



Daniel F. Caruso
Chairman

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@ct.gov

Internet: ct.gov/csc

February 18, 2010

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

RE: **EM-VER-002-100107** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 401 Wakelee Drive, Ansonia, Connecticut.

Dear Attorney Baldwin:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

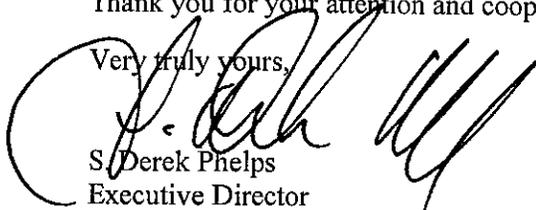
- The coax shall be installed per page 2 of the structural analysis report dated December 1, 2009 and sealed by Raphael Mohamed, P.E.; and
- Not more than 45 days after completion of construction, the Council shall be notified in writing that the coax was installed as specified.

The proposed modifications are to be implemented as specified here and in your notice dated January 7, 2010, including the placement of all necessary equipment and shelters within the tower compound. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

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

Thank you for your attention and cooperation.

Very truly yours,

A handwritten signature in black ink, appearing to read "S. Derek Phelps", written over the typed name and title.

S. Derek Phelps
Executive Director

SDP/MP/laf

- c: The Honorable James T. DellaVolpe, Mayor, City of Ansonia
- Peter Crabtree, Zoning Enforcement Officer, City of Ansonia
- American Tower Corporation

EM-VER-002-100107

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

ORIGINAL

January 7, 2010

Via Hand Delivery

S. Derek Phelps
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051



Re: **Notice of Exempt Modification – Antenna Swap
401 Wakelee Drive, Ansonia, Connecticut**

Dear Mr. Phelps:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains wireless telecommunications antennas at the 178-foot level on the existing 196-foot tower at the above-referenced address. The tower is owned by American Tower Corporation. The Council approved Cellco’s shared use of the existing tower in 2001 in TS-VER-002-010531. Cellco now intends to modify its installation by replacing six of its PCS antennas with three (3) model MG D3-800T0 PCS antennas and three (3) model P65-16-LX-2 LTE (700 MHz) antennas, all at the same 178-foot level on the tower. Attached behind Tab 1 are the specifications for the proposed replacement antennas.



Law Offices

BOSTON

PROVIDENCE

HARTFORD

NEW LONDON

STAMFORD

WHITE PLAINS

NEW YORK CITY

ALBANY

SARASOTA

www.rc.com

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to James Della Volpe, Mayor for the City of Ansonia. The City of Ansonia is the owner of the property on which the tower is located.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in any increase in the overall height of the existing tower. Cellco’s antennas will be located at the same 178-foot level on the existing 196-foot tower.

ROBINSON & COLE^{LLP}

S. Derek Phelps
January 7, 2010
Page 2

2. The proposed modifications will not involve any modifications to ground-mounted equipment and, therefore, will not require the extension of the site boundaries.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more.

4. The operation of the replacement antennas will not increase radio frequency (RF) power density levels at the facility to a level at or above the Federal Communications Commission (FCC) adopted safety standard. A cumulative power density table for Cellco's modified facility is included behind Tab 2.

Also attached is a Structural Analysis Report confirming that the tower and foundation can support Cellco's proposed antennas modification. (See Tab 3).

For the foregoing reasons, Cellco respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,



Kenneth C. Baldwin

Enclosures

Copy to:

James Della Volpe, Mayor for the City of Ansonia
Sandy M. Carter





1710-2170 MHz

Model # MG D3-800TX

XPoI GSM1800+PCS & UMTS Panel Antenna

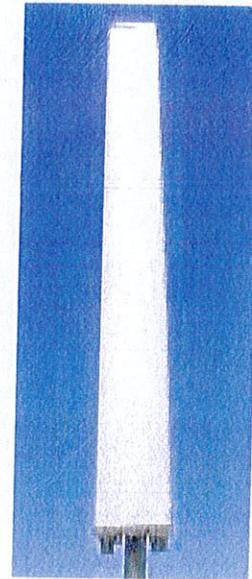
Beamwidth: H 65°/V 6.5°

Gain: 16.15 dBd/18.25 dBi

Length: 52.7 in

Electrical Specifications

Antenna model	MG D3-800TX		
Frequency range (MHz)	1710-1880	1850-1990	1920-2170
Impedance	50 ohms		
VSWR	1.4		
Polarization	±45°		
Isolation between ports (dB)	30		
Average gain (dBd/dBi)	15.7/17.8	15.9/18	16.15/18.25
Horizontal beamwidth (deg)	65°±5°		
Vertical beamwidth (deg)	6.5°±0.5°	6.3°±0.5°	6.3°±0.5°
Electrical tilt (deg)	Fixed 0°-14°		
Upper sidelobe suppression (dB)	18		
Front-to-back ratio (db) @180°±30°	30		
Polarization isolation (dB) @3 dB beamwidth	20		
Maximum power per input (w)	250		
Intermodulation products (dBc)	-150		
Connectors	2 X 7/16 female		
Connector position	Antenna bottom		



Mechanical & Environmental Specifications

Dimensions in (mm)	52.7 x 6.3 x 3.5 (1380 x 160 x 90)
Survival wind speed mph (kph)	124 (200)
Front windload lbs (N) @100 mph/160 kph	74 (335)
Lateral windload lbs (N) @100 mph/160 kph	42 (188)
Antenna weight lbs (kg)	15 (7)
Clamps weight lbs (kg)	7.7 (3.5)
Mast mounting in (cm)	2.0 to 5.3 (50 to 135)
Radome color	Gray
Grounding	All metallic parts DC grounded
Temperature range F (°C)	-67° to 140° (-55 to +60°)
Humidity	100%

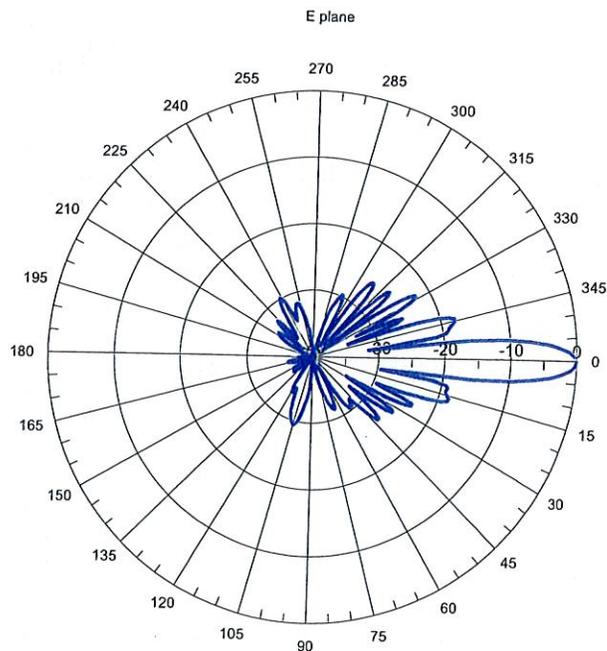
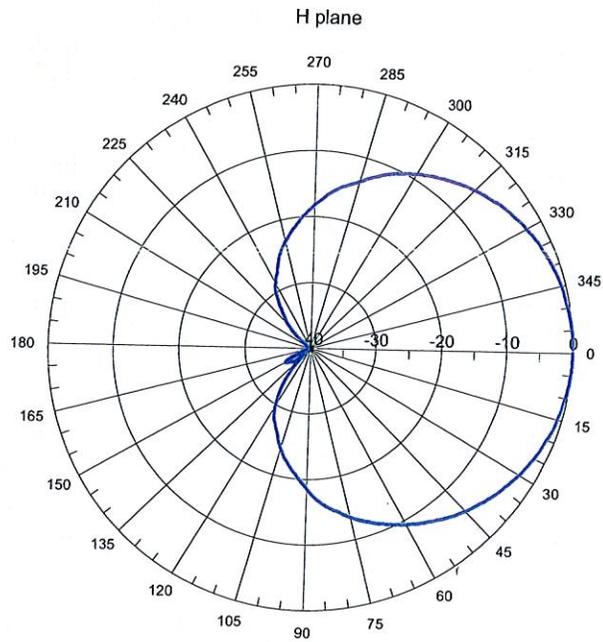
Shipping Specifications

Dimensions in (mm)	64 x 8.8 x 6.9 (1630 x 225 x 175)
Weight lbs (kg)	27 (12.5)
Material	Cardboard and foam

1710-2170 MHz

Model # MG D3-800TX

XPol GSM1800+PCS & UMTS Panel Antenna



P65-16-XL
-2**Very Low Broadband Antennas**

POLARIZATION: Dual linear $\pm 45^\circ$
 FREQUENCY (MHz): 698-894
 HORIZONTAL BEAM WIDTH ($^\circ$): 65
 GAIN (dBi/dBd): 16.0/13.9
 TILT: 2
 LENGTH: 72'

ELECTRICAL SPECIFICATIONS*

	698-806	698-894	806-894
Frequency range (MHz)			
Frequency band (MHz)	698-806		806-894
Gain (dBi/dBd)	15.5/13.4		16.0/13.9
Polarization			
Nominal Impedance (Ω)			
VSWR			
Horizontal beam width, -3 dB ($^\circ$)	68		65
Vertical beam width, -3 dB ($^\circ$)	10.5		9.5
Electrical down tilt ($^\circ$)			
Side lobe suppression, vertical 1st upper (dB)	> 15		> 15
Isolation between inputs (dB)	> 30		> 30
Tracking, horizontal plane $\pm 60^\circ$ (dB)	< 2		< 2
First null fill (dB)	-		-
Vertical beam squint ($^\circ$)	< 0.5		< 0.5
Front to back ratio (dB)	> 30		> 30
Front to back ratio, total power (dB)	> 25		> 25
Cross polar discrimination (XPD) 0° (dB)	> 15	> 15	> 15
Cross polar discrimination (XPD) $\pm 60^\circ$ (dB)	> 10		> 10
Far field coupling			
IM3, 2xTx@43dBm (dBc)	-153		
IM7, 2xTx@43dBm (dBc)			
Power handling, average per input (W)			
Power handling, average total (W)			

MECHANICAL SPECIFICATIONS*

Connector	2 X 7/16 DIN Female
Connector position	Bottom
Dimensions, HxWxD, mm (ft)	72" x 12" x 5" (1829 x 305 x 125)
Mounting	Pre-mounted Tilt Brackets
Weight, with brackets, kg (lbs)	44 (20)
Weight, without brackets, kg (lbs)	33 (15)
Wind load, frontal/lateral/rear side 42 m/s Cd=1.6 (N)	1380
Maximum operational wind speed, m/s (mph)	100 (45)
Survival wind speed, m/s (mph)	125 (55)
Lightning protection	DC Ground
Radome material	PVC
Radome colour	Light Grey
Package size, HxWxD, mm (ft)	82" x 16" x 10" (2082 x 400 x 255)
Shipping weight, kg (lbs)	55 (25)
RET	N/A
Brackets	7256.00, 7454.00, 2210.00

*All specifications subject to change without notice. Please contact your Powerwave representative for complete performance data.

ANTENNA PATTERNS*

For detailed patterns visit <http://www.powerwave.com/rpa/>.



Mixed Sources
www.fsc.org Cert no. SW-COC-00290
© 1996 Forest Stewardship Council



Site Name: Ansonia Tower Height: Verizon @ 178'		General	Power	Density				
CARRIER	# OF CHAN.	WATTS ERP	HEIGHT	CALC. POWER DENS	FREQ.	MAX. PERMISS. EXP.	FRACTION MPE	Total
*Cingular UMTS	1	500	167	0.0064	880	0.5867	1.10%	
*Cingular GSM	8	296	167	0.0305	880	0.5867	5.20%	
*Cingular GSM	2	427	167	0.0110	1900	1.0000	1.10%	
*Pocket	3	631	157	0.0276	2130	1.0000	2.76%	
*Sprint	11	367	188	0.0411	1962.5	1.0000	4.11%	
*Sprint Nextel iDEN	12	100	194	0.0115	851	0.5673	2.02%	
*Sprint Nextel WiMAX	3	562	194	0.0161	2657	1.0000	1.61%	
*T-Mobile GSM	8	144	148	0.0189	1945	1.0000	1.89%	
*T-Mobile UMTS	2	677	148	0.0222	2100	1.0000	2.22%	
Verizon	3	377	178	0.0128	1970	1.0000	1.28%	
Verizon	9	206	178	0.0210	869	0.5793	3.63%	
Verizon	1	639	178	0.0073	757	0.4973	1.46%	
								28.4%
* Source: Siting Council								



MIXED SOURCES
www.fsc.org Cert no. SW-COC-00280
© 1996 Forest Stewardship Council





AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 196 ft Rohn Self Supported Tower
ATC Site Name : Ansonia Wakelee, CT
ATC Site Number : 302470
Proposed Carrier : Verizon
Carrier Site Name : Ansonia, CT
Carrier Site Number : N/A
County : New Haven
Engineering Number : 44271121
Date : December 1, 2009*
Usage : 99% Legs, 99% Diagonals,
17% Horizontals

Submitted by:
David R. Johnson, E. I.
Design Engineer

American Tower Engineering Services
400 Regency Forest Drive
Cary, NC 27518
Phone: 919-468-0112



Introduction

The purpose of this report is to summarize results of the structural analysis performed on the 196 ft Rohn Self Supported Tower located at 401 Wakelee Ave., Ansonia, CT 06401, New Haven County (ATC Site No. 302470). The tower was originally designed and manufactured by Rohn (Drawing No. A991899, dated July 7, 1999).

Analysis

The tower was analyzed using Semaan Engineering Solutions, Inc., Software. The analysis assumes that the tower is in good, undamaged, and non-corroded condition.

Basic Wind Speed: 90 mph (Fastest Mile)
 Radial Ice: 78 mph (Fastest Mile) w/ 1/2" ice
 Code: TIA/EIA-222-F / 2003 IBC Section 1609.1.1, Exception (5) and Section 3108.4 / 2005 CT Supplement & 2008 CT Amendments

Antenna Loads

The following antenna loads were used in the tower analysis.

Existing Antennas

Elev. (ft)	Qty	Antennas	Mount	Coax (in)	Carrier
194.0	9	48" x 12" Panels	(3) Sector Frames	(10) 1 1/4 (6) 1 5/8	Sprint Nextel
	3	72" x 12" Panels			
	3	KMW HB-X-WM-17-65-00T			
	2	DragonWave Horizon Compact	(3) Sector Frames	(6) 5/16 (2) 1/2 (1) 2" Conduit	Clearwire
	3	NextNet BTS-2500			
	2	DragonWave A-ANT-18G-2-C			
3	Argus LLPX310R				
184.0	6	Decibel DB950F65E-M	(3) Sector Frames	(6) 1 5/8	Sprint Nextel
178.0	6	Decibel DB844H90E-XY	(3) Sector Frames	(6) 1 5/8	Verizon
167.0	6	CSS DUO1417-8686	(3) Sector Frames	(12) 1 1/4	AT&T Mobility
	3	Powerwave 7770.00			
	6	14" x 9" TTA			
	3	Powerwave LGP21902			
157.0	3	RFS APXV18-206517-C	Leg	(6) 1 5/8	Youghiogheny

Existing Antennas

Elev. (ft)	Qty	Antennas	Mount	Coax (in)	Carrier
148.0	3	CCI DTMA-1819-DD-12	(3) Sector Frames	(18) 1 5/8	T-Mobile
	3	EMS DR65-18-02DPL2Q			
	3	RFS ATMAA1412D-1A20			
	3	RFS APX16DWV-16DWVS-E-A20			
125.0	2	Motorola PTP54600	Leg	(2) 1/4	City Of Ansonia
104.0	2	2" x 8" GPS	(2) Side Arms	(2) 1/2	Sprint Nextel
82.0	1	10' Omni	Side Arm	(1) 1/2	Ansonia Fire Dept.
76.0	1	2" x 8" GPS	Side Arm	(1) 1/2	Sprint Nextel
12.0	1	Nortel NTGB01MA	Leg	(1) 7/8	Youghiogeny

Proposed Antennas

Elev. (ft)	Qty	Antennas	Mount	Coax (in)	Carrier
178.0	3	Powerwave P65-16-XL-2	(3) Sector Frames	(6) 1 5/8	Verizon
	3	Ryma MGD3-800T0			

Install proposed coax in the same location as the existing.

Results

The maximum structure usage is: 99%

Leg Forces	Original Design Reactions	Current Analysis Reactions	% Of Design
Uplift (Kips)	301.1	319.6	106
Axial (Kips)	343.0	379.6	111
Shear (Kips)	36.3	37.6	104

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Conclusion

Based on the analysis results, the structure meets the requirements per TIA/EIA-222-F and 2003 IBC with 2005 CT Supplements & 2008 CT Amendment standards. The tower and foundation can support the existing and proposed antennas with the TX line distribution as described in this report.

If you have any questions or require additional information, please call 919-463-6281.

Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

- Information supplied by the client regarding the structure itself, the antenna and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to ATC Engineering Services and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated; and we, therefore, assume that their capacity has not significantly changed from the "as new" condition.

All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/EIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Engineering Services is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

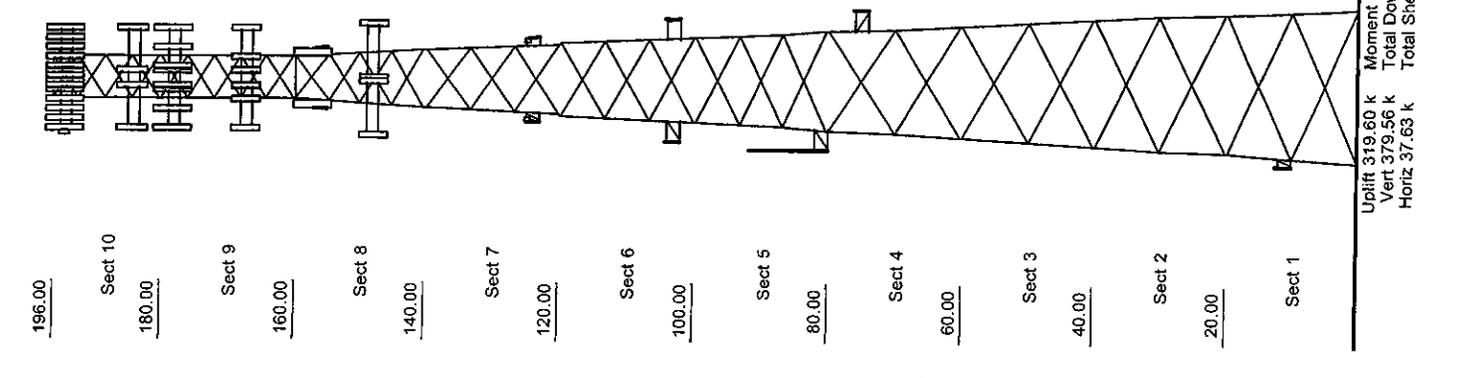
Copyright Semaan Engineering Solutions, Inc
 Loads: 90 mph no ice
 78 mph w/ 1/2" radial ice

Job Information		
Tower : 302470	Location : Ansonia Wakelee, CT	Base Width : 23.00 ft
Code : TIA/EIA-222 Rev F	Shape : Triangle	Top Width : 6.65 ft
Client : Verizon		

Sections Properties			
Section	Leg Members	Diagonal Members	Horizontal Members
1	PX 50ksi	8" DIA PIPE	SAE 50ksi 4X4X0.25
2	PSP 50ksi	ROHN 8 EHS	SAE 50ksi 4X4X0.25
3	PSP 50ksi	ROHN 8 EHS	SAE 50ksi 3.5X3.5X0.25
4	PX 50ksi	6" DIA PIPE	SAE 50ksi 3.5X3.5X0.25
5	PSP 50ksi	ROHN 6 EHS	SAE 50ksi 3X3X0.25
6-7	PX 50ksi	5" DIA PIPE	SAE 36ksi 2.5X2.5X0.25
8	PX 50ksi	4" DIA PIPE	SAE 36ksi 2X2X0.25
9	PX 50ksi	3" DIA PIPE	SAE 36ksi 1.75X1.75X0.1875
10	PST 50ksi	2-1/2" DIA PIPE	SAE 36ksi 1.75X1.75X0.1875

Discrete Appurtenance			
Elev (ft)	Type	Qty	Description
194.00	Panel	3	Argus LLPX310R
194.00	Dish	2	DragonWave A-ANT-18G-2-C
194.00	Panel	3	NextNet BTS-2500
194.00	Panel	2	DragonWave Horizon Compact
194.00	Panel	3	KMW HB-X-WM-17-65-00T
194.00	Mounting Frame	3	Round Sector Frames
194.00	Panel	3	72" x 12" Panels
194.00	Panel	9	48" x 12" Panels
184.00	Mounting Frame	3	Round Sector Frames
184.00	Panel	6	Decibel DB950F65E-M
178.00	Panel	3	Rvmsa MGD3-800T0
178.00	Panel	3	Powerwave P65-16-XL-2
178.00	Mounting Frame	3	Round Sector Frames
178.00	Panel	6	Flat Light Sector Frames
167.00	Panel	3	Decibel DB844H90E-XY
167.00	Mounting Frame	3	Round Sector Frames
167.00	Panel	3	Powerwave LGP21902
167.00	Panel	3	14" x 9" TTA
167.00	Panel	3	Powerwave 7770.00
167.00	Panel	6	CSS DUO1417-8686
157.00	Panel	3	RFS APXV18-206517-C
148.00	Panel	3	RFS APX16DWV-16DWVS-E-A20
148.00	Panel	3	RFS ATMAA1412D-1A20
148.00	Panel	3	EMS DR65-18-02DPL2Q
148.00	Panel	3	CCIDTMA-1819-DD-12
148.00	Mounting Frame	3	Round Sector Frames
125.00	Panel	2	Motorola PTP54600
104.00	Straight Arm	2	Side Arms
104.00	Whip	2	2" x 8" GPS
82.00	Straight Arm	1	Side Arm
82.00	Whip	1	10' Omni
76.00	Straight Arm	1	Side Arm
76.00	Whip	1	2" x 8" GPS
12.00	Whip	1	Nortel NTGB01MA

Linear Appurtenance			
Elev (ft)	From	To	Description
8.000	194.00	6	5/16" Coax
8.000	194.00	1	2" Conduit
8.000	194.00	2	1/2" Coax
8.000	194.00	6	1 5/8" Coax
8.000	194.00	10	1 1/4" Coax
8.000	193.99	1	Wave Guide
8.000	184.00	6	1 5/8" Coax
8.000	183.99	1	Wave Guide
8.000	178.00	12	1 5/8" Coax
8.000	167.00	12	1 1/4" Coax
8.000	166.99	1	Wave Guide

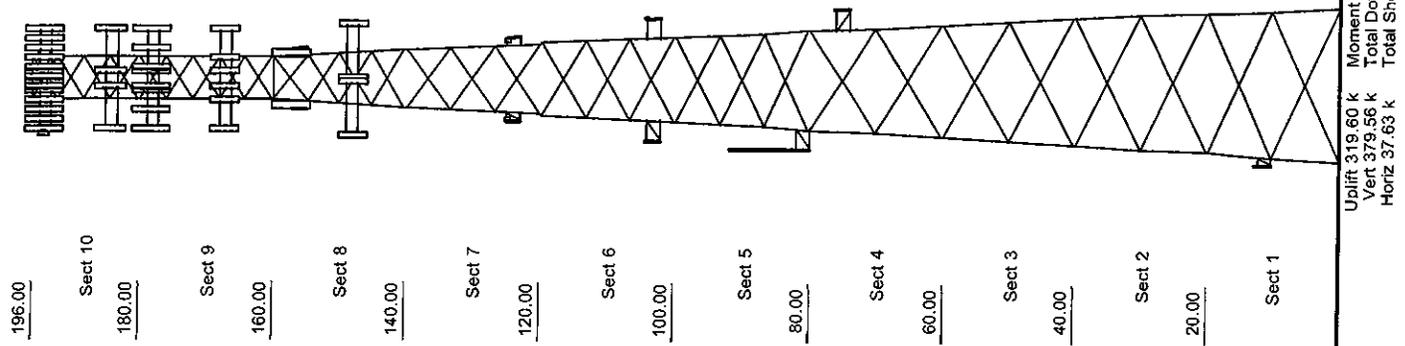


Uplift 319.60 k Moment 7.065.27 ft-k
 Vert 379.56 k Total Down 74.55 k
 Horiz 37.63 k Total Shear 61.61 k

Copyright Semaan Engineering Solutions, Inc

Job Information		
Tower : 302470	Location : Ansonia Wakelee, CT	Base Width : 23.00 ft
Code: TIA/EIA-222 Rev F	Shape : Triangle	Top Width : 6.65 ft
Client: Verizon		

8.000	157.00	6	1 5/8" Coax
8.000	148.00	18	1 5/8" Coax
8.000	147.99	1	Wave Guide
8.000	125.00	2	1/4" Coax
8.000	104.00	2	1/2" Coax
8.000	82.000	1	1/2" Coax
8.000	76.000	1	1/2" Coax
8.000	12.000	1	7/8" Coax



196.00
 Sect 10
 180.00
 Sect 9
 160.00
 Sect 8
 140.00
 Sect 7
 120.00
 Sect 6
 100.00
 Sect 5
 80.00
 Sect 4
 60.00
 Sect 3
 40.00
 Sect 2
 20.00
 Sect 1

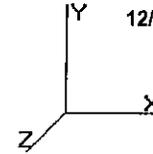
Uplift 319.60 k Moment 7,065.27 ft-k
 Vert 379.56 k Total Down 74.55 k
 Horiz 37.63 k Total Shear 61.61 k

Site Number: 302470
 Location: Ansonia Wakelee, CT

Copyright Semaan Engineering Solutions, Inc

12/1/2009 12:43:26 PM

Code: TIA/EIA-222 Rev F



Gh : 1.12

Section Forces

LoadCase Normal No Ice

90.00 mph Wind Normal To Face with No Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Wind Sect Seq	Height (ft)	qz	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face			
10	188.0	34.09	9.71	26.61	0.00	0.34	2.20	1.00	1.00	0.63	26.45	0.00	0.00	1,040.9	0.0	2,207.30	0.00	2,207.30	3			
9	170.0	33.12	21.42	38.73	0.00	0.45	1.98	1.00	1.00	0.67	47.44	0.00	0.00	2,057.8	0.0	3,467.34	0.00	3,467.34	3			
8	150.0	31.96	22.74	57.93	0.00	0.52	1.88	1.00	1.00	0.71	63.71	0.00	0.00	2,966.5	0.0	4,261.58	0.00	4,261.58	3			
7	130.0	30.68	24.07	85.24	0.00	0.56	1.84	1.00	1.00	0.73	86.17	0.00	0.00	3,669.0	0.0	5,414.16	0.00	5,414.16	3			
6	110.0	29.25	26.24	85.24	0.00	0.47	1.94	1.00	1.00	0.68	84.47	0.00	0.00	3,799.9	0.0	5,346.72	0.00	5,346.72	3			
5	90.00	27.62	32.08	88.79	0.00	0.44	2.00	1.00	1.00	0.67	91.29	0.00	0.00	4,283.1	0.0	5,616.30	0.00	5,616.30	3			
4	70.00	25.71	31.07	88.79	0.00	0.38	2.11	1.00	1.00	0.64	88.11	0.00	0.00	4,580.8	0.0	5,332.86	0.00	5,332.86	3			
3	50.00	23.35	32.91	95.88	0.00	0.36	2.15	1.00	1.00	0.64	93.87	0.00	0.00	5,029.8	0.0	5,256.06	0.00	5,256.06	3			
2	30.00	20.74	38.59	95.88	0.00	0.34	2.20	1.00	1.00	0.63	98.80	0.00	0.00	5,368.7	0.0	5,031.59	0.00	5,031.59	3			
1	10.00	20.74	37.10	68.80	0.00	0.24	2.47	1.00	1.00	0.60	78.35	0.00	0.00	5,454.7	0.0	4,466.41	0.00	4,466.41	3			
														38,251.2	0.0			46,400.32				

LoadCase 60 deg No Ice

90.00 mph Wind at 60 deg From Face with No Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Wind Sect Seq	Height (ft)	qz	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face			
10	188.0	34.09	9.71	26.61	0.00	0.34	2.20	0.80	1.00	0.63	24.51	0.00	0.00	1,040.9	0.0	2,045.19	0.00	2,045.19	3			
9	170.0	33.12	21.42	38.73	0.00	0.45	1.98	0.80	1.00	0.67	43.15	0.00	0.00	2,057.8	0.0	3,154.26	0.00	3,154.26	3			
8	150.0	31.96	22.74	57.93	0.00	0.52	1.88	0.80	1.00	0.71	59.16	0.00	0.00	2,966.5	0.0	3,957.39	0.00	3,957.39	3			
7	130.0	30.68	24.07	85.24	0.00	0.56	1.84	0.80	1.00	0.73	81.35	0.00	0.00	3,669.0	0.0	5,111.67	0.00	5,111.67	3			
6	110.0	29.25	26.24	85.24	0.00	0.47	1.94	0.80	1.00	0.68	79.22	0.00	0.00	3,799.9	0.0	5,014.56	0.00	5,014.56	3			
5	90.00	27.62	32.08	88.79	0.00	0.44	2.00	0.80	1.00	0.67	84.88	0.00	0.00	4,283.1	0.0	5,221.58	0.00	5,221.58	3			
4	70.00	25.71	31.07	88.79	0.00	0.38	2.11	0.80	1.00	0.64	81.90	0.00	0.00	4,580.8	0.0	4,956.81	0.00	4,956.81	3			
3	50.00	23.35	32.91	95.88	0.00	0.36	2.15	0.80	1.00	0.64	87.29	0.00	0.00	5,029.8	0.0	4,887.56	0.00	4,887.56	3			
2	30.00	20.74	38.59	95.88	0.00	0.34	2.20	0.80	1.00	0.63	91.08	0.00	0.00	5,368.7	0.0	4,638.49	0.00	4,638.49	3			
1	10.00	20.74	37.10	68.80	0.00	0.24	2.47	0.80	1.00	0.60	70.93	0.00	0.00	5,454.7	0.0	4,043.44	0.00	4,043.44	3			
														38,251.2	0.0			43,030.95				

LoadCase 90 deg No Ice

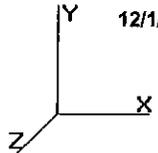
90.00 mph Wind at 90 deg From Face with No Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Wind Sect Seq	Height (ft)	qz	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
10	188.0	34.09	9.71	26.61	0.00	0.34	2.20	0.85	1.00	0.63	24.99	0.00	0.00	1,040.9	0.0	2,085.71	0.00	2,085.71	3

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: TIA/EIA-222 Rev F

Copyright Samaan Engineering Solutions, Inc
 12/1/2009 12:43:26 PM



Gh : 1.12

Section Forces

9	170.0	33.12	21.42	38.73	0.00	0.45	1.98	0.85	1.00	0.67	44.23	0.00	0.00	2,057.8	0.0	3,232.53	0.00	3,232.53	3	
8	150.0	31.96	22.74	57.93	0.00	0.52	1.88	0.85	1.00	0.71	60.30	0.00	0.00	2,966.5	0.0	4,033.44	0.00	4,033.44	3	
7	130.0	30.68	24.07	85.24	0.00	0.56	1.84	0.85	1.00	0.73	82.56	0.00	0.00	3,669.0	0.0	5,187.29	0.00	5,187.29	3	
6	110.0	29.25	26.24	85.24	0.00	0.47	1.94	0.85	1.00	0.68	80.53	0.00	0.00	3,799.9	0.0	5,097.60	0.00	5,097.60	3	
5	90.00	27.62	32.08	88.79	0.00	0.44	2.00	0.85	1.00	0.67	86.48	0.00	0.00	4,283.1	0.0	5,320.26	0.00	5,320.26	3	
4	70.00	25.71	31.07	88.79	0.00	0.38	2.11	0.85	1.00	0.64	83.45	0.00	0.00	4,580.8	0.0	5,050.82	0.00	5,050.82	3	
3	50.00	23.35	32.91	95.88	0.00	0.36	2.15	0.85	1.00	0.64	88.93	0.00	0.00	5,029.8	0.0	4,979.69	0.00	4,979.69	3	
2	30.00	20.74	38.59	95.88	0.00	0.34	2.20	0.85	1.00	0.63	93.01	0.00	0.00	5,368.7	0.0	4,736.77	0.00	4,736.77	3	
1	10.00	20.74	37.10	68.80	0.00	0.24	2.47	0.85	1.00	0.60	72.78	0.00	0.00	5,454.7	0.0	4,149.18	0.00	4,149.18	3	
														38,251.2	0.0			43,873.29		

LoadCase Normal Ice

77.94 mph Wind Normal To Face with Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	Wind qz	Total		Ice		Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Ice		Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face		
			Flat Area (sqft)	Round Area (sqft)	Linear Area (sqft)	Total Weight (lb)							Ice Weight (lb)							
10	188.0	25.57	7.77	43.46	20.06	0.48	1.93	1.00	1.00	0.69	37.64	0.00	0.00	1,904.0	863.1	2,069.07	0.00	2,069.07	3	
9	170.0	24.84	18.92	62.43	28.00	0.60	1.80	1.00	1.00	0.76	66.13	0.00	0.00	3,668.0	1,610.2	3,299.90	0.00	3,299.90	3	
8	150.0	23.97	22.74	94.30	36.37	0.75	1.79	1.00	1.00	0.86	103.74	0.00	0.00	5,164.5	2,198.0	4,959.42	0.00	4,959.42	3	
7	130.0	23.01	24.07	132.81	47.57	0.80	1.82	1.00	1.00	0.90	143.13	0.00	0.00	6,314.4	2,645.4	6,669.06	0.00	6,669.06	3	
6	110.0	21.94	26.24	133.68	48.44	0.68	1.78	1.00	1.00	0.80	133.55	0.00	0.00	6,533.0	2,733.1	5,804.07	0.00	5,804.07	3	
5	90.00	20.71	32.08	138.13	49.34	0.61	1.80	1.00	1.00	0.76	137.36	0.00	0.00	7,255.5	2,972.5	5,698.66	0.00	5,698.66	3	
4	70.00	19.28	31.07	136.69	47.90	0.53	1.87	1.00	1.00	0.71	128.39	0.00	0.00	7,533.1	2,952.3	5,152.34	0.00	5,152.34	3	
3	50.00	17.51	32.91	144.37	48.49	0.49	1.91	1.00	1.00	0.69	133.20	0.00	0.00	8,124.2	3,094.5	4,961.13	0.00	4,961.13	3	
2	30.00	15.55	38.59	144.97	49.09	0.46	1.96	1.00	1.00	0.68	136.87	0.00	0.00	8,630.0	3,261.3	4,646.35	0.00	4,646.35	3	
1	10.00	15.55	37.10	103.17	34.37	0.32	2.25	1.00	1.00	0.62	101.26	0.00	0.00	7,972.5	2,517.8	3,945.18	0.00	3,945.18	3	
														63,099.2	24,848.1			47,205.17		

LoadCase 60 deg Ice

77.94 mph Wind at 60 deg From Face with Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

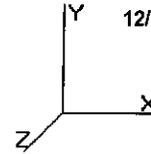
Sect Seq	Wind Height (ft)	Wind qz	Total		Ice		Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Ice		Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face		
			Flat Area (sqft)	Round Area (sqft)	Linear Area (sqft)	Total Weight (lb)							Ice Weight (lb)							
10	188.0	25.57	7.77	43.46	20.06	0.48	1.93	0.80	1.00	0.69	36.08	0.00	0.00	1,904.0	863.1	1,983.64	0.00	1,983.64	3	
9	170.0	24.84	18.92	62.43	28.00	0.60	1.80	0.80	1.00	0.76	62.34	0.00	0.00	3,668.0	1,610.2	3,111.11	0.00	3,111.11	3	
8	150.0	23.97	22.74	94.30	36.37	0.75	1.79	0.80	1.00	0.86	99.19	0.00	0.00	5,164.5	2,198.0	4,742.02	0.00	4,742.02	3	
7	130.0	23.01	24.07	132.81	47.57	0.80	1.82	0.80	1.00	0.90	138.31	0.00	0.00	6,314.4	2,645.4	6,444.74	0.00	6,444.74	3	
6	110.0	21.94	26.24	133.68	48.44	0.68	1.78	0.80	1.00	0.80	128.31	0.00	0.00	6,533.0	2,733.1	5,576.02	0.00	5,576.02	3	
5	90.00	20.71	32.08	138.13	49.34	0.61	1.80	0.80	1.00	0.76	130.94	0.00	0.00	7,255.5	2,972.5	5,432.46	0.00	5,432.46	3	
4	70.00	19.28	31.07	136.69	47.90	0.53	1.87	0.80	1.00	0.71	122.18	0.00	0.00	7,533.1	2,952.3	4,903.00	0.00	4,903.00	3	
3	50.00	17.51	32.91	144.37	48.49	0.49	1.91	0.80	1.00	0.69	126.62	0.00	0.00	8,124.2	3,094.5	4,716.01	0.00	4,716.01	3	
2	30.00	15.55	38.59	144.97	49.09	0.46	1.96	0.80	1.00	0.68	129.15	0.00	0.00	8,630.0	3,261.3	4,384.32	0.00	4,384.32	3	
1	10.00	15.55	37.10	103.17	34.37	0.32	2.25	0.80	1.00	0.62	93.84	0.00	0.00	7,972.5	2,517.8	3,656.10	0.00	3,656.10	3	
														63,099.2	24,848.1			44,949.43		

Site Number: 302470
 Location: Ansonia Wakelee, CT

Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

12/1/2009 12:43:26 PM



Gh : 1.12

Section Forces

LoadCase 90 deg Ice

77.94 mph Wind at 90 deg From Face with Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

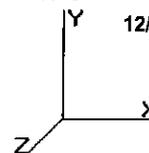
Sect Seq	Wind		Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice		Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face	
	Height (ft)	qz											Total Weight (lb)	Weight Ice (lb)					
10	188.0	25.57	7.77	43.46	20.06	0.48	1.93	0.85	1.00	0.69	36.47	0.00	0.00	1,904.0	863.1	2,005.00	0.00	2,005.00	3
9	170.0	24.84	18.92	62.43	28.00	0.60	1.80	0.85	1.00	0.76	63.29	0.00	0.00	3,668.0	1,610.2	3,158.31	0.00	3,158.31	3
8	150.0	23.97	22.74	94.30	36.37	0.75	1.79	0.85	1.00	0.86	100.33	0.00	0.00	5,164.5	2,198.0	4,796.37	0.00	4,796.37	3
7	130.0	23.01	24.07	132.81	47.57	0.80	1.82	0.85	1.00	0.90	139.52	0.00	0.00	6,314.4	2,645.4	6,500.82	0.00	6,500.82	3
6	110.0	21.94	26.24	133.68	48.44	0.68	1.78	0.85	1.00	0.80	129.62	0.00	0.00	6,533.0	2,733.1	5,633.03	0.00	5,633.03	3
5	90.00	20.71	32.08	138.13	49.34	0.61	1.80	0.85	1.00	0.76	132.54	0.00	0.00	7,255.5	2,972.5	5,499.01	0.00	5,499.01	3
4	70.00	19.28	31.07	136.69	47.90	0.53	1.87	0.85	1.00	0.71	123.73	0.00	0.00	7,533.1	2,952.3	4,965.34	0.00	4,965.34	3
3	50.00	17.51	32.91	144.37	48.49	0.49	1.91	0.85	1.00	0.69	128.27	0.00	0.00	8,124.2	3,094.5	4,777.29	0.00	4,777.29	3
2	30.00	15.55	38.59	144.97	49.09	0.46	1.96	0.85	1.00	0.68	131.08	0.00	0.00	8,630.0	3,261.3	4,449.83	0.00	4,449.83	3
1	10.00	15.55	37.10	103.17	34.37	0.32	2.25	0.85	1.00	0.62	95.69	0.00	0.00	7,972.5	2,517.8	3,728.37	0.00	3,728.37	3
													63,099.2	24,848.1			45,513.37		

Site Number: 302470
 Location: Ansonia Wakelee, CT

Copyright Semaan Engineering Solutions, Inc

12/1/2009 12:43:26 PM

Code: TIA/EIA-222 Rev F



Tower Loading

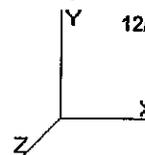
Discrete Appurtenance Properties

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)
194.0	Argus LLPX310R	3	28.60	4.830	0.67	54.50	5.360	0.67	0.000	0.00	0.000
194.0	DragonWave A-ANT-18G-2-C	2	27.10	4.690	0.57	55.10	5.050	0.57	0.000	0.00	0.000
194.0	NextNet BTS-2500	3	35.00	2.120	0.30	48.30	2.430	0.30	0.000	0.00	0.000
194.0	DragonWave Horizon	2	10.60	0.430	0.30	17.00	0.580	0.30	0.000	0.00	0.000
194.0	KMW HB-X-WM-17-65-00T	3	15.90	0.650	0.30	20.84	1.040	0.30	0.000	0.00	0.000
194.0	Round Sector Frames	3	300.00	14.400	0.75	415.00	19.200	0.75	0.000	0.00	0.000
194.0	72" x 12" Panels	3	40.00	8.400	0.67	87.00	9.230	0.67	0.000	0.00	0.000
194.0	48" x 12" Panels	9	30.00	5.600	0.67	63.00	6.190	0.67	0.000	0.00	0.000
184.0	Round Sector Frames	3	300.00	14.400	0.75	415.00	19.200	0.75	0.000	0.00	0.000
184.0	Decibel DB950F65E-M	6	16.00	4.430	0.75	56.10	7.000	0.75	0.000	0.00	0.000
178.0	Rymsa MGD3-800T0	3	19.80	3.450	0.78	39.87	3.980	0.78	0.000	0.00	0.000
178.0	Powerwave P65-16-XL-2	3	33.00	8.400	0.75	77.50	9.220	0.75	0.000	0.00	0.000
178.0	Flat Light Sector Frames	3	400.00	17.900	0.75	510.00	22.200	0.75	0.000	0.00	0.000
178.0	Decibel DB844H90E-XY	6	10.00	3.060	0.80	36.27	3.410	0.80	0.000	0.00	0.000
167.0	Round Sector Frames	3	300.00	14.400	0.75	415.00	19.200	0.75	0.000	0.00	0.000
167.0	Powerwave LGP21902	3	5.50	0.270	0.30	14.00	0.400	0.30	0.000	0.00	0.000
167.0	14" x 9" TTA	6	10.00	1.230	0.30	18.00	1.460	0.30	0.000	0.00	0.000
167.0	Powerwave 7770.00	3	35.00	5.941	0.75	67.75	6.597	0.75	0.000	0.00	0.000
167.0	CSS DUO1417-8686	6	42.50	6.590	0.82	85.01	7.204	0.82	0.000	0.00	0.000
157.0	RFS APXV18-206517-C	3	26.40	5.170	0.78	53.13	5.850	0.78	0.000	0.00	0.000
148.0	RFS APX16DWV-16DWVS-E-	3	40.70	7.220	0.68	75.00	7.910	0.68	0.000	0.00	0.000
148.0	RFS ATMAA1412D-1A20	3	13.00	1.170	0.30	20.60	1.390	0.30	0.000	0.00	0.000
148.0	EMS DR65-18-02DPL2Q	3	24.00	6.300	0.72	55.86	6.951	0.72	0.000	0.00	0.000
148.0	CCI DTMA-1819-DD-12	3	14.30	0.710	0.30	19.30	0.900	0.30	0.000	0.00	0.000
148.0	Round Sector Frames	3	300.00	14.400	0.75	415.00	19.200	0.75	0.000	0.00	0.000
125.0	Motorola PTP54600	2	12.10	2.040	0.80	23.50	2.330	0.80	0.000	0.00	0.000
104.0	Side Arms	2	200.00	2.000	0.80	260.00	3.000	0.80	0.000	0.00	0.000
104.0	2" x 8" GPS	2	0.26	0.160	0.90	11.59	10.000	0.90	0.000	0.00	0.000
82.00	Side Arm	1	200.00	2.000	1.00	260.00	3.000	1.00	0.000	0.00	0.000
82.00	10' Omni	1	10.00	3.000	1.00	25.00	4.000	1.00	0.000	0.00	5.000
76.00	Side Arm	1	200.00	2.000	1.00	260.00	3.000	1.00	0.000	0.00	0.000
76.00	2" x 8" GPS	1	0.26	0.160	1.00	11.59	10.000	1.00	0.000	0.00	0.000
12.00	Nortel NTGB01MA	1	10.00	0.090	1.00	11.25	0.150	1.00	0.000	0.00	0.335
Totals		102	7454.98			11452.38			Number of Appurtenances : 33		

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Wind	Spread On Faces	Bundling Arrangement
8.00	194.0	1 1/4" Coax	10	1.55	0.63	60.00	3	Separate
8.00	194.0	1 5/8" Coax	6	1.98	0.82	50.00	3	Separate
8.00	194.0	1/2" Coax	2	0.63	0.15	100.00	2	Separate
8.00	194.0	2" Conduit	1	2.38	3.65	100.00	2	Separate
8.00	194.0	5/16" Coax	6	0.32	0.04	0.00	2	Separate
8.00	193.9	Wave Guide	1	1.00	5.00	100.00	3	Separate
8.00	184.0	1 5/8" Coax	6	1.98	0.82	100.00	2	Separate
8.00	183.9	Wave Guide	1	1.75	5.00	100.00	2	Separate

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: TIA/EIA-222 Rev F



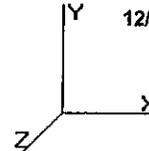
Tower Loading

8.00	178.0	1 5/8" Coax	12	1.98	0.82	25.00	3	Flat
8.00	167.0	1 1/4" Coax	12	1.55	0.63	75.00	1	Flat
8.00	166.9	Wave Guide	1	1.75	5.00	100.00	1	Separate
8.00	157.0	1 5/8" Coax	6	1.98	0.82	100.00	1	Separate
8.00	148.0	1 5/8" Coax	18	1.98	0.82	66.60	3	Separate
8.00	147.9	Wave Guide	1	1.75	5.00	0.00	3	Separate
8.00	125.0	1/4" Coax	2	0.34	0.06	100.00	1	Separate
8.00	104.0	1/2" Coax	2	0.63	0.15	0.00	3	Separate
8.00	82.00	1/2" Coax	1	0.63	0.15	100.00	1	Separate
8.00	76.00	1/2" Coax	1	0.63	0.15	100.00	2	Separate
8.00	12.00	7/8" Coax	1	1.09	0.33	0.00	1	Separate

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

12/1/2009 12:43:26 PM



Force/Stress Summary

Section: 1 15N25 Bot Elev (ft): 0.00 Height (ft): 20.000

Max Compression Member	Force		Len (ft)	Bracing %				Fa (ksi)	Member			Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
	(kip)	Load Case		X	Y	Z	KL/R		Cap (kip)	Num Bolts	Num Holes				
LEG PX - 8" DIA PIPE	-372.77	Normal Ice	9.85	100	100	100	41.0	34.2	438.31	0	0	0.00	0.00	85	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 4X4X0.25	-12.12	90 deg Ice	23.63	50	75	50	178.3	6.3	12.14	1	1	12.37	19.50	99	Member Z

Max Tension Member	Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	320.93	60 deg No Ice	50	511.95	0	0	0.00	0.00	62	Member
HORIZ	0.00		0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 4X4X0.25	11.58	90 deg Ice	50	56.95	1	1	12.37	19.50	93	Bolt Shear

Max Splice Forces	Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension	293.86	60 deg Ice	0.00	0		
Top Compression	348.11	Normal Ice	0.00	0		
Bot Tension	321.78	60 deg Ice	431.96	74	10	1" A354-BC
Bot Compression	380.39	Normal Ice	0.00	0		

Section: 2 14N46 Bot Elev (ft): 20.00 Height (ft): 20.000

Max Compression Member	Force		Len (ft)	Bracing %				Fa (ksi)	Member			Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
	(kip)	Load Case		X	Y	Z	KL/R		Cap (kip)	Num Bolts	Num Holes				
LEG PSP - ROHN 8 EHS	-338.01	Normal Ice	9.85	100	100	100	40.3	34.4	339.28	0	0	0.00	0.00	99	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 4X4X0.25	-11.22	90 deg Ice	21.80	50	75	50	164.5	7.4	14.27	1	1	12.37	19.50	90	Bolt Shear

Max Tension Member	Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG PSP - ROHN 8 EHS	293.69	60 deg No Ice	50	394.76	0	0	0.00	0.00	74	Member
HORIZ	0.00		0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 4X4X0.25	10.99	90 deg Ice	50	56.95	1	1	12.37	19.50	88	Bolt Shear

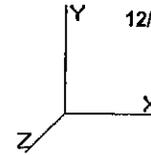
Max Splice Forces	Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension	264.13	60 deg Ice	0.00	0		
Top Compression	311.68	Normal Ice	0.00	0		
Bot Tension	293.86	60 deg Ice	368.60	80	8	1 A325
Bot Compression	348.11	Normal Ice	0.00	0		

Site Number: 302470
 Location: Ansonia Wakelee, CT

Copyright Semaan Engineering Solutions, Inc

12/1/2009 12:43:26 PM

Code: TIA/EIA-222 Rev F



Force/Stress Summary

Section: 3 13N88 Bot Elev (ft): 40.00 Height (ft): 20.000

Max Compression Member	Force (kip)	Load Case	Len (ft)	Bracing %			Fa (ksi)	Member			Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
				X	Y	Z		KL/R	Cap (kip)	Num Bolts				
LEG PSP - ROHN 8 EHS	-300.85	Normal Ice	9.85	100	100	100	40.3	34.4	339.28	0	0	0.00	0.00	88 Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG SAE - 3.5X3.5X0.25	-10.19	90 deg Ice	20.88	50	75	50	180.6	6.1	10.32	1	1	12.37	19.50	98 Member Z

Max Tension Member	Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG PSP - ROHN 8 EHS	264.82	60 deg Ice	50	394.76	0	0	0.00	0.00	67	Member
HORIZ	0.00		0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3.5X3.5X0.25	10.25	90 deg Ice	50	48.83	1	1	12.37	19.50	82	Bolt Shear

Max Splice Forces	Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension	233.52	60 deg No Ice	0.00	0		
Top Compression	273.48	Normal Ice	0.00	0		
Bot Tension	264.13	60 deg Ice	368.60	72	8	1 A325
Bot Compression	311.68	Normal Ice	0.00	0		

Section: 4 12N50 Bot Elev (ft): 60.00 Height (ft): 20.000

Max Compression Member	Force (kip)	Load Case	Len (ft)	Bracing %			Fa (ksi)	Member			Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
				X	Y	Z		KL/R	Cap (kip)	Num Bolts				
LEG PX - 6" DIA PIPE	-262.43	Normal Ice	9.85	100	100	100	53.9	31.6	265.86	0	0	0.00	0.00	98 Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG SAE - 3.5X3.5X0.25	-10.27	90 deg Ice	18.27	50	75	50	158.0	8.0	13.48	1	1	12.37	19.50	83 Bolt Shear

Max Tension Member	Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG PX - 6" DIA PIPE	233.91	60 deg No Ice	50	335.97	0	0	0.00	0.00	69	Member
HORIZ	0.00		0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3.5X3.5X0.25	9.84	90 deg Ice	50	48.83	1	1	12.37	19.50	79	Bolt Shear

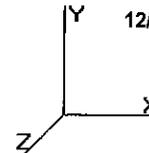
Max Splice Forces	Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension	201.96	60 deg No Ice	0.00	0		
Top Compression	233.59	Normal Ice	0.00	0		
Bot Tension	233.52	60 deg No Ice	368.60	63	8	1 A325
Bot Compression	273.48	Normal Ice	0.00	0		

Site Number: 302470
 Location: Ansonia Wakelee, CT

Copyright Semaan Engineering Solutions, Inc

12/1/2009 12:43:26 PM

Code: TIA/EIA-222 Rev F



Force/Stress Summary

Section: 5 11N223 Bot Elev (ft): 80.00 Height (ft): 20.000

	Force (kip)	Load Case	Len (ft)	Bracing %				Fa (ksi)	Member		Shear Bear		Use %	Controls
				X	Y	Z	KL/R		Cap (kip)	Num Bolts	Cap (kip)	Cap (kip)		
Max Compression Member														
LEG PSP - ROHN 6 EHS	-225.29	Normal Ice	6.57	100	100	100	35.4	35.3	236.69	0	0	0.00	0.00	95 Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG SAE - 3X3X0.25	-8.58	90 deg Ice	15.94	50	75	50	161.6	7.6	10.98	1	1	12.37	19.50	78 Member Z

	Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG PSP - ROHN 6 EHS	202.31	60 deg No Ice	50	268.37	0	0	0.00	0.00	75	Member
HORIZ	0.00		0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3X3X0.25	8.55	90 deg Ice	50	40.70	1	1	12.37	19.50	69	Bolt Shear

	Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension	169.35	60 deg No Ice	0.00	0		
Top Compression	192.32	Normal Ice	0.00	0		
Bot Tension	201.96	60 deg No Ice	276.45	73	6	1 A325
Bot Compression	233.59	Normal Ice	0.00	0		

Section: 6 10N152 Bot Elev (ft): 100.0 Height (ft): 20.000

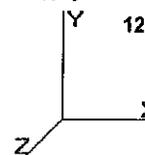
	Force (kip)	Load Case	Len (ft)	Bracing %				Fa (ksi)	Member		Shear Bear		Use %	Controls
				X	Y	Z	KL/R		Cap (kip)	Num Bolts	Cap (kip)	Cap (kip)		
Max Compression Member														
LEG PX - 5" DIA PIPE	-184.06	Normal Ice	6.57	100	100	100	42.8	33.9	207.14	0	0	0.00	0.00	88 Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG SAE - 2.5X2.5X0.25	-7.91	90 deg Ice	14.11	50	75	50	172.5	6.7	7.96	1	1	8.53	14.50	99 Member Z

	Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG PX - 5" DIA PIPE	169.61	60 deg No Ice	50	244.38	0	0	0.00	0.00	69	Member
HORIZ	0.00		0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 2.5X2.5X0.25	7.73	90 deg Ice	36	29.52	1	1	8.53	14.50	90	Bolt Shear

	Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension	135.10	60 deg No Ice	0.00	0		
Top Compression	150.60	Normal No Ice	0.00	0		
Bot Tension	169.35	60 deg No Ice	276.45	61	6	1 A325
Bot Compression	192.32	Normal Ice	0.00	0		

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: TIA/EIA-222 Rev F

12/1/2009 12:43:26 PM



Force/Stress Summary

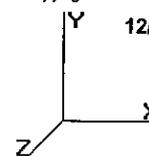
Section: 7		9N216		Bot Elev (ft): 120.0				Height (ft): 20.000								
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fa (ksi)	Member Cap (kip)		Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	PX - 5" DIA PIPE	-142.95	Normal No Ice	6.57	100	100	100	42.8	33.9	207.14	0	0	0.00	0.00	69	Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 2.5X2.5X0.25	-7.29	90 deg Ice	11.24	50	75	50	137.5	10.5	12.54	1	1	8.53	14.50	85	Bolt Shear
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls					
LEG	PX - 5" DIA PIPE	135.33	60 deg No Ice	50	244.38	0	0	0.00	0.00	55	Member					
HORIZ		0.00		0	0.00	0	0	0.00	0.00	0						
DIAG	SAE - 2.5X2.5X0.25	7.11	90 deg Ice	36	29.52	1	1	8.53	14.50	83	Bolt Shear					
Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type									
Top Tension		97.57	60 deg No Ice	0.00	0											
Top Compression		109.06	Normal No Ice	0.00	0											
Bot Tension		135.10	60 deg No Ice	184.30	73	4	1 A325									
Bot Compression		150.60	Normal No Ice	0.00	0											
Section: 8		A780252		Bot Elev (ft): 140.0				Height (ft): 20.000								
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fa (ksi)	Member Cap (kip)		Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	PX - 4" DIA PIPE	-102.94	Normal No Ice	4.93	100	100	100	39.9	34.5	151.93	0	0	0.00	0.00	67	Member X
HORIZ	SAE - 2X2X0.25	-0.35	60 deg Ice	6.760	100	100	100	207.5	4.6	4.35	1	1	8.53	14.50	8	Member Z
DIAG	SAE - 2X2X0.25	-5.94	90 deg No Ice	9.841	50	75	50	151.0	8.7	8.21	1	1	8.53	14.50	72	Member Z
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls					
LEG	PX - 4" DIA PIPE	97.79	60 deg No Ice	50	176.38	0	0	0.00	0.00	55	Member					
HORIZ	SAE - 2X2X0.25	0.22	Normal No Ice	36	22.27	1	1	8.53	14.50	2	Bolt Shear					
DIAG	SAE - 2X2X0.25	5.89	90 deg No Ice	36	22.27	1	1	8.53	14.50	68	Bolt Shear					
Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type									
Top Tension		57.56	60 deg No Ice	0.00	0											
Top Compression		64.71	Normal No Ice	0.00	0											
Bot Tension		97.57	60 deg No Ice	184.30	53	4	1 A325									
Bot Compression		109.06	Normal No Ice	0.00	0											

Site Number: 302470
 Location: Ansonia Wakelee, CT

Copyright Semaan Engineering Solutions, Inc

12/1/2009 12:43:26 PM

Code: TIA/EIA-222 Rev F



Force/Stress Summary

Section: 9 A780178 Bot Elev (ft): 160.0 Height (ft): 20.000

Max Compression Member	Force (kip)	Load Case	Len (ft)	Bracing %				Fa (ksi)	Member				Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
				X	Y	Z	KL/R		Cap (kip)	Num Bolts	Num Holes					
LEG PX - 3" DIA PIPE	-57.88	Normal No Ice	3.93	100	100	100	41.4	34.2	103.21	0	0	0.00	0.00	56	Member X	
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0		
DIAG SAE - 2X2X0.1875	-6.70	90 deg No Ice	7.816	50	75	50	119.3	13.8	9.90	1	1	8.53	10.87	78	Bolt Shear	

Max Tension Member	Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG PX - 3" DIA PIPE	57.29	60 deg No Ice	50	120.79	0	0	0.00	0.00	47	Member
HORIZ	0.00		0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 2X2X0.1875	6.62	90 deg No Ice	36	17.00	1	1	8.53	10.87	77	Bolt Shear

Max Splice Forces	Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension	11.05	60 deg No Ice	0.00	0		
Top Compression	13.77	Normal No Ice	0.00	0		
Bot Tension	57.56	60 deg No Ice	141.11	41	4	7/8 A325
Bot Compression	64.71	Normal No Ice	0.00	0		

Section: 10 A780178 Bot Elev (ft): 180.0 Height (ft): 16.000

Max Compression Member	Force (kip)	Load Case	Len (ft)	Bracing %				Fa (ksi)	Member				Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
				X	Y	Z	KL/R		Cap (kip)	Num Bolts	Num Holes					
LEG PST - 2-1/2" DIA PIP	-13.68	Normal No Ice	0.17	100	100	100	2.1	39.8	67.84	0	0	0.00	0.00	20	Member X	
HORIZ SAE - 1.75X1.75X0.18	-0.41	Normal No Ice	6.655	100	100	100	232.8	3.7	2.28	1	1	8.53	10.87	17	Member Z	
DIAG SAE - 1.75X1.75X0.18	-3.02	90 deg No Ice	7.778	50	75	50	136.1	10.8	6.68	1	1	8.53	10.87	45	Member Z	

Max Tension Member	Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG PST - 2-1/2" DIA PIP	11.15	60 deg No Ice	50	68.15	0	0	0.00	0.00	16	Member
HORIZ SAE - 1.75X1.75X0.18	0.41	60 deg No Ice	36	14.27	1	1	8.53	10.87	4	Bolt Shear
DIAG SAE - 1.75X1.75X0.18	3.02	90 deg No Ice	36	14.27	1	1	8.53	10.87	35	Bolt Shear

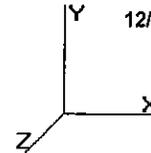
Max Splice Forces	Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension	0.00		0.00	0		
Top Compression	0.12	60 deg Ice	0.00	0		
Bot Tension	11.05	60 deg No Ice	103.67	11	4	3/4 A325
Bot Compression	13.77	Normal No Ice	0.00	0		

Site Number: 302470
 Location: Ansonia Wakelee, CT

Copyright Semaan Engineering Solutions, Inc

12/1/2009 12:43:26 PM

Code: TIA/EIA-222 Rev F



Support Forces Summary

Load Case	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
90 deg Ice	1b	-29.72	-275.66	-14.75	
	1a	-26.12	325.35	12.79	
	1	-4.07	24.86	1.96	
60 deg Ice	1b	-32.59	-319.60	-18.81	
	1a	-15.39	197.06	4.93	
	1	-3.43	197.09	-15.79	
Normal Ice	1b	-15.81	-152.50	-13.43	
	1a	15.81	-152.50	-13.43	
	1	0.00	379.56	-34.75	
90 deg No Ice	1b	-26.65	-277.68	-12.94	
	1a	-28.05	308.14	13.87	
	1	-4.13	15.24	-0.93	
60 deg No Ice	1b	-29.27	-319.15	-16.90	
	1a	-17.49	182.41	6.11	
	1	-3.46	182.44	-18.20	
Normal No Ice	1b	-13.13	-159.68	-12.02	
	1a	13.13	-159.68	-12.02	
	1	0.00	365.07	-37.33	

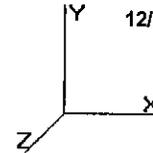
Max Uplift:	319.60 (kip)	Moment:	7,065.27 (ft-kip)	Normal Ice
Max Down:	379.56 (kip)	Total Down:	74.55 (kip)	
Max Shear:	37.63 (kip)	Total Shear:	61.61 (kip)	

Site Number: 302470
 Location: Ansonia Wakelee, CT

Copyright Semaan Engineering Solutions, Inc

12/1/2009 12:43:26 PM

Code: TIA/EIA-222 Rev F



Deflections and Rotations

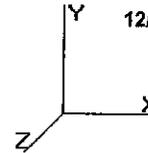
Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
77.94 mph Wind Normal To Face with Ice	10.00	0.0095	0.0031	0.0731
	79.83	0.3018	0.0177	0.4662
	80.17	0.3045	0.0177	0.4682
	106.72	0.5517	0.0243	0.6229
	126.72	0.7963	0.0293	0.7577
	150.00	1.1407	0.0347	0.9378
	154.92	1.2214	0.0354	0.9551
	168.03	1.4566	0.0382	1.0777
	179.83	1.6821	0.0378	1.1936
	184.13	1.7658	0.0382	1.0969
192.04	1.9199	0.0383	1.1151	
77.94 mph Wind at 60 deg From Face with Ice	10.00	0.0123	0.0032	0.0757
	79.83	0.2956	0.0210	0.4535
	80.17	0.2983	0.0211	0.4551
	106.72	0.5394	0.0276	0.6079
	126.72	0.7781	0.0325	0.7402
	150.00	1.1140	0.0380	0.9172
	154.92	1.1937	0.0384	0.9341
	168.03	1.4229	0.0414	1.0553
	179.83	1.6437	0.0420	1.1687
	184.13	1.7258	0.0414	1.0745
192.04	1.8764	0.0413	1.0927	
77.94 mph Wind at 90 deg From Face with Ice	10.00	0.0115	0.0020	0.0749
	79.83	0.2970	0.0139	0.4534
	80.17	0.2997	0.0139	0.4548
	106.72	0.5422	0.0177	0.6118
	126.72	0.7823	0.0206	0.7444
	150.00	1.1203	0.0238	0.9201
	154.92	1.2002	0.0239	0.9426
	168.03	1.4309	0.0257	1.0628
	179.83	1.6529	0.0263	1.1631
	184.13	1.7354	0.0257	1.0820
192.04	1.8869	0.0256	1.1010	
90.00 mph Wind Normal To Face with No Ice	10.00	0.0093	0.0030	0.0686
	79.83	0.2974	0.0170	0.4577
	80.17	0.3002	0.0170	0.4598
	106.72	0.5444	0.0235	0.6182
	126.72	0.7878	0.0285	0.7586
	150.00	1.1339	0.0339	0.9492
	154.92	1.2162	0.0346	0.9682
	168.03	1.4552	0.0375	1.0999
	179.83	1.6856	0.0370	1.2220
	184.13	1.7712	0.0375	1.1207
192.04	1.9289	0.0376	1.1406	
90.00 mph Wind at 60 deg From Face with No Ice	10.00	0.0086	0.0031	0.0650
	79.83	0.2851	0.0200	0.4379
	80.17	0.2877	0.0201	0.4395
	106.72	0.5229	0.0264	0.5951

Site Number: 302470
Location: Ansonia Wakelee, CT

Copyright Semaan Engineering Solutions, Inc

12/1/2009 12:43:26 PM

Code: TIA/EIA-222 Rev F



90.00 mph Wind at 90 deg From Face with No Ice

126.72	0.7577	0.0313	0.7316
150.00	1.0918	0.0368	0.9172
154.92	1.1716	0.0372	0.9355
168.03	1.4022	0.0403	1.0647
179.83	1.6251	0.0409	1.1834
184.13	1.7082	0.0403	1.0853
192.04	1.8605	0.0402	1.1049
10.00	0.0082	0.0020	0.0656
79.83	0.2877	0.0133	0.4399
80.17	0.2904	0.0134	0.4413
106.72	0.5278	0.0171	0.6010
126.72	0.7648	0.0199	0.7382
150.00	1.1020	0.0232	0.9227
154.92	1.1823	0.0233	0.9472
168.03	1.4151	0.0251	1.0755
179.83	1.6399	0.0257	1.1805
184.13	1.7235	0.0251	1.0959
192.04	1.8773	0.0251	1.1165
	0.0000	0.0000	0.0000

Site Name: Ansonia Wakelee, CT
 Site Number: 302470
 Engineer: DRJ
 Date: 12/1/2009
 Tower Type: SST w/3 Legs

Program Last Updated: 7/13/2009
 American Tower Corporation

Design Loads (Unfactored)

Foundation Mapped:	N		
Compression/Leg:	379.6 k	Concrete Strength (f'_c):	3000 psi
Uplift/Leg:	319.6 k	Pad Tension Steel Depth:	44 in
Total Shear:	61.6 k	Wind Load Factor:	1.3
Moment:	7065.3 k-ft	ϕ_{Shear} :	0.75
Tower + Appurtenance Weight:	74.2 k	$\phi_{\text{Flexure / Tension}}$:	0.90
Diameter of Pier (d):	32.5 ft	$\phi_{\text{Compression}}$:	0.65
Length of Pier (l):	0.0 ft	β :	0.85
Height of Pier above Ground (h):	0.5	Pad Rebar Size #:	9
Width of Pad (W):	32.5 ft	# of Bottom Pad Rebar:	33
Length of Pad (L):	32.5 ft	Pad Bottom Steel Area:	33.00 in ²
Thickness of Pad (t):	4.0 ft	Pad Steel F_y :	60000 psi
Tower Leg Center to Center:	0.0 ft	# of Top Pad Rebar:	33
Number of Tower Legs:	3.0 (1 if MP or GT)	Pad Top Steel Area:	33.00 in ²
Tower Center from Mat Center:	0.0 ft		
Depth Below Ground Surface to Water Table:	9.0 ft		
Unit Weight of Concrete:	150.0 pcf		
Unit Weight of Soil Above Water Table:	125.0 pcf		
Unit Weight of Water:	62.4 pcf		
Unit Weight of Soil Below Water Table:	67.5 pcf		
Friction Angle of Uplift:	15.0 Degrees		
Ultimate Coefficient of Shear Friction:	0.50		
Allowable Compressive Bearing Pressure:	7000.0 psf		
Ultimate Passive Pressure on Pad Face:	0.0 psf		
Allowable Capacity Increase:	1.33		

Overturning Factor of Safety

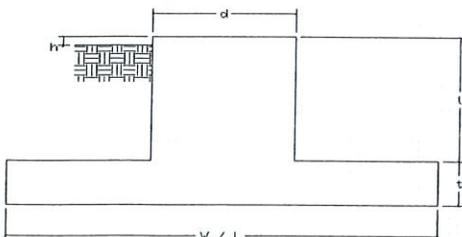
Design OTM: 7311.7 k-ft
 OTM Resistance: 13177.7 k-ft
 OTM Resistance / Design OTM Factor of Safety: 1.80 Result: OK

Soil Bearing Pressure Usage:

Total Weight (Foundation, Soil, Tower): 797.5 k
 Maximum Bearing Pressure: 3016 psf
 Net Bearing Pressure: 2579 psf
 Allowable Bearing Pressure: 9310 psf
 Net Bearing Pressure/Allowable Bearing Pressure: 0.28 Result: OK

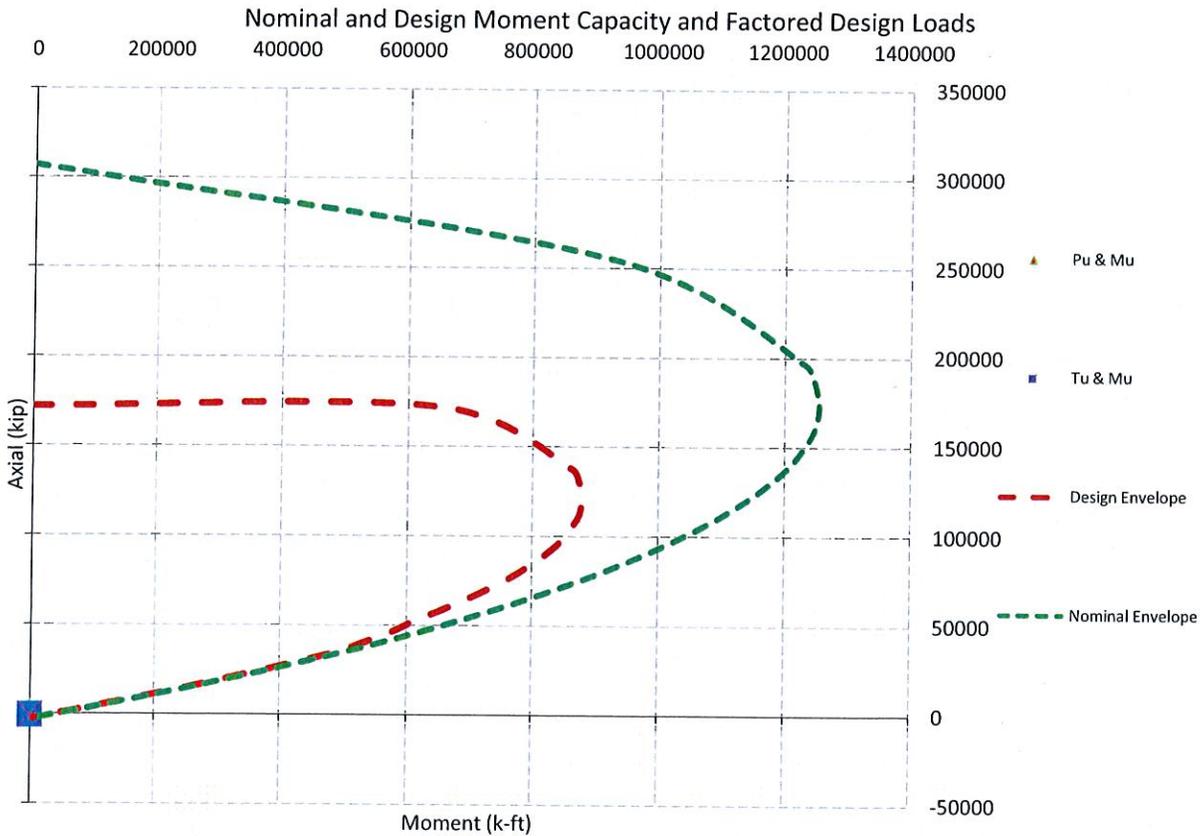
Sliding Factor of Safety

Total Ultimate Sliding Resistance: 398.7 k
 Sliding Resistance/Sliding Design Factor of Safety: 6.47 Result: OK



One Way Shear, Flexural Capacity, and Punching Shear

Factored One Way Shear (V_u):	0.0 k
One Way Shear Capacity (ϕV_c):	1409.8 k - ACI11.3.1.1
$V_u / \phi V_c$:	0.00 Result: OK
Lower Pad Steel Factored Moment (M_u):	0.0 k-ft
Lower Steel Pad Moment Capacity (ϕM_n):	6408.3 k-ft - ACI10.3
$M_u / \phi M_n$:	0.00 Result: OK
Upper Steel Pad Factored Moment (M_u):	7.5 k-ft
Upper Steel Pad Moment Capacity (ϕM_n):	6408.3 k-ft
$M_u / \phi M_n$:	0.00 Result: OK
Lower Pad Flexural Reinforcement Ratio:	0.0019 OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Upper Pad Flexural Reinforcement Ratio:	0.0019 OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Lower Pad Reinforcement Spacing:	12 in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Upper Pad Reinforcement Spacing:	12 in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Factored Punching Shear (V_u):	415.5 k
Nominal Punching Shear Capacity ($\phi_c V_n$):	8110.0 k - ACI11.12.2.1
$V_u / \phi V_c$:	0.05 Result: OK





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@ct.gov
www.ct.gov/csc

January 19, 2010

The Honorable James T. DellaVolpe
Mayor
City of Ansonia
City Hall
253 Main Street
Ansonia, CT 06401-1866

RE: **EM-VER-002-100107** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 401 Wakelee Drive, Ansonia, Connecticut.

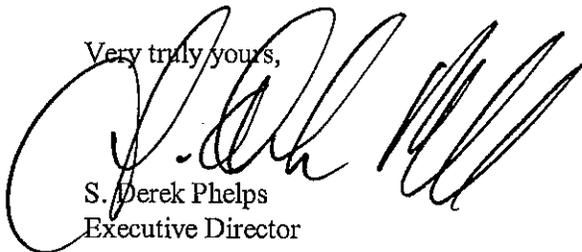
Dear Mayor DellaVolpe:

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

If you have any questions or comments regarding this proposal, please call me or inform the Council by February 2, 2010.

Thank you for your cooperation and consideration.

Very truly yours,



S. Derek Phelps
Executive Director

SDP/jbw

Enclosure: Notice of Intent

c: Peter Crabtree, Zoning Enforcement Officer, City of Ansonia



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@ct.gov

www.ct.gov/csc

March 28, 2011

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103

RE: **EM-VER-002-100107** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 401 Wakelee Avenue, Ansonia, Connecticut. Modification of Previous Acknowledgment.

Dear Attorney Baldwin:

In addition to the Connecticut Siting Council (Council) acknowledgement dated February 18, 2010 (filing dated January 7, 2010), the Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- Any deviation from the proposed modification as specified in this notice and supporting materials with Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Not less than 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated January 7, 2011. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,

Linda Roberts
Executive Director

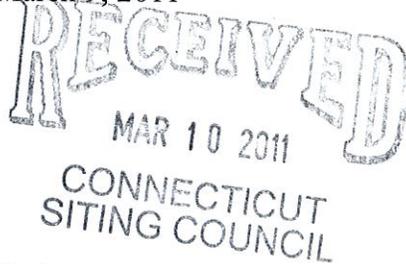
LR/CDM/laf

c: The Honorable James T. DellaVolpe, Mayor, City of Ansonia
Peter Crabtree, Zoning Enforcement Officer, City of Ansonia
American Tower Corporation

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

ORIGINAL

March 9, 2011



Michael Perrone
Siting Analyst
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Cellco Partnership d/b/a Verizon Wireless**
EM-VER-002-100107 – 401 Wakelee Avenue, Ansonia, Connecticut

Dear Mr. Perrone:

On February 18, 2010, the Siting Council acknowledged receipt of Cellco's notice of intent to modify the above-referenced telecommunications facility. This modification involved the removal of six (6) PCS antennas and installation of three (3) newer model PCS antennas and three (3) new LTE antennas.

In addition to the antenna modifications, Cellco now intends to install six (6) coax cable diplexers on its antenna mounting platform. Attached to this letter is an updated Structural Analysis Report for the previously approved antenna modifications including the coax diplexers and a copy of the diplexer specifications. This analysis confirms that the tower can support all of Cellco's proposed modifications.

If you have any questions regarding any of these materials, please do not hesitate to contact me or Rachel Mayo.

Sincerely,

A handwritten signature in blue ink, appearing to read "Kenneth C. Baldwin".

Kenneth C. Baldwin

Attachment

Copy to:

Sandy M. Carter
Brian Ragozzine
Mark Gauger



Law Offices

BOSTON

PROVIDENCE

HARTFORD

NEW LONDON

STAMFORD

WHITE PLAINS

NEW YORK CITY

ALBANY

SARASOTA

www.rc.com

10953757-v1



ShareLite Wideband Diplexer – In-line 698-960 MHz/1710-2200 MHz, DC pass in high frequency path

Product Description

The ShareLite FD9R6004 Series of diplexers are designed to enable feeder sharing between systems in the 698-960 MHz range and in the 1710-2200 MHz range. The diplexer is equipped with in-line connector placement so it can be installed in the BTS cabinet or at the tower top. This is especially valuable in crowded sites or when the feeders are not easily accessible. Due to its wideband design, the FD9R6004 Series can accommodate many combining solutions between 698-960 MHz and 1710-2200 MHz systems such as LTE 700 MHz, Cellular 800 MHz with PCS, GSM900 with GSM1800, or GSM900 with UMTS. This diplexer features a highly selective filter. It provides a high level of isolation between ports, while keeping the insertion loss on both paths at an extremely low level. The FD9R6004 diplexers are available with various DC pass options, helpful in configurations with or without the Tower Mount Amplifiers installed.



Features/Benefits

- LTE ready design
- Extremely Low Insertion Loss
- High level of Rejection between bands – Protection against interferences
- Extremely High Power Handling Capability
- Integrated DC block/bypass versions available
- Very compact & small size design – Easy installation and reduced tower load
- In-line long-neck connectors for easy connection & waterproofing
- Exceptional reliability & environmental protection (IP 67)
- Equipped with 1 * Breathable Vent – Prevent any humidity inside the product
- Mounting hardware for Wall and Pole mount provided (P/N SEM2-1A)
- Grounding already provided through the mounting bracket
- Kit available for easy dual mount

Technical Specifications

Product Type	Diplexer/Cross Band Coupler
Frequency Band, MHz	698-2200
Configuration	Sharelite Single diplexer, outdoor, DC pass in the 1710-2170MHz path, with mounting hardware SEM2-1A
Mounting	Wall Mounting: With 4 screws (maximum 6mm diameter); Pole Mounting: With included clamp set 40-110mm (1.57-4.33)
Frequency Range Low Frequency Path, MHz	698-960
Frequency Range High Frequency Path, MHz	1710-2200
Return Loss All Ports Min/Typ, dB	19/23
Power Handling Continuous, Max, W	1250 at common port; 750 in low frequency path & 500 in high frequency path
Power Handling Peak, Max, W	15000 in low frequency path & 8000 in high frequency path
Impedance, Ohms	50
Insertion Loss 698-960 MHz Path, Typ, dB	0.07
Insertion Loss 1710-2200MHz path, Typ, dB	0.13
Rejection Between Bands Min/Typ, dB	58/64@698-960MHz; 60/70@1710-2200MHz
IMP Level at the COM Port, Typ, dBm	-112 @ 2x43
DC Pass in Low Frequency Path	No
DC Pass in High Frequency Path	Yes
Temperature Range, °C (°F)	-40 to +60 (-40 to +140)
Environmental	ETSI 300-019-2-4 Class 4.1E
Ingress Protection	IP 67
Lightning Protection	EN/IEC61000-4-5 Level 4
Connectors	In-line long-neck 7-16-Female
Weight, kg (lb)	1.2 (2.6)
Shipping Weight, kg (lb)	3.2 (7) for 2 * single units in 1 * box, 9.8 (21.6) for 6 * units = 3 * Boxes in 1 * overwrap
Application	LTE 700MHz, GSM900/3G/UMTS, GSM900/GSM1800, Cellular 800/PCS
Dimensions, H x W x D, mm (in)	147 x 164 x 37 (5.8 x 6.5 x 1.5)
Shipping Dimensions, H x W x D, mm (in)	254 x 406 x 82 (10 x 16 x 3.2) for 2 * Single Units in 1 * box, 280 x 406 x 241 (11 x 16 x 9.5) for 6 * units = 3 * Boxes in 1 * overwrap
Volume, L	0.43
Housing	Aluminum

Notes

RFS The Clear Choice ®

FD9R6004/2C-3L

Rev: --

Print Date: 16.02.2011

Please visit us on the internet at <http://www.rfsworld.com/>

Radio Frequency Systems



ShareLite Wideband Diplexer – In-line 698-960 MHz/1710-2200 MHz, DC pass in high frequency path

Selection Guide Diplexer 698-960 / 1710-2200MHz					
	Model Number	Full DC Pass	DC Pass High Band	DC Pass Low Band	Mounting Hardware Included
Single	FD9R6004/1C-3L				X
	FD9R6004/2C-3L				X
	FD9R6004/3C-3L				X
Dual	KIT-FD9R6004/1C-DL				X
	KIT-FD9R6004/2C-DL				X
	KIT-FD9R6004/3C-DL				X



The FD9R6004 Series is upgradeable to a Dual Diplexer kit by means of 2 diplexers and mounting hardware kits SEM2-1A and SEM2-3

Mounting Hardware and Ground Cable Ordering Information		
Model Number	Description	
SEM2-1A	Mounting Hardware, Pole mount ø40-110mm (Included with the Single and Dual Diplexer) Wall Screws M6 (Not included with the product)	
SEM2-3	Assembly kit for 2 pcs of FT9DWxC-3L (Can be ordered separately but included with the Dual Diplexer Kit)	
CA020-2	Ground Cable, 2m, includes lugs (Optional)	
CA030-2	Ground Cable, 2m, includes lugs (Optional)	
SEM6	Mounting Hardware for 6 Diplexers, Tower Base (Optional)	

All information contained in the present datasheet is subject to confirmation at time of ordering



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 196 ft Rohn Self Supported Tower
ATC Site Name : Ansonia Wakelee, CT
ATC Site Number : 302470
Proposed Carrier : Verizon
Carrier Site Name : Ansonia, CT
Carrier Site Number : N/A
County : New Haven
Eng. Number : 46474021
Date : February 18, 2011*
Usage : 86% Legs, 96% Diagonals,
11% Horizontals

Submitted by:
David R. Johnson, E.I.
Design Engineer

American Tower Engineering Services
400 Regency Forest Drive
Cary, NC 27518
Phone: 919-466-5013



2/22/11

Introduction

The purpose of this report is to summarize results of the structural analysis performed on the 196 ft Rohn Self Supported Tower located at 401 Wakelee Ave., Ansonia, CT 06401, New Haven County (ATC Site No. 302470). The tower was originally designed and manufactured by Rohn (Drawing No. A991899, dated July 7, 1999).

Analysis

The tower was analyzed using Semaan Engineering Solutions, Inc., Software.

Basic Wind Speed: 105 mph (3-Second Gust)
 Radial Ice: 50 mph (3-Second Gust) w/ 1 1/2" ice
 Code: TIA-222-G / 2003 IBC / 2005 & 2008 CT Supplement

Antenna Loads

The following antenna loads were used in the tower analysis.

Existing Antennas

Elev. (ft)	Qty	Antennas	Mount	Coax (in)	Carrier	
194.0	9	48" x 12" Panels	(3) Sector Frames	(10) 1 1/4 (6) 1 5/8	Sprint Nextel	
	3	72" x 12" Panels				
	3	KMW KMDAPS2050000				
	184.0	2	DragonWave Horizon Compact	(3) Sector Frames	(1) 2" Conduit (6) 5/16 (2) 1/2	Clearwire
		3	NextNet BTS-2500			
		2	DragonWave A-ANT-18G-2-C			
		3	Argus LLPX310R			
178.0	6	Decibel DB950F65E-M	(3) Sector Frames	(6) 1 5/8	Sprint Nextel	
	6	Decibel DB844H90E-XY				
	3	Powerwave P65-16-XL-2				
167.0	3	Rymsa MGD3-800T0	(3) Sector Frames	(12) 1 5/8	Verizon	
	6	CSS DUO1417-8686				
	3	Powerwave 7770.00				
	6	14" x 9" TTA				
	3	Powerwave LGP21902				
157.0	3	RFS APXV18-206517-C	Flush	(6) 1 5/8	Youghiogheny	
148.0	3	EMS DR65-18-02DPL2Q	(3) Sector Frames	(18) 1 5/8	T-Mobile	
	3	RFS ATMAA1412D-1A20				
	3	RFS APX16DWV-16DWVS-E-A20				
	3	CCI DTMA-1819-DD-12				
125.0	2	Motorola PTP54600		(2) 1/4	City Of Ansonia	
104.0	2	2" x 8" GPS	(2) Side Arms	(2) 1/2	Sprint Nextel	
82.0	1	10' Omni	Side Arm	(1) 1/2	Ansonia Fire Dept.	
76.0	1	2" x 8" GPS	Side Arm	(1) 1/2	Sprint Nextel	
12.0	1	Nortel NTGB01MA	Leg	(1) 7/8	Youghiogheny	

Proposed Antennas

Elev. (ft)	Qty	Antennas	Mount	Coax (in)	Carrier
178.0	6	RFS FD9R6004/1C-3L	(3) Sector Frames	--	Verizon

Results

The maximum structure usage is: 96 %

Leg Forces	Original Design Reactions	Factored Design Reactions*	Current Analysis Reactions	% Of Design
Uplift (Kips)	301.1	406.5	321.4	79
Axial (Kips)	343.0	463.1	381.5	82
Shear (Kips)	36.3	49.0	37.8	77

* The design reactions are factored by 1.35 per TIA-222-G, Sec. 15.5.1

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

The structure's foundation and anchor bolts also have sufficient strength to resist the base reactions from the analysis. Factor of safety exceeding two was noted for the baseplate and anchor bolts.

Conclusion

Based on the analysis results, the structure meets the requirements per TIA-222-G and 2003 IBC with 2005 CT Supplements & 2008 CT Amendment standards. The tower and foundation can support the existing and proposed antennas with the TX line distribution as described in this report.

If you have any questions or require additional information, please call 919-466-5013.

Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

- Information supplied by the client regarding the structure itself, the antenna and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

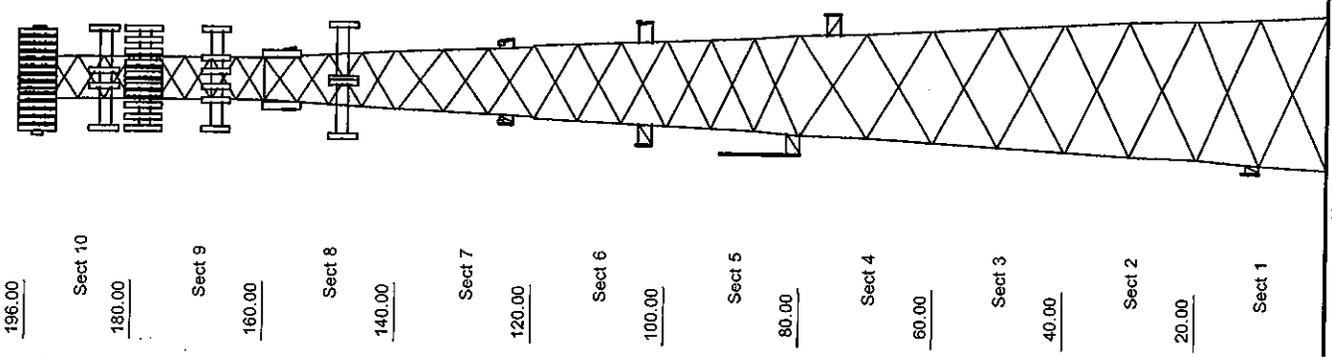
It is the responsibility of the client to ensure that the information provided to ATC Engineering Services and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/EIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Engineering Services is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

Job Information
 Tower : 302470 Location : Ansonia Wakelee, CT
 Code: ANSI/TIA-222 Rev G Shape : Triangle Base Width : 23.00 ft
 Client: Verizon Top Width : 6.65 ft

Copyright Semaar Engineering Solutions, Inc
 Loads: 105 mph no ice
 50 mph w/ 1"1/4 radial ice
 60 mph Serviceability



Sections Properties			
Section	Leg Members	Diagonal Members	Horizontal Members
1	PX 50ksi	8" DIA PIPE	SAE 50ksi 4X4X0.25
2	PSP 50ksi	ROHN 8 EHS	SAE 50ksi 4X4X0.25
3	PSP 50ksi	ROHN 8 EHS	SAE 50ksi 3.5X3.5X0.25
4	PX 50ksi	6" DIA PIPE	SAE 50ksi 3.5X3.5X0.25
5	PSP 50ksi	ROHN 6 EHS	SAE 50ksi 3X3X0.25
6-7	PX 50ksi	5" DIA PIPE	SAE 36ksi 2.5X2.5X0.25
8	PX 50ksi	4" DIA PIPE	SAE 36ksi 2X2X0.25
9	PX 50ksi	3" DIA PIPE	SAE 36ksi 1.75X1.75X0.1875
10	PST 50ksi	2-1/2" DIA PIPE	SAE 36ksi 1.75X1.75X0.1875 SAE 36ksi 2X2X0.25 SAE 36ksi 1.75X1.75X0.1875

Discrete Appurtenance			
Elev (ft)	Type	Qty	Description
194.00	Panel	3	Argus LLPX310R
194.00	Dish	2	DragonWave A-ANT-18G-2-C
194.00	Panel	2	NextNet BTS-2500
194.00	Panel	2	DragonWave Horizon Compact
194.00	Panel	3	KMW KMDAPS2050000
194.00	Mounting Frame	3	Round Sector Frames
194.00	Panel	3	72" x 12" Panels
194.00	Panel	9	48" x 12" Panels
184.00	Mounting Frame	6	Round Sector Frames
178.00	Panel	3	Decibel DB950F65E-M
178.00	Panel	3	Rmisa MGD3-80070
178.00	Panel	3	Powerwave P65-16-XL-2
178.00	Mounting Frame	3	Flat Light Sector Frames
178.00	Panel	6	RFS FD9R6004/1C-3L
178.00	Panel	6	Decibel DB844H90E-XY
167.00	Mounting Frame	3	Round Sector Frames
167.00	Panel	3	Powerwave LGP21902
167.00	Panel	3	14" x 9" TTA
167.00	Panel	3	Powerwave 7770.00
167.00	Panel	6	CSS DUO1417-8686
157.00	Panel	3	RFS APXV18-206517-C
148.00	Panel	3	RFS APX16DWV-16DWVS-E-A20
148.00	Panel	3	RFS ATMAA1412D-1A20
148.00	Panel	3	EMS DR6S-18-02DPL2Q
148.00	Mounting Frame	3	CCI DTMA-1819-DD-12
125.00	Panel	3	Round Sector Frames
104.00	Straight Arm	2	Motorola PTP54600
104.00	Whip	2	Side Arms
82.00	Straight Arm	1	2" x 8" GPS
82.00	Whip	1	Side Arm
76.00	Straight Arm	1	10" Omni
76.00	Whip	1	Side Arm
12.00	Whip	1	2" x 8" GPS
		1	Nortel NTGB01MA

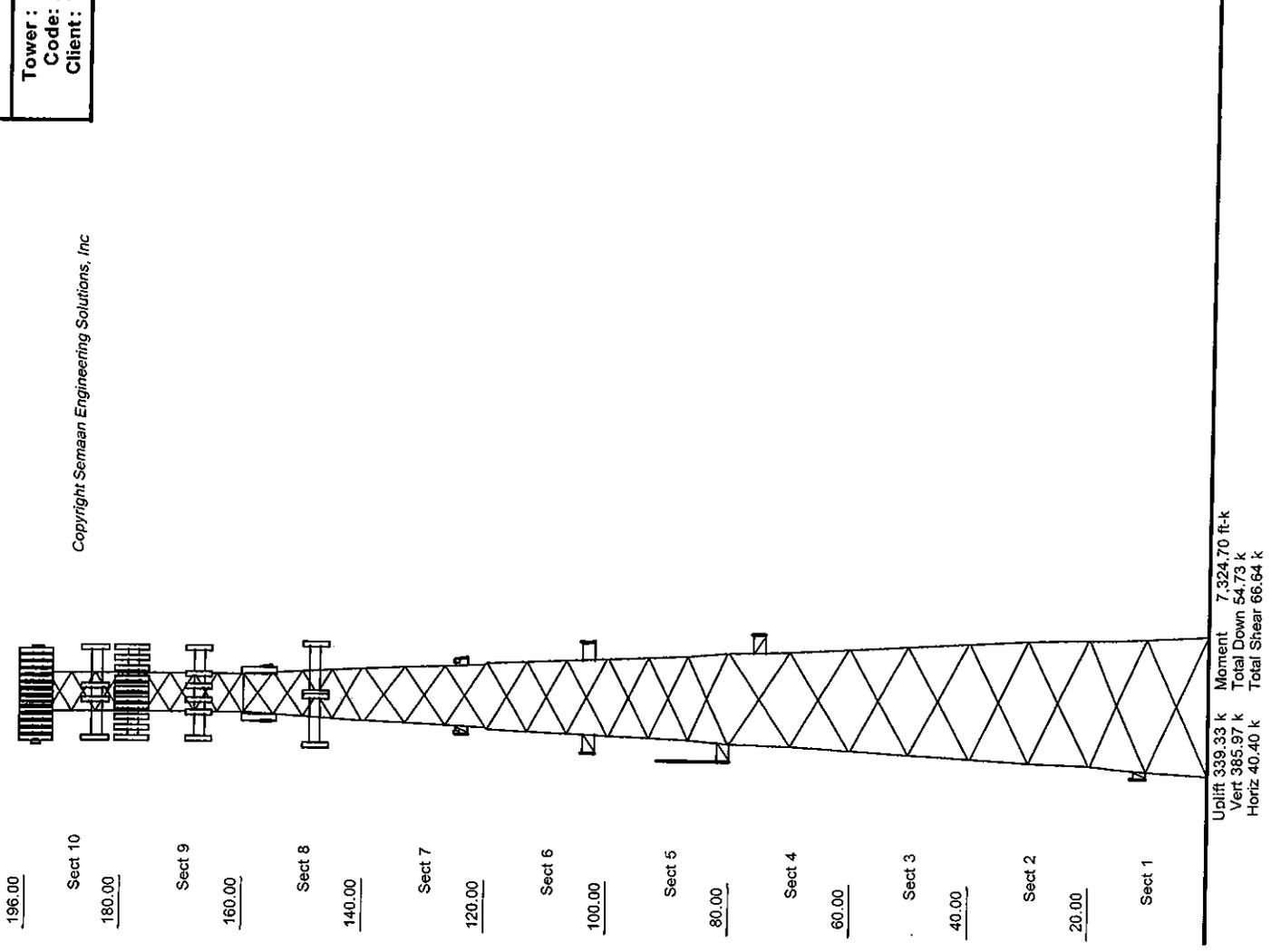
Linear Appurtenance			
Elev (ft)	From	To	Description
8,000	194.00	6	5/16" Coax
8,000	194.00	1	2" Conduit
8,000	194.00	2	1/2" Coax
8,000	194.00	6	1 5/8" Coax
8,000	194.00	10	1 1/4" Coax
8,000	193.99	1	Wave Guide
8,000	184.00	6	1 5/8" Coax
8,000	183.99	1	Wave Guide
8,000	178.00	12	1 5/8" Coax
8,000	167.00	12	1 1/4" Coax

Uplift 339.33 k Moment 7,324.70 ft-k
 Vert 385.97 k Total Down 54.73 k
 Horiz 40.40 k Total Shear 66.64 k

Copyright Semaan Engineering Solutions, Inc

Job Information		
Tower : 302470	Location : Ansonia Wakelee, CT	Base Width : 23.00 ft
Code: ANSI/TIA-222 Rev G	Shape : Triangle	Top Width : 6.65 ft
Client: Verizon		

8.000	166.99	1	Wave Guide
8.000	157.00	6	1 5/8" Coax
8.000	148.00	18	1 5/8" Coax
8.000	147.99	1	Wave Guide
8.000	125.00	2	1/4" Coax
8.000	104.00	2	1/2" Coax
8.000	82.000	1	1/2" Coax
8.000	76.000	1	1/2" Coax
8.000	12.000	1	7/8" Coax

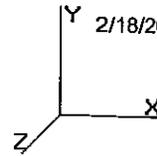


196.00
 Sect 10
 180.00
 Sect 9
 160.00
 Sect 8
 140.00
 Sect 7
 120.00
 Sect 6
 100.00
 Sect 5
 80.00
 Sect 4
 60.00
 Sect 3
 40.00
 Sect 2
 20.00
 Sect 1

Uplift 339.33 k Moment 7,324,70 ft-k
 Vert 385.97 k Total Down 54.73 k
 Horiz 40.40 k Total Shear 66.64 k

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure : B
 Topo : 1

Copyright Semaan Engineering Solutions, Inc



Section Forces

LoadCase 1.2D + 1.6W Normal

105.00 mph Normal to Face with No Ice

Gust Response Factor : 0.85
 Dead Load Factor : 1.20
 Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Sect Seq	Wind Height (ft)	qz	Total Flat	Total Round	Ice Round	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Area (sqft)	Area (sqft)	Area (sqft)													
10	188.0	9.27	9.71	7.67	0.00	0.16	2.75	0.85	1.00	0.00	12.61	27.73	0.00	1,040.9	0.0	272.94	189.20	462.13
9	170.0	9.01	12.51	11.67	0.00	0.17	2.69	0.85	1.00	0.00	17.28	79.60	0.00	2,057.8	0.0	356.23	510.82	867.05
8	150.0	8.69	12.84	15.03	0.00	0.17	2.70	0.85	1.00	0.00	19.48	132.84	0.00	2,966.5	0.0	387.95	804.52	1,192.47
7	130.0	8.34	14.17	18.58	0.00	0.16	2.74	0.85	1.00	0.00	22.61	155.67	0.00	3,669.0	0.0	438.84	917.58	1,356.41
6	110.0	7.96	16.34	18.58	0.00	0.14	2.80	0.85	1.00	0.00	24.41	156.53	0.00	3,799.9	0.0	462.47	879.01	1,341.48
5	90.00	7.51	22.18	22.12	0.00	0.15	2.76	0.85	1.00	0.00	28.16	156.63	0.00	4,283.1	0.0	495.88	830.51	1,326.39
4	70.00	6.99	21.17	22.12	0.00	0.13	2.84	0.85	1.00	0.00	30.51	158.42	0.00	4,580.8	0.0	515.00	780.60	1,295.60
3	50.00	6.35	23.01	29.22	0.00	0.14	2.81	0.85	1.00	0.00	31.64	158.63	0.00	5,029.8	0.0	479.72	709.87	1,189.59
2	30.00	5.49	28.69	29.22	0.00	0.14	2.81	0.85	1.00	0.00	36.48	158.63	0.00	5,368.7	0.0	477.92	613.47	1,091.39
1	10.00	5.48	31.16	28.80	0.00	0.13	2.84	0.85	1.00	0.00	38.29	95.54	0.00	5,454.7	0.0	506.55	368.99	875.55
														38,251.2	0.0			

LoadCase 1.2D + 1.6W 60 deg

105.00 mph 60 deg with No Ice

Gust Response Factor : 0.85
 Dead Load Factor : 1.20
 Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Sect Seq	Wind Height (ft)	qz	Total Flat	Total Round	Ice Round	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Area (sqft)	Area (sqft)	Area (sqft)													
10	188.0	9.27	9.71	7.67	0.00	0.16	2.75	0.85	1.00	0.00	12.61	27.73	0.00	1,040.9	0.0	272.94	189.20	462.13
9	170.0	9.01	12.51	11.67	0.00	0.17	2.69	0.85	1.00	0.00	17.28	79.60	0.00	2,057.8	0.0	356.23	510.82	867.05
8	150.0	8.69	12.84	15.03	0.00	0.17	2.70	0.85	1.00	0.00	19.48	132.84	0.00	2,966.5	0.0	387.95	804.52	1,192.47
7	130.0	8.34	14.17	18.58	0.00	0.16	2.74	0.85	1.00	0.00	22.61	155.67	0.00	3,669.0	0.0	438.84	917.58	1,356.41
6	110.0	7.96	16.34	18.58	0.00	0.14	2.80	0.85	1.00	0.00	24.41	156.53	0.00	3,799.9	0.0	462.47	879.01	1,341.48
5	90.00	7.51	22.18	22.12	0.00	0.15	2.76	0.85	1.00	0.00	28.16	156.63	0.00	4,283.1	0.0	495.88	830.51	1,326.39
4	70.00	6.99	21.17	22.12	0.00	0.13	2.84	0.85	1.00	0.00	30.51	158.42	0.00	4,580.8	0.0	515.00	780.60	1,295.60
3	50.00	6.35	23.01	29.22	0.00	0.14	2.81	0.85	1.00	0.00	31.64	158.63	0.00	5,029.8	0.0	479.72	709.87	1,189.59
2	30.00	5.49	28.69	29.22	0.00	0.14	2.81	0.85	1.00	0.00	36.48	158.63	0.00	5,368.7	0.0	477.92	613.47	1,091.39
1	10.00	5.48	31.16	28.80	0.00	0.13	2.84	0.85	1.00	0.00	38.29	95.54	0.00	5,454.7	0.0	506.55	368.99	875.55
														38,251.2	0.0			

LoadCase 1.2D + 1.6W 90 deg

105.00 mph 90 deg with No Ice

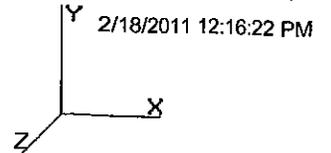
Gust Response Factor : 0.85
 Dead Load Factor : 1.20
 Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Sect Seq	Wind Height (ft)	qz	Total Flat	Total Round	Ice Round	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Area (sqft)	Area (sqft)	Area (sqft)													
10	188.0	9.27	9.71	7.67	0.00	0.16	2.75	0.85	1.00	0.00	12.61	27.73	0.00	1,040.9	0.0	272.94	189.20	462.13

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure : B
 Topo : 1

Copyright Semaan Engineering Solutions, Inc



Section Forces

9	170.0	9.01	12.51	11.67	0.00	0.17	2.69	0.85	1.00	0.00	17.28	79.60	0.00	2,057.8	0.0	356.23	510.82	867.05
8	150.0	8.69	12.84	15.03	0.00	0.17	2.70	0.85	1.00	0.00	19.48	132.84	0.00	2,966.5	0.0	387.95	804.52	1,192.47
7	130.0	8.34	14.17	18.58	0.00	0.16	2.74	0.85	1.00	0.00	22.61	155.67	0.00	3,669.0	0.0	438.84	917.58	1,356.41
6	110.0	7.96	16.34	18.58	0.00	0.14	2.80	0.85	1.00	0.00	24.41	156.53	0.00	3,799.9	0.0	462.47	879.01	1,341.48
5	90.00	7.51	22.18	22.12	0.00	0.15	2.76	0.85	1.00	0.00	28.16	156.63	0.00	4,283.1	0.0	495.88	830.51	1,326.39
4	70.00	6.99	21.17	22.12	0.00	0.13	2.84	0.85	1.00	0.00	30.51	158.42	0.00	4,580.8	0.0	515.00	780.60	1,295.60
3	50.00	6.35	23.01	29.22	0.00	0.14	2.81	0.85	1.00	0.00	31.64	158.63	0.00	5,029.8	0.0	479.72	709.87	1,189.59
2	30.00	5.49	28.69	29.22	0.00	0.14	2.81	0.85	1.00	0.00	36.48	158.63	0.00	5,368.7	0.0	477.92	613.47	1,091.39
1	10.00	5.48	31.16	28.80	0.00	0.13	2.84	0.85	1.00	0.00	38.29	95.54	0.00	5,454.7	0.0	506.55	368.99	875.55
														38,251.2	0.0	10,998.06		

LoadCase 0.9D + 1.6W Normal

105.00 mph Normal to Face with No Ice (Reduced DL)

Gust Response Factor : 0.85
 Dead Load Factor : 0.90
 Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Wind Sect Seq	Wind Height (ft)	qz	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
10	188.0	9.27	9.71	7.67	0.00	0.16	2.75	0.85	1.00	0.00	12.61	27.73	0.00	1,040.9	0.0	272.94	189.20	462.13
9	170.0	9.01	12.51	11.67	0.00	0.17	2.69	0.85	1.00	0.00	17.28	79.60	0.00	2,057.8	0.0	356.23	510.82	867.05
8	150.0	8.69	12.84	15.03	0.00	0.17	2.70	0.85	1.00	0.00	19.48	132.84	0.00	2,966.5	0.0	387.95	804.52	1,192.47
7	130.0	8.34	14.17	18.58	0.00	0.16	2.74	0.85	1.00	0.00	22.61	155.67	0.00	3,669.0	0.0	438.84	917.58	1,356.41
6	110.0	7.96	16.34	18.58	0.00	0.14	2.80	0.85	1.00	0.00	24.41	156.53	0.00	3,799.9	0.0	462.47	879.01	1,341.48
5	90.00	7.51	22.18	22.12	0.00	0.15	2.76	0.85	1.00	0.00	28.16	156.63	0.00	4,283.1	0.0	495.88	830.51	1,326.39
4	70.00	6.99	21.17	22.12	0.00	0.13	2.84	0.85	1.00	0.00	30.51	158.42	0.00	4,580.8	0.0	515.00	780.60	1,295.60
3	50.00	6.35	23.01	29.22	0.00	0.14	2.81	0.85	1.00	0.00	31.64	158.63	0.00	5,029.8	0.0	479.72	709.87	1,189.59
2	30.00	5.49	28.69	29.22	0.00	0.14	2.81	0.85	1.00	0.00	36.48	158.63	0.00	5,368.7	0.0	477.92	613.47	1,091.39
1	10.00	5.48	31.16	28.80	0.00	0.13	2.84	0.85	1.00	0.00	38.29	95.54	0.00	5,454.7	0.0	506.55	368.99	875.55
														38,251.2	0.0	10,998.06		

LoadCase 0.9D + 1.6W 60 deg

105.00 mph 60 deg with No Ice (Reduced DL)

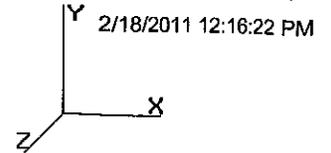
Gust Response Factor : 0.85
 Dead Load Factor : 0.90
 Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Wind Sect Seq	Wind Height (ft)	qz	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
10	188.0	9.27	9.71	7.67	0.00	0.16	2.75	0.85	1.00	0.00	12.61	27.73	0.00	1,040.9	0.0	272.94	189.20	462.13
9	170.0	9.01	12.51	11.67	0.00	0.17	2.69	0.85	1.00	0.00	17.28	79.60	0.00	2,057.8	0.0	356.23	510.82	867.05
8	150.0	8.69	12.84	15.03	0.00	0.17	2.70	0.85	1.00	0.00	19.48	132.84	0.00	2,966.5	0.0	387.95	804.52	1,192.47
7	130.0	8.34	14.17	18.58	0.00	0.16	2.74	0.85	1.00	0.00	22.61	155.67	0.00	3,669.0	0.0	438.84	917.58	1,356.41
6	110.0	7.96	16.34	18.58	0.00	0.14	2.80	0.85	1.00	0.00	24.41	156.53	0.00	3,799.9	0.0	462.47	879.01	1,341.48
5	90.00	7.51	22.18	22.12	0.00	0.15	2.76	0.85	1.00	0.00	28.16	156.63	0.00	4,283.1	0.0	495.88	830.51	1,326.39
4	70.00	6.99	21.17	22.12	0.00	0.13	2.84	0.85	1.00	0.00	30.51	158.42	0.00	4,580.8	0.0	515.00	780.60	1,295.60
3	50.00	6.35	23.01	29.22	0.00	0.14	2.81	0.85	1.00	0.00	31.64	158.63	0.00	5,029.8	0.0	479.72	709.87	1,189.59
2	30.00	5.49	28.69	29.22	0.00	0.14	2.81	0.85	1.00	0.00	36.48	158.63	0.00	5,368.7	0.0	477.92	613.47	1,091.39
1	10.00	5.48	31.16	28.80	0.00	0.13	2.84	0.85	1.00	0.00	38.29	95.54	0.00	5,454.7	0.0	506.55	368.99	875.55
														38,251.2	0.0	10,998.06		

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure : B
 Topo : 1

Copyright Semaan Engineering Solutions, Inc



Section Forces

LoadCase 0.9D + 1.6W 90 deg

105.00 mph 90 deg with No Ice (Reduced DL)

Gust Response Factor : 0.85
 Dead Load Factor : 0.90
 Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Sect Seq	Wind Height (ft)	qz	Total Area		Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice Area		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
			Flat Area (sqft)	Round Area (sqft)								Linear Area (sqft)	Total Area (sqft)						
10	188.0	9.27	9.71	7.67	0.00	0.16	2.75	0.85	1.00	0.00	12.61	27.73	0.00	1,040.9	0.0	272.94	189.20	462.13	
9	170.0	9.01	12.51	11.67	0.00	0.17	2.69	0.85	1.00	0.00	17.28	79.60	0.00	2,057.8	0.0	356.23	510.82	867.05	
8	150.0	8.69	12.84	15.03	0.00	0.17	2.70	0.85	1.00	0.00	19.48	132.84	0.00	2,966.5	0.0	387.95	804.52	1,192.47	
7	130.0	8.34	14.17	18.58	0.00	0.16	2.74	0.85	1.00	0.00	22.61	155.67	0.00	3,669.0	0.0	438.84	917.58	1,356.41	
6	110.0	7.96	16.34	18.58	0.00	0.14	2.80	0.85	1.00	0.00	24.41	156.53	0.00	3,799.9	0.0	462.47	879.01	1,341.48	
5	90.00	7.51	22.18	22.12	0.00	0.15	2.76	0.85	1.00	0.00	28.16	156.63	0.00	4,283.1	0.0	495.88	830.51	1,326.39	
4	70.00	6.99	21.17	22.12	0.00	0.13	2.84	0.85	1.00	0.00	30.51	158.42	0.00	4,580.8	0.0	515.00	780.60	1,295.60	
3	50.00	6.35	23.01	29.22	0.00	0.14	2.81	0.85	1.00	0.00	31.64	158.63	0.00	5,029.8	0.0	479.72	709.87	1,189.59	
2	30.00	5.49	28.69	29.22	0.00	0.14	2.81	0.85	1.00	0.00	36.48	158.63	0.00	5,368.7	0.0	477.92	613.47	1,091.39	
1	10.00	5.48	31.16	28.80	0.00	0.13	2.84	0.85	1.00	0.00	38.29	95.54	0.00	5,454.7	0.0	506.55	368.99	875.55	
															38,251.2	0.0			10,998.06

LoadCase 1.2D + 1.0Di + 1.0Wi Normal

50.00 mph Normal with 1.25 in Radial Ice

Gust Response Factor : 0.85
 Dead Load Factor : 1.20
 Wind Load Factor : 1.00

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00
 Ice Importance Factor : 1.00

Sect Seq	Wind Height (ft)	qz	Total Area		Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice Area		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
			Flat Area (sqft)	Round Area (sqft)								Linear Area (sqft)	Total Area (sqft)						
10	188.0	9.27	9.71	7.67	0.00	0.16	2.75	0.85	1.00	0.00	12.61	27.73	0.00	1,040.9	0.0	272.94	189.20	462.13	
9	170.0	9.01	12.51	11.67	0.00	0.17	2.69	0.85	1.00	0.00	17.28	79.60	0.00	2,057.8	0.0	356.23	510.82	867.05	
8	150.0	8.69	12.84	15.03	0.00	0.17	2.70	0.85	1.00	0.00	19.48	132.84	0.00	2,966.5	0.0	387.95	804.52	1,192.47	
7	130.0	8.34	14.17	18.58	0.00	0.16	2.74	0.85	1.00	0.00	22.61	155.67	0.00	3,669.0	0.0	438.84	917.58	1,356.41	
6	110.0	7.96	16.34	18.58	0.00	0.14	2.80	0.85	1.00	0.00	24.41	156.53	0.00	3,799.9	0.0	462.47	879.01	1,341.48	
5	90.00	7.51	22.18	22.12	0.00	0.15	2.76	0.85	1.00	0.00	28.16	156.63	0.00	4,283.1	0.0	495.88	830.51	1,326.39	
4	70.00	6.99	21.17	22.12	0.00	0.13	2.84	0.85	1.00	0.00	30.51	158.42	0.00	4,580.8	0.0	515.00	780.60	1,295.60	
3	50.00	6.35	23.01	29.22	0.00	0.14	2.81	0.85	1.00	0.00	31.64	158.63	0.00	5,029.8	0.0	479.72	709.87	1,189.59	
2	30.00	5.49	28.69	29.22	0.00	0.14	2.81	0.85	1.00	0.00	36.48	158.63	0.00	5,368.7	0.0	477.92	613.47	1,091.39	
1	10.00	5.48	31.16	28.80	0.00	0.13	2.84	0.85	1.00	0.00	38.29	95.54	0.00	5,454.7	0.0	506.55	368.99	875.55	
															38,251.2	0.0			10,998.06

LoadCase 1.2D + 1.0Di + 1.0Wi 60 deg

50.00 mph 60 deg with 1.25 in Radial Ice

Gust Response Factor : 0.85
 Dead Load Factor : 1.20
 Wind Load Factor : 1.00

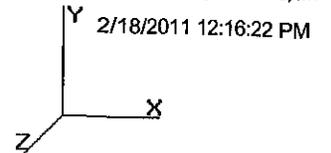
Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00
 Ice Importance Factor : 1.00

Sect Seq	Wind Height (ft)	qz	Total Area		Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice Area		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Flat Area (sqft)	Round Area (sqft)								Linear Area (sqft)	Total Area (sqft)					
10	188.0	9.27	9.71	7.67	0.00	0.16	2.75	0.85	1.00	0.00	12.61	27.73	0.00	1,040.9	0.0	272.94	189.20	462.13

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure : B
 Topo : 1

Copyright Semaan Engineering Solutions, Inc



Section Forces

9	170.0	9.01	12.51	11.67	0.00	0.17	2.69	0.85	1.00	0.00	17.28	79.60	0.00	2,057.8	0.0	356.23	510.82	867.05
8	150.0	8.69	12.84	15.03	0.00	0.17	2.70	0.85	1.00	0.00	19.48	132.84	0.00	2,966.5	0.0	387.95	804.52	1,192.47
7	130.0	8.34	14.17	18.58	0.00	0.16	2.74	0.85	1.00	0.00	22.61	155.67	0.00	3,669.0	0.0	438.84	917.58	1,356.41
6	110.0	7.96	16.34	18.58	0.00	0.14	2.80	0.85	1.00	0.00	24.41	156.53	0.00	3,799.9	0.0	462.47	879.01	1,341.48
5	90.00	7.51	22.18	22.12	0.00	0.15	2.76	0.85	1.00	0.00	28.16	156.63	0.00	4,283.1	0.0	495.88	830.51	1,326.39
4	70.00	6.99	21.17	22.12	0.00	0.13	2.84	0.85	1.00	0.00	30.51	158.42	0.00	4,580.8	0.0	515.00	780.60	1,295.60
3	50.00	6.35	23.01	29.22	0.00	0.14	2.81	0.85	1.00	0.00	31.64	158.63	0.00	5,029.8	0.0	479.72	709.87	1,189.59
2	30.00	5.49	28.69	29.22	0.00	0.14	2.81	0.85	1.00	0.00	36.48	158.63	0.00	5,368.7	0.0	477.92	613.47	1,091.39
1	10.00	5.48	31.16	28.80	0.00	0.13	2.84	0.85	1.00	0.00	38.29	95.54	0.00	5,454.7	0.0	506.55	368.99	875.55
														38,251.2	0.0	10,998.06		

LoadCase 1.2D + 1.0Di + 1.0Wi 90 deg

50.00 mph 90 deg with 1.25 in Radial Ice

Gust Response Factor : 0.85

Dead Load Factor : 1.20

Wind Load Factor : 1.00

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00

Ice Importance Factor : 1.00

Sect Seq	Wind Height (ft)	qz	Total Area (sqft)		Ice Round Area (sqft)		Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Flat	Round	Round	Round													
10	188.0	9.27	9.71	7.67	0.00	0.16	2.75	0.85	1.00	0.00	12.61	27.73	0.00	1,040.9	0.0	272.94	189.20	462.13	
9	170.0	9.01	12.51	11.67	0.00	0.17	2.69	0.85	1.00	0.00	17.28	79.60	0.00	2,057.8	0.0	356.23	510.82	867.05	
8	150.0	8.69	12.84	15.03	0.00	0.17	2.70	0.85	1.00	0.00	19.48	132.84	0.00	2,966.5	0.0	387.95	804.52	1,192.47	
7	130.0	8.34	14.17	18.58	0.00	0.16	2.74	0.85	1.00	0.00	22.61	155.67	0.00	3,669.0	0.0	438.84	917.58	1,356.41	
6	110.0	7.96	16.34	18.58	0.00	0.14	2.80	0.85	1.00	0.00	24.41	156.53	0.00	3,799.9	0.0	462.47	879.01	1,341.48	
5	90.00	7.51	22.18	22.12	0.00	0.15	2.76	0.85	1.00	0.00	28.16	156.63	0.00	4,283.1	0.0	495.88	830.51	1,326.39	
4	70.00	6.99	21.17	22.12	0.00	0.13	2.84	0.85	1.00	0.00	30.51	158.42	0.00	4,580.8	0.0	515.00	780.60	1,295.60	
3	50.00	6.35	23.01	29.22	0.00	0.14	2.81	0.85	1.00	0.00	31.64	158.63	0.00	5,029.8	0.0	479.72	709.87	1,189.59	
2	30.00	5.49	28.69	29.22	0.00	0.14	2.81	0.85	1.00	0.00	36.48	158.63	0.00	5,368.7	0.0	477.92	613.47	1,091.39	
1	10.00	5.48	31.16	28.80	0.00	0.13	2.84	0.85	1.00	0.00	38.29	95.54	0.00	5,454.7	0.0	506.55	368.99	875.55	
														38,251.2	0.0	10,998.06			

LoadCase 1.0D + 1.0W Service Normal

Serviceability - 60.00 Wind Normal

Gust Response Factor : 0.85

Dead Load Factor : 1.00

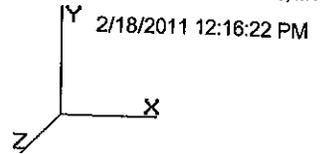
Wind Load Factor : 1.00

Wind Importance Factor : 1.00

Sect Seq	Wind Height (ft)	qz	Total Area (sqft)		Ice Round Area (sqft)		Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Flat	Round	Round	Round													
10	188.0	9.27	9.71	7.67	0.00	0.16	2.75	0.85	1.00	0.00	12.61	27.73	0.00	1,040.9	0.0	272.94	189.20	462.13	
9	170.0	9.01	12.51	11.67	0.00	0.17	2.69	0.85	1.00	0.00	17.28	79.60	0.00	2,057.8	0.0	356.23	510.82	867.05	
8	150.0	8.69	12.84	15.03	0.00	0.17	2.70	0.85	1.00	0.00	19.48	132.84	0.00	2,966.5	0.0	387.95	804.52	1,192.47	
7	130.0	8.34	14.17	18.58	0.00	0.16	2.74	0.85	1.00	0.00	22.61	155.67	0.00	3,669.0	0.0	438.84	917.58	1,356.41	
6	110.0	7.96	16.34	18.58	0.00	0.14	2.80	0.85	1.00	0.00	24.41	156.53	0.00	3,799.9	0.0	462.47	879.01	1,341.48	
5	90.00	7.51	22.18	22.12	0.00	0.15	2.76	0.85	1.00	0.00	28.16	156.63	0.00	4,283.1	0.0	495.88	830.51	1,326.39	
4	70.00	6.99	21.17	22.12	0.00	0.13	2.84	0.85	1.00	0.00	30.51	158.42	0.00	4,580.8	0.0	515.00	780.60	1,295.60	
3	50.00	6.35	23.01	29.22	0.00	0.14	2.81	0.85	1.00	0.00	31.64	158.63	0.00	5,029.8	0.0	479.72	709.87	1,189.59	
2	30.00	5.49	28.69	29.22	0.00	0.14	2.81	0.85	1.00	0.00	36.48	158.63	0.00	5,368.7	0.0	477.92	613.47	1,091.39	
1	10.00	5.48	31.16	28.80	0.00	0.13	2.84	0.85	1.00	0.00	38.29	95.54	0.00	5,454.7	0.0	506.55	368.99	875.55	
														38,251.2	0.0	10,998.06			

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure : B
 Topo : 1

Copyright Semaan Engineering Solutions, Inc



Section Forces

LoadCase 1.0D + 1.0W Service 60 deg

Serviceability - 60.00 Wind 60 deg

Gust Response Factor : 0.85
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Wind Importance Factor : 1.00

Sect Seq	Wind Height (ft)	qz	Total Area			Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice			Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
			Flat (sqft)	Round (sqft)	Round (sqft)							Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)				
10	188.0	9.27	9.71	7.67	0.00	0.16	2.75	0.85	1.00	0.00	12.61	27.73	0.00	1,040.9	0.0	272.94	189.20	462.13
9	170.0	9.01	12.51	11.67	0.00	0.17	2.69	0.85	1.00	0.00	17.28	79.60	0.00	2,057.8	0.0	356.23	510.82	867.05
8	150.0	8.69	12.84	15.03	0.00	0.17	2.70	0.85	1.00	0.00	19.48	132.84	0.00	2,966.5	0.0	387.95	804.52	1,192.47
7	130.0	8.34	14.17	18.58	0.00	0.16	2.74	0.85	1.00	0.00	22.61	155.67	0.00	3,669.0	0.0	438.84	917.58	1,356.41
6	110.0	7.96	16.34	18.58	0.00	0.14	2.80	0.85	1.00	0.00	24.41	156.53	0.00	3,799.9	0.0	462.47	879.01	1,341.48
5	90.00	7.51	22.18	22.12	0.00	0.15	2.76	0.85	1.00	0.00	28.16	156.63	0.00	4,283.1	0.0	495.88	830.51	1,326.39
4	70.00	6.99	21.17	22.12	0.00	0.13	2.84	0.85	1.00	0.00	30.51	158.42	0.00	4,580.8	0.0	515.00	780.60	1,295.60
3	50.00	6.35	23.01	29.22	0.00	0.14	2.81	0.85	1.00	0.00	31.64	158.63	0.00	5,029.8	0.0	479.72	709.87	1,189.59
2	30.00	5.49	28.69	29.22	0.00	0.14	2.81	0.85	1.00	0.00	36.48	158.63	0.00	5,368.7	0.0	477.92	613.47	1,091.39
1	10.00	5.48	31.16	28.80	0.00	0.13	2.84	0.85	1.00	0.00	38.29	95.54	0.00	5,454.7	0.0	506.55	368.99	875.55
													38,251.2	0.0	10,998.06			

LoadCase 1.0D + 1.0W Service 90 deg

Serviceability - 60.00 Wind 90 deg

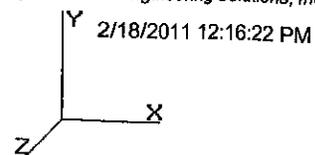
Gust Response Factor : 0.85
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Wind Importance Factor : 1.00

Sect Seq	Wind Height (ft)	qz	Total Area			Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice			Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
			Flat (sqft)	Round (sqft)	Round (sqft)							Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)				
10	188.0	9.27	9.71	7.67	0.00	0.16	2.75	0.85	1.00	0.00	12.61	27.73	0.00	1,040.9	0.0	272.94	189.20	462.13
9	170.0	9.01	12.51	11.67	0.00	0.17	2.69	0.85	1.00	0.00	17.28	79.60	0.00	2,057.8	0.0	356.23	510.82	867.05
8	150.0	8.69	12.84	15.03	0.00	0.17	2.70	0.85	1.00	0.00	19.48	132.84	0.00	2,966.5	0.0	387.95	804.52	1,192.47
7	130.0	8.34	14.17	18.58	0.00	0.16	2.74	0.85	1.00	0.00	22.61	155.67	0.00	3,669.0	0.0	438.84	917.58	1,356.41
6	110.0	7.96	16.34	18.58	0.00	0.14	2.80	0.85	1.00	0.00	24.41	156.53	0.00	3,799.9	0.0	462.47	879.01	1,341.48
5	90.00	7.51	22.18	22.12	0.00	0.15	2.76	0.85	1.00	0.00	28.16	156.63	0.00	4,283.1	0.0	495.88	830.51	1,326.39
4	70.00	6.99	21.17	22.12	0.00	0.13	2.84	0.85	1.00	0.00	30.51	158.42	0.00	4,580.8	0.0	515.00	780.60	1,295.60
3	50.00	6.35	23.01	29.22	0.00	0.14	2.81	0.85	1.00	0.00	31.64	158.63	0.00	5,029.8	0.0	479.72	709.87	1,189.59
2	30.00	5.49	28.69	29.22	0.00	0.14	2.81	0.85	1.00	0.00	36.48	158.63	0.00	5,368.7	0.0	477.92	613.47	1,091.39
1	10.00	5.48	31.16	28.80	0.00	0.13	2.84	0.85	1.00	0.00	38.29	95.54	0.00	5,454.7	0.0	506.55	368.99	875.55
													38,251.2	0.0	10,998.06			

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure : B
 Topo : 1

Copyright Semaan Engineering Solutions, Inc



Tower Loading

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice		Ice		Len (ft)	Width (in)	Depth (in)	Ka	Orientation Factor	Vert Ecc (ft)
			Weight (lb)	CaAa (sf)	Weight (lb)	CaAa (sf)						
194.0	Argus LLPX310R	3	28.60	4.830	45.62	7.704	3.500	11.80	4.500	0.80	0.67	0.000
194.0	DragonWave A-ANT-18G-2-C	2	27.10	4.690	193.80	7.481	2.170	0.000	0.000	0.80	0.57	0.000
194.0	NextNet BTS-2500	3	35.00	2.120	55.83	3.381	1.583	11.30	5.100	0.80	0.30	0.000
194.0	DragonWave Horizon	2	10.60	0.430	16.91	0.686	0.392	9.300	9.300	0.80	0.30	0.000
194.0	KMW KMDAPS2050000	3	13.00	0.850	74.55	1.450	0.990	7.300	3.300	0.80	0.30	0.000
194.0	Round Sector Frames	3	300.00	14.400	928.35	42.675	0.000	0.000	0.000	0.75	0.75	0.000
194.0	72" x 12" Panels	3	40.00	8.400	63.80	13.398	6.000	12.00	6.000	0.80	0.67	0.000
194.0	48" x 12" Panels	9	30.00	5.600	47.85	8.932	4.000	12.00	6.000	0.80	0.67	0.000
184.0	Round Sector Frames	3	300.00	14.400	835.52	31.537	0.000	0.000	0.000	0.75	0.75	0.000
184.0	Decibel DB950F65E-M	6	16.00	4.430	25.52	7.066	5.000	11.00	7.000	0.80	0.75	0.000
178.0	Rymsa MGD3-800T0	3	19.80	3.450	204.48	5.165	4.530	6.300	3.500	0.80	0.78	0.000
178.0	Powerwave P65-16-XL-2	3	33.00	8.130	384.82	10.420	6.000	12.00	5.000	0.80	0.65	0.000
178.0	Flat Light Sector Frames	3	400.00	17.900	908.95	43.417	0.000	0.000	0.000	0.75	0.75	0.000
178.0	RFS FD9R6004/1C-3L	6	3.10	0.370	35.95	0.835	0.483	6.500	1.500	0.80	0.30	0.000
178.0	Decibel DB844H90E-XY	6	14.00	3.610	22.25	5.737	4.000	8.000	6.500	0.75	0.74	0.000
167.0	Round Sector Frames	3	300.00	14.400	830.16	31.365	0.000	0.000	0.000	0.75	0.75	0.000
167.0	Powerwave LGP21902	3	5.50	0.270	8.74	0.429	0.660	4.400	2.700	0.80	0.30	0.000
167.0	14" x 9" TTA	6	10.00	1.230	15.89	1.520	1.167	9.000	4.000	0.80	0.30	0.000
167.0	Powerwave 7770.00	3	35.00	5.570	300.93	7.449	4.619	11.02	4.921	0.80	0.65	0.000
167.0	CSS DUO1417-8686	6	20.30	5.840	32.26	9.280	4.030	14.00	9.000	0.80	0.70	0.000
157.0	RFS APXV18-206517-C	3	26.40	5.170	41.76	8.178	6.000	6.800	3.200	1.00	0.78	0.000
148.0	RFS APX16DWV-16DWVS-E-	3	40.70	7.220	64.38	11.420	4.660	13.30	3.100	0.80	0.68	0.000
148.0	RFS ATMAA1412D-1A20	3	13.00	1.170	20.56	1.851	1.000	10.00	4.000	0.80	0.30	0.000
148.0	EMS DR65-18-02DPL2Q	3	24.00	5.800	37.96	9.174	4.500	12.00	4.000	0.80	0.62	0.000
148.0	CCI DTMA-1819-DD-12	3	14.30	0.710	22.62	1.123	1.100	5.500	3.200	0.80	0.30	0.000
148.0	Round Sector Frames	3	300.00	14.400	823.56	31.154	0.000	0.000	0.000	0.75	0.75	0.000
125.0	Motorola PTP54600	2	12.10	2.040	19.04	3.210	1.210	14.50	3.800	1.00	0.80	0.000
104.0	Side Arms	2	200.00	2.000	312.79	2.451	0.000	0.000	0.000	1.00	0.80	0.000
104.0	2" x 8" GPS	2	0.26	0.160	0.49	0.780	0.670	2.000	2.000	1.00	0.90	0.000
82.00	Side Arm	1	200.00	2.000	310.55	2.442	0.000	0.000	0.000	1.00	1.00	0.000
82.00	10' Omni	1	10.00	3.000	15.53	4.658	10.00	3.000	3.000	1.00	1.00	5.000
76.00	Side Arm	1	200.00	2.000	307.81	2.431	0.000	0.000	0.000	1.00	1.00	0.000
76.00	2" x 8" GPS	1	0.26	0.160	0.48	0.753	0.670	2.000	2.000	1.00	1.00	0.000
12.00	Nortel NTGB01MA	1	10.00	0.090	14.44	0.130	0.670	2.000	2.000	1.00	1.00	0.335
Totals		108	7355.68		19914.51							

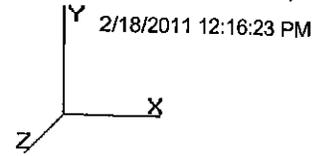
Number of Appurtenances : 34

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
8.00	194.0	1 1/4" Coax	10	1.55	0.63	60	3	Block	0.00	N	0.00	1.00	0.00
8.00	194.0	1 5/8" Coax	6	1.98	0.82	50	3	Block	0.00	N	0.00	1.00	0.00
8.00	194.0	1/2" Coax	2	0.63	0.15	0	2	Individual	0.00	N	1.00	1.00	0.00
8.00	194.0	2" Conduit	1	2.38	3.65	0	2	Individual	0.00	N	1.00	1.00	0.00
8.00	194.0	5/16" Coax	6	0.00	0.04	50	2	Block	0.00	N	0.00	1.00	0.00
8.00	193.9	Wave Guide	1	1.00	5.00	0	3	Individual	0.00	N	1.00	1.00	0.00
8.00	184.0	1 5/8" Coax	6	1.98	0.82	0	2	Individual	0.00	N	1.00	1.00	0.00

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure : B
 Topo : 1

Copyright Semaan Engineering Solutions, Inc

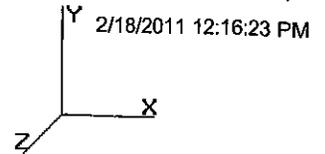


Tower Loading

8.00	183.9	Wave Guide	1	1.75	5.00	100	2	Individual	0.00	N	1.00	1.00	0.00
8.00	178.0	1 5/8" Coax	12	1.98	0.82	33	3	Block	0.00	N	0.00	1.00	0.00
8.00	167.0	1 1/4" Coax	12	1.55	0.63	0	1	Individual	0.00	N	1.00	1.00	0.00
8.00	166.9	Wave Guide	1	1.75	5.00	100	1	Individual	0.00	N	1.00	1.00	0.00
8.00	157.0	1 5/8" Coax	6	1.98	0.82	0	1	Individual	0.00	N	1.00	1.00	0.00
8.00	148.0	1 5/8" Coax	18	1.98	0.82	50	3	Block	0.00	N	0.00	1.00	0.00
8.00	147.9	Wave Guide	1	1.75	5.00	100	3	Individual	0.00	N	1.00	1.00	0.00
8.00	125.0	1/4" Coax	2	0.34	0.06	0	1	Individual	0.00	N	1.00	1.00	0.00
8.00	104.0	1/2" Coax	2	0.00	0.15	0	3	Individual	0.00	N	1.00	1.00	0.00
8.00	82.00	1/2" Coax	1	0.63	0.15	0	1	Individual	0.00	N	1.00	1.00	0.00
8.00	76.00	1/2" Coax	1	0.63	0.15	0	2	Individual	0.00	N	1.00	1.00	0.00
8.00	12.00	7/8" Coax	1	1.09	0.33	0	1	Individual	0.00	N	1.00	1.00	0.00

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure : B
 Topo : 1

Copyright Semaan Engineering Solutions, Inc



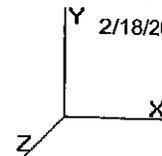
Force/Stress Summary

Section: 1		15N25		Bot Elev (ft): 0.00				Height (ft): 20.000							
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PX - 8" DIA PIPE	-377.07	1.2D + 1.6W	9.85	100	100	100	41.0	50.0	509.25	0	0	0.00	0.00	74 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 4X4X0.25	-11.41	1.2D + 1.6W 90	24.54	50	50	50	185.2	43.5	12.77	1	1	17.89	23.40	89 Member Z
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Fu (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls			
LEG	PX - 8" DIA PIPE	341.22	0.9D + 1.6W 60	50	65	576.00	0	0	0.00	0.00	59	Member			
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0				
DIAG	SAE - 4X4X0.25	12.09	1.2D + 1.6W 90	50	65	62.93	1	1	0.00	23.40	19	Member			
Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type								
Top Tension		309.46	0.9D + 1.6W 60	0.00	0	0									
Top Compression		351.24	1.2D + 1.6W	0.00	0										
Bot Tension		341.22	0.9D + 1.6W 60	605.70	56	10	1" A354-BC								
Bot Compression		387.22	1.2D + 1.6W	0.00	0										

Section: 2		14N46		Bot Elev (ft): 20.00				Height (ft): 20.000							
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PSP - ROHN 8 EHS	-339.77	1.2D + 1.6W	9.85	100	100	100	40.3	50.0	394.32	0	0	0.00	0.00	86 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 4X4X0.25	-11.89	1.2D + 1.6W 90	22.69	50	50	50	171.3	43.5	14.94	1	1	17.89	23.40	79 Member Z
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Fu (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls			
LEG	PSP - ROHN 8 EHS	309.77	0.9D + 1.6W 60	50	65	444.15	0	0	0.00	0.00	69	Member			
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0				
DIAG	SAE - 4X4X0.25	11.59	1.2D + 1.6W 90	50	65	62.93	1	1	0.00	23.40	18	Member			
Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type								
Top Tension		275.22	0.9D + 1.6W 60	0.00	0	0									
Top Compression		311.52	1.2D + 1.6W	0.00	0										
Bot Tension		309.46	0.9D + 1.6W 60	436.16	71	8	1 A325								
Bot Compression		351.24	1.2D + 1.6W	0.00	0										

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure : B
 Topo : 1

Copyright Semaan Engineering Solutions, Inc



Force/Stress Summary

Section: 3 13N88 Bot Elev (ft): 40.00 Height (ft): 20.000

Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PSP - ROHN 8 EHS	-299.91	1.2D + 1.6W	9.85	100	100	100	40.3	50.0	394.32	0	0	0.00	0.00	76 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3.5X3.5X0.25	-11.29	1.2D + 1.6W 90	20.88	50	50	50	180.6	49.5	11.71	1	1	17.89	23.40	96 Member Z

Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Fu (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	PSP - ROHN 8 EHS	275.59	0.9D + 1.6W 60	50	65	444.15	0	0	0.00	0.00	62	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 3.5X3.5X0.25	11.02	1.2D + 1.6W 90	50	65	53.79	1	1	0.00	23.40	20	Member

Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension		239.74	0.9D + 1.6W 60	0.00	0	0	
Top Compression		270.63	1.2D + 1.6W	0.00	0		
Bot Tension		275.22	0.9D + 1.6W 60	436.16	63	8	1 A325
Bot Compression		311.52	1.2D + 1.6W	0.00	0		

Section: 4 12N50 Bot Elev (ft): 60.00 Height (ft): 20.000

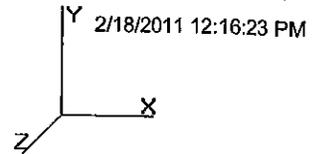
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PX - 6" DIA PIPE	-259.13	1.2D + 1.6W	9.85	100	100	100	53.9	50.0	305.78	0	0	0.00	0.00	84 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3.5X3.5X0.25	-10.50	1.2D + 1.6W 90	19.11	50	50	50	165.3	49.5	13.97	1	1	17.89	23.40	75 Member Z

Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Fu (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	PX - 6" DIA PIPE	240.09	0.9D + 1.6W 60	50	65	378.00	0	0	0.00	0.00	63	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 3.5X3.5X0.25	10.26	1.2D + 1.6W 90	50	65	53.79	1	1	0.00	23.40	19	Member

Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension		203.28	0.9D + 1.6W 60	0.00	0	0	
Top Compression		228.95	1.2D + 1.6W	0.00	0		
Bot Tension		239.74	0.9D + 1.6W 60	436.16	55	8	1 A325
Bot Compression		270.63	1.2D + 1.6W	0.00	0		

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure : B
 Topo : 1

Copyright Semaan Engineering Solutions, Inc



Force/Stress Summary

Section: 5 11N223 Bot Elev (ft): 80.00 Height (ft): 20.000

Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PSP - ROHN 6 EHS	-220.58	1.2D + 1.6W	6.57	100	100	100	35.4	50.0	275.49	0	0	0.00	0.00	80 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0	0	0.00	0.00	0	
DIAG	SAE - 3X3X0.25	-8.95	1.2D + 1.6W 90	15.94	50	50	50	161.6	50.0	12.46	1	1	17.89	23.40	71 Member Z

Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Fu (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	PSP - ROHN 6 EHS	203.59	0.9D + 1.6W 60	50	65	301.95	0	0	0.00	0.00	67	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 3X3X0.25	8.79	1.2D + 1.6W 90	50	65	44.65	1	1	0.00	23.40	19	Member

Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension		166.24	0.9D + 1.6W 60	0.00	0	0	
Top Compression		186.87	1.2D + 1.6W	0.00	0		
Bot Tension		203.28	0.9D + 1.6W 60	327.12	62	6	1 A325
Bot Compression		228.95	1.2D + 1.6W	0.00	0		

Section: 6 10N152 Bot Elev (ft): 100.0 Height (ft): 20.000

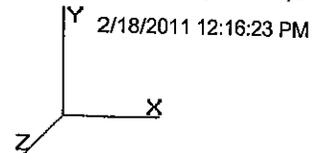
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PX - 5" DIA PIPE	-178.81	1.2D + 1.6W	6.57	100	100	100	42.8	50.0	240.44	0	0	0.00	0.00	74 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0	0	0.00	0.00	0	
DIAG	SAE - 2.5X2.5X0.25	-7.93	1.2D + 1.6W 90	14.11	50	50	50	172.5	36.0	9.03	1	1	12.43	17.40	87 Member Z

Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Fu (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	PX - 5" DIA PIPE	166.47	0.9D + 1.6W 60	50	65	274.95	0	0	0.00	0.00	60	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 2.5X2.5X0.25	7.87	1.2D + 1.6W 90	36	58	32.71	1	1	0.00	17.40	24	Member

Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension		128.57	0.9D + 1.6W 60	0.00	0	0	
Top Compression		144.67	1.2D + 1.6W	0.00	0		
Bot Tension		166.24	0.9D + 1.6W 60	327.12	51	6	1 A325
Bot Compression		186.87	1.2D + 1.6W	0.00	0		

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure : B
 Topo : 1

Copyright Semaan Engineering Solutions, Inc



Force/Stress Summary

Section: 7 9N216 Bot Elev (ft): 120.0 Height (ft): 20.000

Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PX - 5" DIA PIPE	-136.54	1.2D + 1.6W	6.57	100	100	100	42.8	50.0	240.44	0	0	0.00	0.00	56 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 2.5X2.5X0.25	-7.14	1.2D + 1.6W 90	12.35	50	50	50	151.0	36.0	11.79	1	1	12.43	17.40	60 Member Z

Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Fu (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	PX - 5" DIA PIPE	127.47	1.2D + 1.6W 60	50	65	274.95	0	0	0.00	0.00	46	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 2.5X2.5X0.25	7.02	1.2D + 1.6W 90	36	58	32.71	1	1	0.00	17.40	21	Member

Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension		89.34	0.9D + 1.6W 60	0.00	0	0	
Top Compression		101.42	1.2D + 1.6W	0.00	0		
Bot Tension		128.57	0.9D + 1.6W 60	218.08	59	4	1 A325
Bot Compression		144.67	1.2D + 1.6W	0.00	0		

Section: 8 A780252 Bot Elev (ft): 140.0 Height (ft): 20.000

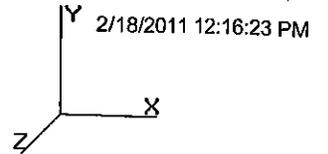
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PX - 4" DIA PIPE	-95.27	1.2D + 1.6W	4.93	100	100	100	39.9	50.0	176.61	0	0	0.00	0.00	53 Member X
HORIZ	SAE - 2X2X0.25	-0.35	1.2D + 1.6W 60	6.760	100	100	100	207.5	36.0	4.93	1	1	12.43	17.40	7 Member Z
DIAG	SAE - 2X2X0.25	-5.83	1.2D + 1.6W 90	9.841	50	50	50	151.0	36.0	9.31	1	1	12.43	17.40	62 Member Z

Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Fu (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	PX - 4" DIA PIPE	89.54	0.9D + 1.6W 60	50	65	198.45	0	0	0.00	0.00	45	Member
HORIZ	SAE - 2X2X0.25	0.26	1.2D + 1.6W	36	58	24.55	1	1	0.00	17.40	1	Member
DIAG	SAE - 2X2X0.25	5.80	1.2D + 1.6W 90	36	58	24.55	1	1	0.00	17.40	23	Member

Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension		50.55	0.9D + 1.6W 60	0.00	0	0	
Top Compression		58.21	1.2D + 1.6W	0.00	0		
Bot Tension		89.34	0.9D + 1.6W 60	218.08	41	4	1 A325
Bot Compression		101.42	1.2D + 1.6W	0.00	0		

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: ANSI/TIA-222 Rev G
 Struct Class: II
 Exposure: B
 Topo: 1

Copyright Semaan Engineering Solutions, Inc



Force/Stress Summary

Section: 9 A780178 Bot Elev (ft): 160.0 Height (ft): 20.000

Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PX - 3" DIA PIPE	-52.01	1.2D + 1.6W	3.93	100	100	100	41.4	50.0	119.89	0	0	0.00	0.00	43 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 2X2X0.1875	-5.95	1.2D + 1.6W 90	7.816	50	50	50	119.3	36.0	10.96	1	1	12.43	13.05	54 Member Z

Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Fu (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	PX - 3" DIA PIPE	50.30	0.9D + 1.6W 60	50	65	135.90	0	0	0.00	0.00	37	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 2X2X0.1875	5.86	1.2D + 1.6W 90	36	58	18.74	1	1	0.00	13.05	31	Member

Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension		9.48	0.9D + 1.6W 60	0.00	0	0	
Top Compression		12.44	1.2D + 1.6W	0.00	0		
Bot Tension		50.55	0.9D + 1.6W 60	166.24	30	4	7/8 A325
Bot Compression		58.21	1.2D + 1.6W	0.00	0		

Section: 10 A780178 Bot Elev (ft): 180.0 Height (ft): 16.000

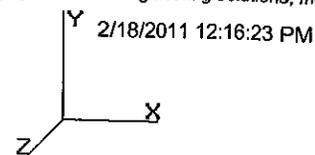
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PST - 2-1/2" DIA PIP	-12.32	1.2D + 1.6W	0.17	100	100	100	2.1	50.0	76.65	0	0	0.00	0.00	16 Member X
HORIZ	SAE - 1.75X1.75X0.18	-0.31	1.2D + 1.6W	6.655	100	100	100	232.8	36.0	2.59	1	1	12.43	13.05	11 Member Z
DIAG	SAE - 1.75X1.75X0.18	-2.60	1.2D + 1.6W 90	7.778	50	50	50	136.1	36.0	7.58	1	1	12.43	13.05	34 Member Z

Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Fu (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	PST - 2-1/2" DIA PIP	9.23	1.2D + 1.6W 60	50	65	76.68	0	0	0.00	0.00	12	Member
HORIZ	SAE - 1.75X1.75X0.18	0.30	1.2D + 1.6W 60	36	58	15.67	1	1	0.00	13.05	1	Member
DIAG	SAE - 1.75X1.75X0.18	2.60	1.2D + 1.6W 90	36	58	15.67	1	1	0.00	13.05	16	Member

Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension		0.00		0.00	0	0	
Top Compression		0.53	1.2D + 1.0Di +	0.00	0		
Bot Tension		9.48	0.9D + 1.6W 60	120.39	8	4	3/4 A325
Bot Compression		12.44	1.2D + 1.6W	0.00	0		

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure : B
 Topo : 1

Copyright Semaan Engineering Solutions, Inc



Support Forces Summary

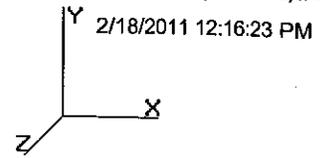
Load Case	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
1.0D + 1.0W Service 90 deg	1b	-5.34	-49.08	-2.51	
	1a	-7.03	79.48	3.49	
	1	-0.98	15.20	-0.98	
1.0D + 1.0W Service 60 deg	1b	-5.93	-58.23	-3.43	
	1a	-4.65	51.92	1.72	
	1	-0.84	51.92	-4.89	
1.0D + 1.0W Service Normal	1b	-2.25	-22.97	-2.33	
	1a	2.25	-22.97	-2.33	
	1	0.00	91.55	-9.16	
1.2D + 1.0Di + 1.0Wi 90 deg	1b	-8.91	-23.78	-4.12	
	1a	-11.73	180.35	5.76	
	1	-1.76	78.28	-1.64	
1.2D + 1.0Di + 1.0Wi 60 deg	1b	-9.97	-39.37	-5.76	
	1a	-7.87	137.10	2.79	
	1	-1.51	137.11	-8.21	
1.2D + 1.0Di + 1.0Wi Normal	1b	-3.55	19.09	-3.84	
	1a	3.55	19.09	-3.84	
	1	0.00	196.67	-14.89	
0.9D + 1.6W 90 deg	1b	-29.18	-295.11	-14.03	
	1a	-30.35	322.47	14.85	
	1	-4.76	13.69	-0.82	
0.9D + 1.6W 60 deg	1b	-32.02	-339.33	-18.49	
	1a	-18.98	190.17	6.35	
	1	-3.99	190.20	-19.61	
0.9D + 1.6W Normal	1b	-14.21	-169.96	-13.27	
	1a	14.21	-169.96	-13.27	
	1	0.00	380.98	-40.10	
1.2D + 1.6W 90 deg	1b	-28.93	-290.92	-13.89	
	1a	-30.61	327.40	15.00	
	1	-4.75	18.25	-1.11	
1.2D + 1.6W 60 deg	1b	-31.78	-335.19	-18.35	
	1a	-19.23	194.94	6.50	
	1	-3.99	194.98	-19.91	
1.2D + 1.6W Normal	1b	-13.97	-165.62	-13.12	
	1a	13.97	-165.62	-13.12	
	1	0.00	385.97	-40.40	

Max Uplift: 339.33 (kip)
 Max Down: 385.97 (kip)
 Max Shear: 40.40 (kip)

Moment: 7,324.70 (ft-kip) 1.2D + 1.6W Normal
 Total Down: 54.73 (kip)
 Total Shear: 66.64 (kip)

Site Number: 302470
Location: Ansonia Wakelee, CT
Code: ANSI/TIA-222 Rev G
Struct Class : II
Exposure : B
Topo : 1

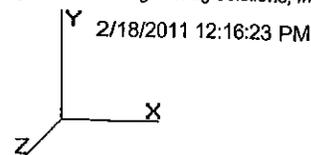
Copyright Semaan Engineering Solutions, Inc



G

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure : B
 Topo : 1

Copyright Semaan Engineering Solutions, Inc

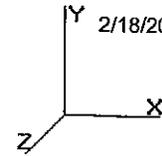


Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
Serviceability - 60.00 Wind 60 deg	10.00	0.0018	0.0007	0.0147
	79.83	0.0623	0.0042	0.0958
	80.17	0.0629	0.0042	0.0960
	106.72	0.1130	0.0054	0.1256
	126.72	0.1622	0.0063	0.1521
	150.00	0.2311	0.0072	0.1868
	154.92	0.2473	0.0073	0.1901
	168.03	0.2937	0.0076	0.2129
	179.83	0.3383	0.0075	0.2337
	184.13	0.3548	0.0074	0.2164
Serviceability - 60.00 Wind 90 deg	192.04	0.3852	0.0073	0.2198
	10.00	0.0020	0.0004	0.0149
	79.83	0.0630	0.0028	0.0960
	80.17	0.0635	0.0028	0.0962
	106.72	0.1141	0.0036	0.1269
	126.72	0.1638	0.0041	0.1535
	150.00	0.2333	0.0046	0.1883
	154.92	0.2497	0.0046	0.1926
	168.03	0.2966	0.0049	0.2155
	179.83	0.3416	0.0049	0.2343
Serviceability - 60.00 Wind Normal	184.13	0.3582	0.0048	0.2188
	192.04	0.3889	0.0048	0.2224
	10.00	0.0022	0.0007	0.0155
	79.83	0.0648	0.0037	0.0982
	80.17	0.0654	0.0037	0.0987
	106.72	0.1173	0.0049	0.1301
	126.72	0.1682	0.0058	0.1572
	150.00	0.2393	0.0068	0.1932
	154.92	0.2561	0.0069	0.1966
	168.03	0.3040	0.0073	0.2203
105.00 mph 60 deg with No Ice (Reduced DL)	179.83	0.3500	0.0071	0.2420
	184.13	0.3670	0.0071	0.2236
	192.04	0.3984	0.0070	0.2271
	10.00	0.0094	0.0034	0.0709
	79.83	0.2999	0.0212	0.4568
	80.17	0.3026	0.0212	0.4584
	106.72	0.5439	0.0274	0.6044
	126.72	0.7809	0.0321	0.7324
	150.00	1.1126	0.0372	0.9017
	154.92	1.1909	0.0375	0.9175
105.00 mph 60 deg with No Ice	168.03	1.4152	0.0402	1.0298
	179.83	1.6303	0.0407	1.1322
	184.13	1.7103	0.0402	1.0465
	192.04	1.8570	0.0402	1.0632
	10.00	0.0094	0.0034	0.0709
	79.83	0.3003	0.0212	0.4578
	80.17	0.3030	0.0212	0.4593
	106.72	0.5446	0.0274	0.6055

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure : B
 Topo : 1

Copyright Semaan Engineering Solutions, Inc

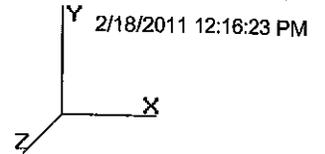


2/18/2011 12:16:23 PM

	126.72	0.7821	0.0321	0.7339
	150.00	1.1145	0.0373	0.9036
	154.92	1.1930	0.0376	0.9194
	168.03	1.4177	0.0403	1.0320
	179.83	1.6334	0.0408	1.1347
	184.13	1.7135	0.0403	1.0488
	192.04	1.8606	0.0403	1.0656
105.00 mph 90 deg with No Ice (Reduced DL)	10.00	0.0090	0.0022	0.0715
	79.83	0.3023	0.0140	0.4578
	80.17	0.3050	0.0140	0.4591
	106.72	0.5483	0.0176	0.6098
	126.72	0.7873	0.0204	0.7385
	150.00	1.1219	0.0234	0.9070
	154.92	1.2007	0.0235	0.9282
	168.03	1.4271	0.0251	1.0399
	179.83	1.6440	0.0256	1.1308
	184.13	1.7245	0.0251	1.0565
	192.04	1.8725	0.0251	1.0737
105.00 mph 90 deg with No Ice	10.00	0.0091	0.0022	0.0716
	79.83	0.3027	0.0140	0.4587
	80.17	0.3054	0.0141	0.4600
	106.72	0.5491	0.0177	0.6109
	126.72	0.7886	0.0204	0.7400
	150.00	1.1239	0.0234	0.9089
	154.92	1.2028	0.0235	0.9302
	168.03	1.4297	0.0251	1.0422
	179.83	1.6471	0.0256	1.1335
	184.13	1.7278	0.0251	1.0588
	192.04	1.8761	0.0251	1.0761
105.00 mph Normal to Face with No Ice (Reduced)	10.00	0.0101	0.0033	0.0742
	79.83	0.3112	0.0180	0.4755
	80.17	0.3140	0.0180	0.4776
	106.72	0.5636	0.0243	0.6257
	126.72	0.8085	0.0292	0.7575
	150.00	1.1514	0.0343	0.9317
	154.92	1.2321	0.0349	0.9481
	168.03	1.4642	0.0375	1.0632
	179.83	1.6866	0.0371	1.1694
	184.13	1.7689	0.0375	1.0804
	192.04	1.9208	0.0375	1.0974
105.00 mph Normal to Face with No Ice	10.00	0.0102	0.0033	0.0742
	79.83	0.3116	0.0180	0.4760
	80.17	0.3145	0.0180	0.4781
	106.72	0.5644	0.0244	0.6269
	126.72	0.8098	0.0292	0.7589
	150.00	1.1534	0.0343	0.9337
	154.92	1.2343	0.0350	0.9502
	168.03	1.4669	0.0376	1.0657
	179.83	1.6898	0.0372	1.1722
	184.13	1.7723	0.0376	1.0829
	192.04	1.9245	0.0376	1.0999
50.00 mph 60 deg with 1.25 in Radial Ice	10.00	0.0062	0.0012	0.0332
	79.83	0.1003	0.0067	0.1530
	80.17	0.1013	0.0067	0.1532

Site Number: 302470
 Location: Ansonia Wakelee, CT
 Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure : B
 Topo : 1

Copyright Semaan Engineering Solutions, Inc



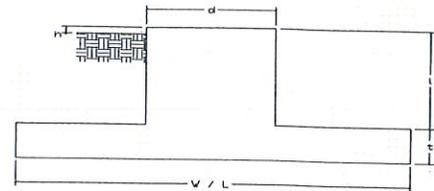
50.00 mph 90 deg with 1.25 in Radial Ice

106.72	0.1775	0.0084	0.1891
126.72	0.2509	0.0097	0.2251
150.00	0.3517	0.0110	0.2712
154.92	0.3750	0.0111	0.2753
168.03	0.4421	0.0117	0.3057
179.83	0.5056	0.0117	0.3299
184.13	0.5291	0.0116	0.3081
192.04	0.5723	0.0116	0.3121
10.00	0.0059	0.0007	0.0324
79.83	0.1002	0.0042	0.1515
80.17	0.1011	0.0042	0.1517
106.72	0.1775	0.0052	0.1893
126.72	0.2510	0.0060	0.2254
150.00	0.3520	0.0067	0.2719
154.92	0.3753	0.0068	0.2772
168.03	0.4425	0.0072	0.3064
179.83	0.5061	0.0072	0.3295
184.13	0.5297	0.0071	0.3093
192.04	0.5730	0.0071	0.3131
10.00	0.0050	0.0012	0.0302
79.83	0.1000	0.0061	0.1490
80.17	0.1009	0.0061	0.1491
106.72	0.1775	0.0078	0.1898
126.72	0.2513	0.0091	0.2260
150.00	0.3527	0.0104	0.2733
154.92	0.3761	0.0105	0.2776
168.03	0.4436	0.0111	0.3076
179.83	0.5075	0.0110	0.3334
184.13	0.5310	0.0110	0.3102
192.04	0.5745	0.0110	0.3141
192.04	0.0000	0.0000	0.0000

50.00 mph Normal with 1.25 in Radial Ice

Site Name: Ansonia Wakelee, CT
 Site Number: 302470
 Engineering Number: 46474021
 Engineer: D. Johnson
 Date: 9/18/2011
 Tower Type: SST w/3 Legs

Program Last Updated: 8/30/2010



Design Loads (Factored) - Analysis per TIA-222-G Standards

Foundation Mapped:

Compression/Leg:	386.0 k
Uplift/Leg:	339.3 k
Total Shear:	66.6 k
Moment:	7324.7 k-ft
Tower + Appurtenance Weight:	54.7 k
Depth to Base of Foundation:	3.50 ft
Diameter of Pier (d):	1.00 ft
Height of Pier above Ground (h):	0.00
Width of Pad (W):	32.50 ft
Length of Pad (L):	32.50 ft
Thickness of Pad (t):	4.00 ft
Tower Leg Center to Center:	23.00 ft
Number of Tower Legs:	3.0 (1 if MP or GT)
Tower Center from Mat Center:	0.00 ft
Depth Below Ground Surface to Water Table:	40.20 ft
Unit Weight of Concrete:	150.0 pcf
Unit Weight of Soil Above Water Table:	115.0 pcf
Unit Weight of Water:	62.4 pcf
Unit Weight of Soil Below Water Table:	60.0 pcf
Friction Angle of Uplift:	15.00 Degrees
Ultimate Coefficient of Shear Friction:	0.43
Ultimate Compressive Bearing Pressure:	14000.0 psf
Ultimate Passive Pressure on Pad Face:	1350.0 psf
$\phi_{\text{Soil and Concrete Weight}}$:	0.9
ϕ_{Soil} :	0.75

Concrete Strength (f'_c):	3000 psi
Pad Tension Steel Depth:	44.00 in
ϕ_{Shear} :	0.75
$\phi_{\text{Flexure / Tension}}$:	0.90
$\phi_{\text{Compression}}$:	0.65
β :	0.85
Bottom Pad Rebar Size #:	9
# of Bottom Pad Rebar:	33
Pad Bottom Steel Area:	33.00 in ²
Pad Steel F_y :	60000 psi
Top Pad Rebar Size #:	9
# of Top Pad Rebar:	33
Pad Top Steel Area:	33.00 in ²
Pier Rebar Size #:	3
Pier Steel Area (Single Bar):	0.11 in ²
# of Pier Rebar:	0
Pier Steel F_y :	60000 psi
Pier Cage Diameter:	4.0 in
Rebar Strain Limit:	0.008
Steel Elastic Modulus:	29000 ksi
Tie Rebar Size #:	3
Tie Steel Area (Single Bar):	0.11 in ²
Tie Spacing:	12 in
Tie Steel F_y :	60000 psi

Overturning Moment Usage

Design OTM:	7557.8 k-ft
OTM Resistance:	9511.9 k-ft
Design OTM / OTM Resistance:	0.79 Result: OK

Soil Bearing Pressure Usage:

Total Weight (Foundation, Soil, Tower):	618.6 k
Net Bearing Pressure:	2415 psf
Nominal Bearing Pressure:	10500 psf
Net Bearing Pressure/Nominal Bearing Pressure:	0.23 Result: OK
Load Direction Controlling Design Bearing Pressure:	Diagonal to Pad Edge

Sliding Factor of Safety

Total Factored Sliding Resistance:	317.9 k
Sliding Design / Sliding Resistance:	0.21 Result: OK

One Way Shear, Flexural Capacity, and Punching Shear

Factored One Way Shear (V_u):	249.9 k
One Way Shear Capacity (ϕV_c):	1077.4 k - ACI11.3.1.1
$V_u / \phi V_c$:	0.23 Result: OK
Load Direction Controlling Shear Capacity:	Diagonal to Pad Edge
Lower Steel Pad Factored Moment (M_u):	2279.6 k-ft
Lower Steel Pad Moment Capacity (ϕM_n):	6295.2 k-ft - ACI10.3
$M_u / \phi M_n$:	0.36 Result: OK
Load Direction Controlling Flexural Capacity:	Diagonal to Pad Edge
Upper Steel Pad Factored Moment (M_u):	1159.1 k-ft
Upper Steel Pad Moment Capacity (ϕM_n):	6408.3 k-ft
$M_u / \phi M_n$:	0.18 Result: OK
Lower Pad Flexural Reinforcement Ratio:	0.0019 OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Upper Pad Flexural Reinforcement Ratio:	0.0019 OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Lower Pad Reinforcement Spacing:	12 in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Upper Pad Reinforcement Spacing:	12 in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Factored Punching Shear (V_u):	365.6 k
Nominal Punching Shear Capacity ($\phi_c V_n$):	1272.0 k - ACI11.12.2.1
$V_u / \phi V_c$:	0.29 Result: OK

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

ORIGINAL

December 13, 2010

RECEIVED
DEC 14 2010
CONNECTICUT
SITING COUNCIL

Linda Roberts
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Construction Activity**
EM-VER-002-100107 – 401 Wakelee Avenue, Ansonia, Connecticut
EM-VER-057-100111 – 1081 North Street, Greenwich, Connecticut
EM-VER-008-100222 – 93 Old Amity Road, Bethany, Connecticut
EM-VER-015-100427 – 623 Pine Street, Bridgeport, Connecticut
EM-VER-058-091217 – 2 Sunny Lane, Westport, Connecticut
EM-VER-035-100311 – Ledge Road, Darien, Connecticut

Dear Ms. Roberts:

The purpose of this letter is to notify you that construction activity associated with the above-referenced facility modifications has been completed.

If you have any questions or need any additional information regarding any of these facilities, please do not hesitate to contact me.

Sincerely,



Kenneth C. Baldwin



Law Offices

BOSTON

PROVIDENCE

HARTFORD

NEW LONDON

STAMFORD

WHITE PLAINS

NEW YORK CITY

ALBANY

SARASOTA

www.rc.com

KCB/kmd

Copy to:

Sandy M. Carter

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

RECEIVED
JAN 11 2011

CONNECTICUT
SITING COUNCIL
January 7, 2011

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

Re: **EM-VER-002-100107 – Cellco Partnership d/b/a Verizon Wireless
401 Wakelee Drive, Ansonia, Connecticut**

Dear Mr. Martin:

On February 18, 2010, the Siting Council acknowledged receipt of Cellco's notice of intent to modify the above-referenced telecommunications facility. This modification involved the replacement of six of Cellco's existing antennas with newer model antennas.

As a condition of this acknowledgement, Cellco was required to provide the Council with a letter stating that the coax cables were configured as specified in the filing. Attached is a Tower Modification Certification Letter confirming compliance with this condition.

If you have any questions regarding any of these materials, please do not hesitate to contact me or Rachel Mayo.

Sincerely,



Kenneth C. Baldwin

Attachment

Copy to:

Sandy M. Carter
Brian Ragozzine
Mark Gauger



Law Offices

BOSTON

PROVIDENCE

HARTFORD

NEW LONDON

STAMFORD

WHITE PLAINS

NEW YORK CITY

ALBANY

SARASOTA

www.rc.com

January 6, 2011

Mr. Mark Gauger
Verizon Wireless
99 East River Drive
East Hartford, Connecticut 06108

Re: Tower Modification Certification Letter

Project: Verizon ~ Ansonia
411 Wakelee Avenue
Ansonia, Connecticut

Tower Owner: American Towers
400 Regency Forest Drive
Cary, North Carolina 27518

Engineer: American Tower Engineering Services
400 Regency Forest Drive Cary, North Carolina 27518

Contractor: Construction Services of Branford
63-3 North Branford Road, Branford, CT 06405

Centek Project No.: 10179.CO5

Dear Mr. Gauger,

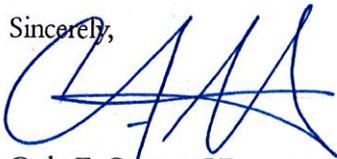
We are providing this "Tower Modification Certification Letter" with regard to the antenna upgrade by Verizon Wireless at the above referenced project.

The following are the basis for substantiating compliance with the design documents prepared by American Tower Engineering Services:

- Review of the structural analysis report prepared by American Tower Engineering Services Associated dated 12/1/2009.
- Field observations by Centek personnel of antenna installation on 1/5/2011 confirming compliance with the above referenced documents.
- Field observations by Centek personnel of coax cable installation on 1/5/2011 confirming compliance with the above referenced documents.

The work under this Contract has been reviewed and found, to the Engineer's best knowledge, information and belief, to be completed in general compliance with the documents referenced above.

Sincerely,



Carlo F. Centore, PE
Principal ~ Structural Engineer

CC: Rachel Mayo, Sandy Carter, Aleksey Tyurin



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

April 7, 2011

Linda Roberts
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RECEIVED
APR - 8 2011

CONNECTICUT
SITING COUNCIL

Re: **Notice of Construction Activity**
EM-VER-002-100107 – 401 Wakelee Avenue, Ansonia, CT
EM-VER-051-100125 – 281 Woodhouse Avenue, Fairfield, CT
EM-VER-101-100107 – 117 Washington Avenue, North Haven, CT
EM-VER-084-100107 – 111 School House Road, Milford, CT
EM-VER-115-100128 – 178 New Haven Road, Prospect, CT
EM-VER-103-100107 – Old Waterbury Road, Southbury, CT

Dear Ms. Roberts:

The purpose of this letter is to notify you that construction activity associated with all of the above-referenced facility modifications has been completed.

If you have any questions or need any additional information regarding any of these facilities, please do not hesitate to contact me.

Sincerely,



Kenneth C. Baldwin



Law Offices

BOSTON

PROVIDENCE

HARTFORD

NEW LONDON

STAMFORD

WHITE PLAINS

NEW YORK CITY

ALBANY

SARASOTA

www.rc.com

KCB/kmd

Copy to:

Sandy M. Carter