



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 29, 2006

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

RE: **EM-CING-148-101-060-060609** - New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 945 East Center Street, Wallingford; 120 Universal Drive, North Haven; and 1919 Boston Post Road, Guilford, Connecticut.

Dear Ms. Lankenau:

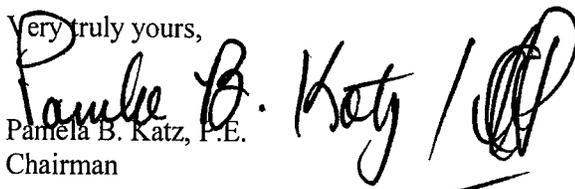
At a public meeting held on June 27, 2006, the Connecticut Siting Council (Council) acknowledged your notice to modify these existing telecommunications facilities, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated May 31, 2006 and additional information received 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.

List Attachment.

- c: The Honorable Carl A. Balestracci, Jr., First Selectman, Town of Guilford
- Regina Reid, Zoning Enforcement Officer, Town of Guilford
- The Honorable Kevin J. Kopetz, First Selectman, Town of North Haven
- Arthur Hausman, Zoning Enforcement Officer, Town of North Haven
- The Honorable William W. Dickinson, Jr., Mayor, Town of Wallingford
- Linda Bush, Town Planner, Town of Wallingford
- Candid Communications of Trumbull, LLC
- Thomas J. Regan, Esq., Brown Rudnick Berlack Israels LLP
- Christopher B. Fisher, Esq., Cuddy & Feder LLP
- Michele G. Briggs, New Cingular Wireless PCS, LLC
- Kenneth C. Baldwin, Esq., Robinson & Cole LLP
- Christine Farrell, T-Mobile
- Thomas F. Flynn III, Esq., Sprint Nextel Communications, Inc.
- Karen Couture, Site Acquisition Specialist

EM-CING-148-101-060-060609

RECEIVED
JUN - 9 2006

31 May 2006

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

CONNECTICUT
SITING COUNCIL

**RE: Notice of Exempt Modification – Three (3) Existing
Telecommunications Tower Facilities in Wallingford, North Haven, and
Guilford**

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.

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.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 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 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 FCC'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. Lanckenau, AICP
Planner

Attachments

cc: Honorable William W. Dickinson, Jr., Mayor, Town of Wallingford
Honorable Kevin J. Kopetz, First Selectman, Town of North Haven
Honorable Carl Balestracci, Jr., First Selectman, Town of Guilford

945 East Center Street, Wallingford, CT

**Summary Sheet
Project Location Map
Site Plan and Elevation
Structural Analysis**

CINGULAR WIRELESS
Proposed Modifications

Site Address: 945 East Center Street, Wallingford, CT

Type of Existing Facility: 150' high monopole within a 105' x 70' leased area; area surrounded by a chain link fence; an existing equipment shelter is located within the compound

Antenna Configuration: Center line – 110' above ground level

Current unit: CSS DUO4-8670; *specification attached*

Proposed unit: Existing antennas to be replaced by six (6) Powerwave 7770 units; *specification attached*

TMA Configuration: To be placed at same height as antennas

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

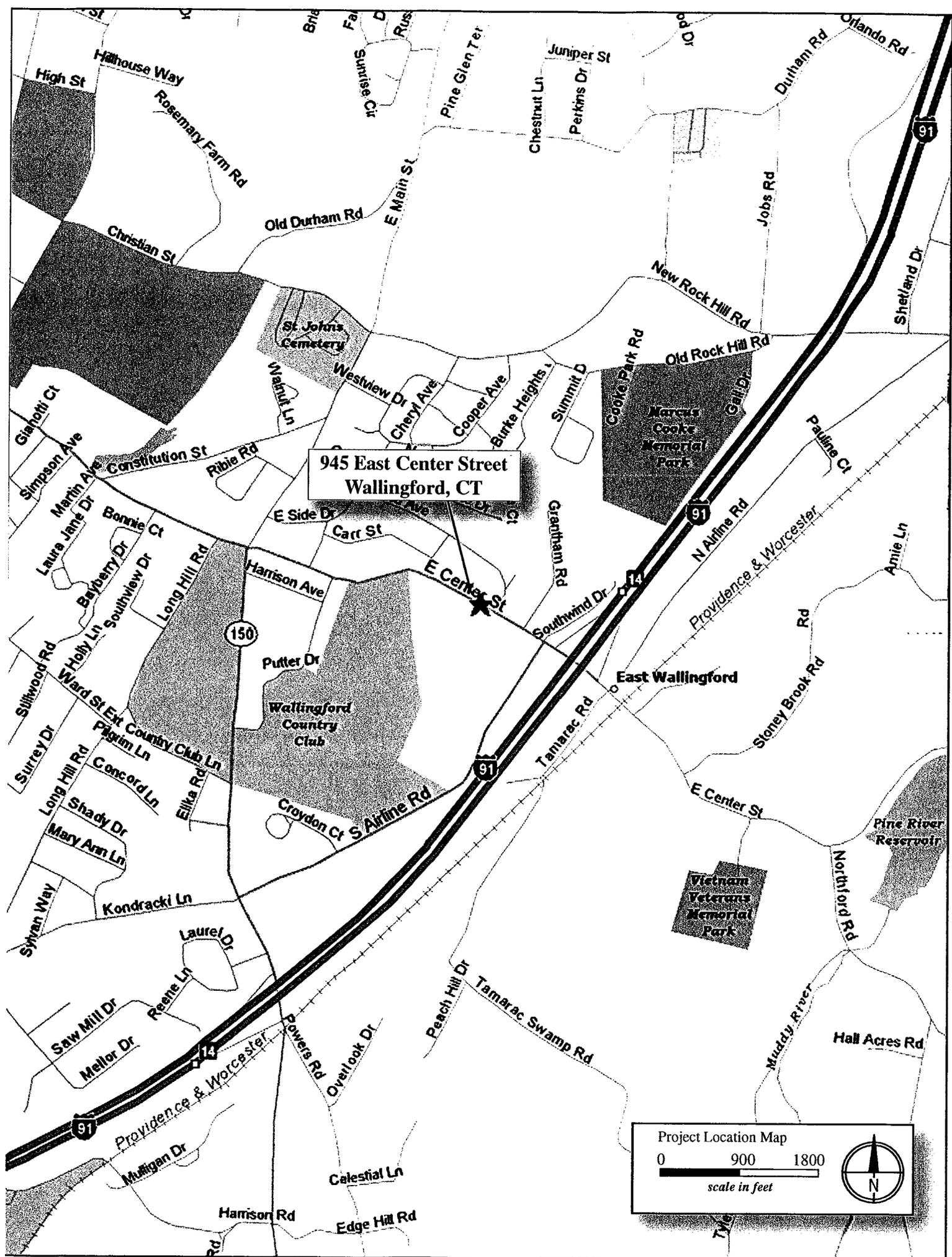
Coaxial Cables: Existing nine (9) 1 1/4" diameter cables to remain and add three (3) new cables of same dimension

Power Density:

As the table demonstrates, the cumulative worst-case exposure would be approximately 59.64% 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 # 2154								
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	110	1935.0	1	500.0	820.0	14.9	1000	1.49%
Sprint	130	1900.0	12	500.0	9840.0	127.7	1000	12.77%
AT&T	142.5	1900.0	16	250.0	6560.0	70.8	1000	7.08%
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%
Verizon 800	120	880.0	9	200.0	2952.0	45.0	587	7.66%
Verizon 1900	120	1900.0	3	200.0	984.0	15.0	1000	1.50%
TOTAL								59.64%

Structural Analysis: Please see attachment.



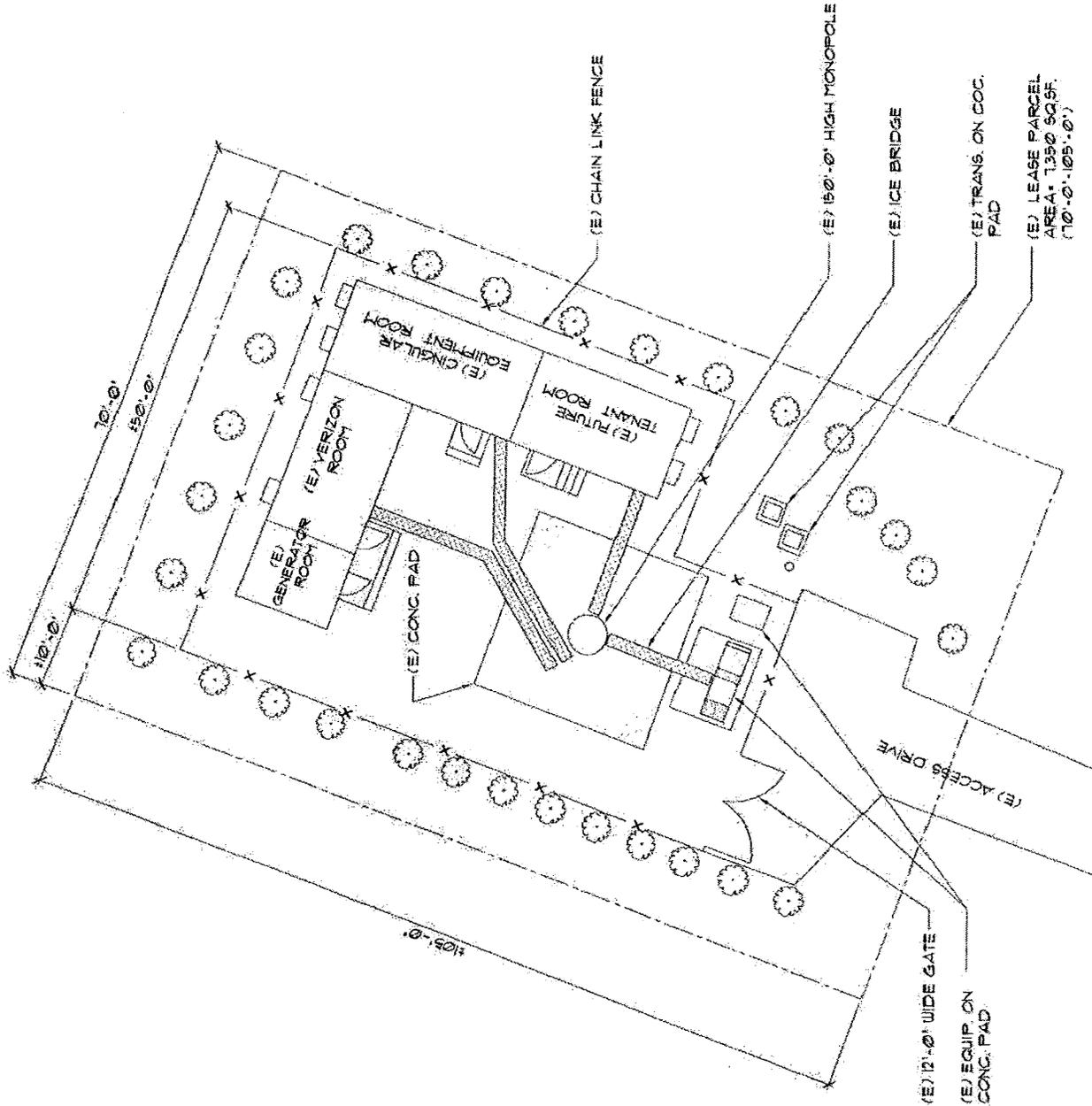
945 East Center Street
Wallingford, CT

Project Location Map

0 900 1800

scale in feet





1 EXISTING SITE PLAN
N/T/S

NO.		DATE	REVISION DESCRIPTION	BY	CHECKED BY	DRAWN BY
2	06-01-06		ISSUED FOR CSC SUBMITTAL	JZ		
1	05-09-06		ISSUED FOR CSC REVIEW	JZ		
SCALE:		N.T.S.				
SITE #		2154				
SITE NAME		CH2M HILL				
SITE ADDRESS		9618 WEST BRYN MAWR				
CITY		CHICAGO, ILLINOIS 60681				
DRAWING NUMBER		2154				
REV#		0				

CH2M HILL
9618 WEST BRYN MAWR
CHICAGO, ILLINOIS 60681

ERICSSON

cingularSM
WIRELESS

CINGULAR WIRELESS

- TOP OF TOWER
ELEV.: 150'-0"
- (E) AT&T ANTENNAS
ELEV.: 140'-0"
- (E) SPRINT ANTENNAS
ELEV.: 130'-0"
- (E) VERIZON ANTENNAS
ELEV.: 120'-0"
- (N) CINGULAR ANTENNAS
ELEV.: 110'-0"

(E) GPS ANTENNAS
ELEV.: 80'-0"

GRADE
ELEV.: 0'-0"

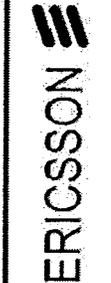
(E) ANTENNAS TO BE
REMOVED AND REPLACED
W/ (6) NEW ANTENNAS,
(2) PER SECTOR.
ANTENNA CONTRACTOR TO
INSTALL (12) NEW TMA UNITS.

(E) 150' MONOPOLE TOWER

(E) (3) 1/4" ANDREW COAX
CABLE TO REMAIN ADD (3)
(N) 1/4" ANDREW COAX
CABLES

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

1 TOWER ELEVATION
1"=30'-0"


CH2M HILL
869 WEST BRYAN WAY
CHICAGO, ILLINOIS 60681

NO.		DATE	REVISION DESCRIPTION	BY	CHECKED BY	SCALE
2	06-01-06		ISSUED FOR CSC SUBMITTAL	JZ	JZ	
1	05-05-06		ISSUED FOR CSC REVIEW	JZ	JZ	

SITE # 2154		DRAWING NUMBER 2154	
SITE NAME: WASHINGTON		DRAWN BY: RR	
945 EAST CENTER ST WASHINGTON, IL 60692		CHECKED BY: JZ	
BY: CH/APP'S		REV: 0	

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

SEMAAN ENGINEERING SOLUTIONS

150 ft SUMMIT Monopole Structural Analysis

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

Site: 3017630 / CT03XC008
For Cingular
945 East Center St.
Wallingford, CT



May 24, 2006

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

Re: Site 3017630 / CT03XC008 – 945 East Center St. Wallingford, CT.

Dear Mr. Belizaire:

We have completed the structural analysis for the existing monopole, located at the above referenced site. The purpose of this analysis is to determine that the existing monopole design is in conformance with the TIA/EIA 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 150 ft SUMMIT Monopole.

Refer to SUMMIT design #2706-97 dated August 26, 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 Rev F and local building codes for a basic wind speed of 85 mph and 1/2" radial ice with reduced wind speed (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
140.0	3	RS90-17 Strap Mounted	Strap mounted	(6) 1 5/8"	AT&T
130.0	9	DB980H90E-M	Low Profile Platform	(9) 1 1/4"	Sprint
120.0	6	ALP 8013	Low Profile Platform	(12) 1 5/8"	Verizon
	6	DB948F65T2E-M			
80.0	1	Kathrein 738 449	(1) Standoff	(1) 1/2"	Cingular

Proposed Loads:

Elev (ft)	Qty	Antennas	Mounts	Coax	Carrier
110.0	9	Allgon 7770	Low Profile Platform	(12) 1 1/4"	Cingular
	12	21401 TMA			

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: 80.1%.

Foundation:

Pole Reactions	Original Design Reactions	Current Analysis Reactions	% Of Design
Moment (ft-kips)	3,025.00	2,431.72	80.4
Shear (kips)	30.00	25.75	85.8

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 Rev F standards for a basic wind speed of 85 mph and 1/2" radial ice with reduced wind speed. This wind speed is equivalent to a 105 mph 3-second gust.

SEMAAN ENGINEERING SOLUTIONS

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

Copyright Semaan Engineering Solutions, Inc

Job Information	
Pole : CT03XC008	Code: TIA/EIA Rev F
Description :	
Client : Global Signal	
Location : 3017630 - Wallingford, CT	
Shape : 12 Sides	Base Elev (ft): 0.00
Height : 150.00 (ft)	Taper: 0.208033(in/ft)

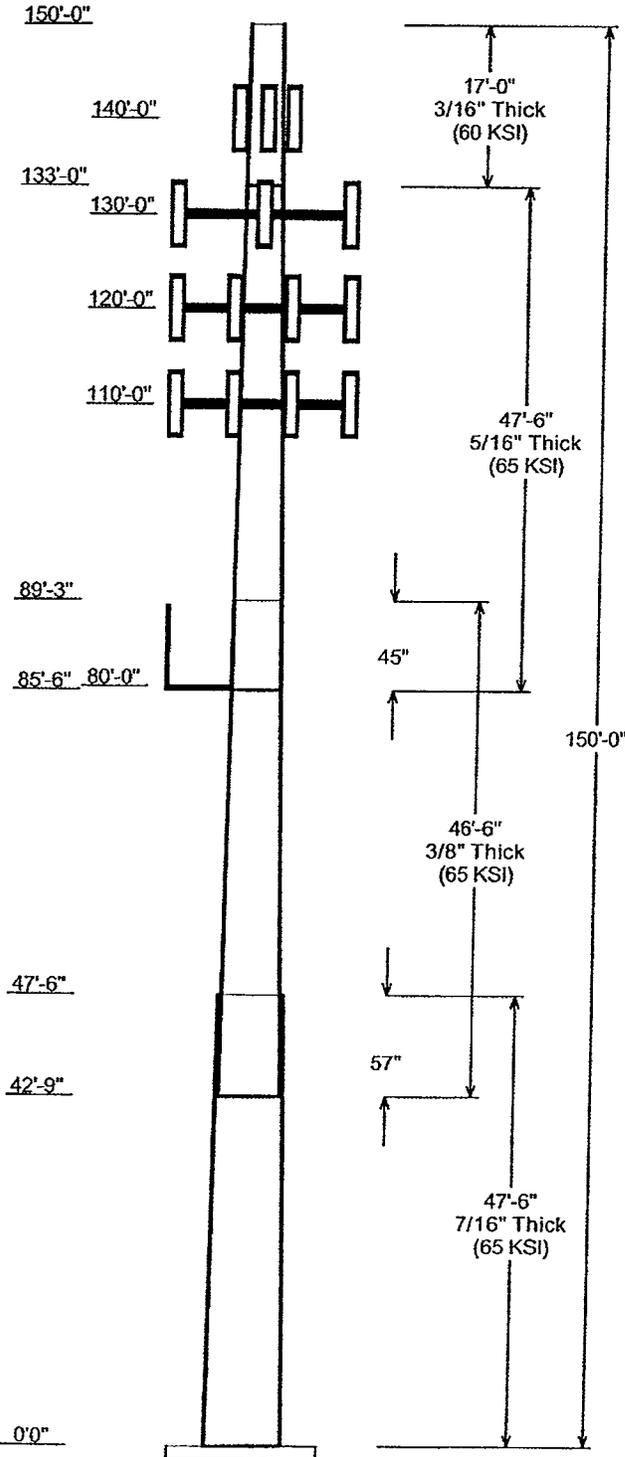
Sections Properties							
Shaft Section	Length (ft)	Diameter (in)		Joint Type	Overlap Length (in)	Steel Taper (in/ft)	Steel Grade (ksi)
		Across Top	Across Bottom				
1	47.500	35.94	45.83	0.438	0.000	0.208033	65
2	46.500	28.01	37.68	0.375 Slip Joint	57.000	0.208033	65
3	47.500	19.53	29.41	0.313 Slip Joint	45.000	0.208033	65
4	17.000	16.00	19.53	0.188 Butt Joint	0.000	0.208033	60

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
140.000	140.000	3	RS90-17 Strap Mounted
130.000	130.000	1	Low Profile Platform
130.000	130.000	9	DB980H90E-M
120.000	120.000	1	Low Profile Platform
120.000	120.000	6	DB948F65T2E-M
120.000	120.000	6	ALP 8013
110.000	110.000	12	21401 TMA
110.000	110.000	1	Low Profile Platform
110.000	110.000	9	Allgon 7770
80.000	80.000	1	Standoff
80.000	80.355	1	Kathrein 738 449

Linear Appurtenance			
Elev (ft)		Description	Exposed To Wind
From	To		
0.000	80.000	1/2" Coax	No
0.000	110.0	1 1/4" Coax	No
0.000	120.0	1 5/8" Coax	No
0.000	130.0	1 1/4" Coax	No
0.000	140.0	1 5/8" Coax	No

Load Cases	
No Ice	85.00 mph Wind with No Ice
Ice	73.61 mph Wind with Ice

Reactions			
Load Case	Moment (Kip-ft)	Shear (Kips)	Axial (Kips)
No Ice	2431.72	25.75	29.68
Ice	1987.60	20.62	35.32



1919 Boston Post Road, Guilford, CT

**Summary Sheet
Project Location Map
Site Plan and Elevation
Structural Analysis**

CINGULAR WIRELESS
Proposed Modifications

Site Address: 1919 Boston Post Road, Guilford, CT

Type of Existing Facility: 150' high monopole within a compound that is roughly 44' x 63'; Cingular has an existing 9' high equipment shelter inside the compound that is 25' x 10'5"

Antenna Configuration: Center line – 110' above ground level

Current unit: DUO4-8670; *specification attached*

Proposed unit: The existing antennas will be removed and replaced with six (6) Powerwave 7770 units; *specification attached*

TMA Configuration: To be placed at same height as antenna

Proposed unit: Six (6) existing units to remain; six (6) new LGP 214nn units to be added; *specification attached*

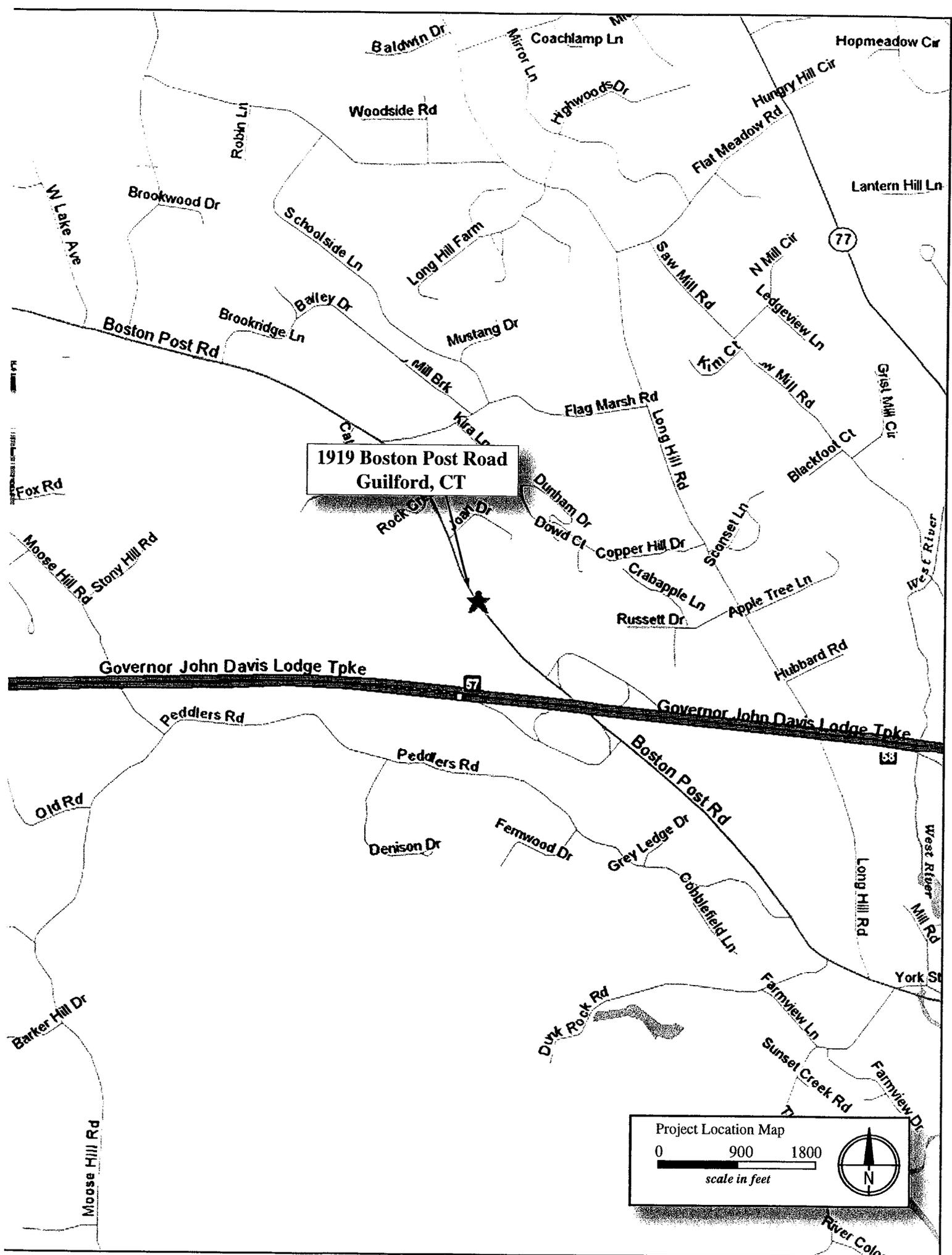
Coaxial Cables: The nine (9) existing 7/8" diameter cables will be removed and replaced with twelve (12) 1 5/8" cables

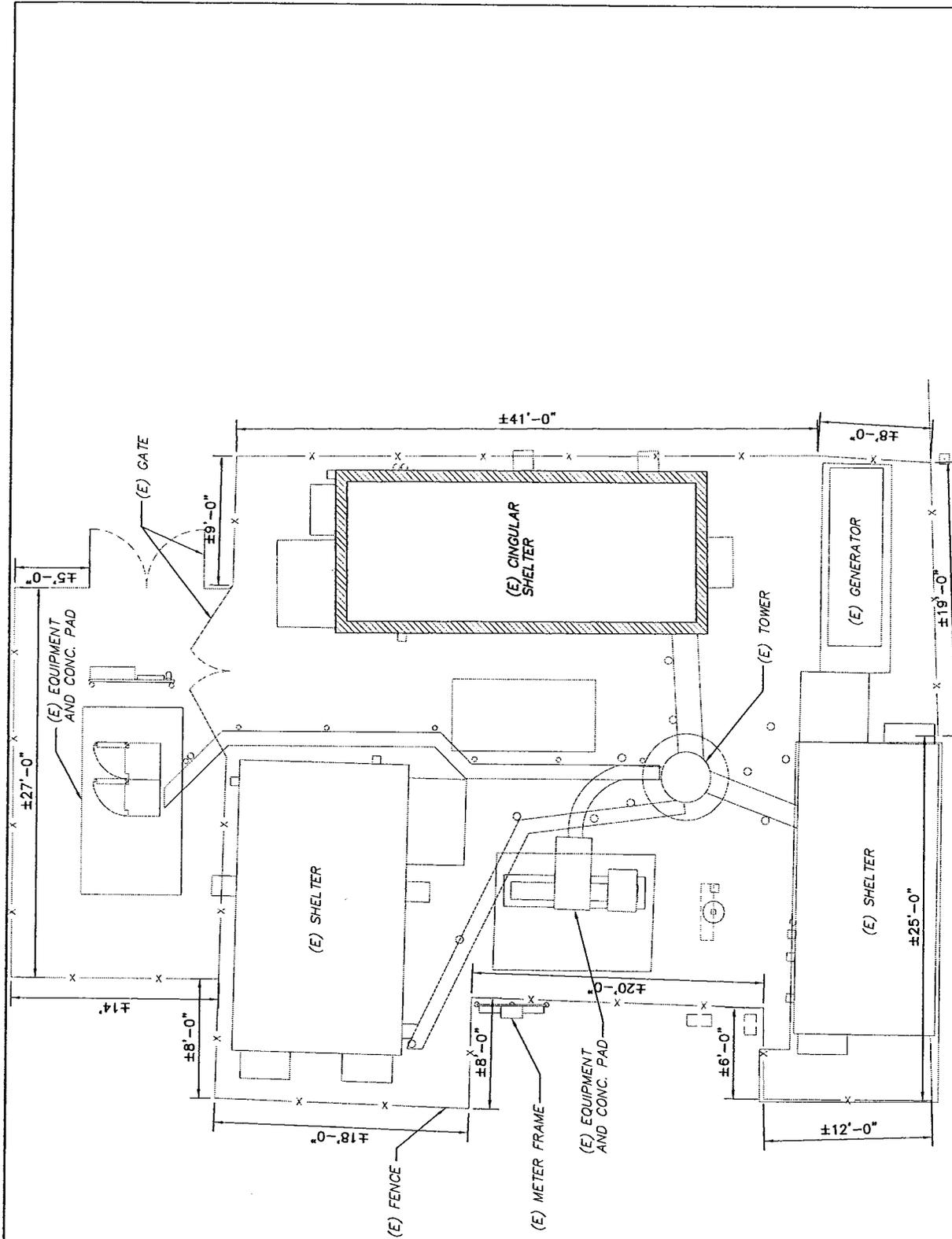
Power Density:

As the table demonstrates, the cumulative worst-case exposure would be approximately 40.29% 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 # 2158								
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	110	1935.0	1	500.0	820.0	14.9	1000	1.49%
Sprint	130.33	1900.0	11	122.0	2200.9	28.4	1000	2.84%
Verizon 800	122.25	874.5	10	200.0	3280.0	48.1	583	8.26%
Cingular 800	110	880.0	8	296.0	3883.5	70.4	587	12.00%
Cingular 1900	110	1900.0	3	427.0	2100.8	38.1	1000	3.81%
Nextel	140	851.0	9	100.0	1476.0	16.5	567	2.91%
T-Mobile	150.33	1900.0	12	212.0	4172.2	40.5	1000	4.05%
AT&T	102.5	1900.0	19	76.0	2368.2	49.4	1000	4.94%
TOTAL								40.29%

Structural Analysis: Please see attachment.





COMPOUND LAYOUT
SCALE: 1" = 10'-0"

LATITUDE: 41° 18' 01.3"
LONGITUDE: 72° 42' 27.5"



CINGULAR WIRELESS
540 MAIN STREET
BOLTON, MA 01740

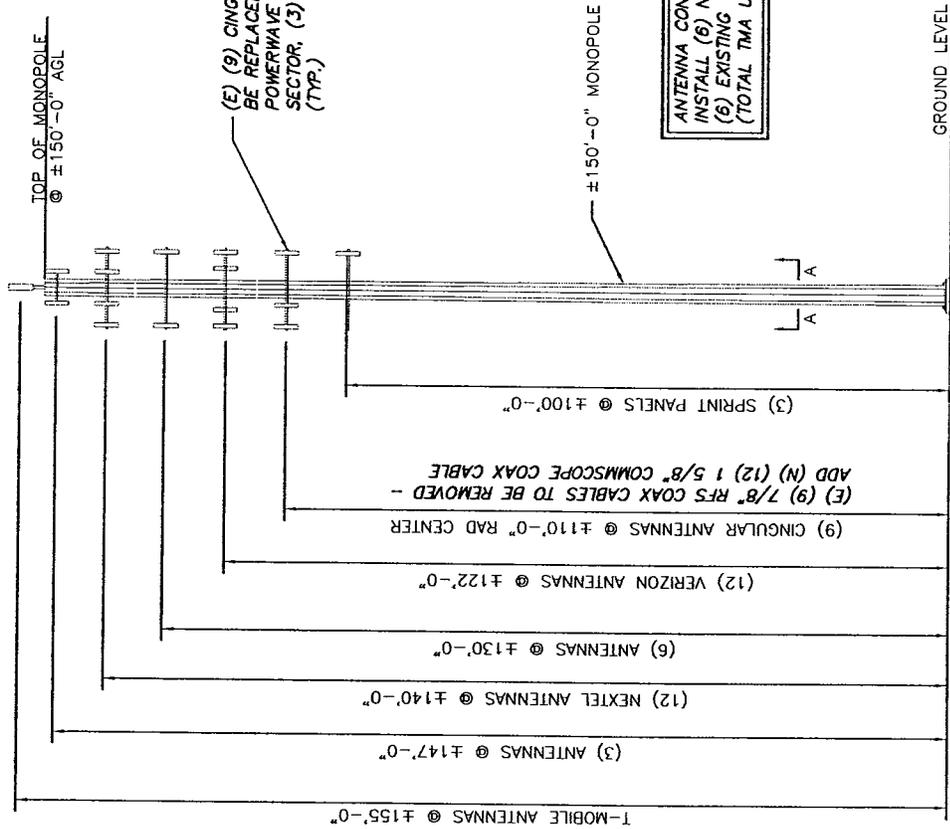
ERICSSON
6300 LEGACY DRIVE
PLANO, TX 75024

CH2MHILL
8619 WEST BRYN MAWR
CHICAGO, ILLINOIS 60631

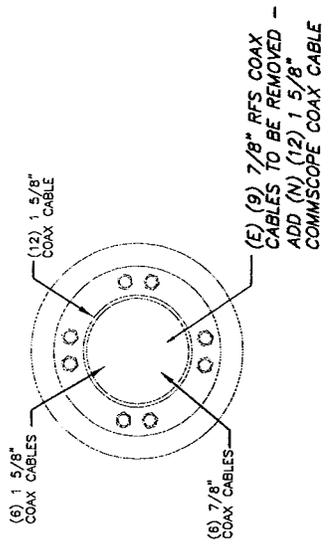
infinigy
infinigy
300 GREAT OAKS BLVD.
SUITE 315
ALBANY, NY 12203
OFFICE: (518) 890-0780
FAX: (518) 890-0783
185-061

SITE NAME:
GUILFORD POST ROAD
SITE NUMBER: 2158
1919 BOSTON POST ROAD
GUILFORD, CT 06437

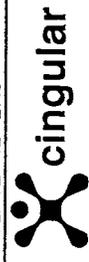
NO.	DATE	REVISION DESCRIPTION	BY	CHK	APPD		
4	06/01/06	MISC. REVISIONS	PHR	CJM			
3	05/16/06	MISC. REVISIONS	PHR	CJM			
2	05/12/06	MISC. REVISIONS	PHR	CJM			
1	05/09/06	MISC. REVISIONS	PHR	CJM			
0	05/08/06	MISC. REVISIONS	PHR	CJM			
REVISION DESCRIPTION					BY	CHK	APPD
SITE NUMBER					2158		



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



LATITUDE: 41° 18' 01.3"
LONGITUDE: 72° 42' 27.5"



CINGULAR WIRELESS
500 MAIN STREET
BOLTON, MA 01740

ERISSON
6300 LEGACY DRIVE
PLANO, TX 75024

CH2MHILL
8619 WEST BRYN MAWR
CHICAGO, ILLINOIS 60631

infinitag
engineering
300 GREAT OAKS BLVD.
SUITE 312
ALBANY, NY 12203
OFFICE: (518) 690-0790
FAX: (518) 690-0793
185-001

SITE NAME:
GUILFORD POST ROAD
SITE NUMBER: 2158
1919 BOSTON POST ROAD
GUILFORD, CT 06437

NO.	DATE	REVISION DESCRIPTION	BY	CHK	APP'D
4	05/01/06	MISC. REVISIONS	PHR	CJW	CJW
3	05/16/06	MISC. REVISIONS	PHR	CJW	CJW
2	05/12/06	MISC. REVISIONS	PHR	CJW	CJW
1	05/09/06	MISC. REVISIONS	PHR	CJW	CJW
0	05/09/06	MISC. REVISIONS	PHR	CJW	CJW

SITE NUMBER: 2158

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

SEMAAN ENGINEERING SOLUTIONS

**150 ft Nudd Corporation Monopole
Structural Analysis**

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

**Site: 3017663 / CT03XC172
Cingular
Guilford, CT**



May 25, 2006

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

Re: Site Number 3017663 / CT03XC172 – 3017663 - Guilford, CT.

Dear Mr. Belizaire:

We have completed the structural analysis for the existing monopole, located at the above referenced site. The purpose of this analysis is to determine that the existing monopole design is in conformance with the TIA/EIA 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 150 ft Nudd Corporation Monopole. This pole has been reinforced with channels per the SES modification package dated May 30, 2003. The reinforcing was considered in this analysis.

Refer to Nudd Corporation drawing 98-6145-1 dated July 27, 1998 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. The analysis was performed in conformance with **TIA/EIA Rev F and local building codes for a basic wind speed of 85 mph and 1/2" radial ice with reduced wind speed (fastest mile)**. This wind speed is equivalent to a 105 mph 3-second gust wind speed. 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
150.0	3	RR90-17-02DP	(3) Standoffs	(6) 1-5/8	T-Mobile
140.0	12	DB844H90	Low Profile Platform	(12) 1-5/8	Nextel
130.0	9	DB980H90	Low Profile Platform	(9) 1-5/8	Sprint
122.0	12	Allgon 7129.14	Low Profile Platform	(12) 1-5/8	Verizon
100.0	6	Allgon 7250	Low Profile Platform	(12) 1-1/4	AT&T

Proposed Loads:

Elev (ft)	Qty	Antennas	Mounts	Coax	Carrier
110.0	9	7770.00	Existing Low Profile Platform	(12) 7/8	Cingular
	12	2140X 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: 103.2%. The 3.2% overstress is within allowable engineering tolerances.

Foundation:

Pole Reactions	Original Design Reactions	Current Analysis Reactions	% Of Design
Moment (ft-kips)	N/A	3,142.93	N/A
Shear (kips)	N/A	33.63	N/A

The reactions calculated from the analysis exceed the ones indicated on the original structural design. However, upon reviewing the foundation documents, they were found to be adequate and therefore the foundation will not require modification.

Review and Recommendations:

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

SEMAAN ENGINEERING SOLUTIONS

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

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Job Information			
Pole :	CT03XC172	Code:	TIA/EIA Rev F
Description :	Client : Global Signal		
	Location : 3017663 - Guilford, CT		
	Shape : 12 Sides	Base Elev (ft):	0.00
	Height : 150.00 (ft)	Taper:	0.208170(in/ft)

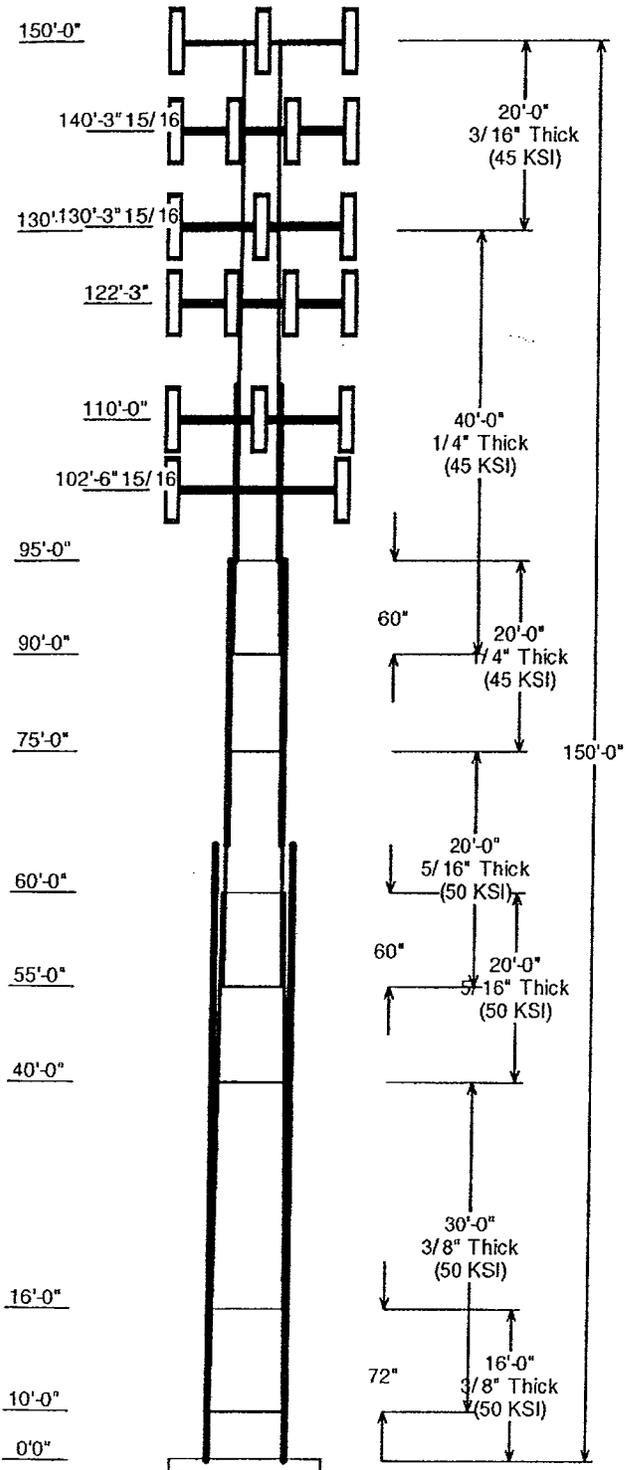
Sections Properties								
Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Type	Overlap		Steel Grade (ksi)
		Accross Top	Flats Bottom			Length (in)	Taper (in/ft)	
1	16.000	39.857	43.188	0.375		0.000	0.208170	50
2	30.000	35.611	41.856	0.375	Slip Joint	72.000	0.208170	50
3	20.000	31.447	35.611	0.313	Butt Joint	0.000	0.208170	50
4	20.000	28.950	33.113	0.313	Slip Joint	60.000	0.208170	50
5	20.000	24.786	28.950	0.250	Butt Joint	0.000	0.208170	45
6	40.000	18.000	26.327	0.250	Slip Joint	60.000	0.208170	45
7	20.000	18.000	18.000	0.188	Butt Joint	0.000	0.000000	45

Discrete Appurtenance				
Attach Elev (ft)	Force Elev (ft)	Qty	Description	
150.000	150.000	3	RR90-17-02DP	
150.000	150.000	3	Standoff	
140.330	140.330	12	DB844H90	
140.330	140.330	1	Low Profile Platform	
130.330	130.330	9	DB980H90	
130.330	130.330	1	Low Profile Platform	
122.250	122.250	12	Allgon 7129.14	
122.250	122.250	1	Low Profile Platform	
110.000	110.000	12	21401 TMA	
110.000	110.000	9	7770.00	
110.000	110.000	1	Low Profile Platform	
102.580	102.580	1	Low Profile Platform	
102.580	102.580	6	Allgon 7250	

Linear Appurtenance				
Elev (ft)	From	To	Description	Exposed To Wind
115.00	150.00	(6) 1 5/8		Yes
95.000	115.00	(3) C5		Yes
65.000	88.000	(6) C5		Yes
65.000	95.000	(6) C6		Yes
0.000	65.000	(6) C6		Yes
0.000	65.000	(6) C8		Yes

Load Cases	
No Ice	85.00 mph Wind with No Ice
Ice	73.61 mph Wind with Ice

Reactions			
Load Case	Moment (Kip-ft)	Shear (Kips)	Axial (Kips)
No Ice	3142.93	33.63	39.44
Ice	2648.32	27.63	47.65



120 Universal Drive, North Haven, CT

**Summary Sheet
Project Location Map
Site Plan and Elevation
Structural Analysis**

CINGULAR WIRELESS
Proposed Modifications

Site Address: 120 Universal Drive, North Haven, CT

Type of Existing Facility: 120' high monopole with an equipment shelter

Antenna Configuration: Center line – 120' above ground level

Proposed unit: Remove existing units and replace with six (6) Powerwave 7770 units; *specification attached*

TMA Configuration: To be placed at same height as antenna

Proposed unit: Existing units to be removed and twelve (12) new LGP 214nn units to be added; *specification attached*

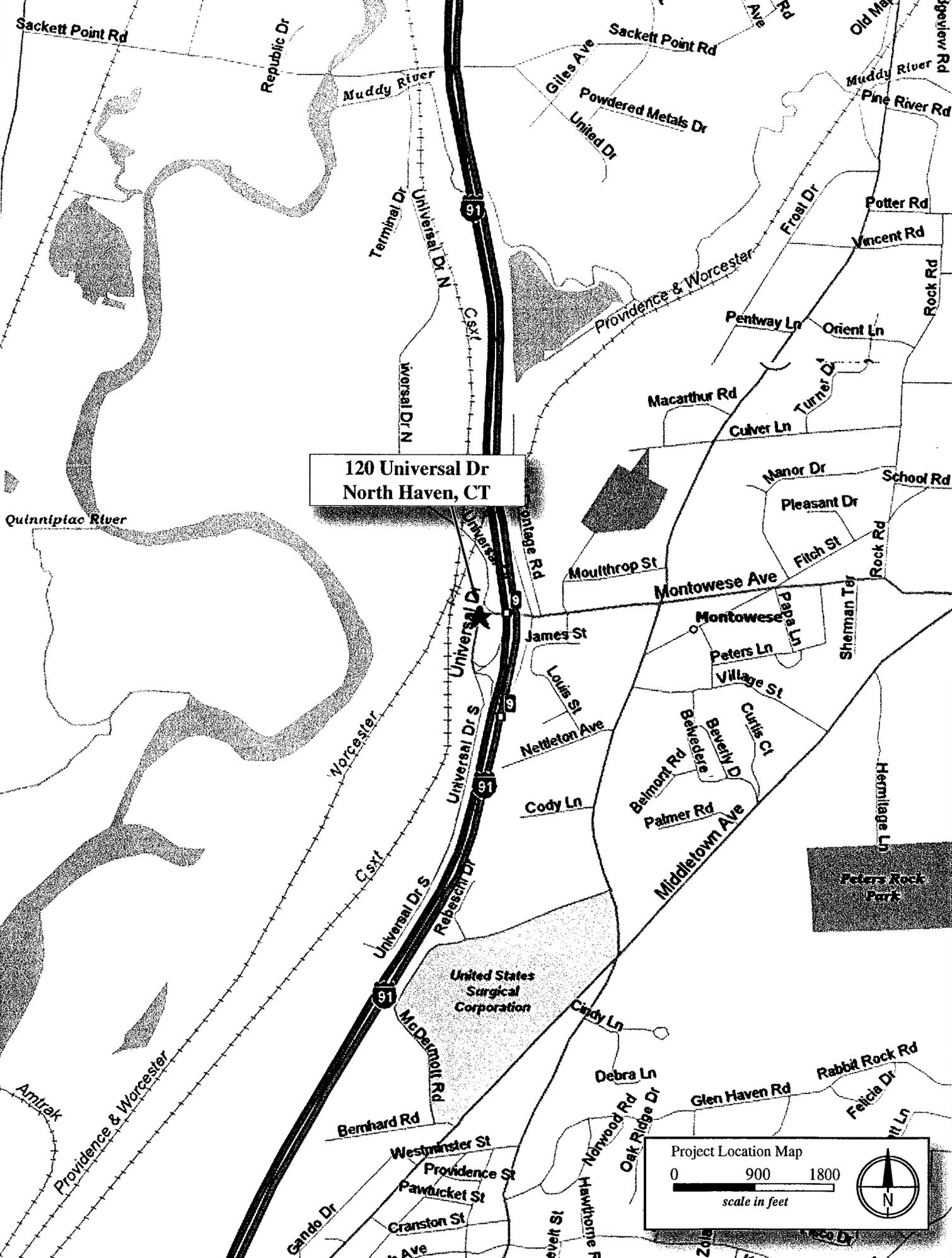
Coaxial Cables: Nine (9) existing 1 5/8" diameter cables to remain and add three (3) new cables of the same diameter

Power Density:

As the table demonstrates, the cumulative worst-case exposure would be approximately 47.00% 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 # 5107								
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	118	1935.0	1	500.0	820.0	12.9	1000	1.29%
Verizon 800	128	880.0	9	200.0	2952.0	39.5	587	6.74%
Verizon 1900	128	1900.0	3	285.0	1402.2	18.8	1000	1.88%
AT&T	118	1900.0	6	100.0	984.0	15.5	1000	1.55%
Nextel	108	851.0	12	100.0	1968.0	37.0	567	6.52%
Sprint	98	1900.0	11	555.3	10017.6	228.7	1000	22.87%
T-Mobile	88	1900.0	8	165.6	2172.3	61.5	1000	6.15%
TOTAL								47.00%

Structural Analysis: Please see attachment.

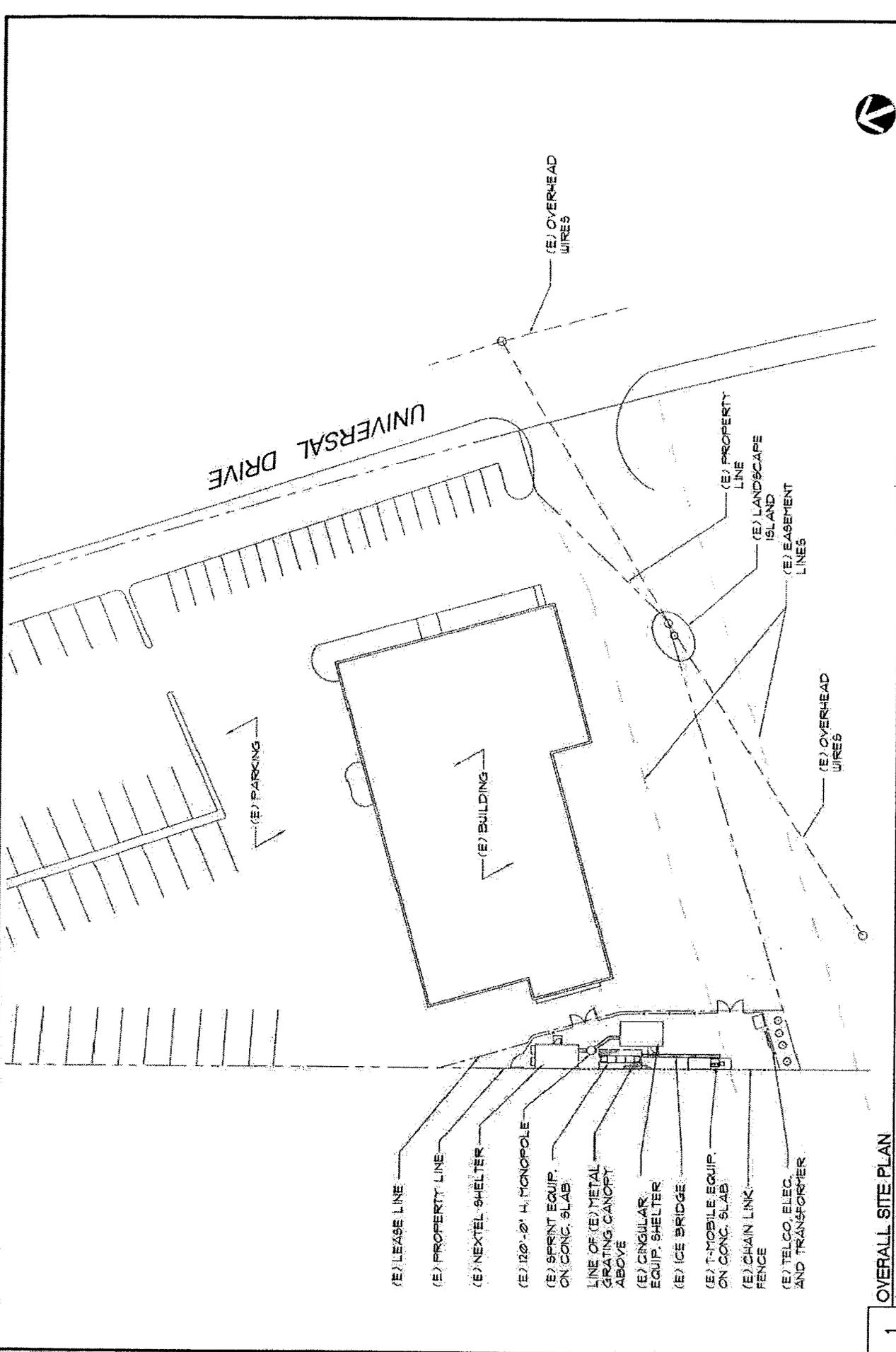


120 Universal Dr
North Haven, CT

Project Location Map

0 900 1800

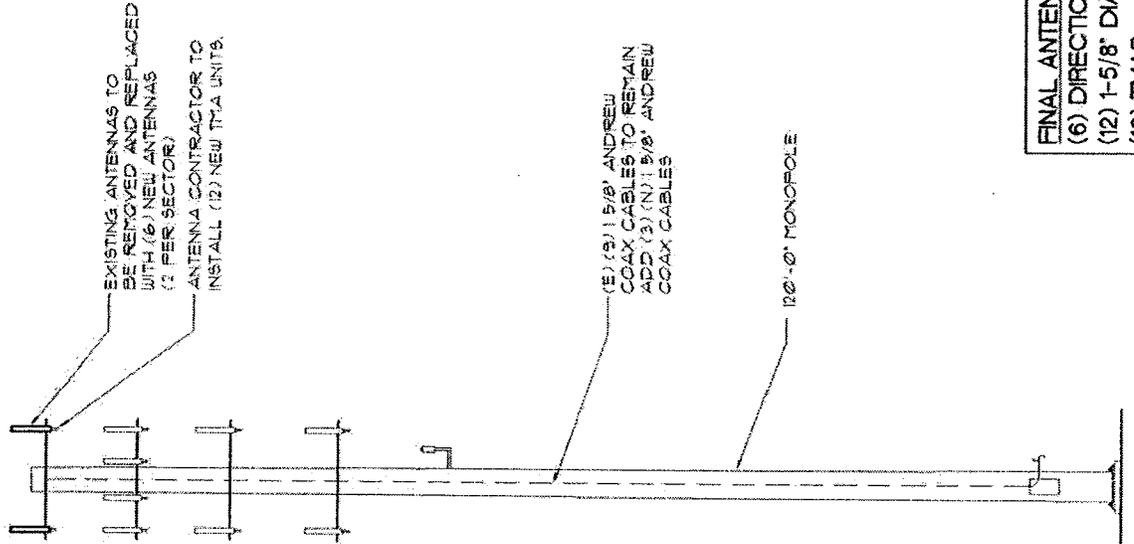
scale in feet



1 OVERALL SITE PLAN
N.T.S.

			 869 WEST BRYN MAWR CHICAGO, ILLINOIS 60631	2 108-01-08 ISSUED FOR CSC SUBMITTAL	RR JZ	JZ	SITE # 5107 CINGULAR WIRELESS
				1 05-25-05 ISSUED FOR ESC REVIEW	RR JZ JZ	RR JZ JZ	SITE NAME: NORTH HAVEN SOUTH 120 UNIVERSAL DRIVE NORTH HAVEN, CT 06473
SCALE: N.T.S.				NO. DATE REVISION DESCRIPTION	BY	DATE	DRAWING NUMBER
CHECKED BY: JZ				DRAWN BY: RR	DATE:	5107	0

- 1. MONOPOLE
ELEV. 120'-0"
- 2. CINGULAR ANTENNAS
ELEV. 120'-0"
- 3. NEXTEL ANTENNAS
ELEV. 110'-0"
- 4. SPRINT ANTENNAS
ELEV. 100'-0"
- 5. I-MOBILE ANTENNAS
ELEV. 100'-0"
- 6. GPS
ELEV. 115'-0"



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

1 TOWER ELEVATION
1"=20'-0"

cingular WIRELESS

ERICSSON

CH2M HILL
868 WEST BRYN MAWR
CHICAGO, ILLINOIS 60661

NO.	DATE	REVISION DESCRIPTION	BY	CHECKED BY	SCALE
2	06-01-08	ISSUED FOR CSC SUBMITTAL	RR JZ	JZ	1"=20'-0"
1	05-25-08	ISSUED FOR CSC REVIEW	RR JZ	JZ	1"=20'-0"

SCALE: 1"=20'-0" DRAWN BY: RR

REV	DRAWING NUMBER	DATE
0	5107	0

CINGULAR WIRELESS
 SITE # 5107
 SITE NAME NORTH HAVEN SOUTH
 120 UNIVERSAL DR. NORTH HAVEN, CT 06473

DETAILED STRUCTURAL ANALYSIS AND EVALUATION OF EXISTING 120' MONOPOLE FOR NEW ANTENNA ARRANGEMENT

Cingular Site #5107
120 Universal Drive
North Haven, Connecticut

prepared for

CH2MHILL

8619 West Bryn Mawr, Suite 615
Chicago, IL 60631



Cingular Wireless
580 Main Street
Bolton, MA 01740

prepared by



URS CORPORATION
500 ENTERPRISE DR, SUITE 3B
ROCKY HILL, CT 06067
TEL. 860-529-8882

36922963.00008
CH2-053

June 1, 2006

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 - **ERI TOWER INPUT / OUTPUT SUMMARY**
 - **ERI TOWER DETAILED OUTPUT**
 - **ANCHOR BOLT AND BASE PLATE ANALYSIS**

1. EXECUTIVE SUMMARY

This report summarizes the structural analysis of the existing 120' steel monopole structure located at 120 Universal Drive in North Haven, Connecticut. The analysis was conducted in accordance with the 2005 Connecticut State Building Code and the TIA/EIA-222-F standard for wind velocity of 90 mph and 78 mph concurrent with 1/2" ice. The antenna loading considered in the analysis consists of all existing and proposed antennas, transmission lines, and ancillary items as outlined in the Introduction Section of this report. The proposed Cingular modification is as follows:

Proposed Antenna and Mount	Carrier	Antenna Center Elevation
Remove:		
(9) existing antennas		
Install:		
(6) Powerwave 7770.00 antennas	Cingular (Proposed)	@ 120'
(12) Powerwave LGP21401 TMA's on the existing low-profile platform with		
(9) existing 1 5/8" coax cables within the monopole and (3) new 1 5/8" coax cables within the monopole.		

The results of the analysis indicate that the tower structure is in compliance with the proposed loading conditions. **The tower and its foundation are considered structurally adequate with the wind load classification specified above and all the existing and proposed antenna loading.**

This analysis is based on:

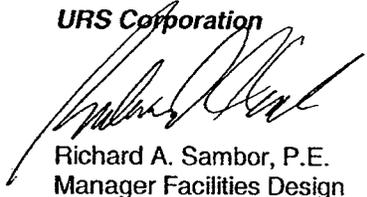
- 1) The tower structure's theoretical capacity, not including any assessment of the condition of the tower.
- 2) Tower geometry and structural member sizes taken from original construction drawings and structural calculations prepared by Engineered Endeavors, Inc., job number 8821, dated February 26, 2001.
- 3) Antenna and mount configuration as specified on the following page of this report.

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

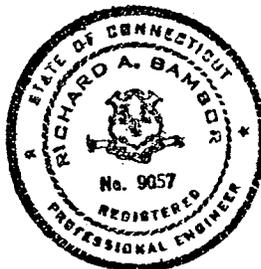
If you should have any questions, please call.

Sincerely,

URS Corporation



Richard A. Sambor, P.E.
Manager Facilities Design



RAS/jek

cc: AA, DR, IA, CF/Book – URS

2. INTRODUCTION

The subject tower is located at 120 Universal Drive in North Haven, Connecticut. The structure is a 120' steel monopole designed and manufactured by Engineered Endeavors, Inc.

The inventory is summarized in the table below:

<i>Antenna Type</i>	<i>Carrier</i>	<i>Mount</i>	<i>Antenna Centerline Elevation</i>	<i>Cable</i>
(6) Powerwave 7770.00 antennas and (12) Powerwave LGP21401 TMA's	Cingular (proposed)	Low-Profile Platform	120'	(9) existing 1 5/8" coax cables (within monopole) and (3) new 1 5/8" coax cables (within monopole)
(12) Decibel DB844H90 antennas	Nextel (existing)	Low-Profile Platform	110'	(12) 1 5/8" coax cables (within monopole)
(9) Decibel DB980F90E-M antennas	Sprint (existing and future)	Low-Profile Platform	100'	(9) 1 5/8" coax cables (within monopole)
(6) EMS RR90-17-00DP antennas and (6) TMA's	T-Mobile (existing and future)	Low-Profile Platform	90'	(12) 1 5/8" coax cables (within monopole)
(1) GPS	(existing)	Standoff Mount	75'	(1) 1/2" coax cable (within monopole)

This structural analysis of the communications tower was performed by URS Corporation (URS) for CH2Mhill/Cingular Wireless. The purpose of this analysis was to investigate the structural integrity of the existing tower with its existing and proposed antenna loads. This analysis was conducted to evaluate stress on the tower and the effect of forces to the foundation of the tower resulting from existing and proposed antenna arrangements.

3. ANALYSIS METHODOLOGY AND LOADING CONDITIONS

The structural analysis was done in accordance with the 2005 Connecticut State Building Code, TIA/EIA-222-F—Structural Standard for Steel Antenna Towers and Antenna Supporting Structures, and the American Institute of Steel Construction (AISC) Manual of Steel Construction—Allowable Stress Design (ASD).

The analysis was conducted using ERI Tower 3.0. Two load conditions were evaluated as shown below which were compared to allowable stresses according to AISC and TIA/EIA.

Load Condition 1 = 90 mph Wind Load (without ice) + Tower Dead Load
Load Condition 2 = 78 mph Wind Load (with ice) + Ice Load + Tower Dead Load

Please note that wind pressure is a function of velocity squared. Under Load Condition 2, a 25 percent reduction in wind pressure is allowed by code to account for the unlikelihood of the full wind pressure and ice load occurring at the same time. The same results may be achieved by utilizing a lower wind pressure without taking the 25 percent reduction, as shown above.

The TIA/EIA standard permits a one-third increase in allowable stresses for towers and monopoles less than 700 feet tall. For the purposes of this analysis, in computing the load capacity the allowable stresses of the tower members were increased by one-third.

4. FINDINGS AND EVALUATION

Combined axial and bending stresses on the monopole structure were evaluated to compare with allowable stresses in accordance with AISC. The calculated stresses under the proposed loading were below the allowable stresses. Detailed analysis and calculations for the proposed load condition are provided in section 6 of this report. The anchor bolts and base plate were found to be within allowable limits. No further analysis was conducted on the foundation since the shear and the moment at the top of the foundation were below the original design.

5. CONCLUSIONS

The results of the analysis indicate that the tower structure is in compliance with the proposed loading conditions. **The tower and its foundation are structurally adequate under the TIA/EIA-222-F wind load classification specified above and the proposed antenna loadings.**

Limitations/Assumptions:

This report is based on the following:

1. Tower inventory as listed in this report.
2. Tower is properly installed and maintained.
3. All members are as specified in the original design documents and are in good condition.
4. All required members are in place.
5. All bolts are in place and are properly tightened.
6. Tower is in plumb condition.
7. All member protective coatings are in good condition.
8. All tower members were properly designed, detailed, fabricated, and installed and have been properly maintained since erection.
9. Foundations were properly constructed to support original design loads as specified in the original design documents.
10. All coaxial cable is installed within the monopole unless specified otherwise.

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

- A. Adding antennas
- B. Removing/replacing antennas
- C. Adding coaxial cables

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

Ongoing and Periodic Inspection and Maintenance:

After the Contractor has successfully completed the installation and the work has been accepted, the owner will be responsible for the ongoing and periodic inspection and maintenance of the tower.

The owner shall refer to TIA/EIA-222-F for recommendations for maintenance and inspection. The frequency of the inspection and maintenance intervals is to be determined by the owner based upon actual site and environmental conditions. It is recommended that a complete and thorough inspection of the entire tower structural system be performed at least yearly and more frequently as conditions warrant. According to TIA/EIA-222-F section 14.1, Note 1: It is recommended that the structure be inspected after severe wind and/or ice storms or other extreme loading conditions.

Specifications for Proposed New Equipment

**945 East Center Street, Wallingford, CT
120 Universal Drive, North Haven, CT
1919 Boston Post Road, Guilford, CT**

Dual Broadband Antenna

90° 1.4 m MET Antenna

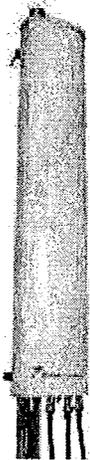
806-960/1710-2170 MHz

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

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SYSTEMS

BASE STATION
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THE POWER IN WIRELESS®

 **Powerwave**
technologies

806-960/1710-2170 MHz

Dual Broadband Antenna

Electrical Specifications (Preliminary)

	806-960	1710-2170
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	$85 \pm 5^\circ$	$85 \pm 5^\circ$
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	$14.3 \pm 2.0^\circ$	$6.6 \pm 1^\circ$
Sidelobe suppression, Vertical 1 st upper (dB)	$> 17, 16, 15$ $x=0, 5, 10^\circ$ MET	$> 17, 16, 15$ $x=0, 4, 8^\circ$ MET
Vertical beam squint	$< 0.8^\circ$	$< 0.5^\circ$
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")

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COVERAGE AND CAPACITY

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QUALITY AND RELIABILITY

Tower Mounted Amplifier

Dual Band 1900 MHz with 850 MHz Bypass

1900/850 MHz

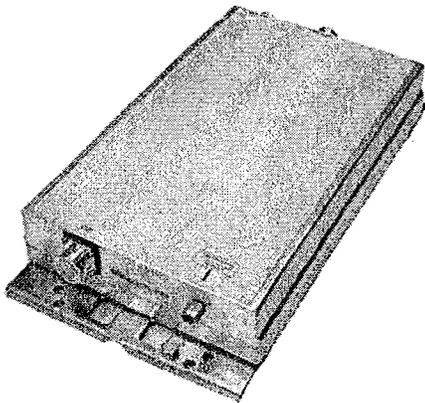
Part Number:
LGP 214nn

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

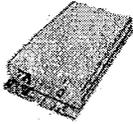
BASE STATION
SYSTEMS

COVERAGE
SYSTEMS

THE POWER IN WIRELESS®

 **Powerwave**
technologies

Tower Mounted Amplifier



1900/850 MHz

Technical Specifications

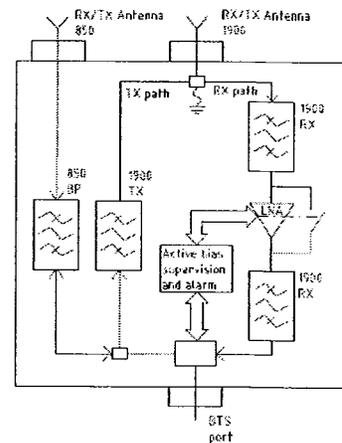
Product Number	LGP214nn	
850 MHz	Bypass (MHz)	824-894
	Return loss* (dB)	> 20
	Insertion loss* (dB)	< 0.3
1900 MHz		
Up-link	Frequency range, full band (60 MHz)	1850-1910
	Nominal gain (dB)	12
	Return loss* (dB)	> 20
	Noise figure* (dB)	< 1.7
	Output 3rd order Intercept Point* (dBm)	> +23
Down-link	Frequency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

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INTEGRATED SOLUTIONS

QUALITY AND RELIABILITY

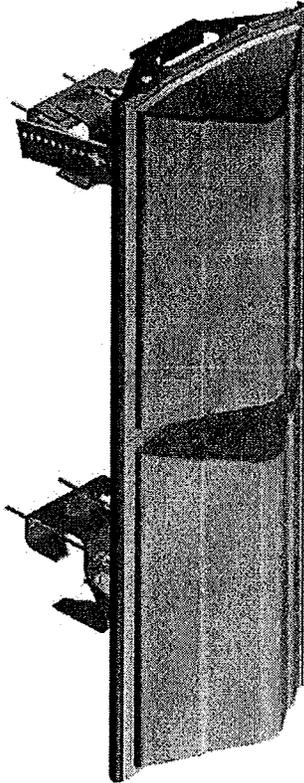
Specifications for Existing Equipment

DUO 1417-8686 / 8670



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



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

<u>Model</u>	<u>Options</u>
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



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 12, 2006

The Honorable William W. Dickinson, Jr.
Mayor
Town of Wallingford
Municipal Building
45 South Main Street
Wallingford, CT 06492

RE: **EM-CING-148-101-060-060609** - New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 945 East Center Street, Wallingford; 120 Universal Drive, North Haven; and 1919 Boston Post Road, Guilford, Connecticut.

Dear Mayor Dickinson:

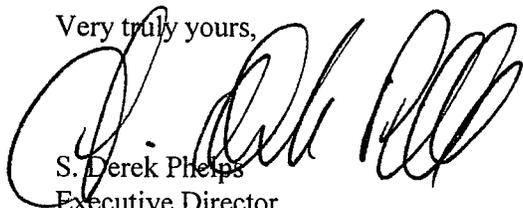
The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for Tuesday, 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 20, 2006.

Thank you for your cooperation and consideration.

Very truly yours,

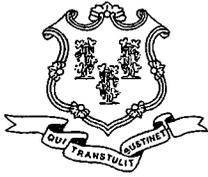


S. Derek Phelps
Executive Director

SDP/ap

Enclosure: Notice of Intent

c: Linda Bush, Town Planner, Town of Wallingford



STATE OF CONNECTICUT

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June 12, 2006

The Honorable Kevin J. Kopetz
First Selectman
Town of North Haven
Town Hall
18 Church Street
North Haven, CT 06473

RE: **EM-CING-148-101-060-060609** - New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 945 East Center Street, Wallingford; 120 Universal Drive, North Haven; and 1919 Boston Post Road, Guilford, Connecticut.

Dear Mr. Kopetz:

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The Council will consider this item at the next meeting scheduled for Tuesday, 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 20, 2006.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/ap

Enclosure: Notice of Intent

c: Arthur Hausman, Zoning Enforcement Officer, Town of North Haven



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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www.ct.gov/csc

June 12, 2006

The Honorable Carl A. Balestracci, Jr.
First Selectman
Town of Guilford
Town Hall
31 Park Street
Guilford, CT 06437

RE: **EM-CING-148-101-060-060609** - New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 945 East Center Street, Wallingford; 120 Universal Drive, North Haven; and 1919 Boston Post Road, Guilford, Connecticut.

Dear Mr. Balestracci:

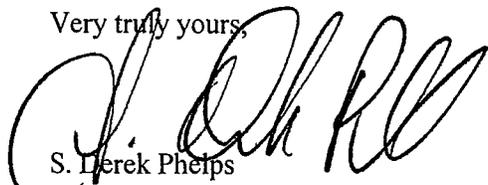
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Thank you for your cooperation and consideration.

Very truly yours,



S. Derek Phelps
Executive Director

SDP/ap

Enclosure: Notice of Intent

c: Regina Reid, Zoning Enforcement Officer, Town of Guilford