Robinson+Cole

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Also admitted in Massachusetts

April 16, 2015

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Facility Modification**
171 Short Beach, Branford, Connecticut

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains nine (9) wireless telecommunications antennas at the 100-foot level of the existing 119-foot tower at 171 Short Beach Road in Branford (the "Property"). The tower is owned American Tower Corporation. Cellco's use of the tower was approved by the Council in 2012 (Docket No. 427). Cellco now intends to modify its facility by replacing six (6) of its existing antennas with three (3) model LNX-6514DS-VTM, 700 MHz antennas; three (3) model HBXX-6516DS-VTM, 1900 MHz antennas; and adding three (3) model HBXX-6516DS-VTM, 2100 MHz antennas, for a total of twelve (12) antennas, all at the same 100-foot level on the tower. Cellco also intends to replace six (6) remote radio heads ("RRHs") with six (6) newer model RRHs behind its 1900 MHz and 2100 MHz antennas. Cellco would also install twelve (12) coaxial cables inside the tower. Included in Attachment 1 are specifications for Cellco's replacement antennas and RRHs.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to James B. Cosgrove, First Selectman for the Town of Branford. A copy of this letter is also being sent to 171 Short Beach Road Realty LLC, the owner of the Property.

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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1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's replacement antennas and RRHs will be installed on its existing antenna platform at the 100-foot level of the tower.

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

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

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) safety standard. A cumulative General Power Density table for Cellco's modified facility is included behind Attachment 2.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The tower and its foundation can support Cellco's proposed modifications. (*See* Structural Analysis Report included in Attachment 3).

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

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
James B. Cosgrove, Branford First Selectman
171 Short Beach Road Realty LLC
Tim Parks

ATTACHMENT 1

Product Specifications

COMMSCOPE®

POWERED BY ANDREW.

LNX-6514DS-VTM

Andrew® Antenna, 698–896 MHz, 65° horizontal beamwidth, RET compatible

- Great solution to maximize network coverage and capacity
- Excellent gain, VSWR, front-to-back ratio, and PIM specifications for robust network performance
- Ideal choice for site collocations and tough zoning restrictions
- Excellent solution for site sharing and maximizing capacity
- Fully compatible with Andrew remote electrical tilt system for greater OpEx savings
- The RF connectors are designed for IP67 rating and the radome for IP56 rating

Electrical Specifications

Frequency Band, MHz	**698–806**	**806–896**
Gain, dBi	15.8	15.9
Beamwidth, Horizontal, degrees	65	64
Beamwidth, Vertical, degrees	12.4	11.2
Beam Tilt, degrees	0–10	0–10
USLS, dB	17	18
Front-to-Back Ratio at 180°, dB	32	30
CPR at Boresight, dB	23	23
CPR at Sector, dB	12	10
Isolation, dB	30	30
VSWR | Return Loss, dB	1.4 | 15.6	1.4 | 15.6
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153
Input Power per Port, maximum, watts	400	400
Polarization	±45°	±45°
Impedance	50 ohm	50 ohm

Electrical Specifications, BASTA*

Frequency Band, MHz	**698–806**	**806–896**
Gain by all Beam Tilts, average, dBi	15.6	15.7
Gain by all Beam Tilts Tolerance, dB	±0.4	±0.5
Gain by Beam Tilt, average, dBi	0 ° | 15.7 5 ° | 15.7 10 ° | 15.3	0 ° | 15.9 5 ° | 15.8 10 ° | 15.3
Beamwidth, Horizontal Tolerance, degrees	±0.9	±1.4
Beamwidth, Vertical Tolerance, degrees	±0.8	±0.6
USLS, dB	18	20
Front-to-Back Total Power at 180° ± 30°, dB	25	23
CPR at Boresight, dB	25	24
CPR at Sector, dB	15	12

* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, download the whitepaper Time to Raise the Bar on BSAs.

General Specifications

Antenna Brand	Andrew®
Antenna Type	DualPol®
Band	Single band
Brand	DualPol® | Teletilt®

Product Specifications

LNX-6514DS-VTM

Operating Frequency Band	698 – 896 MHz

Mechanical Specifications

Color	Light gray
Lightning Protection	dc Ground
Radiator Material	Aluminum
Radome Material	Fiberglass, UV resistant
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, total	2
Wind Loading, maximum	617.7 N @ 150 km/h 138.9 lbf @ 150 km/h
Wind Speed, maximum	241.0 km/h | 149.8 mph

Dimensions

Depth	181.0 mm | 7.1 in
Length	1847.0 mm | 72.7 in
Width	301.0 mm | 11.9 in
Net Weight	14.2 kg | 31.3 lb

Remote Electrical Tilt (RET) Information

Model with Factory Installed AISG 2.0 Actuator	LNX-6514DS-A1M
RET System	Teletilt®

Regulatory Compliance/Certifications

Agency	Classification
RoHS 2011/65/EU	Compliant by Exemption
China RoHS SJ/T 11364-2006	Above Maximum Concentration Value (MCV)
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system

Included Products

DB380 — Pipe Mounting Kit for 2.4"-4.5" (60-115mm) OD round members on wide panel antennas. Includes 2 clamp sets and double nuts.

DB5083 — Downtilt Mounting Kit for 2.4"-4.5" (60 - 115 mm) OD round members. Includes a heavy-duty, galvanized steel downtilt mounting bracket assembly and associated hardware. This kit is compatible with the DB380 pipe mount kit for panel antennas that are equipped with two mounting brackets.

Product Specifications

COMMSCOPE®

POWERED BY ANDREW.

HBXX-6516DS-VTM

Andrew® Quad Port Antenna, 1710–2180 MHz, 65° horizontal beamwidth, RET compatible

- Each DualPol® array can be independently adjusted for greater flexibility
- Excellent gain, VSWR, front-to-back ratio, and PIM specifications for robust network performance
- Ideal choice for site collocations and tough zoning restrictions
- Great solution to maximize network coverage and capacity

Electrical Specifications

Frequency Band, MHz	**1710–1880**	**1850–1990**	**1920–2180**
Gain, dBi	17.7	18.0	18.0
Beamwidth, Horizontal, degrees	67	66	64
Beamwidth, Vertical, degrees	7.5	7.0	6.6
Beam Tilt, degrees	0–10	0–10	0–10
USLS, dB	18	18	18
Front-to-Back Ratio at 180°, dB	30	30	30
CPR at Boresight, dB	22	22	21
CPR at Sector, dB	8	9	9
Isolation, dB	30	30	30
VSWR | Return Loss, dB	1.4 | 15.6	1.4 | 15.6	1.4 | 15.6
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350
Polarization	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm

Electrical Specifications, BASTA*

Frequency Band, MHz	**1710–1880**	**1850–1990**	**1920–2180**
Gain by all Beam Tilts, average, dBi	17.2	17.2	17.5
Gain by all Beam Tilts Tolerance, dB	±0.3	±0.3	±0.5
Gain by Beam Tilt, average, dBi	0 ° | 17.0	0 ° | 17.1	0 ° | 17.4
	5 ° | 17.3	5 ° | 17.4	5 ° | 17.7
	10 ° | 17.0	10 ° | 17.0	10 ° | 17.2
Beamwidth, Horizontal Tolerance, degrees	±2.7	±2.3	±3.5
Beamwidth, Vertical Tolerance, degrees	±0.5	±0.4	±0.4
USLS, dB	18	19	19
Front-to-Back Total Power at 180° ± 30°, dB	26	26	26
CPR at Boresight, dB	22	22	22
CPR at Sector, dB	9	9	9

* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, download the whitepaper Time to Raise the Bar on BSAs.

General Specifications

Antenna Brand	Andrew®
Antenna Type	DualPol® quad
Band	Single band
Brand	DualPol® | Teletilt®
Operating Frequency Band	1710 – 2180 MHz

Product Specifications

HBXX-6516DS-VTM

Mechanical Specifications

Color	Light gray
Lightning Protection	dc Ground
Radiator Material	Low loss circuit board
Radome Material	PVC, UV resistant
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, total	4
Wind Loading, maximum	419.0 N @ 150 km/h 94.2 lbf @ 150 km/h
Wind Speed, maximum	241.0 km/h | 149.8 mph

Dimensions

Depth	166.0 mm | 6.5 in
Length	1297.0 mm | 51.1 in
Width	305.0 mm | 12.0 in
Net Weight	13.9 kg | 30.6 lb

Remote Electrical Tilt (RET) Information

Model with Factory Installed AISG 2.0 Actuator	HBXX-6516DS-A2M
RET System	Teletilt®

Regulatory Compliance/Certifications

Agency	Classification
RoHS 2011/65/EU	Compliant by Exemption
China RoHS SJ/T 11364-2006	Above Maximum Concentration Value (MCV)
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system

Included Products

600899A-2 — Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

PCS RF MODULES
RRH1900 2X60 - HW CHARACTERISTICS

LA6.0.1/13.3

		RRH2x60
RF Output Power		2x60W
Instantaneous Bandwidth		20MHz
Transmitter		2 TX
Receiver	1900 HW version 1900A HW version	2 Branch RX – LA6.0.1 4 Branch RX – LR13.3
Features		AISG 2.0 for RET/TMA
		Internal Smart Bias-T
Power		-48VDC
CPRI Ports		2 CPRI Rate 3 Ports
External Alarms		4 External User Alarms
Monitor Ports		TX
Environmental		GR487 Compliance
RF Connectors		7/16 DIN (top mounted)

** Not a Verizon Wireless deployed product

NEW PCS RF MODULES FOR VZW
RRH2X60 - HW CHARACTERISTICS

LR14.3

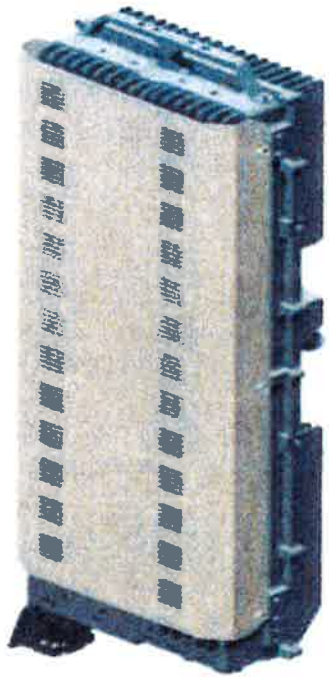
	RRH2x60
RF Output Power	2x60W (4x30W HW Ready)
Instantaneous Bandwidth	60MHz
Target Reliability (Annual Return Rate)	<2%
Receiver	4 Branch Rx
Features	AISG 2.0 for RET/TMA
Power	-48VDC
	Internal Smart Bias-T
CPRI Ports	2 CPRI Rate 5 Ports
External Alarms	4 External User Alarms
Monitor Ports	TX, RX
Environmental	GR487 Compliance
RF Connectors	7/16 DIN (downward facing)
Dimensions	22"(h) x 12"(w)x 9.4" (d)**
Weight	55lb**

**- Includes solar shield but not mounting brackets (8 lbs.)

Alcatel·Lucent

ALCATEL-LUCENT
WIRELESS PRODUCT DATASHEET
RRH2X60-AWS FOR BAND 4 APPLICATIONS

The Alcatel-Lucent RRH2x60-AWS is a high power, small form factor Remote Radio Head operating in the AWS frequency band (3GPP Band 4) for LTE technology. It is designed with an eco-efficient approach, providing operators with the means to achieve high quality and high capacity coverage with minimum site requirements and efficient operation.



A distributed Node B expands the deployment options by using two components, a Base Band Unit (BBU) containing the digital assets and a separate RRH containing the radio-frequency (RF) elements. This modular design optimizes available space and allows the main components of a Node B to be installed separately, within the same site or several kilometers apart.

The Alcatel-Lucent RRH2x60-AWS is linked to the BBU by an optical-fiber connection carrying downlink and uplink digital radio signals along with operations, administration and maintenance (OA&M) information.

SUPERIOR RF PERFORMANCE

The Alcatel-Lucent RRH2x60-AWS integrates all the latest technologies. This allows to offer best-in-class characteristics.

It delivers an outstanding 120 watts of total RF power thanks to its two transmit RF paths of 60 W each.

It is ideally suited to support multiple-input multiple-output (MIMO) 2x2 operation.

It includes four RF receivers to natively support 4-way uplink reception diversity. This improves the radio uplink coverage and this can be used to extend the cell radius commensurate with 2x2MIMO 2x60 W for the downlink.

It supports multiple discontinuous LTE carriers within an instantaneous bandwidth of 45 MHz corresponding to the entire AWS B4 spectrum.

The latest generation power amplifiers (PA) used in this product achieve high efficiency (>40%), resulting in improved power consumption figures.

OPTIMIZED TCO

The Alcatel-Lucent RRH2x60-AWS is designed to make available all the benefits of a distributed Node B, with excellent RF characteristics, with low capital expenditures (CAPEX) and low operating expenditures (OPEX).

The Alcatel-Lucent RRH2x60-AWS is a very cost-effective solution to deploy LTE MIMO.

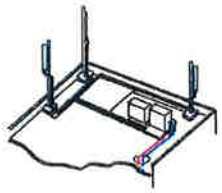
EASY INSTALLATION

The RRH2x60-AWS includes a reversible mounting bracket which allows for ease of installation behind an antenna, or on a rooftop knee wall while providing easy access to the mid body RF connectors.

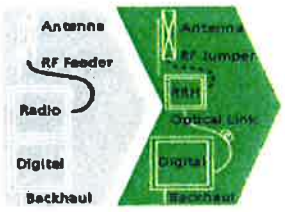
The limited space available in some sites may prevent the installation of traditional single-cabinet BTS equipment. However, many of these sites can host an Alcatel-Lucent RRH2x60-AWS installation, providing more flexible site selection and improved network quality along with greatly reduced installation time and costs.

The Alcatel-Lucent RRH2x60-AWS is a zero-footprint solution and is convection cooled without fans for silent operation, simplifying negotiations with site property owners and minimizing environmental impacts.

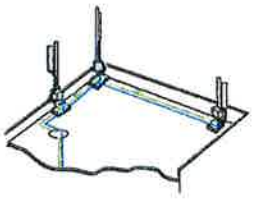
Installation can easily be done by a single person as the Alcatel-Lucent RRH2x60-AWS is compact and weighs about 20 kg, eliminating the need for a crane to hoist the BTS cabinet to the rooftop. A site can be in operation in less than one day.



Macro



RRH for space-constrained cell sites



Distributed

FEATURES

- RRH2x60-AWS integrates two power amplifiers of 60W rating (at each antenna connector)
- Support multiple carriers over the entire 3GPP band 4
- RRH2x60-AWS is optimized for LTE operation
- RRH2x60-AWS is a very compact and lightweight product
- Advanced power management techniques are embedded to provide power savings, such as PA bias control

BENEFITS

- MIMO LTE operation with only one single unit per sector
- Improved uplink coverage with built-in 4-way receive diversity capability
- RRH can be mounted close to the antenna, eliminating nearly all losses in RF cables and thus reducing power consumption by 50% compared to conventional solutions
- Distributed configurations provide easily deployable and cost-effective solutions, near zero footprint and silent solutions, with minimum impact on the neighborhood, which ease the deployment
- RETA and TMA support without additional hardware thanks to the AISG v2.0 port and the integrated Bias-Tees. Bias-Tees support AISG DC supply and signaling.

TECHNICAL SPECIFICATIONS

Specifications listed are hardware capabilities. Some capabilities depend on support in a specific software release or future release.

Dimensions and weights

- HxWxD : 510x285x186mm (27 l with solar shield)
- Weight : 20 kg (44 lbs)

Electrical Data

- Power Supply : -48V DC (-40.5 to -57V)
- Power Consumption (ETSI average traffic load reference) : 250W @2x60W

RF Characteristics

- Frequency band: 1710-1755, UL / 2110-2155 MHz, DL (3GPP band 4)
- Output power: 2x60W at antenna connectors
- Technology supported: LTE
- Instantaneous bandwidth: 45 MHz
- Rx diversity: 2-way and 4-way uplink reception
- Typical sensitivity without Rx diversity: -105 dBm for LTE

Connectivity

- Two CPRI optical ports for daisychaining and up to six RRHs per fiber
- Type of optical fiber: Single-Mode (SM) and Multi-Mode (MM) SFPs
- Optical fiber length: up to 500m using MM fiber, up to 20km using SM fiber
- TMA/RETA : AISG 2.0 (RS485 connector and internal Bias-Tee)
- Six external alarms
- Surge protection for all external ports (DC and RF)

Environmental specifications

- Operating temperature: -40°C to 55°C including solar load
- Operating relative humidity: 8% to 100%
- Environmental Conditions : ETS 300 019-1-4 class 4.1E
- Ingress Protection : IEC 60529 IP65
- Acoustic Noise : Noiseless (natural convection cooling)

Safety and Regulatory Data

- EMC : 3GPP 25113, EN 301 489-1, EN 301 489-23, GR 1089, GR 3108, OET-65
- Safety : IEC60950-1, EN 60825-1, UL, ANSI/NFPA 70, CAN/CSA-C22.2
- Regulatory : FCC Part 15 Class B, CE Mark – European Directive : 2002/95/EC (ROHS); 2002/96/EC (WEEE); 1999/5/EC (R&TTE)
- Health : EN 50385

Alcatel·Lucent

AT THE SPEED OF IDEAS™

Product Data Sheet HB158-1-08U8-S8J18

HYBRIFLEX™ RRH Hybrid Feeder Cabling Solution, 1-5/8", Single-Mode Fiber

Product Description

RFS' HYBRIFLEX Remote Radio Head (RRH) hybrid feeder cabling solution combines optical fiber and DC power for RRHs in a single lightweight aluminum corrugated cable, making it the world's most innovative solution for RRH deployments.

It was developed to reduce installation complexity and costs at Cellular sites. HYBRIFLEX allows mobile operators deploying an RRH architecture to standardize the RRH installation process and eliminate the need for and cost of cable grounding. HYBRIFLEX combines optical fiber (multi-mode or single-mode) and power in a single corrugated cable. It eliminates the need for junction boxes and can connect multiple RRHs with a single feeder. Standard RFS CELLFLEX® accessories can be used with HYBRIFLEX cable. Both pre-connectorized and on-site options are available.

Figure 1: HYBRIFLEX Series

Features/Benefits

- Aluminum corrugated armor with outstanding bending characteristics – minimizes installation time and enables mechanical protection and shielding
- Same accessories as 1 5/8" coaxial cable
- Outer conductor grounding – Eliminates typical grounding requirements and saves on installation costs
- Lightweight solution and compact design – Decreases tower loading
- Robust cabling – Eliminates need for expensive cable trays and ducts
- Installation of tight bundled fiber optic cable pairs directly to the RRH – Reduces CAPEX and wind load by eliminating need for interconnection
- Optical fiber and power cables housed in single corrugated cable – Saves CAPEX by standardizing RRH cable installation and reducing installation requirements
- Outdoor polyethylene jacket – Ensures long-lasting cable protection

Technical Specifications

Outer Conductor Armor	Corrugated Aluminum	[mm (in)]	46.5 (1.83)
Jacket:	Polyethylene, PE	[mm (in)]	50.3 (1.98)
UV-Protection	Individual and External Jacket		Yes
Weight, Approximate		[kg/m (lb/ft)]	1.9 (1.30)
Minimum Bending Radius, Single Bending		[mm (in)]	200 (8)
Minimum Bending Radius, Repeated Bending		[mm (in)]	500 (20)
Recommended/Maximum Clamp Spacing		[m (ft)]	1.0 / 1.2 (3.25 / 4.0)
DC-Resistance Outer Conductor Armor		[Ω/km (Ω/1000ft)]	068 (0.205)
DC-Resistance Power Cable, 8.4mm²(8AWG)		[Ω/km (Ω/1000ft)]	2.1 (0.307)
Version			Single-mode OM3
Quantity, Fiber Count			16 (8 pairs)
Core/Clad		[µm]	50/125
Primary Coating (Acrylate)		[µm]	245
Buffer Diameter, Nominal		[µm]	900
Secondary Protection, Jacket, Nominal		[mm (in)]	2.0 (0.08)
Minimum Bending Radius		[mm (in)]	104 (4.1)
Insertion Loss @ wavelength 850nm		dB/km	3.0
Insertion Loss @ wavelength 1310nm		dB/km	1.0
Standards (Meets or exceeds)			UL94-V0, UL1666 RoHS Compliant
Size (Power)		[mm² (AWG)]	8.4 (8)
Quantity, Wire Count (Power)			16 (8 pairs)
Size (Alarm)		[mm² (AWG)]	0.8 (18)
Quantity, Wire Count (Alarm)			4 (2 pairs)
Type			UV protected
Strands			19
Primary Jacket Diameter, Nominal		[mm (in)]	6.8 (0.27)
Standards (Meets or exceeds)			NFPA 130, ICEA S-93-658 UL Type XHHW-2, UL 44 UL-LS Limited Smoke, UL VW-1 IEEE-383 (1974), IEEE1202/FT4 RoHS Compliant
Installation Temperature		[°C (°F)]	-40 to +65 (-40 to149)
Operation Temperature		[°C (°F)]	-40 to +65 (-40 to149)

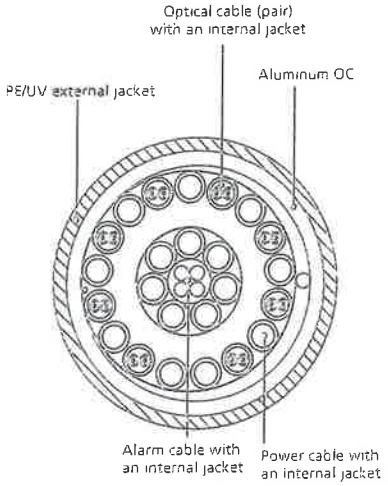


Figure 2: Construction Detail

* This data is provisional and subject to change

ATTACHMENT 2

	General	Power	Density					
Site Name: Branford Short Beach								
Tower Height: 119Ft.								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**CALC. POWER DENS**	**FREQ.**	**MAX. PERMISS. EXP.**	**FRACTION MPE**	**Total**
*AT&T UMTS	1	500	120	0.0125	880	0.5867	2.13%	
*AT&T UMTS	1	500	120	0.0125	1900	1.0000	1.25%	
*AT&T GSM	3	296	120	0.0222	880	0.5867	3.78%	
*AT&T GSM	1	427	120	0.0107	1900	1.0000	1.07%	
*AT&T LTE	1	500	120	0.0125	734	0.4893	2.55%	
Verizon PCS	**7**	**325**	**100**	**0.0818**	**1970**	**1.0000**	**8.18%**	
Verizon Cellular	**9**	**416**	**100**	**0.1346**	**869**	**0.5793**	**23.24%**	
Verizon AWS	**1**	**2128**	**100**	**0.0765**	**2145**	**1.0000**	**7.65%**	
Verizon 700	**1**	**886**	**100**	**0.0319**	**746**	**0.4973**	**6.41%**	
								56.25%
* Source: Siting Council								

ATTACHMENT 3

AMERICAN TOWER®
CORPORATION

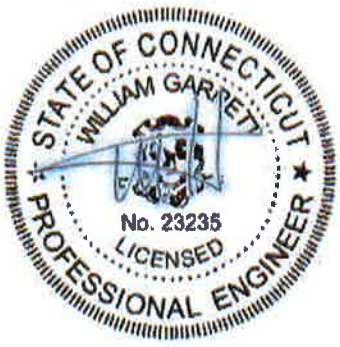
Structural Analysis Report

Structure	:	**119 ft Monopole**
ATC Site Name	:	**Short Beach Branford CT, CT**
ATC Site Number	:	**283422**
Engineering Number	:	**60770222**
Proposed Carrier	:	**Verizon Wireless**
Carrier Site Name	:	**Branford Short Beach CT**
Carrier Site Number	:	**250743**
Site Location	:	**171 Short Beach Road** **Branford, CT 06405-4930** **41.262789,-72.834428**
County	:	**New Haven**
Date	:	**December 18, 2014**
Max Usage	:	**85%**
Result	:	**Pass**

Prepared By:
William Maynard, E.I.

Wm. Maynard

Reviewed by:
William Garrett, PE
Chief Engineer



Dec 18 2014 1:51 PM

AMERICAN TOWER CORPORATION

Eng. Number 60770222
December 18, 2014

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 119 ft monopole to reflect the change in loading by Verizon Wireless.

Supporting Documents

Tower Drawings	Sabre Job #73523, dated January 26, 2013
Foundation Drawing	Sabre Job#73523, dated January 26, 2013
Geotechnical Report	Terracon Project #J2135101, dated January 17, 2013

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/TIA-222.

Basic Wind Speed:	110 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2003 IBC w/ 2005 CT Supplement & 2009 CT Amendment
Structure Class:	II
Exposure Category:	C
Topographic Category:	1

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 American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

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Existing and Reserved Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
118.0	120.0	3	Raycap DC6-48-60-18-8F	T-Arms	(6) 0.63" Cable (3) 0.40" Fiber (3) 3" Conduit	AT&T Mobility
		15	Ericsson RRUS 11 (w/o S.S)			
		12	Andrew SBNH-1D6565C			
100.0	100.0	3	Antel BXA-70063-6CF-EDIN-X	Low Profile Platform	(2) 1 5/8" Hybriflex	Verizon Wireless

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
100.0	100.0	1	24" x 24" Junction Box	-	-	Verizon Wireless
		3	Alcatel-Lucent RRH2x40-700AT			
		3	Alcatel-Lucent RRH2x40-AWS			
		6	Antel BXA-171063/12CF			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
100.0	100.0	3	Alcatel-Lucent RRH2x60-AWS	Low Profile Platform	(12) 1 5/8" Coax	Verizon Wireless
		3	Alcatel-Lucent PCS B25 RRH2x60/4x30			
		3	Alcatel-Lucent 9442 RRH 2x40 700U			
		2	RFS DB-T1-6Z-8AB-0Z			
		3	Andrew LNX-6514DS-A1M			
		6	Commscope HBXX-6517DS-A2M			

[1]Mount 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).

Install proposed coax inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	70%	Pass
Shaft	85%	Pass
Base Plate	72%	Pass

Foundations

Reaction Component	Original Design Reactions	Analysis Reactions	% of Design
Moment (Kips-Ft)	2,678.3	2,243.0	84%
Shear (Kips)	30.2	25.2	83%

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
100.0	Alcatel-Lucent RRH2x60-AWS	Verizon Wireless	0.992	1.180
	Alcatel-Lucent PCS B25 RRH2x60		0.992	1.180
	Alcatel-Lucent 9442 RRH 2x40 7		0.992	1.180
	RFS DB-T1-6Z-8AB-0Z		0.992	1.180
	Andrew LNX-6514DS-A1M		0.992	1.180
	Commscope HBXX-6517DS-A2M		0.992	1.180

*Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G

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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:

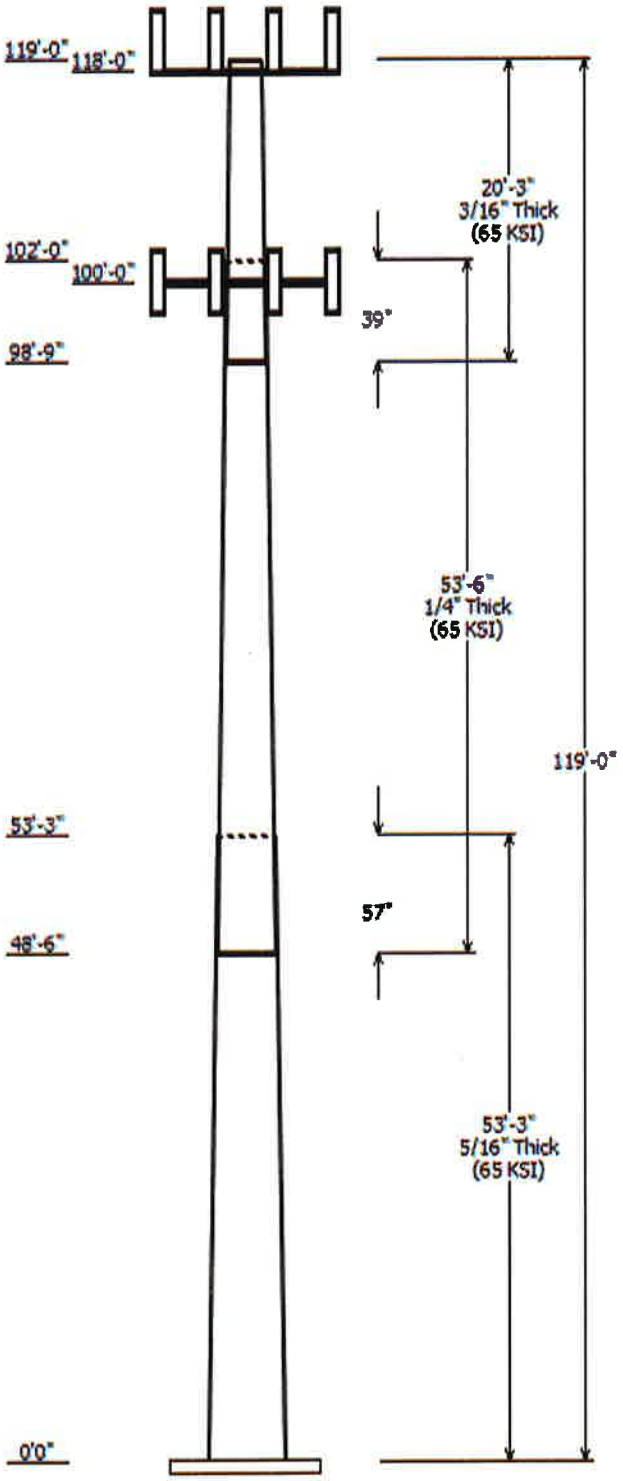
- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.

- 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 Tower Services, Inc. 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 Tower Services, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.



Job Information

Pole :	283422	Code:	ANSI/TIA-222 Rev G
Description :	41.26278, -72.83442		
Client :	Verizon Wireless	Struct Class :	II
Location :	Short Beach Branford CT, CT		
Shape :	18 Sides	Exposure :	C
Height :	119.00 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.24220((in/ft)		

Sections Properties

Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Taper (in/ft)	Steel Grade (ksi)
1	53.250	32.80	45.70	0.313		0.000	0.242200	65
2	53.500	21.49	34.45	0.250	Slip Joint	57.000	0.242200	65
3	20.250	17.75	22.65	0.188	Slip Joint	39.000	0.242200	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
118.000	120.000	12	Andrew SBNH-1D6565C
118.000	120.000	15	Ericsson RRUS 11 (w/o S.S)
118.000	120.000	3	Raycap DC6-48-60-18-8F
118.000	118.000	3	Round T-Arm
100.000	100.000	3	Alcatel-Lucent PCS B25
100.000	100.000	6	Commscope HBXX-6517DS-
100.000	100.000	3	Andrew LNX-6514DS-A1M
100.000	100.000	3	Antel BXA-70063-6CF-EDIN-X
100.000	100.000	2	RFS DB-T1-6Z-8AB-0Z
100.000	100.000	3	Alcatel-Lucent 9442 RRH 2x40 7
100.000	100.000	3	Alcatel-Lucent RRH2x60-AWS
100.000	100.000	1	Round Low Profile Platform

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
0.000	100.0	1 5/8" Coax	No
0.000	100.0	1 5/8" Hybriflex	No
0.000	118.0	0.40" Fiber Cable	No
0.000	118.0	0.63" Cable	No
0.000	118.0	3" Conduit	No

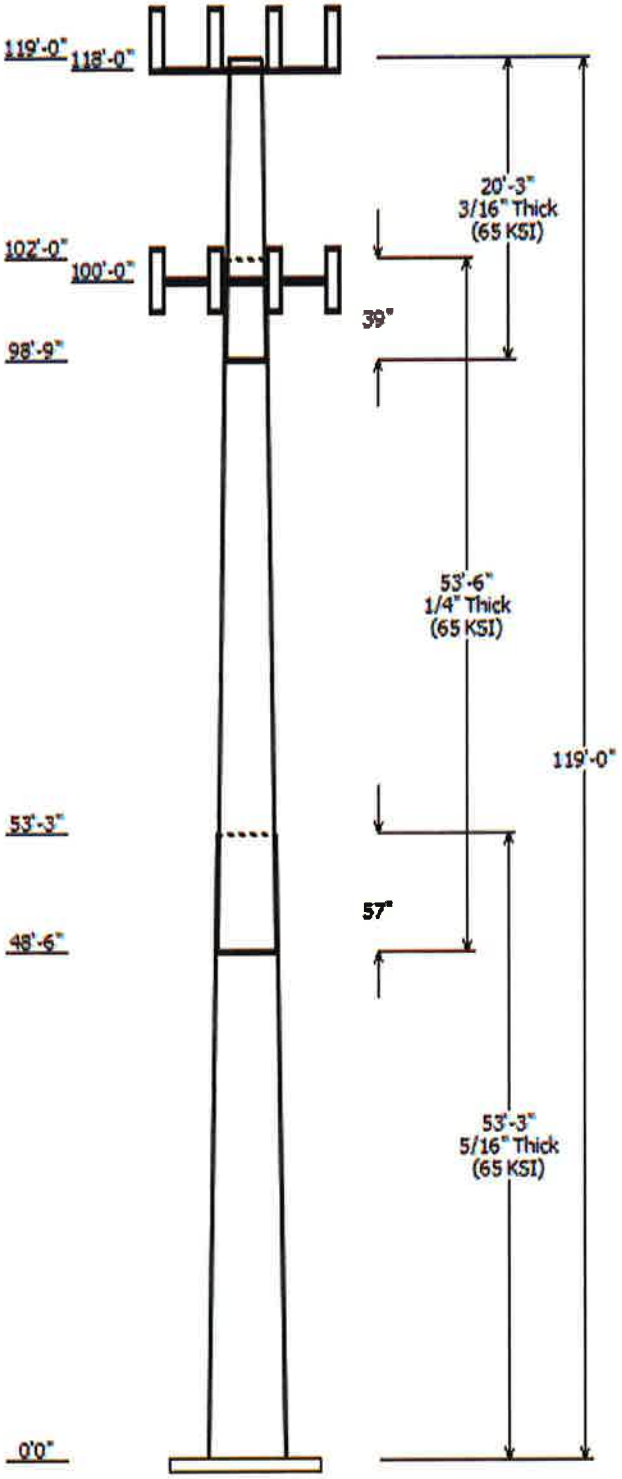
Load Cases

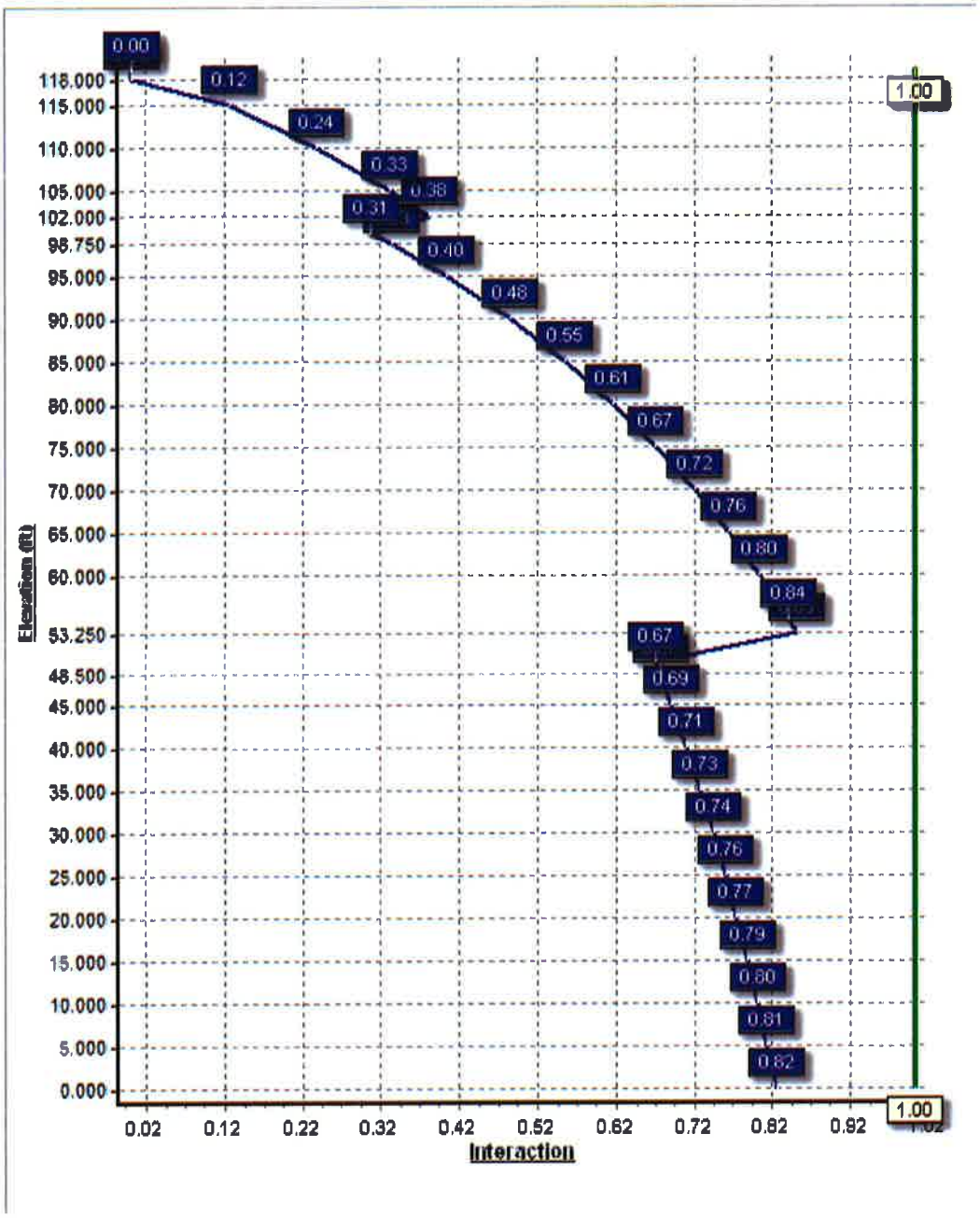
1.2D + 1.6W	110.00 mph with No Ice
0.9D + 1.6W	110.00 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50.00 mph with 0.75 in Radial Ice
1.0D + 1.0W	60.00 mph Serviceability

Reactions

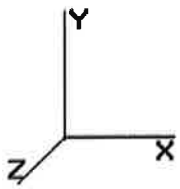
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	2242.99	25.18	24.76
0.9D + 1.6W	2224.25	25.17	18.56
1.2D + 1.0Di + 1.0Wi	462.48	5.37	39.80
1.0D + 1.0W	415.56	4.68	20.68

Dish Deflections			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
	0.00	0.000	0.000




0.00
0.12
0.24
0.33
0.38
0.31
0.40
0.48
0.55
0.61
0.67
0.72
0.76
0.80
0.84
0.67
0.69
0.71
0.73
0.74
0.76
0.77
0.79
0.80
0.81
0.82
1.00
1.00
118.000
115.000
110.000
105.000
102.000
98.750
95.000
90.000
85.000
80.000
75.000
70.000
65.000
60.000
53.250
48.500
45.000
40.000
35.000
30.000
25.000
20.000
15.000
10.000
5.000
0.000
Elevation (ft)
0.02
0.12
0.22
0.32
0.42
0.52
0.62
0.72
0.82
0.92
Interaction

Pole :	283422	Code: ANSI/TIA-222 Rev G	12/18/2014 1:17:41 PM
Location :	Short Beach Branford CT, CT	Struct Class : II	Page: 1
Height :	119.0 (ft)	Exposure Category : C	
Base Dia :	45.70 (in)	Topographic Category : 1	
Top Dia :	17.75 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.242200 (in/ft)		



Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Slip Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (sqin)	Bottom Ix (in^4)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (sqin)	Top Ix (in^4)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	53.250	0.3125	65		0.00	6,998	45.70	0.00	45.02	11716.6	24.38	146.24	32.80	53.25	32.23	4297.9	17.10	104.97	0.242200
2-18	53.500	0.2500	65	Slip	57.00	4,005	34.45	48.50	27.14	4011.3	22.89	137.81	21.49	102.00	16.86	961.4	13.75	85.98	0.242200
3-18	20.250	0.1875	65	Slip	39.00	821	22.65	98.75	13.37	853.0	19.90	120.84	17.75	119.00	10.45	407.5	15.28	94.68	0.242200
				Shaft Weight		11,824													

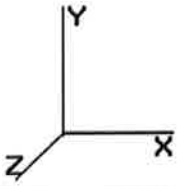
Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor	Distance From Face (ft)	Vert Ecc (ft)
118.00	Andrew SBNH-1D6565C	12	66.10	11.450	0.70	322.31	13.063	0.70	0.000	2.000
118.00	Ericsson RRUS 11 (w/o S.S)	15	45.00	2.190	0.67	110.39	2.780	0.67	0.000	2.000
118.00	Raycap DC6-48-60-18-8F	3	20.00	1.110	1.00	98.21	2.508	1.00	0.000	2.000
118.00	Round T-Arm	3	250.00	9.700	0.67	454.46	17.765	0.67	0.000	0.000
100.00	Alcatel-Lucent 9442 RRH	3	50.70	2.740	0.67	118.55	2.274	0.67	0.000	0.000
100.00	Alcatel-Lucent PCS B25	3	55.00	2.200	0.67	124.79	3.088	0.67	0.000	0.000
100.00	Alcatel-Lucent RRH2x60-AWS	3	44.00	1.880	0.67	99.83	2.639	0.67	0.000	0.000
100.00	Andrew LNX-6514DS-A1M	3	38.40	8.170	0.69	232.22	9.419	0.69	0.000	0.000
100.00	Antel BXA-70063-6CF-EDIN-X	3	17.00	7.570	0.66	176.42	8.782	0.66	0.000	0.000
100.00	Commscope HBXX-6517DS-	6	40.80	8.530	0.68	201.37	11.326	0.68	0.000	0.000
100.00	RFS DB-T1-6Z-8AB-0Z	2	44.00	4.800	0.67	181.04	5.637	0.67	0.000	0.000
100.00	Round Low Profile Platform	1	1500.00	21.700	1.00	2,123.42	40.174	1.00	0.000	0.000
	Totals	57	4726.30		13,130.76			Number of Loadings :		12

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Exposed Width (in)	Exposed To Wind
0.00	118.00	(3) 0.40" Fiber Cable	0.00	N
0.00	118.00	(6) 0.63" Cable	0.00	N
0.00	118.00	(3) 3" Conduit	0.00	N
0.00	100.00	(12) 1 5/8" Coax	0.00	N
0.00	100.00	(2) 1 5/8" Hybriflex	0.00	N

Pole :	283422	Code:	ANSI/TIA-222 Rev G
Location :	Short Beach Branford CT, CT	Struct Class :	II
Height :	119.0 (ft)	Exposure Category :	C
Base Dia :	45.70 (in)	Topographic Category :	1
Top Dia :	17.75 (in)	Base Elev :	0.000 (ft)
Shape :	18 Sides		
Taper :	0.242200 (in/ft)		

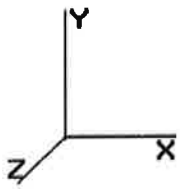


Segment Properties (Max Len : 5 ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	S (in3)	Weight (lb)
0.00		0.3125	45.700	45.017	11,716.6	24.38	146.24	72.7	505.0	0.0
5.00		0.3125	44.489	43.816	10,803.6	23.69	142.36	73.5	478.3	755.7
10.00		0.3125	43.278	42.615	9,939.3	23.01	138.49	74.3	452.3	735.3
15.00		0.3125	42.067	41.414	9,122.3	22.33	134.61	75.1	427.1	714.8
20.00		0.3125	40.856	40.213	8,351.4	21.64	130.74	75.9	402.6	694.4
25.00		0.3125	39.645	39.012	7,625.2	20.96	126.86	76.7	378.8	674.0
30.00		0.3125	38.434	37.810	6,942.3	20.28	122.99	77.6	355.8	653.5
35.00		0.3125	37.223	36.609	6,301.5	19.59	119.11	78.4	333.4	633.1
40.00		0.3125	36.012	35.408	5,701.4	18.91	115.24	79.2	311.8	612.6
45.00		0.3125	34.801	34.207	5,140.6	18.23	111.36	80.0	290.9	592.2
48.50	Bot - Section 2	0.3125	33.953	33.366	4,770.8	17.75	108.65	80.5	276.8	402.4
50.00		0.3125	33.590	33.006	4,617.9	17.54	107.49	80.8	270.8	307.2
53.25	Top - Section 1	0.2500	33.303	26.226	3,620.0	22.08	133.21	75.4	214.1	654.2
55.00		0.2500	32.879	25.890	3,482.5	21.78	131.52	75.8	208.6	155.2
60.00		0.2500	31.668	24.929	3,109.0	20.93	126.67	76.8	193.4	432.3
65.00		0.2500	30.457	23.968	2,763.2	20.07	121.83	77.8	178.7	416.0
70.00		0.2500	29.246	23.007	2,444.0	19.22	116.98	78.8	164.6	399.6
75.00		0.2500	28.035	22.047	2,150.4	18.36	112.14	79.8	151.1	383.3
80.00		0.2500	26.824	21.086	1,881.3	17.51	107.30	80.8	138.1	366.9
85.00		0.2500	25.613	20.125	1,635.6	16.65	102.45	81.8	125.8	350.6
90.00		0.2500	24.402	19.164	1,412.4	15.80	97.61	82.6	114.0	334.2
95.00		0.2500	23.191	18.203	1,210.4	14.95	92.76	82.6	102.8	317.9
98.75	Bot - Section 3	0.2500	22.283	17.482	1,072.2	14.31	89.13	82.6	94.8	227.7
100.0		0.2500	21.980	17.242	1,028.6	14.09	87.92	82.6	92.2	130.3
102.0	Top - Section 2	0.1875	21.871	12.904	766.5	19.16	116.64	78.9	69.0	204.8
105.0		0.1875	21.144	12.471	692.0	18.47	112.77	79.7	64.5	129.5
110.0		0.1875	19.933	11.751	578.8	17.33	106.31	81.0	57.2	206.1
115.0		0.1875	18.722	11.030	478.7	16.20	99.85	82.4	50.4	193.8
118.0		0.1875	17.995	10.598	424.6	15.51	95.98	82.6	46.5	110.4
119.0		0.1875	17.753	10.453	407.5	15.28	94.68	82.6	45.2	35.8
										11,823.7

Pole : 283422
Location : Short Beach Branford CT, CT
Height : 119.0 (ft)
Base Dia : 45.70 (in)
Top Dia : 17.75 (in)
Shape : 18 Sides
Taper : 0.242200 (in/ft)

Code: ANSI/TIA-222 Rev G
Struct Class : II
Exposure Category : C
Topographic Category : 1
Base Elev : 0.000 (ft)



Load Case: 1.2D + 1.6W — 110.00 mph with No Ice — 23 Iterations

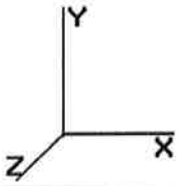
Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Shaft Segment Forces (Factored)

Seg Top Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Ap (sf)	EPAs (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	25.013	27.51	392.18	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	25.013	27.51	381.78	0.650	0.000	5.00	19.079	12.40	546.0	0.0	906.8
10.00		1.00	0.85	25.013	27.51	371.39	0.650	0.000	5.00	18.567	12.07	531.3	0.0	882.3
15.00		1.00	0.85	25.013	27.51	361.00	0.650	0.000	5.00	18.054	11.74	516.6	0.0	857.8
20.00		1.00	0.90	26.540	29.19	361.15	0.650	0.000	5.00	17.542	11.40	532.6	0.0	833.3
25.00		1.00	0.94	27.816	30.59	358.77	0.650	0.000	5.00	17.030	11.07	541.9	0.0	808.7
30.00		1.00	0.98	28.905	31.79	354.55	0.650	0.000	5.00	16.517	10.74	546.2	0.0	784.2
35.00		1.00	1.01	29.858	32.84	349.00	0.650	0.000	5.00	16.005	10.40	546.7	0.0	759.7
40.00		1.00	1.04	30.710	33.78	342.42	0.650	0.000	5.00	15.493	10.07	544.3	0.0	735.2
45.00		1.00	1.07	31.481	34.62	335.04	0.650	0.000	5.00	14.980	9.74	539.5	0.0	710.7
48.50	Bot - Section 2	1.00	1.08	31.981	35.17	329.46	0.650	0.000	3.50	10.181	6.62	372.5	0.0	482.9
50.00		1.00	1.09	32.187	35.40	326.99	0.650	0.000	1.50	4.350	2.83	160.2	0.0	368.6
53.25	Top - Section 1	1.00	1.10	32.616	35.87	321.45	0.650	0.000	3.25	9.267	6.02	345.8	0.0	785.0
55.00		1.00	1.11	32.839	36.12	323.29	0.650	0.000	1.75	4.900	3.19	184.1	0.0	186.2
60.00		1.00	1.13	33.446	36.79	314.25	0.650	0.000	5.00	13.655	8.88	522.5	0.0	518.8
65.00		1.00	1.15	34.015	37.41	304.79	0.650	0.000	5.00	13.142	8.54	511.4	0.0	499.2
70.00		1.00	1.17	34.549	38.00	294.96	0.650	0.000	5.00	12.630	8.21	499.2	0.0	479.5
75.00		1.00	1.19	35.055	38.56	284.81	0.650	0.000	5.00	12.118	7.88	486.0	0.0	459.9
80.00		1.00	1.20	35.534	39.08	274.36	0.650	0.000	5.00	11.605	7.54	471.8	0.0	440.3
85.00		1.00	1.22	35.991	39.59	263.65	0.650	0.000	5.00	11.093	7.21	456.7	0.0	420.7
90.00		1.00	1.23	36.427	40.06	252.70	0.650	0.000	5.00	10.581	6.88	440.9	0.0	401.1
95.00		1.00	1.25	36.844	40.52	241.53	0.650	0.000	5.00	10.068	6.54	424.4	0.0	381.5
98.75	Bot - Section 3	1.00	1.26	37.145	40.86	233.02	0.650	0.000	3.75	7.215	4.69	306.6	0.0	273.2
100.0	Appertunance(s)	1.00	1.26	37.244	40.96	230.16	0.650	0.000	1.25	2.381	1.55	101.4	0.0	156.4
102.0	Top - Section 2	1.00	1.27	37.399	41.13	225.56	0.650	0.000	2.00	3.742	2.43	160.1	0.0	245.8
105.0		1.00	1.27	37.628	41.39	222.55	0.650	0.000	3.00	5.460	3.55	235.0	0.0	155.4
110.0		1.00	1.29	37.998	41.79	210.83	0.650	0.000	5.00	8.690	5.65	377.7	0.0	247.3
115.0		1.00	1.30	38.356	42.19	198.95	0.650	0.000	5.00	8.177	5.32	358.8	0.0	232.6
118.0	Appertunance(s)	1.00	1.31	38.564	42.42	191.75	0.650	0.000	3.00	4.660	3.03	205.6	0.0	132.5
119.0		1.00	1.31	38.633	42.49	189.33	0.650	0.000	1.00	1.513	0.98	66.8	0.0	43.0
							Totals:		119.00			11,532.6	0.0	14,188.5

Pole :	283422	Code: ANSI/TIA-222 Rev G	
Location :	Short Beach Branford CT, CT	Struct Class : II	
Height :	119.0 (ft)	Exposure Category : C	
Base Dia :	45.70 (in)	Topographic Category : 1	
Top Dia :	17.75 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.242200 (in/ft)		



Load Case: 1.2D + 1.6W — 110.00 mph with No Ice — 23 Iterations

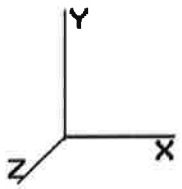
Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Discrete Appurtenance Segment Forces (Factored)

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orientation Factor	Ka	Total EPAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
100.0	Round Low Profile Pl	1	37.244	40.968	1.00	1.00	21.70	0.000	0.000	1,422.40	0.00	0.00	1,800.00
100.0	Alcatel-Lucent RRH2x	3	37.244	40.968	0.67	0.80	3.02	0.000	0.000	198.16	0.00	0.00	158.40
100.0	Alcatel-Lucent 9442	3	37.244	40.968	0.67	0.80	4.41	0.000	0.000	288.80	0.00	0.00	182.52
100.0	RFS DB-T1-6Z-8AB-0Z	2	37.244	40.968	0.67	0.80	5.15	0.000	0.000	337.29	0.00	0.00	105.60
100.0	Antel BXA-70063-6CF-	3	37.244	40.968	0.66	0.80	11.99	0.000	0.000	785.99	0.00	0.00	61.20
100.0	Andrew LNX-6514DS-	3	37.244	40.968	0.69	0.80	13.53	0.000	0.000	886.84	0.00	0.00	138.24
100.0	Commscope HBXX-	6	37.244	40.968	0.68	0.80	27.84	0.000	0.000	1,825.00	0.00	0.00	293.76
100.0	Alcatel-Lucent PCS B	3	37.244	40.968	0.67	0.80	3.54	0.000	0.000	231.89	0.00	0.00	198.00
118.0	Round T-Arm	3	38.564	42.421	0.67	0.75	14.62	0.000	0.000	992.48	0.00	0.00	900.00
118.0	Raycap DC6-48-60-18-	3	38.701	42.571	1.00	0.80	2.66	0.000	2.000	181.45	0.00	362.91	72.00
118.0	Ericsson RRUS 11 (w/	15	38.701	42.571	0.67	0.80	17.61	0.000	2.000	1,199.32	0.00	2,398.64	810.00
118.0	Andrew SBNH-	12	38.701	42.571	0.70	0.80	76.94	0.000	2.000	5,240.94	0.00	10,481.8	951.84
										13,590.56			5,671.56

Pole :	283422	Code: ANSI/TIA-222 Rev G	
Location :	Short Beach Branford CT, CT	Struct Class : II	
Height :	119.0 (ft)	Exposure Category : C	
Base Dia :	45.70 (in)	Topographic Category : 1	
Top Dia :	17.75 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.242200 (in/ft)		



Load Case: 1.2D + 1.6W — 110.00 mph with No Ice — 23 Iterations

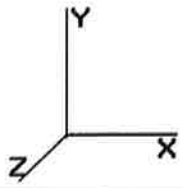
Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	545.95	1,128.54	0.00	0.00
10.00	531.29	1,104.02	0.00	0.00
15.00	516.63	1,079.49	0.00	0.00
20.00	532.61	1,054.97	0.00	0.00
25.00	541.92	1,030.45	0.00	0.00
30.00	546.18	1,005.92	0.00	0.00
35.00	546.70	981.40	0.00	0.00
40.00	544.29	956.88	0.00	0.00
45.00	539.50	932.36	0.00	0.00
48.50	372.50	638.06	0.00	0.00
50.00	160.18	435.12	0.00	0.00
53.25	345.78	929.13	0.00	0.00
55.00	184.09	263.80	0.00	0.00
60.00	522.46	740.48	0.00	0.00
65.00	511.40	720.86	0.00	0.00
70.00	499.20	701.25	0.00	0.00
75.00	485.95	681.63	0.00	0.00
80.00	471.77	662.01	0.00	0.00
85.00	456.73	642.39	0.00	0.00
90.00	440.91	622.77	0.00	0.00
95.00	424.36	603.15	0.00	0.00
98.75	306.59	439.49	0.00	0.00
100.0	6,077.80	3,149.56	0.00	0.00
102.0	160.11	304.62	0.00	0.00
105.0	235.02	243.66	0.00	0.00
110.0	377.74	394.33	0.00	0.00
115.0	358.81	379.61	0.00	0.00
118.0	7,819.80	2,954.54	0.00	13,243.42
119.0	66.85	42.98	0.00	0.00
Totals:	25,123.14	24,823.47	0.00	13,243.42

Pole :	283422	Code: ANSI/TIA-222 Rev G	
Location :	Short Beach Branford CT, CT	Struct Class : II	
Height :	119.0 (ft)	Exposure Category : C	
Base Dia :	45.70 (in)	Topographic Category : 1	
Top Dia :	17.75 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.242200 (in/ft)		



Load Case: 1.2D + 1.6W — 110.00 mph with No Ice — 23 Iterations

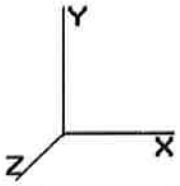
Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-24.76	-25.18	0.00	-2,242.99	0.00	2,242.99	2,946.72	1,473.36	5,500.90	2,754.54	0.00	0.00	0.823
5.00	-23.52	-24.74	0.00	-2,117.09	0.00	2,117.09	2,899.79	1,449.90	5,267.87	2,637.85	0.14	-0.26	0.811
10.00	-22.31	-24.31	0.00	-1,993.37	0.00	1,993.37	2,851.12	1,425.56	5,036.47	2,521.98	0.56	-0.54	0.799
15.00	-21.12	-23.88	0.00	-1,871.82	0.00	1,871.82	2,800.72	1,400.36	4,806.98	2,407.06	1.27	-0.81	0.785
20.00	-19.95	-23.43	0.00	-1,752.40	0.00	1,752.40	2,748.57	1,374.29	4,579.65	2,293.23	2.28	-1.09	0.772
25.00	-18.82	-22.97	0.00	-1,635.24	0.00	1,635.24	2,694.69	1,347.35	4,354.74	2,180.61	3.58	-1.38	0.757
30.00	-17.71	-22.49	0.00	-1,520.41	0.00	1,520.41	2,639.07	1,319.54	4,132.51	2,069.33	5.18	-1.68	0.742
35.00	-16.63	-22.00	0.00	-1,407.98	0.00	1,407.98	2,581.72	1,290.86	3,913.23	1,959.52	7.10	-1.98	0.725
40.00	-15.58	-21.50	0.00	-1,298.01	0.00	1,298.01	2,522.63	1,261.31	3,697.16	1,851.33	9.34	-2.28	0.708
45.00	-14.57	-20.99	0.00	-1,190.51	0.00	1,190.51	2,461.80	1,230.90	3,484.55	1,744.87	11.89	-2.59	0.689
48.50	-13.90	-20.63	0.00	-1,117.04	0.00	1,117.04	2,418.18	1,209.09	3,337.93	1,671.45	13.88	-2.82	0.674
50.00	-13.41	-20.48	0.00	-1,086.10	0.00	1,086.10	2,399.23	1,199.61	3,275.68	1,640.27	14.78	-2.92	0.668
53.25	-12.45	-20.12	0.00	-1,019.54	0.00	1,019.54	1,780.50	890.25	2,418.90	1,211.25	16.84	-3.13	0.849
55.00	-12.11	-19.98	0.00	-984.33	0.00	984.33	1,765.87	882.93	2,368.02	1,185.77	18.00	-3.24	0.837
60.00	-11.27	-19.49	0.00	-884.45	0.00	884.45	1,722.87	861.43	2,223.96	1,113.63	21.60	-3.62	0.801
65.00	-10.46	-19.00	0.00	-787.01	0.00	787.01	1,678.13	839.06	2,082.05	1,042.57	25.60	-4.01	0.762
70.00	-9.67	-18.51	0.00	-692.02	0.00	692.02	1,631.65	815.83	1,942.57	972.73	30.00	-4.39	0.718
75.00	-8.92	-18.03	0.00	-599.45	0.00	599.45	1,583.44	791.72	1,805.76	904.22	34.79	-4.76	0.669
80.00	-8.19	-17.56	0.00	-509.29	0.00	509.29	1,533.49	766.75	1,671.90	837.19	39.98	-5.13	0.614
85.00	-7.49	-17.09	0.00	-421.50	0.00	421.50	1,481.81	740.90	1,541.24	771.77	45.53	-5.48	0.552
90.00	-6.82	-16.63	0.00	-336.06	0.00	336.06	1,423.78	711.89	1,409.49	705.79	51.45	-5.81	0.481
95.00	-6.20	-16.17	0.00	-252.93	0.00	252.93	1,352.39	676.20	1,271.00	636.45	57.69	-6.11	0.403
98.75	-5.76	-15.83	0.00	-192.30	0.00	192.30	1,298.85	649.43	1,171.84	586.79	62.56	-6.30	0.333
100.00	-3.29	-9.44	0.00	-172.52	0.00	172.52	1,281.00	640.50	1,139.67	570.68	64.21	-6.36	0.305
102.00	-2.98	-9.26	0.00	-153.63	0.00	153.63	915.93	457.96	815.42	408.32	66.89	-6.45	0.380
105.00	-2.74	-9.00	0.00	-125.86	0.00	125.86	894.26	447.13	769.22	385.18	70.98	-6.58	0.330
110.00	-2.37	-8.59	0.00	-80.84	0.00	80.84	856.75	428.37	693.99	347.51	77.98	-6.79	0.236
115.00	-2.02	-8.19	0.00	-37.89	0.00	37.89	817.50	408.75	621.20	311.06	85.16	-6.94	0.125
118.00	-0.03	-0.07	0.00	-0.07	0.00	0.07	787.34	393.67	574.60	287.73	89.52	-6.98	0.000
119.00	0.00	-0.07	0.00	0.00	0.00	0.00	776.64	388.32	559.00	279.91	90.98	-6.98	0.000

Pole :	283422	Code: ANSI/TIA-222 Rev G	12/18/2014 1:17:42 PM
Location :	Short Beach Branford CT, CT	Struct Class : II	
Height :	119.0 (ft)	Exposure Category : C	Page: 7
Base Dia :	45.70 (in)	Topographic Category : 1	
Top Dia :	17.75 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.242200 (in/ft)		



Load Case: 0.9D + 1.6W — 110.00 mph with No Ice (Reduced DL) — 23 Iterations

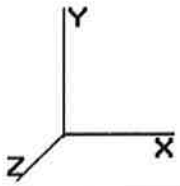
Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Shaft Segment Forces (Factored)

Seg Top Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Ap (sf)	EPAs (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	25.013	27.51	392.18	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	25.013	27.51	381.78	0.650	0.000	5.00	19.079	12.40	546.0	0.0	680.1
10.00		1.00	0.85	25.013	27.51	371.39	0.650	0.000	5.00	18.567	12.07	531.3	0.0	661.7
15.00		1.00	0.85	25.013	27.51	361.00	0.650	0.000	5.00	18.054	11.74	516.6	0.0	643.3
20.00		1.00	0.90	26.540	29.19	361.15	0.650	0.000	5.00	17.542	11.40	532.6	0.0	625.0
25.00		1.00	0.94	27.816	30.59	358.77	0.650	0.000	5.00	17.030	11.07	541.9	0.0	606.6
30.00		1.00	0.98	28.905	31.79	354.55	0.650	0.000	5.00	16.517	10.74	546.2	0.0	588.2
35.00		1.00	1.01	29.858	32.84	349.00	0.650	0.000	5.00	16.005	10.40	546.7	0.0	569.8
40.00		1.00	1.04	30.710	33.78	342.42	0.650	0.000	5.00	15.493	10.07	544.3	0.0	551.4
45.00		1.00	1.07	31.481	34.62	335.04	0.650	0.000	5.00	14.980	9.74	539.5	0.0	533.0
48.50	Bot - Section 2	1.00	1.08	31.981	35.17	329.46	0.650	0.000	3.50	10.181	6.62	372.5	0.0	362.2
50.00		1.00	1.09	32.187	35.40	326.99	0.650	0.000	1.50	4.350	2.83	160.2	0.0	276.5
53.25	Top - Section 1	1.00	1.10	32.616	35.87	321.45	0.650	0.000	3.25	9.267	6.02	345.8	0.0	588.8
55.00		1.00	1.11	32.839	36.12	323.29	0.650	0.000	1.75	4.900	3.19	184.1	0.0	139.7
60.00		1.00	1.13	33.446	36.79	314.25	0.650	0.000	5.00	13.655	8.88	522.5	0.0	389.1
65.00		1.00	1.15	34.015	37.41	304.79	0.650	0.000	5.00	13.142	8.54	511.4	0.0	374.4
70.00		1.00	1.17	34.549	38.00	294.96	0.650	0.000	5.00	12.630	8.21	499.2	0.0	359.7
75.00		1.00	1.19	35.055	38.56	284.81	0.650	0.000	5.00	12.118	7.88	486.0	0.0	344.9
80.00		1.00	1.20	35.534	39.08	274.36	0.650	0.000	5.00	11.605	7.54	471.8	0.0	330.2
85.00		1.00	1.22	35.991	39.59	263.65	0.650	0.000	5.00	11.093	7.21	456.7	0.0	315.5
90.00		1.00	1.23	36.427	40.06	252.70	0.650	0.000	5.00	10.581	6.88	440.9	0.0	300.8
95.00		1.00	1.25	36.844	40.52	241.53	0.650	0.000	5.00	10.068	6.54	424.4	0.0	286.1
98.75	Bot - Section 3	1.00	1.26	37.145	40.86	233.02	0.650	0.000	3.75	7.215	4.69	306.6	0.0	204.9
100.0	Appertunance(s)	1.00	1.26	37.244	40.96	230.16	0.650	0.000	1.25	2.381	1.55	101.4	0.0	117.3
102.0	Top - Section 2	1.00	1.27	37.399	41.13	225.56	0.650	0.000	2.00	3.742	2.43	160.1	0.0	184.3
105.0		1.00	1.27	37.628	41.39	222.55	0.650	0.000	3.00	5.460	3.55	235.0	0.0	116.6
110.0		1.00	1.29	37.998	41.79	210.83	0.650	0.000	5.00	8.690	5.65	377.7	0.0	185.4
115.0		1.00	1.30	38.356	42.19	198.95	0.650	0.000	5.00	8.177	5.32	358.8	0.0	174.4
118.0	Appertunance(s)	1.00	1.31	38.564	42.42	191.75	0.650	0.000	3.00	4.660	3.03	205.6	0.0	99.4
119.0		1.00	1.31	38.633	42.49	189.33	0.650	0.000	1.00	1.513	0.98	66.8	0.0	32.2
							Totals:		119.00			11,532.6	0.0	10,641.4

Pole :	283422	Code:	ANSI/TIA-222 Rev G
Location :	Short Beach Branford CT, CT	Struct Class :	II
Height :	119.0 (ft)	Exposure Category :	C
Base Dia :	45.70 (in)	Topographic Category :	1
Top Dia :	17.75 (in)	Base Elev :	0.000 (ft)
Shape :	18 Sides		
Taper :	0.242200 (in/ft)		



Load Case: 0.9D + 1.6W — 110.00 mph with No Ice (Reduced DL) — 23 Iterations

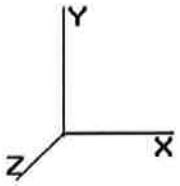
Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Discrete Appurtenance Segment Forces (Factored)

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orientation Factor	Ka	Total EPAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
100.0	Round Low Profile Pl	1	37.244	40.968	1.00	1.00	21.70	0.000	0.000	1,422.40	0.00	0.00	1,350.00
100.0	Alcatel-Lucent RRH2x	3	37.244	40.968	0.67	0.80	3.02	0.000	0.000	198.16	0.00	0.00	118.80
100.0	Alcatel-Lucent 9442	3	37.244	40.968	0.67	0.80	4.41	0.000	0.000	288.80	0.00	0.00	136.89
100.0	RFS DB-T1-6Z-8AB-0Z	2	37.244	40.968	0.67	0.80	5.15	0.000	0.000	337.29	0.00	0.00	79.20
100.0	Antel BXA-70063-6CF-	3	37.244	40.968	0.66	0.80	11.99	0.000	0.000	785.99	0.00	0.00	45.90
100.0	Andrew LNX-6514DS-	3	37.244	40.968	0.69	0.80	13.53	0.000	0.000	886.84	0.00	0.00	103.68
100.0	Commscope HBXX-	6	37.244	40.968	0.68	0.80	27.84	0.000	0.000	1,825.00	0.00	0.00	220.32
100.0	Alcatel-Lucent PCS B	3	37.244	40.968	0.67	0.80	3.54	0.000	0.000	231.89	0.00	0.00	148.50
118.0	Round T-Arm	3	38.564	42.421	0.67	0.75	14.62	0.000	0.000	992.48	0.00	0.00	675.00
118.0	Raycap DC6-48-60-18-	3	38.701	42.571	1.00	0.80	2.66	0.000	2.000	181.45	0.00	362.91	54.00
118.0	Ericsson RRUS 11 (w/	15	38.701	42.571	0.67	0.80	17.61	0.000	2.000	1,199.32	0.00	2,398.64	607.50
118.0	Andrew SBNH-	12	38.701	42.571	0.70	0.80	76.94	0.000	2.000	5,240.94	0.00	10,481.8	713.88
										13,590.56			4,253.67

Pole :	283422	Code: ANSI/TIA-222 Rev G	
Location :	Short Beach Branford CT, CT	Struct Class : II	
Height :	119.0 (ft)	Exposure Category : C	
Base Dia :	45.70 (in)	Topographic Category : 1	
Top Dia :	17.75 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.242200 (in/ft)		



Load Case: 0.9D + 1.6W — 110.00 mph with No Ice (Reduced DL) — 23 Iterations

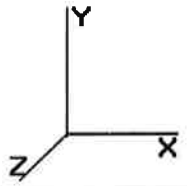
Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	545.95	846.40	0.00	0.00
10.00	531.29	828.01	0.00	0.00
15.00	516.63	809.62	0.00	0.00
20.00	532.61	791.23	0.00	0.00
25.00	541.92	772.83	0.00	0.00
30.00	546.18	754.44	0.00	0.00
35.00	546.70	736.05	0.00	0.00
40.00	544.29	717.66	0.00	0.00
45.00	539.50	699.27	0.00	0.00
48.50	372.50	478.54	0.00	0.00
50.00	160.18	326.34	0.00	0.00
53.25	345.78	696.85	0.00	0.00
55.00	184.09	197.85	0.00	0.00
60.00	522.46	555.36	0.00	0.00
65.00	511.40	540.65	0.00	0.00
70.00	499.20	525.93	0.00	0.00
75.00	485.95	511.22	0.00	0.00
80.00	471.77	496.51	0.00	0.00
85.00	456.73	481.79	0.00	0.00
90.00	440.91	467.08	0.00	0.00
95.00	424.36	452.37	0.00	0.00
98.75	306.59	329.62	0.00	0.00
100.0	6,077.80	2,362.17	0.00	0.00
102.0	160.11	228.47	0.00	0.00
105.0	235.02	182.74	0.00	0.00
110.0	377.74	295.74	0.00	0.00
115.0	358.81	284.71	0.00	0.00
118.0	7,819.80	2,215.91	0.00	13,243.42
119.0	66.85	32.23	0.00	0.00
Totals:	25,123.14	18,617.60	0.00	13,243.42

Pole :	283422	Code: ANSI/TIA-222 Rev G	
Location :	Short Beach Branford CT, CT	Struct Class : II	
Height :	119.0 (ft)	Exposure Category : C	
Base Dia :	45.70 (in)	Topographic Category : 1	
Top Dia :	17.75 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.242200 (in/ft)		



Load Case: 0.9D + 1.6W — 110.00 mph with No Ice (Reduced DL) — 23 Iterations

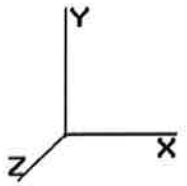
Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-18.56	-25.17	0.00	-2,224.25	0.00	2,224.25	2,946.72	1,473.36	5,500.90	2,754.54	0.00	0.00	0.814
5.00	-17.60	-24.70	0.00	-2,098.42	0.00	2,098.42	2,899.79	1,449.90	5,267.87	2,637.85	0.14	-0.26	0.802
10.00	-16.66	-24.24	0.00	-1,974.92	0.00	1,974.92	2,851.12	1,425.56	5,036.47	2,521.98	0.56	-0.53	0.789
15.00	-15.74	-23.79	0.00	-1,853.71	0.00	1,853.71	2,800.72	1,400.36	4,806.98	2,407.06	1.26	-0.80	0.776
20.00	-14.84	-23.32	0.00	-1,734.76	0.00	1,734.76	2,748.57	1,374.29	4,579.65	2,293.23	2.26	-1.08	0.762
25.00	-13.97	-22.83	0.00	-1,618.16	0.00	1,618.16	2,694.69	1,347.35	4,354.74	2,180.61	3.54	-1.37	0.748
30.00	-13.11	-22.33	0.00	-1,503.99	0.00	1,503.99	2,639.07	1,319.54	4,132.51	2,069.33	5.14	-1.66	0.732
35.00	-12.28	-21.83	0.00	-1,392.32	0.00	1,392.32	2,581.72	1,290.86	3,913.23	1,959.52	7.04	-1.96	0.716
40.00	-11.47	-21.32	0.00	-1,283.18	0.00	1,283.18	2,522.63	1,261.31	3,697.16	1,851.33	9.25	-2.26	0.698
45.00	-10.70	-20.80	0.00	-1,176.58	0.00	1,176.58	2,461.80	1,230.90	3,484.55	1,744.87	11.78	-2.57	0.679
48.50	-10.18	-20.43	0.00	-1,103.78	0.00	1,103.78	2,418.18	1,209.09	3,337.93	1,671.45	13.74	-2.79	0.665
50.00	-9.81	-20.28	0.00	-1,073.13	0.00	1,073.13	2,399.23	1,199.61	3,275.68	1,640.27	14.63	-2.88	0.659
53.25	-9.08	-19.93	0.00	-1,007.21	0.00	1,007.21	1,780.50	890.25	2,418.90	1,211.25	16.67	-3.09	0.837
55.00	-8.80	-19.77	0.00	-972.33	0.00	972.33	1,765.87	882.93	2,368.02	1,185.77	17.83	-3.21	0.825
60.00	-8.15	-19.27	0.00	-873.47	0.00	873.47	1,722.87	861.43	2,223.96	1,113.63	21.39	-3.58	0.790
65.00	-7.53	-18.78	0.00	-777.11	0.00	777.11	1,678.13	839.06	2,082.05	1,042.57	25.34	-3.96	0.750
70.00	-6.92	-18.29	0.00	-683.23	0.00	683.23	1,631.65	815.83	1,942.57	972.73	29.69	-4.34	0.707
75.00	-6.33	-17.80	0.00	-591.81	0.00	591.81	1,583.44	791.72	1,805.76	904.22	34.43	-4.71	0.659
80.00	-5.77	-17.33	0.00	-502.80	0.00	502.80	1,533.49	766.75	1,671.90	837.19	39.56	-5.07	0.605
85.00	-5.23	-16.86	0.00	-416.17	0.00	416.17	1,481.81	740.90	1,541.24	771.77	45.05	-5.42	0.543
90.00	-4.72	-16.40	0.00	-331.89	0.00	331.89	1,423.78	711.89	1,409.49	705.79	50.90	-5.74	0.474
95.00	-4.25	-15.95	0.00	-249.89	0.00	249.89	1,352.39	676.20	1,271.00	636.45	57.06	-6.04	0.396
98.75	-3.92	-15.62	0.00	-190.09	0.00	190.09	1,298.85	649.43	1,171.84	586.79	61.88	-6.23	0.328
100.00	-2.22	-9.32	0.00	-170.56	0.00	170.56	1,281.00	640.50	1,139.67	570.68	63.52	-6.29	0.301
102.00	-2.00	-9.14	0.00	-151.92	0.00	151.92	915.93	457.96	815.42	408.32	66.17	-6.38	0.375
105.00	-1.82	-8.89	0.00	-124.50	0.00	124.50	894.26	447.13	769.22	385.18	70.21	-6.50	0.326
110.00	-1.54	-8.49	0.00	-80.05	0.00	80.05	856.75	428.37	693.99	347.51	77.12	-6.71	0.233
115.00	-1.29	-8.10	0.00	-37.61	0.00	37.61	817.50	408.75	621.20	311.06	84.22	-6.86	0.123
118.00	-0.02	-0.07	0.00	-0.07	0.00	0.07	787.34	393.67	574.60	287.73	88.54	-6.90	0.000
119.00	0.00	-0.07	0.00	0.00	0.00	0.00	776.64	388.32	559.00	279.91	89.98	-6.90	0.000

Pole :	283422	Code: ANSI/TIA-222 Rev G	12/18/2014 1:17:42 PM
Location :	Short Beach Branford CT, CT	Struct Class : II	
Height :	119.0 (ft)	Exposure Category : C	Page: 11
Base Dia :	45.70 (in)	Topographic Category : 1	
Top Dia :	17.75 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.242200 (in/ft)		



Load Case: 1.2D + 1.0Di + 1.0Wi — 50.00 mph with 0.75 in Radial Ice — 22 Iterations

Gust Response Factor : 1.10 — Ice Dead Load Factor : 1.00 — Wind Importance Factor : 1.00

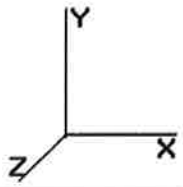
Dead Load Factor : 1.20 — Ice Importance Factor : 1.00

Wind Load Factor : 1.00

Shaft Segment Forces (Factored)

Seg Top Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Ap (sf)	EPAs (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	5.685	0.000	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.685	0.000	1.200	1.242	5.00	20.114	24.14	137.2	355.8	1,262.6
10.00		1.00	0.85	5.168	5.685	0.000	1.200	1.331	5.00	19.676	23.61	134.2	372.0	1,254.3
15.00		1.00	0.85	5.168	5.685	0.000	1.200	1.386	5.00	19.210	23.05	131.0	377.3	1,235.1
20.00		1.00	0.90	5.483	6.032	0.000	1.200	1.427	5.00	18.731	22.48	135.6	377.8	1,211.1
25.00		1.00	0.94	5.747	6.322	0.000	1.200	1.459	5.00	18.246	21.89	138.4	375.6	1,184.3
30.00		1.00	0.98	5.972	6.569	0.000	1.200	1.486	5.00	17.756	21.31	140.0	371.5	1,155.7
35.00		1.00	1.01	6.169	6.786	0.000	1.200	1.509	5.00	17.262	20.71	140.6	366.0	1,125.7
40.00		1.00	1.04	6.345	6.979	0.000	1.200	1.529	5.00	16.767	20.12	140.4	359.5	1,094.7
45.00		1.00	1.07	6.504	7.155	0.000	1.200	1.547	5.00	16.270	19.52	139.7	352.2	1,062.9
48.50	Bot - Section 2	1.00	1.08	6.608	7.268	0.000	1.200	1.559	3.50	11.091	13.31	96.7	242.7	725.5
50.00		1.00	1.09	6.650	7.315	0.000	1.200	1.564	1.50	4.741	5.69	41.6	104.7	473.3
53.25	Top - Section 1	1.00	1.10	6.739	7.413	0.000	1.200	1.574	3.25	10.119	12.14	90.0	223.4	1,008.4
55.00		1.00	1.11	6.785	7.463	0.000	1.200	1.579	1.75	5.361	6.43	48.0	119.2	305.4
60.00		1.00	1.13	6.910	7.601	0.000	1.200	1.592	5.00	14.982	17.98	136.7	331.7	850.4
65.00		1.00	1.15	7.028	7.731	0.000	1.200	1.605	5.00	14.480	17.38	134.3	322.3	821.4
70.00		1.00	1.17	7.138	7.852	0.000	1.200	1.617	5.00	13.978	16.77	131.7	312.5	792.1
75.00		1.00	1.19	7.243	7.967	0.000	1.200	1.628	5.00	13.475	16.17	128.8	302.4	762.4
80.00		1.00	1.20	7.342	8.076	0.000	1.200	1.639	5.00	12.971	15.57	125.7	292.1	732.4
85.00		1.00	1.22	7.436	8.180	0.000	1.200	1.649	5.00	12.467	14.96	122.4	281.4	702.1
90.00		1.00	1.23	7.526	8.279	0.000	1.200	1.658	5.00	11.962	14.35	118.8	270.6	671.6
95.00		1.00	1.25	7.612	8.374	0.000	1.200	1.667	5.00	11.458	13.75	115.1	259.5	640.9
98.75	Bot - Section 3	1.00	1.26	7.675	8.442	0.000	1.200	1.674	3.75	8.261	9.91	83.7	188.3	461.5
100.0	Appertunance(s)	1.00	1.26	7.695	8.464	0.000	1.200	1.676	1.25	2.730	3.28	27.7	63.0	219.4
102.0	Top - Section 2	1.00	1.27	7.727	8.500	0.000	1.200	1.679	2.00	4.302	5.16	43.9	99.0	344.8
105.0		1.00	1.27	7.774	8.552	0.000	1.200	1.684	3.00	6.302	7.56	64.7	144.4	299.8
110.0		1.00	1.29	7.851	8.636	0.000	1.200	1.692	5.00	10.100	12.12	104.7	229.0	476.3
115.0		1.00	1.30	7.925	8.717	0.000	1.200	1.699	5.00	9.594	11.51	100.4	217.2	449.8
118.0	Appertunance(s)	1.00	1.31	7.968	8.765	0.000	1.200	1.704	3.00	5.512	6.61	58.0	126.0	258.5
119.0		1.00	1.31	7.982	8.780	0.000	1.200	1.705	1.00	1.797	2.16	18.9	41.5	84.5
							Totals:		119.00			3,029.0	7,478.7	21,667.1

Pole :	283422	Code: ANSI/TIA-222 Rev G	
Location :	Short Beach Branford CT, CT	Struct Class : II	
Height :	119.0 (ft)	Exposure Category : C	
Base Dia :	45.70 (in)	Topographic Category : 1	
Top Dia :	17.75 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.242200 (in/ft)		



Load Case: 1.2D + 1.0Di + 1.0Wi — 50.00 mph with 0.75 in Radial Ice — 22 Iterations

Gust Response Factor : 1.10 — Ice Dead Load Factor : 1.00 — Wind Importance Factor : 1.00

Dead Load Factor : 1.20 — Ice Importance Factor : 1.00

Wind Load Factor : 1.00

Discrete Appurtenance Segment Forces (Factored)

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orientation Factor	Ka	Total EPAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
100.0	Round Low Profile Pl	1	7.695	8.464	1.00	1.00	40.17	0.000	0.000	340.05	0.00	0.00	2,223.42
100.0	Alcatel-Lucent RRH2x	3	7.695	8.464	0.67	0.80	4.24	0.000	0.000	35.91	0.00	0.00	209.80
100.0	Alcatel-Lucent 9442	3	7.695	8.464	0.67	0.80	3.66	0.000	0.000	30.95	0.00	0.00	386.06
100.0	RFS DB-T1-6Z-8AB-0Z	2	7.695	8.464	0.67	0.80	6.04	0.000	0.000	51.15	0.00	0.00	379.68
100.0	Antel BXA-70063-6CF-	3	7.695	8.464	0.66	0.80	13.91	0.000	0.000	117.75	0.00	0.00	539.46
100.0	Andrew LNX-6514DS-	3	7.695	8.464	0.69	0.80	15.60	0.000	0.000	132.03	0.00	0.00	719.70
100.0	Commscope HBXX-	6	7.695	8.464	0.68	0.80	36.97	0.000	0.000	312.92	0.00	0.00	941.60
100.0	Alcatel-Lucent PCS B	3	7.695	8.464	0.67	0.80	4.97	0.000	0.000	42.03	0.00	0.00	324.28
118.0	Round T-Arm	3	7.968	8.765	0.67	0.75	26.78	0.000	0.000	234.72	0.00	0.00	1,321.38
118.0	Raycap DC6-48-60-18-	3	7.996	8.796	1.00	0.80	6.02	0.000	2.000	52.94	0.00	105.88	306.64
118.0	Ericsson RRUS 11 (w/	15	7.996	8.796	0.67	0.80	22.35	0.000	2.000	196.58	0.00	393.15	1,790.81
118.0	Andrew SBNH-	12	7.996	8.796	0.70	0.80	87.79	0.000	2.000	772.13	0.00	1,544.26	4,026.39
										2,319.15			13,169.22

Pole :	283422	Code: ANSI/TIA-222 Rev G	12/18/2014 1:17:42 PM
Location :	Short Beach Branford CT, CT	Struct Class : II	Page: 13
Height :	119.0 (ft)	Exposure Category : C	
Base Dia :	45.70 (in)	Topographic Category : 1	
Top Dia :	17.75 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
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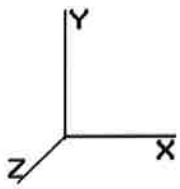


Load Case: 1.2D + 1.0Di + 1.0Wi — 50.00 mph with 0.75 in Radial Ice — 22 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.00

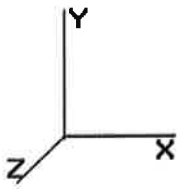
Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00
Ice Importance Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	137.21	1,484.34	0.00	0.00
10.00	134.23	1,475.98	0.00	0.00
15.00	131.04	1,456.80	0.00	0.00
20.00	135.58	1,432.82	0.00	0.00
25.00	138.42	1,406.04	0.00	0.00
30.00	139.97	1,377.40	0.00	0.00
35.00	140.57	1,347.41	0.00	0.00
40.00	140.43	1,316.40	0.00	0.00
45.00	139.69	1,284.56	0.00	0.00
48.50	96.73	880.74	0.00	0.00
50.00	41.62	539.86	0.00	0.00
53.25	90.01	1,152.52	0.00	0.00
55.00	48.01	383.03	0.00	0.00
60.00	136.66	1,072.15	0.00	0.00
65.00	134.33	1,043.14	0.00	0.00
70.00	131.71	1,013.77	0.00	0.00
75.00	128.82	984.07	0.00	0.00
80.00	125.70	954.08	0.00	0.00
85.00	122.37	923.82	0.00	0.00
90.00	118.84	893.33	0.00	0.00
95.00	115.13	862.62	0.00	0.00
98.75	83.69	627.75	0.00	0.00
100.0	1,090.51	5,998.87	0.00	0.00
102.0	43.88	403.64	0.00	0.00
105.0	64.67	388.04	0.00	0.00
110.0	104.66	623.33	0.00	0.00
115.0	100.36	596.82	0.00	0.00
118.0	1,314.35	7,791.96	0.00	2,043.29
119.0	18.93	84.51	0.00	0.00
Totals:	5,348.12	39,799.79	0.00	2,043.29

Pole :	283422	Code: ANSI/TIA-222 Rev G	12/18/2014 1:17:42 PM
Location :	Short Beach Branford CT, CT	Struct Class : II	Page: 14
Height :	119.0 (ft)	Exposure Category : C	
Base Dia :	45.70 (in)	Topographic Category : 1	
Top Dia :	17.75 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.242200 (in/ft)		



Load Case: 1.2D + 1.0Di + 1.0Wi — 50.00 mph with 0.75 in Radial Ice — 22 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.00

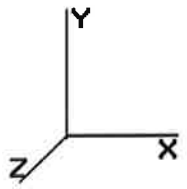
Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00
Ice Importance Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-39.80	-5.37	0.00	-462.48	0.00	462.48	2,946.72	1,473.36	5,500.90	2,754.54	0.00	0.00	0.181
5.00	-38.31	-5.27	0.00	-435.65	0.00	435.65	2,899.79	1,449.90	5,267.87	2,637.85	0.03	-0.05	0.178
10.00	-36.83	-5.17	0.00	-409.32	0.00	409.32	2,851.12	1,425.56	5,036.47	2,521.98	0.12	-0.11	0.175
15.00	-35.37	-5.07	0.00	-383.49	0.00	383.49	2,800.72	1,400.36	4,806.98	2,407.06	0.26	-0.17	0.172
20.00	-33.93	-4.96	0.00	-358.16	0.00	358.16	2,748.57	1,374.29	4,579.65	2,293.23	0.47	-0.22	0.169
25.00	-32.52	-4.85	0.00	-333.36	0.00	333.36	2,694.69	1,347.35	4,354.74	2,180.61	0.74	-0.28	0.165
30.00	-31.14	-4.73	0.00	-309.11	0.00	309.11	2,639.07	1,319.54	4,132.51	2,069.33	1.06	-0.34	0.161
35.00	-29.78	-4.62	0.00	-285.44	0.00	285.44	2,581.72	1,290.86	3,913.23	1,959.52	1.46	-0.40	0.157
40.00	-28.46	-4.50	0.00	-262.35	0.00	262.35	2,522.63	1,261.31	3,697.16	1,851.33	1.91	-0.47	0.153
45.00	-27.18	-4.37	0.00	-239.86	0.00	239.86	2,461.80	1,230.90	3,484.55	1,744.87	2.44	-0.53	0.149
48.50	-26.29	-4.28	0.00	-224.56	0.00	224.56	2,418.18	1,209.09	3,337.93	1,671.45	2.84	-0.57	0.145
50.00	-25.75	-4.25	0.00	-218.14	0.00	218.14	2,399.23	1,199.61	3,275.68	1,640.27	3.02	-0.59	0.144
53.25	-24.60	-4.16	0.00	-204.33	0.00	204.33	1,780.50	890.25	2,418.90	1,211.25	3.44	-0.64	0.183
55.00	-24.21	-4.13	0.00	-197.05	0.00	197.05	1,765.87	882.93	2,368.02	1,185.77	3.68	-0.66	0.180
60.00	-23.14	-4.01	0.00	-176.40	0.00	176.40	1,722.87	861.43	2,223.96	1,113.63	4.41	-0.74	0.172
65.00	-22.09	-3.89	0.00	-156.35	0.00	156.35	1,678.13	839.06	2,082.05	1,042.57	5.22	-0.81	0.163
70.00	-21.07	-3.77	0.00	-136.89	0.00	136.89	1,631.65	815.83	1,942.57	972.73	6.11	-0.89	0.154
75.00	-20.09	-3.65	0.00	-118.03	0.00	118.03	1,583.44	791.72	1,805.76	904.22	7.08	-0.96	0.143
80.00	-19.13	-3.53	0.00	-99.76	0.00	99.76	1,533.49	766.75	1,671.90	837.19	8.13	-1.03	0.132
85.00	-18.21	-3.42	0.00	-82.09	0.00	82.09	1,481.81	740.90	1,541.24	771.77	9.25	-1.10	0.119
90.00	-17.31	-3.30	0.00	-65.01	0.00	65.01	1,423.78	711.89	1,409.49	705.79	10.44	-1.17	0.104
95.00	-16.45	-3.18	0.00	-48.52	0.00	48.52	1,352.39	676.20	1,271.00	636.45	11.69	-1.22	0.088
98.75	-15.82	-3.09	0.00	-36.60	0.00	36.60	1,298.85	649.43	1,171.84	586.79	12.67	-1.26	0.075
100.00	-9.85	-1.87	0.00	-32.74	0.00	32.74	1,281.00	640.50	1,139.67	570.68	13.00	-1.27	0.065
102.00	-9.45	-1.82	0.00	-29.01	0.00	29.01	915.93	457.96	815.42	408.32	13.54	-1.29	0.081
105.00	-9.06	-1.75	0.00	-23.56	0.00	23.56	894.26	447.13	769.22	385.18	14.36	-1.31	0.071
110.00	-8.44	-1.64	0.00	-14.81	0.00	14.81	856.75	428.37	693.99	347.51	15.75	-1.35	0.052
115.00	-7.84	-1.52	0.00	-6.63	0.00	6.63	817.50	408.75	621.20	311.06	17.19	-1.38	0.031
118.00	-0.08	-0.02	0.00	-0.02	0.00	0.02	787.34	393.67	574.60	287.73	18.05	-1.39	0.000
119.00	0.00	-0.02	0.00	0.00	0.00	0.00	776.64	388.32	559.00	279.91	18.34	-1.39	0.000

Pole :	283422	Code: ANSI/TIA-222 Rev G	12/18/2014 1:17:42 PM
Location :	Short Beach Branford CT, CT	Struct Class : II	Page: 15
Height :	119.0 (ft)	Exposure Category : C	
Base Dia :	45.70 (in)	Topographic Category : 1	
Top Dia :	17.75 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.242200 (in/ft)		



Load Case: 1.0D + 1.0W — 60.00 mph Serviceability — 22 Iterations

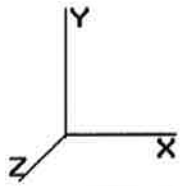
Gust Response Factor : 1.10
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Wind Importance Factor : 1.00

Shaft Segment Forces (Factored)

Seg Top Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Ap (sf)	EPAs (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.186	213.91	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.186	208.24	0.650	0.000	5.00	19.079	12.40	101.5	0.0	755.7
10.00		1.00	0.85	7.442	8.186	202.57	0.650	0.000	5.00	18.567	12.07	98.8	0.0	735.3
15.00		1.00	0.85	7.442	8.186	196.91	0.650	0.000	5.00	18.054	11.74	96.1	0.0	714.8
20.00		1.00	0.90	7.896	8.686	196.99	0.650	0.000	5.00	17.542	11.40	99.0	0.0	694.4
25.00		1.00	0.94	8.276	9.104	195.69	0.650	0.000	5.00	17.030	11.07	100.8	0.0	674.0
30.00		1.00	0.98	8.600	9.460	193.39	0.650	0.000	5.00	16.517	10.74	101.6	0.0	653.5
35.00		1.00	1.01	8.883	9.772	190.36	0.650	0.000	5.00	16.005	10.40	101.7	0.0	633.1
40.00		1.00	1.04	9.137	10.05	186.77	0.650	0.000	5.00	15.493	10.07	101.2	0.0	612.6
45.00		1.00	1.07	9.366	10.30	182.75	0.650	0.000	5.00	14.980	9.74	100.3	0.0	592.2
48.50	Bot - Section 2	1.00	1.08	9.515	10.46	179.71	0.650	0.000	3.50	10.181	6.62	69.3	0.0	402.4
50.00		1.00	1.09	9.576	10.53	178.35	0.650	0.000	1.50	4.350	2.83	29.8	0.0	307.2
53.25	Top - Section 1	1.00	1.10	9.704	10.67	175.33	0.650	0.000	3.25	9.267	6.02	64.3	0.0	654.2
55.00		1.00	1.11	9.770	10.74	176.34	0.650	0.000	1.75	4.900	3.19	34.2	0.0	155.2
60.00		1.00	1.13	9.951	10.94	171.41	0.650	0.000	5.00	13.655	8.88	97.2	0.0	432.3
65.00		1.00	1.15	10.120	11.13	166.25	0.650	0.000	5.00	13.142	8.54	95.1	0.0	416.0
70.00		1.00	1.17	10.279	11.30	160.89	0.650	0.000	5.00	12.630	8.21	92.8	0.0	399.6
75.00		1.00	1.19	10.430	11.47	155.35	0.650	0.000	5.00	12.118	7.88	90.4	0.0	383.3
80.00		1.00	1.20	10.572	11.62	149.65	0.650	0.000	5.00	11.605	7.54	87.7	0.0	366.9
85.00		1.00	1.22	10.708	11.77	143.81	0.650	0.000	5.00	11.093	7.21	84.9	0.0	350.6
90.00		1.00	1.23	10.838	11.92	137.84	0.650	0.000	5.00	10.581	6.88	82.0	0.0	334.2
95.00		1.00	1.25	10.962	12.05	131.74	0.650	0.000	5.00	10.068	6.54	78.9	0.0	317.9
98.75	Bot - Section 3	1.00	1.26	11.051	12.15	127.10	0.650	0.000	3.75	7.215	4.69	57.0	0.0	227.7
100.0	Appertunance(s)	1.00	1.26	11.081	12.18	125.54	0.650	0.000	1.25	2.381	1.55	18.9	0.0	130.3
102.0	Top - Section 2	1.00	1.27	11.127	12.24	123.03	0.650	0.000	2.00	3.742	2.43	29.8	0.0	204.8
105.0		1.00	1.27	11.195	12.31	121.39	0.650	0.000	3.00	5.460	3.55	43.7	0.0	129.5
110.0		1.00	1.29	11.305	12.43	115.00	0.650	0.000	5.00	8.690	5.65	70.2	0.0	206.1
115.0		1.00	1.30	11.412	12.55	108.52	0.650	0.000	5.00	8.177	5.32	66.7	0.0	193.8
118.0	Appertunance(s)	1.00	1.31	11.474	12.62	104.59	0.650	0.000	3.00	4.660	3.03	38.2	0.0	110.4
119.0		1.00	1.31	11.494	12.64	103.27	0.650	0.000	1.00	1.513	0.98	12.4	0.0	35.8
							Totals:		119.00			2,144.5	0.0	11,823.7

Pole :	283422	Code: ANSI/TIA-222 Rev G	
Location :	Short Beach Branford CT, CT	Struct Class : II	
Height :	119.0 (ft)	Exposure Category : C	
Base Dia :	45.70 (in)	Topographic Category : 1	
Top Dia :	17.75 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.242200 (in/ft)		



Load Case: 1.0D + 1.0W — 60.00 mph Serviceability — 22 Iterations

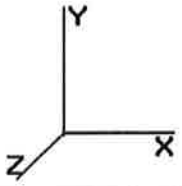
Gust Response Factor : 1.10
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Wind Importance Factor : 1.00

Discrete Appurtenance Segment Forces (Factored)

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orientation Factor	Ka	Total EPAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
100.0	Round Low Profile Pl	1	11.081	12.189	1.00	1.00	21.70	0.000	0.000	264.50	0.00	0.00	1,500.00
100.0	Alcatel-Lucent RRH2x	3	11.081	12.189	0.67	0.80	3.02	0.000	0.000	36.85	0.00	0.00	132.00
100.0	Alcatel-Lucent 9442	3	11.081	12.189	0.67	0.80	4.41	0.000	0.000	53.70	0.00	0.00	152.10
100.0	RFS DB-T1-6Z-8AB-0Z	2	11.081	12.189	0.67	0.80	5.15	0.000	0.000	62.72	0.00	0.00	88.00
100.0	Antel BXA-70063-6CF-	3	11.081	12.189	0.66	0.80	11.99	0.000	0.000	146.15	0.00	0.00	51.00
100.0	Andrew LNX-6514DS-	3	11.081	12.189	0.69	0.80	13.53	0.000	0.000	164.91	0.00	0.00	115.20
100.0	Commscope HBXX-	6	11.081	12.189	0.68	0.80	27.84	0.000	0.000	339.36	0.00	0.00	244.80
100.0	Alcatel-Lucent PCS B	3	11.081	12.189	0.67	0.80	3.54	0.000	0.000	43.12	0.00	0.00	165.00
118.0	Round T-Arm	3	11.474	12.621	0.67	0.75	14.62	0.000	0.000	184.55	0.00	0.00	750.00
118.0	Raycap DC6-48-60-18-	3	11.514	12.666	1.00	0.80	2.66	0.000	2.000	33.74	0.00	67.48	60.00
118.0	Ericsson RRUS 11 (w/	15	11.514	12.666	0.67	0.80	17.61	0.000	2.000	223.01	0.00	446.03	675.00
118.0	Andrew SBNH-	12	11.514	12.666	0.70	0.80	76.94	0.000	2.000	974.55	0.00	1,949.11	793.20
										2,527.17			4,726.30

Pole :	283422	Code: ANSI/TIA-222 Rev G	
Location :	Short Beach Branford CT, CT	Struct Class : II	
Height :	119.0 (ft)	Exposure Category : C	
Base Dia :	45.70 (in)	Topographic Category : 1	
Top Dia :	17.75 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.242200 (in/ft)		



Load Case: 1.0D + 1.0W — 60.00 mph Serviceability — 22 Iterations

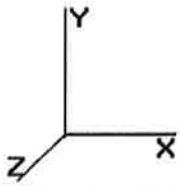
Gust Response Factor : 1.10
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Wind Importance Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	101.52	940.45	0.00	0.00
10.00	98.79	920.01	0.00	0.00
15.00	96.07	899.58	0.00	0.00
20.00	99.04	879.14	0.00	0.00
25.00	100.77	858.71	0.00	0.00
30.00	101.56	838.27	0.00	0.00
35.00	101.66	817.83	0.00	0.00
40.00	101.21	797.40	0.00	0.00
45.00	100.32	776.96	0.00	0.00
48.50	69.27	531.71	0.00	0.00
50.00	29.78	362.60	0.00	0.00
53.25	64.30	774.28	0.00	0.00
55.00	34.23	219.84	0.00	0.00
60.00	97.15	617.07	0.00	0.00
65.00	95.10	600.72	0.00	0.00
70.00	92.83	584.37	0.00	0.00
75.00	90.36	568.02	0.00	0.00
80.00	87.73	551.67	0.00	0.00
85.00	84.93	535.33	0.00	0.00
90.00	81.99	518.98	0.00	0.00
95.00	78.91	502.63	0.00	0.00
98.75	57.01	366.24	0.00	0.00
100.0	1,130.17	2,624.63	0.00	0.00
102.0	29.77	253.85	0.00	0.00
105.0	43.70	203.05	0.00	0.00
110.0	70.24	328.60	0.00	0.00
115.0	66.72	316.34	0.00	0.00
118.0	1,454.10	2,462.12	0.00	2,462.62
119.0	12.43	35.82	0.00	0.00
Totals:	4,671.66	20,686.22	0.00	2,462.62

Pole :	283422	Code: ANSI/TIA-222 Rev G	
Location :	Short Beach Branford CT, CT	Struct Class : II	
Height :	119.0 (ft)	Exposure Category : C	
Base Dia :	45.70 (in)	Topographic Category : 1	
Top Dia :	17.75 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.242200 (in/ft)		



Load Case: 1.0D + 1.0W — 60.00 mph Serviceability — 22 Iterations

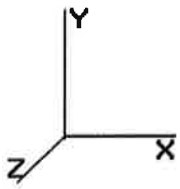
Gust Response Factor : 1.10
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Wind Importance Factor : 1.00

Calculated Forces

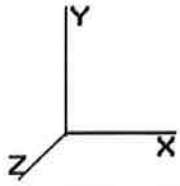
Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-20.68	-4.68	0.00	-415.56	0.00	415.56	2,946.72	1,473.36	5,500.90	2,754.54	0.00	0.00	0.158
5.00	-19.74	-4.60	0.00	-392.16	0.00	392.16	2,899.79	1,449.90	5,267.87	2,637.85	0.03	-0.05	0.155
10.00	-18.82	-4.51	0.00	-369.19	0.00	369.19	2,851.12	1,425.56	5,036.47	2,521.98	0.10	-0.10	0.153
15.00	-17.91	-4.43	0.00	-346.63	0.00	346.63	2,800.72	1,400.36	4,806.98	2,407.06	0.24	-0.15	0.150
20.00	-17.03	-4.34	0.00	-324.47	0.00	324.47	2,748.57	1,374.29	4,579.65	2,293.23	0.42	-0.20	0.148
25.00	-16.17	-4.26	0.00	-302.75	0.00	302.75	2,694.69	1,347.35	4,354.74	2,180.61	0.66	-0.26	0.145
30.00	-15.33	-4.16	0.00	-281.48	0.00	281.48	2,639.07	1,319.54	4,132.51	2,069.33	0.96	-0.31	0.142
35.00	-14.50	-4.07	0.00	-260.66	0.00	260.66	2,581.72	1,290.86	3,913.23	1,959.52	1.32	-0.37	0.139
40.00	-13.70	-3.98	0.00	-240.30	0.00	240.30	2,522.63	1,261.31	3,697.16	1,851.33	1.73	-0.42	0.135
45.00	-12.92	-3.88	0.00	-220.40	0.00	220.40	2,461.80	1,230.90	3,484.55	1,744.87	2.20	-0.48	0.132
48.50	-12.39	-3.82	0.00	-206.81	0.00	206.81	2,418.18	1,209.09	3,337.93	1,671.45	2.57	-0.52	0.129
50.00	-12.03	-3.79	0.00	-201.09	0.00	201.09	2,399.23	1,199.61	3,275.68	1,640.27	2.74	-0.54	0.128
53.25	-11.25	-3.72	0.00	-188.77	0.00	188.77	1,780.50	890.25	2,418.90	1,211.25	3.12	-0.58	0.162
55.00	-11.03	-3.70	0.00	-182.26	0.00	182.26	1,765.87	882.93	2,368.02	1,185.77	3.33	-0.60	0.160
60.00	-10.41	-3.60	0.00	-163.78	0.00	163.78	1,722.87	861.43	2,223.96	1,113.63	4.00	-0.67	0.153
65.00	-9.80	-3.51	0.00	-145.76	0.00	145.76	1,678.13	839.06	2,082.05	1,042.57	4.74	-0.74	0.146
70.00	-9.22	-3.42	0.00	-128.19	0.00	128.19	1,631.65	815.83	1,942.57	972.73	5.56	-0.81	0.137
75.00	-8.65	-3.34	0.00	-111.07	0.00	111.07	1,583.44	791.72	1,805.76	904.22	6.45	-0.88	0.128
80.00	-8.09	-3.25	0.00	-94.39	0.00	94.39	1,533.49	766.75	1,671.90	837.19	7.41	-0.95	0.118
85.00	-7.56	-3.16	0.00	-78.14	0.00	78.14	1,481.81	740.90	1,541.24	771.77	8.44	-1.02	0.106
90.00	-7.04	-3.08	0.00	-62.32	0.00	62.32	1,423.78	711.89	1,409.49	705.79	9.53	-1.08	0.093
95.00	-6.53	-3.00	0.00	-46.93	0.00	46.93	1,352.39	676.20	1,271.00	636.45	10.69	-1.13	0.079
98.75	-6.17	-2.93	0.00	-35.69	0.00	35.69	1,298.85	649.43	1,171.84	586.79	11.60	-1.17	0.066
100.00	-3.56	-1.75	0.00	-32.03	0.00	32.03	1,281.00	640.50	1,139.67	570.68	11.90	-1.18	0.059
102.00	-3.31	-1.72	0.00	-28.53	0.00	28.53	915.93	457.96	815.42	408.32	12.40	-1.20	0.073
105.00	-3.11	-1.67	0.00	-23.37	0.00	23.37	894.26	447.13	769.22	385.18	13.16	-1.22	0.064
110.00	-2.78	-1.60	0.00	-15.02	0.00	15.02	856.75	428.37	693.99	347.51	14.46	-1.26	0.046
115.00	-2.46	-1.52	0.00	-7.04	0.00	7.04	817.50	408.75	621.20	311.06	15.79	-1.29	0.026
118.00	-0.04	-0.01	0.00	-0.01	0.00	0.01	787.34	393.67	574.60	287.73	16.60	-1.29	0.000
119.00	0.00	-0.01	0.00	0.00	0.00	0.00	776.64	388.32	559.00	279.91	16.87	-1.29	0.000

Pole :	283422	Code: ANSI/TIA-222 Rev G	12/18/2014 1:17:42 PM
Location :	Short Beach Branford CT, CT	Struct Class : II	Page: 19
Height :	119.0 (ft)	Exposure Category : C	
Base Dia :	45.70 (in)	Topographic Category : 1	
Top Dia :	17.75 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.242200 (in/ft)		



Analysis Summary

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	25.18	0.00	24.76	0.00	0.00	2242.99	53.25	0.85
0.9D + 1.6W	25.17	0.00	18.56	0.00	0.00	2224.25	53.25	0.84
1.2D + 1.0Di + 1.0Wi	5.37	0.00	39.80	0.00	0.00	462.48	53.25	0.18
1.0D + 1.0W	4.68	0.00	20.68	0.00	0.00	415.56	53.25	0.16



Base Summary

Reactions

Original Design			Analysis			
Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment Design %
2,678.30	28.60	30.21	2,242.99	39.80	25.18	83.75

Base Plate

Yield (ksi)	Thick (in)	Width (in)	Style	Poly Sides	Clip Len (in)	Effective Len (in)	Mu (kip-in)	Phi Mn (kip-in)	Ratio
50.0	2.500	50.250	Clipped	0	9.00	8.453	427.58	594.32	0.72

Anchor Bolts

Bolt Circle	Num Bolts	Bolt Type	Bolt Dia (in)	Yield (ksi)	Ultimate (ksi)	Arrange	Cluster Dist (in)	Start Angle (deg)	Compression Force (kip)	Compression Allow (kip)	Compression Ratio	Tension Force (kip)	Tension Allow (kip)	Tension Ratio
51.75	12	2.25" 18J	2.25	75.00	100.00	Clustered	6.00	45.0	176.69	260.00	0.70	170.05	260.00	0.67