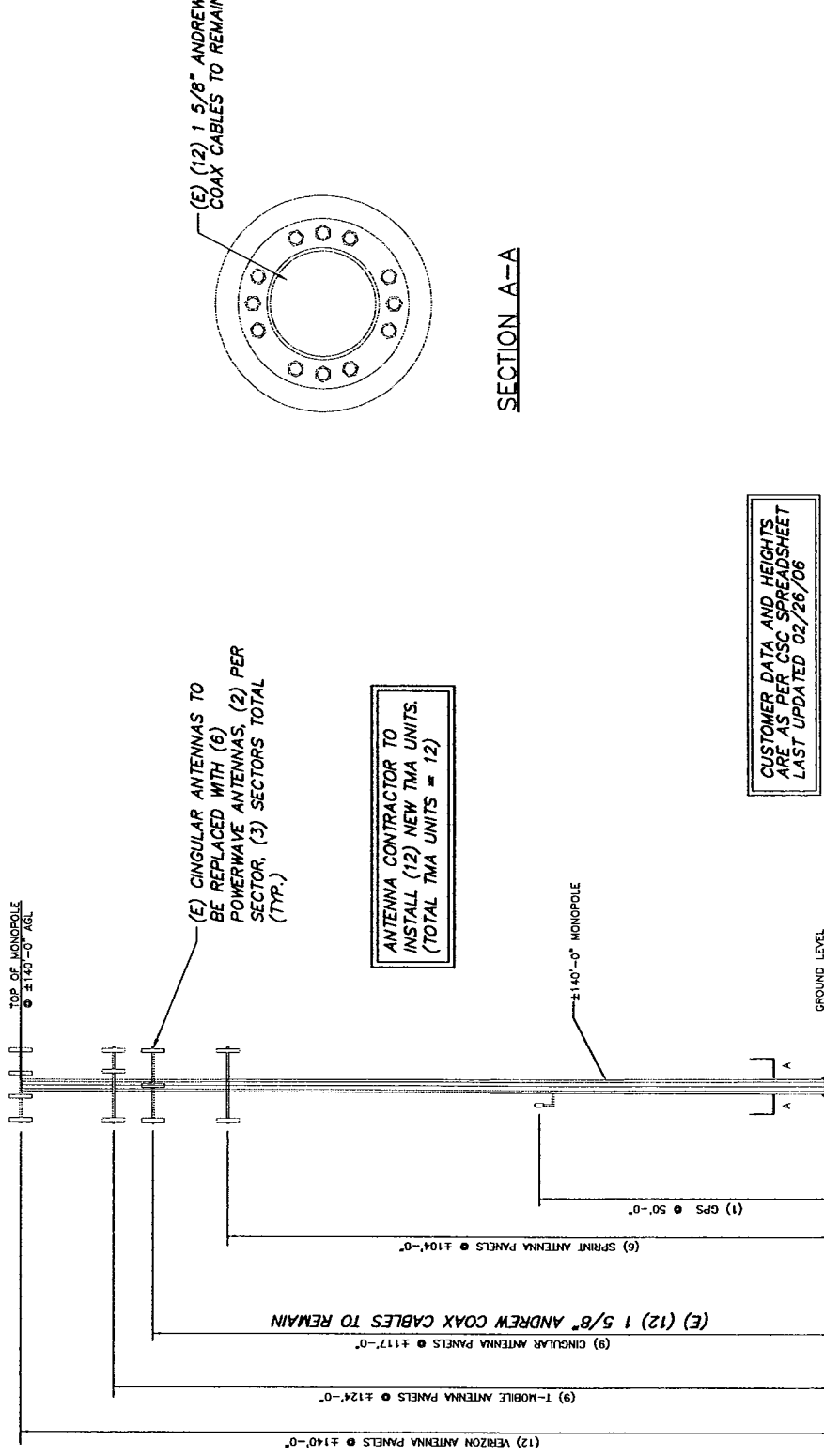
infinigy
Engineering
300 GREAT OAKS BLVD.
SUITE 312
ALBANY, NY 12203
OFFICE: (518) 890-0790
FAX: (518) 890-0793
185-045

CH2MHILL
8619 WEST BRYN MAWR
CHICAGO, ILLINOIS 60631

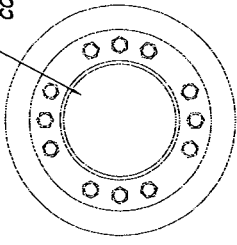
ERICSSON
6300 LEGACY DRIVE
PLANO, TX 75024

LATITUDE: 41° 47' 01"
LONGITUDE: 72° 42' 18"

CELLULAR WIRELESS
600 MAIN STREET
DOLTON, MA 01740



(E) (12) 1 5/8" ANDREW COAX CABLES TO REMAIN



SECTION A-A

ANTENNA CONTRACTOR TO INSTALL (12) NEW TMA UNITS. (TOTAL TMA UNITS = 12)

CUSTOMER DATA AND HEIGHTS ARE AS PER CSC SPREADSHEET LAST UPDATED 02/26/06

TOWER ELEVATION
SCALE: 1" = 30'-0"

LATITUDE: 41° 47' 01"
LONGITUDE: 72° 42' 18"

CINGULAR WIRELESS
590 MAIN STREET
BOLTON, MA 01740

ERICSSON
6300 LEGACY DRIVE
PLANO, TX 75024

CH2MHILL
8619 WEST BRYN MAWR
CHICAGO, ILLINOIS 60631

infinig
ENGINEERING
300 GREAT OAKS BLVD.
SUITE 312
ALBANY, NY 12203
OFFICE: (518) 890-0790
FAX: (518) 890-0795
185-045

SITE NAME: NW HARTFORD
SITE NUMBER: 5131
436-1468 HONESTY AVE
HARTFORD, CT 06101

NO.	DATE	REVISION DESCRIPTION	BY	CHK	APP'D
4	05/16/06	MISC. REVISIONS	PHR	CJW	CJW
3	05/04/06	MISC. REVISIONS	MAK	CJW	CJW
2	04/28/06	MISC. REVISIONS	PHR	CJW	CJW
1	04/25/06	MISC. REVISIONS	PHR	CJW	CJW
0	04/24/06	MISC. REVISIONS	PHR	CJW	CJW
NO.		DATE	REVISION DESCRIPTION	BY	CHK APP'D
					SITE NUMBER
					5131

3 Dimensions

This section describes the physical characteristics of the RBS: dimensions, weight, and color.

Table 1 The RBS Dimensions

Unit	Dimensions (mm)
Height	1626
Width	1300
Depth	710
Depth including door	926

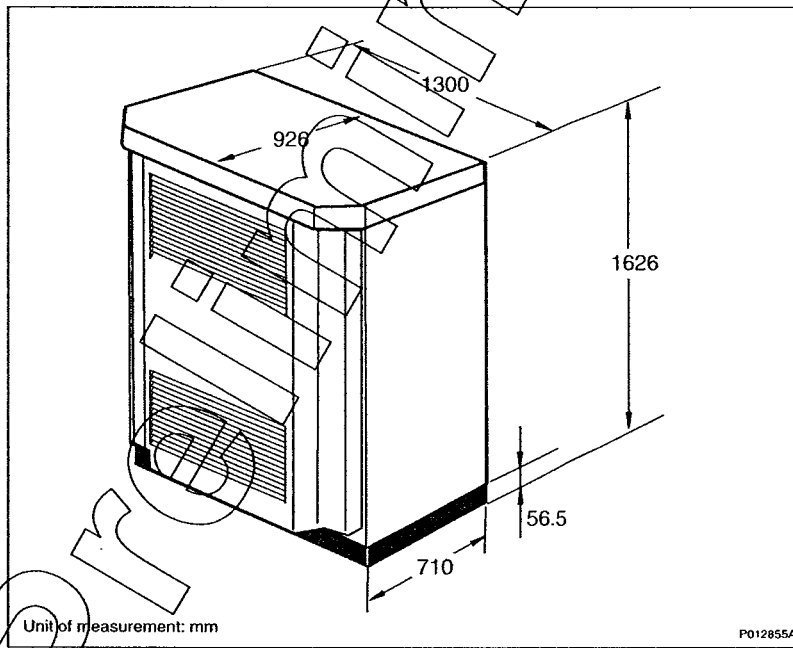


Figure 2 RBS 3106 Dimensions

The RBS weight is shown in the table below.

Table 2 The RBS Weight

Unit	Weight (kg)
RBS fully equipped excluding batteries	560
RBS fully equipped including batteries	850
RBS fully equipped including batteries and future expansion of hardware (not yet available)	875
Installation frame	12

The RBS color is shown in the table below.

Table 3 The RBS Color

Color	Color Standard
Grey	RAL 7035
Green	NCS 8010-G 10 Y

Preliminary

Dual Broadband Antenna

90° 1.4 m MET Antenna

806-960/1710-2170 MHz

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

ANTENNA
SYSTEMS

BASE STATION
SYSTEMS

COVERAGE
SYSTEMS

THE POWER IN WIRELESS®

 **Powerwave**
technologies

806-960/1710-2170 MHz

Dual Broadband Antenna

Electrical Specifications (Preliminary)

Frequency band (MHz)	806-960	1710-2170
Gain, ± 0.5 dB (dBi)	13.5	16.0
Polarization	Dual linear $\pm 45^\circ$	
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 \pm 5°	85 \pm 5°
Tracking, Horizontal plane, $\pm 60^\circ$ (dB)	<2.0	
Tracking, Horizontal plane, $\pm 60^\circ$ (dB)		<2.0
Electrical downtilt range (adjustable)	0° to 10°	0° to 8°
Vertical -3 dB beamwidth	14.3 \pm 2.0°	6.6 \pm 1°
Sidelobe suppression, Vertical 1st upper (dB)	>17, 16, 15 x=0, 5, 10° MET	>17, 16, 15 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

Connector Type	4 x 7/16 DIN female
Connector Position	Bottom
Dimensions, HxWxD	1408mm x 280mm x 125mm (55"x11"x5")
Weight Including Brackets	15.8 kg (35 lbs)
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
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Fax: 714-466-5800
www.powerwave.com

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COVERAGE AND CAPACITY

TECHNOLOGY LEADERSHIP

GLOBAL PARTNER

INTEGRATED SOLUTIONS

QUALITY AND RELIABILITY

Tower Mounted Amplifier

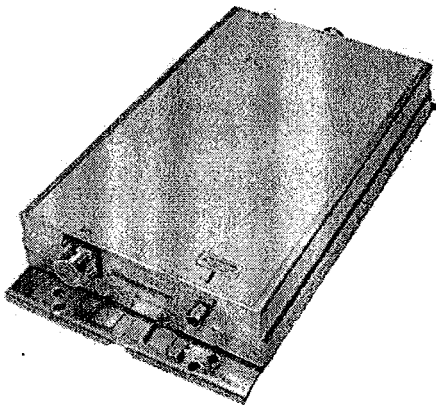
Dual Band 1900 MHz with 850 MHz Bypass

1900/850 MHz

Part Number: LGP 214nn	Up-link: 1850-1910 MHz Down-link: 1930-1990 MHz Bypass: 824-894 MHz	Gain: 12 dB Noise Figure: < 1.7 dB
---------------------------	---	---------------------------------------

The Powerwave® TMA-DD 1900/850 is a dual band Tower Mounted Amplifier (TMA) to be installed near the antenna. Deployed in an AMPS, GSM, GPRS, EDGE and CDMA network it will increase capacity and coverage as well as extend the battery life time for the handsets. The TMA System will provide enhanced coverage and improved up-link signal quality. Appropriate for new rollouts by optimizing coverage with a reduced number of BTSs or as an upgrade to existing BTSs for enhancing the existing coverage.

Extended band TMA facilitates simplified logistics, especially when the frequency bands are scattered. The unit comprises of high Q band-pass filters, dual balanced low noise amplifiers with circuits for active bias, supervision, alarms and lightning protection circuit. The Powerwave patented design with all active components integrated within the filter body provides an extremely reliable, compact and lightweight TMA solution. The vented enclosure design is employed to prevent the effect of condensation, thereby guaranteeing long, reliable, maintenance-free service in all environmental conditions. These TMAs offer an easy to install, maintenance free, cost effective solution for coverage enhancement and increased quality in mobile communication networks.



Key Benefits:

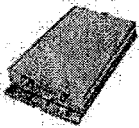
- 850 MHz Bypass
- Improved Network Quality
- Increased Coverage
- State of the Art Performance
- Excellent Power Handling
- Low Tx Loss
- Exceptional Reliability

ANTENNA
SYSTEMS

BASE STATION
SYSTEMS

COVERAGE
SYSTEMS

Tower Mounted Amplifier



1900/850 MHz

Technical Specifications

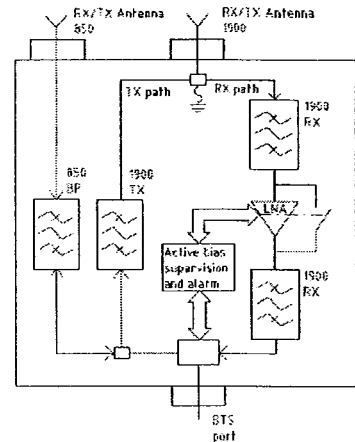
Product Number	LGP214nn	
850 MHz	Bypass (MHz)	824-894
	Return loss* (dB)	> 20
	Insertion loss* (dB)	< 0.3
1900 MHz		
Up-link	Frequency range, full band (60 MHz)	1850-1910
	Nominal gain (dB)	12
	Return loss* (dB)	> 20
	Noise figure* (dB)	< 1.7
	Output 3rd order Intercept Point* (dBm)	> +23
Down-link	Frequency range, full band (60 MHz)	1930-1990
	Insertion loss* (dB)	< 0.6
	Return loss* (dB)	> 20
Intermodulation	2 Tx@x43 dBm (dBc)	< -158
Alarm Functionality	Two levels, individually supervised LNAs	
Power Consumption	@12 VDC	1.2 W

* Typical

All specifications subject to change without notice. Please contact your Powerwave representative for complete performance data.

Mechanical Specifications

Size, W x H x D (without mounting plate)	235 x 366 x 66 mm (9.2 x 14.4 x 2.6 in)
Weight	6.4 kg (14.1 lbs)
Color	Off white (NCS 1502-R)
Housing	Aluminum
RF-connectors	DIN 7/16 female.
Mounting kit	Mounting kit for pole and wall is included
Temperature range	-40 °C to +65 °C (-40 °F to +149 °F)
MTBF	>1 million hours
Safety	UL 60 950
Ingress protection, IP 65	EN 60 529
Environmental	ETS 300 019
EMC	FCC Part 15



D031-08422 Rev. A Pg. 2 of 2

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May 10, 2006

Veronica Harris
Crown Castle International
1200 McArthur Blvd.
Mahwah, NJ 14445

PSG Engineering, Ltd.
8206 Forest Gate Drive
Sugar Land, TX 77479

(201) 236-9094

Phone: (281) 343-7099
Fax: (281) 343-7127

Subject: Structural Analysis Report

Carrier Designation *Cingular Wireless Co-Locate*
Carrier Site Number: "5131"
Carrier Site Name: "NW Hartford"

Crown Castle Designation *Crown Castle BU Number: 806369*
Crown Castle Site Name: HRT 094 943225
Crown Castle JDE Job Number: 806369

Engineering Firm Designation *PSG Engineering Project Number: 0601H138-A040140*

Site Data *439-455 Homestead Ave, Hartford, CT, Hartford County*
Latitude 41° 47' 1.61", Longitude -72° 42' 13.66".
140 Foot - Monopole Tower

Dear Ms. Harris,

PSG Engineering, Ltd. is pleased to submit this "Structural Analysis Report" to determine the structural integrity of the aforementioned tower. This analysis has been performed in accordance with the Crown Castle Structural Statement of Work' and the terms of Crown Castle Purchase Order Number 208770. The purpose of the analysis is to determine the suitability of the tower with the addition of the proposed equipment listed in Table 1 of this report when combined with the existing and reserved equipment on the structure. This analysis has been performed in accordance with the TIA/EIA 222-F standard based upon a wind speed condition of 80 mph.

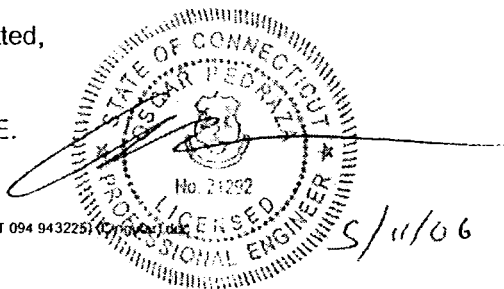
Based on our analysis we have determined the tower and foundation ARE sufficient for the proposed loading.

All proposed equipment shall be installed in accordance with Crown Castle Drawing Number: 806369_A_119.DWG.

We at PSG Engineering appreciate the opportunity of providing our continuing professional services to you and Crown Castle International. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted,

Oscar Pedraza, P.E.
President



5/11/06

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INTRODUCTION

This tower was designed by Valmont on August 20, 1999 per TIA/EIA-222-F using a basic wind speed of 125 mph.

ANALYSIS CRITERIA

This tower is designed using the TIA/EIA-222-F standard.

The following design criteria apply:

- Basic wind speed of 80 mph.
- Nominal ice thickness of 0.5000 in.
- Ice density of 56 pcf.
- A wind speed of 70 mph is used in combination with ice.
- Deflections calculated using a wind speed of 50 mph.
- Feedline torque is considered.
- Pressures are calculated at each section.
- Stress ratio used in tower member design is 1.333

Table 1 – Proposed (P) Antenna and Cable Information

Center Line Elevation (feet)	Number Of Antenna	Antenna Manufacturer	Antenna Model	Mount Model	Number Of Feed Lines	Feed Line Size (inches)
119	6(P) + 3(R)	Powerwave Tech	7770.00	-	*3(P)	*1 5/8
	12(P)	Powerwave Tech	LGP21401			

*Note: Proposed coax shall be located internal of monopole.

Table 2 – Installed (I) and Reserved (R) Antenna and Cable Information

Center Line Elevation (feet)	Number Of Antenna	Antenna Manufacturer	Antenna Model	Mount	Number Of Feed Lines	Feed Line Size (inches)
140	6(I)	Decibel	DB844H80E-XY	Platform w/ Handrail	12(I) (Internal)	7/8
	6(I)		DB948F85T2E-M			
127	9(I)	EMS Wireless	RR90-17-02DP	Platform w/ Handrail	18(I) (12 - Internal) (6 - External)	1 5/8
*119	*9(I)	*Allgon	*7184.14	Low Profile Platform	9(I) (Internal)	1 5/8
104	6(I) + 3(R)	EMS Wireless	RV65-17-02DPL2	Platform w/ Handrail	6(I) + 3(R) (Internal)	1 5/8

*Note: Existing antennas will be removed and replaced with proposed loads. Existing Mount and coax will remain to support proposed loads.

Table 3 – Original Tower Manufacturer Design Antenna and Cable Information

Center Line Elevation (feet)	Number Of Antenna	Antenna Manufacturer	Antenna Model	Mount	Number Of Feed Lines	Feed Line Size (inches)
137	12	Swedcom	ALP 9212-N	Platform w/rail	Not Available	
124	6	Unknown	APN 199015	Platform w/rail		
114	9	Allgon	7184.15	Platform w/o rail		

ANALYSIS PROCEDURE

Table 4 – Documents Provided

Document	Remarks	Reference	Source
Original Tower Design	Valmont		Crown Site Data Manager
Crown Castle Application	Application ID: 31697 Rev. 1	-	Crown Regional Office
CAD Level Drawing(s)	137',124',117',102' Level Drawing(s)	-	Crown CAD Dept.

Analysis Methods

RISATower (Version 4.5.0.00), a commercially available software program, was used to create a three-dimensional model of the tower and calculate member stresses for various dead, live, wind, and ice load cases. All loads were computed in accordance with the ANSI/EIA/TIA 222F or the local building code requirements. Selected output from the analysis is included in Appendix A.

Assumptions

1. Tower and structures were built in accordance with the manufacturer's specifications.
2. The tower and structures have been maintained in accordance with manufacturer's specifications.
3. The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the Level drawing(s) listed in Table 4.
4. When applicable, transmission cables are considered to be structural components for calculating wind loads, as allowed by TIA/EIA-222F.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and PSG Engineering should be allowed to review any new information to determine its effect on the structural integrity of the tower.

ANALYSIS RESULTS

Table 5 – Tower Section Capacity

Section Number	Elevation (feet)	Percent Capacity Used	Pass / Fail
1	140 - 86.8	39.2	Pass
2	86.8 - 38	52.9	Pass
3	38 - 0	52.4	Pass
Base Plate		45.7	Pass
Anchor Bolts		33.8	Pass
Base Foundation (Compared with Original Design Reactions)		≤56.8	Pass