



October 9, 2012

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

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

RE: **EM-VER-053-120907** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 89 Dr. Nott Road, Franklin, 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:

- 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 September 5, 2012. 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/jbw

c: The Honorable Richard L. Matters, First Selectman, Town of Franklin
Ronald Chalecki, Zoning Enforcement Officer, Town of Franklin
American Tower

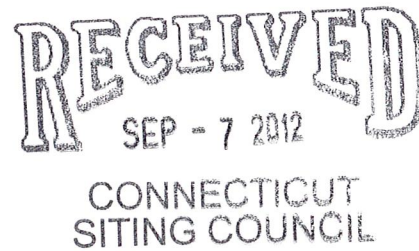


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Also admitted in Massachusetts

September 5, 2012

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



Re: **Notice of Exempt Modification – Antenna Swap
89 Dr. Nott Road, Franklin, Connecticut**

Dear Ms. Roberts:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains twelve (12) wireless telecommunications antennas at the 169-foot level on an existing 300-foot tower at the above-referenced address. The tower is owned by American Tower. Cellco’s use of the tower was approved by the Council in 2006. Cellco now intends to replace all of its antennas with six (6) model LPA-80063-4CF cellular antennas; three (3) model BXA-171063-12BF PCS antennas; and three (3) model BXA-70063-6CF LTE antennas, all at the same 169-foot level. Cellco also intends to install six (6) coax cable diplexers behind its antennas. Attached behind Tab 1 are the specifications for the replacement antennas and cable diplexers.

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 Richard Matters, First Selectman of the Town of Franklin. A copy of this letter is also being sent to Thomas and Dorothy Shakun, the owners 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).



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Linda Roberts
September 5, 2012
Page 2

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's replacement antennas and diplexers will be located at the 169-foot level on the existing 300-foot tower.
2. The proposed modifications will not involve any change 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) emissions 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 modifications. (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:

Richard Matters, Franklin First Selectman
Thomas and Dorothy Shakun
Sandy M. Carter

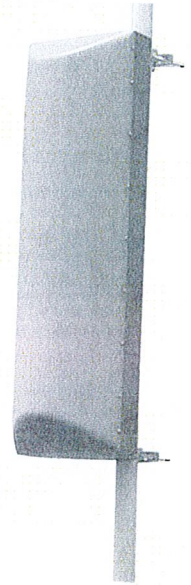


LPA-80063-4CF-EDIN-X

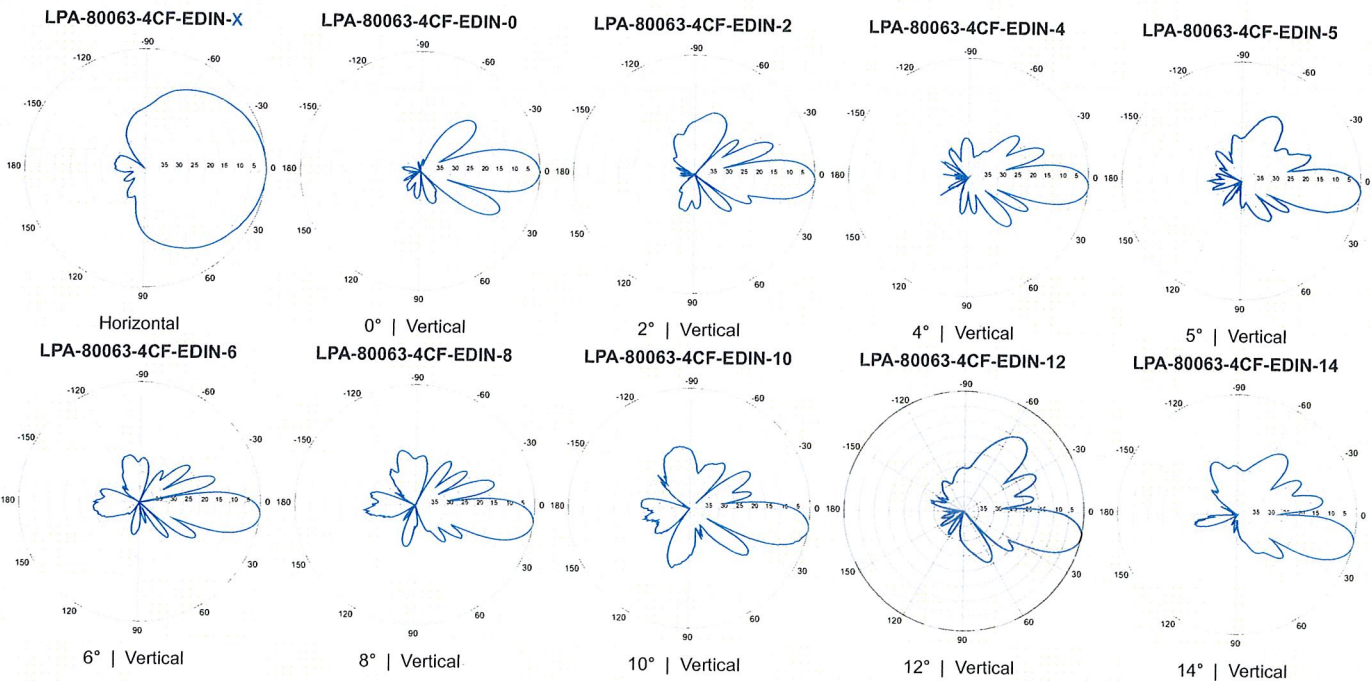
V-Pol | Log Periodic | 63° | 13.0 dBd

Replace "X" with desired electrical downtilt.

Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.



Electrical Characteristics		
Frequency bands	806-960 MHz	
Polarization	Vertical	
Horizontal beamwidth	63°	
Vertical beamwidth	15°	
Gain	13.0 dBd (15.1 dBi)	
Electrical downtilt (X)	0, 2, 4, 5, 6, 8, 10, 12, 14	
Impedance	50Ω	
VSWR	≤1.4:1	
Upper sidelobe suppression (0°)	-15.7 dB	
Front-to-back ratio (+/-30°)	-31.7 dB	
Null fill	5% (-26.02 dB)	
Input power	500 W	
Lightning protection	Direct Ground	
Connector(s)	1 Port / EDIN or NE / Female / Center (Back)	
Mechanical Characteristics		
Dimensions Length x Width x Depth	1205 x 385 x 332 mm 47.4 x 15.2 x 13.1 in	
Depth of antenna with z-bracket	372 mm 14.6 in	
Weight without mounting brackets	9.1 kg 20 lbs	
Survival wind speed	> 201 km/hr > 125 mph	
Wind area	Front: 0.46 m ² Side: 0.39 m ² Front: 5.0 ft ² Side: 4.2 ft ²	
Wind load @ 161 km/hr (100 mph)	Front: 660 N Side: 550 N Front: 149 lbf Side: 124 lbf	
Mounting Options		
	Part Number Fits Pipe Diameter Weight	
2-Point Mounting & Downtilt Bracket Kit (0-20°)	21699999 50-102 mm 2.0-4.0 in 5.4 kg 12 lbs	
Lock-Down Brace	If the lock-down brace is used, the maximum diameter of the mounting pipe is 88.9 mm or 3.5 in.	



Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.

BXA-171063-12BF-EDIN-X

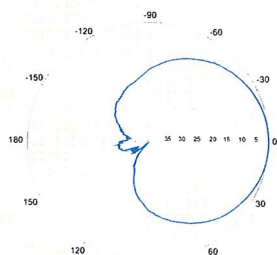
Replace 'X' with desired electrical downtilt.

X-Pol | FET Panel | 63° | 19.0 dBi

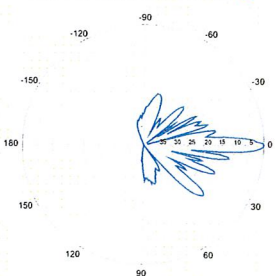


Electrical Characteristics	1710-2170 MHz		
	1710-1880 MHz	1850-1990 MHz	1920-2170 MHz
Frequency bands	1710-1880 MHz	1850-1990 MHz	1920-2170 MHz
Polarization	±45°	±45°	±45°
Horizontal beamwidth	68°	65°	60°
Vertical beamwidth	4.5°	4.5°	4.5°
Gain	16.1 dBd / 18.2 dBi	16.5 dBd / 18.6 dBi	16.9 dBd / 19.0 dBi
Electrical downtilt (X)	0, 2, 5		
Impedance	50Ω		
VSWR	≤1.5:1		
First upper sidelobe	< -17 dB		
Front-to-back ratio	> 30 dB		
In-band isolation	> 28 dB		
IM3 (20W carrier)	< -150 dBc		
Input power	300 W		
Lightning protection	Direct Ground		
Connector(s)	2 Ports / EDIN / Female / Bottom		
Operating temperature	-40° to +60° C / -40° to +140° F		
Mechanical Characteristics			
Dimensions Length x Width x Depth	1820 x 154 x 105 mm		71.7 x 6.1 x 4.1 in
Depth with z-brackets	133 mm		5.2 in
Weight without mounting brackets	6.8 kg		15 lbs
Survival wind speed	> 201 km/hr		> 125 mph
Wind area	Front: 0.28 m ² Side: 0.19 m ²	Front: 3.1 ft ² Side: 2.1 ft ²	
Wind load @ 161 km/hr (100 mph)	Front: 460 N Side: 304 N	Front: 103 lbf Side: 68 lbf	
Mounting Options			
	Part Number	Fits Pipe Diameter	Weight
2-Point Mounting Bracket Kit	26799997	50-102 mm 2.0-4.0 in	2.3 kg 5 lbs
2-Point Mounting & Downtilt Bracket Kit	26799999	50-102 mm 2.0-4.0 in	3.6 kg 8 lbs
Concealment Configurations	For concealment configurations, order BXA-171063-12BF-EDIN-X-FP		

BXA-171063-12BF-EDIN-X

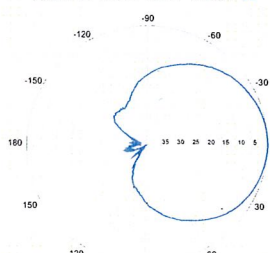


Horizontal | 1710-1880 MHz
BXA-171063-12BF-EDIN-0

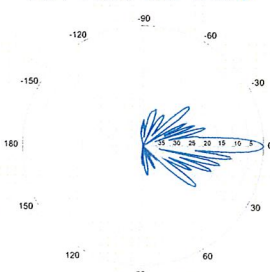


0° | Vertical | 1710-1880 MHz

BXA-171063-12BF-EDIN-X

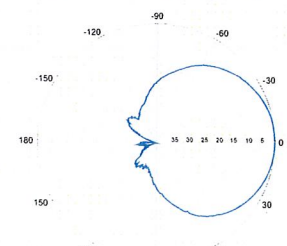


Horizontal | 1850-1990 MHz
BXA-171063-12BF-EDIN-0

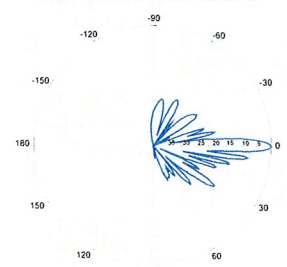


0° | Vertical | 1850-1990 MHz

BXA-171063-12BF-EDIN-X



Horizontal | 1920-2170 MHz
BXA-171063-12BF-EDIN-0

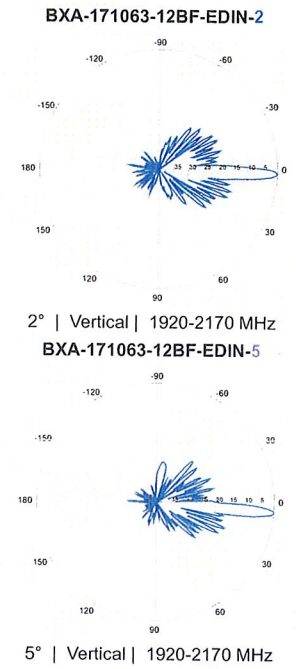
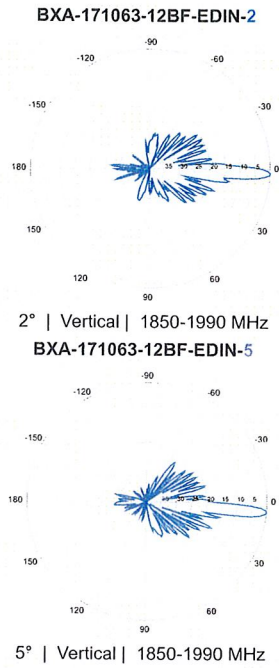
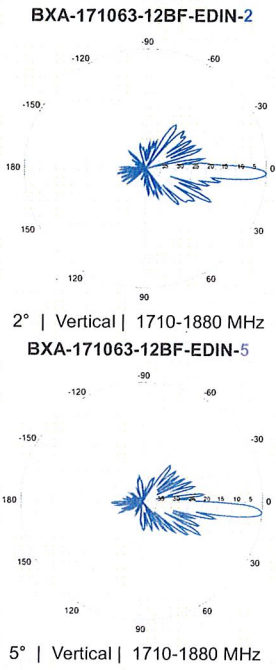


0° | Vertical | 1920-2170 MHz

Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.

BXA-171063-12BF-EDIN-X

X-Pol | FET Panel | 63° | 19.0 dBi



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BXA-70063-6CF-EDIN-X

X-Pol | FET Panel | 63° | 14.5 dBd

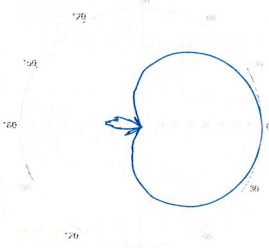
Replace "X" with desired electrical downtilt.

Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.



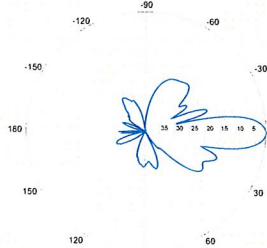
Electrical Characteristics	696-900 MHz		
Frequency bands	696-806 MHz	806-900 MHz	
Polarization	±45°		
Horizontal beamwidth	65°	63°	
Vertical beamwidth	13°	11°	
Gain	14.0 dBd (16.1 dBi)	14.5 dBd (16.6 dBi)	
Electrical downtilt (X)	0, 2, 3, 4, 5, 6, 8, 10		
Impedance	50Ω		
VSWR	≤1.35:1		
Upper sidelobe suppression (0°)	-18.3 dB	-18.2 dB	
Front-to-back ratio (+/-30°)	-33.4 dB	-36.3 dB	
Null fill	5% (-26.02 dB)		
Isolation between ports	< -25 dB		
Input power with EDIN connectors	500 W		
Input power with NE connectors	300 W		
Lightning protection	Direct Ground		
Connector(s)	2 Ports / EDIN or NE / Female / Center (Back)		
Mechanical Characteristics			
Dimensions Length x Width x Depth	1804 x 285 x 132 mm	71.0 x 11.2 x 5.2 in	
Depth with z-brackets	172 mm	6.8 in	
Weight without mounting brackets	7.9 kg	17 lbs	
Survival wind speed	> 201 km/hr	> 125 mph	
Wind area	Front: 0.51 m ² Side: 0.24 m ²	Front: 5.5 ft ² Side: 2.6 ft ²	
Wind load @ 161 km/hr (100 mph)	Front: 759 N Side: 391 N	Front: 169 lbf Side: 89 lbf	
Mounting Options	Part Number	Fits Pipe Diameter	Weight
3-Point Mounting & Downtilt Bracket Kit	36210008	40-115 mm 1.57-4.5 in	6.9 kg 15.2 lbs
Concealment Configurations	For concealment configurations, order BXA-70063-6CF-EDIN-X-FP		

BXA-70063-6CF-EDIN-X



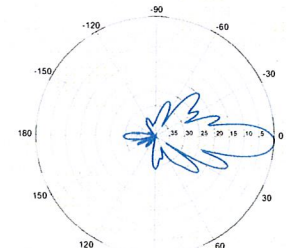
Horizontal | 750 MHz

BXA-70063-6CF-EDIN-0

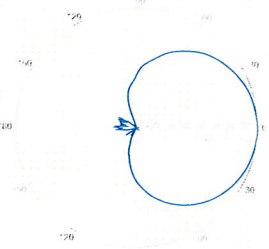


0° | Vertical | 750 MHz

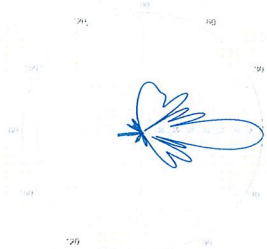
BXA-70063-6CF-EDIN-2



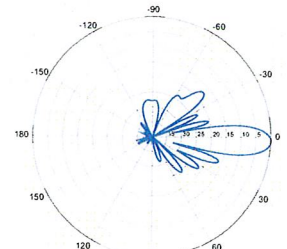
2° | Vertical | 750 MHz



Horizontal | 850 MHz



0° | Vertical | 850 MHz



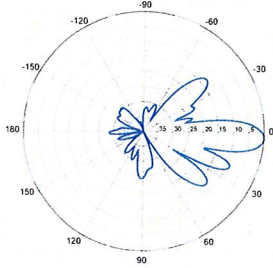
2° | Vertical | 850 MHz

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BXA-70063-6CF-EDIN-X

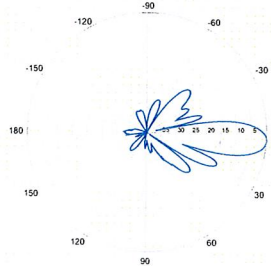
X-Pol | FET Panel | 63° | 14.5 dBd

BXA-70063-6CF-EDIN-3



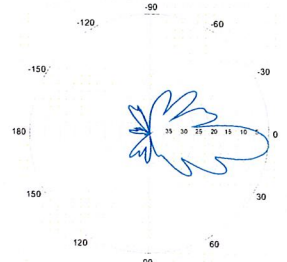
3° | Vertical | 750 MHz

BXA-70063-6CF-EDIN-4

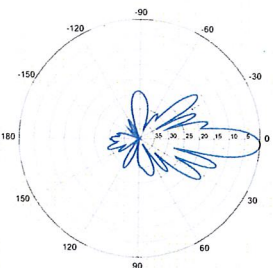


4° | Vertical | 750 MHz

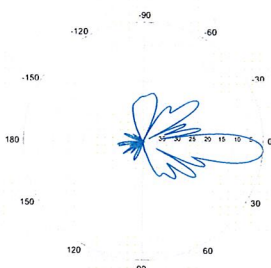
BXA-70063-6CF-EDIN-5



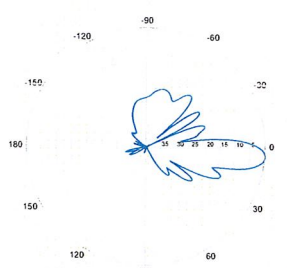
5° | Vertical | 750 MHz



3° | Vertical | 850 MHz

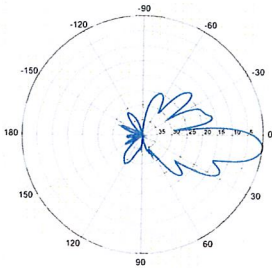


4° | Vertical | 850 MHz



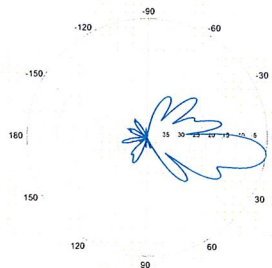
5° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-6



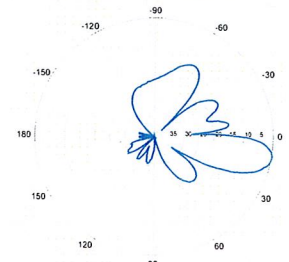
6° | Vertical | 750 MHz

BXA-70063-6CF-EDIN-8

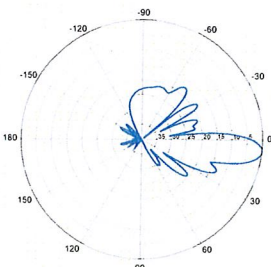


8° | Vertical | 750 MHz

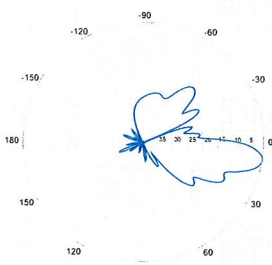
BXA-70063-6CF-EDIN-10



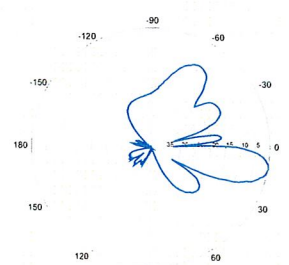
10° | Vertical | 750 MHz



6° | Vertical | 850 MHz



8° | Vertical | 850 MHz



10° | Vertical | 850 MHz

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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
Application	LTE700, GSM900, UMTS, GSM1800, Cellular 800, PCS
Frequency Range 1, MHz	698-960
Frequency Range 2, MHz	1710-2200
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)
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, Path 1, dB	0.07 typ.
Insertion Loss, Path 2, dB	0.13 typ.
Rejection Between Bands Min/Typ, dB	58/64@698-960MHz; 57/70@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
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

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

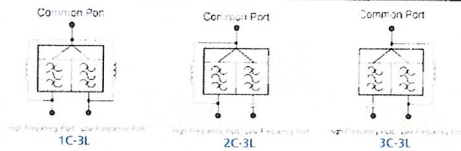


ShareLite Wideband Diplexer – In-line 698-960 MHz/1710-2200 MHz, DC pass in high frequency path

Other Documentation

FD9R6004/2C-3L Installation Instructions: Wideband_Diplexer_Installation_Rev5.pdf

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 FD9R6004/xC-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 : 300 ft. Guyed Tower
ATC Site Name : Franklin CT, CT
ATC Site Number : 6310
Engineering Number : 49674921
Proposed Carrier : Verizon Wireless
Carrier Site Name : Franklin CT
Carrier Site Number : 117732
Site Location : 89 Dr. Nott Road
North Franklin, CT 06254-1316
41.597664,-72.144974
County : New London
Date : July 27, 2012
Max Usage : 87%
Result : Pass

Anantha Shanubhogue
Project Engineer



Handwritten initials and date: 7/27/12



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 300 ft guyed tower to reflect the change in loading by Verizon Wireless.

Supporting Documents

Tower Drawings	FWT Job # 18504 dated 01/20/99
Foundation Drawing	FWT Job # 18504 dated 01/20/99
Geotechnical Report	Tectonic Engineering Consultants P.C. dated 10/26/98
Mods	ATC Project # 430070H1 dated 03/05/09

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/EIA-222.

Basic Wind Speed:	85 mph (Fastest Mile)
Basic Wind Speed w/ Ice:	74 mph (Fastest Mile)w/ 1/2" radial ice concurrent
Code:	ANSI/TIA/EIA-222-F / 2003 IBC , Sec. 1609.1.1, Exception (4) & Sec. 3108.4 w/ 2005 CT Supplement & 2009 CT Amendment

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact me via email at anantha.shanubhogue@americantower.com or call 972-999-8910.



Existing and Reserved Equipment

Mount Elev. ¹ (ft)	Qty	Antennas	Mount	Coax	Carrier
295.0	1	7' Omni	Side Arms	(1) 1 1/4	Unknown
	1	20' Dipole		(1) 1 1/4	
	1	Decibel ASP-973		(1) 7/8	Laidlaw
	2	20' Dipole		(2) 7/8	Quinnebaug Valley Emergency comm.
270.0	2	15' Omni	Side Arms	(2) 1 5/8	AT&T Mobility
	1	10' Dipole		(1) 1 1/4	Unknown
	1	8' Omni		(1) 1 1/4	American Messaging Services inc.
235.0	1	Scala OGT9-840	Side Arms	(1) 1 5/8	AT&T Mobility
	1	Scala OGT9-840 (Inverted)		(1) 1 5/8	
	1	11' Omni		(1) 1 1/4	USA Mobility
	1	11' Omni (Inverted)		(1) 1 1/4	
	1	15' Omni		(1) 1 1/4	
202.0	1	20' Dipole	Side Arms	(2) 7/8	New England Central Railroad
	1	Decibel DB224			Prov & worcester RR
193.0	3	RFS APX16DWV-16DWV-S-E	Sector Frame	(12) 1 5/8	T-Mobile
	3	RFS ATMAA1412D-1A20			
	3	RFS ATMPP1412D-1CWA			
176.0	9	Decibel 844H90E-XY	Sector Frame	(15) 1 5/8	Sprint Nextel
	3	EMS RR90-17-02DPL2			
	6	14" x 9" TTA			
130.0	2	AP7-850/065	Side Arms	(2) 1 5/8	AT&T Mobility
	1	BTS 24" x 24" TMA		(2) 3/8	
105.0	1	20' Dipole	Leg Mounted	(1) 1/2	New England Central Railroad
	1	2' x 4' Rectangular Grid Dish	Dish Mount	(1) 7/8	Verizon Wireless
	1	3' Yagi	Leg Mounted	(1) 1/2	
80.0	1	RFS PA6-65AC w/radome	Dish Mount	(1) EW52	AT&T Mobility

Proposed Equipment

Elevation ¹ (ft)		Qty.	Antenna	Mount Type	Coax (in)	Carrier
Mount	RAD					
165.0	169.0	3	Antel BXA-171063-12BF-EDIN-X	Sector Frame (Existing Mount)	(12) 1 5/8	Verizon Wireless
		3	Antel BXA-70063-6CF-EDIN-X			
		6	Antel LPA-80063-4CF-EDIN-X			
		6	RFS FD9R6004/2C-3L			

¹Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Proposed Verizon lines were considered as existing on the tower.

**Structure Usages**

Structural Component	Controlling Usage	Pass/Fail
Legs	81%	Pass
Diagonals	76%	Pass
Horizontals	62%	Pass
Guys	87%	Pass

Foundations

Reaction Component	Original Design Reactions	Analysis Reactions	% of Design
Base Axial (kips)	208.2	171.4	82%
Anchor 1 Uplift (kips)	73.5	62.1	84%
Anchor 1 Shear (kips)	85.9	76.3	89%

The structure foundation reactions resulting from the current analysis do not exceed the ones shown on the original structural drawings or calculations. Upon reviewing the foundation documents, the existing foundations were found to be adequate to support the current analysis reactions. Therefore, no modification to the existing foundations will be required.

The existing foundations also have 2.0 safety factors. Refer attached foundation calculation for additional details.



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, antenna, mounts 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.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. 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.

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.

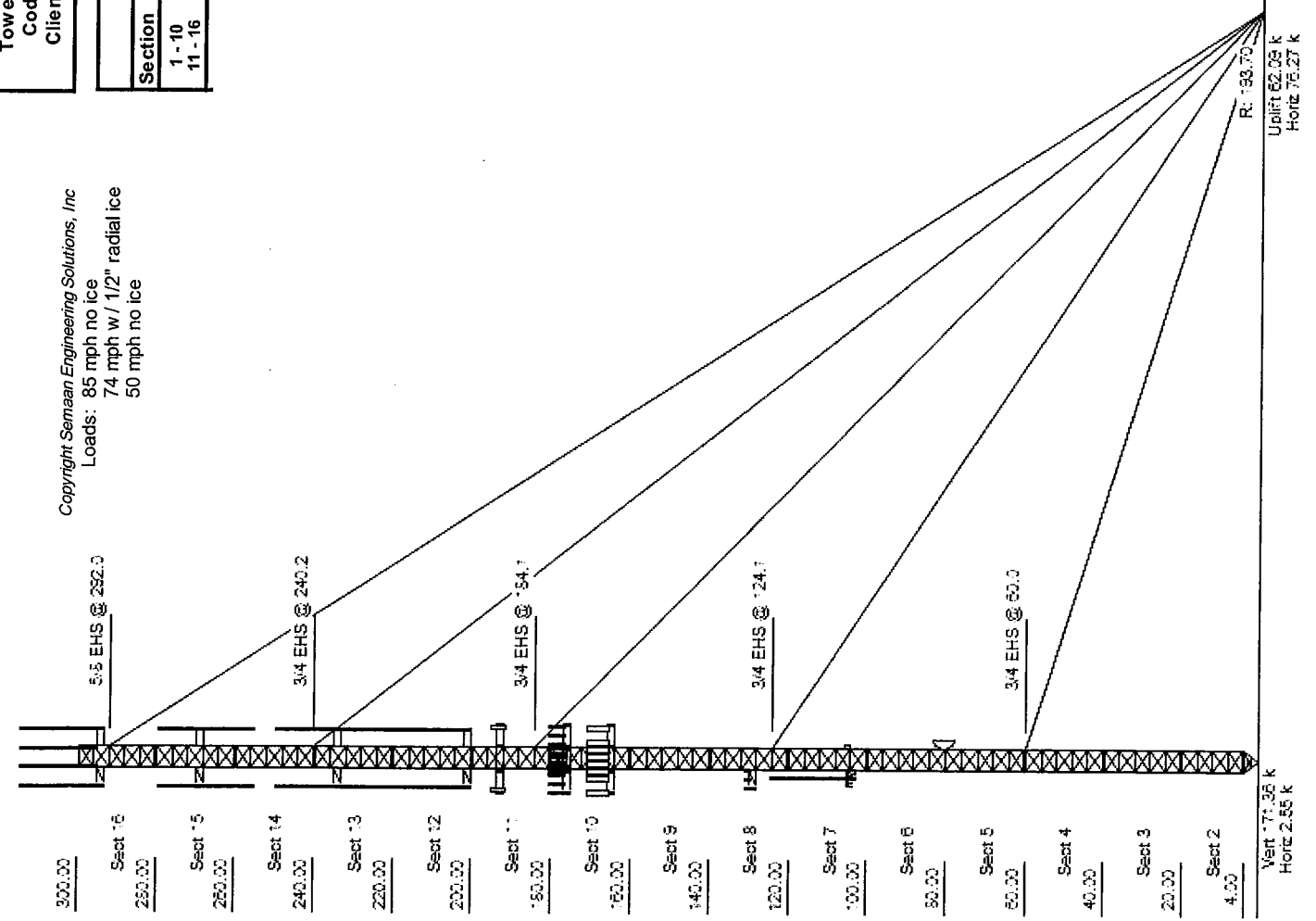
Job Information		
Tower : 6310	Location : Franklin CT, CT	Base Width : 4.00 ft
Code : TIA/EIA-222 Rev F	Shape : Triangle	
Client : Verizon Wireless		

Sections Properties			
Section	Leg Members	Diagonal Members	Horizontal Members
1 - 10	SOL 50 ksi 2.1/4" SOLID	SOL 50 ksi 5/8" SOLID	SAE 36 ksi 2X2X0.1875
11 - 16	SOL 50 ksi 2" SOLID	SOL 50 ksi 5/8" SOLID	SAE 36 ksi 2X2X0.1875

Discrete Appurtenance			
Elev (ft)	Type	Qty	Description
295.00	Whip	2	20' Dipole
295.00	Whip	1	Decibel ASP-973
295.00	Whip	1	20' Dipole
295.00	Whip	1	7' Omni
295.00	Whip	3	Side Arm
270.00	Straight Arm	1	8' Omni
270.00	Whip	1	10' Dipole
270.00	Whip	2	15' Omni
270.00	Whip	3	Side Arm
235.00	Whip	1	Scala OG19-840 (Inverted)
235.00	Whip	1	11' Omni (Inverted)
235.00	Whip	1	15' Omni
235.00	Straight Arm	3	Side Arm
235.00	Whip	1	11' Omni
235.00	Whip	1	Scala OG19-840
202.00	Whip	1	Decibel DB224
202.00	Whip	2	Side Arm
202.00	Straight Arm	1	20' Dipole
193.00	Whip	3	Sector Frame
193.00	Mounting Frame	3	RFS ATMAA1412D-1A20
193.00	Mounting Frame	3	RFS ATMAA1412D-1CWA
193.00	Panel	3	RFS APX16DWV-16DWV-S-E-ACU
176.00	Panel	6	14' x 9" TTA
176.00	Panel	3	EMS RR90-17-02DPL2
176.00	Panel	9	Decibel 844H90E-XY
176.00	Mounting Frame	3	Sector Frame
165.00	Panel	3	Antel BXA-171063-12BF-EDIN-X
165.00	Panel	3	Antel BXA-70063-6CF-EDIN-X
165.00	Panel	6	Antel LPA-80063-4CF-EDIN-X
165.00	Panel	6	RFS FD9R6004/2C-3L
130.00	Mounting Frame	3	Sector Frame
130.00	Straight Arm	1	Side Arm
130.00	Panel	1	BTS 24" x 24" TMA
130.00	Panel	2	AP7-850/065
105.00	Yagi	1	3' Yagi
105.00	Dish	1	2' x 4' Rectangular Grid Dish
105.00	Whip	1	20' Dipole
84.00	Other	1	Ice Shield
80.00	Dish	1	RFS PA6-65AC

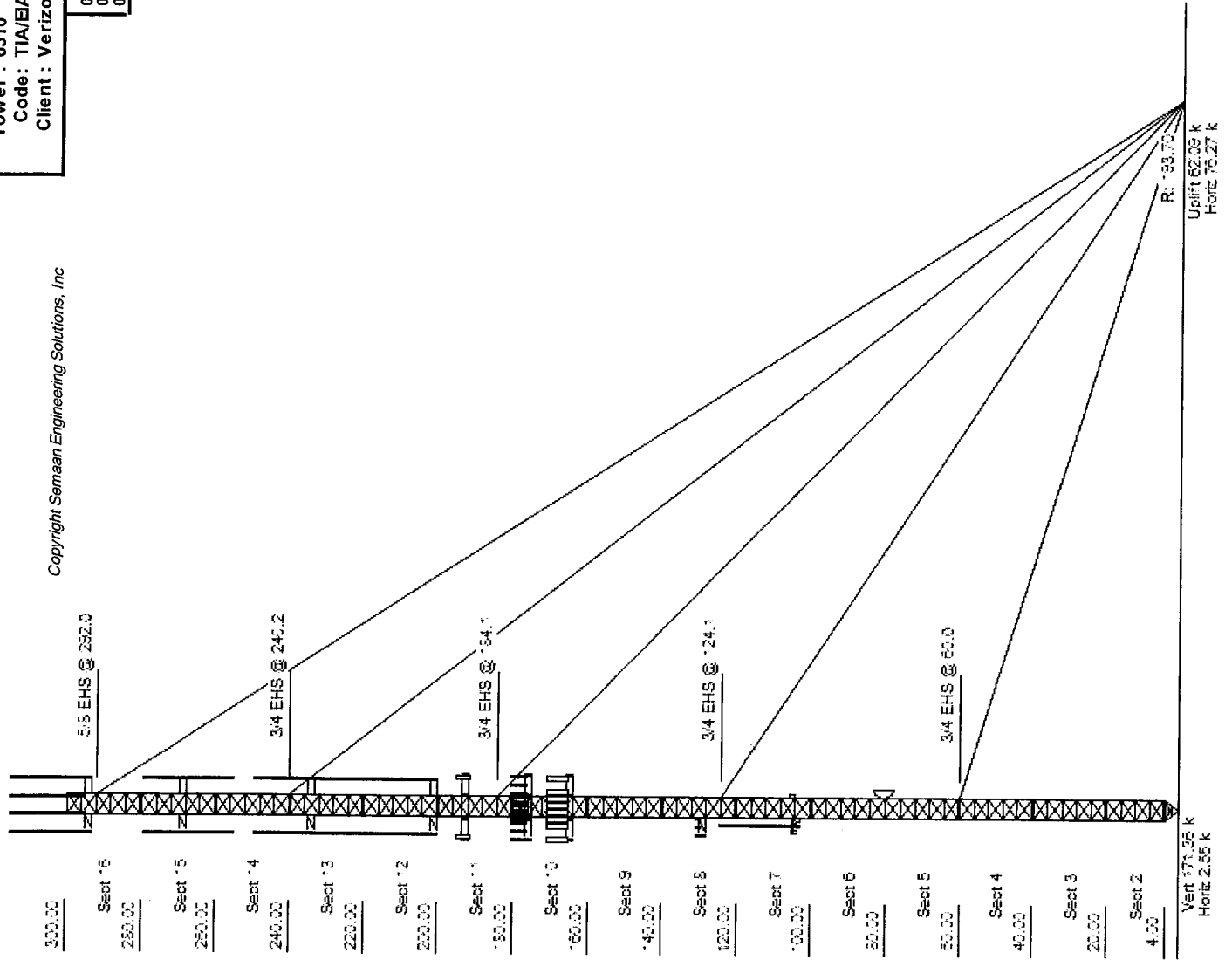
Linear Appurtenance				
Elev (ft)	From	To	Qty	Description
0.000	295.00	3	7/8" Coax	
0.000	295.00	2	1 1/4" Coax	
0.000	270.00	2	1 5/8" Coax	
0.000	270.00	2	1 1/4" Coax	
0.000	235.00	2	1 5/8" Coax	
0.000	235.00	3	1 1/4" Coax	
0.000	202.00	2	7/8" Coax	
0.000	193.00	12	1 5/8" Coax	
0.000	176.00	15	1 5/8" Coax	
0.000	165.00	12	1 5/8" Coax	
0.000	130.00	2	3/8" Coax	
0.000	130.00	2	1 5/8" Coax	

Copyright Semaan Engineering Solutions, Inc
 Loads: 85 mph no ice
 74 mph w/ 1/2" radial ice
 50 mph no ice



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Job Information			
Tower : 6310	Location : Franklin CT, CT		
Code: TIA/EIA-222 Rev F	Shape : Triangle		
Client : Verizon Wireless	Base Width : 4.00 ft		
0.000	105.00	1	7/8" Coax
0.000	105.00	2	1/2" Coax
0.000	80.000	1	EW52



Site Number: 6310
 Location: Franklin CT, CT
 Code: TIA/EIA-222 Rev F

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Gh : 1.09

Section Forces

LoadCase Normal No Ice

85.00 mph Wind Normal To Face with No Ice

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

Seq	Wind Height (ft)	Wind qz (psf)	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			
16	290.0	34.42	4.00	13.67	0.00	0.22	2.53	1.00	1.00	0.59	12.13	0.00	0.00	1,035.2	0.0	1,148.05	0.00	1,148.05	2			
15	270.0	33.72	4.00	17.33	0.00	0.27	2.39	1.00	1.00	0.61	14.51	0.00	0.00	1,066.5	0.0	1,271.02	0.00	1,271.02	1			
14	250.0	32.99	4.00	19.92	0.00	0.30	2.30	1.00	1.00	0.62	16.26	0.00	0.00	1,104.5	0.0	1,341.17	0.00	1,341.17	1			
13	230.0	32.21	4.00	25.73	0.00	0.37	2.12	1.00	1.00	0.64	20.48	0.00	0.00	1,148.4	0.0	1,523.10	0.00	1,523.10	1			
12	210.0	31.38	4.00	28.03	0.00	0.40	2.06	1.00	1.00	0.65	22.27	0.00	0.00	1,167.4	0.0	1,568.44	0.00	1,568.44	1			
11	190.0	30.50	4.00	31.30	0.00	0.44	1.99	1.00	1.00	0.67	24.95	25.74	0.00	1,316.2	0.0	1,645.48	1,024.7	2,670.19	1			
10	170.0	29.55	4.00	39.63	0.00	0.55	1.85	1.00	1.00	0.72	32.60	39.60	0.00	1,792.4	0.0	1,935.99	1,527.1	3,463.16	2			
9	150.0	28.51	4.00	45.57	0.00	0.62	1.79	1.00	1.00	0.77	38.89	39.60	0.00	1,989.2	0.0	2,162.62	1,473.5	3,636.13	2			
8	130.0	27.37	4.00	47.45	0.00	0.64	1.78	1.00	1.00	0.78	41.06	39.60	0.00	2,016.2	0.0	2,179.67	1,414.4	3,594.15	3			
7	110.0	26.09	4.00	52.46	0.00	0.71	1.78	1.00	1.00	0.82	47.23	39.60	0.00	2,028.3	0.0	2,381.11	1,348.5	3,729.67	3			
6	90.00	24.64	4.00	55.40	0.00	0.74	1.78	1.00	1.00	0.85	51.15	39.60	0.00	2,037.8	0.0	2,446.46	1,273.4	3,719.88	3			
5	70.00	22.93	4.00	59.15	0.00	0.79	1.81	1.00	1.00	0.89	56.51	39.60	0.00	2,049.6	0.0	2,549.03	1,185.1	3,734.22	3			
4	50.00	20.83	4.67	59.15	0.00	0.80	1.81	1.00	1.00	0.89	57.58	39.60	0.00	2,087.9	0.0	2,568.62	1,076.5	3,643.17	3			
3	30.00	18.50	4.00	59.15	0.00	0.79	1.81	1.00	1.00	0.89	56.51	39.60	0.00	2,049.6	0.0	2,056.20	956.04	3,012.24	3			
2	12.00	18.50	3.33	47.31	0.00	0.79	1.81	1.00	1.00	0.89	45.41	31.68	0.00	1,645.2	0.0	1,653.62	764.83	2,418.45	3			
1	2.00	18.50	1.00	11.86	0.00	1.00	2.10	1.00	1.00	1.00	12.86	7.92	0.00	431.6	0.0	543.28	191.21	321.90	3 **			
														24,965.9	0.0			40,594.94				

** = 2QzGhAg Controls

LoadCase 60 deg No Ice

85.00 mph Wind at 60 deg From Face with No Ice

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

Seq	Wind Height (ft)	Wind qz (psf)	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			
16	290.0	34.42	4.00	13.67	0.00	0.22	2.53	0.80	1.00	0.59	11.33	0.00	0.00	1,035.2	0.0	1,072.35	0.00	1,072.35	2			
15	270.0	33.72	4.00	17.33	0.00	0.27	2.39	0.80	1.00	0.61	13.71	0.00	0.00	1,066.5	0.0	1,200.94	0.00	1,200.94	1			
14	250.0	32.99	4.00	19.92	0.00	0.30	2.30	0.80	1.00	0.62	15.46	0.00	0.00	1,104.5	0.0	1,275.19	0.00	1,275.19	1			
13	230.0	32.21	4.00	25.73	0.00	0.37	2.12	0.80	1.00	0.64	19.68	0.00	0.00	1,148.4	0.0	1,463.60	0.00	1,463.60	1			
12	210.0	31.38	4.00	28.03	0.00	0.40	2.06	0.80	1.00	0.65	21.47	0.00	0.00	1,167.4	0.0	1,512.09	0.00	1,512.09	1			
11	190.0	30.50	4.00	31.30	0.00	0.44	1.99	0.80	1.00	0.67	24.15	25.74	0.00	1,316.2	0.0	1,592.71	1,024.7	2,617.42	1			
10	170.0	29.55	4.00	39.63	0.00	0.55	1.85	0.80	1.00	0.72	31.80	39.60	0.00	1,792.4	0.0	1,888.48	1,527.1	3,415.64	2			
9	150.0	28.51	4.00	45.57	0.00	0.62	1.79	0.80	1.00	0.77	38.09	39.60	0.00	1,989.2	0.0	2,118.13	1,473.5	3,591.65	2			
8	130.0	27.37	4.00	47.45	0.00	0.64	1.78	0.80	1.00	0.78	40.26	39.60	0.00	2,016.2	0.0	2,137.20	1,414.4	3,551.68	3			
7	110.0	26.09	4.00	52.46	0.00	0.71	1.78	0.80	1.00	0.82	46.43	39.60	0.00	2,028.3	0.0	2,340.78	1,348.5	3,689.34	3			
6	90.00	24.64	4.00	55.40	0.00	0.74	1.78	0.80	1.00	0.85	50.35	39.60	0.00	2,037.8	0.0	2,408.20	1,273.4	3,681.62	3			
5	70.00	22.93	4.00	59.15	0.00	0.79	1.81	0.80	1.00	0.89	55.71	39.60	0.00	2,049.6	0.0	2,512.95	1,185.1	3,698.13	3			
4	50.00	20.83	4.67	59.15	0.00	0.80	1.81	0.80	1.00	0.89	56.64	39.60	0.00	2,087.9	0.0	2,328.26	1,076.5	3,404.81	3			
3	30.00	18.50	4.00	59.15	0.00	0.79	1.81	0.80	1.00	0.89	55.71	39.60	0.00	2,049.6	0.0	2,027.09	956.04	2,983.13	3			
2	12.00	18.50	3.33	47.31	0.00	0.79	1.81	0.80	1.00	0.89	44.75	31.68	0.00	1,645.2	0.0	1,629.34	764.83	2,394.17	3			
1	2.00	18.50	1.00	11.86	0.00	1.00	2.10	0.80	1.00	1.00	12.66	7.92	0.00	431.6	0.0	534.83	191.21	321.90	3 **			
														24,965.9	0.0			39,873.66				

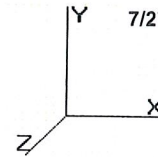
** = 2QzGhAg Controls

Site Number: 6310
 Location: Franklin CT, CT

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7/27/2012 10:50:22 AM

Code: TIA/EIA-222 Rev F



Gh : 1.09

Section Forces

LoadCase 90 deg No Ice

85.00 mph Wind at 90 deg From Face with No Ice

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

Sect Seq	Wind		Total Flat	Total Round	Total Ice Round	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Ice Weight (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face			
	Height (ft)	qz (psf)	Area (sqft)	Area (sqft)	Area (sqft)																	
16	290.0	34.42	4.00	13.67	0.00	0.22	2.53	0.85	1.00	0.59	11.53	0.00	0.00	1,035.2	0.0	1,091.28	0.00	1,091.28	2			
15	270.0	33.72	4.00	17.33	0.00	0.27	2.39	0.85	1.00	0.61	13.91	0.00	0.00	1,066.5	0.0	1,218.46	0.00	1,218.46	1			
14	250.0	32.99	4.00	19.92	0.00	0.30	2.30	0.85	1.00	0.62	15.66	0.00	0.00	1,104.5	0.0	1,291.69	0.00	1,291.69	1			
13	230.0	32.21	4.00	25.73	0.00	0.37	2.12	0.85	1.00	0.64	19.88	0.00	0.00	1,148.4	0.0	1,478.48	0.00	1,478.48	1			
12	210.0	31.38	4.00	28.03	0.00	0.40	2.06	0.85	1.00	0.65	21.67	0.00	0.00	1,167.4	0.0	1,526.18	0.00	1,526.18	1			
11	190.0	30.50	4.00	31.30	0.00	0.44	1.99	0.85	1.00	0.67	24.35	25.74	0.00	1,316.2	0.0	1,605.91	1,024.7	2,630.61	1			
10	170.0	29.55	4.00	39.63	0.00	0.55	1.85	0.85	1.00	0.72	32.00	39.60	0.00	1,792.4	0.0	2,129.25	1,473.5	3,602.77	2			
9	150.0	28.51	4.00	45.57	0.00	0.62	1.79	0.85	1.00	0.77	38.29	39.60	0.00	1,989.2	0.0	2,129.25	1,473.5	3,602.77	2			
8	130.0	27.37	4.00	47.45	0.00	0.64	1.78	0.85	1.00	0.78	40.46	39.60	0.00	2,016.2	0.0	2,147.81	1,414.4	3,562.30	3			
7	110.0	26.09	4.00	52.46	0.00	0.71	1.78	0.85	1.00	0.82	46.63	39.60	0.00	2,028.3	0.0	2,350.86	1,348.5	3,699.42	3			
6	90.00	24.64	4.00	55.40	0.00	0.74	1.78	0.85	1.00	0.85	50.55	39.60	0.00	2,037.8	0.0	2,417.77	1,273.4	3,691.18	3			
5	70.00	22.93	4.00	59.15	0.00	0.79	1.81	0.85	1.00	0.89	55.91	39.60	0.00	2,049.6	0.0	2,521.97	1,185.1	3,707.15	3			
4	50.00	20.83	4.67	59.15	0.00	0.80	1.81	0.85	1.00	0.89	56.88	39.60	0.00	2,087.9	0.0	2,337.85	1,076.5	3,414.40	3			
3	30.00	18.50	4.00	59.15	0.00	0.79	1.81	0.85	1.00	0.89	55.91	39.60	0.00	2,049.6	0.0	2,034.37	956.04	2,990.41	3			
2	12.00	18.50	3.33	47.31	0.00	0.79	1.81	0.85	1.00	0.89	44.91	31.68	0.00	1,645.2	0.0	1,635.41	764.83	2,400.24	3			
1	2.00	18.50	1.00	11.86	0.00	1.00	2.10	0.85	1.00	1.00	12.71	7.92	0.00	431.6	0.0	536.94	191.21	321.90	3			
														24,965.9	0.0			40,053.98				

** = 2QzGhAg Controls

LoadCase Normal Ice

73.61 mph Wind Normal To Face with Ice

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

Sect Seq	Wind		Total Flat	Total Round	Total Ice Round	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Ice Weight (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face			
	Height (ft)	qz (psf)	Area (sqft)	Area (sqft)	Area (sqft)																	
16	290.0	25.81	4.00	27.42	13.75	0.39	2.08	1.00	1.00	0.65	21.79	0.00	0.00	1,449.6	414.4	1,271.37	0.00	1,271.37	2			
15	270.0	25.29	4.00	32.33	15.00	0.45	1.97	1.00	1.00	0.68	25.83	0.00	0.00	1,563.3	496.8	1,397.47	0.00	1,397.47	1			
14	250.0	24.74	4.00	36.58	16.67	0.51	1.89	1.00	1.00	0.70	29.65	0.00	0.00	1,656.6	552.1	1,508.71	0.00	1,508.71	1			
13	230.0	24.16	4.00	46.15	20.42	0.63	1.79	1.00	1.00	0.77	39.55	0.00	0.00	1,802.4	653.9	1,859.96	0.00	1,859.96	1			
12	210.0	23.54	4.00	50.03	22.00	0.68	1.78	1.00	1.00	0.80	44.15	0.00	0.00	1,859.1	691.8	2,008.31	0.00	2,008.31	1			
11	190.0	22.87	4.00	56.30	25.00	0.75	1.79	1.00	1.00	0.86	52.40	25.74	13.00	2,279.2	963.1	2,332.51	1,156.6	3,489.12	1			
10	170.0	22.16	4.00	66.63	27.00	0.88	1.90	1.00	1.00	0.97	68.46	39.60	20.00	3,346.4	1,554.0	3,136.08	1,723.7	3,856.25	2			
9	150.0	21.38	4.00	75.57	30.00	0.99	2.09	1.00	1.00	1.00	79.57	39.60	20.00	3,906.7	1,917.5	3,864.82	1,663.1	3,720.78	2			
8	130.0	20.52	4.00	77.45	30.00	1.00	2.10	1.00	1.00	1.00	81.45	39.60	20.00	3,975.5	1,959.3	3,818.31	1,596.5	3,571.72	3			
7	110.0	19.57	4.00	87.05	34.58	1.00	2.10	1.00	1.00	1.00	91.05	39.60	20.00	4,041.2	2,012.9	4,069.21	1,522.1	3,405.25	3			
6	90.00	18.48	4.00	93.73	38.33	1.00	2.10	1.00	1.00	1.00	97.73	39.60	20.00	4,085.9	2,048.1	4,124.70	1,437.3	3,215.50	3			
5	70.00	17.20	4.00	99.15	40.00	1.00	2.10	1.00	1.00	1.00	103.15	39.60	20.00	4,131.3	2,081.7	4,051.67	1,337.7	2,992.71	3			
4	50.00	15.62	4.67	99.48	40.33	1.00	2.10	1.00	1.00	1.00	104.15	39.60	20.00	4,190.6	2,102.7	3,715.98	1,215.1	2,718.40	3			
3	30.00	13.87	4.00	99.15	40.00	1.00	2.10	1.00	1.00	1.00	103.15	39.60	20.00	4,131.3	2,081.7	3,268.32	1,079.1	2,414.10	3			
2	12.00	13.87	3.33	79.37	32.06	1.00	2.10	1.00	1.00	1.00	82.71	31.68	16.00	3,314.5	1,669.4	2,620.51	863.28	1,931.28	3			
1	2.00	13.87	1.00	19.74	7.88	1.00	2.10	1.00	1.00	1.00	20.74	7.92	4.00	849.3	417.7	657.06	215.82	241.41	3			
														46,583.1	21,617.2			39,602.36				

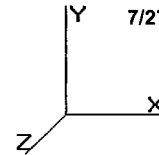
** = 2QzGhAg Controls

Site Number: 6310
Location: Franklin CT, CT

Code: TIA/EIA-222 Rev F

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7/27/2012 10:50:22 AM



Gh : 1.09

Section Forces

LoadCase 60 deg Ice

73.61 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)	qz (psf)	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
16	290.0	25.81	4.00	27.42	13.75	0.39	2.08	0.80	1.00	0.65	20.99	0.00	0.00	1,449.6	414.4	1,224.69	0.00	1,224.69	2
15	270.0	25.29	4.00	32.33	15.00	0.45	1.97	0.80	1.00	0.68	25.03	0.00	0.00	1,563.3	496.8	1,354.19	0.00	1,354.19	1
14	250.0	24.74	4.00	36.58	16.67	0.51	1.89	0.80	1.00	0.70	28.85	0.00	0.00	1,656.6	552.1	1,468.01	0.00	1,468.01	1
13	230.0	24.16	4.00	46.15	20.42	0.63	1.79	0.80	1.00	0.77	38.75	0.00	0.00	1,802.4	653.9	1,822.34	0.00	1,822.34	1
12	210.0	23.54	4.00	50.03	22.00	0.68	1.78	0.80	1.00	0.80	43.35	0.00	0.00	1,859.1	691.8	1,971.92	0.00	1,971.92	1
11	190.0	22.87	4.00	56.30	25.00	0.75	1.79	0.80	1.00	0.86	51.60	25.74	13.00	2,279.2	963.1	2,296.90	1,156.6	3,453.51	1
10	170.0	22.16	4.00	66.63	27.00	0.88	1.90	0.80	1.00	0.97	67.66	39.60	20.00	3,346.4	1,554.0	3,099.43	1,723.7	3,856.25	2
9	150.0	21.38	4.00	75.57	30.00	0.99	2.09	0.80	1.00	1.00	78.77	39.60	20.00	3,906.7	1,917.5	3,825.96	1,663.1	3,720.78	2
8	130.0	20.52	4.00	77.45	30.00	1.00	2.10	0.80	1.00	1.00	80.65	39.60	20.00	3,975.5	1,959.3	3,780.81	1,596.5	3,571.72	3
7	110.0	19.57	4.00	87.05	34.58	1.00	2.10	0.80	1.00	1.00	90.25	39.60	20.00	4,041.2	2,012.9	4,033.46	1,522.1	3,405.25	3
6	90.00	18.48	4.00	93.73	38.33	1.00	2.10	0.80	1.00	1.00	96.93	39.60	20.00	4,085.9	2,048.1	4,090.94	1,437.3	3,215.50	3
5	70.00	17.20	4.00	99.15	40.00	1.00	2.10	0.80	1.00	1.00	102.35	39.60	20.00	4,131.3	2,081.7	4,020.25	1,337.7	2,992.71	3
4	50.00	15.62	4.67	99.48	40.33	1.00	2.10	0.80	1.00	1.00	103.22	39.60	20.00	4,190.6	2,102.7	3,682.68	1,215.1	2,718.40	3
3	30.00	13.87	4.00	99.15	40.00	1.00	2.10	0.80	1.00	1.00	102.35	39.60	20.00	4,131.3	2,081.7	3,242.97	1,079.1	2,414.10	3
2	12.00	13.87	3.33	79.37	32.06	1.00	2.10	0.80	1.00	1.00	82.04	31.68	16.00	3,314.5	1,669.4	2,599.39	863.28	1,931.28	3
1	2.00	13.87	1.00	19.74	7.88	1.00	2.10	0.80	1.00	1.00	20.54	7.92	4.00	849.3	417.7	650.73	215.82	241.41	3
														46,583.1	21,617.2			39,362.08	

** = 2QzGhAg Controls

LoadCase 90 deg Ice

73.61 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 Height (ft)	qz (psf)	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
16	290.0	25.81	4.00	27.42	13.75	0.39	2.08	0.85	1.00	0.65	21.19	0.00	0.00	1,449.6	414.4	1,236.36	0.00	1,236.36	2
15	270.0	25.29	4.00	32.33	15.00	0.45	1.97	0.85	1.00	0.68	25.23	0.00	0.00	1,563.3	496.8	1,365.01	0.00	1,365.01	1
14	250.0	24.74	4.00	36.58	16.67	0.51	1.89	0.85	1.00	0.70	29.05	0.00	0.00	1,656.6	552.1	1,478.18	0.00	1,478.18	1
13	230.0	24.16	4.00	46.15	20.42	0.63	1.79	0.85	1.00	0.77	38.95	0.00	0.00	1,802.4	653.9	1,831.75	0.00	1,831.75	1
12	210.0	23.54	4.00	50.03	22.00	0.68	1.78	0.85	1.00	0.80	43.55	0.00	0.00	1,859.1	691.8	1,981.02	0.00	1,981.02	1
11	190.0	22.87	4.00	56.30	25.00	0.75	1.79	0.85	1.00	0.86	51.80	25.74	13.00	2,279.2	963.1	2,305.80	1,156.6	3,462.41	1
10	170.0	22.16	4.00	66.63	27.00	0.88	1.90	0.85	1.00	0.97	67.86	39.60	20.00	3,346.4	1,554.0	3,108.59	1,723.7	3,856.25	2
9	150.0	21.38	4.00	75.57	30.00	0.99	2.09	0.85	1.00	1.00	78.97	39.60	20.00	3,906.7	1,917.5	3,835.68	1,663.1	3,720.78	2
8	130.0	20.52	4.00	77.45	30.00	1.00	2.10	0.85	1.00	1.00	80.85	39.60	20.00	3,975.5	1,959.3	3,790.18	1,596.5	3,571.72	3
7	110.0	19.57	4.00	87.05	34.58	1.00	2.10	0.85	1.00	1.00	90.45	39.60	20.00	4,041.2	2,012.9	4,042.40	1,522.1	3,405.25	3
6	90.00	18.48	4.00	93.73	38.33	1.00	2.10	0.85	1.00	1.00	97.13	39.60	20.00	4,085.9	2,048.1	4,099.38	1,437.3	3,215.50	3
5	70.00	17.20	4.00	99.15	40.00	1.00	2.10	0.85	1.00	1.00	102.55	39.60	20.00	4,131.3	2,081.7	4,028.11	1,337.7	2,992.71	3
4	50.00	15.62	4.67	99.48	40.33	1.00	2.10	0.85	1.00	1.00	103.45	39.60	20.00	4,190.6	2,102.7	3,691.01	1,215.1	2,718.40	3
3	30.00	13.87	4.00	99.15	40.00	1.00	2.10	0.85	1.00	1.00	102.55	39.60	20.00	4,131.3	2,081.7	3,249.31	1,079.1	2,414.10	3
2	12.00	13.87	3.33	79.37	32.06	1.00	2.10	0.85	1.00	1.00	82.21	31.68	16.00	3,314.5	1,669.4	2,604.67	863.28	1,931.28	3
1	2.00	13.87	1.00	19.74	7.88	1.00	2.10	0.85	1.00	1.00	20.59	7.92	4.00	849.3	417.7	652.31	215.82	241.41	3
														46,583.1	21,617.2			39,422.15	

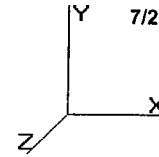
** = 2QzGhAg Controls

Site Number: 6310
 Location: Franklin CT, CT

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7/27/2012 10:50:22 AM

Code: TIA/EIA-222 Rev F



Gh : 1.09

Section Forces

LoadCase Normal

50.00 mph Wind Normal To Face with No Ice

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

Sect Seq	Wind Height (ft)	qz (psf)	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		
													Total Area (sqft)	Weight (lb)					Ice (lb)	
16	290.0	11.91	4.00	13.67	0.00	0.22	2.53	1.00	1.00	0.59	12.13	0.00	0.00	1,035.2	0.0	397.25	0.00	397.25	2	
15	270.0	11.67	4.00	17.33	0.00	0.27	2.39	1.00	1.00	0.61	14.51	0.00	0.00	1,066.5	0.0	439.80	0.00	439.80	1	
14	250.0	11.41	4.00	19.92	0.00	0.30	2.30	1.00	1.00	0.62	16.26	0.00	0.00	1,104.5	0.0	464.07	0.00	464.07	1	
13	230.0	11.15	4.00	25.73	0.00	0.37	2.12	1.00	1.00	0.64	20.48	0.00	0.00	1,148.4	0.0	527.03	0.00	527.03	1	
12	210.0	10.86	4.00	28.03	0.00	0.40	2.06	1.00	1.00	0.65	22.27	0.00	0.00	1,167.4	0.0	542.71	0.00	542.71	1	
11	190.0	10.55	4.00	31.30	0.00	0.44	1.99	1.00	1.00	0.67	24.95	25.74	0.00	1,316.2	0.0	569.37	354.57	923.94	1	
10	170.0	10.22	4.00	39.63	0.00	0.55	1.85	1.00	1.00	0.72	32.60	39.60	0.00	1,792.4	0.0	669.89	528.43	1,198.32	2	
9	150.0	9.86	4.00	45.57	0.00	0.62	1.79	1.00	1.00	0.77	38.89	39.60	0.00	1,989.2	0.0	748.31	509.87	1,258.18	2	
8	130.0	9.47	4.00	47.45	0.00	0.64	1.78	1.00	1.00	0.78	41.06	39.60	0.00	2,016.2	0.0	754.21	489.44	1,243.65	3	
7	110.0	9.03	4.00	52.46	0.00	0.71	1.78	1.00	1.00	0.82	47.23	39.60	0.00	2,028.3	0.0	823.91	466.63	1,290.54	3	
6	90.00	8.52	4.00	55.40	0.00	0.74	1.78	1.00	1.00	0.85	51.15	39.60	0.00	2,037.8	0.0	846.53	440.63	1,287.15	3	
5	70.00	7.93	4.00	59.15	0.00	0.79	1.81	1.00	1.00	0.89	56.51	39.60	0.00	2,049.6	0.0	882.02	410.10	1,292.12	3	
4	50.00	7.21	4.67	59.15	0.00	0.80	1.81	1.00	1.00	0.89	57.58	39.60	0.00	2,087.9	0.0	818.90	372.51	1,191.41	3	
3	30.00	6.40	4.00	59.15	0.00	0.79	1.81	1.00	1.00	0.89	56.51	39.60	0.00	2,049.6	0.0	711.49	330.81	1,042.30	3	
2	12.00	6.40	3.33	47.31	0.00	0.79	1.81	1.00	1.00	0.89	45.41	31.68	0.00	1,645.2	0.0	572.19	264.65	836.83	3	
1	2.00	6.40	1.00	11.86	0.00	1.00	2.10	1.00	1.00	1.00	12.86	7.92	0.00	431.6	0.0	187.99	66.16	111.38	3	
													24,965.9	0.0			14,046.69			

** = 2QzGhAg Controls

LoadCase 60 deg

50.00 mph Wind at 60 deg From Face with No Ice

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

Sect Seq	Wind Height (ft)	qz (psf)	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		
													Total Area (sqft)	Weight (lb)					Ice (lb)	
16	290.0	11.91	4.00	13.67	0.00	0.22	2.53	0.80	1.00	0.59	11.33	0.00	0.00	1,035.2	0.0	371.06	0.00	371.06	2	
15	270.0	11.67	4.00	17.33	0.00	0.27	2.39	0.80	1.00	0.61	13.71	0.00	0.00	1,066.5	0.0	415.55	0.00	415.55	1	
14	250.0	11.41	4.00	19.92	0.00	0.30	2.30	0.80	1.00	0.62	15.46	0.00	0.00	1,104.5	0.0	441.24	0.00	441.24	1	
13	230.0	11.15	4.00	25.73	0.00	0.37	2.12	0.80	1.00	0.64	19.68	0.00	0.00	1,148.4	0.0	506.44	0.00	506.44	1	
12	210.0	10.86	4.00	28.03	0.00	0.40	2.06	0.80	1.00	0.65	21.47	0.00	0.00	1,167.4	0.0	523.21	0.00	523.21	1	
11	190.0	10.55	4.00	31.30	0.00	0.44	1.99	0.80	1.00	0.67	24.15	25.74	0.00	1,316.2	0.0	551.11	354.57	905.68	1	
10	170.0	10.22	4.00	39.63	0.00	0.55	1.85	0.80	1.00	0.72	31.80	39.60	0.00	1,792.4	0.0	653.45	528.43	1,181.88	2	
9	150.0	9.86	4.00	45.57	0.00	0.62	1.79	0.80	1.00	0.77	38.09	39.60	0.00	1,989.2	0.0	732.92	509.87	1,242.79	2	
8	130.0	9.47	4.00	47.45	0.00	0.64	1.78	0.80	1.00	0.78	40.26	39.60	0.00	2,016.2	0.0	739.51	489.44	1,228.96	3	
7	110.0	9.03	4.00	52.46	0.00	0.71	1.78	0.80	1.00	0.82	46.43	39.60	0.00	2,028.3	0.0	809.96	466.63	1,276.59	3	
6	90.00	8.52	4.00	55.40	0.00	0.74	1.78	0.80	1.00	0.85	50.35	39.60	0.00	2,037.8	0.0	833.29	440.63	1,273.92	3	
5	70.00	7.93	4.00	59.15	0.00	0.79	1.81	0.80	1.00	0.89	55.71	39.60	0.00	2,049.6	0.0	869.53	410.10	1,279.63	3	
4	50.00	7.21	4.67	59.15	0.00	0.80	1.81	0.80	1.00	0.89	56.64	39.60	0.00	2,087.9	0.0	805.63	372.51	1,178.13	3	
3	30.00	6.40	4.00	59.15	0.00	0.79	1.81	0.80	1.00	0.89	55.71	39.60	0.00	2,049.6	0.0	701.42	330.81	1,032.23	3	
2	12.00	6.40	3.33	47.31	0.00	0.79	1.81	0.80	1.00	0.89	44.75	31.68	0.00	1,645.2	0.0	563.79	264.65	828.43	3	
1	2.00	6.40	1.00	11.86	0.00	1.00	2.10	0.80	1.00	1.00	12.66	7.92	0.00	431.6	0.0	185.06	66.16	111.38	3	
													24,965.9	0.0			13,797.11			

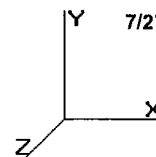
** = 2QzGhAg Controls

Site Number: 6310
 Location: Franklin CT, CT

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Gh: 1.09

Section Forces

LoadCase 90 deg

50.00 mph Wind at 90 deg From Face with No Ice

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

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
												Linear Area (sqft)	Total Area (sqft)						
16	290.0	11.91	4.00	13.67	0.00	0.22	2.53	0.85	1.00	0.59	11.53	0.00	0.00	1,035.2	0.0	377.60	0.00	377.60	2
15	270.0	11.67	4.00	17.33	0.00	0.27	2.39	0.85	1.00	0.61	13.91	0.00	0.00	1,066.5	0.0	421.61	0.00	421.61	1
14	250.0	11.41	4.00	19.92	0.00	0.30	2.30	0.85	1.00	0.62	15.66	0.00	0.00	1,104.5	0.0	446.95	0.00	446.95	1
13	230.0	11.15	4.00	25.73	0.00	0.37	2.12	0.85	1.00	0.64	19.88	0.00	0.00	1,148.4	0.0	511.58	0.00	511.58	1
12	210.0	10.86	4.00	28.03	0.00	0.40	2.06	0.85	1.00	0.65	21.67	0.00	0.00	1,167.4	0.0	528.09	0.00	528.09	1
11	190.0	10.55	4.00	31.30	0.00	0.44	1.99	0.85	1.00	0.67	24.35	25.74	0.00	1,316.2	0.0	555.68	354.57	910.25	1
10	170.0	10.22	4.00	39.63	0.00	0.55	1.85	0.85	1.00	0.72	32.00	39.60	0.00	1,792.4	0.0	657.56	528.43	1,185.99	2
9	150.0	9.86	4.00	45.57	0.00	0.62	1.79	0.85	1.00	0.77	38.29	39.60	0.00	1,989.2	0.0	736.77	509.87	1,246.63	2
8	130.0	9.47	4.00	47.45	0.00	0.64	1.78	0.85	1.00	0.78	40.46	39.60	0.00	2,016.2	0.0	743.19	489.44	1,232.63	3
7	110.0	9.03	4.00	52.46	0.00	0.71	1.78	0.85	1.00	0.82	46.63	39.60	0.00	2,028.3	0.0	813.45	466.63	1,280.08	3
6	90.00	8.52	4.00	55.40	0.00	0.74	1.78	0.85	1.00	0.85	50.55	39.60	0.00	2,037.8	0.0	836.60	440.63	1,277.23	3
5	70.00	7.93	4.00	59.15	0.00	0.79	1.81	0.85	1.00	0.89	55.91	39.60	0.00	2,049.6	0.0	872.65	410.10	1,282.75	3
4	50.00	7.21	4.67	59.15	0.00	0.80	1.81	0.85	1.00	0.89	56.88	39.60	0.00	2,087.9	0.0	808.94	372.51	1,181.45	3
3	30.00	6.40	4.00	59.15	0.00	0.79	1.81	0.85	1.00	0.89	55.91	39.60	0.00	2,049.6	0.0	703.93	330.81	1,034.74	3
2	12.00	6.40	3.33	47.31	0.00	0.79	1.81	0.85	1.00	0.89	44.91	31.68	0.00	1,645.2	0.0	565.89	264.65	830.53	3
1	2.00	6.40	1.00	11.86	0.00	1.00	2.10	0.85	1.00	1.00	12.71	7.92	0.00	431.6	0.0	185.79	66.16	111.38	3 **
														24,965.9	0.0			13,859.51	

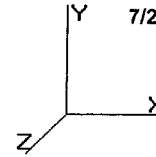
** = 2QzGhAg Controls

Site Number: 6310
 Location: Franklin CT, CT

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Tower Loading

Discrete Appurtenance Properties

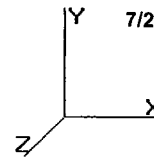
Attach Elev (ft)	Description	Qty	Weight (lb)	No Ice CaAa (sf)	CaAa Factor	Weight (lb)	Ice CaAa (sf)	CaAa Factor	Distance From Face (ft)	X Angle (deg)	Vert Ecc (ft)
295.0	20' Dipole	2	60.00	7.520	1.00	123.50	10.920	1.00	0.000	0.00	10.000
295.0	Decibel ASP-973	1	27.00	3.340	1.00	52.10	4.780	1.00	0.000	0.00	7.000
295.0	20' Dipole	1	60.00	7.520	1.00	123.50	10.920	1.00	0.000	0.00	10.000
295.0	7' Omni	1	35.00	2.100	1.00	55.00	2.830	1.00	0.000	0.00	2.000
295.0	Side Arm	3	150.00	6.300	0.75	230.00	7.000	0.75	0.000	0.00	0.000
270.0	8' Omni	1	40.00	2.400	1.00	62.00	3.230	1.00	0.000	0.00	4.000
270.0	10' Dipole	1	30.00	3.760	1.00	62.00	5.480	1.00	0.000	0.00	7.000
270.0	15' Omni	2	16.00	4.500	1.00	40.00	6.000	1.00	0.000	0.00	-7.500
270.0	Side Arm	3	150.00	6.300	0.75	230.00	7.000	0.75	0.000	0.00	0.000
235.0	Scala OGT9-840 (Inverted)	1	18.50	2.283	1.00	40.89	3.444	1.00	0.000	0.00	-5.680
235.0	11' Omni (Inverted)	1	11.00	3.300	1.00	34.93	4.430	1.00	0.000	0.00	-5.500
235.0	15' Omni	1	16.00	4.500	1.00	40.00	6.000	1.00	0.000	0.00	7.500
235.0	Side Arm	3	150.00	6.300	0.75	230.00	7.000	0.75	0.000	0.00	0.000
235.0	11' Omni	1	11.00	3.300	1.00	34.93	4.430	1.00	0.000	0.00	5.500
235.0	Scala OGT9-840	1	18.50	2.283	1.00	40.89	3.444	1.00	0.000	0.00	5.683
202.0	Decibel DB224	1	38.00	6.050	1.00	91.30	11.300	1.00	0.000	0.00	10.000
202.0	Side Arm	2	150.00	6.300	1.00	230.00	7.000	1.00	0.000	0.00	0.000
202.0	20' Dipole	1	60.00	7.520	1.00	123.50	10.920	1.00	0.000	0.00	10.000
193.0	Sector Frame	3	400.00	17.900	0.75	510.00	22.200	0.75	0.000	0.00	0.000
193.0	RFS ATMPP1412D-1CWA	3	12.00	1.170	0.67	19.50	1.400	0.67	0.000	0.00	0.000
193.0	RFS ATMAA1412D-1A20	3	13.00	1.170	0.67	20.60	1.390	0.67	0.000	0.00	0.000
193.0	RFS APX16DWV-16DWV-S-E-	3	39.60	6.700	0.80	69.38	7.350	0.80	0.000	0.00	0.000
176.0	14" x 9" TTA	6	10.00	1.230	0.67	18.00	1.460	0.67	0.000	0.00	4.000
176.0	EMS RR90-17-02DPL2	3	18.00	4.360	0.73	40.42	4.990	0.73	0.000	0.00	2.000
176.0	Decibel 844H90E-XY	9	11.50	3.730	0.95	38.00	4.290	0.95	0.000	0.00	3.000
176.0	Sector Frame	3	300.00	14.400	0.75	415.00	19.200	0.75	0.000	0.00	0.000
165.0	Antel BXA-171063-12BF-EDIN-	3	15.00	4.730	0.95	42.40	5.450	0.95	0.000	0.00	4.000
165.0	Antel BXA-70063-6CF-EDIN-X	3	17.00	7.730	0.74	58.00	8.540	0.74	0.000	0.00	4.000
165.0	Antel LPA-80063-4CF-EDIN-X	6	20.00	7.000	0.98	72.60	7.620	0.98	0.000	0.00	4.000
165.0	RFS FD9R6004/2C-3L	6	3.10	0.370	0.67	5.40	0.500	0.67	0.000	0.00	4.000
165.0	Sector Frame	3	400.00	17.900	0.75	510.00	22.200	0.75	0.000	0.00	0.000
130.0	Side Arm	1	150.00	5.200	1.00	175.00	5.900	1.00	0.000	0.00	0.000
130.0	BTS 24" x 24" TMA	1	6.08	5.600	1.00	63.43	40.000	1.00	0.000	0.00	0.000
130.0	AP7-850/065	2	3.00	1.280	1.00	10.00	1.480	1.00	0.000	0.00	0.000
105.0	3' Yagi	1	10.00	2.980	1.00	35.70	4.770	1.00	0.000	0.00	0.000
105.0	2' x 4' Rectangular Grid Dish	1	40.00	4.750	1.00	83.20	14.020	1.00	0.000	0.00	0.000
105.0	20' Dipole	1	60.00	7.520	1.00	123.50	10.920	1.00	0.000	0.00	10.000
84.00	Ice Shield	1	150.00	6.000	1.00	350.00	7.500	1.00	0.000	0.00	0.000
80.00	RFS PA6-65AC	1	250.00	24.410	1.00	453.40	25.090	1.00	0.000	0.00	0.000
Totals		90	6784.98			10896.18			Number of Appurtenances : 39		

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Wind	Spread On Faces	Bundling Arrangement
0.00	295.0	1 1/4" Coax	2	1.55	0.63	100.00	1	Separate
0.00	295.0	7/8" Coax	3	1.09	0.33	100.00	2	Separate

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Tower Loading

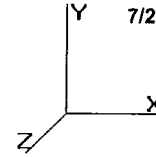
0.00	270.0	1 1/4" Coax	2	1.55	0.63	100.00	1	Separate
0.00	270.0	1 5/8" Coax	2	1.98	0.82	100.00	3	Separate
0.00	235.0	1 1/4" Coax	3	1.55	0.63	100.00	1	Separate
0.00	235.0	1 5/8" Coax	2	1.98	0.82	100.00	3	Separate
0.00	202.0	7/8" Coax	2	1.09	0.33	100.00	1	Separate
0.00	193.0	1 5/8" Coax	12	1.98	0.82	100.00	Lin App	Separate
0.00	176.0	1 5/8" Coax	15	1.98	0.82	55.00	2	Separate
0.00	165.0	1 5/8" Coax	12	1.98	0.82	50.00	3	Separate
0.00	130.0	1 5/8" Coax	2	1.98	0.82	100.00	3	Separate
0.00	130.0	3/8" Coax	2	0.44	0.08	100.00	3	Separate
0.00	105.0	1/2" Coax	2	0.63	0.15	100.00	3	Separate
0.00	105.0	7/8" Coax	1	1.09	0.33	100.00	3	Separate
0.00	80.00	EW52	1	2.25	0.59	100.00	3	Separate

Site Number: 6310
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Force/Stress Summary

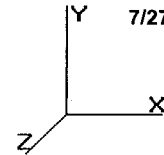
Section: 1		Base		Bot Elev (ft): 0.00				Height (ft): 4.000								
		Force		Len		Bracing %		Member		Shear		Bear		Use		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	Fa (ksi)	Cap Num (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	%	Controls
LEG	SOL - 2 1/4" SOLID	-67.38	Normal Ice	2.31	100	100	100	49.3	32.6	129.69	0	0	0.00	0.00	51	Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SOL - 5/8" SOLID	-0.32	Normal No Ice	3.651	50	50	50	126.4	12.5	3.82	0	0	0.00	0.00		
Max Tension Member		(kip)	Load Case	Fy (ksi)	Cap Num (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls					
LEG		0.00		0	0.00	0	0	0.00	0.00	0						
HORIZ		12.95	Normal Ice	36	20.59	0	0	0.00	0.00	62	Member					
DIAG		0.00		0	0.00	0	0	0.00	0.00	0						
Section: 2		16'-4 Bays		Bot Elev (ft): 4.00				Height (ft): 16.000								
		Force		Len		Bracing %		Member		Shear		Bear		Use		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	Fa (ksi)	Cap Num (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	%	Controls
LEG	SOL - 2 1/4" SOLID	-60.81	90 deg Ice	3.90	100	100	100	83.2	24.5	97.36	0	0	0.00	0.00	62	Member X
HORIZ		-1.60	Normal No Ice	4.000	100	100	100	85.3	19.7	14.07	0	0	0.00	0.00	11	Member Z
DIAG	SOL - 5/8" SOLID	-0.95	Normal No Ice	5.587	50	50	50	193.4	5.3	1.63	0	0	0.00	0.00		
Max Tension Member		(kip)	Load Case	Fy (ksi)	Cap Num (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls					
LEG		0.00		0	0.00	0	0	0.00	0.00	0						
HORIZ		7.16	Normal Ice	36	20.59	0	0	0.00	0.00	34	Member					
DIAG		2.37	90 deg No Ice	50	12.27	0	0	0.00	0.00	19	Member					
Section: 3		20'-5 Bays		Bot Elev (ft): 20.00				Height (ft): 20.000								
		Force		Len		Bracing %		Member		Shear		Bear		Use		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	Fa (ksi)	Cap Num (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	%	Controls
LEG	SOL - 2 1/4" SOLID	-60.59	90 deg Ice	3.92	100	100	100	83.6	24.4	96.90	0	0	0.00	0.00	62	Member X
HORIZ		-1.39	90 deg Ice	4.000	100	100	100	85.3	19.7	14.07	0	0	0.00	0.00	9	Member Z
DIAG	SOL - 5/8" SOLID	-1.26	Normal No Ice	5.601	50	50	50	193.8	5.3	1.63	0	0	0.00	0.00		
Max Tension Member		(kip)	Load Case	Fy (ksi)	Cap Num (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls					
LEG		0.00		0	0.00	0	0	0.00	0.00	0						
HORIZ		2.09	Normal No Ice	36	20.59	0	0	0.00	0.00	10	Member					
DIAG		2.23	90 deg Ice	50	12.27	0	0	0.00	0.00	18	Member					

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Force/Stress Summary

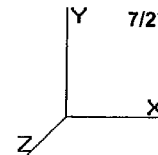
Section: 4		20'-5 Bays		Bot Elev (ft): 40.00				Height (ft): 20.000							
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fa (ksi)	Member Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	SOL - 2 1/4" SOLID	-78.56	Normal Ice	3.92	100	100	100	83.6	24.4	96.90	0	0	0.00	0.00	81 Member X
HORIZ	SAE - 2X2X0.1875	-3.27	90 deg No Ice	4.000	100	100	100	85.3	19.7	14.07	0	0	0.00	0.00	23 Member Z
DIAG	SOL - 5/8" SOLID	-1.36	Normal No Ice	5.601	50	50	50	193.8	5.3	1.63	0	0	0.00	0.00	
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls				
LEG		0.00		0	0.00	0	0	0.00	0.00	0					
HORIZ	SAE - 2X2X0.1875	2.82	Normal No Ice	36	20.59	0	0	0.00	0.00	13	Member				
DIAG	SOL - 5/8" SOLID	4.66	90 deg No Ice	50	12.27	0	0	0.00	0.00	37	Member				
Section: 5		20'-5 Bays		Bot Elev (ft): 60.00				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	SOL - 2 1/4" SOLID	-77.21	Normal Ice	3.92	100	100	100	83.6	24.4	96.90	0	0	0.00	0.00	79 Member X
HORIZ	SAE - 2X2X0.1875	-3.80	90 deg No Ice	4.000	100	100	100	85.3	19.7	14.07	0	0	0.00	0.00	26 Member Z
DIAG	SOL - 5/8" SOLID	-0.78	Normal No Ice	5.601	50	50	50	193.8	5.3	1.63	0	0	0.00	0.00	
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls				
LEG		0.00		0	0.00	0	0	0.00	0.00	0					
HORIZ	SAE - 2X2X0.1875	2.62	Normal No Ice	36	20.59	0	0	0.00	0.00	12	Member				
DIAG	SOL - 5/8" SOLID	5.43	90 deg No Ice	50	12.27	0	0	0.00	0.00	44	Member				
Section: 6		20'-5 Bays		Bot Elev (ft): 80.00				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	SOL - 2 1/4" SOLID	-52.42	90 deg Ice	3.92	100	100	100	83.6	24.4	96.90	0	0	0.00	0.00	54 Member X
HORIZ	SAE - 2X2X0.1875	-1.44	90 deg Ice	4.000	100	100	100	85.3	19.7	14.07	0	0	0.00	0.00	10 Member Z
DIAG	SOL - 5/8" SOLID	-1.35	Normal No Ice	5.601	50	50	50	193.8	5.3	1.63	0	0	0.00	0.00	
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls				
LEG		0.00		0	0.00	0	0	0.00	0.00	0					
HORIZ	SAE - 2X2X0.1875	2.20	Normal Ice	36	20.59	0	0	0.00	0.00	10	Member				
DIAG	SOL - 5/8" SOLID	2.36	90 deg Ice	50	12.27	0	0	0.00	0.00	19	Member				

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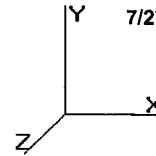
Force/Stress Summary

Section: 7		20'-5 Bays		Bot Elev (ft): 100.0				Height (ft): 20.000								
		Force		Len		Bracing %		Member		Shear		Bear		Use		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	Fa (ksi)	Cap (kip)	Num Bolts	Num Holes	(kip)	(kip)	%	Controls
LEG	SOL - 2 1/4" SOLID	-53.78	Normal Ice	3.92	100	100	100	83.6	24.4	96.90	0	0	0.00	0.00	55	Member X
HORIZ	SAE - 2X2X0.1875	-3.22	60 deg No Ice	4.000	100	100	100	85.3	19.7	14.07	0	0	0.00	0.00	22	Member Z
DIAG	SOL - 5/8" SOLID	-1.33	Normal No Ice	5.601	50	50	50	193.8	5.3	1.63	0	0	0.00	0.00		
Max Tension Member		(kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes		Shear Cap (kip)	Bear Cap (kip)		Use %	Controls			
LEG		0.00		0	0.00	0	0		0.00	0.00		0				
HORIZ	SAE - 2X2X0.1875	2.21	Normal Ice	36	20.59	0	0		0.00	0.00		10	Member			
DIAG	SOL - 5/8" SOLID	5.06	60 deg No Ice	50	12.27	0	0		0.00	0.00		41	Member			
Section: 8		20'-5 Bays		Bot Elev (ft): 120.0				Height (ft): 20.000								
		Force		Len		Bracing %		Member		Shear		Bear		Use		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	Fa (ksi)	Cap (kip)	Num Bolts	Num Holes	(kip)	(kip)	%	Controls
LEG	SOL - 2 1/4" SOLID	-59.49	Normal Ice	3.92	100	100	100	83.6	24.4	96.90	0	0	0.00	0.00	61	Member X
HORIZ	SAE - 2X2X0.1875	-6.27	90 deg Ice	4.000	100	100	100	85.3	19.7	14.07	0	0	0.00	0.00	44	Member Z
DIAG	SOL - 5/8" SOLID	-0.35	Normal No Ice	5.601	50	50	50	193.8	5.3	1.63	0	0	0.00	0.00		
Max Tension Member		(kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes		Shear Cap (kip)	Bear Cap (kip)		Use %	Controls			
LEG		0.00		0	0.00	0	0		0.00	0.00		0				
HORIZ	SAE - 2X2X0.1875	1.68	Normal Ice	36	20.59	0	0		0.00	0.00		8	Member			
DIAG	SOL - 5/8" SOLID	9.36	90 deg Ice	50	12.27	0	0		0.00	0.00		76	Member			
Section: 9		20'-5 Bays		Bot Elev (ft): 140.0				Height (ft): 20.000								
		Force		Len		Bracing %		Member		Shear		Bear		Use		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	Fa (ksi)	Cap (kip)	Num Bolts	Num Holes	(kip)	(kip)	%	Controls
LEG	SOL - 2 1/4" SOLID	-66.74	90 deg Ice	3.92	100	100	100	83.6	24.4	96.90	0	0	0.00	0.00	68	Member X
HORIZ	SAE - 2X2X0.1875	-3.98	90 deg Ice	4.000	100	100	100	85.3	19.7	14.07	0	0	0.00	0.00	28	Member Z
DIAG	SOL - 5/8" SOLID	-1.22	Normal No Ice	5.601	50	50	50	193.8	5.3	1.63	0	0	0.00	0.00		
Max Tension Member		(kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes		Shear Cap (kip)	Bear Cap (kip)		Use %	Controls			
LEG	SOL - 2 1/4" SOLID	13.60	Normal No Ice	50	159.04	0	0		0.00	0.00		8	Member			
HORIZ	SAE - 2X2X0.1875	2.30	Normal Ice	36	20.59	0	0		0.00	0.00		11	Member			
DIAG	SOL - 5/8" SOLID	6.08	90 deg Ice	50	12.27	0	0		0.00	0.00		49	Member			

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Force/Stress Summary

Section: 10		20'-5 Bays		Bot Elev (ft): 160.0				Height (ft): 20.000								
		Force		Len		Bracing %		Member		Shear Bear		Use				
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	Fa (ksi)	Cap (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	%	Controls
LEG	SOL - 2 1/4" SOLID	-65.31	60 deg Ice	3.92	100	100	100	83.6	24.4	96.90	0	0	0.00	0.00	67	Member X
HORIZ	SAE - 2X2X0.1875	-3.78	90 deg No Ice	4.000	100	100	100	85.3	19.7	14.07	0	0	0.00	0.00	26	Member Z
DIAG	SOL - 5/8" SOLID	-1.46	Normal No Ice	5.601	50	50	50	193.8	5.3	1.63	0	0	0.00	0.00		
Max Tension Member		(kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls					
LEG	SOL - 2 1/4" SOLID	18.02	Normal No Ice	50	159.04	0	0	0.00	0.00	11	Member					
HORIZ	SAE - 2X2X0.1875	2.73	Normal No Ice	36	20.59	0	0	0.00	0.00	13	Member					
DIAG	SOL - 5/8" SOLID	6.88	90 deg No Ice	50	12.27	0	0	0.00	0.00	56	Member					

Section: 11		20'-5 Bays		Bot Elev (ft): 180.0				Height (ft): 20.000								
		Force		Len		Bracing %		Member		Shear Bear		Use				
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	Fa (ksi)	Cap (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	%	Controls
LEG	SOL - 2" SOLID	-46.18	90 deg Ice	3.92	100	100	100	94.1	21.4	67.22	0	0	0.00	0.00	68	Member X
HORIZ	SAE - 2X2X0.1875	-3.41	90 deg Ice	4.000	100	100	100	85.3	19.7	14.07	0	0	0.00	0.00	24	Member Z
DIAG	SOL - 5/8" SOLID	-0.96	Normal No Ice	5.601	50	50	50	193.8	5.3	1.63	0	0	0.00	0.00		
Max Tension Member		(kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls					
LEG	SOL - 2" SOLID	3.97	Normal No Ice	50	125.66	0	0	0.00	0.00	3	Member					
HORIZ	SAE - 2X2X0.1875	2.04	Normal Ice	36	20.59	0	0	0.00	0.00	9	Member					
DIAG	SOL - 5/8" SOLID	7.21	90 deg No Ice	50	12.27	0	0	0.00	0.00	58	Member					

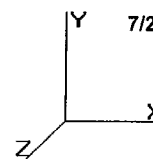
Section: 12		20'-5 Bays		Bot Elev (ft): 200.0				Height (ft): 20.000								
		Force		Len		Bracing %		Member		Shear Bear		Use				
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	Fa (ksi)	Cap (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	%	Controls
LEG	SOL - 2" SOLID	-31.94	90 deg Ice	3.92	100	100	100	94.1	21.4	67.22	0	0	0.00	0.00	47	Member X
HORIZ	SAE - 2X2X0.1875	-0.32	60 deg Ice	4.000	100	100	100	85.3	19.7	14.07	0	0	0.00	0.00	2	Member Z
DIAG	SOL - 5/8" SOLID	-0.34	Normal No Ice	5.601	50	50	50	193.8	5.3	1.63	0	0	0.00	0.00		
Max Tension Member		(kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls					
LEG	SOL - 2" SOLID	4.04	Normal No Ice	50	125.66	0	0	0.00	0.00	3	Member					
HORIZ	SAE - 2X2X0.1875	1.92	Normal Ice	36	20.59	0	0	0.00	0.00	9	Member					
DIAG	SOL - 5/8" SOLID	0.95	90 deg No Ice	50	12.27	0	0	0.00	0.00	7	Member					

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Section: 13		20'-5 Bays		Bot Elev (ft): 220.0				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
					X	Y	Z	KL/R							
LEG	SOL - 2" SOLID	-27.67	Normal Ice	3.92	100	100	100	94.1	21.4	67.22	0	0	0.00	0.00	41 Member X
HORIZ	SAE - 2X2X0.1875	-2.63	Normal Ice	4.000	100	100	100	85.3	19.7	14.07	0	0	0.00	0.00	18 Member Z
DIAG	SOL - 5/8" SOLID	-0.81	Normal No Ice	5.601	50	50	50	193.8	5.3	1.63	0	0	0.00	0.00	
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls				
LEG		0.00		0	0.00	0	0	0.00	0.00	0					
HORIZ	SAE - 2X2X0.1875	1.46	Normal Ice	36	20.59	0	0	0.00	0.00	7	Member				
DIAG	SOL - 5/8" SOLID	4.35	90 deg Ice	50	12.27	0	0	0.00	0.00	35	Member				

Section: 14		20'-5 Bays		Bot Elev (ft): 240.0				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
					X	Y	Z	KL/R							
LEG	SOL - 2" SOLID	-21.60	Normal Ice	3.92	100	100	100	94.1	21.4	67.22	0	0	0.00	0.00	32 Member X
HORIZ	SAE - 2X2X0.1875	-2.03	90 deg Ice	4.000	100	100	100	85.3	19.7	14.07	0	0	0.00	0.00	14 Member Z
DIAG	SOL - 5/8" SOLID	-1.20	Normal No Ice	5.601	50	50	50	193.8	5.3	1.63	0	0	0.00	0.00	
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls				
LEG	SOL - 2" SOLID	8.23	60 deg No Ice	50	125.66	0	0	0.00	0.00	6	Member				
HORIZ	SAE - 2X2X0.1875	0.90	60 deg Ice	36	20.59	0	0	0.00	0.00	4	Member				
DIAG	SOL - 5/8" SOLID	2.95	90 deg Ice	50	12.27	0	0	0.00	0.00	24	Member				

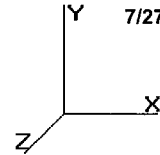
Section: 15		20'-5 Bays		Bot Elev (ft): 260.0				Height (ft): 20.000							
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fa (ksi)	Member Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
					X	Y	Z	KL/R							
LEG	SOL - 2" SOLID	-13.70	90 deg Ice	3.92	100	100	100	94.1	21.4	67.22	0	0	0.00	0.00	20 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SOL - 5/8" SOLID	-0.89	Normal No Ice	5.601	50	50	50	193.8	5.3	1.63	0	0	0.00	0.00	
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls				
LEG		0.00		0	0.00	0	0	0.00	0.00	0					
HORIZ	SAE - 2X2X0.1875	0.63	90 deg No Ice	36	20.59	0	0	0.00	0.00	3	Member				
DIAG	SOL - 5/8" SOLID	0.63	60 deg No Ice	50	12.27	0	0	0.00	0.00	5	Member				

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Force/Stress Summary

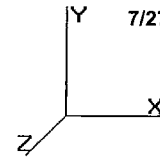
Section: 16		20'-5 Bays		Bot Elev (ft): 280.0		Height (ft): 20.000										
		Force		Len		Bracing %		Member		Shear		Bear		Use		
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	Fa (ksi)	Cap (kip)	Num Bolts	Num Holes	(kip)	(kip)	%	Controls
Max Compression Member																
LEG	SOL - 2" SOLID	-13.67	90 deg Ice	3.92	100	100	100	94.1	21.4	67.22	0	0	0.00	0.00	20	Member X
HORIZ	SAE - 2X2X0.1875	-0.29	60 deg Ice	4.000	100	100	100	85.3	19.7	14.07	0	0	0.00	0.00	2	Member Z
DIAG	SOL - 5/8" SOLID	-0.26	Normal No Ice	5.601	50	50	50	193.8	5.3	1.63	0	0	0.00	0.00		
Max Tension Member																
LEG	SOL - 2" SOLID	1.30	Normal No Ice	50	125.66	0	0	0.00	0.00	0.00			0.00	0.00	1	Member
HORIZ	SAE - 2X2X0.1875	0.65	90 deg Ice	36	20.59	0	0	0.00	0.00	0.00			0.00	0.00	3	Member
DIAG	SOL - 5/8" SOLID	1.56	Normal Ice	50	12.27	0	0	0.00	0.00	0.00			0.00	0.00	12	Member

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Support Forces Summary

Load Case	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
90 deg	A1b	7.96	-7.30	-4.80	
	A1a	-27.19	-24.32	-15.49	
	A1	-0.46	-15.81	20.30	
	1	-0.95	83.44	-0.02	
60 deg	A1b	11.74	-10.91	-7.20	
	A1a	-28.35	-25.60	-16.37	
	A1	-0.37	-10.85	13.77	
	1	-0.85	83.27	-0.49	
Normal	A1b	23.12	-20.82	-13.79	
	A1a	-23.12	-20.82	-13.79	
	A1	0.00	-5.90	7.78	
	1	0.00	83.64	-0.94	
90 deg Ice	A1b	5.81	-7.25	-4.40	
	A1a	-65.31	-60.46	-36.43	
	A1	-2.50	-33.87	41.23	
	1	-0.97	166.28	-0.42	
60 deg Ice	A1b	14.69	-16.10	-10.71	
	A1a	-66.05	-62.09	-38.14	
	A1	-1.93	-15.93	18.12	
	1	-1.23	158.33	-0.75	
Normal Ice	A1b	53.39	-50.93	-33.30	
	A1a	-53.39	-50.93	-33.30	
	A1	0.00	-4.30	4.28	
	1	0.00	171.36	-0.81	
90 deg No Ice	A1b	3.34	-4.31	-2.50	
	A1a	-59.30	-53.56	-33.45	
	A1	-1.44	-28.95	36.20	
	1	-2.26	122.83	-0.26	
60 deg No Ice	A1b	9.59	-10.72	-6.77	
	A1a	-57.85	-53.20	-33.41	
	A1	-1.07	-10.56	11.72	
	1	-2.20	110.21	-1.29	
Normal No Ice	A1b	49.67	-45.85	-30.16	
	A1a	-49.67	-45.85	-30.16	
	A1	0.00	-2.41	2.35	
	1	0.00	130.40	-2.19	

Max Reactions (kip)

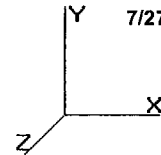
	<u>Base</u>	<u>Anch1</u>
Vertical	171.36	-62.09
Horizontal	2.55	76.27

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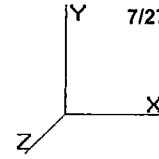


Cable Forces Summary

Load Case	Elevation (ft)	Cable	Node 1	Node 2	Allow Tension (kip)	Applied Tension (kip)	Use %
Normal No Ice	60.00	3/4 EHS	A1	23	29.15	1.00	3
		3/4 EHS	A1b	23a	29.15	14.68	50
		3/4 EHS	A1a	23b	29.15	14.68	50
	124.12	3/4 EHS	A1	46	29.15	0.45	1
		3/4 EHS	A1b	46a	29.15	19.36	66
		3/4 EHS	A1a	46b	29.15	19.36	66
	184.12	3/4 EHS	A1	67	29.15	0.28	0
		3/4 EHS	A1b	67a	29.15	18.74	64
		3/4 EHS	A1a	67b	29.15	18.74	64
	240.20	3/4 EHS	A1	87	29.15	1.03	3
		3/4 EHS	A1b	87a	29.15	14.75	50
		3/4 EHS	A1a	87b	29.15	14.75	50
	291.96	5/8 EHS	A1	104	21.20	1.81	8
		5/8 EHS	A1b	104a	21.20	9.33	44
		5/8 EHS	A1a	104b	21.20	9.33	44
60 deg No Ice	60.00	3/4 EHS	A1	23	29.15	3.10	10
		3/4 EHS	A1b	23a	29.15	2.97	10
		3/4 EHS	A1a	23b	29.15	16.25	55
	124.12	3/4 EHS	A1	46	29.15	2.68	9
		3/4 EHS	A1b	46a	29.15	2.58	8
		3/4 EHS	A1a	46b	29.15	21.89	75
	184.12	3/4 EHS	A1	67	29.15	3.12	10
		3/4 EHS	A1b	67a	29.15	3.12	10
		3/4 EHS	A1a	67b	29.15	22.00	75
	240.20	3/4 EHS	A1	87	29.15	4.20	14
		3/4 EHS	A1b	87a	29.15	4.31	14
		3/4 EHS	A1a	87b	29.15	17.39	59
	291.96	5/8 EHS	A1	104	21.20	4.20	19
		5/8 EHS	A1b	104a	21.20	4.41	20
		5/8 EHS	A1a	104b	21.20	10.93	51
90 deg No Ice	60.00	3/4 EHS	A1	23	29.15	9.46	32
		3/4 EHS	A1b	23a	29.15	1.13	3
		3/4 EHS	A1a	23b	29.15	16.94	58
	124.12	3/4 EHS	A1	46	29.15	11.71	40
		3/4 EHS	A1b	46a	29.15	0.77	2
		3/4 EHS	A1a	46b	29.15	22.90	78
	184.12	3/4 EHS	A1	67	29.15	11.11	38
		3/4 EHS	A1b	67a	29.15	1.00	3
		3/4 EHS	A1a	67b	29.15	22.32	76
	240.20	3/4 EHS	A1	87	29.15	9.55	32
		3/4 EHS	A1b	87a	29.15	1.80	6
		3/4 EHS	A1a	87b	29.15	17.13	58
	291.96	5/8 EHS	A1	104	21.20	6.77	31
		5/8 EHS	A1b	104a	21.20	2.52	11
		5/8 EHS	A1a	104b	21.20	10.43	49
Normal Ice	60.00	3/4 EHS	A1	23	29.15	2.01	6
		3/4 EHS	A1b	23a	29.15	14.30	49
		3/4 EHS	A1a	23b	29.15	14.30	49
	124.12	3/4 EHS	A1	46	29.15	0.74	2

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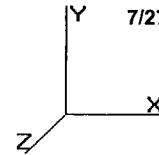
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		3/4 EHS	A1b	46a	29.15	19.91	68
		3/4 EHS	A1a	46b	29.15	19.91	68
	184.12	3/4 EHS	A1	67	29.15	0.54	1
		3/4 EHS	A1b	67a	29.15	20.62	70
		3/4 EHS	A1a	67b	29.15	20.62	70
	240.20	3/4 EHS	A1	87	29.15	1.75	6
		3/4 EHS	A1b	87a	29.15	17.47	59
		3/4 EHS	A1a	87b	29.15	17.47	59
	291.96	5/8 EHS	A1	104	21.20	3.14	14
		5/8 EHS	A1b	104a	21.20	12.28	57
		5/8 EHS	A1a	104b	21.20	12.28	57
60 deg Ice	60.00	3/4 EHS	A1	23	29.15	5.23	17
		3/4 EHS	A1b	23a	29.15	5.08	17
		3/4 EHS	A1a	23b	29.15	16.65	57
	124.12	3/4 EHS	A1	46	29.15	4.28	14
		3/4 EHS	A1b	46a	29.15	4.17	14
		3/4 EHS	A1a	46b	29.15	23.94	82
	184.12	3/4 EHS	A1	67	29.15	4.75	16
		3/4 EHS	A1b	67a	29.15	4.75	16
		3/4 EHS	A1a	67b	29.15	25.57	87
	240.20	3/4 EHS	A1	87	29.15	6.06	20
		3/4 EHS	A1b	87a	29.15	6.19	21
		3/4 EHS	A1a	87b	29.15	21.58	74
	291.96	5/8 EHS	A1	104	21.20	6.39	30
		5/8 EHS	A1b	104a	21.20	6.60	31
		5/8 EHS	A1a	104b	21.20	14.56	68
90 deg Ice	60.00	3/4 EHS	A1	23	29.15	10.10	34
		3/4 EHS	A1b	23a	29.15	2.34	8
		3/4 EHS	A1a	23b	29.15	16.47	56
	124.12	3/4 EHS	A1	46	29.15	12.51	42
		3/4 EHS	A1b	46a	29.15	1.34	4
		3/4 EHS	A1a	46b	29.15	23.94	82
	184.12	3/4 EHS	A1	67	29.15	12.73	43
		3/4 EHS	A1b	67a	29.15	1.70	5
		3/4 EHS	A1a	67b	29.15	25.06	85
	240.20	3/4 EHS	A1	87	29.15	11.78	40
		3/4 EHS	A1b	87a	29.15	2.90	9
		3/4 EHS	A1a	87b	29.15	20.75	71
	291.96	5/8 EHS	A1	104	21.20	9.41	44
		5/8 EHS	A1b	104a	21.20	4.15	19
		5/8 EHS	A1a	104b	21.20	13.84	65
Normal	60.00	3/4 EHS	A1	23	29.15	2.92	10
		3/4 EHS	A1b	23a	29.15	7.64	26
		3/4 EHS	A1a	23b	29.15	7.64	26
	124.12	3/4 EHS	A1	46	29.15	1.92	6
		3/4 EHS	A1b	46a	29.15	8.38	28
		3/4 EHS	A1a	46b	29.15	8.38	28
	184.12	3/4 EHS	A1	67	29.15	1.67	5
		3/4 EHS	A1b	67a	29.15	7.97	27
		3/4 EHS	A1a	67b	29.15	7.97	27
	240.20	3/4 EHS	A1	87	29.15	2.18	7
		3/4 EHS	A1b	87a	29.15	6.99	23
		3/4 EHS	A1a	87b	29.15	6.99	23
	291.96	5/8 EHS	A1	104	21.20	2.43	11
		5/8 EHS	A1b	104a	21.20	4.94	23
		5/8 EHS	A1a	104b	21.20	4.94	23

Site Number: 6310
 Location: Franklin CT, CT

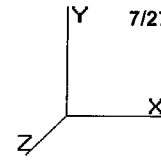
Code: TIA/EIA-222 Rev F



60 deg	60.00	3/4 EHS	A1	23	29.15	4.39	15
		3/4 EHS	A1b	23a	29.15	4.35	14
		3/4 EHS	A1a	23b	29.15	8.88	30
	124.12	3/4 EHS	A1	46	29.15	3.61	12
		3/4 EHS	A1b	46a	29.15	3.59	12
		3/4 EHS	A1a	46b	29.15	10.27	35
	184.12	3/4 EHS	A1	67	29.15	3.56	12
		3/4 EHS	A1b	67a	29.15	3.54	12
		3/4 EHS	A1a	67b	29.15	10.06	34
	240.20	3/4 EHS	A1	87	29.15	4.08	13
		3/4 EHS	A1b	87a	29.15	4.12	14
		3/4 EHS	A1a	87b	29.15	8.59	29
	291.96	5/8 EHS	A1	104	21.20	3.44	16
		5/8 EHS	A1b	104a	21.20	3.51	16
		5/8 EHS	A1a	104b	21.20	5.83	27
90 deg	60.00	3/4 EHS	A1	23	29.15	6.03	20
		3/4 EHS	A1b	23a	29.15	3.24	11
		3/4 EHS	A1a	23b	29.15	8.61	29
	124.12	3/4 EHS	A1	46	29.15	5.95	20
		3/4 EHS	A1b	46a	29.15	2.23	7
		3/4 EHS	A1a	46b	29.15	9.87	33
	184.12	3/4 EHS	A1	67	29.15	5.72	19
		3/4 EHS	A1b	67a	29.15	2.09	7
		3/4 EHS	A1a	67b	29.15	9.52	32
	240.20	3/4 EHS	A1	87	29.15	5.55	19
		3/4 EHS	A1b	87a	29.15	2.83	9
		3/4 EHS	A1a	87b	29.15	8.12	27
	291.96	5/8 EHS	A1	104	21.20	4.20	19
		5/8 EHS	A1b	104a	21.20	2.83	13
		5/8 EHS	A1a	104b	21.20	5.54	26

Site Number: 6310
 Location: Franklin CT, CT

Code: TIA/EIA-222 Rev F

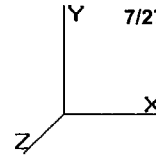


Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
50.00 mph Wind at 60 deg From Face with No Ice	80.00	0.1277	0.3747	0.0982
	84.12	0.1336	0.3734	0.0744
	104.12	0.1560	0.3600	0.0491
	128.04	0.1779	0.3109	0.1181
	164.12	0.2231	0.2040	0.1276
	175.88	0.2249	0.1978	0.0648
	191.96	0.2223	0.1906	0.0075
	200.20	0.2210	0.1879	0.1138
	235.88	0.2021	0.1772	0.0546
	268.04	0.1921	0.1726	0.0179
	295.88	0.1812	0.1697	0.2445
50.00 mph Wind at 90 deg From Face with No Ice	80.00	0.1462	0.5028	0.1084
	84.12	0.1528	0.5013	0.0831
	104.12	0.1781	0.4856	0.0332
	128.04	0.2015	0.4279	0.1267
	164.12	0.2440	0.3066	0.1221
	175.88	0.2432	0.3046	0.0791
	191.96	0.2360	0.3473	0.0289
	200.20	0.2315	0.3444	0.1401
	235.88	0.1976	0.3318	0.0907
	268.04	0.1736	0.3266	0.0340
	295.88	0.1505	0.3236	0.2874
50.00 mph Wind Normal To Face with No Ice	80.00	0.1382	0.0000	0.1234
	84.12	0.1455	0.0000	0.0930
	104.12	0.1743	0.0002	0.0992
	128.04	0.2005	0.0001	0.0916
	164.12	0.2422	0.0010	0.1475
	175.88	0.2410	0.0008	0.0456
	191.96	0.2308	0.0005	0.0317
	200.20	0.2250	0.0004	0.0566
	235.88	0.1752	0.0000	0.0629
	268.04	0.1350	0.0001	0.0909
	295.88	0.1010	0.0005	0.1568
73.61 mph Wind at 60 deg From Face with Ice	80.00	0.3964	0.8775	0.4110
	84.12	0.4215	0.8756	0.3274
	104.12	0.5161	0.7853	0.1937
	128.04	0.6070	0.5728	0.4752
	164.12	0.8510	0.4535	0.3033
	175.88	0.8712	0.4239	0.1532
	191.96	0.8956	0.3832	0.1754
	200.20	0.9155	0.3679	0.3580
	235.88	0.9284	0.3231	0.1053
	268.04	0.9748	0.2477	0.1432
	295.88	1.0147	0.2414	0.7108
73.61 mph Wind at 90 deg From Face with Ice	80.00	0.5185	1.2306	0.5542
	84.12	0.5542	1.2475	0.4622
	104.12	0.6919	1.0446	0.2702
	128.04	0.8291	0.7764	0.5981

Site Number: 6310
 Location: Franklin CT, CT

Code: TIA/EIA-222 Rev F



	164.12	1.1261	0.7666	0.1543
	175.88	1.1549	0.6923	0.1005
	191.96	1.1806	0.6306	0.1503
	200.20	1.1926	0.6229	0.3145
	235.88	1.1664	0.6615	0.2169
	268.04	1.1436	0.5099	0.1217
	295.88	1.1131	0.5082	0.7935
73.61 mph Wind Normal To Face with Ice	80.00	0.5272	0.0000	0.6017
	84.12	0.5651	0.0000	0.4981
	104.12	0.7289	0.0037	0.4848
	128.04	0.8948	0.0085	0.6292
	164.12	1.2157	0.0038	0.6372
	175.88	1.2588	0.0078	0.3128
	191.96	1.2957	0.0044	0.1819
	200.20	1.3148	0.0023	0.4890
	235.88	1.2905	0.0052	0.0424
	268.04	1.2704	0.0004	0.0878
	295.88	1.2513	0.0034	0.6695
85.00 mph Wind at 60 deg From Face with No Ice	80.00	0.4164	0.8433	0.3683
	84.12	0.4380	0.8376	0.2632
	104.12	0.5116	0.7645	0.1398
	128.04	0.5760	0.6435	0.3867
	164.12	0.7671	0.5507	0.3807
	175.88	0.7710	0.5275	0.2020
	191.96	0.7704	0.4830	0.0785
	200.20	0.7727	0.4495	0.3154
	235.88	0.7441	0.3668	0.1481
	268.04	0.7468	0.3441	0.0713
	295.88	0.7483	0.3372	0.6816
85.00 mph Wind at 90 deg From Face with No Ice	80.00	0.6057	1.1577	0.4908
	84.12	0.6350	1.1248	0.3804
	104.12	0.7522	0.9833	0.2158
	128.04	0.8552	0.7421	0.4883
	164.12	1.0829	0.6911	0.2897
	175.88	1.0912	0.6365	0.2129
	191.96	1.0835	0.5337	0.0328
	200.20	1.0794	0.5254	0.3442
	235.88	1.0065	0.5705	0.2503
	268.04	0.9435	0.5721	0.1027
	295.88	0.8782	0.5674	0.7998
85.00 mph Wind Normal To Face with No Ice	80.00	0.6397	0.0000	0.5779
	84.12	0.6752	0.0000	0.4462
	104.12	0.8126	0.0042	0.4060
	128.04	0.9408	0.0079	0.5206
	164.12	1.1945	0.0053	0.5975
	175.88	1.2164	0.0076	0.2328
	191.96	1.2225	0.0039	0.0680
	200.20	1.2260	0.0018	0.3055
	235.88	1.1510	0.0044	0.1074
	268.04	1.0922	0.0004	0.1612
	295.88	1.0419	0.0025	0.5514
		0.0000	0.0000	0.0000

Site Name: Franklin CT, CT
 Site Number: 6310
 Engineering Number: 49674921
 Engineer: A. Shanubhogue
 Date: 07/27/12

Program Last Updated: 7/22/2010
 American Tower Corporation

Engineer Notes

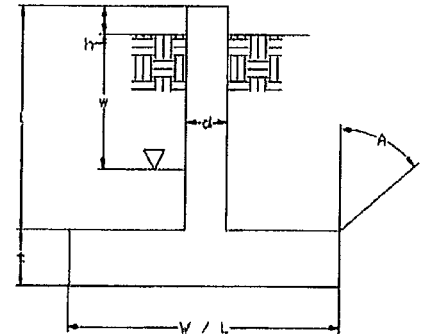
Allow. Compressive Bearing Pressure =
 (Ultimate Compressive Bearing Pressure)
 / 2. Therefore, the foundation meets 2.0
 SF.

Design Base Loads (Unfactored) per TIA-222-F

Foundation Mapped:	Y
Moment (M):	0.0 k-ft
Shear/Leg (V):	2.6 k
Compression/Leg (P):	171.4 k
Uplift/Leg (U):	0.0 k
Tower Type (GT / SST):	GT
Diameter of Prismatic Portion of Pier (d):	2.5 ft
Depth to Base of Foundation:	4.0 ft
Pier Height Above Ground (h):	0.50 ft
Length / Width of Pad (w):	5.5 ft
Thickness of Pad (t):	1.3 ft
Depth Below Ground Surface to Water Table (w):	3.0 ft
Unit Weight of Concrete:	150.0 pcf
Unit Weight of Water:	62.4 pcf
Unit Weight of Soil Above Water Table:	120.0 pcf
Unit Weight of Soil Below Water Table:	60.0 pcf
Friction Angle of Uplift from Top of Pad:	30 Degrees
Friction Angle of Uplift from Base of Pad:	0 Degrees
Uplift Angle Started at Top or Base of Pad (T/B):	T
Allowable Skin Friction:	0 psf
Allowable Compressive Bearing Pressure:	10000 psf
Capacity Increase (Due to Transient Loads):	1.00

Axial Capacities and Design Moment

Weight of Concrete (Bouyancy Considered):	6.2 k
Weight of Soil (Bouyancy Considered):	8.4 k
Allowable Skin Friction Resistance:	0.0 k
Controlling Failure Mode (Top / Base):	Base
Allowable Uplift Capacity per Leg:	9.1 k
Compressive Design Load:	173.2 k
Allowable Compression Capacity per Leg:	302.5 k
Uplift Design Load/Uplift Capacity:	0.00 Result: OK
Compression Design Load/Compression Capacity:	0.57 Result: OK



Depth (ft)		Ultimate Lateral Bearing Pressure (psf)	Increment (psf/ft)	γ_{Soil} (pcf)	Cohesion (psf)	ϕ (degree)
Top	Bottom					
0.0	2.0	0.0	100.0	100	0	0
2.0	2.8	1200.0	110.0	110	500	0

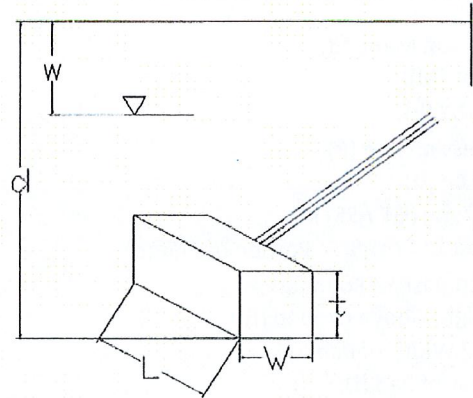
Inflection Point (Below Ground Surface): 2.7 ft
 Unfactored Design Moment At Inflection Point: 5.4 k-ft

Site Name: Franklin CT, CT
 Site Number: 6310
 Engineering Number: 49674921
 Engineer: A. Shanubhogue
 Date: 07/27/12

Program Last Updated: 7/22/2010
 American Tower Corporation

Design Standard per TIA-222-F

Anchor Radius:	193.7 ft
Uplift (Unfactored):	62.1 k
Shear (Unfactored):	76.3 k
Berm Present:	N
Design Anchor Rod:	N
Mapped Foundation:	Y
Anchor Base Depth (d):	7.0 ft
Width of Anchor (W):	3.0 ft
Length of Anchor (L):	22.0 ft
Thickness of Anchor (t):	2.5 ft
Depth Below Ground Surface to Water Table (w):	6.5 ft
Soil Uplift at Base / Top of Anchor (B/T):	B
Unit Weight of Concrete:	90.0 pcf
Unit Weight of Soil Above Water Table:	120.0 pcf
Unit Weight of Water:	62.4 pcf
Submerged Soil Unit Weight:	60.0 pcf
Internal Angle of Friction:	0 Degrees
Cohesion:	3000 psf
Allowable Skin Friction of Pad Sides to Soil:	0 psf
Ultimate Coefficient of Shear Friction:	0.30
Maximum Top Conical Failure Angle:	30 Degrees
Maximum Base Conical Failure Angle:	30 Degrees
Allowable Capacity Increase:	1.00 (Due to Transient Loads)



Uplift

Weight of Concrete (Buoyancy Effect Considered):	12.8 k
Weight of Soil (Buoyancy Effect Considered):	134.7 k
Uplift Resistance from Skin Friction:	0.0 k
Allowable Uplift Resistance (FS = 1.5 to 2):	77.6 k
Uplift Design Load/Allowable Uplift Resistance:	0.80 Result: OK

Engineer Notes
Both Uplift and Shear have safety factor of 2. The concrete unit wt. was adjusted to 90 pcf (instead of 150 pcf) to meet the safety factor of 2.0.

Shear

Ultimate Shear Friction Resistance Due to Normal Force - Uplift:	0.0 k
Passive Pressure:	6690 psf
Ultimate Passive Pressure Resistance:	368.0 k
Allowable Shear Resistance (FS = 1.5 to 2):	184.0 k
Shear Design Load/Allowable Shear Resistance:	0.41 Result: OK

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

Also admitted in Massachusetts

December 28, 2012

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



Re: **EM-VER-040-120906 – 60 South Main Street, East Granby, Connecticut**
EM-VER-053-120907 – 89 Dr. Nott Drive, Franklin, Connecticut
EM-VER-058-120828 – 1439 Voluntown Road, Griswold, Connecticut
EM-VER-059-120828 – 75 Roberts Road, Groton, Connecticut
EM-VER-056-121009 – 30 Higley Road, Granby, Connecticut
EM-VER-084-121002 – 10 Bona Street, Milford, Connecticut

Completion of Construction Activity

Dear Ms. Roberts:

The purpose of this letter is to notify the Siting Council that construction activity associated with the above-referenced Cellco Partnership d/b/a Verizon Wireless telecommunications facilities has been completed.

If you have any questions or need any additional information regarding this facility please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Ken Baldwin".

Kenneth C. Baldwin

Copy to:
Sandy M. Carter



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