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

March 17, 2006

Steven Levine
Real Estate Consultant
New Cingular Wireless PCS, LLC
500 Enterprise Drive
Rocky Hill, CT 06067-3900

RE: **EM-CING-125-060224**- New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 477 Route 7, Sharon, Connecticut.

Dear Mr. Levine:

At a public meeting held on March 8, 2006, the Connecticut Siting Council (Council) acknowledged your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated February 24, 2006, including the placement of all necessary equipment and shelters within the tower compound. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

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

Thank you for your attention and cooperation.

Very truly yours,

Pamela B. Katz /fre

Pamela B. Katz, P.E.
Chairman

PBK/laf

c: The Honorable Malcom M. Brown, First Selectman, Town of Sharon
Elizabeth H. Casey, Zoning Enforcement Officer, Town of Sharon
Thomas F. Flynn III, Nextel Communications Inc.
Thomas J. Regan, Esq., Brown Rudnick Berlack Israels, LLP
Christopher B. Fisher, Esq., Cuddy & Feder LLP

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February 28, 2006

The Honorable Malcom M. Brown
First Selectman
Town of Sharon
Town Hall
63 Main Street
P. O. Box 224
Sharon, CT 06069-0224

RE: **EM-CING-125-060224** - New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 477 Route 7, Sharon, Connecticut.

Dear Mr. Brown:

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

The Council will consider this item at the next meeting scheduled for Wednesday, March 8, 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 March 7, 2006.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/ap

Enclosure: Notice of Intent

c: Elizabeth H. Casey, Zoning Enforcement Officer, Town of Sharon

G:\EM\CINGULAR\Sharon\Brown.DOC

CSC
CONNECTICUT SITING COUNCIL

ORIGINAL

New Cingular Wireless PCS, LLC
500 Enterprise Drive Rocky Hill,
Connecticut 06067-3900
Phone: (860) 513-7636
Fax: (860) 513-7190

February 24, 2006

EM-CING-125-060224

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

Re: Notice of Exempt Modification – Existing SBA Telecommunications Tower Facility off Connecticut Route 7, Sharon, Connecticut

Dear Chairman Katz and Members of the Council:

New Cingular Wireless PCS, LLC ("Cingular") intends to install telecommunications antennas and associated equipment at an existing multicarrier telecommunications tower at 477 Connecticut Route 7 in Sharon, Connecticut. Please accept this letter as notification to the Council, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter is being sent to the 1st Selectman of Sharon.

Existing Facility

The Sharon facility is located on the west side of Route 7, about 7 miles north of Cornwall Bridge. Site coordinates (NAD83) are N 41° 54' 34" and W 73° 21' 58".

The facility is owned and operated by SBA Towers ("SBA"), 5900 Broken Sound Parkway, NW, Boca Raton, FL 33487 under an agreement with Theresa Meisel.

The Sharon tower facility was initially approved by local P&Z authorities, and a building permit was issued on June 29, 2001. Sprint antennas were installed under the local approvals, and Nextel subsequently co-located under Siting Council approvals for EM-NEXTEL-125-031008.

The Sharon facility consists of a 120 foot monopole, camouflaged as a pine tree, within a 40 ft x 90 ft compound surrounded by a chain link fence. Sprint and Nextel currently operate telecommunications sites at the facility.

Proposed Modifications.

Cingular operates under licenses issued by the Federal Communications Commission ("FCC") to provide cellular and PCS mobile telephone service in Litchfield County, which includes the area to be served by Cingular's proposed installation.

As shown on the attached drawings and as further described below, Cingular proposes to install up to six Powerwave 7770 dual band panel antennas or their equivalent, approximately 55 inches in height, with antenna centerlines at 98 feet above ground level. Cingular also proposes to place a 12' x 20' prefabricated concrete equipment shelter inside the existing fence at the base of the tower.

Attached to this Notice are a site location map, a site plan, tower profile, and a structural analysis report that shows the tower is structurally capable of supporting the proposed Cingular telecommunications equipment

Statutory Considerations

The changes to the Sharon tower facility do not constitute a modification as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed or altered. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2) because they will not result in any substantial adverse environmental effect.

1. The height of the overall structure will be unaffected.

2. The proposed changes will not affect the property boundaries. All new construction will take place within the existing fence.

3. The proposed additions will not increase the noise level at the existing facility by six decibels or more.

4. Operation of the additional antennas will not increase the total radio frequency electromagnetic radiation power density, measured at the tower base, to or above the standard adopted by the State of Connecticut and the FCC. The "worst-case" exposure calculation in accordance with FCC OET Bulletin No. 65 (1997) for a point of interest at the base of the tower in relation to the operation of the proposed antenna array is as follows:

Company	Centerline Height (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density† (mW/cm^2)	Standard Limits (mW/cm^2)	Percent of Limit
Sprint *	118	1962.5	11	111	0.0315	1.0000	3.15
Nextel *	108	851	9	100	0.0277	0.5673	4.89
Cingular	98	880-894	6	296	0.0665	0.5867	11.33
Cingular	98	1930-1935	3	427	0.0480	1.0000	4.80
TOTAL							**24.2%**

* Power density parameters from Council records.

† Please note that the standard power density equation provided by the Council in its memo of January 22, 2001 incorporates a ground reflection factor of 2.56 (i.e., the square of 1.6) as described in FCC OET Bulletin No. 65.

As the table demonstrates, the cumulative "worst-case" exposure would be approximately 24.2% of the ANSI/IEEE standard, as calculated for mixed frequency sites. Total power density levels resulting from Cingular's use of the tower facility would thus be within applicable standards.

For the foregoing reasons, Cingular respectfully submits that proposed changes at the Sharon site constitute an exempt modification under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call Steve Schadler at (860) 416-2720 or Christopher Fisher, Esq. at (914) 761-1300 with questions concerning this notice. Thank you for your consideration in this matter.

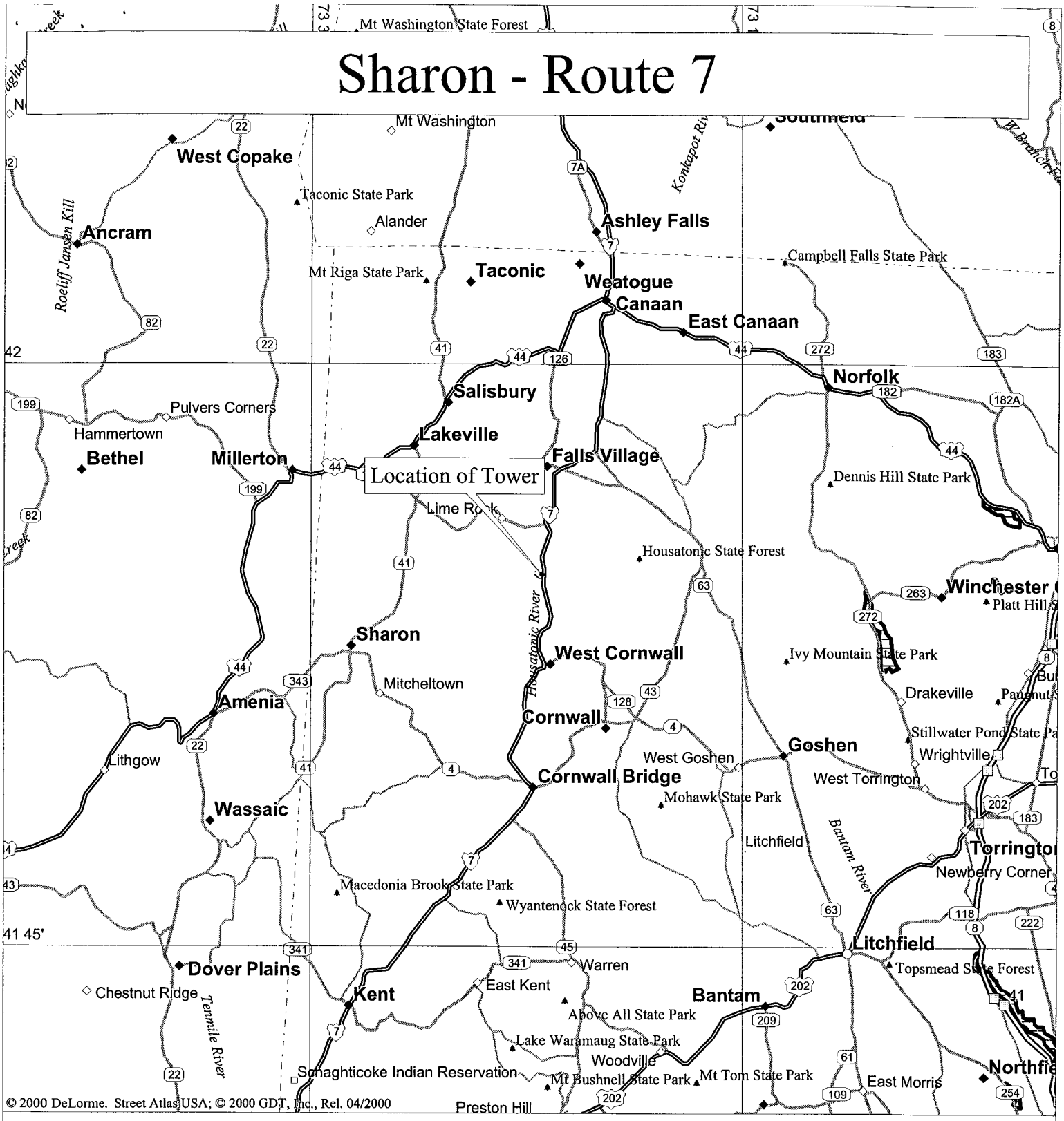
Respectfully yours,

Steven Levine
Real Estate Consultant

Enclosures

cc: Honorable Malcolm M. Brown, 1st Selectman, Town of Sharon
Michele G. Briggs, Manager of Real Estate
Christopher B. Fisher, Esq.

Sharon - Route 7



Mag 11.00
Fri Feb 24 11:57 2006
Scale 1:250,000 (at center)

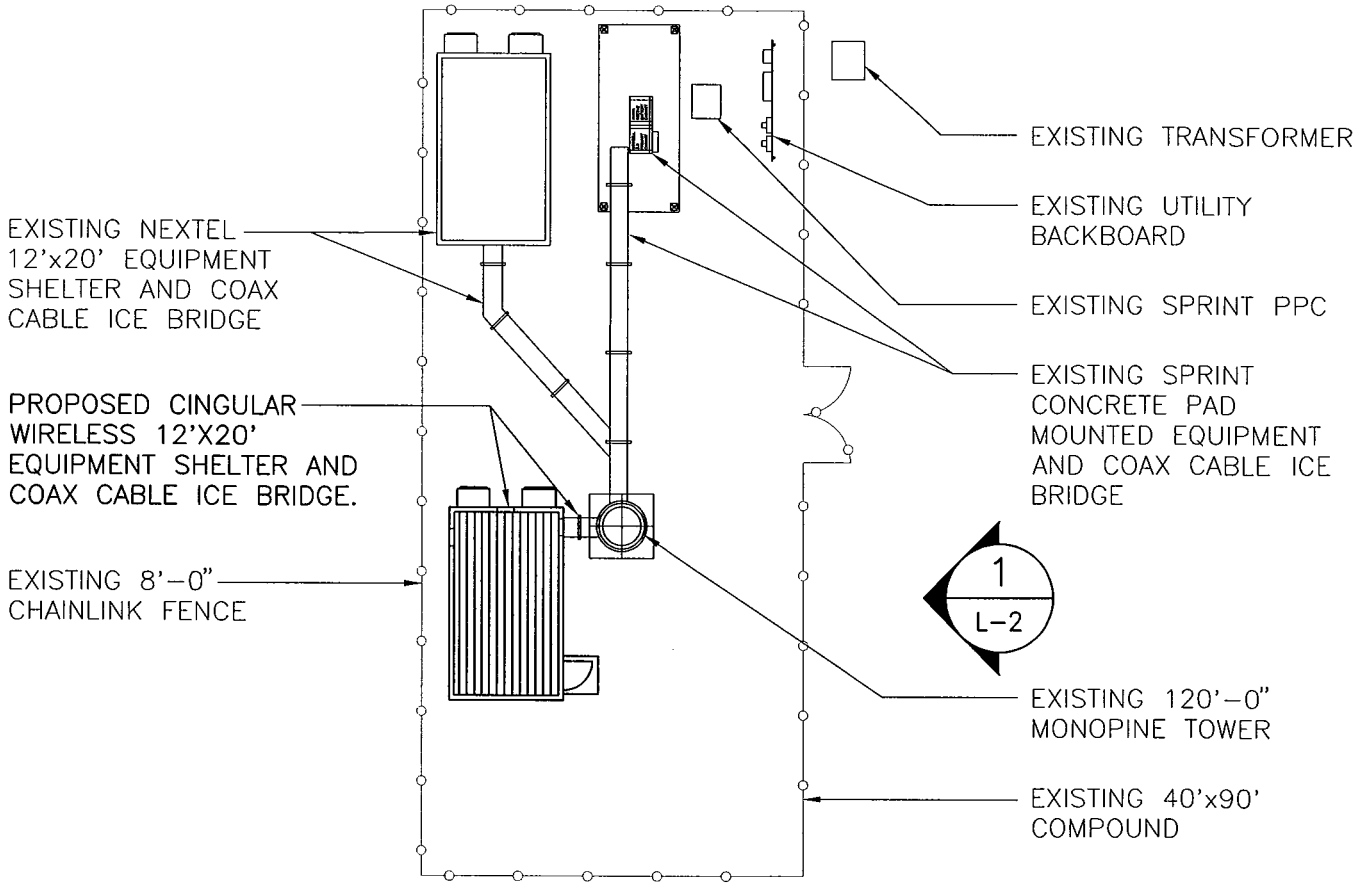
5 Miles

5 KM

- Local Road
- US Highway
- Interstate/Limited Access
- Major Connector
- State Route
- Exit
- Point of Interest
- County Seat
- Small Town
- Park/Reservation
- Locale
- City
- State Boundary
- Land
- Water
- River/Canal

LEASE EXHIBIT

THE LEASE PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE WIRELESS COMMUNICATION FACILITY.



1 / L-1 **COMPOUND PLAN**

SCALE: 1" = 20'-0"

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)

1 inch = 20 ft.

N E W S

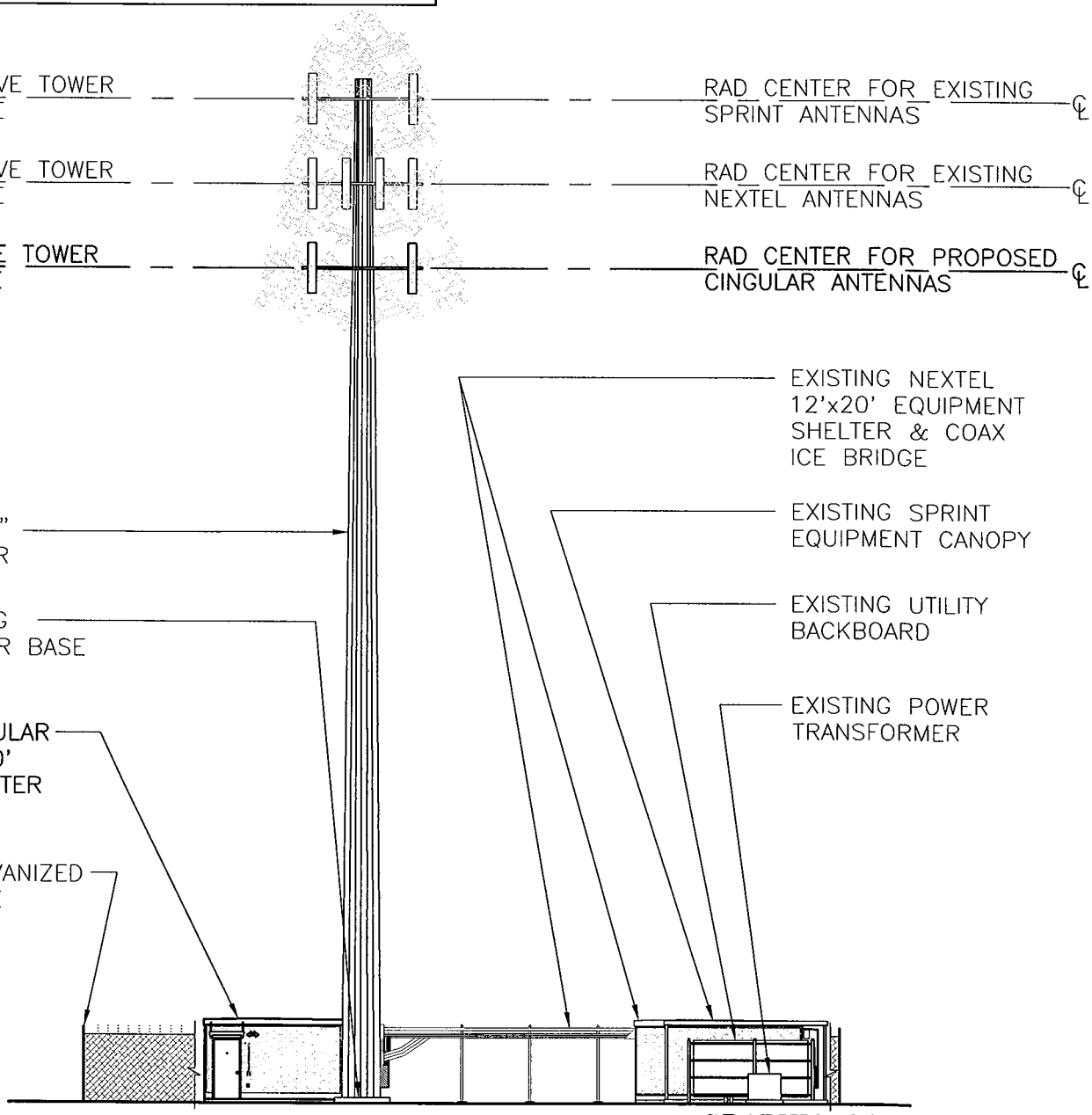
Natcomm, LLC
63-2 North Branford Road
Branford, Connecticut 06405
Tel. (203) 488-0580
Fax (203) 488-8587
Consulting Engineers · Project Management
Civil · Structural · Mechanical · Electrical

cingular WIRELESS

SITE NAME: SBA SHARON	SCALE: AS NOTED	DRAWN BY: TJB	DWG. NO. L-1
	DATE: 02/03/06	CHECKED BY: DMD	
SITE ADDRESS: 477 ROUTE 7 SHARON, CT 06069	REV: 2 02/22/06	APPROVED BY: CFC	
	PHASE: LEASE EXHIBIT	JOB NO: 06012	DWG. 1 OF 2

LEASE EXHIBIT

THE LEASE PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE WIRELESS COMMUNICATION FACILITY.



GRAPHIC SCALE

20 0 10 20 40

(IN FEET)

1 inch = 20 ft.

1 / L-2 **COMPOUND ELEVATION**

SCALE: 1" = 20'-0"

Natcomm, LLC
63-2 North Branford Road
Branford, Connecticut 06405
Tel. (203) 488-0580
Fax (203) 488-8587
Consulting Engineers · Project Management
Civil · Structural · Mechanical · Electrical

cingular WIRELESS

SITE NAME: SBA SHARON	SCALE: AS NOTED	DRAWN BY: TJB	DWG. NO. L-2
	DATE: 02/03/06	CHECKED BY: DMD	
SITE ADDRESS: 477 ROUTE 7 SHARON, CT 06069	REV: 2 02/22/06	APPROVED BY: CFC	
	PHASE: LEASE EXHIBIT	JOB NO: 06012	DWG. 2 OF 2

WALKER ENGINEERING, INC.

8451 DUNWOODY PLACE
NORTHRIDGE 400, BLDG. 8
DUNWOODY, GA 30350
(770) 641-7306 FAX (770) 587-2196

CIVIL • STRUCTURAL
N 33° 59' 13.6" W 84° 20' 26.8"

Mr. **Doug Drost** 02/14/06
Natcomm, LLC
63-2 North Branford Road **Site: SBA Sharon**
Branford, CT 06405

Sub: Structural Analysis of 120-ft NUDD Monopole
477 Route 7, Sharon, CT 06069

Dear Mr. Drost:

Walker Engineering has performed a Level-Two finite element, P-Δ structural analysis of the above subject monopole in accordance with your Authorization for Services for the addition of the ***Cingular*** proposed antennas outlined below. This analysis consists of determining the forces on the monopole caused by the existing, proposed, and reserved loads. The existing, proposed, and reserved loads were provided by your office.

The subject monopole is a 120-foot, four-section, eighteen sided, tapered monopole, designed and manufactured by Fred A. Nudd Corp. in 2001. The monopole manufacturer's drawing No.: 01-8318-1, dated 04/03/01, was provided by your office. The monopole geometry, section sizes, and foundation design loads were obtained from these data and are assumed to be accurate. The monopole has also been assumed to be in good condition and capable of supporting its full original design capacity.

Our analysis was performed in accordance with TIA/EIA-222-**F** for an 80 mph[1] base windload, and 75% of the base windload with ½" radial ice, as specified by Natcomm, LLC.

Existing, reserved, and proposed loads include the following:

at 118 ft — Sprint: Twelve existing Decibel DB980H90M panel antennas on three T-Arm mounts, fed by twelve 1-5/8"∅ coax cables.

at 108 ft — Nextel: Twelve Decibel DB844H90E-XY panel antennas on three T-arm mounts, fed by twelve 1-1/4"∅ coax cables.

[1] The minimum windspeed specified by EIA-222-F for Litchfield County, CT is 80 mph.

at 98 ft ***Cingular (Proposed)***: Twelve Allgon 7770.00 panel antennas with twenty four Allgon LGP 2140X TMA's on three T-arm mounts, fed by twenty four 1-5/8"∅ coax cables.

Note: The analysis ***assumes*** that the coax cables (existing, reserved, and proposed) are routed inside the monopole per the *Walker Engineering report, Job No. 0602-149, dated 02/14/06. Please notify the undersigned prior to altering the cable routing configuration or if the coax configuration is different than the above assumptions.* Placement of small cables for beacons, ground rods, etc. are not critical.

Monopole Summary:

This analysis shows that the subject monopole **is adequate** to support the existing, reserved, and proposed loads.

A copy of the analysis is enclosed. A summary of the controlling load cases is provided below:

Monopole Section	Elevation	CSI[2]
Section 4 (Top)	95 ft to 120 ft	0.21
Section 3	70 ft to 95 ft	0.35
Section 2	26 ft to 70 ft	0.45
Section 1 (Bottom)	0 ft to 26 ft	0.50

Foundation Summary:

The forces at the base of the monopole are less than the original design loads. The existing monopole foundation **is adequate** to support the existing, reserved, and proposed loads.

Foundation Loads	Org. Design[3] Reactions	Existing/ Proposed	% of Reactions
O.T. Moment (OTM)	5,810.0 k-ft	3,578.3 k-ft	62 %
Base Shear (horiz.)	56.4 k	40.5 k	72 %

As future loads are installed, the monopole should be re-evaluated on a case-by-case basis.

---

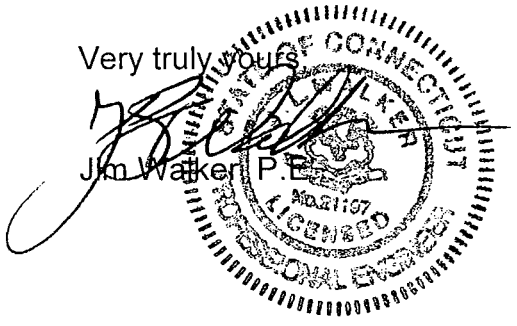
[2] "**Combined Stress Index**" Ratio of calculated loads verses total allowable loads; should be less than, or equal to, 1.00.

[3] Original foundation reactions from Fred A. Nudd Corp., Drawing No.: 01-8318-2, dated 04/12/01.

The analysis is based, in part, on the information provided to this office by Natcomm, LLC. If the existing conditions are different than the information in this report, Walker Engineering Inc. should be contacted for resolution of any issues.

Walker Engineering Inc. appreciates the opportunity to be of service in this matter. Please do not hesitate to give me a call if you have any questions or comments.

Very truly yours,



Jim Walker, P.E.

encl

New Cingular Wireless PCS, LLC
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 513-7636
Fax: (860) 513-7190

February 24, 2006

Honorable Malcolm M. Brown
1st Selectman, Town of Sharon
Town Hall, 63 Main Street
Sharon, Connecticut 06069

Re: Notice of Exempt Modification – Existing SBA Telecommunications Tower Facility off Connecticut Route 7, Sharon, Connecticut

Dear Mr. Brown:

New Cingular Wireless PCS, LLC ("Cingular") intends to install telecommunications antennas and associated equipment at an existing multicarrier telecommunications tower at 477 Connecticut Route 7 in Sharon, Connecticut.

The facility is owned and operated by SBA Towers ("SBA"), 5900 Broken Sound Parkway, NW, Boca Raton, FL 33487.

A Notice of Exempt Modification has been filed with the Connecticut Siting Council as required by Regulations of Connecticut State Agencies ("R.C.S.A.") Section 16-50j-73. Please accept this letter as notification to the Town of Sharon under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The attached letter fully sets forth the Cingular proposal. However, if you have any questions or require any further information on the plans for the site or the Siting Council's procedures, please contact the undersigned or Mr. Derek Phelps, Executive Director of the Connecticut Siting Council, at (860) 827-2935.

Sincerely,

Steven Levine
Real Estate Consultant

Enclosure

WALKER ENGINEERING, INC.
8451 DUNWOODY PLACE
NORTHRIDGE 400, BLDG. 8
DUNWOODY, GA 30350
(770) 641-7306 FAX (770) 587-2196

ORIGINAL

CIVIL • STRUCTURAL
N 33° 59' 13.6" W 84° 20' 26.8"

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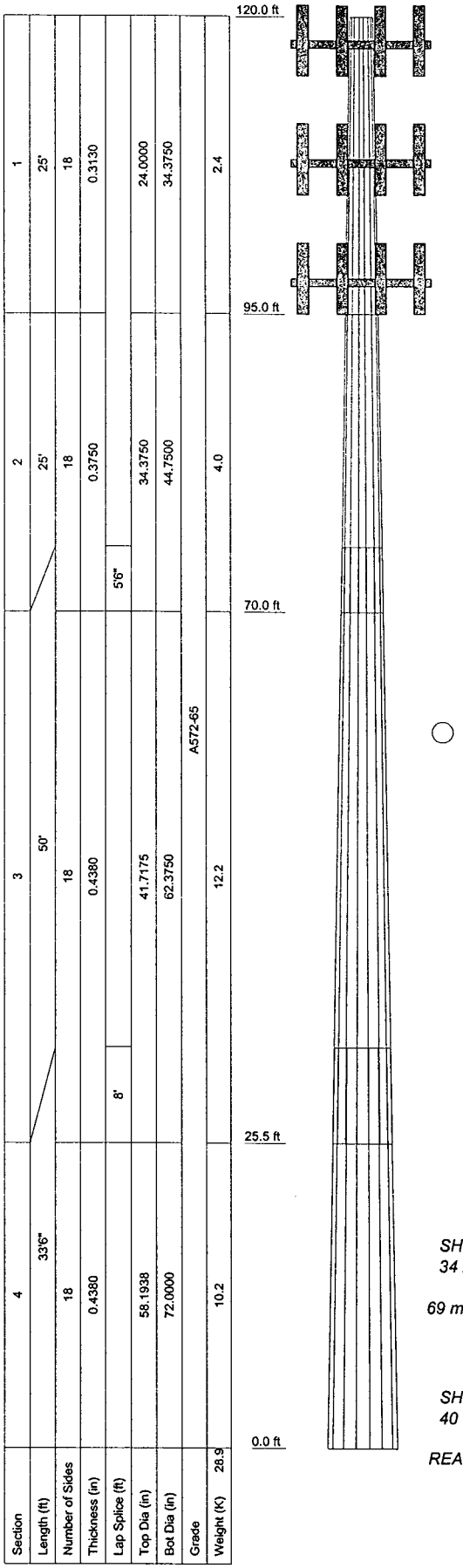
Very truly yours,

Jim Walker P.E.

encl



APPURTENANCES

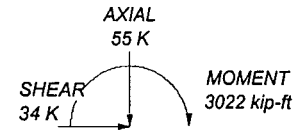
TYPE	ELEVATION	TYPE	ELEVATION
(4) Decibel DB978H90M Panel Antennas	118	Branch Group	105
(4) Decibel DB978H90M Panel Antennas	118	(4) Proposed - Allgon 7770.00 Panel Antennas	98
(4) Decibel DB978H90M Panel Antennas	118	(4) Proposed - Allgon 7770.00 Panel Antennas	98
T-Arm Mount	118	(4) Proposed - Allgon 7770.00 Panel Antennas	98
T-Arm Mount	118	(8) Proposed Allgon LGP 2140X TMA's	98
T-Arm Mount	118		
Branch Group	115	(8) Proposed Allgon LGP 2140X TMA's	98
(4) Decibel DB844H90E-XY Panel Antennas	108	(8) Proposed Allgon LGP 2140X TMA's	98
(4) Decibel DB844H90E-XY Panel Antennas	108	Proposed T-Arm Mount	98
(4) Decibel DB844H90E-XY Panel Antennas	108	Proposed T-Arm Mount	98
		Proposed T-Arm Mount	98
T-Arm Mount	108	Branch Group	95
T-Arm Mount	108	Branch Group	85
T-Arm Mount	108	Branch Group	77.5

MATERIAL STRENGTH

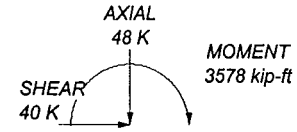
GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Litchfield County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 69 mph basic wind with 0.50 in ice.
4. Decorative branches are not shown for clarity reasons.



69 mph WIND - 0.5000 in ICE



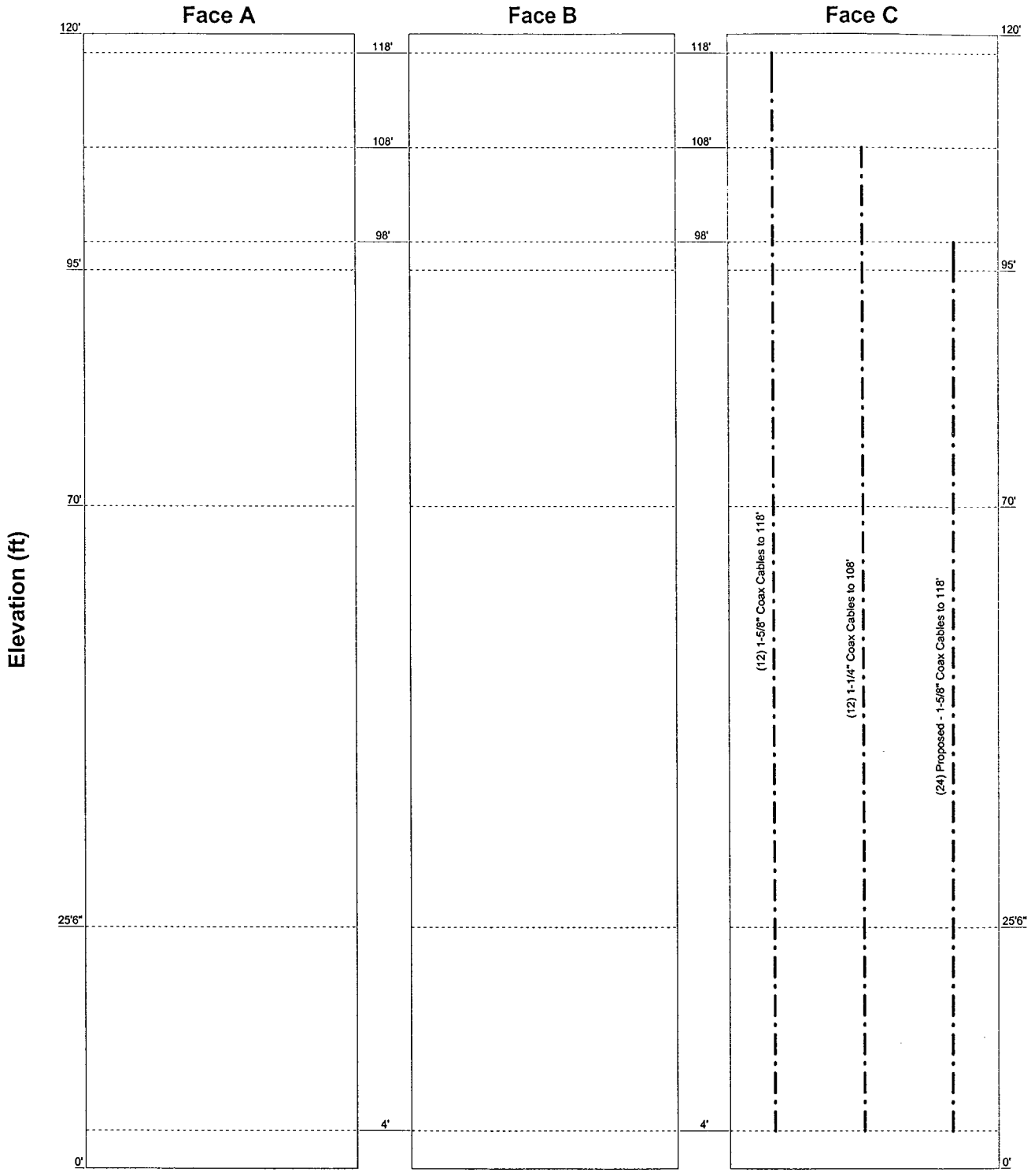
REACTIONS - 80 mph WIND

Walker Engineering Inc.
8451 Dunwoody Place, Bldg 8
Atlanta, Georgia 30350
Phone: (770) 641-7306
FAX: (770) 587-2196
Tower Specialists

Job: ***Natcomm-047: 0602-149***			
Project: ***SBA Sharon***			
Client: Natcomm, LLC.	Drawn by: SC	App'd:	
Code: TIA/EIA-222-F	Date: 02/16/06	Scale: NTS	
Path: S:\Projects\Towers\NatComm\ERITower\Natcomm-047 0602-149 SBA Sharon NUDO 120-ft MP.eri		Dwg No. E-1	

Feedline Distribution Chart
0' - 120'

Round ___ Flat ___ App In Face ___ . ___ App Out Face ___ .. ___ Truss Leg



Walker Engineering Inc.
8451 Dunwoody Place, Bldg 8
Atlanta, Georgia 30350
Phone: (770) 641-7306
FAX: (770) 587-2196
Tower Specialists

Job: Natcomm-047: 0602-149		
Project: SBA Sharon		
Client: Natcomm, LLC.	Drawn by: SC	App'd:
Code: TIA/EIA-222-F	Date: 02/16/06	Scale: NTS
Path: S:\Projects\Towers\NatComm\ER\Tower\Natcomm-047 0602-149 SBA Sharon NUDD 120-ft MP.ed		Dwg No. E-7

WEInc

Walker Engineering Inc.
8451 Dunwoody Place, Bldg 8
Atlanta, Georgia 30350
Phone: (770) 641-7306
FAX: (770) 587-2196

Job	Page
Natcomm-047: 0602-149	1 of 6
Project	**Date**
SBA Sharon	09:53:36 02/16/06
Client	**Designed by**
Natcomm, LLC.	SC

Tower Input Data

There is a pole section.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Tower is located in Litchfield County, Connecticut.
Basic wind speed of 80 mph.
Nominal ice thickness of 0.5000 in.
Ice density of 56 pcf.
A wind speed of 69 mph is used in combination with ice.
Decorative branches are not shown for clarity reasons..
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.333.
Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	120'-95'	25'	0'	18	24.0000	34.3750	0.3130	1.2520	A572-65 (65 ksi)
L2	95'-70'	25'	5'6"	18	34.3750	44.7500	0.3750	1.5000	A572-65 (65 ksi)
L3	70'-25'6"	50'	8'	18	41.7175	62.3750	0.4380	1.7520	A572-65 (65 ksi)
L4	25'6"-0'	33'6"		18	58.1938	72.0000	0.4380	1.7520	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	24.3702	23.5321	1668.0877	8.4089	12.1920	136.8182	3338.3704	11.7683	3.6731	11.735
	34.9053	33.8393	4960.1995	12.0920	17.4625	284.0486	9926.9258	16.9229	5.4991	17.569
L2	34.9053	40.4685	5910.3390	12.0700	17.4625	338.4589	11828.4550	20.2381	5.3900	14.373
	45.4403	52.8173	13139.8600	15.7531	22.7330	578.0082	26297.0098	26.4137	7.2160	19.243
L3	44.6684	57.3873	12354.4031	14.6542	21.1925	582.9614	24725.0625	28.6991	6.5714	15.003
	63.3372	86.1056	41731.9791	21.9876	31.6865	1317.0271	83518.8701	43.0610	10.2071	23.304
L4	62.4394	80.2928	33838.0474	20.5033	29.5625	1144.6293	67720.6198	40.1540	9.4712	21.624
	73.1107	99.4864	64367.3889	25.4045	36.5760	1759.8258	128819.474	49.7526	11.9011	27.172

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
1-5/8" Coax Cables to 118'	C	No	Inside Pole	118' - 4'	12	No Ice	0.00	0.92
						1/2" Ice	0.00	0.92
1-1/4" Coax Cables to 108'	C	No	Inside Pole	108' - 4'	12	No Ice	0.00	0.66
						1/2" Ice	0.00	0.66
Proposed - 1-5/8" Coax Cables to 118'	C	No	Inside Pole	98' - 4'	24	No Ice	0.00	0.92
						1/2" Ice	0.00	0.92

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Branch Group	A	None		0.0000	115'	No Ice	87.00	87.00	1.54
						1/2" Ice	97.00	97.00	1.70
Branch Group	A	None		0.0000	105'	No Ice	101.00	101.00	1.80
						1/2" Ice	111.00	111.00	2.00
Branch Group	A	None		0.0000	95'	No Ice	115.00	115.00	2.10
						1/2" Ice	125.00	125.00	2.50
Branch Group	A	None		0.0000	85'	No Ice	115.00	115.00	2.10
						1/2" Ice	125.00	125.00	2.50
Branch Group	A	None		0.0000	77'6"	No Ice	130.00	130.00	2.30
						1/2" Ice	140.00	140.00	2.50
(4) Decibel DB978H90M Panel Antennas	A	From Face	4.00 0' 0'	0.0000	118'	No Ice	2.98	1.70	0.01
						1/2" Ice	3.30	1.99	0.02
(4) Decibel DB978H90M Panel Antennas	B	From Face	4.00 0' 0'	0.0000	118'	No Ice	2.98	1.70	0.01
						1/2" Ice	3.30	1.99	0.02
(4) Decibel DB978H90M Panel Antennas	C	From Face	4.00 0' 0'	0.0000	118'	No Ice	2.98	1.70	0.01
						1/2" Ice	3.30	1.99	0.02
T-Arm Mount	A	From Face	4.00 0' 0'	0.0000	118'	No Ice	13.60	13.60	0.47
						1/2" Ice	18.40	18.40	0.60
T-Arm Mount	B	From Face	4.00 0' 0'	0.0000	118'	No Ice	13.60	13.60	0.47
						1/2" Ice	18.40	18.40	0.60
T-Arm Mount	C	From Face	4.00 0' 0'	0.0000	118'	No Ice	13.60	13.60	0.47
						1/2" Ice	18.40	18.40	0.60
(4) Decibel DB844H90E-XY Panel Antennas	A	From Face	4.00 0' 0'	0.0000	108'	No Ice	2.87	3.73	0.01
						1/2" Ice	3.18	4.10	0.04
(4) Decibel DB844H90E-XY Panel Antennas	B	From Face	4.00 0' 0'	0.0000	108'	No Ice	2.87	3.73	0.01
						1/2" Ice	3.18	4.10	0.04
(4) Decibel DB844H90E-XY Panel Antennas	C	From Face	4.00 0' 0'	0.0000	108'	No Ice	2.87	3.73	0.01
						1/2" Ice	3.18	4.10	0.04
T-Arm Mount	A	From Face	4.00 0' 0'	0.0000	108'	No Ice	13.60	13.60	0.47
						1/2" Ice	18.40	18.40	0.60
T-Arm Mount	B	From Face	4.00 0'	0.0000	108'	No Ice	13.60	13.60	0.47
						1/2" Ice	18.40	18.40	0.60

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0'						
T-Arm Mount	C	From Face	4.00 0'	0.0000	108'	No Ice 1/2" Ice	13.60 18.40	13.60 18.40	0.47 0.60
			0'						
(4) Proposed - Allgon 7770.00 Panel Antennas	A	From Face	4.00 0'	0.0000	98'	No Ice 1/2" Ice	5.88 6.31	2.93 3.27	0.04 0.07
			0'						
(4) Proposed - Allgon 7770.00 Panel Antennas	B	From Face	4.00 0'	0.0000	98'	No Ice 1/2" Ice	5.88 6.31	2.93 3.27	0.04 0.07
			0'						
(4) Proposed - Allgon 7770.00 Panel Antennas	C	From Face	4.00 0'	0.0000	98'	No Ice 1/2" Ice	5.88 6.31	2.93 3.27	0.04 0.07
			0'						
(8) Proposed Allgon LGP 2140X TMA's	A	From Face	4.00 0'	0.0000	98'	No Ice 1/2" Ice	1.26 1.42	0.38 0.49	0.02 0.03
			0'						
(8) Proposed Allgon LGP 2140X TMA's	B	From Face	4.00 0'	0.0000	98'	No Ice 1/2" Ice	1.26 1.42	0.38 0.49	0.02 0.03
			0'						
(8) Proposed Allgon LGP 2140X TMA's	C	From Face	4.00 0'	0.0000	98'	No Ice 1/2" Ice	1.26 1.42	0.38 0.49	0.02 0.03
			0'						
Proposed T-Arm Mount	A	From Face	4.00 0'	0.0000	98'	No Ice 1/2" Ice	13.60 18.40	13.60 18.40	0.47 0.60
			0'						
Proposed T-Arm Mount	B	From Face	4.00 0'	0.0000	98'	No Ice 1/2" Ice	13.60 18.40	13.60 18.40	0.47 0.60
			0'						
Proposed T-Arm Mount	C	From Face	4.00 0'	0.0000	98'	No Ice 1/2" Ice	13.60 18.40	13.60 18.40	0.47 0.60
			0'						

Load Combinations

Comb. No.	Description
1	Dead Only
2	Dead+Wind 0 deg - No Ice
3	Dead+Wind 30 deg - No Ice
4	Dead+Wind 60 deg - No Ice
5	Dead+Wind 90 deg - No Ice
6	Dead+Wind 120 deg - No Ice
7	Dead+Wind 150 deg - No Ice
8	Dead+Wind 180 deg - No Ice
9	Dead+Wind 210 deg - No Ice
10	Dead+Wind 240 deg - No Ice
11	Dead+Wind 270 deg - No Ice
12	Dead+Wind 300 deg - No Ice
13	Dead+Wind 330 deg - No Ice
14	Dead+Ice
15	Dead+Wind 0 deg+Ice

Comb. No.	Description
16	Dead+Wind 30 deg+Ice
17	Dead+Wind 60 deg+Ice
18	Dead+Wind 90 deg+Ice
19	Dead+Wind 120 deg+Ice
20	Dead+Wind 150 deg+Ice
21	Dead+Wind 180 deg+Ice
22	Dead+Wind 210 deg+Ice
23	Dead+Wind 240 deg+Ice
24	Dead+Wind 270 deg+Ice
25	Dead+Wind 300 deg+Ice
26	Dead+Wind 330 deg+Ice

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	18	55.38	-33.62	0.00
	Max. H_x	11	48.21	40.46	0.00
	Max. H_z	2	48.21	0.00	40.46
	Max. M_x	2	3578.31	0.00	40.46
	Max. M_z	5	3578.31	-40.46	0.00
	Max. Torsion	7	0.00	-20.23	-35.04
	Min. Vert	1	48.21	0.00	0.00
	Min. H_x	5	48.21	-40.46	0.00
	Min. H_z	8	48.21	0.00	-40.46
	Min. M_x	8	-3578.31	0.00	-40.46
	Min. M_z	11	-3578.31	40.46	0.00
	Min. Torsion	9	-0.00	20.23	-35.04

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	120 - 95	24.582	5	1.7350	0.0000
L2	95 - 70	15.738	5	1.5796	0.0000
L3	75.5 - 25.5	9.889	5	1.2610	0.0000
L4	33.5 - 0	1.925	5	0.5082	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
118'	(4) Decibel DB978H90M Panel Antennas	5	23.851	1.7278	0.0000	20952
115'	Branch Group	5	22.756	1.7165	0.0000	20952
108'	(4) Decibel DB844H90E-XY Panel Antennas	5	20.227	1.6846	0.0000	8729

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
105'	Branch Group	5	19.161	1.6669	0.0000	6983
98'	(4) Proposed - Allgon 7770.00 Panel Antennas	5	16.740	1.6113	0.0000	4769
95'	Branch Group	5	15.738	1.5796	0.0000	4294
85'	Branch Group	5	12.588	1.4369	0.0000	3786
77'6"	Branch Group	5	10.433	1.3005	0.0000	3533

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
L1	120 - 95 (1)	TP34.375x24x0.313	25'	0'	0.0	39.000	33.8393	-11.02	1319.73	0.008
L2	95 - 70 (2)	TP44.75x34.375x0.375	25'	0'	0.0	39.000	50.1006	-21.11	1953.92	0.011
L3	70 - 25.5 (3)	TP62.375x41.7175x0.438	50'	0'	0.0	39.000	81.5106	-34.13	3178.91	0.011
L4	25.5 - 0 (4)	TP72x58.1938x0.438	33'6"	0'	0.0	37.510	99.4864	-48.20	3731.72	0.013

Pole Bending Design Data

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
L1	120 - 95 (1)	TP34.375x24x0.313	246.43	-10.411	39.000	0.267	0.00	0.000	39.000	0.000
L2	95 - 70 (2)	TP44.75x34.375x0.375	771.71	-17.814	39.000	0.457	0.00	0.000	39.000	0.000
L3	70 - 25.5 (3)	TP62.375x41.7175x0.438	2273.38	-23.124	39.000	0.593	0.00	0.000	39.000	0.000
L4	25.5 - 0 (4)	TP72x58.1938x0.438	3578.32	-24.400	37.510	0.650	0.00	0.000	37.510	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Size	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	120 - 95 (1)	TP34.375x24x0.313	0.008	0.267	0.000	0.275 ✓	1.333	H1-3 ✓
L2	95 - 70 (2)	TP44.75x34.375x0.375	0.011	0.457	0.000	0.468 ✓	1.333	H1-3 ✓
L3	70 - 25.5 (3)	TP62.375x41.7175x0.438	0.011	0.593	0.000	0.604 ✓	1.333	H1-3 ✓
L4	25.5 - 0 (4)	TP72x58.1938x0.438	0.013	0.650	0.000	0.663 ✓	1.333	H1-3 ✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
L1	120 - 95	Pole	TP34.375x24x0.313	1	-11.02	1759.20	20.7	Pass
L2	95 - 70	Pole	TP44.75x34.375x0.375	2	-21.11	2604.58	35.1	Pass
L3	70 - 25.5	Pole	TP62.375x41.7175x0.438	3	-34.13	4237.49	45.3	Pass
L4	25.5 - 0	Pole	TP72x58.1938x0.438	4	-48.20	4974.38	49.8	Pass
							Summary	
						Pole (L4)	49.8	Pass
						RATING =	**49.8**	**Pass**