



# 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](mailto:siting.council@po.state.ct.us)

Web Site: [www.state.ct.us/csc/index.htm](http://www.state.ct.us/csc/index.htm)

November 21, 2003

Michele G. Briggs, Manager of Real Estate  
Southwestern Bell Mobile Systems, LLC  
500 Enterprise Drive  
Rocky Hill, CT 06067-3900

RE: **EM-CING-029-031106** - Southwestern Bell Mobile Systems, LLC notice of intent to modify an existing telecommunications facility located at 161 Pinney Street, Colebrook, Connecticut.

Dear Ms. Briggs:

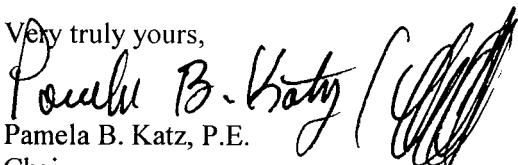
At a public meeting held on November 20, 2003, the Connecticut Siting Council (Council) acknowledged your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated November 4, 2003. 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. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

  
Pamela B. Katz, P.E.

Chairman

PBK/laf

c: Honorable George M. Wilber, First Selectman, Town of Colebrook  
George F. Collins, Zoning Enforcement Officer, Town of Colebrook  
Thomas J. Regan, Esq., Brown, Rudnick, Berlack Israels  
Christopher B. Fisher, Esq., Cuddy & Feder LLP

**Southwestern Bell Mobile Systems, LLC**

500 Enterprise Drive  
Rocky Hill, Connecticut 06067-3900  
Phone: (860) 513-7700  
Fax: (860) 513-7190

**Michele G. Briggs**  
*Manager of Real Estate*

November 4, 2003

Ms. Pam Katz, Chairman  
Connecticut Siting Council  
10 Franklin Square  
New Britain, Connecticut 06051

**RECEIVED**  
NOV 06 2003

CONNECTICUT  
SITING COUNCIL

**Re: Notice of Exempt Modification – Existing Sprint Telecommunications Tower Facility at 161 Pinney Street, Colebrook, Connecticut**

Dear Chairman Katz:

Southwestern Bell Mobile Systems, LLC ("SBMS") intends to install telecommunications antennas and associated equipment at an existing multicarrier telecommunications tower off Pinney Street in Colebrook, Connecticut.

The Sprint Colebrook facility is located at 161 Pinney Street, approximately ½ mile north of US Highway 44, just east of the Norfolk town line. Tower coordinates (NAD 83) are N 41° 57' 56.8" and W 73° 07' 14.5". The facility is owned and operated by Sprint Sites USA ("Sprint"), with offices at 535 E. Crescent Avenue, Ramsey, NJ 07446. Sprint leases the land from Ellen C. Fredsall of Colebrook.

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 First Selectman of Colebrook.

SBMS, the local component of the nationwide Cingular Wireless network, is licensed by the Federal Communications Commission ("FCC") to provide cellular mobile telephone service in the Litchfield, CT Rural Statistical Area, which includes the area to be served by SBMS' proposed installation. The public need for cellular service has been predetermined by the FCC.

Sprint has agreed to plans put forth by SBMS pursuant to mutually acceptable terms and conditions and has also authorized SBMS to obtain necessary government approvals. Attached to this Notice are a site location map, a proposed site plan, the proposed tower profile, and a structural analysis report that shows the tower is structurally capable of supporting the proposed SBMS telecommunications equipment.

The Sprint facility was approved by local zoning authorities prior to the November 2000 Covello decision concerning Council and Town jurisdiction for tower siting. The tower came under Council jurisdiction with AT&T's application to co-locate in EM-AT&T-029-020801, which was approved on August 15, 2002.

The Pinney Street facility consists of a 150-foot monopole within a roughly 75' x 75' square compound surrounded by 8-ft high chain link fence. Sprint operates its own antennas and telecommunications equipment at the site, and it has leased tower and ground space to AT&T as well as to Cingular. Sprint operates panel antennas at the top of the 150' monopole and equipment cabinets mounted on a concrete pad. AT&T operates panel antennas at the 127' level of the tower and has its equipment on a 7' x 16' concrete pad. Verizon had planned to occupy the 137' level of the tower, but it has withdrawn from this site.

As shown on the attached drawings and as further described below, SBMS proposes to install up to twelve CSS DUO4-8670 panel antennas, approximately 48 inches in height, with the center of radiation approximately 137 feet above ground level. Associated equipment to be installed on the tower are up to six ADC Co. dual-band tower top amplifiers ("TTA's"; small metal boxes approximately 26 pounds apiece) immediately behind the antennas, and up to three very small (5 pounds apiece) CSS dual-band "combiners." SBMS also proposes to place a 12' x 20' prefabricated concrete equipment building at the base of the tower. All work will be done inside the existing fenced compound.

With the "GSM-only" configuration, SBMS will broadcast up to:

- 2 channels, 296 Watts ERP, 880 – 894 MHz; and
- 2 channels, 427 Watts ERP, 1930 – 1935 MHz.

### **Statutory Considerations**

The changes to the Colebrook 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 on property leased by Sprint and within the existing fenced compound.
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 currently proposed antenna array is as follows:

Company	Centerline Height (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density <sup>†</sup> (mW/cm <sup>2</sup> )	Standard Limits (mW/cm <sup>2</sup> )	Percent of Limit
Sprint *	147	1930	12	250	0.0499	1.0000	4.99
Cingular GSM	137	880 - 894	2	296	0.0113	0.5867	1.93
Cingular GSM	137	1930 - 1935	2	427	0.0164	1.0000	1.64
AT&T *	127	D: 1945 E: 1985	12	250	0.0669	1.0000	6.69
<b>Total</b>							<b>15.25%</b>

\* Power density parameters taken from AT&T's application to the Council in EM-AT&T-029-020801. Verizon was included in AT&T's calculations but subsequently withdrew from colocating at this site.

† 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 15% of the ANSI/IEEE standard, as calculated for mixed frequency sites. Total power density levels resulting from SBMS' use of the tower facility would thus be within applicable standards.

For the foregoing reasons, SBMS respectfully submits that proposed changes to implement expanded shared use at the Colebrook site constitute an exempt modification under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (860) 513-7700 with questions concerning this application. Thank you for your consideration in this matter.

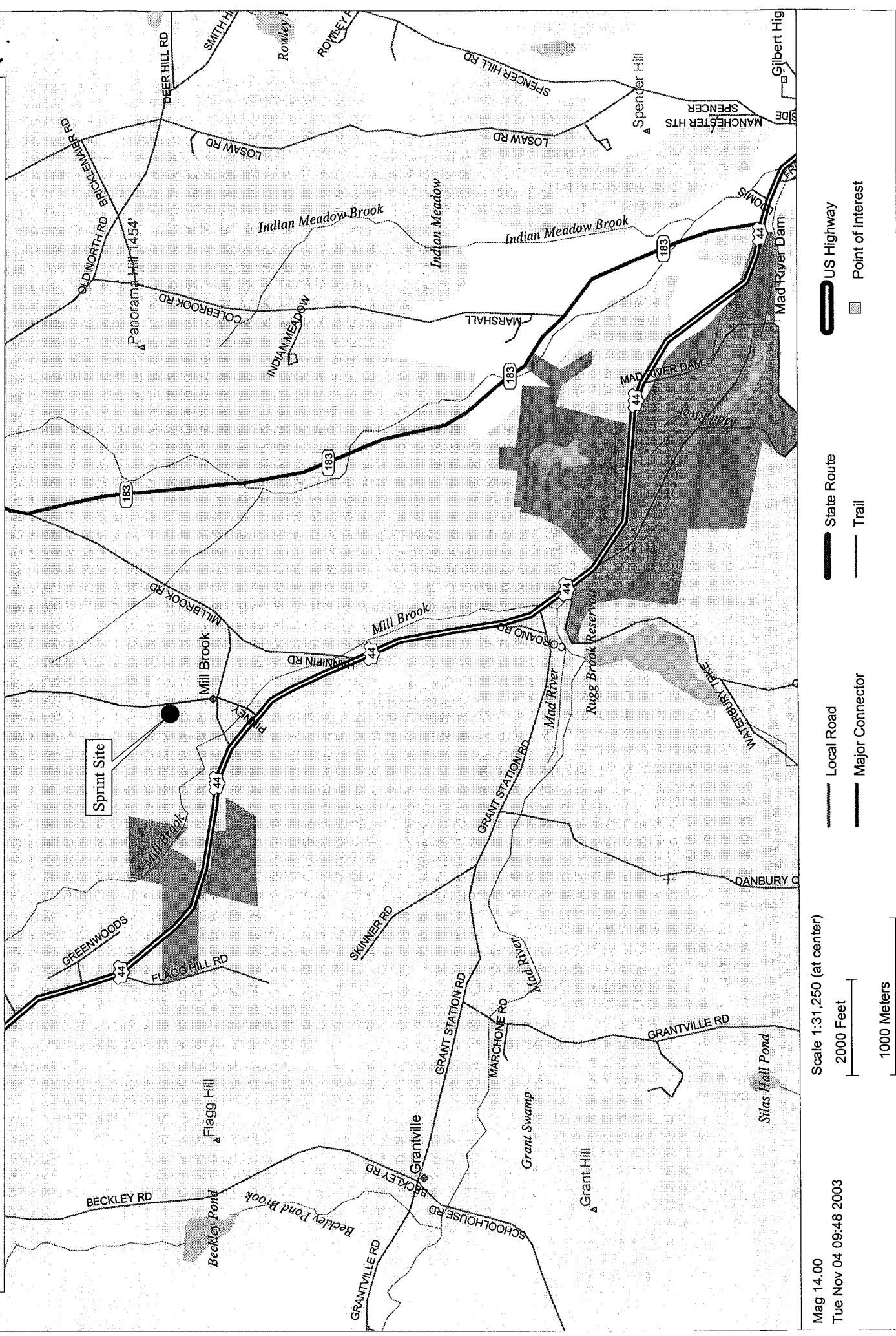
Respectfully yours,

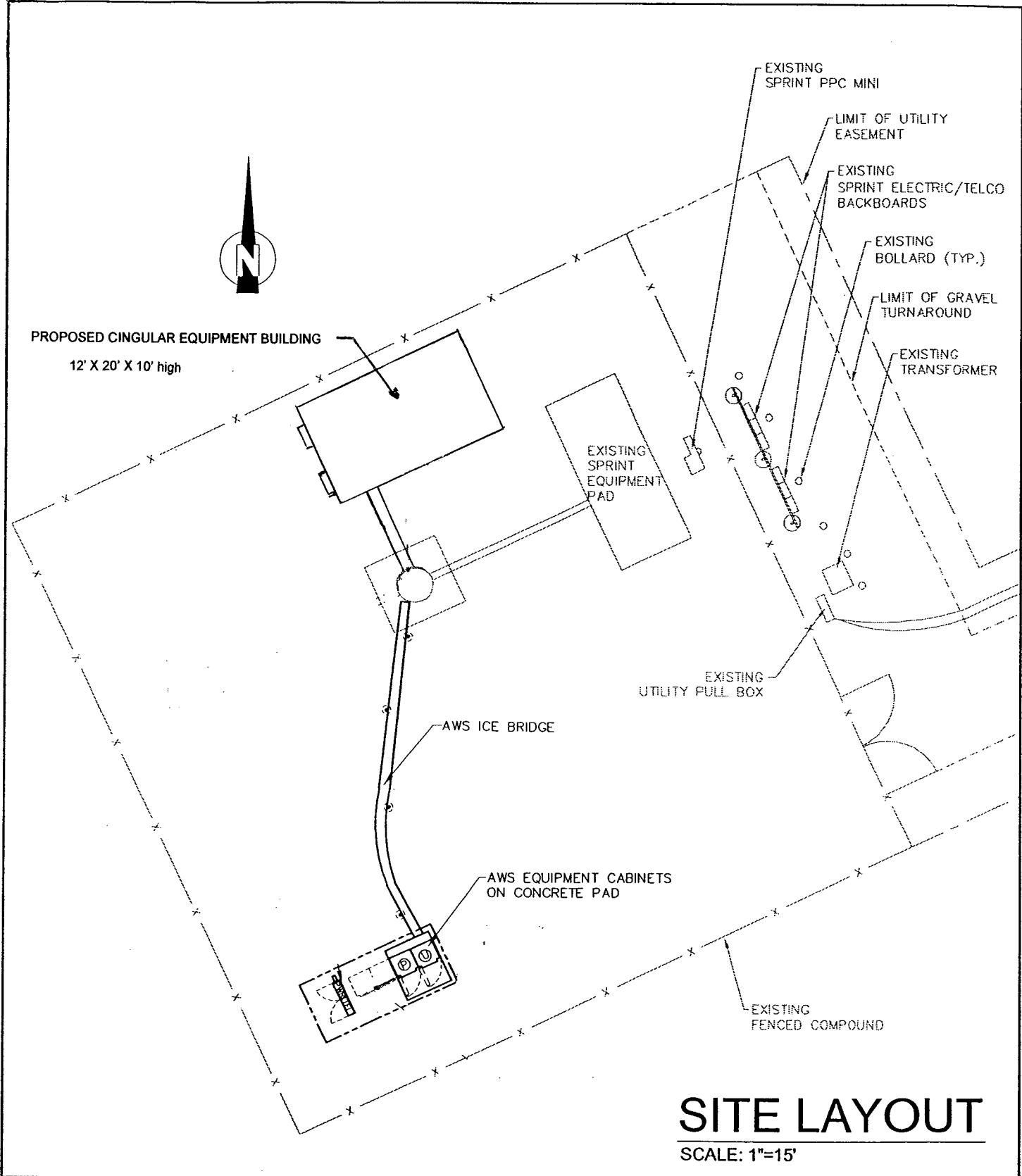
Michele G. Briggs  
Manager of Real Estate

Enclosures

cc: Honorable George M. Wilber, First Selectman, Town of Colebrook

# Sprint Tower, Pinney Street, Colebrook





## SITE LAYOUT

SCALE: 1"=15'

 <b>Southwestern Bell</b>		DRAWING TITLE: SITE LAYOUT	
		PROJECT INFORMATION: COLEBROOK-SW CT647 161 PINNEY STREET COLEBROOK, CT	
PROPERTY OWNER:	SPRINT SITES USA 535 EAST CRESCENT AVENUE RAMSEY, NJ 07446	REVISION NO.	DRAWN BY:
DATE ISSUED:		CHECKED BY:	
SCALE:	AS NOTED	APPROVED BY:	
		SHEET NO.	1 OF 1
		PROJECT NO.	

SPRINT PCS ANTENNAS  
RAD. CENTER 147'

Proposed Cingular Antennas  
RAD. CENTER 137'

AWS ANTENNAS  
RAD. CENTER 127'

EXISTING 150' MONOPOLE

TOWER BASE ELEVATION 1223'

## ELEVATION

SCALE: 1"=20'



DRAWING TITLE:	ELEVATION
PROJECT INFORMATION:	COLEBROOK-SW CT647 161 PINNEY STREET COLEBROOK, CT
PROPERTY OWNER:	SPRINT SITES USA 535 EAST CRESCENT AVENUE RAMSEY, NJ 07446
REVISION NO.:	DRAWN BY:
DATE ISSUED:	CHECKED BY:
SCALE: AS NOTED	APPROVED BY:
	SHEET NO. 1 OF 1
PROJECT NO.:	



**Southwestern Bell Mobile Systems, LLC**  
500 Enterprise Drive  
Rocky Hill, Connecticut 06067-3900  
Phone: (860) 513-7700  
Fax: (860) 513-7190

**Michele G. Briggs**  
*Manager of Real Estate*

November 4, 2003

Honorable George M. Wilber, First Selectman  
Town of Colebrook  
Town Hall, 558 Colebrook Rd.  
Colebrook, Connecticut 06021

**Re: Notice of Exempt Modification – Existing Sprint Telecommunications Tower Facility at  
161 Pinney Street, Colebrook, Connecticut**

Dear Mr. Wilber:

Southwestern Bell Mobile Systems, LLC (“SBMS”) intends to install telecommunications antennas and associated equipment at an existing multicarrier telecommunications tower at Pinney Street in Colebrook, Connecticut.

The facility is owned and operated by Sprint Sites USA (“Sprint”), with offices at 535 E. Crescent Avenue, Ramsey, NJ 07446. Sprint leases the land from Ellen C. Fredsall of Colebrook.

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 Colebrook 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 SBMS 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,

A handwritten signature in black ink that reads "Michele G. Briggs".

Michele G. Briggs  
Manager of Real Estate

Enclosure

1047 N. 204<sup>th</sup> Avenue  
Elkhorn, NE 68022  
Ph: 402-289-1888  
Fax: 402-289-1861

## SEMAAN ENGINEERING SOLUTIONS

EM-CING-029-031106

### 148 ft SUMMIT Monopole Structural Analysis

OK  
R/O  
10/20/03

Prepared for:  
**Sprint Sites USA**  
**535 East Crescent Ave**  
**Ramsey, NJ 07446**

**RECEIVED**  
NOV 06 2003

CONNECTICUT  
SITING COUNCIL

**Site: CT33XC115-03 - Cingular  
Colebrook, CT**



**October 10, 2003**

Ms. Kim Cordes  
Sprint Sites USA  
535 East Crescent Ave  
Ramsey, NJ 07446

**Re: Site Number CT33XC115 – Colebrook, CT.**

Dear Ms. Kim Cordes:

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 EIA/TIA-222-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 148 ft SUMMIT Monopole.

Refer to SUMMIT job #11163 dated September 11, 2000 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 **EIA/TIA-222-F and local building codes for a basic wind speed of 80 mph and 1/2" radial ice with reduced wind speed.** Wind is applied to the structure, accessories and antennas.

**Structure loading:**

Per the loading sheet supplied, the analysis was performed using the following loading: (Proposed loading in bold)

Elev. (ft)	Qty.	Antennas and Mounts	Coax	Owner
147.0	12	DB980H90 Mounted On a Low Profile platform	(12) 1-5/8	Sprint
137.0	3	<b>DBC-750 combiner Mounted On a Low Profile Platform</b>		Cingular
137.0	12	DUO1417-8686 Mounted On the same Low Profile Platform	(12) 1-5/8	Cingular
137.0	6	MHA Mounted On the same Low Profile Platform		Cingular
127.0	6	Allgon 7250 Mounted On (3) Stand-off Arms	(12) 1-1/4	AT&T

**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: 89.7%.

**Foundation:**

Pole Reactions	Original Design Reactions	Current Analysis Reactions	% Of Design
Moment (ft-kips)	2,200.00	1,944.56	88.4
Shear (kips)	20.00	17.91	89.5

The structure base reactions resulting from this analysis do not exceed the ones shown on the original structure drawings.

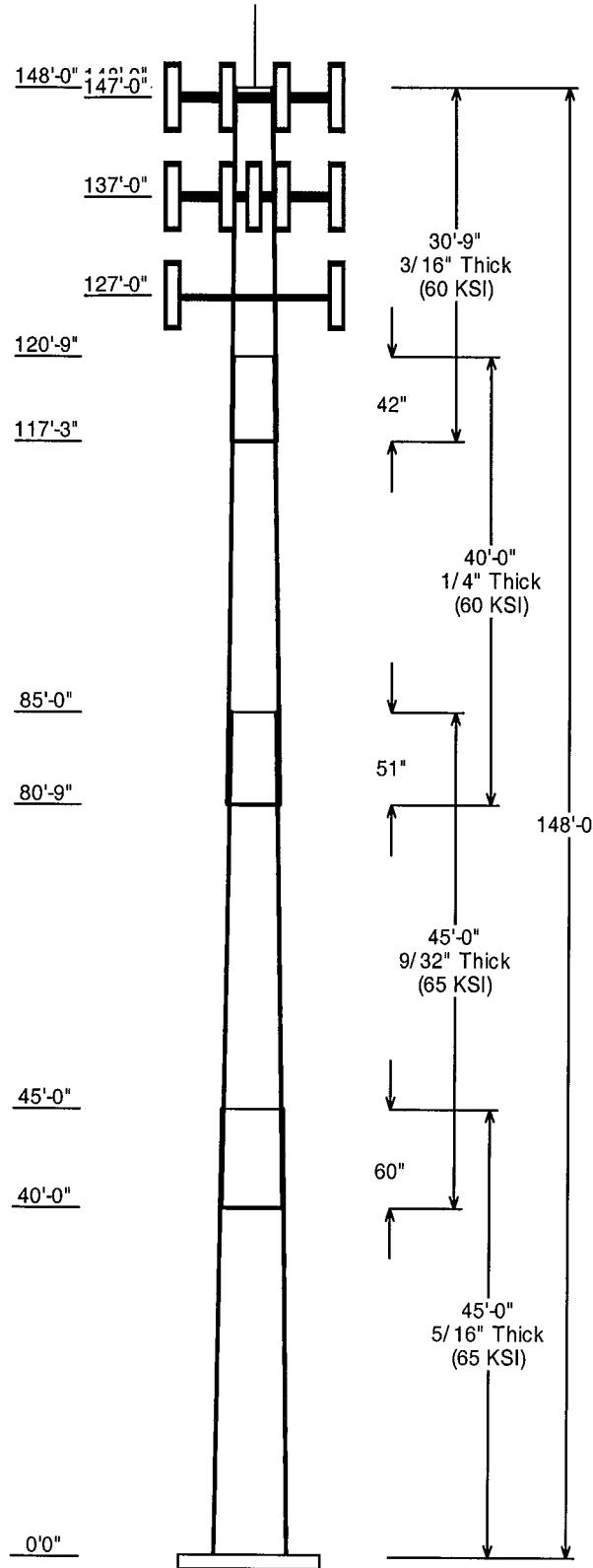
**Review and Recommendations:**

Based on the analysis results, the existing structure meets the requirements per the EIA/TIA-222-F standards for a basic wind speed of 80 mph and 1/2" radial ice with reduced wind speed.

**SEMAAN ENGINEERING SOLUTIONS**

1047 N.204<sup>th</sup> Avenue  
Elkhorn, NE 68022  
Phone: 402-289-1888  
Fax: 402-289-1861

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**Job Information**

Pole : CT33XC115  
Description :  
Client : Sprint Sites USA - NJ  
Location : Colebrook, CT  
Type : 18 Sides      Base Elev (ft): 0.00  
Height :(ft) 148.00      Taper: 0.169983 (in/ft)

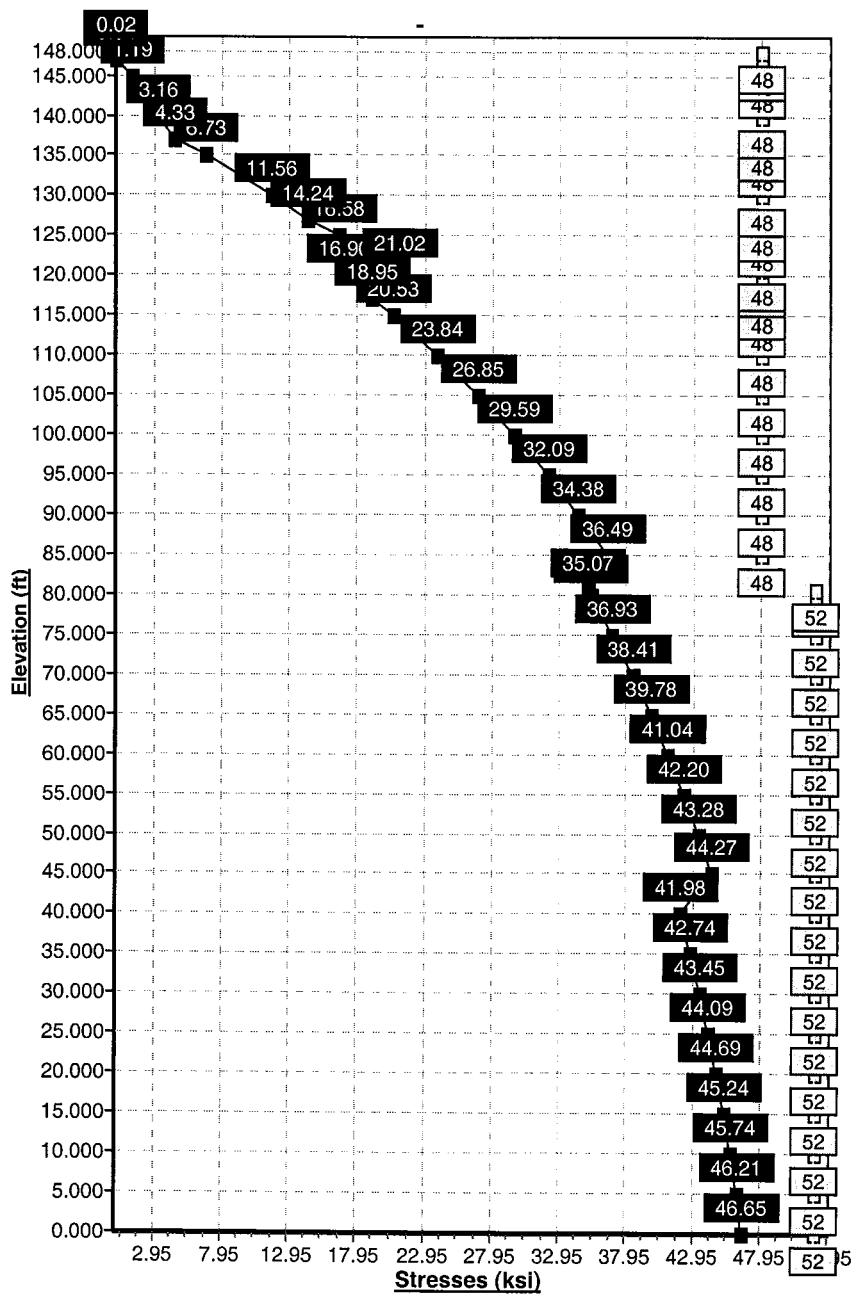
Sections Properties							
Shaft Section	Length (ft)	Diameter (in) Accross Flats	Overlap Length (in)	Steel Grade	Joint Type	Taper (in/ft)	Thickness (in)
		Top	Bottom				
1	45.000	38.07	45.72	0.313		0.000	0.169983
2	45.000	31.83	39.48	0.281	Slip Joint	60.000	0.169983
3	40.000	26.25	33.05	0.250	Slip Joint	51.000	0.169983
4	30.750	22.00	27.22	0.188	Slip Joint	42.000	0.169983

Discrete Appurtenance				
Attach Elev (ft)	Force Elev (ft)	Type	Qty	Description
148.000	152.000	Lightning	1	5/8" lightning rod
147.000	147.000	Panel	12	DB980H90
147.000	147.000	Platform	1	14 ft Low Profile platform
137.000	137.000	Panel	6	MHA
137.000	137.000	Panel	12	DUO1417-8686
137.000	137.000	Panel	3	DBC-750 combiner
137.000	137.000	Platform	1	Low Profile Platform
127.000	127.000	Straight	3	Stand-off Arms
127.000	127.000	Panel	6	Allgon 7250

Load Cases / Deflections			
Load Case	Attach Elev (ft)	Translation (in)	Rotation (deg)
<u>No Ice</u>		<u>No Ice Wind Speed = 80.00 mph w/ No Ice</u>	
	148.000	106.18	-5.942
	147.000	104.94	-5.942
	137.000	92.55	-5.901
	127.000	80.35	-5.735
<u>Ice</u>		<u>Ice Wind Speed = 69.28 mph w/ Ice 0.50 in Thick</u>	
	148.000	92.97	-5.229
	147.000	91.88	-5.228
	137.000	80.96	-5.192
	127.000	70.23	-5.044

Reactions			
Load Case	Moment (Kip-ft)	Shear (Kips)	Axial (Kips)
No Ice	1,944.565	17.910	-20.563
Ice	1,673.506	14.846	-26.391

**Load Case : No Ice**



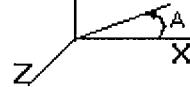
Pole : CT33XC115  
 Location: Colebrook, CT  
 Height : 148.0 (ft)  
 Shape : 18 Sides  
 Base Dia : 45.72 (in)  
 Taper : 0.169983 (in/ft)

Sprint Sites USA - NJ  
 Base Elev : 0.000 (ft)  
 Top Dia : 22.00 (in)

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### Shaft Section Properties

Sect Num	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom						Top						Taper (in/ft)
							Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	
1	45.000	0.3125	65		0.00	6,315	45.72	0.000	45.04	11731.8	24.39	146.3	38.07	45.00	37.45	6745.5	20.07	121.82	0.16998
2	45.000	0.2813	65	Slip Joint	60.00	4,836	39.48	40.00	34.99	6794.3	23.34	140.3	31.83	85.00	28.17	3542.7	18.55	113.19	0.16998
3	40.000	0.2500	60	Slip Joint	51.00	3,176	33.05	80.75	26.03	3539.5	21.90	132.2	26.25	120.7	20.64	1763.3	17.11	105.03	0.16998
4	30.750	0.1875	60	Slip Joint	42.00	1,521	27.22	117.2	16.09	1486.4	24.19	145.2	22.00	148.0	12.98	780.3	19.28	117.33	0.16998
Shaft Weight						15,848													

### Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Weight (lb)	No Ice CaAa (sf)	CaAa Factor	Weight (lb)	Ice CaAa (sf)	CaAa Factor	Distance From Face (ft)	X Angle (deg)	Vert Ecc (ft)
148.0	5/8" lightning rod	1	75.00	0.500	1.00	100.00	1.500	1.00	0.000	0.00	4.000
147.0	DB980H90	12	9.00	3.280	0.67	28.00	3.850	0.67	0.000	0.00	0.000
147.0	14 ft Low Profile platform	1	1642.00	24.830	1.00	2100.00	26.000	1.00	0.000	0.00	0.000
137.0	MHA	6	11.00	0.660	1.00	36.00	2.950	1.00	0.000	0.00	0.000
137.0	DUO1417-8686	12	30.80	6.530	1.00	73.00	7.150	1.00	0.000	0.00	0.000
137.0	DBC-750 combiner	3	5.00	0.550	1.00	7.85	0.700	1.00	0.000	0.00	0.000
137.0	Low Profile Platform	1	1300.00	25.550	1.00	2100.00	27.320	1.00	0.000	0.00	0.000
127.0	Stand-off Arms	3	360.00	7.700	1.00	500.00	9.000	1.00	0.000	0.00	0.000
127.0	Allgon 7250	6	16.00	4.300	1.00	36.00	5.000	1.00	0.000	0.00	0.000
Totals		45	4751.60			7467.55			Number of Loadings : 9		

**Pole :** CT33XC115  
**Location:** Colebrook, CT  
**Height :** 148.0 (ft)  
**Shape :** 18 Sides  
**Base Dia :** 45.72 (in)  
**Taper :** 0.169983 (in/ft)

Sprint Sites USA - NJ

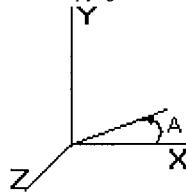
**Base Elev : 0.000 (ft)**

**Top Dia : 22.00 (in)**

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### **Segment Properties (Max Len : 5 ft)**

Seg Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)
0.00		0.3125	45.720	45.037	11,731.8	24.39	146.30	65	52	0.0
5.00		0.3125	44.870	44.194	11,085.3	23.91	143.58	65	52	759.1
10.00		0.3125	44.020	43.351	10,463.0	23.43	140.86	65	52	744.7
15.00		0.3125	43.170	42.508	9,864.4	22.95	138.14	65	52	730.4
20.00		0.3125	42.320	41.665	9,289.1	22.47	135.42	65	52	716.0
25.00		0.3125	41.470	40.822	8,736.6	21.99	132.70	65	52	701.7
30.00		0.3125	40.620	39.979	8,206.5	21.51	129.98	65	52	687.4
35.00		0.3125	39.770	39.136	7,698.2	21.03	127.26	65	52	673.0
40.00	Bot - Section 2	0.3125	38.920	38.293	7,211.4	20.55	124.54	65	52	658.7
45.00	Top - Section 1	0.2813	38.633	34.235	6,361.9	22.81	137.36	65	52	1,233.3
50.00		0.2813	37.783	33.476	5,948.3	22.28	134.34	65	52	576.0
55.00		0.2813	36.933	32.717	5,552.9	21.74	131.32	65	52	563.1
60.00		0.2813	36.083	31.959	5,175.5	21.21	128.30	65	52	550.2
65.00		0.2813	35.233	31.200	4,815.6	20.68	125.27	65	52	537.3
70.00		0.2813	34.383	30.441	4,472.8	20.15	122.25	65	52	524.4
75.00		0.2813	33.533	29.683	4,146.6	19.61	119.23	65	52	511.5
80.00		0.2813	32.683	28.924	3,836.7	19.08	116.21	65	52	498.6
80.75	Bot - Section 3	0.2813	32.556	28.810	3,791.6	19.00	115.75	65	52	73.7
85.00	Top - Section 2	0.2500	32.334	25.457	3,310.8	21.39	129.33	60	48	784.3
90.00		0.2500	31.484	24.783	3,054.6	20.80	125.93	60	48	427.4
95.00		0.2500	30.634	24.109	2,811.9	20.20	122.53	60	48	415.9
100.00		0.2500	29.784	23.434	2,582.5	19.60	119.14	60	48	404.4
105.00		0.2500	28.934	22.760	2,365.9	19.00	115.74	60	48	393.0
110.00		0.2500	28.084	22.085	2,161.8	18.40	112.34	60	48	381.5
115.00		0.2500	27.234	21.411	1,969.7	17.80	108.94	60	48	370.0
117.25	Bot - Section 4	0.2500	26.852	21.108	1,887.2	17.53	107.41	60	48	162.8
120.00		0.2500	26.384	20.737	1,789.4	17.20	105.54	60	48	345.1
120.75	Top - Section 3	0.1875	26.632	15.737	1,390.4	23.63	142.04	60	48	93.1
125.00		0.1875	25.909	15.307	1,279.5	22.95	138.18	60	48	224.5
127.00		0.1875	25.569	15.105	1,229.4	22.63	136.37	60	48	103.5
130.00		0.1875	25.059	14.801	1,156.8	22.16	133.65	60	48	152.6
135.00		0.1875	24.209	14.296	1,042.2	21.36	129.12	60	48	247.5
137.00		0.1875	23.869	14.093	998.6	21.04	127.30	60	48	96.6
140.00		0.1875	23.359	13.790	935.5	20.56	124.58	60	48	142.3
145.00		0.1875	22.510	13.284	836.3	19.76	120.05	60	48	230.3
147.00		0.1875	22.170	13.082	798.6	19.44	118.24	60	48	89.7
148.00		0.1875	22.000	12.980	780.3	19.28	117.33	60	48	44.3

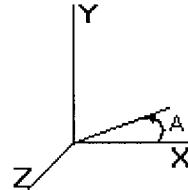
Pole : CT33XC115  
 Location: Colebrook, CT  
 Height : 148.0 (ft)  
 Shape : 18 Sides  
 Base Dia : 45.72 (in)  
 Taper : 0.169983 (in/ft)

Sprint Sites USA - NJ  
 Base Elev : 0.000 (ft)  
 Top Dia : 22.00 (in)

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**Load Case:** No Ice      80 mph - No Ice

27 Iterations

Gust Response Factor : 1.69      Effective Wind Speed : 80.00 (mph)  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

## Shaft Forces

Seg Top Elev (ft)	Description	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Wind Force Z (lb)	Weight (lb)
0.00		1.00	16.38	27.68	304.80	0.650	0.00	0.000	0.000	0.00	0.00	0.0
5.00		1.00	16.38	27.68	299.13	0.650	5.00	18.873	12.267	339.67	0.00	759.1
10.00		1.00	16.38	27.68	293.47	0.650	5.00	18.519	12.037	333.30	0.00	744.7
15.00		1.00	16.38	27.68	287.80	0.650	5.00	18.165	11.807	326.92	0.00	730.4
20.00		1.00	16.38	27.68	282.13	0.650	5.00	17.810	11.577	320.55	0.00	716.0
25.00		1.00	16.38	27.68	276.47	0.650	5.00	17.456	11.347	314.17	0.00	701.7
30.00		1.00	16.38	27.68	270.80	0.650	5.00	17.102	11.116	307.80	0.00	687.4
35.00		1.01	16.66	28.15	267.37	0.650	5.00	16.748	10.886	306.54	0.00	673.0
40.00	Bot - Section 2	1.05	17.31	29.25	266.70	0.650	5.00	16.394	10.656	311.72	0.00	658.7
45.00	Top - Section 1	1.09	17.90	30.25	265.30	0.650	5.00	16.274	10.578	320.04	0.00	1,233.3
50.00		1.12	18.44	31.17	267.29	0.650	5.00	15.920	10.348	322.64	0.00	576.0
55.00		1.15	18.95	32.04	264.86	0.650	5.00	15.566	10.118	324.17	0.00	563.1
60.00		1.18	19.43	32.84	262.00	0.650	5.00	15.212	9.888	324.77	0.00	550.2
65.00		1.21	19.88	33.60	258.77	0.650	5.00	14.858	9.657	324.55	0.00	537.3
70.00		1.24	20.31	34.32	255.22	0.650	5.00	14.503	9.427	323.59	0.00	524.4
75.00		1.26	20.71	35.00	251.37	0.650	5.00	14.149	9.197	321.98	0.00	511.5
80.00		1.28	21.10	35.66	247.27	0.650	5.00	13.795	8.967	319.76	0.00	498.6
80.75	Bot - Section 3	1.29	21.15	35.75	246.64	0.650	0.75	2.039	1.325	47.38	0.00	73.7
85.00	Top - Section 2	1.31	21.46	36.28	242.94	0.650	4.25	11.579	7.527	273.09	0.00	784.3
90.00		1.33	21.82	36.88	242.24	0.650	5.00	13.295	8.642	318.72	0.00	427.4
95.00		1.35	22.16	37.45	237.53	0.650	5.00	12.941	8.412	315.06	0.00	415.9
100.00		1.37	22.49	38.00	232.63	0.650	5.00	12.587	8.182	310.96	0.00	404.4
105.00		1.39	22.80	38.54	227.58	0.650	5.00	12.233	7.951	306.46	0.00	393.0
110.00		1.41	23.11	39.05	222.36	0.650	5.00	11.879	7.721	301.57	0.00	381.5
115.00		1.42	23.40	39.55	217.01	0.650	5.00	11.525	7.491	296.32	0.00	370.0
117.25	Bot - Section 4	1.43	23.53	39.77	214.55	0.650	2.25	5.071	3.296	131.10	0.00	162.8
120.00		1.44	23.69	40.04	211.52	0.650	2.75	6.186	4.021	160.99	0.00	345.1
120.75	Top - Section 3	1.44	23.73	40.11	210.68	0.650	0.75	1.668	1.085	43.50	0.00	93.1
125.00		1.46	23.97	40.51	208.93	0.650	4.25	9.304	6.048	244.99	0.00	224.5
127.00	Appertunance(s)	1.47	24.07	40.69	206.65	0.650	2.00	4.290	2.788	113.47	0.00	103.5
130.00		1.48	24.24	40.96	203.21	0.650	3.00	6.329	4.114	168.52	0.00	152.6
135.00		1.49	24.50	41.41	197.38	0.650	5.00	10.264	6.672	276.28	0.00	247.5
137.00	Appertunance(s)	1.50	24.60	41.58	195.01	0.650	2.00	4.007	2.604	108.30	0.00	96.6
140.00		1.51	24.75	41.84	191.44	0.650	3.00	5.904	3.837	160.57	0.00	142.3
145.00		1.52	25.00	42.26	185.40	0.650	5.00	9.556	6.211	262.53	0.00	230.3
147.00	Appertunance(s)	1.53	25.10	42.43	182.96	0.650	2.00	3.723	2.420	102.69	0.00	89.7
148.00	Appertunance(s)	1.53	25.15	42.51	181.73	0.650	1.00	1.840	1.196	50.86	0.00	44.3
Totals:						148.00	9,135.53	0.00	15,847.8			

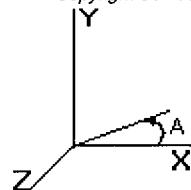
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 Location: Colebrook, CT  
 Height : 148.0 (ft)  
 Shape : 18 Sides  
 Base Dia : 45.72 (in)  
 Taper : 0.169983 (in/ft)

Sprint Sites USA - NJ  
 Base Elev : 0.000 (ft)  
 Top Dia : 22.00 (in)

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**Load Case:** No Ice      80 mph - No Ice

27 Iterations

Gust Response Factor : 1.69      Effective Wind Speed : 80.00 (mph)  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

### Discrete Appurtenance Forces

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Total CaAa (sf)	CaAa Factor	Horiz Ecc (ft)	Vert Ecc (ft)	X Angle (deg)	Wind Force X (lb)	Wind Force Z (lb)	Mom X (lb-ft)	Mom Y (lb-ft)	Mom Z (lb-ft)	Weight (lb)	
127.00	Stand-off Arms	3	24.07	40.69	23.100	1.000	0.000	0.0	0.0	940.04	0.00	0.00	0.00	0.00	1080.0	
127.00	Allgon 7250	6	24.07	40.69	25.800	1.000	0.000	0.0	0.0	1049.91	0.00	0.00	0.00	0.00	96.0	
137.00	MHA	6	24.60	41.58	3.960	1.000	0.000	0.0	0.0	164.68	0.00	0.00	0.00	0.00	66.0	
137.00	DUO1417-8686	12	24.60	41.58	78.360	1.000	0.000	0.0	0.0	3258.60	0.00	0.00	0.00	0.00	369.6	
137.00	DBC-750 combiner	3	24.60	41.58	1.650	1.000	0.000	0.0	0.0	68.62	0.00	0.00	0.00	0.00	15.0	
137.00	Low Profile Platform	1	24.60	41.58	25.550	1.000	0.000	0.0	0.0	1062.50	0.00	0.00	0.00	0.00	1300.0	
147.00	DB980H90	12	25.10	42.43	26.253	0.667	0.000	0.0	0.0	1113.94	0.00	0.00	0.00	0.00	108.0	
147.00	14 ft Low Profile	1	25.10	42.43	24.830	1.000	0.000	0.0	0.0	1053.54	0.00	0.00	0.00	0.00	1642.0	
148.00	5/8" lightning rod	1	25.34	42.83	0.500	1.000	0.000	4.0	0.0	21.42	0.00	0.00	0.00	85.68	75.0	
										8,733.24	0.00					4,751.6

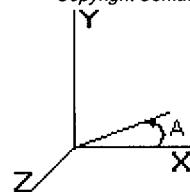
Pole : CT33XC115  
 Location: Colebrook, CT  
 Height : 148.0 (ft)  
 Shape : 18 Sides  
 Base Dia : 45.72 (in)  
 Taper : 0.169983 (in/ft)

Sprint Sites USA - NJ  
 Base Elev : 0.000 (ft)  
 Top Dia : 22.00 (in)

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Load Case: No Ice      80 mph - No Ice

27 Iterations

Gust Response Factor : 1.69      Effective Wind Speed : 80.00 (mph)  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

### Applied Forces Summary

Seg Elev (ft)	X Coord (ft)	Z Coord (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Lateral FZ (lb)	Moment MX (lb-ft)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.00	0.00	0.00	339.67	759.08	0.00	0.00	0.00	0.00
10.00	0.00	0.00	333.30	744.73	0.00	0.00	0.00	0.00
15.00	0.00	0.00	326.92	730.39	0.00	0.00	0.00	0.00
20.00	0.00	0.00	320.55	716.05	0.00	0.00	0.00	0.00
25.00	0.00	0.00	314.17	701.71	0.00	0.00	0.00	0.00
30.00	0.00	0.00	307.80	687.36	0.00	0.00	0.00	0.00
35.00	0.00	0.00	306.54	673.02	0.00	0.00	0.00	0.00
40.00	0.00	0.00	311.72	658.68	0.00	0.00	0.00	0.00
45.00	0.00	0.00	320.04	1,233.26	0.00	0.00	0.00	0.00
50.00	0.00	0.00	322.64	576.01	0.00	0.00	0.00	0.00
55.00	0.00	0.00	324.17	563.10	0.00	0.00	0.00	0.00
60.00	0.00	0.00	324.77	550.20	0.00	0.00	0.00	0.00
65.00	0.00	0.00	324.55	537.29	0.00	0.00	0.00	0.00
70.00	0.00	0.00	323.59	524.38	0.00	0.00	0.00	0.00
75.00	0.00	0.00	321.98	511.47	0.00	0.00	0.00	0.00
80.00	0.00	0.00	319.76	498.56	0.00	0.00	0.00	0.00
80.75	0.00	0.00	47.38	73.67	0.00	0.00	0.00	0.00
85.00	0.00	0.00	273.09	784.29	0.00	0.00	0.00	0.00
90.00	0.00	0.00	318.72	427.39	0.00	0.00	0.00	0.00
95.00	0.00	0.00	315.06	415.92	0.00	0.00	0.00	0.00
100.00	0.00	0.00	310.96	404.44	0.00	0.00	0.00	0.00
105.00	0.00	0.00	306.46	392.97	0.00	0.00	0.00	0.00
110.00	0.00	0.00	301.57	381.50	0.00	0.00	0.00	0.00
115.00	0.00	0.00	296.32	370.02	0.00	0.00	0.00	0.00
117.25	0.00	0.00	131.10	162.77	0.00	0.00	0.00	0.00
120.00	0.00	0.00	160.99	345.05	0.00	0.00	0.00	0.00
120.75	0.00	0.00	43.50	93.05	0.00	0.00	0.00	0.00
125.00	0.00	0.00	244.99	224.48	0.00	0.00	0.00	0.00
127.00	0.00	0.00	2,103.42	1,279.48	0.00	0.00	0.00	0.00
130.00	0.00	0.00	168.52	152.65	0.00	0.00	0.00	0.00
135.00	0.00	0.00	276.28	247.53	0.00	0.00	0.00	0.00
137.00	0.00	0.00	4,662.69	1,847.20	0.00	0.00	0.00	0.00
140.00	0.00	0.00	160.57	142.32	0.00	0.00	0.00	0.00
145.00	0.00	0.00	262.53	230.31	0.00	0.00	0.00	0.00
147.00	0.00	0.00	2,270.17	1,839.72	0.00	0.00	0.00	0.00
148.00	0.00	0.00	72.28	119.34	0.00	0.00	0.00	85.68
Totals:		17,868.77	20,599.40	0.00	0.00	0.00	0.00	85.68

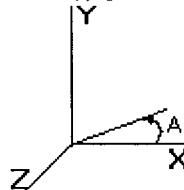
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**Load Case:** No Ice      80 mph - No Ice

27 Iterations

Gust Response Factor : 1.69      Effective Wind Speed : 80.00 (mph)  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

### Calculated Forces and Deflections

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	17.910	20.563	0.000	0.000	0.000	1,944.565	0.000	0.000	0.000	0.000
5.00	17.648	19.733	0.000	0.000	0.000	1,855.017	-0.123	0.000	0.123	-0.230
10.00	17.388	18.920	0.000	0.000	0.000	1,766.776	-0.489	0.000	0.489	-0.463
15.00	17.128	18.123	0.000	0.000	0.000	1,679.839	-1.099	0.000	1.099	-0.697
20.00	16.869	17.342	0.000	0.000	0.000	1,594.200	-1.955	0.000	1.955	-0.933
25.00	16.611	16.577	0.000	0.000	0.000	1,509.855	-3.059	0.000	3.059	-1.171
30.00	16.354	15.828	0.000	0.000	0.000	1,426.800	-4.413	0.000	4.413	-1.410
35.00	16.094	15.096	0.000	0.000	0.000	1,345.029	-6.018	0.000	6.018	-1.650
40.00	15.822	14.381	0.000	0.000	0.000	1,264.563	-7.875	0.000	7.875	-1.891
45.00	15.515	13.094	0.000	0.000	0.000	1,185.452	-9.985	0.000	9.985	-2.133
50.00	15.224	12.465	0.000	0.000	0.000	1,107.880	-12.347	0.000	12.347	-2.375
55.00	14.928	11.851	0.000	0.000	0.000	1,031.762	-14.970	0.000	14.970	-2.631
60.00	14.627	11.252	0.000	0.000	0.000	957.122	-17.861	0.000	17.861	-2.885
65.00	14.322	10.670	0.000	0.000	0.000	883.985	-21.017	0.000	21.017	-3.138
70.00	14.013	10.104	0.000	0.000	0.000	812.375	-24.436	0.000	24.436	-3.389
75.00	13.702	9.554	0.000	0.000	0.000	742.310	-28.116	0.000	28.116	-3.636
80.00	13.372	9.046	0.000	0.000	0.000	673.803	-32.052	0.000	32.052	-3.879
80.75	13.338	8.947	0.000	0.000	0.000	663.774	-32.664	0.000	32.664	-3.916
85.00	13.042	8.135	0.000	0.000	0.000	607.087	-36.240	0.000	36.240	-4.119
90.00	12.724	7.680	0.000	0.000	0.000	541.878	-40.674	0.000	40.674	-4.349
95.00	12.407	7.240	0.000	0.000	0.000	478.258	-45.353	0.000	45.353	-4.587
100.00	12.090	6.816	0.000	0.000	0.000	416.224	-50.274	0.000	50.274	-4.813
105.00	11.774	6.409	0.000	0.000	0.000	355.774	-55.425	0.000	55.425	-5.026
110.00	11.459	6.018	0.000	0.000	0.000	296.904	-60.789	0.000	60.789	-5.222
115.00	11.142	5.653	0.000	0.000	0.000	239.608	-66.347	0.000	66.347	-5.399
117.25	11.004	5.489	0.000	0.000	0.000	214.538	-68.906	0.000	68.906	-5.472
120.00	10.815	5.151	0.000	0.000	0.000	184.278	-72.078	0.000	72.078	-5.555
120.75	10.769	5.050	0.000	0.000	0.000	176.166	-72.952	0.000	72.952	-5.577
125.00	10.509	4.837	0.000	0.000	0.000	130.400	-77.958	0.000	77.958	-5.682
127.00	8.293	3.764	0.000	0.000	0.000	109.382	-80.347	0.000	80.347	-5.735
130.00	8.115	3.618	0.000	0.000	0.000	84.502	-83.967	0.000	83.967	-5.802
135.00	7.818	3.394	0.000	0.000	0.000	43.928	-90.081	0.000	90.081	-5.881
137.00	2.991	2.034	0.000	0.000	0.000	28.292	-92.545	0.000	92.545	-5.901
140.00	2.817	1.908	0.000	0.000	0.000	19.320	-96.254	0.000	96.254	-5.921
145.00	2.533	1.706	0.000	0.000	0.000	5.235	-102.456	0.000	102.456	-5.940
147.00	0.084	0.111	0.000	0.000	0.000	0.170	-104.940	0.000	104.940	-5.942
148.00	0.072	0.000	0.000	0.000	0.000	0.086	-106.183	0.000	106.183	-5.942

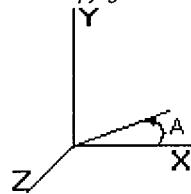
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**Load Case:** No Ice      80 mph - No Ice

27 Iterations

Gust Response Factor : 1.69      Effective Wind Speed : 80.00 (mph)  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

### Calculated Stresses

Seg Elev (ft)	Applied Stresses						Allowable Stress (Fb) (ksi)	Stress Ratio
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)		
0.00	0.457	0.801	0.000	0.000	0.000	46.170	46.647	52.0
5.00	0.447	0.805	0.000	0.000	0.000	45.746	46.214	52.0
10.00	0.436	0.808	0.000	0.000	0.000	45.287	45.745	52.0
15.00	0.426	0.812	0.000	0.000	0.000	44.790	45.238	52.0
20.00	0.416	0.816	0.000	0.000	0.000	44.250	44.689	52.0
25.00	0.406	0.820	0.000	0.000	0.000	43.664	44.093	52.0
30.00	0.396	0.824	0.000	0.000	0.000	43.028	43.447	52.0
35.00	0.386	0.829	0.000	0.000	0.000	42.335	42.745	52.0
40.00	0.376	0.833	0.000	0.000	0.000	41.581	41.982	52.0
45.00	0.382	0.913	0.000	0.000	0.000	43.858	44.269	52.0
50.00	0.372	0.917	0.000	0.000	0.000	42.874	43.276	52.0
55.00	0.362	0.920	0.000	0.000	0.000	41.809	42.201	52.0
60.00	0.352	0.922	0.000	0.000	0.000	40.655	41.038	52.0
65.00	0.342	0.925	0.000	0.000	0.000	39.404	39.779	52.0
70.00	0.332	0.928	0.000	0.000	0.000	38.047	38.413	52.0
75.00	0.322	0.930	0.000	0.000	0.000	36.574	36.931	52.0
80.00	0.313	0.932	0.000	0.000	0.000	34.970	35.320	52.0
80.75	0.311	0.933	0.000	0.000	0.000	34.724	35.072	52.0
85.00	0.320	1.033	0.000	0.000	0.000	36.122	36.485	48.0
90.00	0.310	1.035	0.000	0.000	0.000	34.028	34.384	48.0
95.00	0.300	1.037	0.000	0.000	0.000	31.744	32.094	48.0
100.00	0.291	1.040	0.000	0.000	0.000	29.246	29.592	48.0
105.00	0.282	1.043	0.000	0.000	0.000	26.508	26.851	48.0
110.00	0.272	1.046	0.000	0.000	0.000	23.500	23.841	48.0
115.00	0.264	1.049	0.000	0.000	0.000	20.184	20.529	48.0
117.25	0.260	1.051	0.000	0.000	0.000	18.598	18.946	48.0
120.00	0.248	1.051	0.000	0.000	0.000	16.554	16.901	48.0
120.75	0.321	1.379	0.000	0.000	0.000	20.558	21.015	48.0
125.00	0.316	1.384	0.000	0.000	0.000	16.087	16.578	48.0
127.00	0.249	1.107	0.000	0.000	0.000	13.860	14.238	48.0
130.00	0.244	1.105	0.000	0.000	0.000	11.152	11.556	48.0
135.00	0.237	1.102	0.000	0.000	0.000	6.217	6.730	48.0
137.00	0.144	0.428	0.000	0.000	0.000	4.120	4.328	48.0
140.00	0.138	0.412	0.000	0.000	0.000	2.939	3.159	48.0
145.00	0.128	0.384	0.000	0.000	0.000	0.858	1.190	48.0
147.00	0.008	0.013	0.000	0.000	0.000	0.029	0.043	48.0
148.00	0.000	0.011	0.000	0.000	0.000	0.015	0.024	48.0

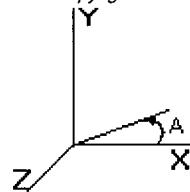
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 Location: Colebrook, CT  
 Height : 148.0 (ft)  
 Shape : 18 Sides  
 Base Dia : 45.72 (in)  
 Taper : 0.169983 (in/ft)

Sprint Sites USA - NJ  
 Base Elev : 0.000 (ft)  
 Top Dia : 22.00 (in)

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### Load Case: Ice

80 mph - With Ice - Ice Thickness = 0.5 in

27 Iterations

Gust Response Factor : 1.69

Effective Wind Speed : 69.28 (mph)

Dead Load Factor : 1.00

Wind Load Factor : 1.00

### Shaft Forces

Seg Top Elev (ft)	Description	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Wind Force Z (lb)	Weight (lb)
0.00		1.00	12.28	20.76	263.95	0.650	0.00	0.000	0.000	0.00	0.00	0.0
5.00		1.00	12.28	20.76	259.05	0.650	5.00	19.289	12.538	260.36	0.00	899.1
10.00		1.00	12.28	20.76	254.14	0.650	5.00	18.935	12.308	255.58	0.00	882.1
15.00		1.00	12.28	20.76	249.23	0.650	5.00	18.581	12.078	250.80	0.00	865.1
20.00		1.00	12.28	20.76	244.33	0.650	5.00	18.227	11.848	246.02	0.00	848.2
25.00		1.00	12.28	20.76	239.42	0.650	5.00	17.873	11.617	241.24	0.00	831.2
30.00		1.00	12.28	20.76	234.51	0.650	5.00	17.519	11.387	236.46	0.00	814.2
35.00		1.01	12.49	21.11	231.54	0.650	5.00	17.165	11.157	235.61	0.00	797.3
40.00	Bot - Section 2	1.05	12.98	21.93	230.96	0.650	5.00	16.811	10.927	239.72	0.00	780.3
45.00	Top - Section 1	1.09	13.42	22.69	229.75	0.650	5.00	16.691	10.849	246.16	0.00	1,354.0
50.00		1.12	13.83	23.38	231.47	0.650	5.00	16.337	10.619	248.30	0.00	694.1
55.00		1.15	14.21	24.02	229.37	0.650	5.00	15.982	10.389	249.62	0.00	678.6
60.00		1.18	14.57	24.63	226.89	0.650	5.00	15.628	10.158	250.24	0.00	663.1
65.00		1.21	14.91	25.20	224.10	0.650	5.00	15.274	9.928	250.22	0.00	647.6
70.00		1.24	15.23	25.74	221.02	0.650	5.00	14.920	9.698	249.65	0.00	632.0
75.00		1.26	15.53	26.25	217.69	0.650	5.00	14.566	9.468	248.58	0.00	616.5
80.00		1.28	15.82	26.74	214.14	0.650	5.00	14.212	9.238	247.05	0.00	601.0
80.75	Bot - Section 3	1.29	15.86	26.81	213.59	0.650	0.75	2.101	1.366	36.62	0.00	89.0
85.00	Top - Section 2	1.31	16.10	27.21	210.38	0.650	4.25	11.934	7.757	211.07	0.00	870.4
90.00		1.33	16.36	27.65	209.78	0.650	5.00	13.712	8.913	246.52	0.00	526.1
95.00		1.35	16.62	28.09	205.70	0.650	5.00	13.358	8.683	243.89	0.00	512.0
100.00		1.37	16.86	28.50	201.46	0.650	5.00	13.004	8.452	240.93	0.00	497.9
105.00		1.39	17.10	28.90	197.08	0.650	5.00	12.650	8.222	237.66	0.00	483.8
110.00		1.41	17.33	29.29	192.57	0.650	5.00	12.295	7.992	234.09	0.00	469.7
115.00		1.42	17.55	29.66	187.93	0.650	5.00	11.941	7.762	230.26	0.00	455.6
117.25	Bot - Section 4	1.43	17.65	29.83	185.80	0.650	2.25	5.258	3.418	101.95	0.00	200.7
120.00		1.44	17.76	30.02	183.17	0.650	2.75	6.415	4.170	125.21	0.00	391.3
120.75	Top - Section 3	1.44	17.80	30.08	182.45	0.650	0.75	1.731	1.125	33.85	0.00	105.6
125.00		1.46	17.97	30.38	180.93	0.650	4.25	9.658	6.278	190.73	0.00	293.7
127.00	Appertunance(s)	1.47	18.05	30.51	178.96	0.650	2.00	4.457	2.897	88.41	0.00	135.7
130.00		1.48	18.17	30.72	175.98	0.650	3.00	6.579	4.276	131.37	0.00	200.0
135.00		1.49	18.37	31.05	170.93	0.650	5.00	10.681	6.943	215.61	0.00	323.8
137.00	Appertunance(s)	1.50	18.45	31.18	168.88	0.650	2.00	4.173	2.713	84.60	0.00	126.7
140.00		1.51	18.56	31.38	165.79	0.650	3.00	6.154	4.000	125.52	0.00	186.5
145.00		1.52	18.75	31.69	160.56	0.650	5.00	9.973	6.482	205.47	0.00	301.3
147.00	Appertunance(s)	1.53	18.82	31.82	158.44	0.650	2.00	3.890	2.528	80.46	0.00	117.7
148.00	Appertunance(s)	1.53	18.86	31.88	157.38	0.650	1.00	1.924	1.250	39.87	0.00	58.2

Totals: 148.00 7,059.70 0.00 18,950.1

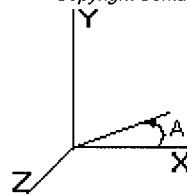
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 Location: Colebrook, CT  
 Height : 148.0 (ft)  
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Sprint Sites USA - NJ  
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Load Case: Ice

80 mph - With Ice - Ice Thickness = 0.5 in

27 Iterations

Gust Response Factor : 1.69

Effective Wind Speed : 69.28 (mph)

Dead Load Factor : 1.00

Wind Load Factor : 1.00

Discrete Appurtenance Forces

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Total CaAa (sf)	CaAa Factor	Horiz Ecc (ft)	Vert Ecc (ft)	X Angle (deg)	Wind Force X (lb)	Wind Force Z (lb)	Mom X (lb-ft)	Mom Y (lb-ft)	Mom Z (lb-ft)	Weight (lb)
127.00	Stand-off Arms	3	18.05	30.51	27.000	1.000	0.000	0.0	0.0	824.01	0.00	0.00	0.00	0.00	1500.0
127.00	Allgon 7250	6	18.05	30.51	30.000	1.000	0.000	0.0	0.0	915.57	0.00	0.00	0.00	0.00	216.0
137.00	MHA	6	18.45	31.18	17.700	1.000	0.000	0.0	0.0	552.01	0.00	0.00	0.00	0.00	216.0
137.00	DUO1417-8686	12	18.45	31.18	85.800	1.000	0.000	0.0	0.0	2675.84	0.00	0.00	0.00	0.00	876.0
137.00	DBC-750 combiner	3	18.45	31.18	2.100	1.000	0.000	0.0	0.0	65.49	0.00	0.00	0.00	0.00	23.5
137.00	Low Profile Platform	1	18.45	31.18	27.320	1.000	0.000	0.0	0.0	852.03	0.00	0.00	0.00	0.00	2100.0
147.00	DB980H90	12	18.82	31.82	30.815	0.667	0.000	0.0	0.0	980.58	0.00	0.00	0.00	0.00	336.0
147.00	14 ft Low Profile	1	18.82	31.82	26.000	1.000	0.000	0.0	0.0	827.35	0.00	0.00	0.00	0.00	2100.0
148.00	5/8" lightning rod	1	19.01	32.12	1.500	1.000	0.000	4.0	0.0	48.19	0.00	0.00	0.00	192.76	100.0
										7,741.06	0.00				7,467.5

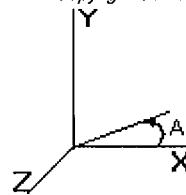
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### Load Case: Ice

80 mph - With Ice - Ice Thickness = 0.5 in

27 Iterations

Gust Response Factor : 1.69

Effective Wind Speed : 69.28 (mph)

Dead Load Factor : 1.00

Wind Load Factor : 1.00

### Applied Forces Summary

Seg Elev (ft)	X Coord (ft)	Z Coord (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Lateral FZ (lb)	Moment MX (lb-ft)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.00	0.00	0.00	260.36	899.07	0.00	0.00	0.00	0.00
10.00	0.00	0.00	255.58	882.11	0.00	0.00	0.00	0.00
15.00	0.00	0.00	250.80	865.14	0.00	0.00	0.00	0.00
20.00	0.00	0.00	246.02	848.18	0.00	0.00	0.00	0.00
25.00	0.00	0.00	241.24	831.21	0.00	0.00	0.00	0.00
30.00	0.00	0.00	236.46	814.25	0.00	0.00	0.00	0.00
35.00	0.00	0.00	235.61	797.28	0.00	0.00	0.00	0.00
40.00	0.00	0.00	239.72	780.32	0.00	0.00	0.00	0.00
45.00	0.00	0.00	246.16	1,354.01	0.00	0.00	0.00	0.00
50.00	0.00	0.00	248.30	694.14	0.00	0.00	0.00	0.00
55.00	0.00	0.00	249.62	678.61	0.00	0.00	0.00	0.00
60.00	0.00	0.00	250.24	663.08	0.00	0.00	0.00	0.00
65.00	0.00	0.00	250.22	647.55	0.00	0.00	0.00	0.00
70.00	0.00	0.00	249.65	632.02	0.00	0.00	0.00	0.00
75.00	0.00	0.00	248.58	616.49	0.00	0.00	0.00	0.00
80.00	0.00	0.00	247.05	600.96	0.00	0.00	0.00	0.00
80.75	0.00	0.00	36.62	88.97	0.00	0.00	0.00	0.00
85.00	0.00	0.00	211.07	870.41	0.00	0.00	0.00	0.00
90.00	0.00	0.00	246.52	526.08	0.00	0.00	0.00	0.00
95.00	0.00	0.00	243.89	511.99	0.00	0.00	0.00	0.00
100.00	0.00	0.00	240.93	497.89	0.00	0.00	0.00	0.00
105.00	0.00	0.00	237.66	483.80	0.00	0.00	0.00	0.00
110.00	0.00	0.00	234.09	469.70	0.00	0.00	0.00	0.00
115.00	0.00	0.00	230.26	455.60	0.00	0.00	0.00	0.00
117.25	0.00	0.00	101.95	200.75	0.00	0.00	0.00	0.00
120.00	0.00	0.00	125.21	391.32	0.00	0.00	0.00	0.00
120.75	0.00	0.00	33.85	105.61	0.00	0.00	0.00	0.00
125.00	0.00	0.00	190.73	293.74	0.00	0.00	0.00	0.00
127.00	0.00	0.00	1,827.98	1,851.66	0.00	0.00	0.00	0.00
130.00	0.00	0.00	131.37	199.97	0.00	0.00	0.00	0.00
135.00	0.00	0.00	215.61	323.77	0.00	0.00	0.00	0.00
137.00	0.00	0.00	4,229.97	3,342.23	0.00	0.00	0.00	0.00
140.00	0.00	0.00	125.52	186.49	0.00	0.00	0.00	0.00
145.00	0.00	0.00	205.47	301.32	0.00	0.00	0.00	0.00
147.00	0.00	0.00	1,888.39	2,553.70	0.00	0.00	0.00	0.00
148.00	0.00	0.00	88.06	158.23	0.00	0.00	0.00	192.76
Totals:		14,800.76	26,417.66	0.00	0.00	0.00	0.00	192.76

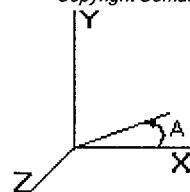
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### Load Case: Ice

80 mph - With Ice - Ice Thickness = 0.5 in

27 Iterations

Gust Response Factor : 1.69  
 Effective Wind Speed : 69.28 (mph)  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

### Calculated Forces and Deflections

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	14.846	26.391	0.000	0.000	0.000	1,673.506	0.000	0.000	0.000	0.000
5.00	14.673	25.442	0.000	0.000	0.000	1,599.277	-0.106	0.000	0.106	-0.198
10.00	14.499	24.510	0.000	0.000	0.000	1,525.913	-0.421	0.000	0.421	-0.399
15.00	14.325	23.597	0.000	0.000	0.000	1,453.419	-0.947	0.000	0.947	-0.601
20.00	14.150	22.701	0.000	0.000	0.000	1,381.797	-1.686	0.000	1.686	-0.806
25.00	13.974	21.823	0.000	0.000	0.000	1,311.051	-2.640	0.000	2.640	-1.012
30.00	13.798	20.964	0.000	0.000	0.000	1,241.181	-3.811	0.000	3.811	-1.220
35.00	13.618	20.122	0.000	0.000	0.000	1,172.191	-5.201	0.000	5.201	-1.429
40.00	13.429	19.300	0.000	0.000	0.000	1,104.102	-6.810	0.000	6.810	-1.639
45.00	13.207	17.905	0.000	0.000	0.000	1,036.961	-8.639	0.000	8.639	-1.851
50.00	13.001	17.170	0.000	0.000	0.000	970.925	-10.690	0.000	10.690	-2.062
55.00	12.790	16.452	0.000	0.000	0.000	905.920	-12.970	0.000	12.970	-2.287
60.00	12.574	15.751	0.000	0.000	0.000	841.970	-15.484	0.000	15.484	-2.511
65.00	12.353	15.068	0.000	0.000	0.000	779.101	-18.231	0.000	18.231	-2.733
70.00	12.128	14.402	0.000	0.000	0.000	717.337	-21.211	0.000	21.211	-2.954
75.00	11.899	13.755	0.000	0.000	0.000	656.700	-24.421	0.000	24.421	-3.173
80.00	11.646	13.145	0.000	0.000	0.000	597.208	-27.858	0.000	27.858	-3.388
80.75	11.628	13.036	0.000	0.000	0.000	588.474	-28.393	0.000	28.393	-3.421
85.00	11.405	12.142	0.000	0.000	0.000	539.055	-31.518	0.000	31.518	-3.601
90.00	11.168	11.592	0.000	0.000	0.000	482.029	-35.397	0.000	35.397	-3.806
95.00	10.929	11.059	0.000	0.000	0.000	426.192	-39.494	0.000	39.494	-4.017
100.00	10.689	10.543	0.000	0.000	0.000	371.546	-43.807	0.000	43.807	-4.219
105.00	10.448	10.045	0.000	0.000	0.000	318.100	-48.325	0.000	48.325	-4.409
110.00	10.206	9.566	0.000	0.000	0.000	265.860	-53.033	0.000	53.033	-4.584
115.00	9.957	9.111	0.000	0.000	0.000	214.832	-57.916	0.000	57.916	-4.743
117.25	9.850	8.907	0.000	0.000	0.000	192.429	-60.165	0.000	60.165	-4.809
120.00	9.699	8.520	0.000	0.000	0.000	165.343	-62.954	0.000	62.954	-4.883
120.75	9.665	8.408	0.000	0.000	0.000	158.069	-63.722	0.000	63.722	-4.902
125.00	9.459	8.120	0.000	0.000	0.000	116.995	-68.126	0.000	68.126	-4.997
127.00	7.482	6.429	0.000	0.000	0.000	98.077	-70.227	0.000	70.227	-5.044
130.00	7.341	6.232	0.000	0.000	0.000	75.631	-73.414	0.000	73.414	-5.105
135.00	7.102	5.924	0.000	0.000	0.000	38.926	-78.795	0.000	78.795	-5.175
137.00	2.588	2.977	0.000	0.000	0.000	24.722	-80.964	0.000	80.964	-5.192
140.00	2.447	2.802	0.000	0.000	0.000	16.959	-84.229	0.000	84.229	-5.210
145.00	2.215	2.521	0.000	0.000	0.000	4.725	-89.688	0.000	89.688	-5.227
147.00	0.102	0.150	0.000	0.000	0.000	0.295	-91.875	0.000	91.875	-5.228
148.00	0.088	0.000	0.000	0.000	0.000	0.193	-92.969	0.000	92.969	-5.229

**Pole :** CT33XC115  
**Location:** Colebrook, CT  
**Height :** 148.0 (ft)  
**Shape :** 18 Sides  
**Base Dia :** 45.72 (in)  
**Taper :** 0.169983 (in/ft)

Sprint Sites USA - NJ

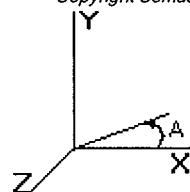
**Base Elev : 0.000 (ft)**

**Top Dia : 22.00 (in)**

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## Load Case: Ice

80 mph - With Ice - Ice Thickness = 0.5 in

27 Iterations

**Gust Response Factor : 1.69**

**Effective Wind Speed : 69.28 (mph)**

**Dead Load Factor : 1.00**

Wind Load Factor : 1.00

### **Calculated Stresses**

Seg Elev (ft)	Applied Stresses							Allowable Stress (Fb) (ksi)	Stress Ratio
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)	Combined (ksi)		
0.00	0.586	0.664	0.000	0.000	0.000	39.734	40.337	52.0	0.776
5.00	0.576	0.669	0.000	0.000	0.000	39.439	40.032	52.0	0.770
10.00	0.565	0.674	0.000	0.000	0.000	39.113	39.696	52.0	0.764
15.00	0.555	0.679	0.000	0.000	0.000	38.753	39.325	52.0	0.757
20.00	0.545	0.684	0.000	0.000	0.000	38.354	38.917	52.0	0.749
25.00	0.535	0.690	0.000	0.000	0.000	37.915	38.468	52.0	0.740
30.00	0.524	0.696	0.000	0.000	0.000	37.430	37.974	52.0	0.731
35.00	0.514	0.701	0.000	0.000	0.000	36.895	37.429	52.0	0.720
40.00	0.504	0.707	0.000	0.000	0.000	36.305	36.829	52.0	0.709
45.00	0.523	0.778	0.000	0.000	0.000	38.365	38.911	52.0	0.749
50.00	0.513	0.783	0.000	0.000	0.000	37.574	38.111	52.0	0.733
55.00	0.503	0.788	0.000	0.000	0.000	36.710	37.238	52.0	0.716
60.00	0.493	0.793	0.000	0.000	0.000	35.764	36.283	52.0	0.698
65.00	0.483	0.798	0.000	0.000	0.000	34.729	35.239	52.0	0.678
70.00	0.473	0.803	0.000	0.000	0.000	33.596	34.098	52.0	0.656
75.00	0.463	0.808	0.000	0.000	0.000	32.356	32.849	52.0	0.632
80.00	0.454	0.811	0.000	0.000	0.000	30.995	31.481	52.0	0.606
80.75	0.452	0.813	0.000	0.000	0.000	30.785	31.269	52.0	0.602
85.00	0.477	0.903	0.000	0.000	0.000	32.074	32.589	48.0	0.679
90.00	0.468	0.908	0.000	0.000	0.000	30.270	30.778	48.0	0.641
95.00	0.459	0.914	0.000	0.000	0.000	28.288	28.790	48.0	0.600
100.00	0.450	0.919	0.000	0.000	0.000	26.107	26.604	48.0	0.555
105.00	0.441	0.925	0.000	0.000	0.000	23.701	24.196	48.0	0.504
110.00	0.433	0.931	0.000	0.000	0.000	21.043	21.536	48.0	0.449
115.00	0.426	0.937	0.000	0.000	0.000	18.097	18.593	48.0	0.388
117.25	0.422	0.940	0.000	0.000	0.000	16.681	17.181	48.0	0.358
120.00	0.411	0.943	0.000	0.000	0.000	14.853	15.351	48.0	0.320
120.75	0.534	1.238	0.000	0.000	0.000	18.446	19.101	48.0	0.398
125.00	0.530	1.245	0.000	0.000	0.000	14.434	15.119	48.0	0.315
127.00	0.426	0.998	0.000	0.000	0.000	12.427	12.969	48.0	0.270
130.00	0.421	1.000	0.000	0.000	0.000	9.982	10.546	48.0	0.220
135.00	0.414	1.001	0.000	0.000	0.000	5.509	6.172	48.0	0.129
137.00	0.211	0.370	0.000	0.000	0.000	3.600	3.865	48.0	0.081
140.00	0.203	0.358	0.000	0.000	0.000	2.580	2.851	48.0	0.059
145.00	0.190	0.336	0.000	0.000	0.000	0.775	1.127	48.0	0.023
147.00	0.011	0.016	0.000	0.000	0.000	0.050	0.067	48.0	0.001
148.00	0.000	0.014	0.000	0.000	0.000	0.033	0.041	48.0	0.001

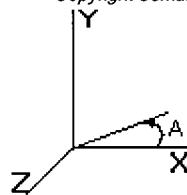
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 Base Elev : 0.000 (ft)  
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**Load Case:** No Ice      80 mph - No Ice

27 Iterations

Gust Response Factor : 1.69      Effective Wind Speed : 80.00 (mph)  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

### Analysis Summary

Load Case	Reactions						Max Stresses			
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Combined Stress (ksi)	Allowable Stress (ksi)	Elev (ft)	Stress Ratio
No Ice	17.910	0.000	20.563	0.000	0.000	1,944.565	46.647	52.0	0.000	0.897
Ice	14.846	0.000	26.391	0.000	0.000	1,673.506	40.337	52.0	0.000	0.776