STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square
New Britain, Connecticut 06051
Phone: (860) 827-2935
Fax: (860) 827-2950

August 8, 2002

Kenneth C. Baldwin
Robinson & Cole
280 Trumbull Street
Hartford, CT 06103-3597

RE: **TS-VER-046-020711** - Cellco Partnership d/b/a Verizon Wireless request for an order to approve tower sharing at an existing telecommunications facility located at 197 North Street, Easton, Connecticut.

Dear Attorney Baldwin:

At a public meeting held on August 1, 2002, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures with the conditions that: 1) the generator to be installed is for emergency purposes only, 2) any fuel tank shall provide for spill containment, and 3) the added antennas shall be camouflaged with artificial tree branches. 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. Any additional change to this facility may require an explicit request to this agency pursuant to General Statutes § 16-50aa or notice pursuant to Regulations of Connecticut State Agencies Section 16-50j-73, as applicable. Such request or notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point 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.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction.

The proposed shared use is to be implemented as specified in your letters dated July 12, 2002, and July 16, 2002.

Thank you for your attention and cooperation.

Very truly yours,

Mortimer A. Gelston
Chairman

MAG/DM/laf

c: Honorable William J. Kupinse, First Selectman, Town of Easton
Planning and Zoning Official, Town of Easton
Sheila R. Becker, Regional Director of Compliance, SBA, Inc.
Julie M. Donaldson, Esq., Hurwitz & Sagarin LLC
Stephen J. Humes, Esq., LeBoeuf, Lamb, Greene & MacRae

ROBINSON & COLE LLP

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

July 16, 2002

Via Facsimile and U.S. Mail

David Martin
Siting Analyst I
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **TS-VER-046-020711 – Cellco Partnership d/b/a Verizon Wireless Notice of Intent to Modify an Existing Telecommunications Facility Located at 197 North Street, Easton, Connecticut**

Dear Mr. Martin:

In response to your July 15, 2002 letter, I offer the following additional information regarding the power density calculations submitted with the above-referenced notice of exempt modification. Sprint's calculations are based on an assumed 11 channels at 204.69 watts ERP. VoiceStream's power density calculations are based on 4 channels at 286.44 watts ERP. Verizon Wireless' calculations are based on 9 channels at 200.00 watts ERP. Please contact me if you need any additional information.

Sincerely,

Kenneth C. Baldwin

KCB/kmd
cc: Michael Cafasso (via facsimile)
Brian Ferrante (via facsimile)
Sandy M. Carter (via facsimile)

Town of Easton

TOWN HALL - 225 CENTER ROAD, P.O. BOX 61
EASTON, CONNECTICUT 06612

TELEPHONE (203) 268-6291
FAX (203) 268-4928

August 19, 2002

State of Connecticut
Connecticut Siting Council
Ten Franklin Square
New Britain, Connecticut 06051

Attention: S. Derek Phelps
Executive Director

Re: TS-VER-046-020711 – Cellco Partnership d/b/a Verizon Wireless request for an order to approver tower sharing at an existing telecommunications facility located at 197 North Street, Easton, Connecticut

Dear Mr. Phelps:

I have received a copy of the Council's ruling in connection with this matter.

I note that the proposed shared use is to be implemented as specified in Mr. Baldwin's letters dated July 12, 2002 and July 16, 2002. I received, in the course of these proceedings, a copy of Mr. Baldwin's letter of July 12, 2002. I did not receive a copy of Mr. Baldwin's letter of July 16, 2002. Please forward a copy since it forms a part of the Commission's ruling.

Sincerely yours,

William J. Kupinse, Jr.
First Selectman

WJK/ajf
Cc: Attorney Kenneth C. Baldwin

Town of Easton

TOWN HALL - 225 CENTER ROAD, P.O. BOX 61
EASTON, CONNECTICUT 06612

TELEPHONE (203) 268-6291
FAX (203) 268-4928

August 1, 2002

Via Fax (860) 827-2950

State of Connecticut
Connecticut Siting Council
Ten Franklin Square
New Britain, Connecticut 06051

Attention: S. Derek Phelps – Executive Director

RE: TS-VER-046-020711 – Cellco Partnership d/b/a Verizon Wireless request for an order to approve tower sharing at an existing telecommunications facility located at 197 North Street, Easton, Connecticut.

Dear Mr. Phelps:

I am enclosing a memorandum from the Land Use Director.

Sincerely yours,

William J. Kupinse, Jr.

William J. Kupinse, Jr.
First Selectman

WJK/aff

Cc: Kenneth C. Baldwin – Robinson & Cole, LLP
Fax – (860) 275-8299

Charles Laurette – SBA Regional Site Manager
Fax – (860) 659-9140

Edward Nagy – Director of Public Works
Phillip Doremus – ZEO/WEO
Emil Martin – Building Official
Teresa Rainieri – Assessor
John Hayes – Land Use Director

EASTON PLANNING & ZONING COMMISSION

225 CENTER ROAD
EASTON, CT., 06612

JUL 31 2002

TO: William J. Kupinse, Jr.
First Selectman

FROM: John Hayes,
Land Use Director

DATE: July 31, 2002

SUJBECT: TS-VER-046-020711 – Celco Partnership d/b/a Verizon Wireless request for an order to approve tower sharing at an existing telecommunications facility located at 197 North Street
SBA SPECIAL PERMIT APPLICATION # SP-99-02

Unfortunately the Siting Council Notice did not arrive in time for Planning and Zoning Commission response.

I'm suggesting the following points in the event your wish to communicate on or before August 1, 2002 to the Siting Council.

1. The Council's notice of their agenda item for the Celco Partnership application has not allowed sufficient time for a substantive response from the Town. We do have concerns about the proliferation of antenna panels on the tower without some effort to disguise or diminish their visibility.
2. While we understand from our Town Counsel that the State Siting Council has jurisdiction over this application, we believe the Siting Council should consult the Town on all new applications, including co-locations. If the proposed new building were not inside the existing fenced enclosure we would consider that a special permit application should have been submitted to the Planning and Zoning Commission.
3. It must be noted that SBA, the owner of the tower and lessee of the Town property on which the tower stands, has never received a Certificate of Zoning Compliance for Zoning Permit # Z-99-1677 as required by the Zoning Regulations.
4. The Town would appreciate the Council's deferral of decision for 30 days to allow a more complete review of the plan and appropriate response.

JH:ma
cc: Robert Maquat, Chairman
Planning and Zoning Commission

Town of Easton

TOWN HALL - 225 CENTER ROAD, P.O. BOX 61
EASTON, CONNECTICUT 06612

TELEPHONE (203) 268-6291
FAX (203) 268-4928

July 31, 2002

Via Fax (860) 827-2950

State of Connecticut
Connecticut Siting Council
Ten Franklin Square
New Britain, Connecticut 06051

Attention: S. Derek Phelps – Executive Director

RE: **TS-VER-046-020711** – Cellco Partnership d/b/a Verizon Wireless request for an order to approve tower sharing at an existing telecommunications facility located at 197 North Street, Easton, Connecticut.

Dear Mr. Phelps:

We have received notice of the application by Cellco Partnership for tower sharing at an existing facility located at 197 North Street, Easton, Connecticut.

The situation involving this facility may be somewhat unique in that SBA which leases the property from the Town, originally made application pursuant to our local Planning and Zoning regulations and received approval for the construction. While we recognize that recent decisions have placed jurisdiction with the Siting Council, by not opposing this application, the Town does not waive any right which it may have to require local zoning approval for additional construction on cell tower sites, or on future applications involving this site.

There are, however, certain lease requirements of which the Council, and the applicant, and SBA should be aware. These are as follows:

1. We note that the applicant contemplates the installation of a generator. Please note that the lease does not provide for the installation of any fuel tanks on the premises, but only allows tanks in an emergency situation, such as to fuel a generator.

2. The lessee has not completed installation of the tree branches on the monopole. The installation of the branches was to be completed when carriers, such as the applicant, installed their antennas.
3. The applicant has not completed the plantings at the base of the tower.

Thank you for your consideration.

Sincerely yours,

William J. Kupinse, Jr.
First Selectman

WJK/ajf

Cc: Kenneth C. Baldwin – Robinson & Cole, LLP
Fax – (860) 275-8299

Charles Laurette – SBA Regional Site Manager
Fax – (860) 659-9140

Edward Nagy – Director of Public Works
Phillip Doremus – ZEO/WEO
Emil Martin – Building Official
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Direct (860) 275-8345

TS-VER-046-020711

July 12, 2002

Mortimer A. Gelston
Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Request by Cellco Partnership d/b/a Verizon Wireless for an Order to Approve the Shared Use of a Tower Facility Located at 197 North Street, Easton, Connecticut**

Dear Chairman Gelston:

Pursuant to Connecticut General Statutes (C.G.S.) Sec. 16-50aa, Cellco Partnership d/b/a Verizon Wireless hereby requests an order from the Connecticut Siting Council ("Council") to approve the proposed shared use of an existing tower located at 197 North Street, Easton, Connecticut (the "Facility"). (Previous filings for the shared use of this Facility incorrectly identified the street address as 275 North Street). The property is owned by the Town of Easton and leased to SBA, Inc. SBA, Inc. owns and manages the tower. As shown on the attached drawings and as further described below, Verizon Wireless proposes to install antennas on the existing tower and to locate its equipment building at the base of the tower. Verizon Wireless requests that the Council find that the proposed shared use of the Facility satisfies the criteria stated in the C.G.S. Section 16-50aa, and to issue an order approving the proposed shared use.

Background

Verizon Wireless is licensed by the Federal Communications Commission to provide cellular telephone service in the Fairfield County New England County Metropolitan Area (NECMA), which includes the area to be served by the proposed Easton installation.

The Facility consists of a 190-foot AGL monopole tower disguised as a tree. Verizon Wireless and SBA, Inc. have agreed to the proposed shared use of this tower pursuant to mutually acceptable terms and conditions. SBA, Inc. has authorized Verizon Wireless to apply for all necessary permits, approvals and authorizations that may be required for the proposed shared use of this Facility.

Verizon Wireless proposes to install twelve (12) panel type antennas (Model No. DB844H90) on a platform with their center of radiation at approximately 165 feet above ground level ("AGL"). Verizon Wireless will also install one (1) GPS antenna on the tower.

Equipment associated with these antennas will be located in a new 12' x 30' equipment building located near the base of the tower. Verizon Wireless will install a diesel generator, for emergency use, inside the equipment building.

C.G.S. Section 16-50aa provides that upon written request for approval of a proposed shared use, "if the Council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns, the Council shall issue an order approving such use". (G.C.S. Section 16-50aa(c)(1)). The shared use of the tower satisfies these criteria as follows:

A. Technical Feasibility. The existing tower is structurally capable of supporting the proposed Verizon Wireless antennas. Enclosed is the structural design and analysis of the tower.

B. Legal Feasibility. Under C.G.S. Section 16-50aa, the Council has been authorized to issue an order approving the proposed shared use of an existing communications tower facility, such as the Facility off North Street, Easton. This authority complements the Council's prior existing authority under C.G.S. Section 16-50p to issue orders approving the construction of new towers that are subject to the Council's jurisdiction. C.G.S. Section 16-50x(a) directs the Council to "give such consideration to other state laws and municipal regulations as it shall deem appropriate" in ruling on requests for the shared use of existing tower facilities. Under the authority vested in the Council by C.G.S. Section 16-50aa, an order by the Council approving the shared use would permit the applicant to obtain a building permit for the proposed installations.

C. Environmental Feasibility. The proposed shared use would have a minimal environmental effect for the following reasons:

1. The proposed installations would have an insignificant incremental visual impact and would not cause any significant change or alteration in the physical or environmental

characteristics of the existing site. The addition of the proposed antennas would not increase the height of the tower, and would not extend the boundaries of the Facility.

2. The proposed installation would not increase the noise levels at the existing Facility by six decibels or more.

3. Operation of the additional antennas will not increase the total radio frequency electromagnetic radiation power density, measured at the tower base to a level at or above the FCC standard. "Worst-case" exposure calculations for a point at the base of the tower are as follows:

	Applicable FCC Standard (mW/cm^2)	Calculated "Worst-Case" (mW/cm^2)	Percentage of Standard
Verizon	0.583	0.0238	4.08%
Sprint	1.00	0.0259	2.59%
VoiceStream	1.00	0.0072	0.72%

The collective "worst-case" exposure would be only 7.31% of the FCC standard, as calculated for mixed frequency sites. Power density levels from shared use of the Facility would thus be well below applicable FCC standards.

4. The proposed installations would not require any water or sanitary facilities, or generate discharges to water bodies. Operations of the emergency back-up generator will result in limited air emissions. Pursuant to R.C.S.A. Section 22a-174-3, the generator will require the issuance of a permit from the Department of Environmental Protection Bureau of Air Management. After construction is complete, the proposed installation would not generate any traffic other than periodic

maintenance visits.

The proposed use of the Facility would therefore have a minimal environmental effect, and is environmentally feasible.

D. Economic Feasibility. As previously mentioned, SBA, Inc. and Verizon Wireless have entered into a mutual agreement to share the use of the existing tower on terms agreeable to the parties. The proposed tower sharing is therefore economically feasible.

E. Public Safety Concerns. As stated above, the existing tower is structurally capable of supporting the proposed Verizon Wireless antennas. The applicant is not aware of any other public safety concerns relative to the proposed tower sharing of the existing tower. In fact, the provision of new and improved cellular phone service in the Easton area is expected to enhance the safety and welfare of area residents.

Conclusion

For the reasons discussed above, the proposed shared use of the existing telecommunications Facility satisfies the criteria stated in C.G.S. Section 16-50aa, and advances the General Assembly's and the Council's goal of preventing the unnecessary proliferation of towers in Connecticut. The applicant therefore requests that the Council issue an order approving the proposed shared use.

Thank you for your consideration of this matter.

Sincerely,

Kenneth C. Baldwin

KCB/kmd
Enclosure
cc: William Kupinse, First Selectman
Sandy M. Carter

ROBINSON & COLE LLP

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
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kbaldwin@rc.com
Direct (860) 275-8345

July 12, 2002

Phillip A. Doremus
Zoning/Wetland Enforcement Officer
Planning and Zoning Office
225 Center Road
Easton, CT 06612

Re: **Request by Cellco Partnership d/b/a Verizon Wireless for an Order to Approve the Shared Use of a Tower Facility Located at 197 North Street, Easton, Connecticut**

Dear Mr. Doremus:

This letter is to inform you that Cellco Partnership d/b/a Verizon Wireless plans to install antennas and associated equipment at the existing tower facility located at 197 North Street, Easton, Connecticut. I am enclosing a copy of Verizon Wireless's tower sharing application to the Connecticut Siting Council.

The application fully sets forth the Company's proposal. However, if you have any questions or require further information on our plans or the Siting Council's procedures, please contact me at the telephone number listed above or, S. Derek Phelps, Executive Director of the Connecticut Siting Council, at (860) 827-2935.

Sincerely,

Kenneth C. Baldwin

KCB/kmd
Enclosure

ROBINSON & COLE LLP

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
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kbaldwin@rc.com
Direct (860) 275-8345

July 12, 2002

William J. Kupinse
First Selectman
Town Hall
225 Center Road
Easton, CT 06612

Re: **Request by Cellco Partnership d/b/a Verizon Wireless for an Order to Approve the Shared Use of a Tower Facility Located at 197 North Street, Easton, Connecticut**

Dear Mr. Kupinse:

This letter is to inform you that Cellco Partnership d/b/a Verizon Wireless plans to install antennas and associated equipment at the existing tower facility located at 197 North Street, Easton, Connecticut. I am enclosing a copy of Verizon Wireless's tower sharing application to the Connecticut Siting Council.

The application fully sets forth the Company's proposal. However, if you have any questions or require further information on our plans or the Siting Council's procedures, please contact me at the telephone number listed above or, S. Derek Phelps, Executive Director of the Connecticut Siting Council, at (860) 827-2935.

Sincerely,

Kenneth C. Baldwin

KCB/kmd
Enclosure

April 20, 2002

Andy Ahrens
Leasing Specialist
WFI
1 Paragon Drive, Suit 200
Montvale, NJ 07645

RE: SBA North Easton Facility
275 North RD
Easton, CT 06612

SBA Site ID:CT00707-S

Dear Andy;

Please consider this a Letter of Authorization for Verizon and it's representatives to proceed with all necessary permits and approvals to collocate on the above referenced facility. If Verizon is fililg with the Siting Council, we ask that a copy of the application be forwarded to SBA for approval prior to submittal so we can verify the accuracy of current tenant placement.

In addition SBA requires that you contact me (48) houres prior to Construction.

We acknowlage that Verizon has filed a Collocation Application with SBA and that Verizon has been approved for a rad center of approximately 165' along with corresponding ground space. As always,we look forward to working with you. If I can be of any assistance, please call.

Sincerely,

Charles Laurette

Regional Site Manager
SBA Network Services

NATCOMM, LLC

Consulting Engineers

May 7, 2002

Mr. Mark Gauger
Verizon Wireless
99-101 East River Road
East Hartford, CT 06002

Re: *Verizon – Easton North*
197 North Street
Easton, CT 06612

Natcomm Project No. 527C

Dear Mark,

We have reviewed the proposed Verizon antenna installation at the above referenced site. The purpose of the review is to determine the adequacy of an existing 185ft. monopole to support the proposed antennas. The review considered the effects of wind load, dead load, ice load and seismic forces in accordance with TIA/EIA-222-F and Connecticut State Building Code. Structural design documents prepared by PAUL J. FORD project #20099-146 dated August 10, 1999, were used as reference material.

The existing structure is 18 sided tapered pole. The top of the tower includes pine branches located between elevations 185ft to 144 ft. Length of branches varied from 6ft to 11ft.

The exiting antenna configurations are as follows:

- VoiceStream: Three (3) EMS-RR90-17-XXDP mounted on a (3) 6 ft. curved arm mount at an elevation of 182 ft.
- Sprint: Six (6) Decibel DB980 mounted on a (3) 6 ft. curved arm mount at an elevation of 171.50 ft.

The proposed antenna loading is as follows:

- Verizon: Twelve (12) Decibel DB844H90 mounted on a (3) 6 ft. curved arm mount at an elevation of 161.50 ft.

The future antenna loading as per the referenced design documents is as follows:

- Twelve (12) Decibel DB874 mounted on a (3) 6 ft. curved arm mount at an elevation of 155 ft.
- Twelve (12) Decibel DB874 mounted on a (3) 6 ft. curved arm mount at an elevation of 145 ft.

Based on the information provided the existing structure meets all the requirements of the TIA/EIA-222-F standards for a basic wind speed of 85 mph with no ice and 75% of wind pressure with ½" radial ice.

In conclusion, the existing 185ft monopole is adequate to support the proposed Verizon antennas.

If there are any questions regarding this matter, please feel free to call.

Submitted by:

Carlo F. Centore, P.E.
Senior Project Manger

STATE OF CONNECTICUT
CARLO F. CENTORE
No. 16694
LICENSED
PROFESSIONAL ENGINEER

(203) 488-0580 • Fax (203) 488-8587 • www.natcommllc.com 63-2 North Branford Rd. Branford, CT 06405

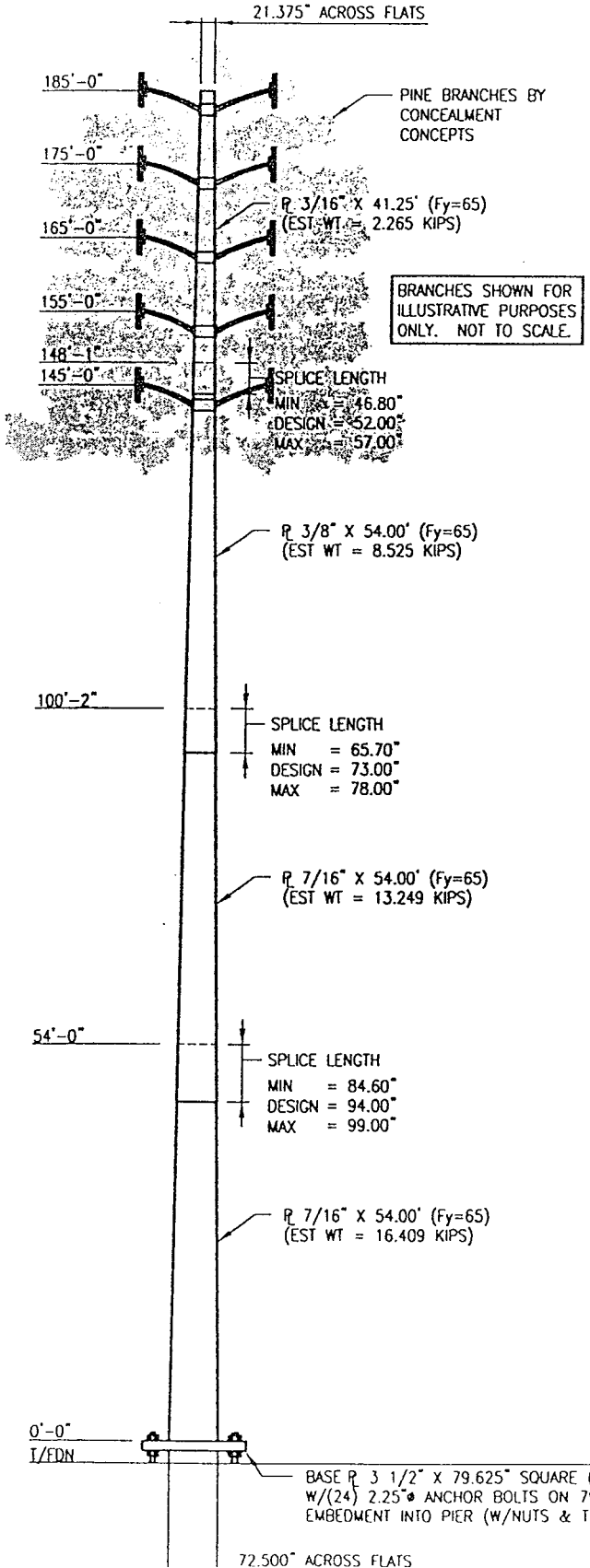
STERLING STEEL STRUCTURES
10543 Fisher Road, Building E
Houston, Texas 77041
Phone: (713) 937-7773
Fax: (713) 937-6264

PAUL J. FORD AND COMPANY
STRUCTURAL ENGINEERS
250 East Broad Street, Suite 500, Columbus, Ohio 43215
(614) 221-6679 Fax: (614) 221-0166 www.PJFweb.com

JOB DATA			
Page 1 of 2		Job No.	20099-146
By	RKT	Design No.	
Chk'd By	DWH ✓	Date	08-10-1999
		Rev. No.	Rev. Date
Pole	185-FT PINE TREE		
Site	#4277: 275 NORTH ST., EASTON, CT		
Owner	SBA, INC.		
Ref. No.			
Design	85 MPH/74 MPH + 1/2" RADIAL ICE ACCORDING TO TIA/EIA-222-F 1996		

LOAD CASES		
CASE 1	85 MPH WITH NO ICE	DESIGN WIND
CASE 2	74 MPH WITH 1/2" RADIAL ICE	REDUCED WIND WITH ICE
CASE 3	50 MPH WITH NO ICE	OPERATIONAL WIND

POLE SPECIFICATIONS	
Pole Shape Type:	18-SIDED POLYGON
Taper:	0.287162 IN/FT
Shaft Steel:	ASTM A572 GRADE 65
Base PL Steel:	ASTM A572 GRADE 50 (50 KSI)
Anchor Bolts:	2 1/4"ø x 7'-0" LONG #18J ASTM A615 GRADE 75



ANTENNA LIST		
No.	Elev.	Description
1-12	185.00	(12) DB874H PANEL
-	185.00	(3) 6-FT CURVED ARM MOUNT
-	185.00	6' LIMBS
-	179.50	6' LIMBS
13-24	175.00	(12) DB874H PANEL
-	175.00	(3) 6-FT CURVED ARM MOUNT
-	174.50	7' LIMBS
-	169.50	8' LIMBS
-	165.00	(3) 6-FT CURVED ARM MOUNT
25-36	165.00	(12) DB874H PANEL
-	164.50	8' LIMBS
-	159.50	9' LIMBS
37-48	155.00	(12) DB874H PANEL
-	155.00	(3) 6-FT CURVED ARM MOUNT
-	154.50	9' LIMBS
-	149.50	10' LIMBS
49-60	145.00	(12) DB874H PANEL
-	145.00	(3) 6-FT CURVED ARM MOUNT
-	144.50	11' LIMBS

STATE OF CONNECTICUT
KEVIN P. BAUMAN
No. 17891
LICENSED
PROFESSIONAL ENGINEER
8-10-99

STEP BOLTS FULL HEIGHT FROM 9'-6" ABOVE BASE PLATE.
ANTENNA FEED LINES RUN INSIDE OF POLE.

Elevation	85 MPH WIND		50 MPH WIND	
	Lateral Deflection (Inches)	Rotation (sway) (degrees)	Lateral Deflection (Inches)	Rotation (sway) (degrees)
TOP	145.0	7.374	50.0	2.551

SHAFT SECTION DATA					
Shaft Section	Section Length (feet)	Plate Thickness (in.)	Lap Splice (in.)	Diameter Across Flats (inches) @ Top	@ Bottom
1	41.25	0.1875	52.00	21.375	33.220
2	54.00	0.3750	73.00	31.601	47.108
3	54.00	0.4375	94.00	44.611	60.118
4	54.00	0.4375		56.993	72.500
NOTE: DIMENSIONS SHOWN DO NOT INCLUDE GALVANIZING TOLERANCES					

BASE REACTIONS FOR
FOR FOUNDATION DESIGN

MOMENT =	7275 ft-kips
SHEAR =	52.5 kips
AXIAL =	52 kips
EST. SHAFT + BASE ℄ WT. =	46.7 kips

PJF_Pole (tm) - Monopole Design Program
Windows Version 1.28.0100 Tue Aug 10, 1999 - 11:56:24 am

Job No.....: 20099-146 Design No: Engineer : RKT
Description : 185-Ft Pine Tree Monopole - #4277: 275 North St., Easton, CT
Design..... : 85 mph/74 mph + 1/2" Radial Ice
Owner..... : SBA Inc. Client: Sterling Steel Structures
Status..... : Engineering Final Design Revision: Rev. Date :

Segment Properties: (@ Max Segment = 10 ft)

Tube Segmt No.	Segment Feature Location	Segment Elev. (ft)	Diam. Across Flats (in)	Wall Thick [t] (in)	[W/t] Ratio	Diam/ Thick [D/t] Ratio	Area (in^2)	Ix (in^4)
1.	top	185.000	21.375	0.18750	18.34	114.00	12.61	714.9
2.	<arm [1]>	185.000	21.375	0.18750	18.34	114.00	12.61	714.9
3.	<arm [2]>	185.000	21.375	0.18750	18.34	114.00	12.61	714.9
4.	<arm [3]>	185.000	21.375	0.18750	18.34	114.00	12.61	714.9
5.		180.000	22.811	0.18750	19.69	121.66	13.46	870.3
6.	<arm [4]>	179.500	22.954	0.18750	19.82	122.42	13.55	887.0
7.	<arm [5]>	175.000	24.247	0.18750	21.04	129.32	14.32	1046.8
8.	<arm [6]>	175.000	24.247	0.18750	21.04	129.32	14.32	1046.8
9.	<arm [7]>	174.500	24.390	0.18750	21.17	130.08	14.40	1065.6
10.		170.000	25.682	0.18750	22.39	136.97	15.17	1245.6
11.	<arm [8]>	169.500	25.826	0.18750	22.52	137.74	15.26	1266.7
12.	<arm [9]>	165.000	27.118	0.18750	23.74	144.63	16.03	1468.1
13.	<arm [10]>	165.000	27.118	0.18750	23.74	144.63	16.03	1468.1
14.	<arm [11]>	164.500	27.262	0.18750	23.87	145.40	16.11	1491.7
15.		160.000	28.554	0.18750	25.09	152.29	16.88	1715.6
16.	<arm [12]>	159.500	28.698	0.18750	25.22	153.05	16.97	1741.8
17.	<arm [13]>	155.000	29.990	0.18750	26.44	159.95	17.74	1989.5
18.	<arm [14]>	155.000	29.990	0.18750	26.44	159.95	17.74	1989.5
19.	<arm [15]>	154.500	30.133	0.18750	26.57	160.71	17.82	2018.4
20.		150.000	31.426	0.18750	27.79	167.60	18.59	2291.1
21.	<arm [16]>	149.500	31.569	0.18750	27.92	168.37	18.68	2322.9
22.	top sec(2)	148.083	31.976	0.18750	28.31	170.54	18.92	2414.4
23.	<arm [17]>	145.000	32.487	0.37500	13.51	86.63	38.22	4978.0
24.	<arm [18]>	145.000	32.487	0.37500	13.51	86.63	38.22	4978.0
25.	<arm [19]>	144.500	32.630	0.37500	13.58	87.01	38.39	5045.0
26.	bot sec(1)	143.750	32.845	0.37500	13.68	87.59	38.65	5146.8
27.		140.000	33.922	0.37500	14.19	90.46	39.93	5675.9
28.		130.000	36.794	0.37500	15.54	98.12	43.35	7261.7
29.		120.000	39.666	0.37500	16.89	105.77	46.76	9118.3
30.		110.000	42.537	0.37500	18.24	113.43	50.18	11267.1
31.	top sec(3)	100.167	45.361	0.37500	19.57	120.96	53.54	13685.9
32.		100.000	44.659	0.43750	16.24	102.08	61.40	15166.9
33.	bot sec(2)	94.083	46.358	0.43750	16.92	105.96	63.76	16983.0
34.		90.000	47.530	0.43750	17.39	108.64	65.39	18317.4
35.		80.000	50.402	0.43750	18.55	115.20	69.38	21876.5
36.		70.000	53.274	0.43750	19.71	121.77	73.37	25869.2
37.		60.000	56.145	0.43750	20.87	128.33	77.35	30320.3
38.	top sec(4)	54.000	57.868	0.43750	21.56	132.27	79.75	33221.3
39.		50.000	58.142	0.43750	21.67	132.90	80.13	33698.5
40.	bot sec(3)	46.167	59.243	0.43750	22.11	135.41	81.66	35663.9
41.		40.000	61.014	0.43750	22.83	139.46	84.11	38983.7
42.		30.000	63.885	0.43750	23.98	146.02	88.10	44794.6
43.		20.000	66.757	0.43750	25.14	152.59	92.09	51155.9
44.		10.000	69.628	0.43750	26.30	159.15	96.08	58092.8
45.	base	0.000	72.500	0.43750	27.46	165.71	100.06	65629.8

Total Number of Antennas / Arms = 19

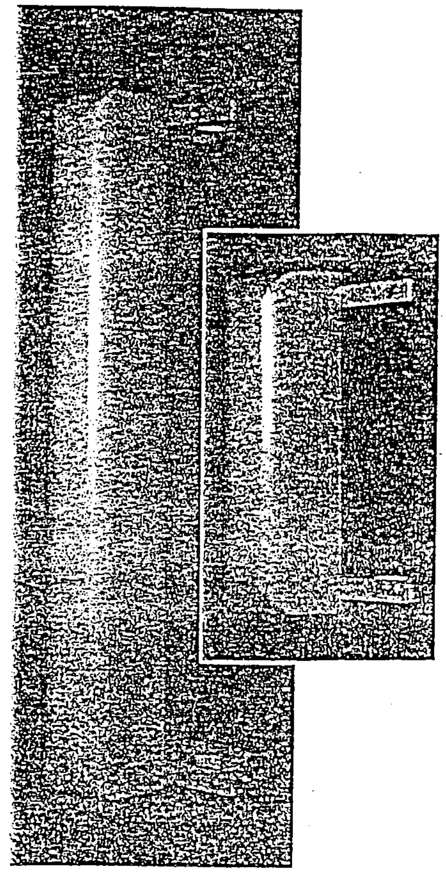
DB842H80N-XY, DB842H90N-XY dB DIRECTOR™ LOG PERIODIC ANTENNAS
DB844H80N-XY, DB844H90N-XY 9-13 dBd GAIN, 40 dB F/B RATIO, 806-960 MHz

Ideal for cellular and trunking/ESMR applications, these high quality log periodics are now available from Decibel in four new models with 80 or 90 degree horizontal apertures. They're compact, lightweight, and provide an unmatched front-to-back ratio of 40 dB.

- Less Wind Loading - They measure only 24 or 48 inches (610 or 1219 mm) tall, 8.5 inches deep (216 mm), and 6 inches wide (152 mm). They weigh only 5 or 10 pounds.
- Downtilt - Electrical downtilt is available on all 4-foot models, 6°, 8°, 11°, 13°, or for mechanical downtilt, order DB5083 bracket.
- Null-Fill - Four-foot models provide null-fill and upper lobe suppression.
- Most Stringent IM Test - Each antenna is tested for the absence of IM with 16 carriers at 500 watts of composite power.
- Sturdy Construction - Made in the U.S. of high-strength aluminum alloy backs, brass elements and UV resistant ABS plastic radomes. No rivets are used!
- Lightning Resistant - All metal parts are grounded.
- Terminations and Mounts - All models are available with N-Female or 7/16 DIN connectors. DB380 pipe mount is included.

Ordering information - See table for models to fit your requirements.

UPS Shippable



4-Foot and 2-Foot dB DIRECTORS

Models Available

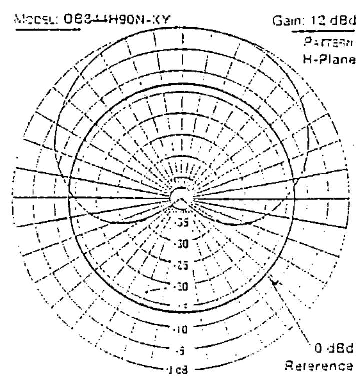
Model*	DB842H80N-XY	DB844H80N-XY	DB842H90N-XY	DB844H90N-XY
Gain – dBd/dBi	10/12.1	13/15.1	9/11.1	12/14.1
F/B Ratio – dB	40	40	40	40
Horizontal beamwidth**	80°	80°	90°	90°
Vertical beamwidth**	30°	15°	30°	15°
Height – in. (mm)	24 (610)	48 (1219)	24 (610)	48 (1219)
Weight – lbs. (kg)	5 (2.3)	10 (4.6)	5 (2.3)	10 (4.6)
Shipping weight – lbs. (kg)	8 (3.6)	15 (6.8)	8 (3.6)	15 (6.8)

* For 7/16 DIN connectors substitute "E" for "N" in the model numbers. Example: DB842H80E-XY

** 3 dB from maximum.

Side offset mounting bracket is included. For electrical downtilt of 6°, 8°, 11° or 13° add T6, T8, T11 or T13 before the "N" or "E" in any 4-foot model number. Example: DB844H80T6N-XY. Note: Electrical downtilt causes a gain loss of .05 dB, or , at the horizon, a reduction of 3, 6, 9 or 12 dB on downtilts of 6°, 8°, 11° or 13° respectively. For mechanical downtilt order DB5083 bracket.

Typical DB842H90N-XY, DB844H90N-XY Horizontal Pattern



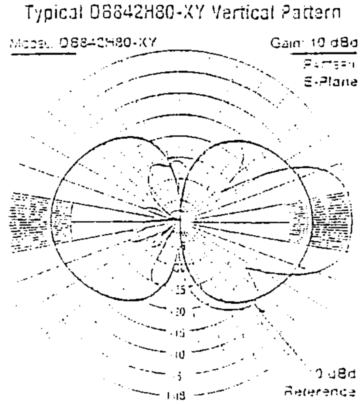
Mechanical Data

Width – in. (mm)	6 (152)
Depth – in. (mm)	8.5 (216)
Height	See table above
Maximum wind speed – mph (km/h)	125 (200)
Wind area – ft² (m²)	
24" (610 mm) antenna	1 (.093)
48" (1219 mm) antenna	2 (.186)
Wind load (at 100 mph/161 km/h) – lbf (N) kp	
24" (610 mm) antenna	40 (178) 18
48" (1219 mm) antenna	80 (356) 36
Radome	Gray ABS
Backplate	Passivated aluminum
Radiators	Brass
Mounting hardware	Galvanized steel
Weight	See table above

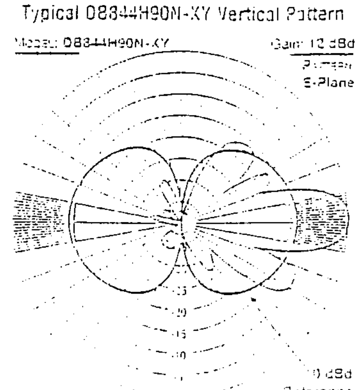
Electrical Data

Frequency Range - MHz	806-960
Gain - dBd	See table above
Front-to-back ratio - dB	>40
Beamwidths	See table above
VSWR	<1.5:1
Null-fill and secondary lobe suppression	On 48" (1219 mm) models only
Maximum power input - watts	500
Nominal impedance - ohms	50
Lightning protection	All metal parts grounded
Termination	N-Female or 7/16 DIN

Typical DB842H80-XY Vertical Pattern



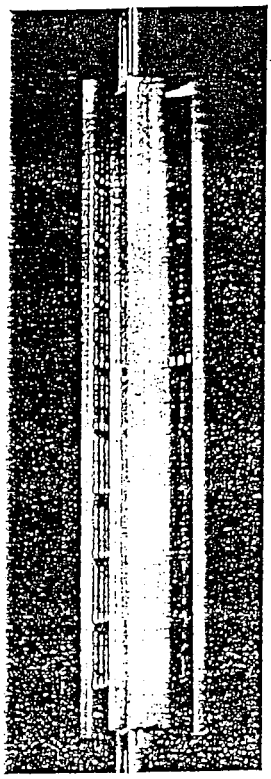
Typical DB844H90N-XY Vertical Pattern



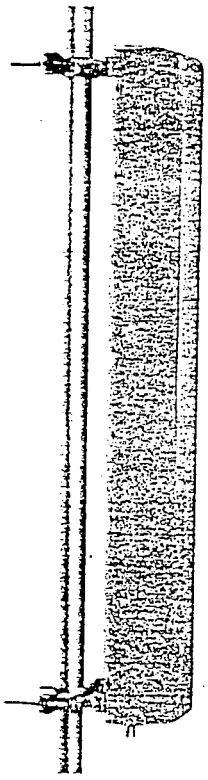
ANTENNAS
DIRECTIONAL LOG PERIODIC

dB Director Log Periodic Antenna Family is engineered to
de the best possible coverage control for today's complex
ul systems.
educe co-channel interference.
rovide exact coverage penetration.
ntegrated phasing and array structure in a single circuit.
o uncontrolled fasteners, mechanical screws, or rivets in
f current path.
attern shaping options:
- Max Gain™ – focused gain on the horizon.
- Max Fill™ – excellent USLS of 18 db and null fill
of 11 to 12 dB.

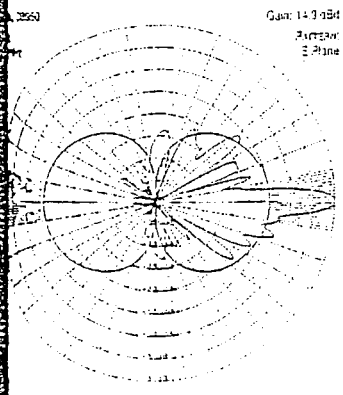
utstanding "cone of silence" and front to back ratio
f 40 dB, typical.
xcellent control of intermodulation, IM3-147 dBc.
vailable in a wide range of gains and beam shapes.
lim profile for outstanding reduction of wind load.
ring Information: "G" indicates "Max Gain™", "F" indicates
Fill™". Max Fill™ antenna gain is typically down 0.5 to
from Max Gain™. All antennas above are standard with
DIN connectors, bottom mounted.
uency Designations: M-1850-1990, KL-1710-1880.
nting:
- 08390 Pipe mount kit (included).
- 085098 Downtilt Bracket (optional).

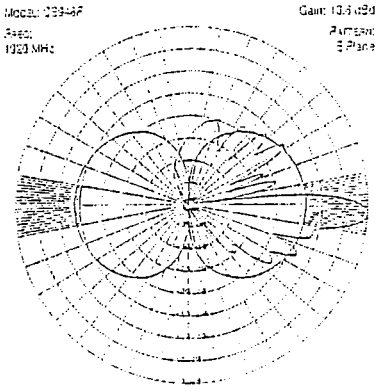


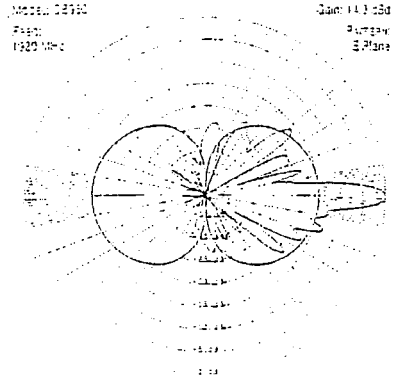
08950G65

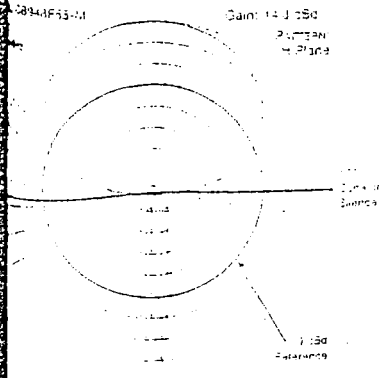


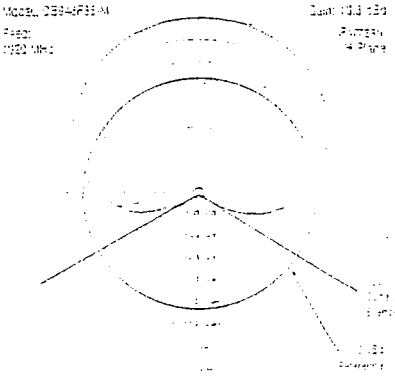
08948F85



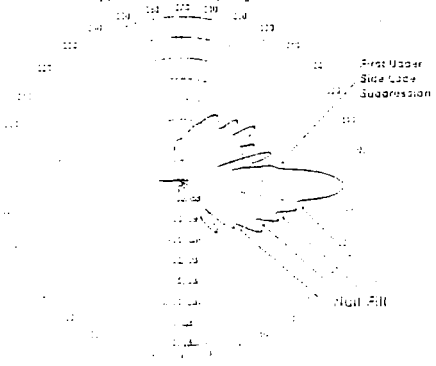








Typical Fill Shaping



DECIBEL PRODUCTS

806 - 960 MHz

DB Director™ Log Periodic Antenna

08948, 08950

Medium Gain	MaxGain®	MaxFill™	MaxGain®	MaxFill®	MaxGain®
Model Number	08948G40	08948F65	08948G65	08948F35	08948G35
Gain: dbd (dBi)	17.5 (19.6)	15.1 (17.2)	15.5 (17.6)	14 (16.1)	14.8 (16.9)
Horizontal Beamwidth	40°	65°	65°	35°	35°
Vertical Beamwidth	7°	8°	7°	8°	7°
Electrical Downtilt Options	0°	0°, 2°, 4°	0°, 4°	0°, 2°, 4°	0°, 4°
Length: in. (mm)	48.5 (1232)	48.5 (1232)	48.5 (1232)	48.5 (1232)	48.5 (1232)
Width: in. (mm)	11 (279)	10.5 (267)	10.5 (267)	3.5 (89)	3.5 (89)
Depth: in. (mm)	7.8 (198)	7 (178)	6.5 (165)	6.9 (175)	6.5 (165)
Weight: lbs. (Kg)	17 (7.7)	14 (6.4)	14 (6.4)	8.5 (3.9)	8.5 (3.9)
Frontal Wind Area: ft² (m²)	3.7 (0.34)	3.5 (0.33)	3.5 (0.33)	1.2 (0.11)	1.2 (0.11)
Lateral Wind Area: ft² (m²)	2.6 (0.24)	2.4 (0.22)	2.2 (0.20)	2.3 (0.21)	2.2 (0.20)
Frontal Wind Load (at 100mph)	148 lbf (658N) 66.5 kp	140 lbf (623N) 62.9 kp	140 lbf (623N) 62.9 kp	48 lbf (214N) 21.6 kp	48 lbf (214N) 21.6 kp
Lateral Wind Load (at 100mph)	104 lbf (463N) 46.7 kp	96 lbf (427N) 43.1 kp	88 lbf (391N) 39.5 kp	92 lbf (409N) 41.3 kp	88 lbf (391N) 39.5 kp

High Gain	MaxGain®	MaxFill™	MaxGain®	MaxFill®	MaxGain®
Model Number	08950G40	08950F65	08950G65	08950F35	08950G35
Gain: dbd (dBi)	19 (21.1)	16.1 (18.2)	16.6 (18.7)	14.9 (17.0)	15.9 (18.0)
Horizontal Beamwidth	40°	65°	65°	35°	35°
Vertical Beamwidth	5.5°	6.5°	5.5°	6.5°	5.5°
Electrical Downtilt Options	0°	0°, 2°, 4°	0°	0°, 2°, 4°	0°
Length: in. (mm)	60 (1524)	60 (1524)	60 (1524)	60 (1524)	60 (1524)
Width: in. (mm)	11 (279)	10.5 (267)	10.5 (267)	3.5 (89)	3.5 (89)
Depth: in. (mm)	7.8 (198)	7 (178)	7 (178)	6.9 (175)	6.9 (175)
Weight: lbs. (Kg)	20 (9.1)	15 (6.8)	15 (6.8)	10.5 (4.8)	10.5 (4.8)
Frontal Wind Area: ft² (m²)	4.6 (0.43)	4.4 (0.41)	4.4 (0.41)	1.5 (0.14)	1.5 (0.14)
Lateral Wind Area: ft² (m²)	3.3 (0.30)	2.9 (0.27)	2.9 (0.27)	2.9 (0.27)	2.9 (0.27)
Frontal Wind Load (at 100mph)	184 lbf (818N) 82.7 kp	176 lbf (783N) 79.1 kp	176 lbf (783N) 79.1 kp	60 lbf (267N) 27.0 kp	60 lbf (267N) 27.0 kp
Lateral Wind Load (at 100mph)	132 lbf (587N) 59.3 kp	116 lbf (516N) 52.1 kp	116 lbf (516N) 52.1 kp	60 lbf (267N) 27.0 kp	60 lbf (267N) 27.0 kp

Other configurations available. Please call Customer Service or your Sales Representative.

Standard Specifications	KL	M
Frequency Range (MHz)	1710 - 1880	1850 - 1990
Application	GSM 1800	PCS
VSWR	1.4:1	
IM3	150 dBc, typical	
Polarization	Vertical	
Front-to-Back Ratio	40 db, typical	
Max. Input Power	250 Watts	
Lightning Protection	All metal parts grounded	
Connector Options	E: 7/16 DIN, N: Type N-Female	

Cellco Partnership

d.b.a. verizon wireless

WIRELESS COMMUNICATIONS FACILITY

EASTON NORTH
197 NORTH STREET
EASTON, CONNECTICUT 06612

PROJECT SUMMARY

SITE NAME:	EASTON NORTH
SITE ADDRESS:	197 NORTH STREET EASTON, CONNECTICUT 06612
PROPERTY OWNER:	TOWN OF EASTON EASTON, CT
LEASOR:	SBA NETWORK SERVICES INC. 80 EASTERN BLVD. GLASTONBURY, CT 06033
APPLICANT:	CELLCO PARTNERSHIP 99-101 EAST RIVER DR. EAST HARTFORD, CT 06108
CONTACT PERSON:	SANDY CARTER CELLCO PARTNERSHIP (860) 803-8219
CENTER OF TOWER:	LATITUDE: 41-18-59.10 N LONGITUDE: 73-18-50.48 W BASE ELEV: 550' ±AMSL

GENERAL NOTES

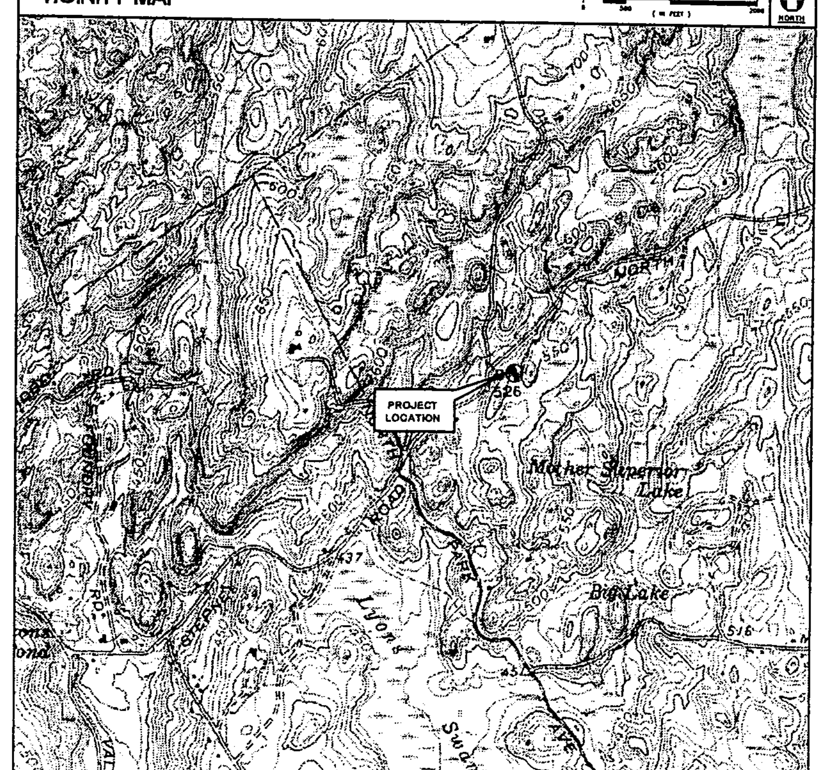
1. PROPOSED AND EXISTING ANTENNA LOCATIONS AND HEIGHTS PROVIDED BY CELLCO PARTNERSHIP.

SITE DIRECTIONS

FROM: 99-101 EAST RIVER DR.,EAST HARTFORD, CT.
TO: 197 NORTH STREET, EASTON, CT

START OUT BY TURNING LEFT ONTO E RIVER DR. TAKE A RIGHT ONTO DARLIN ST. TAKE THE CT-2W RAMP TOWARDS DOWNTOWN HARTFORD. CT-2W BECOMES FOUNDERS BRIDGE. FOUNDERS BRIDGE BECOMES STATE ST. TAKE I-91S RAMP TOWARDS NEW HAVEN. TAKE THE CT-15S EXIT NUMBER 17. TAKE THE CT-25N EXIT NUMBER 49 TOWARDS DANBURY. TURN LEFT ONTO EASTON RD/CT-59. TURN SLIGHT RIGHT ONTO HATTERTOWN RD. TURN SLIGHT LEFT ONTO KNAPP ST. TURN RIGHT ONTO JUDD RD. TURN LEFT ONTO NORTH ST.

VICINITY MAP



LEGEND

SYMBOL	DESCRIPTION
	SECTION OR DETAIL NUMBER SHEET WHERE DETAIL/SECTION OCCURS
	ELEVATION NUMBER SHEET WHERE ELEVATION OCCURS

SHEET INDEX

SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	01
C-1	COMPOUND PLAN AND TOWER ELEVATION	01

REVISIONS		
00	04/05/02	SITING COUNCIL REVIEW
01	06/26/02	FINAL SITING COUNCIL

Cellco Partnership
d.b.a. verizon wireless

Natcomm, LLC · Engineering Consultants

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

EASTON NORTH

197 NORTH STREET
EASTON, CT 06612

PROJECT NO:	527A
DRAWN BY:	CMS
CHECKED BY:	AAJ
SCALE:	AS NOTED
DATE:	04/01/02

TITLE SHEET

T-1

DWG. 1 OF 2

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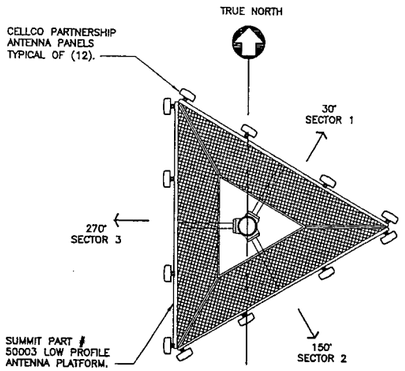
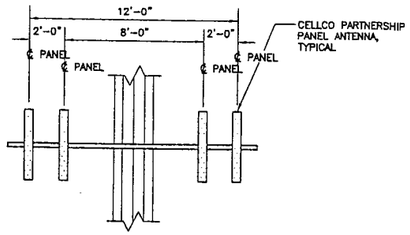
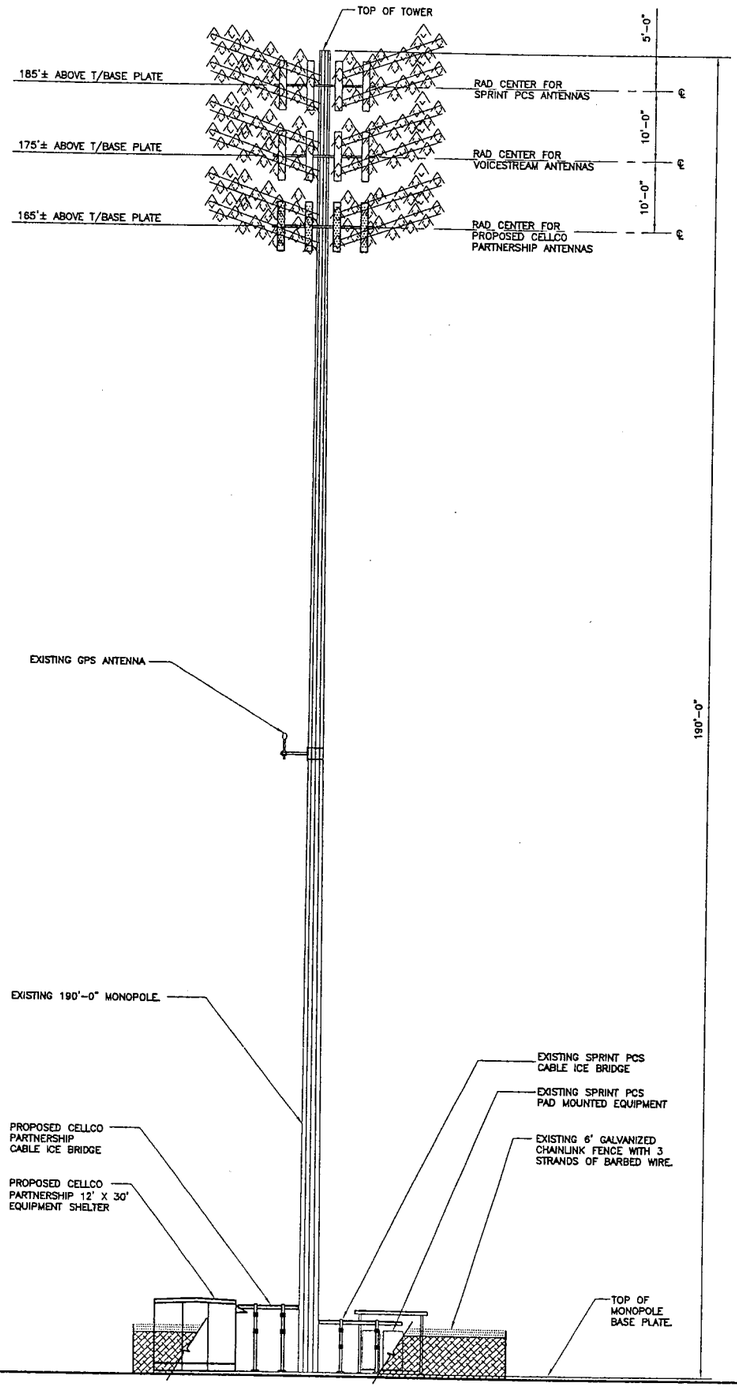
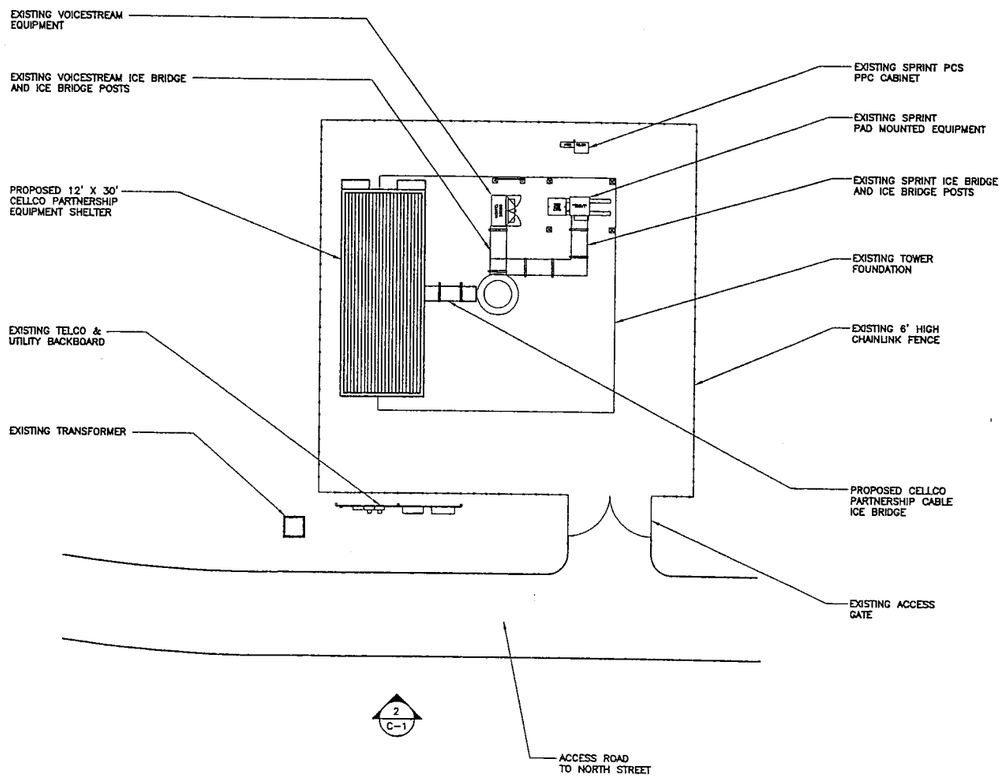




3 C-2 **ANTENNA CONFIGURATION**
SCALE: 1/4" = 1'-0"





1 C-2 **COMPOUND PLAN**
SCALE: 1" = 10'-0"

2 C-2 **TOWER ELEVATION**
SCALE: 1" = 10'-0"

REVISIONS		
00	04/05/02	SITING COUNCIL REVIEW
01	06/26/02	FINAL SITING COUNCIL

Cellco Partnership
d.b.a. verizon wireless

Natcomm, LLC - Engineering Consultants
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Consulting Engineers - Project Management
Civil - Structural - Mechanical - Electrical

STATE OF CONNECTICUT
CARL J. PETERSON
No. 16694
LICENSED PROFESSIONAL ENGINEER

EASTON NORTH

197 NORTH STREET
EASTON, CT 06612

PROJECT NO:	527A
DRAWN BY:	CMS
CHECKED BY:	AAJ
SCALE:	AS NOTED
DATE:	04/01/02

COMPOUND PLAN AND ELEVATION

C-1
DWG. 2 OF 2

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