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 30, 2006

Elizabeth H. Lankenau, AICP
Planner
Kise Straw & Kolodner Inc.
123 South Broad Street, Suite 1270
Philadelphia, PA 19109

RE: **EM-CING-062-014-060616** - New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 2755 State Street, Hamden; and 10 Sylvia Street, Branford, Connecticut.

Dear Ms. Lankenau:

At a public meeting held on June 27, 2006, 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.

The proposed modifications are to be implemented as specified here and in your notice dated June 14, 2006 and additional information dated June 27, 2006, 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,

Pamela B. Katz, P.E.
Chairman

PBK/laf

c: See Attached List

G:\EM\CINGULAR\BRANFORD\dc062706(multiplesites-BranfordHamden).DOC

CONNECTICUT SITING COUNCIL

List Attachment.

c: The Honorable Cheryl P. Morris, First Selectman, Town of Branford
Justine K. Gillen, Zoning Enforcement Officer, Town of Branford
Diane Ross, Inland Wetland Enforcement Officer, Town of Branford
The Honorable Craig B. Henrici, Mayor, Town of Hamden
Leslie Creane, Town Planner, Town of Hamden
Karen L. Couture, Site Acquisition Specialist
Christine Farrell, T-Mobile
Christopher B. Fisher, Esq., Cuddy & Feder LLP
Kenneth C. Baldwin, Esq., Robinson & Cole LLP
Michele G. Briggs, New Cingular Wireless PCS, LLC
Thomas J. Regan, Esq., Brown Rudnick Berlack Israels LLP
Global Signal Acquisitions II, LLC

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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E-Mail: siting.council@po.state.ct.us
www.ct.gov/csc

June 21, 2006

The Honorable Craig B. Henrici
Mayor
Town of Hamden
Town Hall
2372 Whitney Avenue
Hamden, CT 06518

RE: **EM-CING-062-014-060616** - New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 2755 State Street, Hamden; and 10 Sylvia Street, Branford, Connecticut.

Dear Mayor Henrici:

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 June 27, 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 26, 2006.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/ap

Enclosure: Notice of Intent

c: Leslie Creane, Town Planner, Town of Hamden

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 21, 2006

The Honorable Cheryl P. Morris
First Selectman
Town of Branford
Town Hall
1019 Main Street
P. O. Box 150
Branford, CT 06405-0150

RE: **EM-CING-062-014-060616** - New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 2755 State Street, Hamden; and 10 Sylvia Street, Branford, Connecticut.

Dear Ms. Morris:

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 June 27, 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 26, 2006.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/ap

Enclosure: Notice of Intent

c: Justine K. Gillen, Zoning Enforcement Officer, Town of Branford
Diana Ross, Inland Wetland Enforcement Officer, Town of Branford

ORIGINAL

EM-CING-062-014-060616

14 June 2006

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

RE: Notice of Exempt Modification – Two (2) Existing Telecommunications Tower Facilities in Hamden and Branford, CT

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 existing telecommunications facilities. New Cingular Wireless PCS, LLC ("Cingular") proposes to remove and replace telecommunications antennas and associated equipment located on an existing facility in the above-referenced municipalities. Cingular operates under licenses issued by the Federal Communications Commission (FCC) to provide cellular and PCS mobile telephone service in the areas to be served by the proposed installations.

Please accept this letter and attachments 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 chief elected officials will receive notification of the work proposed at locations within their jurisdiction.

Attached you will find summary sheets detailing the planned changes, including power density calculations reflecting the change in the effect of Cingular's operations at each site. Also included is documentation of the structural sufficiency of each tower to accommodate the revised antenna configuration.

The planned changes to these facilities 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.

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

2. The proposed changes do not affect the existing property boundaries. All proposed work will occur on the property controlled by Cingular.

3. The proposed work will not increase noise levels at the 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 power density tables provided for each facility summarize 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 the Federal Communications Commission's 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.

For the foregoing reasons, Cingular respectfully submits that proposed changes at the these facilities 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 Craig Henrici, Mayor, Town of Hamden
Honorable Cheryl Morris, First Selectwoman, Town of Branford

2755 State Street, Hamden, CT

Summary Sheet
Project Location Map
Site Plan and Elevation
Structural Analysis
Elected Official Letter

CINGULAR WIRELESS
Proposed Modifications

Site Address: 2755 State Street, Hamden, CT; *Project Location Map* attached

Site Owner: Global Signal

Type of Existing Facility: 120' lattice tower and an equipment shelter on an irregularly shaped compound surrounded by a chain link fence

Antenna Configuration: Center line – 110' above ground level; remove existing CSS DUO4- 8670 antennas and replace with six (6) Powerwave 7770 units; *specification attached*

TMA Configuration: Existing units to be removed and replaced with twelve (12) new LGP 214nn units; *specification attached*

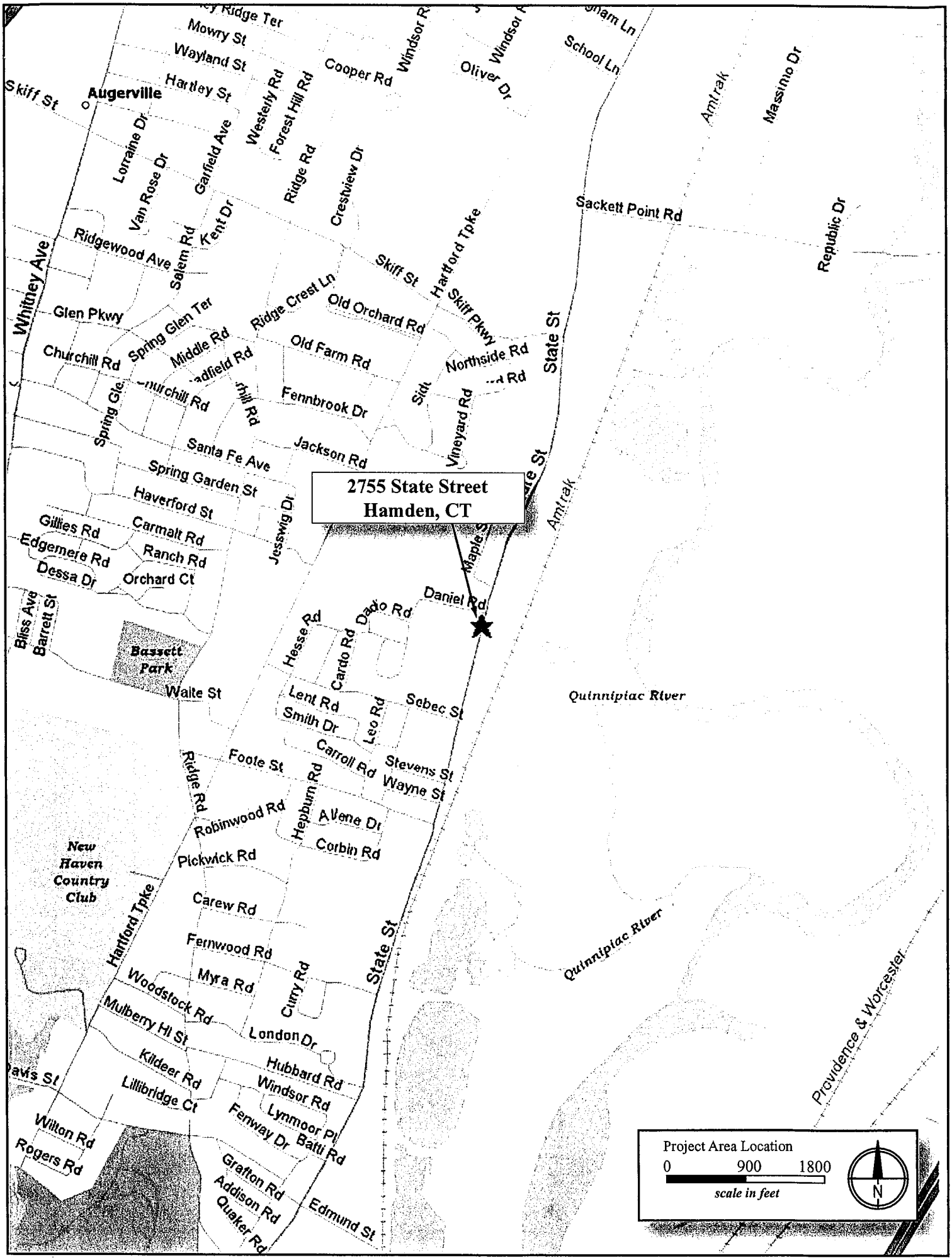
Coaxial Cables: Existing cables to be removed and replaced with twelve (12) new 1 5/8" diameter cables

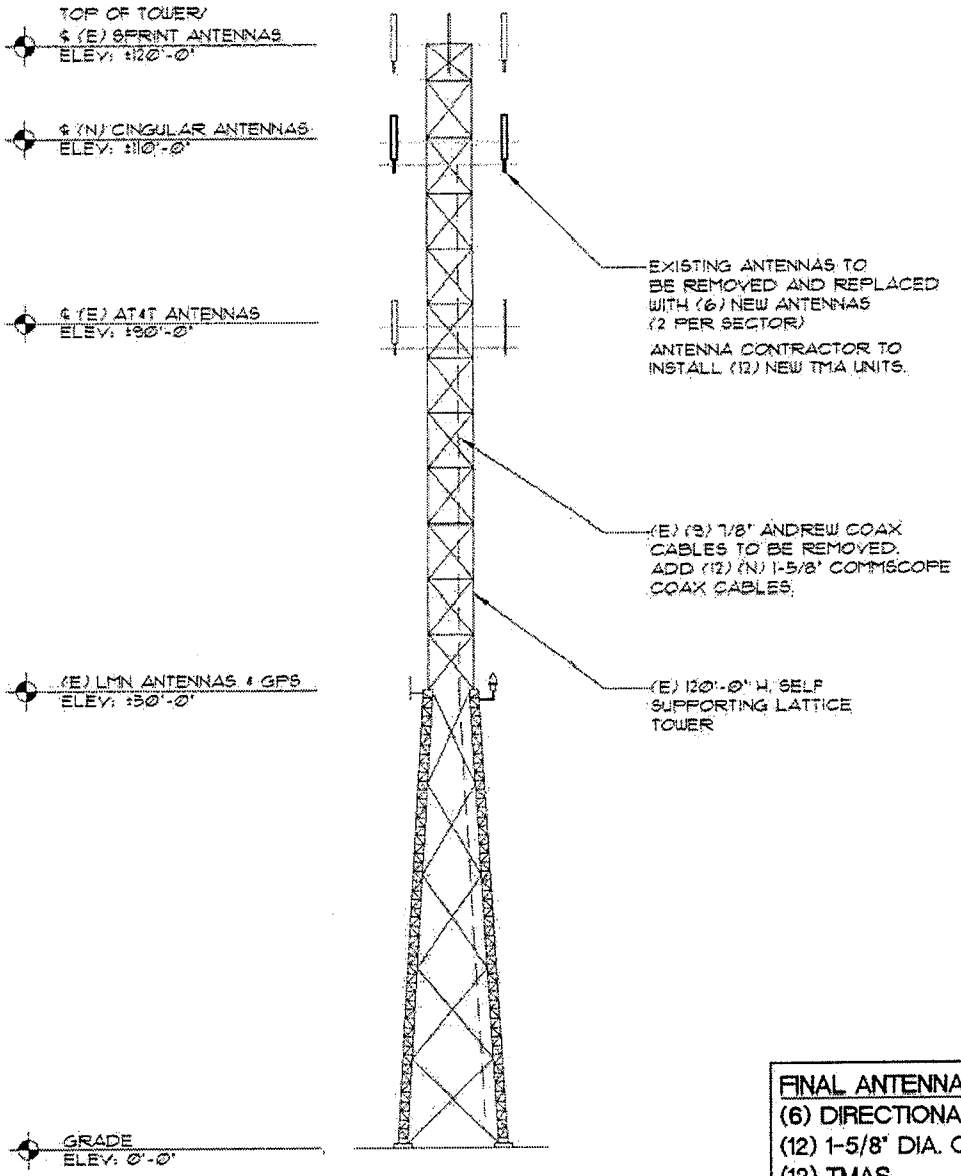
Power Density:

As the table demonstrates, the cumulative worst-case exposure would be approximately 74.16% of the ANSI/IEEE standard, as calculated for mixed frequency sites. Total power density levels resulting from Cingular's use of the facility would be within applicable standards.

Site # 2173								
Carrier	Antenna Height (ft)	Freq. (MHz) For Limit	# of Channels	W ERP/Channel (ref 1/2-w dipole)	W EIRP/Sector	Power Density ($\mu W/cm^2$)	FCC Limit ($\mu W/cm^2$)	Percent of Limit (%)
Cingular UMTS	110	1935.0	1	500.0	820.0	14.9	1000	1.49%
Sprint	120	1900.0	12	500.0	9840.0	149.9	1000	14.99%
Cingular 800	110	880.0	20	250.0	8200.0	148.6	587	25.33%
Cingular 1900	110	1900.0	3	427.0	2100.8	38.1	1000	3.81%
T-Mobile	100	1900.0	12	250.0	4920.0	107.9	1000	10.79%
AT&T	90	1900.0	16	250.0	6560.0	177.6	1000	17.76%
TOTAL								**74.16%**

Structural Analysis: *Structural Analysis* attached.


2755 State Street
Hamden, CT
Augerville
Bassett Park
New Haven Country Club
Quinnipiac River
Quinnipiac River
Providence & Worcester
Amtrak
Amtrak
Project Area Location
0
900
1800
scale in feet
N
Mowry St
Wayland St
Hartley St
Skiff St
Cooper Rd
Oliver Dr
School Ln
Massimo Dr
Republic Dr
Sackett Point Rd
Lorraine Dr
Van Rose Dr
Garfield Ave
Westerly Rd
Forest Hill Rd
Ridge Rd
Crestview Dr
Hartford Tpke
Skiff Pkwy
Ridgewood Ave
Salem Rd
Kent Dr
Whitney Ave
Glen Pkwy
Spring Glen Ter
Ridge Crest Ln
Old Orchard Rd
Middle Rd
Old Farm Rd
Churchill Rd
Fennbrook Dr
Vineyard Rd
Northside Rd
State St
Jackson Rd
Santa Fe Ave
Spring Garden St
Haverford St
Carmalt Rd
Ranch Rd
Orchard Ct
Gillies Rd
Edgemere Rd
Dessa Dr
Jesswig Dr
Maple St
Daniel Rd
Dado Rd
Hesse Rd
Cardo Rd
Bliss Ave
Barrett St
Walte St
Lent Rd
Smith Dr
Leo Rd
Sebec St
Carroll Rd
Stevens St
Wayne St
Foote St
Ridge Rd
Robinwood Rd
Hepburn Rd
A Vene Dr
Corbin Rd
Pickwick Rd
Carew Rd
Fernwood Rd
Myra Rd
Curry Rd
Woodstock Rd
Mulberry Hl St
London Dr
Hubbard Rd
Windsor Rd
Lynmoor Pl
Fenway Dr
Batti Rd
Kildeer Rd
Lillibridge Ct
Wilton Rd
Rogers Rd
Grafton Rd
Addison Rd
Quaker Rd
Edmund St
Hartford Tpke
State St



FINAL ANTENNA CONFIGURATION
(6) DIRECTIONAL ANTENNAS POWERWAVE # 7770
(12) 1-5/8" DIA. COAX CABLES
(12) TMAS

1 TOWER ELEVATION
1"=20'-0"

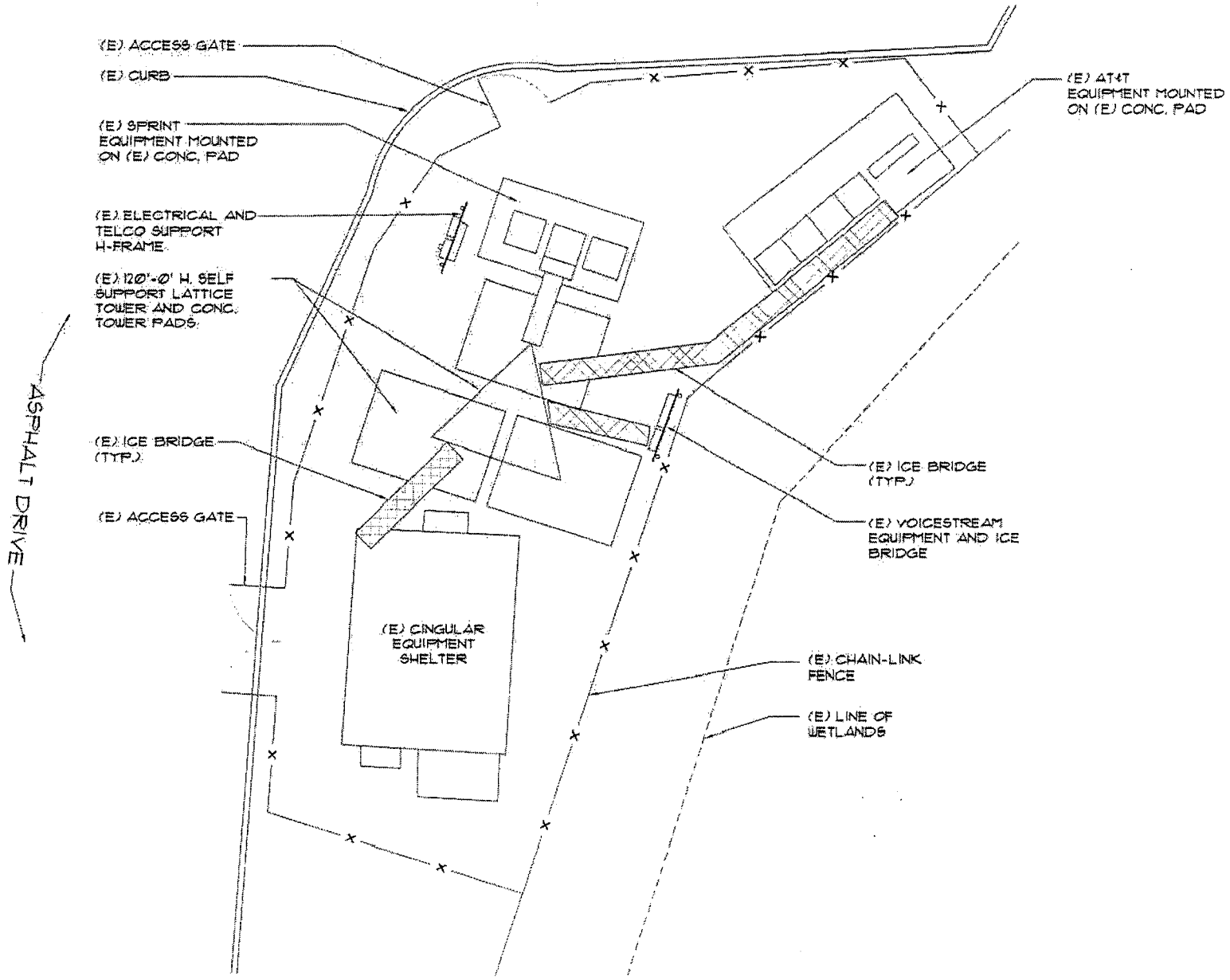
cingular WIRELESS | ERICSSON

CH2M HILL
8619 WEST BRYN MAWR
CHICAGO, ILLINOIS 60631

NO.	DATE	REVISION DESCRIPTION	BY	CHK	APP'D
3	05-07-06	ISSUED FOR CSC SUBMITTAL	RR	JZ	JZ
2	05-25-06	ISSUED FOR CSC REVIEW	RR	JZ	JZ
1	05-19-06	SCOPING REVIEW	FH	JZ	JZ

SCALE: 1"=20'-0" | CHECKED BY: JZ | DRAWN BY: FH

CINGULAR WIRELESS
SITE #: 2173
SITE NAME: HAMDEN
2755 STATE STREET HAMDEN, CT 06473
DRAWING NUMBER: 2173
REV: 0



1 EXISTING SITE PLAN
N.T.S.

cingular WIRELESS SM | ERICSSON

CH2M HILL
8619 WEST BRYN MAWR
CHICAGO, ILLINOIS 60631

NO.	DATE	REVISION DESCRIPTION	BY	CHK	APP'D
3	06-07-06	ISSUED FOR CSC SUBMITTAL	RR	JZ	JZ
2	05-25-06	ISSUED FOR CSC REVIEW	RR	JZ	JZ
1	04-21-06	SCOPING REVIEW	FH	JZ	JZ

SCALE: N.T.S | CHECKED BY: JZ | DRAWN BY: FH

CINGULAR WIRELESS
SITE #: 2173
SITE NAME: HAMDEN
2755 STATE STREET HAMDEN, CT 06473

DRAWING NUMBER: 2173 | REV: 0

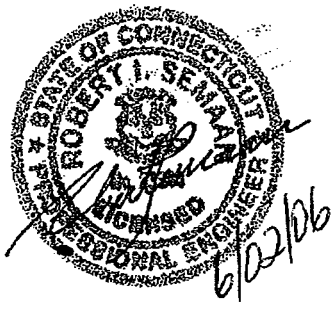
1079 N. 204th Avenue
Elkhorn, NE 68022
Ph: 402-289-1888
Fax: 402-289-1861

SEMAAN ENGINEERING SOLUTIONS

120 ft PIROD Self Supported Tower
Structural Analysis

Prepared for:
Global Signal
301 North Cattlemen Road, Suite 300
Sarasota, FL 34232

Site: 3017632 / CT03XC011
Cingular
Hamden, CT



June 2, 2006

Mr. Louis Belizaire
Global Signal
301 North Cattlemen Road, Suite 300
Sarasota, FL 34232

Re: Site Number 3017632 / CT03XC011 – 3017632 - Hamden, CT.

Dear Mr. Belizaire:

We have completed the structural analysis for the existing Self Supported Tower, located at the above referenced site. The purpose of this analysis is to determine that the existing Self Supported Tower design is in conformance with the TIA/EIA-222 Rev F standard and local building codes for the proposed antennae loads installation. Refer to the Review and Recommendations section at the end of this report for the analysis results.

Description of Structure:

The structure is a 120 ft PIROD Self Supported Tower.

Refer to PIROD drawing 202621-B dated November 4, 1997 for a detailed description of the structure.

Method of analysis:

The tower was analyzed using Semaan Engineering Solutions' software suite for communication structures. The structural analysis is performed using the SAPS finite element engine. The method is 3D, non-linear, which accounts for the second order geometric effects due to the displacements. It also treats guys as exact cable elements and therefore is ideal for guyed towers. The analysis was performed in conformance with **TIA/EIA-222 Rev F and local building codes for 85 mph with 1/2" radial ice (fastest mile)**. This is in conformance with the IBC 2003: Section 1609.1.1, Exception (5) and Section 3108.4. Wind is applied to the structure, accessories and antennas.

Structure loading:

The following loads were used in the tower analysis:

Elev (ft)	Qty	Antennas	Mounts	Coax	Carrier
120.0	9	Allgon 7120.05	Low Profile platform	(9) 1 5/8	Sprint
90.0	12	Allgon 7250	(3) PCS Frames	(12) 1 1/4	AT&T

Proposed Loads:

Elev (ft)	Qty	Antennas	Mounts	Coax	Carrier
110.0	9	Allgon 7770	(3) PCS Frames	(12) 1 5/8	Cingular
	12	TMAs			

The (12) transmission lines for Cingular shall be installed on one tower face or bracket on two stacked rows such that only (6) of them are exposed to the wind, with the other (6) shielded behind them.

Results of Analysis:

Refer to the attached Computer Summary sheets for detailed analysis results.

Structure:

The existing Self Supported Tower is structurally capable of supporting the existing and proposed antennas. The maximum structure usage is: 95.0%.

Foundation:

Leg Forces	Original Design Reactions	Current Analysis Reactions	% Of Design
Axial (Kips)	166.30	165.86	99.7
Uplift (Kips)	153.30	147.83	96.4

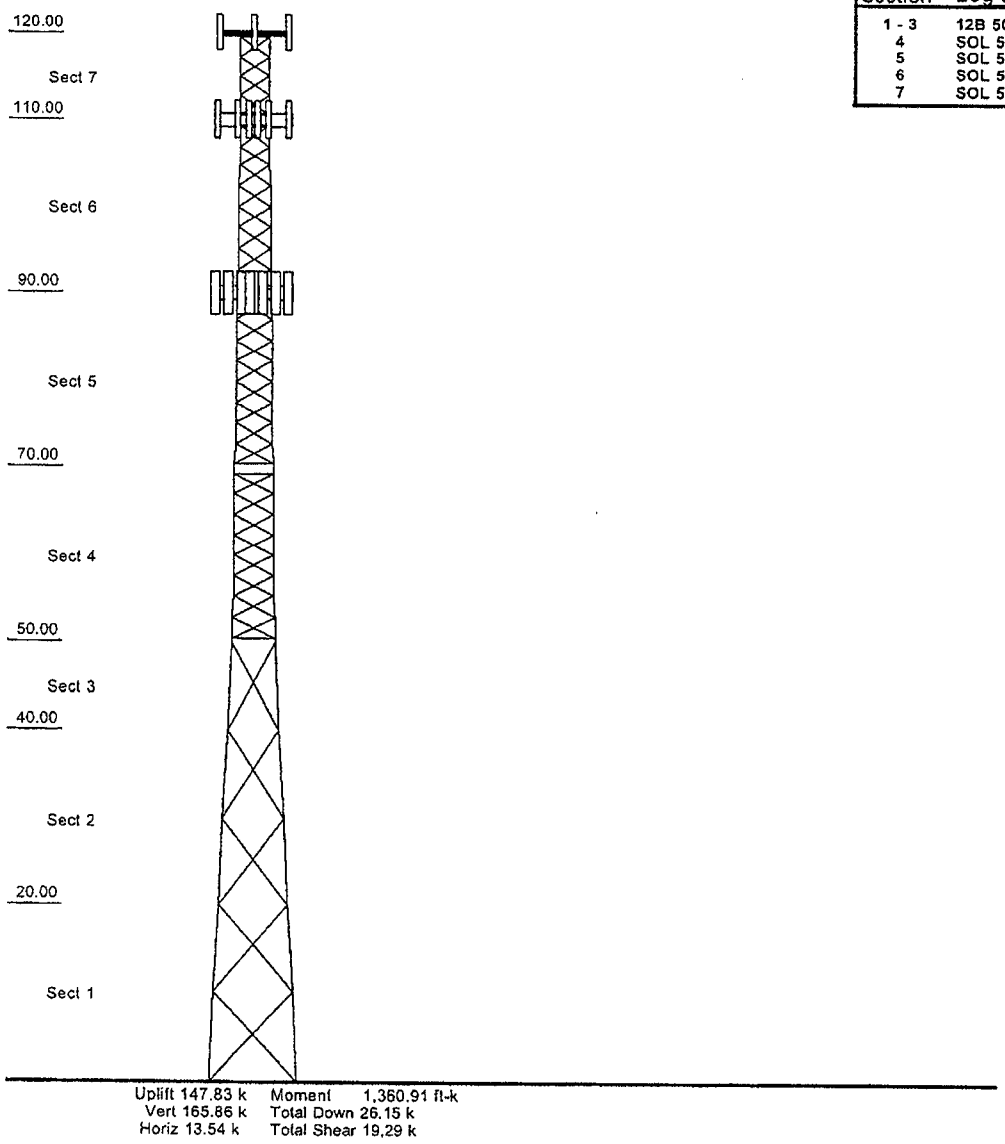
The analysis reactions are less than the design reactions therefore no foundation modifications are required.

Review and Recommendations:

Based on the analysis results, the existing structure meets the requirements per the TIA/EIA-222 Rev F standards for 85 mph with 1/2" radial ice.

SEMAAN ENGINEERING SOLUTIONS
1079 N.204th Avenue
Elkhorn, NE 68022

Loads: 85 mph no ice
74 mph w/ 1/2" radial ice



Job Information

Tower : CT03XC011	Location : 3017632 - Hamden, CT	
Code: TIA/EIA-222 Rev F	Shape : Triangle	Base Width : 10.00 ft
Client : Global Signal		Top Width : 3.50 ft

Sections Properties

Section	Leg Members		Diagonal Members	Horizontal Members
1 - 3	12B 50ksi	12"BD 1.5"	SAE 36ksi 2.5X2.5X0.1875	
4	SOL 50ksi	2 1/2" SOLID	SOL 50ksi 7/8" SOLID	SOL 50ksi 7/8" SOLID
5	SOL 50ksi	2" SOLID	SOL 50ksi 7/8" SOLID	SOL 50ksi 7/8" SOLID
6	SOL 50ksi	1 3/4" SOLID	SOL 50ksi 3/4" SOLID	SOL 50ksi 7/8" SOLID
7	SOL 50ksi	1 1/2" SOLID	SOL 36ksi 5/8" SOLID	SOL 50ksi 7/8" SOLID

Discrete Appurtenance

Elev (ft)	Type	Qty	Description
120.00	Panel	9	Allgon 7120.05
120.00	Platform	1	Low Profile platform
110.00		12	TMAs
110.00	Mounting Frame	3	PCS Frames
110.00	Panel	9	Allgon 7770
90.00	Mounting Frame	3	PCS Frames
90.00	Panel	12	Allgon 7250

Linear Appurtenance

Elev (ft) From	To	Qty	Description
0.000	120.00	9	1 5/8" Coax
0.000	110.00	12	1 5/8" Coax
0.000	90.000	12	1 1/4" Coax

Kise Straw & Kolodner

Architects Planners Historians Archaeologists

James Bennett Straw, AIA

Harvey D. Kolodner, MBA

14 June 2006

Honorable Craig Henrici
Mayor, Town of Hamden
2750 Dixwell Avenue
Hamden, CT 06518

RE: Notice of Exempt Modification – Existing Cingular Telecommunications Tower Facility at 2755 State Street, Hamden, Connecticut

Dear Mr. Henrici:

New Cingular Wireless PCS, LLC ("Cingular") proposes to remove and replace telecommunications antennas and associated equipment located on an existing tower at the above-referenced location. The facility is now controlled and operated by Cingular whose corporate office is located at 500 Enterprise Drive, Rocky Hill, CT 06067.

Proposed Modifications

Cingular proposes to remove the existing antennas and replace them with a total of six (6) new antennas, located at an existing centerline height of approximately 110' above ground level. Cingular will remove the existing cables and replace them with twelve (12) 1 5/8" diameter coaxial cables. Cingular will also remove the existing tower mounted amplifiers and replace them with twelve (12) new units, located at the same height as the antennas.

In summary, the final antenna configuration at 2755 State Street will include:

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

A structural evaluation has demonstrated that the tower will be structurally capable of supporting the proposed Cingular telecommunications equipment once the proposed modifications are complete.

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

Statutory Considerations

The proposed work will not affect the height of the existing structure, nor will it alter the existing property boundaries. Furthermore, the proposed work will not increase noise levels at the facility's site boundary by six (6) decibels or more. Operation of additional antennas will not increase the radio frequency electromagnetic radiation power density, measured at the tower base, to or above the standard adopted by the State of Connecticut and the Federal Communications Commission.

A Notice of Exempt Modification has been filed with the Connecticut Siting Council (CSC) as required by the Regulations of Connecticut State Agencies (RCSA), Section 16-50j-73. Please accept this letter as notification to the Town of Hamden under Section 16-50j-73 that the proposed work constitutes an exempt modification pursuant to RCSA Section 16-50j-72(b)(2).

Should you have any questions or require additional information about the plans or the CSC's procedures, please do not hesitate to contact me (215.790.1050 ext. 138) or Mr. Derek Phelps, Executive Director, Connecticut Siting Council (860.827.2935).

Sincerely,

Elizabeth H. Lankenau, AICP
Planner

10 Sylvia Street, Branford, CT

Summary Sheet
Project Location Map
Site Plan and Elevation
Structural Analysis
Elected Official Letter

CINGULAR WIRELESS
Proposed Modifications

Site Address: 10 Sylvia Street, Branford, CT

Site Owner: T-Mobile

Type of Existing Facility: 125' monopole; a 6' x 8' concrete equipment pad is located within a compound that measures approximately 140' x 40'

Antenna Configuration: Centerline – 100'; existing Allgon 7250 units to be replaced by six (6) Powerwave 7770 units

TMA Configuration: Existing units to be replaced by twelve (12) new LGP 214nn units; *specification attached*

Coaxial Cables: Six (6) existing 1 ¼" diameter cables to remain and add six (6) new cables of same dimension

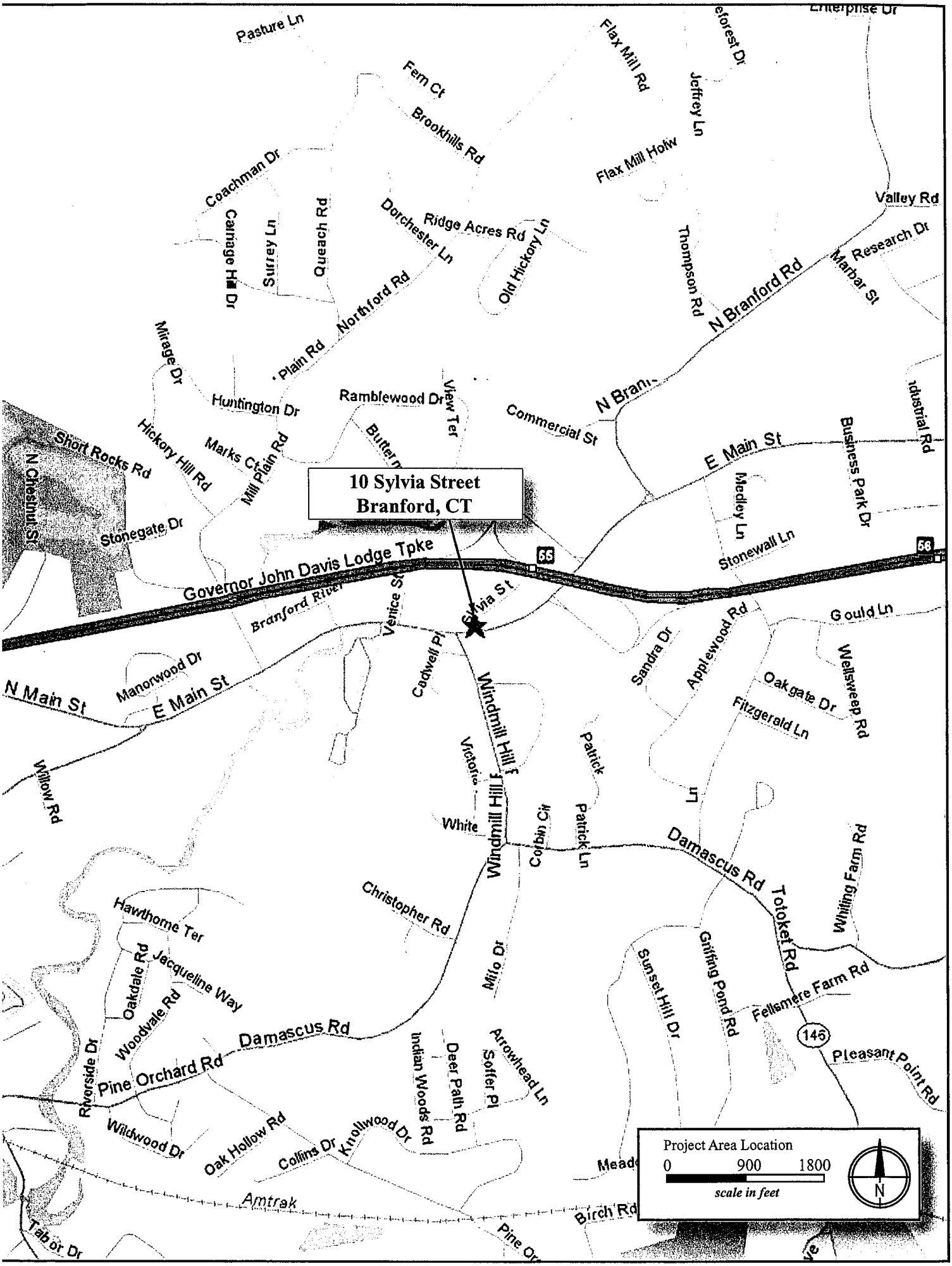
Other Equipment: One (1) Ericsson RBS 3106 equipment cabinet will be installed on the existing concrete equipment pad

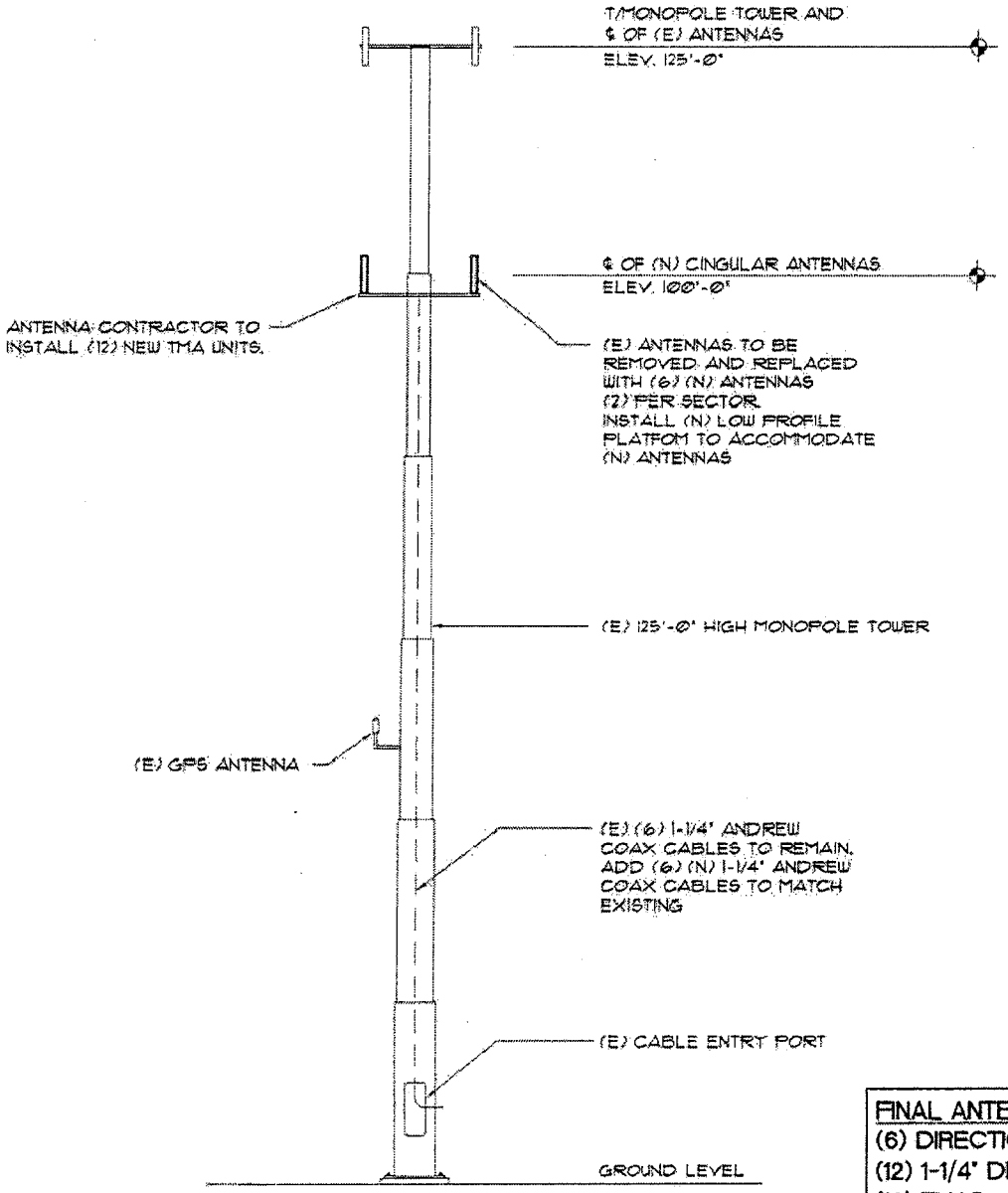
Power Density:

As the table demonstrates, the cumulative worst-case exposure would be approximately 30.29% 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.

Site # 5199								
Carrier	Antenna Height (ft)	Freq. (MHz) For Limit	# of Channels	W ERP/Channel (ref 1/2-w dipole)	W EIRP/Sector	Power Density ($\mu W/cm^2$)	FCC Limit ($\mu W/cm^2$)	Percent of Limit (%)
Cingular UMTS	100	1935.0	1	500.0	820.0	18.0	1000	1.80%
T-Mobile	122.5	1900.0	8	233.4	3062.3	44.8	1000	4.48%
Verizon 800	110	880.0	19	100.0	3116.0	56.5	587	9.63%
AT&T	100	1900.0	16	250.0	6560.0	143.9	1000	14.39%
TOTAL								**30.29%**

Structural Analysis: *Structural Analysis* attached.


10 Sylvia Street
Branford, CT
Project Area Location
0 900 1800
scale in feet
N
Governor John Davis Lodge Tpke
65
66
N Main St
E Main St
Damascus Rd
Pine Orchard Rd
Totoket Rd
Windmill Hill Rd
Sylvia St
Venice St
Cadwell Pl
Christopher Rd
Milo Dr
Patrick Ln
Corbin Cir
Victoria Ln
Hawthorne Ter
Jacqueline Way
Oakdale Rd
Woodvale Rd
Riverside Dr
Wildwood Dr
Oak Hollow Rd
Collins Dr
Knollwood Dr
Indian Woods Rd
Deer Path Rd
Soffer Pl
Arrowhead Ln
Sunset Hill Dr
Griffing Pond Rd
Fellsmere Farm Rd
Pleasant Point Rd
Whiting Farm Rd
Gould Ln
Applewood Rd
Sandra Dr
Oakgate Dr
Fitzgerald Ln
Wellsweep Rd
Medley Ln
Stonewall Ln
Business Park Dr
Industrial Rd
Commercial St
N Branford Rd
Thompson Rd
Valley Rd
Research Dr
Marbar St
Old Hickory Ln
Ridge Acres Rd
Dorchester Ln
Queach Rd
Surrey Ln
Carriage Hill Dr
Coachman Dr
Brookhills Rd
Fern Ct
Flax Mill Rd
Flax Mill Holw
Jeffrey Ln
Enterprise Dr
Pasture Ln
Mirage Dr
Huntington Dr
Ramblewood Dr
View Ter
Northford Rd
Plain Rd
Mill Plain Rd
Marks Cir
Hickory Hill Rd
Short Rocks Rd
N Chestnut St
Stonegate Dr
Willow Rd
Manorwood Dr
Amtrak
Birch Rd
Tabor Dr
Meade
Pine Or



FINAL ANTENNA CONFIGURATION
(6) DIRECTIONAL ANTENNAS POWERWAVE # 7770
(12) 1-1/4" DIA. COAX CABLES
(12) TMAS

1 TOWER ELEVATION
1" = 20'-0"

cingular WIRELESS | ERICSSON

CH2M HILL
8619 WEST BRYN MAWR
CHICAGO, ILLINOIS 60631

NO.	DATE	REVISION DESCRIPTION	BY	CHK	APP'D
4	06-14-06	REISSUED FOR CSC SUBMITTAL	RR	JZ	JZ
3	06-09-06	ISSUED FOR CSC SUBMITTAL	RR	JZ	JZ
2	04-21-06	ISSUED FOR CSC REVIEW	MK	JZ	JZ
1	03-28-06	SCOPING REVIEW	JR	JZ	JZ

SCALE: 1" = 20'-0" | CHECKED BY: | DRAWN BY: JR

CINGULAR WIRELESS
SITE #: 5199
SITE NAME: BRANFORD-STREAM
10 SYLVIA ST., BRANFORD, CT. 06405
DRAWING NUMBER: 5199 | REV: 0

1079 N. 204th Avenue
Elkhorn, NE 68022
Ph: 402-289-1888
Fax: 402-289-1861

SEMAAN ENGINEERING SOLUTIONS

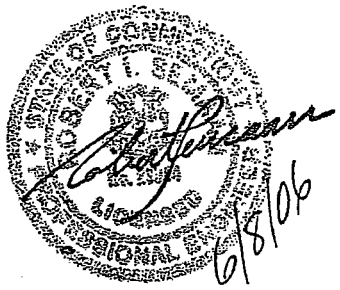
125 ft PIROD Monopole
Structural Analysis

APPROVED - 6/9/06
T-Mobile Site Marketing

Prepared for:
T-Mobile USA
12920 SE 38th Street
Bellevue, WA 98006

RECEIVED
JUN 09 2006

Site: CT11025B / I-95/ X55/ Dtn1 / Cingular
Branford, CT



June 8, 2006

Structure loading:

The following loads were used in the tower analysis:

Elev (ft)	Qty	Antennas	Mounts	Coax	Carrier
122.0	12	RR65-19-00XP	Low Profile platform	(25) 1 5/8	T-Mobile
	1	4 ft diameter HP MW Dish			
	12	LNAs			

Proposed Loads:

Elev (ft)	Qty	Antennas	Mounts	Coax	Carrier
100.0	6	Powerwave 7770	Low Profile platform	(12) 1 1/4	Cingular
	12	LGP 214nn TMAs			

All new access holes shall be reinforced with welded rims that are compatible with the pole and to be sized and supplied by pole manufacturer.
All transmission lines are assumed running inside of pole shaft.

Results of Analysis:

Refer to the attached Computer Summary sheets for detailed analysis results.

Structure:

The existing monopole is structurally capable of supporting the existing and proposed antennas. The maximum structure usage is: 58.4%.

Foundation:

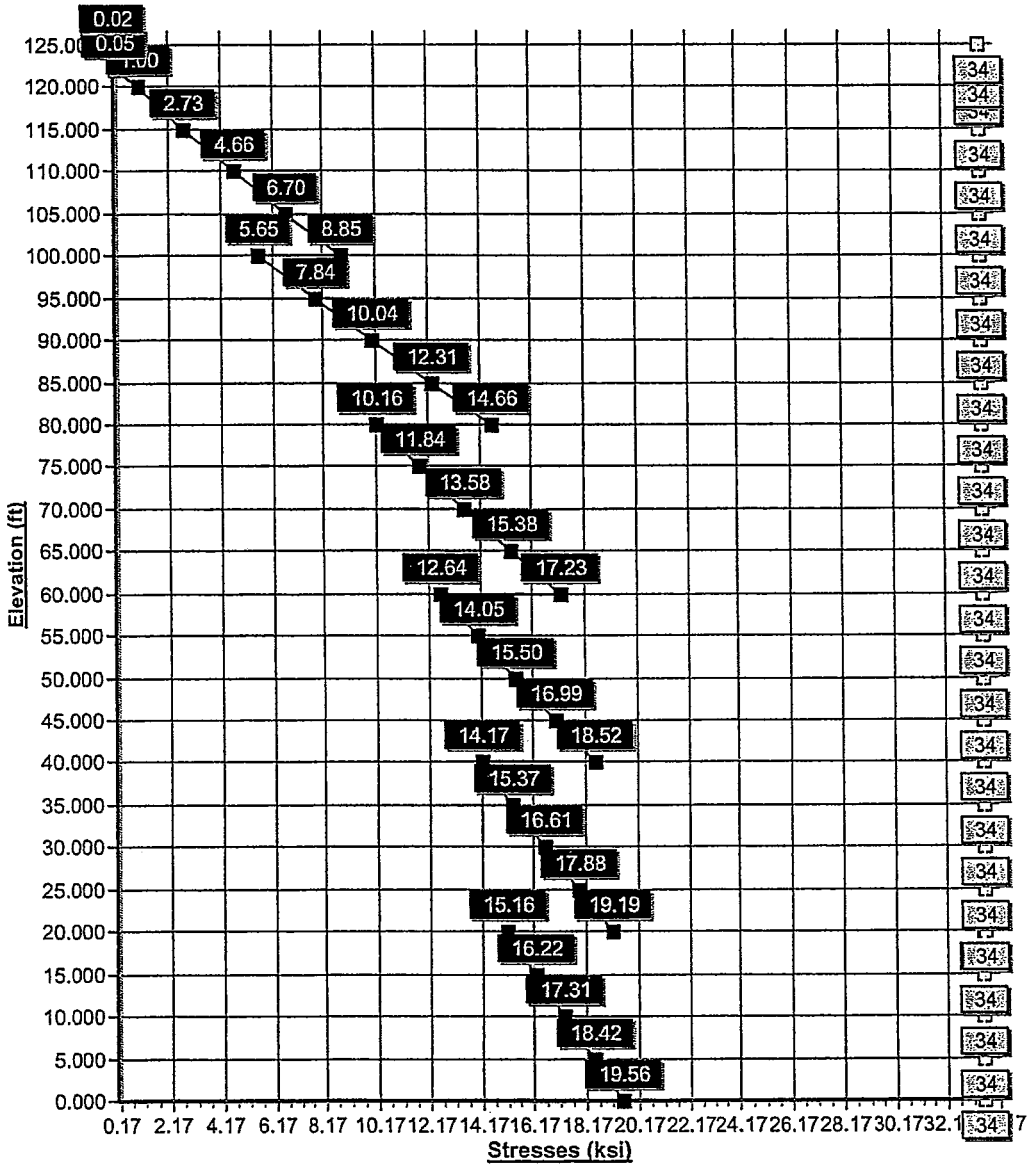
Pole Reactions	Original Design Reactions	Current Analysis Reactions	% Of Design
Moment (ft-kips)	1,601.80	1,344.72	84.0
Shear (kips)	16.10	15.78	98.0

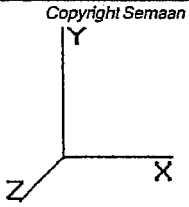
The analysis reactions are less than the design reactions therefore no foundation modifications are required.

Review and Recommendations:

Based on the analysis results, the existing structure meets the requirements per the TIA/EIA-222 Rev F standards for a basic wind speed of 85 mph and 1/2" radial ice with reduced wind speed.

Load Case : No Ice
Max Stress 58.4% at 0.0ft

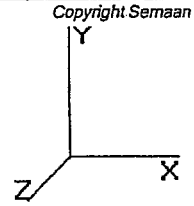




Segment Properties

(Max Len : 5 ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Fa (ksi)	Weight (lb)
0.00		0.3750	54.000	63.175	22,726.1	0.00	144.00	42	34	0	0.0
5.00		0.3750	54.000	63.175	22,726.1	0.00	144.00	42	34	0	1,074.9
10.00		0.3750	54.000	63.175	22,726.1	0.00	144.00	42	34	0	1,074.9
15.00		0.3750	54.000	63.175	22,726.1	0.00	144.00	42	34	0	1,074.9
20.00	Top - Section 1	0.3750	54.000	63.175	22,726.1	0.00	144.00	42	34	0	1,074.9
20.00	Bot - Section 2	0.3750	48.000	56.107	15,919.5	0.00	128.00	42	34	0	
25.00		0.3750	48.000	56.107	15,919.5	0.00	128.00	42	34	0	954.6
30.00		0.3750	48.000	56.107	15,919.5	0.00	128.00	42	34	0	954.6
35.00		0.3750	48.000	56.107	15,919.5	0.00	128.00	42	34	0	954.6
40.00	Top - Section 2	0.3750	48.000	56.107	15,919.5	0.00	128.00	42	34	0	954.6
40.00	Bot - Section 3	0.3750	42.000	49.038	10,628.9	0.00	112.00	42	34	0	
45.00		0.3750	42.000	49.038	10,628.9	0.00	112.00	42	34	0	834.3
50.00		0.3750	42.000	49.038	10,628.9	0.00	112.00	42	34	0	834.3
55.00		0.3750	42.000	49.038	10,628.9	0.00	112.00	42	34	0	834.3
60.00	Top - Section 3	0.3750	42.000	49.038	10,628.9	0.00	112.00	42	34	0	834.3
60.00	Bot - Section 4	0.3750	36.000	41.970	6,663.3	0.00	96.00	42	34	0	
65.00		0.3750	36.000	41.970	6,663.3	0.00	96.00	42	34	0	714.1
70.00		0.3750	36.000	41.970	6,663.3	0.00	96.00	42	34	0	714.1
75.00		0.3750	36.000	41.970	6,663.3	0.00	96.00	42	34	0	714.1
80.00	Top - Section 4	0.3750	36.000	41.970	6,663.3	0.00	96.00	42	34	0	714.1
80.00	Bot - Section 5	0.3750	30.000	34.901	3,831.8	0.00	80.00	42	34	0	
85.00		0.3750	30.000	34.901	3,831.8	0.00	80.00	42	34	0	593.8
90.00		0.3750	30.000	34.901	3,831.8	0.00	80.00	42	34	0	593.8
95.00		0.3750	30.000	34.901	3,831.8	0.00	80.00	42	34	0	593.8
100.0	Top - Section 5	0.3750	30.000	34.901	3,831.8	0.00	80.00	42	34	0	593.8
100.0	Bot - Section 6	0.3750	24.000	27.833	1,943.3	0.00	64.00	42	34	0	
105.0		0.3750	24.000	27.833	1,943.3	0.00	64.00	42	34	0	473.5
110.0		0.3750	24.000	27.833	1,943.3	0.00	64.00	42	34	0	473.5
115.0		0.3750	24.000	27.833	1,943.3	0.00	64.00	42	34	0	473.5
120.0		0.3750	24.000	27.833	1,943.3	0.00	64.00	42	34	0	473.5
122.0		0.3750	24.000	27.833	1,943.3	0.00	64.00	42	34	0	189.4
125.0		0.3750	24.000	27.833	1,943.3	0.00	64.00	42	34	0	284.1
											19,054.3

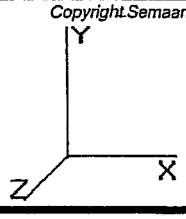


Load Case: No Ice — 85.00 mph Wind with No Ice — 19 Iterations

Gust Response Factor: 1.69
Dead Load Factor: 1.00
Wind Load Factor: 1.00

Discrete Appurtenance Segment Forces

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
100.0	LGP 214nn TMAs	12	25.389	42.907	1.000	15.12	0.000	0.000	648.76	0.00	0.00	228.00
100.0	Low Profile platform	1	25.389	42.907	1.000	25.55	0.000	0.000	1,096.28	0.00	0.00	1,300.00
100.0	Powerwave 7770.00	6	25.389	42.907	0.730	25.76	0.000	0.000	1,105.43	0.00	0.00	210.00
122.0	LNAs	12	26.873	45.416	0.667	6.10	0.000	0.000	276.95	0.00	0.00	119.04
122.0	HP MW Dish, 4' Dia.	1	26.873	45.416	1.000	15.86	0.000	0.000	720.29	0.00	0.00	170.00
122.0	Low Profile platform	1	26.873	45.416	1.000	25.55	0.000	0.000	1,160.37	0.00	0.00	1,300.00
122.0	RR65-19-00XP	12	26.873	45.416	0.667	48.02	0.000	0.000	2,181.04	0.00	0.00	276.00
									7,189.13			3,603.04



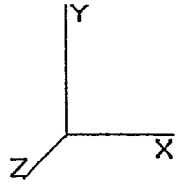
Load Case: No Ice — 85.00 mph Wind with No Ice — 19 Iterations

Gust Response Factor: 1.69
Dead Load Factor: 1.00
Wind Load Factor: 1.00

Calculated Shaft Forces and Deflections

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-15.779	-23.565	0.000	0.000	0.000	-1,344.721	0.000	0.000	0.000	0.000
5.00	-15.394	-22.424	0.000	0.000	0.000	-1,265.827	-0.044	0.000	0.044	-0.082
10.00	-15.005	-21.286	0.000	0.000	0.000	-1,188.857	-0.171	0.000	0.171	-0.159
15.00	-14.610	-20.150	0.000	0.000	0.000	-1,113.834	-0.377	0.000	0.377	-0.231
20.00	-14.212	-19.016	0.000	0.000	0.000	-1,040.783	-0.655	0.000	0.655	-0.298
25.00	-13.860	-18.001	0.000	0.000	0.000	-969.725	-1.001	0.000	1.001	-0.361
30.00	-13.508	-16.985	0.000	0.000	0.000	-900.424	-1.424	0.000	1.424	-0.445
35.00	-13.146	-15.972	0.000	0.000	0.000	-832.883	-1.932	0.000	1.932	-0.522
40.00	-12.764	-14.961	0.000	0.000	0.000	-767.156	-2.517	0.000	2.517	-0.593
45.00	-12.421	-14.069	0.000	0.000	0.000	-703.336	-3.175	0.000	3.175	-0.659
50.00	-12.067	-13.176	0.000	0.000	0.000	-641.232	-3.914	0.000	3.914	-0.749
55.00	-11.698	-12.287	0.000	0.000	0.000	-580.900	-4.743	0.000	4.743	-0.831
60.00	-11.315	-11.400	0.000	0.000	0.000	-522.412	-5.653	0.000	5.653	-0.905
65.00	-10.982	-10.631	0.000	0.000	0.000	-465.836	-6.637	0.000	6.637	-0.971
70.00	-10.641	-9.862	0.000	0.000	0.000	-410.925	-7.704	0.000	7.704	-1.064
75.00	-10.289	-9.096	0.000	0.000	0.000	-357.721	-8.864	0.000	8.864	-1.146
80.00	-9.926	-8.334	0.000	0.000	0.000	-306.278	-10.104	0.000	10.104	-1.217
85.00	-9.620	-7.689	0.000	0.000	0.000	-256.646	-11.412	0.000	11.412	-1.277
90.00	-9.308	-7.045	0.000	0.000	0.000	-208.544	-12.797	0.000	12.797	-1.364
95.00	-8.988	-6.405	0.000	0.000	0.000	-162.004	-14.264	0.000	14.264	-1.433
100.0	-5.764	-4.106	0.000	0.000	0.000	-117.066	-15.794	0.000	15.794	-1.484
105.0	-5.498	-3.629	0.000	0.000	0.000	-88.244	-17.369	0.000	17.369	-1.522
110.0	-5.228	-3.154	0.000	0.000	0.000	-60.753	-18.995	0.000	18.995	-1.577
115.0	-4.952	-2.680	0.000	0.000	0.000	-34.615	-20.667	0.000	20.667	-1.612
120.0	-4.672	-2.209	0.000	0.000	0.000	-9.854	-22.365	0.000	22.365	-1.628
122.0	-0.170	-0.279	0.000	0.000	0.000	-0.510	-23.048	0.000	23.048	-1.630
125.0	-0.162	0.000	0.000	0.000	0.000	0.000	-24.072	0.000	24.072	-1.630

Pole:	CT11025B	Code: TIA/EIA-222 Rev F	
Location:	Branford, CT		6/8/2006 2:00:48 PM
Height:	125.0 (ft)		
Shape:	Round		
Base Dia:	54.00 (in)		
Top Dia:	24.00 (in)		
Taper:	0.000000 (in/ft)	Base Elev: 0.000 (ft)	

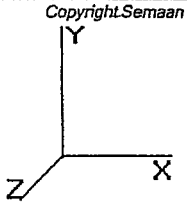


Load Case: Ice — 73.61 mph Wind with Ice — 19 Iterations

Gust Response Factor: 1.69
Dead Load Factor: 1.00
Wind Load Factor: 1.00

Shaft Segment Forces

Seg Top Elev (ft)	Description	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		0.00	1.00 13.871	23.44	331.24	0.590	0.50	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00 13.871	23.44	331.24	0.590	0.50	5.00	22.917	13.52	317.0	166.4	1,241.2
10.00		0.00	1.00 13.871	23.44	331.24	0.590	0.50	5.00	22.917	13.52	317.0	166.4	1,241.2
15.00		0.00	1.00 13.871	23.44	331.24	0.590	0.50	5.00	22.917	13.52	317.0	166.4	1,241.2
20.00	Top - Section 1	0.00	1.00 13.871	23.44	331.24	0.590	0.50	5.00	22.917	13.52	317.0	166.4	1,241.2
25.00		0.00	1.00 13.871	23.44	294.44	0.590	0.50	5.00	20.417	12.05	282.4	148.1	1,102.7
30.00		0.00	1.00 13.871	23.44	294.44	0.590	0.50	5.00	20.417	12.05	282.4	148.1	1,102.7
35.00		0.00	1.01 14.106	23.84	296.92	0.590	0.50	5.00	20.417	12.05	287.2	148.1	1,102.7
40.00	Top - Section 2	0.00	1.05 14.655	24.76	302.64	0.590	0.50	5.00	20.417	12.05	298.3	148.1	1,102.7
45.00		0.00	1.09 15.156	25.61	269.30	0.590	0.50	5.00	17.917	10.57	270.8	129.7	964.1
50.00		0.00	1.12 15.620	26.39	273.39	0.590	0.50	5.00	17.917	10.57	279.0	129.7	964.1
55.00		0.00	1.15 16.051	27.12	277.13	0.590	0.50	5.00	17.917	10.57	286.7	129.7	964.1
60.00	Top - Section 3	0.00	1.18 16.455	27.80	280.60	0.590	0.50	5.00	17.917	10.57	294.0	129.7	964.1
65.00		0.00	1.21 16.836	28.45	243.28	0.590	0.50	5.00	15.417	9.10	258.8	111.4	825.5
70.00		0.00	1.24 17.196	29.06	245.87	0.590	0.50	5.00	15.417	9.10	264.3	111.4	825.5
75.00		0.00	1.26 17.538	29.63	248.30	0.590	0.50	5.00	15.417	9.10	269.6	111.4	825.5
80.00	Top - Section 4	0.00	1.28 17.865	30.19	250.60	0.590	0.50	5.00	15.417	9.10	274.6	111.4	825.5
85.00		0.00	1.31 18.177	30.71	210.65	0.590	0.50	5.00	12.917	7.62	234.1	93.1	686.9
90.00		0.00	1.33 18.476	31.22	212.38	0.590	0.50	5.00	12.917	7.62	238.0	93.1	686.9
95.00		0.00	1.35 18.764	31.71	214.03	0.590	0.50	5.00	12.917	7.62	241.7	93.1	686.9
100.0	Top - Section 5	0.00	1.37 19.041	32.17	215.60	0.590	0.50	5.00	12.917	7.62	245.2	93.1	686.9
105.0		0.00	1.39 19.308	32.63	173.69	0.590	0.50	5.00	10.417	6.15	200.5	74.8	548.3
110.0		0.00	1.41 19.566	33.06	174.84	0.590	0.50	5.00	10.417	6.15	203.2	74.8	548.3
115.0		0.00	1.42 19.816	33.49	175.96	0.590	0.50	5.00	10.417	6.15	205.8	74.8	548.3
120.0		0.00	1.44 20.059	33.89	177.03	0.590	0.50	5.00	10.417	6.15	208.3	74.8	548.3
122.0	Appertunance(s)	0.00	1.45 20.154	34.06	177.45	0.590	0.50	2.00	4.167	2.46	83.7	29.9	219.3
125.0		0.00	1.46 20.294	34.29	178.07	0.590	0.50	3.00	6.250	3.69	126.5	44.9	329.0
						Totals:		125.00			6,603.0	2,968.8	22,023.2

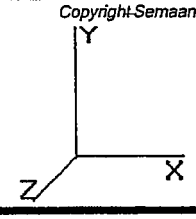


Load Case: Ice — 73.61 mph Wind with Ice — 19 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	316.96	1,286.04	0.00	0.00
10.00	316.96	1,286.04	0.00	0.00
15.00	316.96	1,286.04	0.00	0.00
20.00	316.96	1,286.04	0.00	0.00
25.00	282.38	1,147.46	0.00	0.00
30.00	282.38	1,147.46	0.00	0.00
35.00	287.17	1,147.46	0.00	0.00
40.00	298.34	1,147.46	0.00	0.00
45.00	270.77	1,008.88	0.00	0.00
50.00	279.04	1,008.88	0.00	0.00
55.00	286.74	1,008.88	0.00	0.00
60.00	293.96	1,008.88	0.00	0.00
65.00	258.79	870.29	0.00	0.00
70.00	264.33	870.29	0.00	0.00
75.00	269.60	870.29	0.00	0.00
80.00	274.61	870.29	0.00	0.00
85.00	234.10	731.71	0.00	0.00
90.00	237.96	731.71	0.00	0.00
95.00	241.66	731.71	0.00	0.00
100.0	2,624.33	3,551.05	0.00	0.00
105.0	200.54	553.53	0.00	0.00
110.0	203.22	553.53	0.00	0.00
115.0	205.82	553.53	0.00	0.00
120.0	208.34	553.53	0.00	0.00
122.0	3,704.07	3,405.77	0.00	0.00
125.0	126.47	329.00	0.00	0.00
Totals:	12,602.47	28,945.74	0.00	0.00

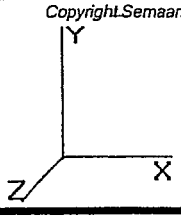


Load Case: Ice — 73.61 mph Wind with Ice — 19 Iterations

Gust Response Factor: 1.69
Dead Load Factor: 1.00
Wind Load Factor: 1.00

Calculated Stresses

Seg Elev (ft)	Applied Stresses						Combined (ksi)	Allowable Stress (Fb) (ksi)	Allowable Stress (Fa) (ksi)	Stress Ratio
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)				
0.00	0.46	0.40	0.00	0.00	0.00	15.62	16.09	33.5	0.0	0.480
5.00	0.44	0.39	0.00	0.00	0.00	14.72	15.17	33.5	0.0	0.453
10.00	0.42	0.38	0.00	0.00	0.00	13.84	14.27	33.5	0.0	0.426
15.00	0.40	0.37	0.00	0.00	0.00	12.98	13.39	33.5	0.0	0.400
20.00	0.38	0.36	0.00	0.00	0.00	12.14	12.53	33.5	0.0	0.374
20.00	0.42	0.41	0.00	0.00	0.00	15.41	15.85	33.5	0.0	0.473
25.00	0.40	0.40	0.00	0.00	0.00	14.37	14.79	33.6	0.0	0.440
30.00	0.38	0.39	0.00	0.00	0.00	13.36	13.76	33.6	0.0	0.410
35.00	0.36	0.38	0.00	0.00	0.00	12.37	12.75	33.6	0.0	0.380
40.00	0.34	0.37	0.00	0.00	0.00	11.41	11.77	33.6	0.0	0.350
40.00	0.39	0.42	0.00	0.00	0.00	14.95	15.36	33.6	0.0	0.457
45.00	0.37	0.41	0.00	0.00	0.00	13.72	14.11	33.6	0.0	0.420
50.00	0.35	0.40	0.00	0.00	0.00	12.53	12.89	33.6	0.0	0.384
55.00	0.33	0.39	0.00	0.00	0.00	11.36	11.71	33.6	0.0	0.349
60.00	0.31	0.38	0.00	0.00	0.00	10.23	10.56	33.6	0.0	0.314
60.00	0.36	0.44	0.00	0.00	0.00	13.99	14.37	33.6	0.0	0.428
65.00	0.34	0.43	0.00	0.00	0.00	12.49	12.85	33.6	0.0	0.382
70.00	0.32	0.42	0.00	0.00	0.00	11.03	11.37	33.6	0.0	0.338
75.00	0.30	0.40	0.00	0.00	0.00	9.61	9.93	33.6	0.0	0.296
80.00	0.28	0.39	0.00	0.00	0.00	8.24	8.54	33.6	0.0	0.254
80.00	0.33	0.47	0.00	0.00	0.00	11.94	12.30	33.6	0.0	0.366
85.00	0.31	0.46	0.00	0.00	0.00	10.01	10.35	33.6	0.0	0.308
90.00	0.29	0.44	0.00	0.00	0.00	8.14	8.47	33.6	0.0	0.252
95.00	0.27	0.43	0.00	0.00	0.00	6.33	6.64	33.6	0.0	0.198
100.00	0.17	0.27	0.00	0.00	0.00	4.58	4.77	33.6	0.0	0.142
100.00	0.21	0.34	0.00	0.00	0.00	7.22	7.45	33.6	0.0	0.222
105.00	0.19	0.33	0.00	0.00	0.00	5.45	5.67	33.6	0.0	0.169
110.00	0.17	0.31	0.00	0.00	0.00	3.76	3.96	33.6	0.0	0.118
115.00	0.15	0.30	0.00	0.00	0.00	2.14	2.35	33.6	0.0	0.070
120.00	0.13	0.28	0.00	0.00	0.00	0.61	0.89	33.6	0.0	0.026
122.00	0.01	0.01	0.00	0.00	0.00	0.03	0.04	33.6	0.0	0.001
125.00	0.00	0.01	0.00	0.00	0.00	0.00	0.02	33.6	0.0	0.000

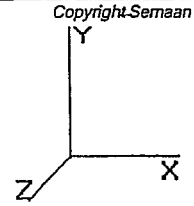


Load Case: Twist/Sway — 50.00 mph Wind with No Ice — 18 Iterations

Gust Response Factor: 1.69
Dead Load Factor: 1.00
Wind Load Factor: 1.00

Discrete Appurtenance Segment Forces

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
100.0	LGP 214nn TMAs	12	8.785	14.847	1.000	15.12	0.000	0.000	224.48	0.00	0.00	228.00
100.0	Low Profile platform	1	8.785	14.847	1.000	25.55	0.000	0.000	379.34	0.00	0.00	1,300.00
100.0	Powerwave 7770.00	6	8.785	14.847	0.730	25.76	0.000	0.000	382.50	0.00	0.00	210.00
122.0	LNAs	12	9.299	15.715	0.667	6.10	0.000	0.000	95.83	0.00	0.00	119.04
122.0	HP MW Dish, 4' Dia.	1	9.299	15.715	1.000	15.86	0.000	0.000	249.23	0.00	0.00	170.00
122.0	Low Profile platform	1	9.299	15.715	1.000	25.55	0.000	0.000	401.51	0.00	0.00	1,300.00
122.0	RR65-19-00XP	12	9.299	15.715	0.667	48.02	0.000	0.000	754.69	0.00	0.00	276.00
									2,487.59			3,603.04



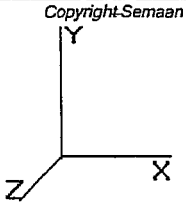
Load Case: Twist/Sway — 50.00 mph Wind with No Ice — 18 Iterations

Gust Response Factor: 1.69
Dead Load Factor: 1.00
Wind Load Factor: 1.00

Calculated Shaft Forces and Deflections

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-5.459	-23.575	0.000	0.000	0.000	-465.303	0.000	0.000	0.000	0.000
5.00	-5.326	-22.453	0.000	0.000	0.000	-438.006	-0.015	0.000	0.015	-0.028
10.00	-5.191	-21.331	0.000	0.000	0.000	-411.375	-0.059	0.000	0.059	-0.055
15.00	-5.055	-20.209	0.000	0.000	0.000	-385.418	-0.130	0.000	0.130	-0.080
20.00	-4.917	-19.088	0.000	0.000	0.000	-360.143	-0.227	0.000	0.227	-0.103
25.00	-4.796	-18.087	0.000	0.000	0.000	-335.558	-0.346	0.000	0.346	-0.125
30.00	-4.674	-17.085	0.000	0.000	0.000	-311.580	-0.493	0.000	0.493	-0.154
35.00	-4.548	-16.084	0.000	0.000	0.000	-288.211	-0.668	0.000	0.668	-0.181
40.00	-4.416	-15.083	0.000	0.000	0.000	-265.470	-0.871	0.000	0.871	-0.205
45.00	-4.298	-14.203	0.000	0.000	0.000	-243.388	-1.099	0.000	1.099	-0.228
50.00	-4.175	-13.322	0.000	0.000	0.000	-221.900	-1.354	0.000	1.354	-0.259
55.00	-4.048	-12.442	0.000	0.000	0.000	-201.024	-1.641	0.000	1.641	-0.288
60.00	-3.915	-11.561	0.000	0.000	0.000	-180.787	-1.956	0.000	1.956	-0.313
65.00	-3.800	-10.801	0.000	0.000	0.000	-161.210	-2.297	0.000	2.297	-0.336
70.00	-3.682	-10.041	0.000	0.000	0.000	-142.209	-2.666	0.000	2.666	-0.368
75.00	-3.560	-9.282	0.000	0.000	0.000	-123.798	-3.067	0.000	3.067	-0.397
80.00	-3.435	-8.522	0.000	0.000	0.000	-105.997	-3.496	0.000	3.496	-0.421
85.00	-3.329	-7.883	0.000	0.000	0.000	-88.821	-3.949	0.000	3.949	-0.442
90.00	-3.221	-7.244	0.000	0.000	0.000	-72.175	-4.429	0.000	4.429	-0.472
95.00	-3.111	-6.605	0.000	0.000	0.000	-56.068	-4.936	0.000	4.936	-0.496
100.0	-1.995	-4.238	0.000	0.000	0.000	-40.516	-5.466	0.000	5.466	-0.514
105.0	-1.903	-3.759	0.000	0.000	0.000	-30.541	-6.011	0.000	6.011	-0.527
110.0	-1.809	-3.281	0.000	0.000	0.000	-21.027	-6.573	0.000	6.573	-0.546
115.0	-1.714	-2.803	0.000	0.000	0.000	-11.981	-7.152	0.000	7.152	-0.558
120.0	-1.617	-2.325	0.000	0.000	0.000	-3.411	-7.740	0.000	7.740	-0.563
122.0	-0.059	-0.284	0.000	0.000	0.000	-0.176	-7.976	0.000	7.976	-0.564
125.0	-0.056	0.000	0.000	0.000	0.000	0.000	-8.331	0.000	8.331	-0.564

Pole :	CT11025B	Code: TIA/EIA-222 Rev F	
Location :	Branford, CT		
Height :	125.0 (ft)		
Shape :	Round		
Base Dia :	54.00 (in)		
Top Dia :	24.00 (in)		
Taper :	0.000000 (in/ft)	Base Elev : 0.000 (ft)	



Analysis Summary

	Reactions						Max Stresses			
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Combined Stress (ksi)	Allowable Stress (ksi)	Elev (ft)	Stress Ratio
No Ice	15.8	0.00	23.56	0.00	0.00	1344.72	19.56	33.5	0.00	0.584
Ice	12.6	0.00	28.94	0.00	0.00	1095.29	16.09	33.5	0.00	0.480
Twist/Sway	5.5	0.00	23.57	0.00	0.00	465.30	7.01	33.5	0.00	0.209

14 June 2006

Honorable Cheryl Morris
Mayor, Town of Branford
1019 Main Street
Branford, CT 06405

RE: Notice of Exempt Modification – Existing Cingular Telecommunications Tower Facility at 10 Sylvia Street, Branford, Connecticut

Dear Ms. Morris:

New Cingular Wireless PCS, LLC ("Cingular") proposes to remove and replace telecommunications antennas and associated equipment located on an existing tower at the above-referenced location. The facility is now controlled and operated by Cingular whose corporate office is located at 500 Enterprise Drive, Rocky Hill, CT 06067.

Proposed Modifications

Cingular proposes to remove the existing antennas and replace them with a total of six (6) new antennas, located at an existing centerline height of approximately 100' above ground level. Cingular will keep six (6) 1 ¼" diameter coaxial cables and add six (6) cables of the same dimension. Cingular will remove the existing tower mounted amplifiers and replace them with twelve (12) new units, located at the same height as the antennas.

In summary, the final antenna configuration on the monopole at 10 Sylvia Street will include:

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

A structural evaluation has demonstrated that the monopole will be structurally capable of supporting the proposed Cingular telecommunications equipment once the proposed modifications are complete.

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

Statutory Considerations

The proposed work will not affect the height of the existing structure, nor will it alter the existing property boundaries. Furthermore, the proposed work will not increase noise levels at the facility's site boundary by six (6) decibels or more. Operation of additional antennas will not increase the radio frequency electromagnetic radiation power density, measured at the monopole base, to or above the standard adopted by the State of Connecticut and the Federal Communications Commission.

A Notice of Exempt Modification has been filed with the Connecticut Siting Council (CSC) as required by the Regulations of Connecticut State Agencies (RCSA), Section 16-50j-73. Please accept this letter as notification to the Town of Branford under Section 16-50j-73 that the proposed work constitutes an exempt modification pursuant to RCSA Section 16-50j-72(b)(2).

Should you have any questions or require additional information about the plans or the CSC's procedures, please do not hesitate to contact me (215.790.1050 ext. 138) or Mr. Derek Phelps, Executive Director, Connecticut Siting Council (860.827.2935).

Sincerely,

Elizabeth H. Lankenau, AICP
Planner

Specifications for Proposed New Equipment

2755 State Street, Hamden, CT
10 Sylvia Street, Branford, CT

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

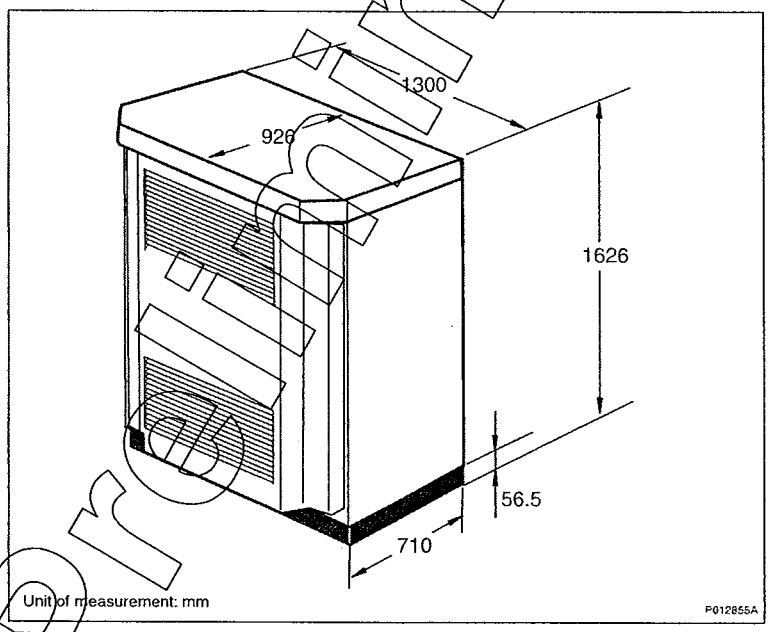


Figure 2 RBS 3106 Dimensions

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

Dual Broadband Antenna

806-960/1710-2170 MHz

Electrical Specifications (Preliminary)

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

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Powerwave technologies

COVERAGE AND CAPACITY | TECHNOLOGY LEADERSHIP | GLOBAL PARTNER | INTEGRATED SOLUTIONS | QUALITY AND RELIABILITY

D031-08208 Rev A

Tower Mounted Amplifier

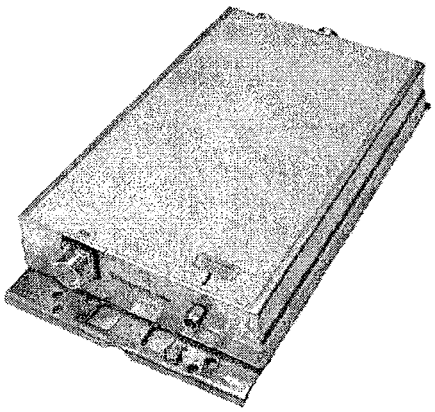
Dual Band 1900 MHz with 850 MHz Bypass

1900/850 MHz

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

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:

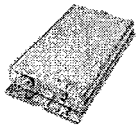
- 850 MHz Bypass
- Improved Network Quality
- Increased Coverage
- State of the Art Performance
- Excellent Power Handling
- Low Tx Loss
- Exceptional Reliability

ANTENNA SYSTEMS

BASE STATION SYSTEMS

COVERAGE SYSTEMS

Tower Mounted Amplifier



1900/850 MHz

Technical Specifications

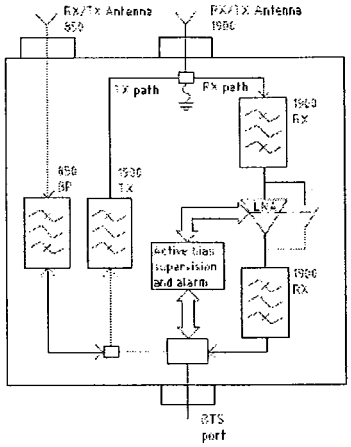
Product Number	LGP214nn	
850 MHz	Bypass (MHz)	824-894
	Return loss* (dB)	> 20
	Insertion loss* (dB)	< 0.3
1900 MHz		
Up-link	Frequency range, full band (60 MHz)	1850-1910
	Nominal gain (dB)	12
	Return loss* (dB)	> 20
	Noise figure* (dB)	< 1.7
	Output 3rd order Intercept Point* (dBm)	> +23
Down-link	Frequency 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



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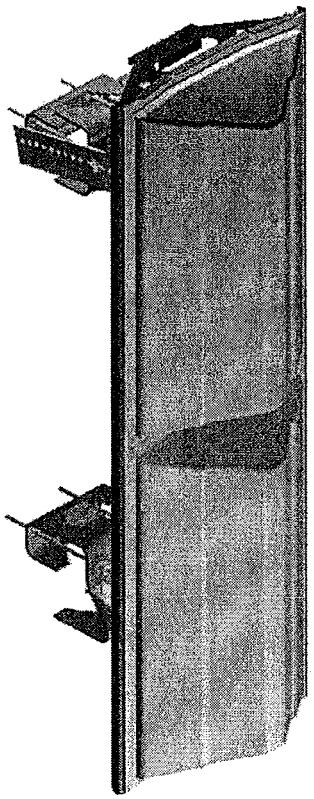
Specifications for Existing Antennas

DUO4-8670
Allgon 7250

CSS® Antenna

Directing our energies for you.

Dual Band Antenna
DUO1417-8686



86 & 86 Azimuth Beams

15 & 7 Elevation Beams

14.0 & 16.0 dBi Gain

- PCS & Cellular in One Package
- Independent Control of Electrical Beam Downtilt
- High Power Handling Capability
- Anti-Corrosion Design for Superb IM Performance
- Available With Optional Internal Dual Band Combiner

CSS Antenna, Inc. 2206-D Lakeside Blvd, Edgewood, MD 21040, Tel: 410-612-0080 Fax: 410-612-0336 www.cssantenna.com

Directing our energies for you.

Dual Band Antenna
DUO1417- 8686

Electrical Specifications

	Cellular	PCS
Frequency Range	806-900 MHz	1850-1990 MHz
Gain	14.0 dBi	16..0 dBi
Electrical Downtilt Options	0, 2, 4 or 6 Degrees	0 or 4 Degrees
VSWR	1.35:1 Maximum	1.35:1 Maximum
VSWR (with -i option)	1.40:1 Maximum	1.40:1 Maximum
Front-to-Back at Horizon	> 25 dB	> 30 dB
Upper Side Lobe Suppression	< -17 dB	< -18 dB
Elevation Beam (3-dB Points)	15 Degrees	7 Degrees
Azimuth Beam (3-dB Points)	86 Degrees	86 Degrees
Polarization	Vertical	Vertical
Impedance	50 Ohms	50 Ohms
Power Input Rating	500 CW	200 CW
Intermodulation Specification	<-110dBm at 2x10W	<-110dBm at 2x10W

Mechanical Specifications

Input Connectors (female)	Two Back Mounted 7/16 DIN (Silver Finish)
Antenna Dimensions	48.4 x 14 x 9 Inches (10.7" deep with option 'i')
Antenna Weight	20.3 lbs
Antenna Weight (w/opt. 'i')	32.0 lbs
Bracket Weight	10.5 lbs
Lightning Protection	Direct Ground
RF Distribution	Cellular: Silver Plated Brass PCS: Printed Microstrip Substrate
Radome	Ultra High-Strength Luran
Weatherability	UV Stabilized, ASTM D1925
Radome Water Absorption	ASTM D570, 0.45%
Environmental	MIL-STD-810E
Wind Survival	150 mph
Front Wind Load at 100 mph	124 lbs
Front Flat Plate Equivalent	2.54 sq-ft. (c=2)
Mounting Brackets	Fits 2.5 to 3 Inch Schedule 40 Pipe
Mechanical Downtilt Range	0-12 Degrees in 1 Degree Increments
Clamps/Bolts	Hot Dip Galvanized Steel/Stainless Steel

Ordering Information

Model	Options
DUO1417- 8686-xy	x=Electrical Downtilt at 800 MHz in Degrees (0, 2, 4 or 6) y=Electrical Downtilt at 1900 MHz in Degrees (0 or 4)
DUO1417-8686-xyi	i=Dual Band Combiner included as an internal device

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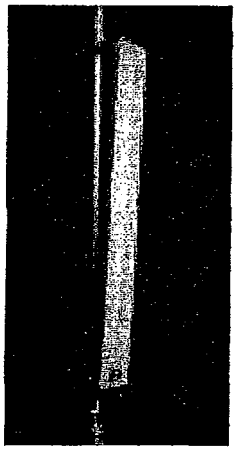
1900 & 800 MHz Dual Polarized Antenna

Electrical Specifications

	7250 (XM-1900-65-18.5i)
Gain	16.5 dBd (18.5 dBi)
Polarization	linear, dual slant 45
VSWR, 50Ω	<1.3:1 (1850 MHz to 1990 MHz)
Horizontal 3dB beamwidth	65°
Vertical 3dB beamwidth	5.5°
Custom electrical downtilts	0°, 2°, & 4°
40 degree cone Front-to-back ratio	>25 dB co-polar, >20 dB total power
Cross-polar discrimination, boresite	>20 dB
Polarization Quality Ratio	20 dB (3dB beamwidth)/10 dB (forward sector)
Suppression of first upper side lobe	>20 dB
First lower null fill	N/A
Maximum CW input power	500W total at 250W per input
Two tone intermodulation 3rd order	<-110 dBm for 2x10W (150 dBc at 2x40 dBm)
Isolation between ports	>30 dB



Mechanical Specifications

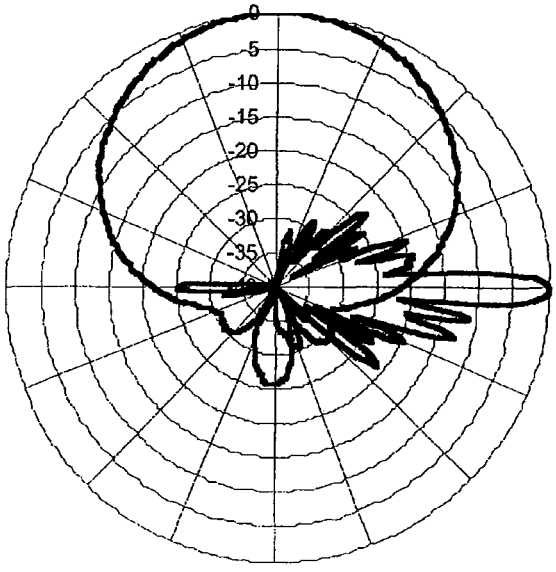
Connector	7/16 DIN bottom mount
Height	61.3" (1560 mm)
Width	6.3" (160 mm)
Depth	2.2" (55 mm)
Weight	15.4 lbs (7 kg)
Survival wind speed	156 mph (70 m/s)
Maximum wind area	2.74 sq.ft (0.25 sq.m)
Frontal wind load @100mph (C=1)	71.9 lbf (320 N)

*All feed network components DC grounded for Lightning Protection

Mounting Hardware Options for Installation	
1) Pole mount	2165.10
2)Combined pole mount/downtilt bracket	7254.10 (-0.6° to +13°)

Comments
Gain is typical within frequency band.
Beamwidths are defined using total power.
Cross-polar discrimination is defined within -3 dB beamwidth.
Front-to-back ratio is defined within 20° from the backwards direction in any plane.
Sidelobe suppression and null fill is relative to peak of main beam.
Maximum input power is total input power, divided arbitrarily between inputs.
Radome color is NCS 2502-B (RAL 7035)(gray).

For a complete list of released models pertaining to gain, electrical downtilt and connector placement, please see the quick reference guide on page 14.



Typical Horizontal and Vertical 7250.02 Patterns

A poster displaying a comparison of antenna patterns has been included at the back of the catalog.

ALLGON