Robinson+Cole

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March 6, 2017

Melanie A. Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Facility Modification**
14 Canton Springs Road, Canton, Connecticut

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains twelve (12) antennas at the 120-foot level of the existing 140-foot tower at 14 Canton Springs Road in Canton, Connecticut (the "Property"). The tower is owned by ATC Sequoia LLC ("ATC"). The Council approved Cellco's shared use of the existing tower in 1999. Cellco now intends to modify its facility by replacing six (6) existing antennas with three (3) model SBNHH-1D65B, 1900 MHz antennas and three (3) model SBNHH-1D65B, 2100 MHz antennas, all at the same level on the tower. Cellco also intends to install nine (9) remote radio heads ("RRHs") and two (2) HYBRIFLEX™ antenna cables. Included in Attachment 1 are specifications for Cellco's replacement antennas, RRHs and HYBRIFLEX™ cables.

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 Leslee Hill, First Selectman of the Town of Canton, Neil S. Pade, Canton's Director of Planning and Community Development, the Canton Volunteer Fire Company Inc., the owner of the Property and ATC, the tower owner.

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

1. The proposed modifications will not result in an increase in the height of the existing structure. Cellco's replacement antennas and new RRHs will be installed on its existing platform at the 120-foot level on 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 General Power Density table for Cellco's modified facility is included in 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).

A copy of the Canton's parcel map and property owner information is included in Attachment 4.

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:
Leslee Hill, Canton First Selectman
Neil S. Pade, Canton's Director of Planning and Community Development
Canton Volunteer Fire Company Inc.
ATC
Tim Parks

ATTACHMENT 1

Product Specifications

COMMSCOPE®

SBNHH-1D65B

Multiband Antenna, 698–896 and 2x 1695–2360 MHz, 65° horizontal beamwidth, internal RET. Both high bands share the same electrical tilt.

- Interleaved dipole technology providing for attractive, low wind load mechanical package

Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	14.9	14.7	17.7	18.2	18.6	18.6
Beamwidth, Horizontal, degrees	68	66	69	66	63	58
Beamwidth, Vertical, degrees	12.1	10.7	5.6	5.2	5.0	4.5
Beam Tilt, degrees	0–14	0–14	0–7	0–7	0–7	0–7
USLS (First Lobe), dB	14	13	15	15	15	13
Front-to-Back Ratio at 180°, dB	27	29	28	28	28	27
Isolation, dB	25	25	25	25	25	25
Isolation, Intersystem, dB	30	30	30	30	30	30
VSWR | Return Loss, dB	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350	350	350	300
Polarization	±45°	±45°	±45°	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm

Electrical Specifications, BASTA*

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain by all Beam Tilts, average, dBi	14.5	14.3	17.4	17.9	18.2	18.3
Gain by all Beam Tilts Tolerance, dB	±0.5	±0.8	±0.4	±0.3	±0.5	±0.3
Gain by Beam Tilt, average, dBi	0 ° | 14.6	0 ° | 14.5	0 ° | 17.4	0 ° | 17.8	0 ° | 18.1	0 ° | 18.2
	7 ° | 14.6	7 ° | 14.4	3 ° | 17.5	3 ° | 17.9	3 ° | 18.3	3 ° | 18.4
	14 ° | 14.2	14 ° | 13.6	7 ° | 17.4	7 ° | 17.9	7 ° | 18.2	7 ° | 18.4
Beamwidth, Horizontal Tolerance, degrees	±2.2	±3.4	±2	±4.6	±5.7	±4.3
Beamwidth, Vertical Tolerance, degrees	±0.8	±1	±0.3	±0.2	±0.3	±0.2
USLS, beampeak to 20° above beampeak, dB	16	14	16	16	16	15
Front-to-Back Total Power at 180° ± 30°, dB	25	26	27	26	26	26
CPR at Boresight, dB	22	23	21	20	20	22
CPR at Sector, dB	13	11	16	12	11	4

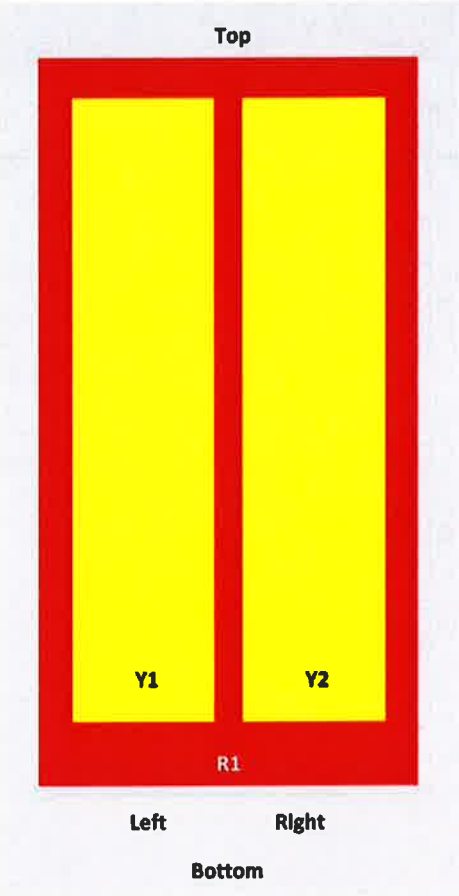
* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, download the whitepaper Time to Raise the Bar on BSAs.

Array Layout

Product Specifications

SBNHH-1D65B

SBNHH 6S



Array	Freq (MHz)	Conns	RET (MRET)	AISG RET UID
R1	698-896	1-2	1	ANxxxxxxxxxxxxxxxxx,1
Y1	1695-2360	3-4	2	ANxxxxxxxxxxxxxxxxx,2
Y2	1695-2360	5-6		

View from the front of the antenna

(Sizes of colored boxes are not true depictions of array sizes)

General Specifications

Operating Frequency Band	1695 – 2360 MHz | 698 – 896 MHz
Antenna Type	Sector
Band	Multiband
Performance Note	Outdoor usage

Mechanical Specifications

RF Connector Quantity, total	6
RF Connector Quantity, low band	2
RF Connector Quantity, high band	4
RF Connector Interface	7-16 DIN Female

Product Specifications

SBNHH-1D65B

Color	Light gray
Grounding Type	RF connector inner conductor and body grounded to reflector and mounting bracket
Radiator Material	Aluminum | Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum
RF Connector Location	Bottom
Wind Loading, frontal	618.0 N @ 150 km/h 138.9 lbf @ 150 km/h
Wind Loading, lateral	197.0 N @ 150 km/h 44.3 lbf @ 150 km/h
Wind Loading, rear	728.0 N @ 150 km/h 163.7 lbf @ 150 km/h
Wind Speed, maximum	241 km/h | 150 mph

Dimensions

Length	1851.0 mm | 72.9 in
Width	301.0 mm | 11.9 in
Depth	180.0 mm | 7.1 in
Net Weight, without mounting kit	18.4 kg | 40.6 lb

Remote Electrical Tilt (RET) Information

Input Voltage	10–30 Vdc
Internal RET	High band (1) | Low band (1)
Power Consumption, idle state, maximum	2.0 W
Power Consumption, normal conditions, maximum	13.0 W
Protocol	3GPP/AISG 2.0 (Multi-RET)
RET Interface	8-pin DIN Female | 8-pin DIN Male
RET Interface, quantity	1 female | 1 male

Packed Dimensions

Length	2025.0 mm | 79.7 in
Width	390.0 mm | 15.4 in
Depth	296.0 mm | 11.7 in
Shipping Weight	31.0 kg | 68.3 lb

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

Product Specifications

SBNHH-1D65B

Included Products

BSAMNT-1 — Wide Profile Antenna 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.

* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance

ALCATEL-LUCENT B13 RRH4X30-4R

Alcatel-Lucent B13 Remote Radio Head 4x30-4R is the newest addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering.

Supporting 2Tx/4Tx MIMO and 4-way Rx diversity, Alcatel-Lucent B13 RRH4x30-4R allows operators to have a compact radio solution to deploy LTE in the 700U band (700 MHz, 3GPP band 13), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B13 RRH4x30-4R product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x60 W or 4x30 W RF output power. It supports also 4-way Rx diversity and up to 10MHz instantaneous bandwidth.

The Alcatel-Lucent B13 RRH4x30-4R is a near zero-footprint solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

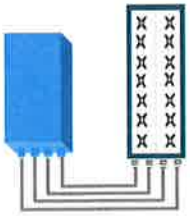
Its compactness and slim design makes the Alcatel-Lucent B13 RRH4x30-4R easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

FEATURES

- Supporting LTE in 700 MHz band (700U, 3GPP band 13)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- 10MHz LTE carrier with 4Rx Diversity
- Convection-cooled (fan-less)
- Supports AISG 2.0 ALD devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in 700U band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through MIMO4
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall



4x30W with 4T4R
or
2x60W with 2T4R

Can be switched between modes via SW w/o site visit

Alcatel·Lucent

Features & performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R by SW)
Frequency band	U700 (C) (3GPP bands 13): DL: 746 - 756 MHz / UL: 777 - 787 MHz
Instantaneous bandwidth - #carriers	10MHz – 1 LTE carrier (In 10MHz occupied bandwidth)
LTE carrier bandwidth	10 MHz
RF output power	2x60W or 4x30W (by SW)
Noise figure – RX Diversity scheme	2 dB typ. (<2.5 dB max) – 2 or 4 way Rx diversity
Sizes (HxWxD) in mm (in.) **Volume in L** **Weight in kg (lb) (w/o mounting HW)**	550 x 305 x 230 (21.6" x 12.0" x 9") (with solar shield) 38 (with solar shield) 26 (57.2) (with solar shield)
DC voltage range **DC power consumption**	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 550W typical @100% RF load (in 2Tx or 4TX mode)
Environmental conditions **Wind load (@150km/h or 93mph)**	-40°C (-40°F) /+55°C (+131°F) IP65 Frontal:<200N / Lateral :<150N
Antenna ports	4 ports 7/16 DIN female (50 ohms) VSWR < 1.5
CPRI ports	2 CPRI ports (HW ready for Rate7, 9.8 Gbps) SFP single mode dual fiber
AISG interfaces	1 AISG2.0 output (RS485) Integrated Smart Bias Tees (x2)
Misc. Interfaces	4 external alarms (1 connector) – 4 RF Tx & 4 RF Rx monitor ports - 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27

ALCATEL-LUCENT B25 RRH4X30

Alcatel-Lucent Band 25 Remote Radio Head 4x30W is the new addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering.

Supporting 2Tx/4Tx MIMO and 4-way Rx diversity, Alcatel-Lucent B25 RRH4x30 allows operators to have a compact radio solution to deploy LTE in the PCS band (1.9 GHz, 3GPP band 25), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B25 RRH4x30 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x60 W or 4x30 W RF output power. It supports also 4-way Rx diversity, LTE carriers from 3 MHz up to 20 MHz and up to 65 MHz instantaneous bandwidth.

The Alcatel-Lucent B25 RRH4x30 is a near zero-footprint solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

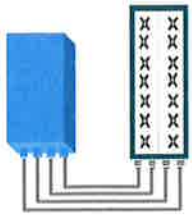
Its compactness and slim design makes the Alcatel-Lucent B25 RRH4x30 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

FEATURES

- Supporting LTE in 1.9 GHz band (PCS, 3GPP band 2 & 25)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- Ready for 3, 5, 10, 15 or 20MHz LTE carrier operation with 4Rx Diversity
- Ready to support up to 4 carriers anywhere in 65MHz instantaneous bandwidth
- Convection-cooled (fan-less)
- Supports AISG 2.0 devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in PCS band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Full flexibility for multiple carriers operation over entire PCS spectrum
- Improves downlink spectral efficiency and cell edge throughput through MIMO4
- Increases LTE coverage thanks to 4-way Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options (Pole or Wall)



4x30W with 4T4R
or
2x60W with 2T4R

Can be switched between modes via SW w/o site visit

Alcatel·Lucent

Features & performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R by SW)
Frequency band	3GPP bands 2 & 25 (PCS-G) DL: 1930 - 1995 MHz UL: 1850 - 1915 MHz
Instantaneous bandwidth - #carriers	65MHz – Up to 4 LTE carriers (in 40MHz occupied bandwidth)
LTE carrier bandwidth	3, 5, 10, 15 or 20 MHz
RF output power	2x60W or 4x30W (by SW)
Noise figure (3GPP band 2) **RX Diversity scheme**	2.0 dB typ. (<2.5 dB max) 2 or 4 way Rx diversity
Sizes (HxWxD)(w/ solar shield) in mm (in.) **Volume (w/ solar shield) in L** **Weight (w/ solar shield) in kg (lb)**	538 x 304 x 182 (21.2" x 12.0" x 7.2") 30 24 (53)
DC voltage range **DC power consumption**	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 580W typical @100% RF load
Environmental conditions **Wind load (@150km/h or 93mph)**	-40°C (-40°F) /+55°C (+131°F) IP65 Frontal:<200N / Lateral :<150N
Antenna ports	4 ports 7/16 DIN female (50 ohms) VSWR < 1.5 (> 14dB)
CPRI ports	2 CPRI ports (HW ready for Rate7 / 9.8 Gbps)
AISG interfaces	1 AISG2.0 output (RS485), +24V/2A DC power Integrated Smart Bias Tees (x2)
Misc. Interfaces	1 external alarms connector (4 alarms) 4 RF Tx & 4 RF Rx monitor ports 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27

ALCATEL-LUCENT B66A RRH4X45

The Alcatel-Lucent B66a Remote Radio Head 4x45 is the newest addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering. Its operational range covers beyond that of B4 (AWS) and B10 (AWS+).

Supporting 2Tx/4Tx MIMO and 2-way/4-way Rx diversity, the Alcatel-Lucent B66a RRH4x45 allows operators to have a compact radio solution to deploy LTE in the 2100 band (3GPP band 4, 10, and 66), providing them with the means to achieve high capacity, high quality, high reliability, large instantaneous bandwidth, and high coverage with minimum site requirements.

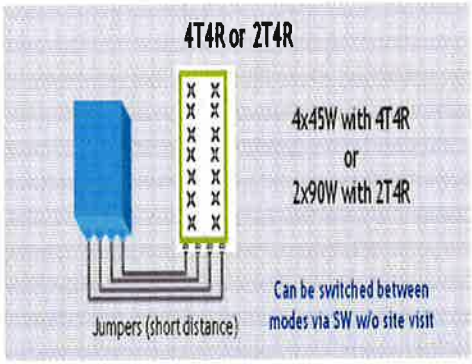
The Alcatel-Lucent B66a RRH4x45 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x90W or 4x45W RF output power. It also supports 4-way Rx diversity at the 70 MHz instantaneous bandwidth.

The Alcatel-Lucent B66a RRH4x45 is a compact (near zero-footprint) solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

Its compactness and slim design makes the Alcatel-Lucent B66a RRH4x45 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

FEATURES

- Supporting LTE in 2110 - 2180 MHz band/DL, 1710-1780MHz/UL (3GPP band 4, 10, and 66a)
- LTE 2Tx or 4Tx MIMO (SW selectable)
- Configuration: 2T2R/2T4R/4T4R
- Output power: Up to 2x90W or 4x45W (SW configurable)
- 70MHz LTE carrier with 4Rx Diversity
- Convection-cooled (fan-less)
- Supports AISG 2.0 ALD devices (RET, TMA) through RS485 or RF ports



BENEFITS

- Compact to reduce additional footprint when adding LTE in AWS 1-3 band
- Selection of MIMO configuration (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through 4Tx MIMO
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall

TECHNICAL SPECIFICATIONS

Features & Performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R selectable by SW)
Frequency band	AWS 1-3, B4/B66a DL: 2110-2180 MHz / UL: 1710-1780 MHz
Instantaneous bandwidth - #carriers	70 MHz – 4 LTE MIMO carriers (in 70 MHz occupied bandwidth)
LTE carrier bandwidth	5, 10, 15, 20 MHz
RF output power	2x90W or 4x45W (selectable by SW)
Noise figure – RX Diversity scheme **Receiver Sensivity (FRC A1-3)**	2 dB typical (<2.5 dB max) – 2 or 4 way Rx diversity -104.5 dBm maximum
Sizes (HxWxD) in mm (in.) **Volume in Liters** **Weight in kg (lb) (w/o mounting HW)**	655x299x182 (25.8x11.8x7.2) (with solar shield) 640x290x160 (25.2x11.4x6.3) (without solar shield) 35.5 (with solar shield) 29.7 (without solar shield) 25.8kg (56.8lb) (with solar shield)
DC voltage range **DC power consumption**	Nominal: -48V, -40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 750W typical @100% RF load (in 2Tx or 4Tx mode); Add 58W for 2A*29V for AISG
Environmental conditions **Wind load (@150km/h or 93mph)**	-40°C (-40°F) /+55°C (+131°F) UL50E Type 4 Enclosure 250N (56lb) Frontal/150N (34lb) Lateral
Antenna ports	4 ports 4.3-10 female (50 ohms) VSWR < 1.5
CPRI ports	2 CPRI ports (HW ready for Rate 7, 9.8 Gbps) SFP: SMDF (HW supports also SMSF and MMDF)
AISG interfaces	1 AISG 2.0 output (RS485) Integrated Smart Bias Tees (x2)
Misc. Interfaces	4 external alarms (1 connector) 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-487 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27 / FCC Part 15 / GR-3178-CORE

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.

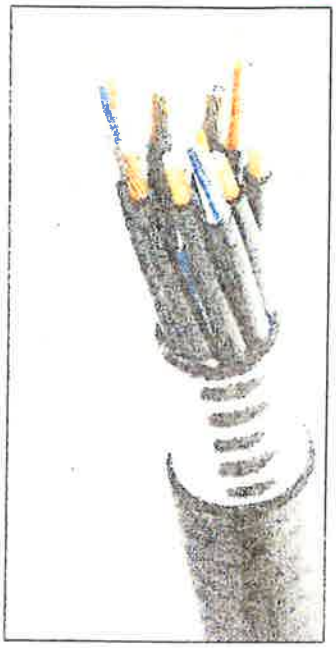


Figure 1: HYBRIFLEX Series

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)

* This data is provisional and subject to change

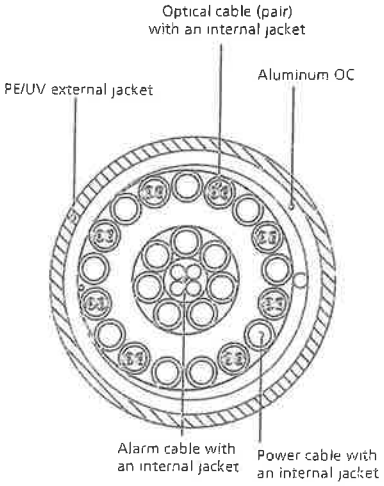


Figure 2: Construction Detail

ATTACHMENT 2

	General	Power	Density					
Site Name: Canton								
Tower Height: 140Ft								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**CALC. POWER DENS**	**FREQ.**	**MAX. PERMISS. EXP.**	**FRACTION MPE**	**Total**
*AT&T	2	438	127.7	850	0.0213	0.5667	0.38%	
*AT&T	1	440	127.7	1900	0.0107	1.0000	0.11%	
*AT&T	1	492	127.7	850	0.0119	0.5667	0.21%	
*AT&T	1	1094	127.7	2300	0.0266	1.0000	0.27%	
*AT&T	1	793	128	737	0.0191	0.4913	0.39%	
*AT&T	1	1734	128	1900	0.0419	1.0000	0.42%	
*AT&T	2	438	127.7	1900	0.0213	1.0000	0.21%	
*AT&T	1	440	127.7	850	0.0107	0.5667	0.19%	
*Pocket (now MetroPCS)	3	631	83	2130	0.1148	1.0000	1.15%	
*Sprint	2	693	90	1900	0.0706	1.0000	0.71%	
*Sprint	1	390	90	850	0.0199	0.5667	0.35%	
*Canton FD	1	71	140	300	0.0014	0.2000	0.07%	
*Nextel	9	100	110	851	0.0299	0.5673	0.53%	
*T-Mobile	2	1117	100	2100	0.0394	1.0000	0.39%	
*T-Mobile	2	565	100	1900	0.0394	1.0000	0.39%	
*T-Mobile	2	559	100	2100	0.0394	1.0000	0.39%	
*T-Mobile	1	703	100	700	0.0286	0.4667	0.61%	
Verizon PCS	**1**	**4900**	**120**	**0.1224**	**1970**	**1.0000**	**12.24%**	
Verizon Cellular	**9**	**403**	**120**	**0.0906**	**869**	**0.5793**	**15.63%**	
Verizon AWS	**1**	**4800**	**120**	**0.1199**	**2145**	**1.0000**	**11.99%**	
Verizon 700	**1**	**2200**	**120**	**0.0549**	**746**	**0.497333**	**11.05%**	
								57.67%
* Source: Siting Council								

ATTACHMENT 3

AMERICAN TOWER®
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Structural Analysis Report

Structure	:	**140 ft Monopole**
ATC Site Name	:	**Canton CT, CT**
ATC Site Number	:	**411256**
Engineering Number	:	**OAA694198_C3_01**
Proposed Carrier	:	**Verizon**
Carrier Site Name	:	**Canton**
Carrier Site Number	:	**N/A**
Site Location	:	**14 Canton Springs Road** **Canton, CT 06019-2401** **41.822900,-72.895200**
County	:	**Hartford**
Date	:	**February 1, 2017**
Max Usage	:	**62%**
Result	:	**Pass**

Prepared By:
Kingsley C. Igboanugo
Structural Engineer III

Reviewed By:

STATE OF CONNECTICUT
SCOTT A. WIRGAU
30575
LICENSED
PROFESSIONAL ENGINEER

Date & Time: Feb 1 2017 4:27 PM cosign

COA: PEC.0001553

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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 140 ft monopole to reflect the change in loading by Verizon.

Supporting Documents

Tower Drawings	EEI Project #4960, dated May 20, 1999
Foundation Drawing	EEI Project #4960, dated May 21, 1999
Geotechnical Report	Clarence Welti Project #Banm Tower Site, dated November 23, 1998

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:	93 mph (3-Second Gust, V_{ASD}) / 120 mph (3-Second Gust, V_{ULT})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.18, S_1 = 0.06
Site Class:	D - Stiff Soil

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.

Existing and Reserved Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
138.0	148.0	1	18' Omni	Stand-Off	(2) 7/8" Coax	--
130.0	130.0	6	CCI DTMABP7819VG12A	Platform w/ Handrails	(12) 7/8" Coax (4) 0.78" 8 AWG 6 (2) 0.39" Fiber Trunk (1) 3" Conduit	AT&T Mobility
		2	Raycap DC6-48-60-0-8F			
		6	Ericsson RRUS-11 (50 lbs.)			
		3	Ericsson RRUS 32 (50.8 lbs)			
		1	KMW AM-X-CD-14-65-00T-RET			
		3	Kathrein 800-10121			
		3	CSS DUO1417-8686			
		1	Andrew SBNHH-1D65A (33.5 lbs)			
		1	KMW AM-X-CD-17-65-00T-RET (96" Height)			
		1	Andrew SBNH-1D6565C (60.8 lbs)			
		2	CCI HPA-65R-BUU-H8			
120.0	120.0	2	Antel LPA-80080/4CF ___	Platform w/ Handrails	(16) 1 5/8" Coax	Verizon
		2	Antel LPA-80063/4CF ___			
		3	Antel BXA-70063-6CF-EDIN-2			
		1	VZW Unused Reserve: 14,837 sq in			
104.0	104.0	2	Kathrein Smart Bias Tee	Low Profile Platform	(8) 1 5/8" Coax	T-Mobile
		2	Ericsson KRY 112 489/2			
		2	RFS APXV18-209014-C			
		2	Commscope LNX-6515DS-VTM			
94.0	94.0	1	PCTEL GPS-TMG-HR-26N	Low Profile Platform	(21) 1 5/8" Coax (3) 1 5/8" Hybriflex (1) 1/2" Coax	Sprint Nextel
		3	Alcatel-Lucent 800MHz RRH			
		3	Alcatel-Lucent 1900MHz 4X45 RRH			
		6	Andrew DB980F65E-M			
		3	RFS APXVSPP18-C-A20			
83.0	83.0	3	Kathrein 742 213	Low Profile Platform	-	Metro PCS

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
120.0	120.0	2	48" x 16" Panel	-	(2) 1 5/8" Coax	Verizon
		6	Antel LPA-171063/8CF			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
120.0	120.0	3	Alcatel-Lucent B13 RRH4x30-4R 700U	Platform w/ Handrails	(2) 1 5/8" Fiber	Verizon
		3	Alcatel-Lucent PCS B25 RRH2x60/4x30			
		3	Alcatel-Lucent B66 RRH4x45			
		2	RFS DB-T1-6Z-8AB-0Z			
		2	Antel LPA-80080/4CF__			
		6	Commscope SBNHH-1D65B			

[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	44%	Pass
Shaft	46%	Pass
Base Plate	62%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	3,921.8	5,294.4	2,678.2	51%
Shear (Kips)	38.7	52.2	25.9	49%

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

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) (°)
120.0	Alcatel-Lucent B13 RRH4x30-4R 700U	Verizon	1.099	1.062
	Alcatel-Lucent PCS B25 RRH2x60/4x30			
	Alcatel-Lucent B66 RRH4x45			
	RFS DB-T1-6Z-8AB-0Z			
	Antel LPA-80080/4CF__			
	Commscope SBNHH-1D65B			

***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:

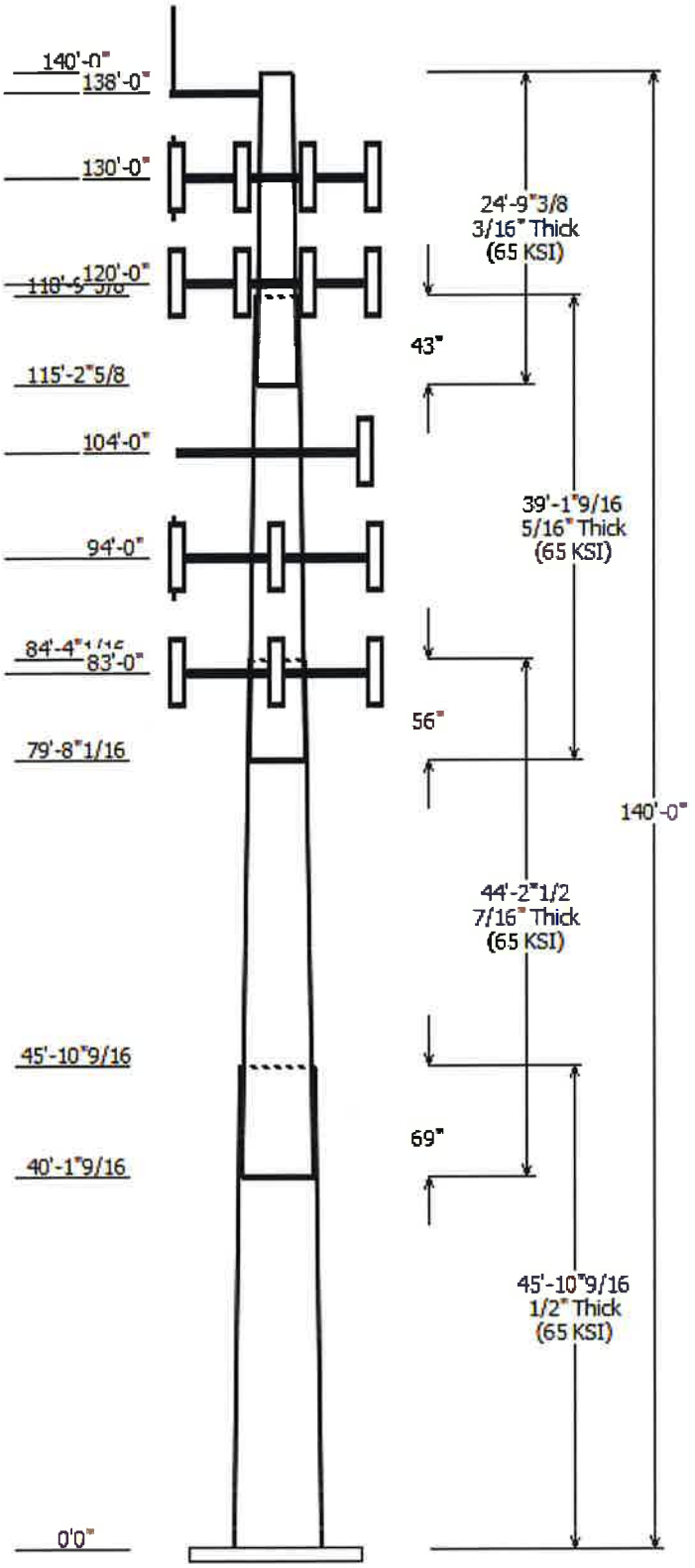
-- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.

-- 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 A.T. Engineering Service, PLLC 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. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.



Job Information

Pole :	411256	Code:	ANSI/TIA-222-G
Description :	140 ft Monopole		
Client :	VERIZON WIRELESS	Struct Class :	II
Location :	CANTON CT, CT		
Shape :	18 Sides	Exposure :	B
Height :	140.00 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.249089 (in/ft)		

Sections Properties

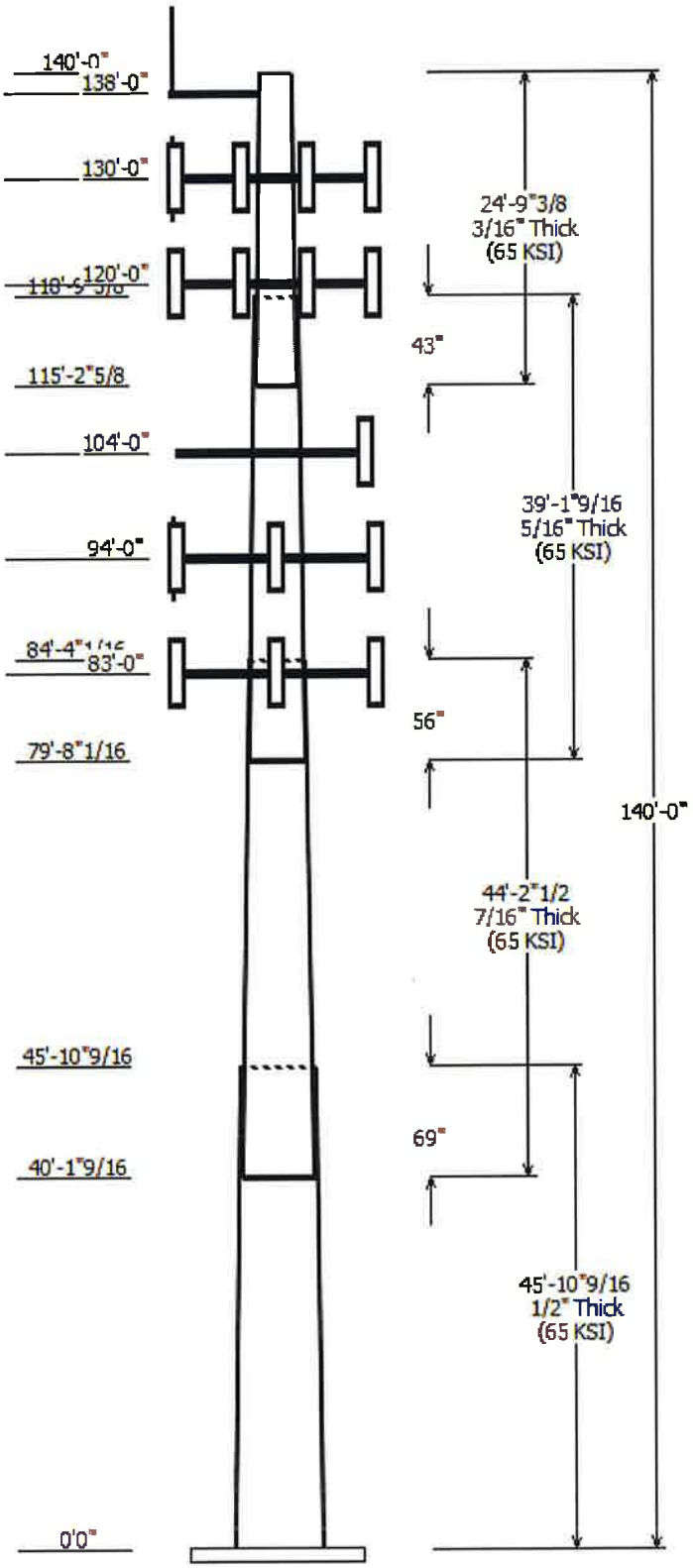
Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Taper (in/ft)	Steel Grade (ksi)
1	45.880	39.57	51.00	0.500		0.000	0.249100	65
2	44.210	30.86	41.87	0.438	Slip Joint	69.000	0.249100	65
3	39.130	22.90	32.65	0.313	Slip Joint	56.000	0.249100	65
4	24.780	18.00	24.17	0.188	Slip Joint	43.000	0.249100	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
138.000	138.000	1	Stand-Off
138.000	148.000	1	18' Omni
130.000	130.000	1	KMW AM-X-CD-14-65-00T-RET
130.000	130.000	2	CCI HPA-65R-BUU-H8
130.000	130.000	1	KMW AM-X-CD-17-65-00T-RET
130.000	130.000	1	Andrew SBNHH-1D65A (33.5
130.000	130.000	3	Ericsson RRUS 32 (50.8 lbs)
130.000	130.000	2	Raycap DC6-48-60-0-8F
130.000	130.000	1	Flat Platform w/ Handrails
130.000	130.000	3	Kathrein Scala 800-10121
130.000	130.000	1	Andrew SBNH-1D6565C (60.8
130.000	130.000	3	CSS DUO1417-8686
130.000	130.000	6	CCI DTMABP7819VG12A
130.000	130.000	6	Ericsson RRUS-11 (50 lbs.)
120.000	120.000	6	Commscope SBNHH-1D65B
120.000	120.000	2	Antel LPA-80080/4CF__
120.000	120.000	2	RFS DB-T1-6Z-8AB-0Z
120.000	120.000	3	Alcatel-Lucent B66 RRH4x45
120.000	120.000	3	Alcatel-Lucent PCS B25
120.000	120.000	3	Alcatel-Lucent B13 RRH4x30-
120.000	120.000	1	Flat Platform w/ Handrails
120.000	120.000	3	Amphenol Antel BXA-70063-
120.000	120.000	2	Antel LPA-80063/4CF ___
120.000	120.000	2	Antel LPA-80080/4CF ___
120.000	120.000	1	VZW Unused Reserve: 14,837
104.000	104.000	1	Flat Low Profile Platform
104.000	104.000	2	Commscope LNX-6515DS-VTM
104.000	104.000	2	RFS APXV18-209014-C
104.000	104.000	2	Ericsson KRY 112 489/2
104.000	104.000	2	Kathrein Smart Bias Tee
94.000	94.000	1	PCTEL GPS-TMG-HR-26N
94.000	94.000	1	Flat Low Profile Platform
94.000	94.000	3	RFS APXVSPP18-C-A20
94.000	94.000	6	Andrew DB980F65E-M
94.000	94.000	3	Alcatel-Lucent 1900 MHz 4X45
94.000	94.000	3	Alcatel-Lucent 800 MHz RRH
83.000	83.000	1	Flat Low Profile Platform
83.000	83.000	3	Kathrein Scala 742 213

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind



0.000	94.000	1 5/8" Coax	No
0.000	94.000	1 5/8" Hybriflex	No
0.000	94.000	1/2" Coax	No
0.000	104.0	1 5/8" Coax	Yes
0.000	104.0	1 5/8" Coax	Yes
0.000	120.0	1 5/8" Coax	No
0.000	120.0	1 5/8" Fiber	No
0.000	130.0	0.39" Fiber Trunk	No
0.000	130.0	0.78" 8 AWG 6	No
0.000	130.0	3" Conduit	No
0.000	130.0	7/8" Coax	No
0.000	138.0	7/8" Coax	No

Load Cases

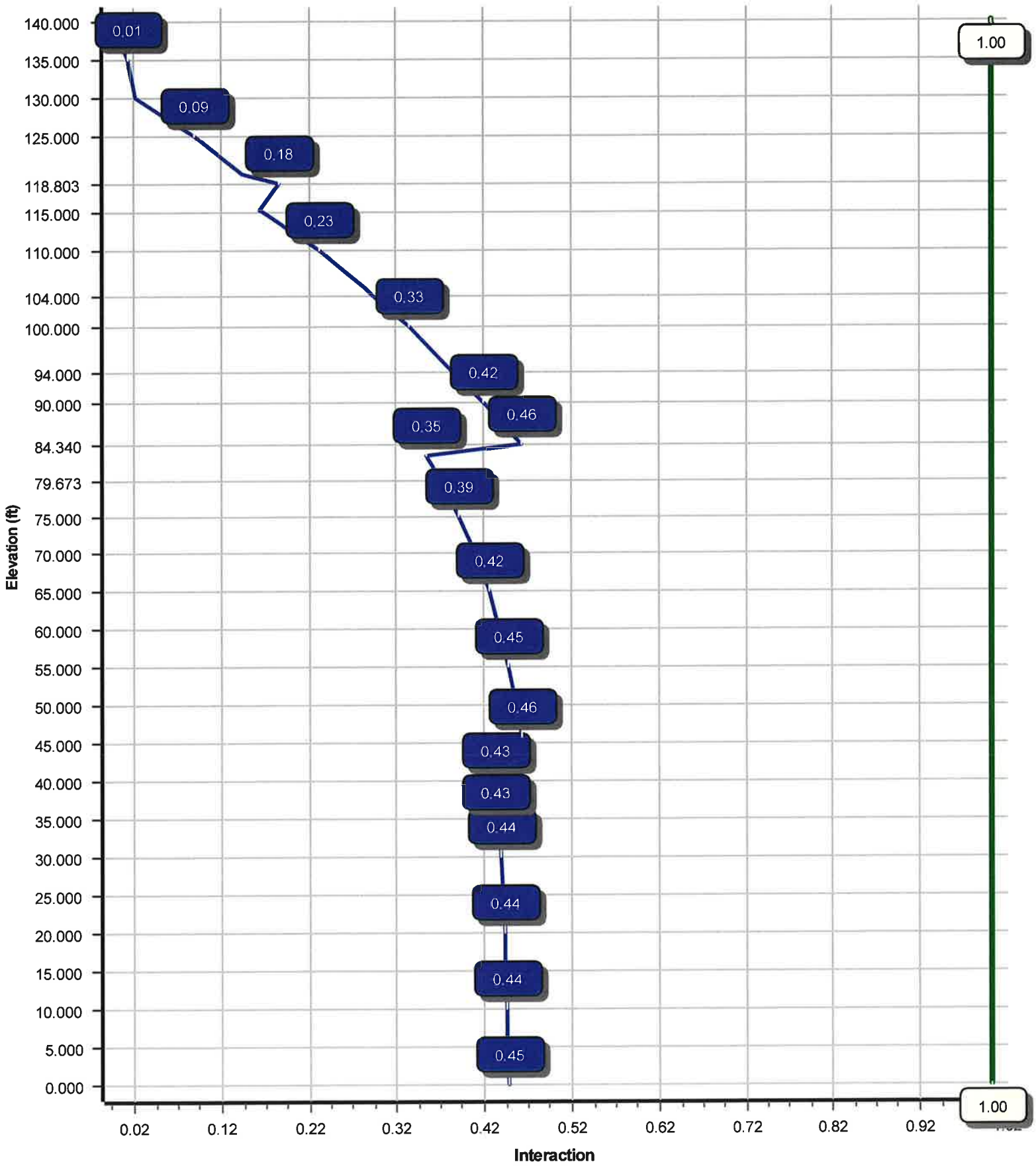
1.2D + 1.6W	93 mph with No Ice
0.9D + 1.6W	93 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	2678.15	25.86	51.47
0.9D + 1.6W	2634.95	25.65	38.59
1.2D + 1.0Di + 1.0Wi	874.50	8.27	88.44
(1.2 + 0.2Sds) * DL + E ELFM	201.09	1.90	51.11
(1.2 + 0.2Sds) * DL + E EMAM	171.50	1.76	51.11
(0.9 - 0.2Sds) * DL + E ELFM	198.76	1.90	35.56
(0.9 - 0.2Sds) * DL + E EMAM	169.39	1.76	35.56
1.0D + 1.0W	688.19	6.67	42.91

Dish Deflections

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


Load Case : 1.2D + 1.6W
Max Ratio 46.12% at 45.9 ft
Elevation (ft)
140.000
135.000
130.000
125.000
118.803
115.000
110.000
104.000
100.000
94.000
90.000
84.340
79.673
75.000
70.000
65.000
60.000
55.000
50.000
45.000
40.000
35.000
30.000
25.000
20.000
15.000
10.000
5.000
0.000
0.01
0.09
0.18
0.23
0.33
0.42
0.46
0.35
0.39
0.42
0.45
0.46
0.43
0.43
0.44
0.44
0.44
0.45
1.00
1.00
0.02
0.12
0.22
0.32
0.42
0.52
0.62
0.72
0.82
0.92
Interaction

Site Number: 411256 | Code: ANSI/TIA-222-G |

Site Name: CANTON CT, CT | Engineering Number:OAA694198_C3_01 | 2/1/2017 1:42:45 PM

Customer: VERIZON WIRELESS

Analysis Parameters

Location:	HARTFORD County, CT	Height (ft):	140
Code:	ANSI/TIA-222-G	Base Diameter (in):	51.00
Shape:	18 Sides	Top Diameter (in):	18.00
Pole Type:	Taper	Taper (in/ft) :	0.249
Pole Manfacturer:	EEI	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	93 mph
Exposure Category:	B	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0.0 ft	Design Ice Thickness:	1.00 in

Seismic Parameters

Analysis Method: Equivalent Modal Analysis & Equivalent Lateral Force Methods

Site Class: D - Stiff Soil

Period Based on Rayleigh Method (sec): 2.01

T_L (sec):	6	p:	1.3	C_s:	0.034
S_s:	0.180	S_1:	0.064	C_s Max:	0.034
F_a:	1.600	F_v:	2.400	C_s Min:	0.030
S_{ds}:	0.192	S_{d1}:	0.102		

Load Cases

1.2D + 1.6W	93 mph with No Ice
0.9D + 1.6W	93 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2Sds) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 411256 Code: ANSI/TIA-222-G

Site Name: CANTON CT, CT Engineering Number:OAA694198_C3_01 2/1/2017 1:42:45 PM

Customer: VERIZON WIRELESS

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	45.880	0.5000	65		0.00	11,096	51.00	0.00	80.14	25821.9	16.57	102.00	39.57	45.88	62.00	11959.3	12.54	79.14	0.249089
2-18	44.210	0.4375	65	Slip	69.00	7,507	41.87	40.13	57.54	12486.2	15.47	95.72	30.86	84.34	42.25	4943.1	11.03	70.55	0.249089
3-18	39.130	0.3125	65	Slip	56.00	3,628	32.65	79.67	32.08	4239.2	17.01	104.49	22.90	118.80	22.41	1445.5	11.51	73.30	0.249089
4-18	24.780	0.1875	65	Slip	43.00	1,049	24.17	115.22	14.28	1037.8	21.32	128.93	18.00	140.00	10.60	425.1	15.52	96.01	0.249089
				Shaft Weight		23,279													

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)
138.00	18' Omni	1	50.00	5.400	1.00	401.06	13.991	1.00	0.000	10.000
138.00	Stand-Off	1	75.00	2.500	1.00	123.41	4.229	1.00	0.000	0.000
130.00	Andrew SBNH-1D6565C (60.8	1	60.80	11.450	0.70	362.41	15.707	0.70	0.000	0.000
130.00	Andrew SBNHH-1D65A (33.5	1	33.50	5.880	0.69	310.38	8.602	0.69	0.000	0.000
130.00	CCI DTMABP7819VG12A	6	19.20	0.970	0.50	68.94	1.550	0.50	0.000	0.000
130.00	CCI HPA-65R-BUU-H8	2	68.00	12.980	0.67	478.56	16.130	0.67	0.000	0.000
130.00	CSS DUO1417-8686	3	20.30	5.790	0.70	254.17	7.166	0.70	0.000	0.000
130.00	Ericsson RRUS 32 (50.8 lbs)	3	50.80	2.690	0.50	171.55	3.665	0.50	0.000	0.000
130.00	Ericsson RRUS-11 (50 lbs.)	6	50.00	2.570	0.50	139.61	3.949	0.50	0.000	0.000
130.00	Flat Platform w/ Handrails	1	2000.00	42.400	1.00	3,868.17	69.968	1.00	0.000	0.000
130.00	Kathrein Scala 800-10121	3	44.10	5.160	0.68	194.78	7.929	0.68	0.000	0.000
130.00	KMW AM-X-CD-14-65-00T-	1	36.40	4.990	0.66	182.70	7.444	0.66	0.000	0.000
130.00	KMW AM-X-CD-17-65-00T-	1	59.50	11.310	0.68	404.01	13.503	0.68	0.000	0.000
130.00	Raycap DC6-48-60-0-8F	2	32.80	1.190	1.00	109.22	1.953	1.00	0.000	0.000
120.00	Alcatel-Lucent B13 RRH4x30-	3	57.20	2.170	0.67	172.06	3.018	0.67	0.000	0.000
120.00	Alcatel-Lucent B66 RRH4x45	3	67.00	2.580	0.67	186.61	3.516	0.67	0.000	0.000
120.00	Alcatel-Lucent PCS B25	3	55.00	2.200	0.67	147.57	3.527	0.67	0.000	0.000
120.00	Amphenol Antel BXA-70063-	3	17.00	7.570	0.66	210.27	11.172	0.66	0.000	0.000
120.00	Antel LPA-80063/4CF ___	2	20.00	6.140	0.76	301.91	7.524	0.76	0.000	0.000
120.00	Antel LPA-80080/4CF ___	2	12.00	5.400	0.64	202.59	6.842	0.64	0.000	0.000
120.00	Antel LPA-80080/4CF__	2	12.00	5.400	0.64	200.06	6.727	0.64	0.000	0.000
120.00	Commscope SBNHH-1D65B	6	50.70	8.170	0.69	331.40	9.908	0.69	0.000	0.000
120.00	Flat Platform w/ Handrails	1	2000.00	42.400	1.00	3,855.95	69.788	1.00	0.000	0.000
120.00	RFS DB-T1-6Z-8AB-0Z	2	44.00	4.800	0.67	350.07	5.962	0.67	0.000	0.000
120.00	VZW Unused Reserve:	1	1431.20	103.12	1.00	2,733.29	196.937	1.00	0.000	0.000
104.00	Commscope LNX-6515DS-	2	50.30	11.440	0.70	406.11	13.589	0.70	0.000	0.000
104.00	Ericsson KRY 112 489/2	2	15.40	0.650	0.50	51.37	1.029	0.50	0.000	0.000
104.00	Flat Low Profile Platform	1	1500.00	26.100	1.00	2,332.88	50.643	1.00	0.000	0.000
104.00	Kathrein Smart Bias Tee	2	3.30	0.090	0.50	14.28	0.313	0.50	0.000	0.000
104.00	RFS APXV18-209014-C	2	18.70	3.570	0.67	142.61	4.807	0.67	0.000	0.000
94.00	Alcatel-Lucent 1900 MHz	3	60.00	2.320	0.50	162.54	3.694	0.50	0.000	0.000
94.00	Alcatel-Lucent 800 MHz RRH	3	53.00	2.130	0.50	146.91	3.372	0.50	0.000	0.000
94.00	Andrew DB980F65E-M	6	8.50	3.750	0.68	135.38	5.103	0.68	0.000	0.000
94.00	Flat Low Profile Platform	1	1500.00	26.100	1.00	2,324.33	50.391	1.00	0.000	0.000
94.00	PCTEL GPS-TMG-HR-26N	1	0.60	0.090	0.50	6.76	0.319	0.50	0.000	0.000
94.00	RFS APXVSPP18-C-A20	3	57.00	8.020	0.68	276.47	11.567	0.68	0.000	0.000
83.00	Flat Low Profile Platform	1	1500.00	26.100	1.00	2,314.40	50.098	1.00	0.000	0.000
83.00	Kathrein Scala 742 213	3	22.00	5.140	0.67	175.58	6.773	0.67	0.000	0.000
	Totals	90	13080.60			34,080.84			Number of Loadings :	38

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Flat	Projected Width (in)	Exposed To Wind	Carrier

0.00	138.00	2	7/8" Coax	1.09	0.33	N	0.00	N	Unknown
0.00	130.00	2	0.39" Fiber Trunk	0.39	0.06	N	0.00	N	AT&T Mobility
0.00	130.00	4	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility
0.00	130.00	1	3" Conduit	3.50	7.58	N	0.00	N	AT&T Mobility
0.00	130.00	12	7/8" Coax	1.09	0.33	N	0.00	N	AT&T Mobility
0.00	120.00	16	1 5/8" Coax	1.98	0.82	N	0.00	N	Verizon
0.00	120.00	2	1 5/8" Fiber	1.63	1.61	N	0.00	N	Verizon
0.00	104.00	6	1 5/8" Coax	1.98	0.82	N	1.98	Y	T-Mobile
0.00	104.00	2	1 5/8" Coax	1.98	0.82	N	1.98	Y	T-Mobile
0.00	94.00	21	1 5/8" Coax	1.98	0.82	N	0.00	N	Sprint Nextel
0.00	94.00	3	1 5/8" Hybriflex	1.98	1.30	N	0.00	N	Sprint Nextel
0.00	94.00	1	1/2" Coax	0.63	0.15	N	0.00	N	Sprint Nextel

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	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.5000	51.000	80.141	25,821.9	16.57	102.00	81.9	997.2	0.0	0.0
5.00		0.5000	49.755	78.164	23,958.2	16.14	99.51	82.4	948.4	0.0	1,346.7
10.00		0.5000	48.509	76.188	22,186.3	15.70	97.02	82.6	900.8	0.0	1,313.1
15.00		0.5000	47.264	74.211	20,504.1	15.26	94.53	82.6	854.5	0.0	1,279.4
20.00		0.5000	46.018	72.235	18,909.1	14.82	92.04	82.6	809.3	0.0	1,245.8
25.00		0.5000	44.773	70.258	17,399.0	14.38	89.55	82.6	765.4	0.0	1,212.2
30.00		0.5000	43.527	68.282	15,971.6	13.94	87.05	82.6	722.7	0.0	1,178.6
35.00		0.5000	42.282	66.305	14,624.4	13.50	84.56	82.6	681.2	0.0	1,144.9
40.00		0.5000	41.036	64.329	13,355.2	13.06	82.07	82.6	641.0	0.0	1,111.3
40.13	Bot - Section 2	0.5000	41.004	64.278	13,323.2	13.05	82.01	82.6	640.0	0.0	28.4
45.00		0.5000	39.791	62.353	12,161.7	12.62	79.58	82.6	602.0	0.0	1,988.9
45.88	Top - Section 1	0.4375	40.447	55.556	11,235.8	14.89	92.45	82.6	547.1	0.0	353.0
50.00		0.4375	39.421	54.131	10,393.2	14.48	90.10	82.6	519.3	0.0	768.9
55.00		0.4375	38.175	52.401	9,428.6	13.98	87.26	82.6	486.5	0.0	906.3
60.00		0.4375	36.930	50.672	8,525.5	13.47	84.41	82.6	454.7	0.0	876.8
65.00		0.4375	35.684	48.943	7,682.1	12.97	81.56	82.6	424.0	0.0	847.4
70.00		0.4375	34.439	47.213	6,896.2	12.47	78.72	82.6	394.4	0.0	818.0
75.00		0.4375	33.193	45.484	6,165.8	11.97	75.87	82.6	365.9	0.0	788.6
79.67	Bot - Section 3	0.4375	32.029	43.867	5,531.5	11.50	73.21	82.6	340.2	0.0	710.4
80.00		0.4375	31.948	43.754	5,488.9	11.47	73.02	82.6	338.4	0.0	84.3
83.00		0.4375	31.201	42.717	5,107.5	11.16	71.32	82.6	322.4	0.0	764.2
84.34	Top - Section 2	0.3125	31.492	30.925	3,798.3	16.36	100.77	82.2	237.6	0.0	335.5
85.00		0.3125	31.327	30.762	3,738.6	16.27	100.25	82.3	235.1	0.0	69.3
90.00		0.3125	30.082	29.527	3,306.0	15.56	96.26	82.6	216.5	0.0	512.9
94.00		0.3125	29.086	28.538	2,985.1	15.00	93.07	82.6	202.1	0.0	395.2
95.00		0.3125	28.837	28.291	2,908.2	14.86	92.28	82.6	198.6	0.0	96.7
100.0		0.3125	27.591	27.056	2,543.7	14.16	88.29	82.6	181.6	0.0	470.8
104.0		0.3125	26.595	26.068	2,275.0	13.60	85.10	82.6	168.5	0.0	361.5
105.0		0.3125	26.346	25.821	2,210.9	13.45	84.31	82.6	165.3	0.0	88.3
110.0		0.3125	25.100	24.585	1,908.5	12.75	80.32	82.6	149.8	0.0	428.8
115.0		0.3125	23.855	23.350	1,635.1	12.05	76.34	82.6	135.0	0.0	407.8
115.2	Bot - Section 4	0.3125	23.800	23.296	1,623.7	12.02	76.16	82.6	134.4	0.0	17.5
118.8	Top - Section 3	0.1875	23.282	13.744	926.2	20.48	124.17	77.3	78.4	0.0	449.5
120.0		0.1875	22.984	13.566	890.8	20.20	122.58	77.6	76.3	0.0	55.6
125.0		0.1875	21.739	12.825	752.6	19.03	115.94	79.0	68.2	0.0	224.5
130.0		0.1875	20.493	12.084	629.5	17.86	109.30	80.4	60.5	0.0	211.9
135.0		0.1875	19.248	11.343	520.6	16.69	102.66	81.8	53.3	0.0	199.3
138.0		0.1875	18.501	10.898	461.8	15.99	98.67	82.6	49.2	0.0	113.5
140.0		0.1875	18.003	10.602	425.1	15.52	96.01	82.6	46.5	0.0	73.2
											23,278.9

Site Number: 411256 | Code: ANSI/TIA-222-G |

Site Name: CANTON CT, CT | Engineering Number:OAA694198_C3_01 | 2/1/2017 1:42:46 PM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W | 93 mph with No Ice | 23 Iterations

Gust Response Factor :1.10 | Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		179.5	0.0					0.0	0.0	179.5	0.0	0.0	0.0
5.00		354.6	1,616.0					0.0	353.1	354.6	1,969.1	0.0	0.0
10.00		345.7	1,575.7					0.0	353.1	345.7	1,928.8	0.0	0.0
15.00		336.8	1,535.3					0.0	353.1	336.8	1,888.4	0.0	0.0
20.00		328.0	1,495.0					0.0	353.1	328.0	1,848.1	0.0	0.0
25.00		319.1	1,454.6					0.0	353.1	319.1	1,807.7	0.0	0.0
30.00		313.9	1,414.3					0.0	353.1	313.9	1,767.4	0.0	0.0
35.00		314.9	1,373.9					0.0	353.1	314.9	1,727.0	0.0	0.0
40.00		162.5	1,333.6					0.0	353.1	162.5	1,686.7	0.0	0.0
40.13	Bot - Section 2	162.6	34.1					0.0	9.2	162.6	43.3	0.0	0.0
45.00		187.1	2,386.7					0.0	343.9	187.1	2,730.6	0.0	0.0
45.88	Top - Section 1	162.8	423.6					0.0	62.1	162.8	485.8	0.0	0.0
50.00		296.8	922.6					0.0	291.0	296.8	1,213.6	0.0	0.0
55.00		325.8	1,087.5					0.0	353.1	325.8	1,440.6	0.0	0.0
60.00		326.4	1,052.2					0.0	353.1	326.4	1,405.3	0.0	0.0
65.00		326.2	1,016.9					0.0	353.1	326.2	1,370.0	0.0	0.0
70.00		325.3	981.6					0.0	353.1	325.3	1,334.7	0.0	0.0
75.00		313.2	946.3					0.0	353.1	313.2	1,299.4	0.0	0.0
79.67	Bot - Section 3	161.6	852.5					0.0	330.0	161.6	1,182.6	0.0	0.0
80.00		108.9	101.2					0.0	23.1	108.9	124.2	0.0	0.0
83.00	Appertunance(s)	141.8	917.1	1,192.1	0.0	0.0	1,879.2	0.0	211.9	1,333.9	3,008.1	0.0	0.0
84.34	Top - Section 2	65.0	402.6					0.0	94.6	65.0	497.2	0.0	0.0
85.00		182.1	83.1					0.0	46.6	182.1	129.7	0.0	0.0
90.00		288.1	615.4					0.0	353.1	288.1	968.5	0.0	0.0
94.00	Appertunance(s)	159.0	474.2	2,041.8	0.0	0.0	2,473.9	0.0	282.5	2,200.8	3,230.6	0.0	0.0
95.00		188.7	116.0					0.0	45.1	188.7	161.1	0.0	0.0
100.00		281.2	565.0					0.0	225.5	281.2	790.5	0.0	0.0
104.00	Appertunance(s)	151.1	433.8	1,603.2	0.0	0.0	2,010.5	0.0	180.4	1,754.2	2,624.7	0.0	0.0
105.00		159.1	105.9					0.0	37.2	159.1	143.2	0.0	0.0
110.00		259.5	514.6					0.0	186.1	259.5	700.7	0.0	0.0
115.00		132.8	489.3					0.0	186.1	132.8	675.5	0.0	0.0
115.22	Bot - Section 4	95.0	21.0					0.0	8.2	95.0	29.1	0.0	0.0
118.80	Top - Section 3	118.8	539.4					0.0	133.4	118.8	672.8	0.0	0.0
120.00	Appertunance(s)	148.5	66.7	8,278.5	0.0	0.0	5,400.0	0.0	44.5	8,427.1	5,511.3	0.0	0.0
125.00		233.1	269.4					0.0	88.1	233.1	357.5	0.0	0.0
130.00	Appertunance(s)	222.2	254.3	4,042.9	0.0	0.0	3,783.1	0.0	88.1	4,265.1	4,125.5	0.0	0.0
135.00		170.6	239.2					0.0	4.0	170.6	243.1	0.0	0.0
138.00	Appertunance(s)	102.6	136.2	321.3	0.0	2,209.7	150.0	0.0	2.4	423.9	288.6	0.0	0.0
140.00		40.3	87.8					0.0	0.0	40.3	87.8	0.0	0.0
								Totals:		25,970.5	51,498.6	0.00	0.00

Site Number: 411256 Code: ANSI/TIA-222-G

Site Name: CANTON CT, CT Engineering Number:OAA694198_C3_01 2/1/2017 1:42:48 PM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W 93 mph with No Ice 23 Iterations

Gust Response Factor :1.10 Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

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	-51.47	-25.86	0.00	-2,678.15	0.00	2,678.15	5,907.57	2,953.79	12,233.7	6,125.97	0.00	0.00	0.446
5.00	-49.43	-25.63	0.00	-2,548.87	0.00	2,548.87	5,798.22	2,899.11	11,708.2	5,862.84	0.08	-0.14	0.443
10.00	-47.44	-25.40	0.00	-2,420.75	0.00	2,420.75	5,660.37	2,830.18	11,137.9	5,577.27	0.31	-0.29	0.442
15.00	-45.48	-25.17	0.00	-2,293.77	0.00	2,293.77	5,513.53	2,756.76	10,564.7	5,290.20	0.69	-0.44	0.442
20.00	-43.57	-24.94	0.00	-2,167.93	0.00	2,167.93	5,366.68	2,683.34	10,006.5	5,010.72	1.24	-0.60	0.441
25.00	-41.70	-24.72	0.00	-2,043.21	0.00	2,043.21	5,219.84	2,609.92	9,463.58	4,738.82	1.95	-0.76	0.439
30.00	-39.87	-24.49	0.00	-1,919.62	0.00	1,919.62	5,073.00	2,536.50	8,935.73	4,474.51	2.83	-0.92	0.437
35.00	-38.07	-24.26	0.00	-1,797.15	0.00	1,797.15	4,926.16	2,463.08	8,423.04	4,217.78	3.88	-1.08	0.434
40.00	-36.36	-24.12	0.00	-1,675.85	0.00	1,675.85	4,779.32	2,389.66	7,925.49	3,968.63	5.11	-1.25	0.430
40.13	-36.28	-24.01	0.00	-1,672.71	0.00	1,672.71	4,775.51	2,387.75	7,912.75	3,962.26	5.14	-1.26	0.430
45.00	-33.51	-23.82	0.00	-1,555.79	0.00	1,555.79	4,632.48	2,316.24	7,443.09	3,727.08	6.51	-1.42	0.425
45.88	-32.99	-23.69	0.00	-1,534.83	0.00	1,534.83	4,127.52	2,063.76	6,764.96	3,387.51	6.78	-1.46	0.461
50.00	-31.72	-23.46	0.00	-1,437.22	0.00	1,437.22	4,021.65	2,010.83	6,420.54	3,215.04	8.10	-1.60	0.455
55.00	-30.21	-23.19	0.00	-1,319.94	0.00	1,319.94	3,893.17	1,946.58	6,014.64	3,011.79	9.88	-1.79	0.446
60.00	-28.74	-22.91	0.00	-1,203.99	0.00	1,203.99	3,764.68	1,882.34	5,621.99	2,815.17	11.85	-1.98	0.435
65.00	-27.31	-22.63	0.00	-1,089.44	0.00	1,089.44	3,636.20	1,818.10	5,242.60	2,625.19	14.03	-2.17	0.423
70.00	-25.92	-22.34	0.00	-976.30	0.00	976.30	3,507.71	1,753.86	4,876.46	2,441.85	16.41	-2.36	0.407
75.00	-24.56	-22.05	0.00	-864.62	0.00	864.62	3,379.23	1,689.61	4,523.57	2,265.15	18.99	-2.55	0.389
79.67	-23.35	-21.87	0.00	-761.59	0.00	761.59	3,259.13	1,629.57	4,205.72	2,105.99	21.58	-2.73	0.369
80.00	-23.21	-21.78	0.00	-754.45	0.00	754.45	3,250.74	1,625.37	4,183.94	2,095.08	21.76	-2.74	0.367
83.00	-20.24	-20.33	0.00	-689.11	0.00	689.11	3,173.65	1,586.82	3,986.52	1,996.22	23.52	-2.85	0.352
84.34	-19.73	-20.25	0.00	-661.87	0.00	661.87	2,286.71	1,143.35	2,923.37	1,463.86	24.33	-2.90	0.461
85.00	-19.57	-20.11	0.00	-648.51	0.00	648.51	2,277.67	1,138.84	2,896.31	1,450.31	24.73	-2.93	0.456
90.00	-18.55	-19.83	0.00	-547.98	0.00	547.98	2,193.67	1,096.84	2,676.37	1,340.17	27.93	-3.16	0.418
94.00	-15.41	-17.48	0.00	-468.65	0.00	468.65	2,120.25	1,060.13	2,499.32	1,251.52	30.65	-3.33	0.382
95.00	-15.23	-17.32	0.00	-451.16	0.00	451.16	2,101.90	1,050.95	2,456.00	1,229.83	31.35	-3.38	0.374
100.00	-14.40	-17.03	0.00	-364.58	0.00	364.58	2,010.12	1,005.06	2,245.10	1,124.22	34.99	-3.58	0.332
104.00	-11.87	-15.13	0.00	-296.46	0.00	296.46	1,936.70	968.35	2,083.19	1,043.15	38.05	-3.72	0.291
105.00	-11.71	-14.98	0.00	-281.32	0.00	281.32	1,918.35	959.17	2,043.66	1,023.35	38.84	-3.76	0.281
110.00	-11.00	-14.71	0.00	-206.40	0.00	206.40	1,826.57	913.29	1,851.70	927.22	42.86	-3.92	0.229
115.00	-10.32	-14.54	0.00	-132.87	0.00	132.87	1,734.80	867.40	1,669.20	835.84	47.03	-4.04	0.165
115.22	-10.28	-14.45	0.00	-129.67	0.00	129.67	1,730.76	865.38	1,661.38	831.93	47.22	-4.05	0.162
118.80	-9.61	-14.29	0.00	-77.90	0.00	77.90	956.25	478.12	907.22	454.29	50.28	-4.11	0.182
120.00	-4.72	-5.49	0.00	-60.80	0.00	60.80	947.93	473.97	887.63	444.47	51.31	-4.13	0.142
125.00	-4.37	-5.24	0.00	-33.35	0.00	33.35	912.05	456.02	806.99	404.09	55.68	-4.20	0.087
130.00	-0.57	-0.68	0.00	-7.17	0.00	7.17	874.32	437.16	728.52	364.80	60.10	-4.24	0.020
135.00	-0.34	-0.49	0.00	-3.78	0.00	3.78	834.76	417.38	652.50	326.73	64.55	-4.26	0.012
138.00	-0.08	-0.05	0.00	-0.09	0.00	0.09	809.68	404.84	607.85	304.38	67.22	-4.26	0.000
140.00	0.00	-0.04	0.00	0.00	0.00	0.00	787.66	393.83	575.06	287.96	69.00	-4.26	0.000

Site Number: 411256 Code: ANSI/TIA-222-G

Site Name: CANTON CT, CT Engineering Number:OAA694198_C3_01 2/1/2017 1:42:48 PM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.6W 93 mph with No Ice (Reduced DL) 23 Iterations

Gust Response Factor :1.10 Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		179.5	0.0					0.0	0.0	179.5	0.0	0.0	0.0
5.00		354.6	1,212.0					0.0	264.8	354.6	1,476.8	0.0	0.0
10.00		345.7	1,181.8					0.0	264.8	345.7	1,446.6	0.0	0.0
15.00		336.8	1,151.5					0.0	264.8	336.8	1,416.3	0.0	0.0
20.00		328.0	1,121.2					0.0	264.8	328.0	1,386.1	0.0	0.0
25.00		319.1	1,091.0					0.0	264.8	319.1	1,355.8	0.0	0.0
30.00		313.9	1,060.7					0.0	264.8	313.9	1,325.5	0.0	0.0
35.00		314.9	1,030.4					0.0	264.8	314.9	1,295.3	0.0	0.0
40.00		162.5	1,000.2					0.0	264.8	162.5	1,265.0	0.0	0.0
40.13	Bot - Section 2	162.6	25.6					0.0	6.9	162.6	32.5	0.0	0.0
45.00		187.1	1,790.0					0.0	257.9	187.1	2,047.9	0.0	0.0
45.88	Top - Section 1	162.8	317.7					0.0	46.6	162.8	364.3	0.0	0.0
50.00		296.5	692.0					0.0	218.2	296.5	910.2	0.0	0.0
55.00		323.6	815.6					0.0	264.8	323.6	1,080.5	0.0	0.0
60.00		321.0	789.2					0.0	264.8	321.0	1,054.0	0.0	0.0
65.00		317.3	762.7					0.0	264.8	317.3	1,027.5	0.0	0.0
70.00		312.8	736.2					0.0	264.8	312.8	1,001.0	0.0	0.0
75.00		297.7	709.7					0.0	264.8	297.7	974.5	0.0	0.0
79.67	Bot - Section 3	152.5	639.4					0.0	247.5	152.5	886.9	0.0	0.0
80.00		101.7	75.9					0.0	17.3	101.7	93.2	0.0	0.0
83.00	Appertunance(s)	132.2	687.8	1,192.1	0.0	0.0	1,409.4	0.0	158.9	1,324.3	2,256.1	0.0	0.0
84.34	Top - Section 2	60.5	301.9					0.0	71.0	60.5	372.9	0.0	0.0
85.00		168.6	62.3					0.0	35.0	168.6	97.3	0.0	0.0
90.00		264.9	461.6					0.0	264.8	264.9	726.4	0.0	0.0
94.00	Appertunance(s)	144.9	355.6	2,041.8	0.0	0.0	1,855.4	0.0	211.9	2,186.7	2,422.9	0.0	0.0
95.00		169.6	87.0					0.0	33.8	169.6	120.8	0.0	0.0
100.00		250.6	423.8					0.0	169.1	250.6	592.9	0.0	0.0
104.00	Appertunance(s)	136.6	325.4	1,603.2	0.0	0.0	1,507.9	0.0	135.3	1,739.8	1,968.5	0.0	0.0
105.00		159.1	79.5					0.0	27.9	159.1	107.4	0.0	0.0
110.00		259.5	385.9					0.0	139.6	259.5	525.5	0.0	0.0
115.00		132.8	367.0					0.0	139.6	132.8	506.6	0.0	0.0
115.22	Bot - Section 4	95.0	15.7					0.0	6.1	95.0	21.9	0.0	0.0
118.80	Top - Section 3	118.8	404.5					0.0	100.0	118.8	504.6	0.0	0.0
120.00	Appertunance(s)	148.5	50.0	8,278.5	0.0	0.0	4,050.0	0.0	33.4	8,427.1	4,133.5	0.0	0.0
125.00		233.1	202.1					0.0	66.1	233.1	268.1	0.0	0.0
130.00	Appertunance(s)	222.2	190.7	4,042.9	0.0	0.0	2,837.3	0.0	66.1	4,265.1	3,094.1	0.0	0.0
135.00		170.6	179.4					0.0	3.0	170.6	182.3	0.0	0.0
138.00	Appertunance(s)	102.6	102.2	321.3	0.0	2,209.7	112.5	0.0	1.8	423.9	216.5	0.0	0.0
140.00		40.3	65.8					0.0	0.0	40.3	65.8	0.0	0.0
								Totals:		25,780.7	38,624.0	0.00	0.00

Site Number: 411256 Code: ANSI/TIA-222-G

Site Name: CANTON CT, CT Engineering Number:OAA694198_C3_01 2/1/2017 1:42:50 PM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.6W 93 mph with No Ice (Reduced DL) 23 Iterations

Gust Response Factor :1.10 Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

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	-38.59	-25.65	0.00	-2,634.95	0.00	2,634.95	5,907.57	2,953.79	12,233.7	6,125.97	0.00	0.00	0.437
5.00	-37.05	-25.39	0.00	-2,506.70	0.00	2,506.70	5,798.22	2,899.11	11,708.2	5,862.84	0.08	-0.14	0.434
10.00	-35.54	-25.13	0.00	-2,379.78	0.00	2,379.78	5,660.37	2,830.18	11,137.9	5,577.27	0.30	-0.29	0.433
15.00	-34.06	-24.87	0.00	-2,254.15	0.00	2,254.15	5,513.53	2,756.76	10,564.7	5,290.20	0.68	-0.44	0.432
20.00	-32.61	-24.62	0.00	-2,129.80	0.00	2,129.80	5,366.68	2,683.34	10,006.5	5,010.72	1.22	-0.59	0.431
25.00	-31.19	-24.37	0.00	-2,006.72	0.00	2,006.72	5,219.84	2,609:92	9,463.58	4,738.82	1.92	-0.74	0.430
30.00	-29.81	-24.12	0.00	-1,884.88	0.00	1,884.88	5,073.00	2,536.50	8,935.73	4,474.51	2.78	-0.90	0.427
35.00	-28.45	-23.86	0.00	-1,764.28	0.00	1,764.28	4,926.16	2,463.08	8,423.04	4,217.78	3.81	-1.06	0.424
40.00	-27.15	-23.72	0.00	-1,644.97	0.00	1,644.97	4,779.32	2,389.66	7,925.49	3,968.63	5.02	-1.23	0.420
40.13	-27.09	-23.59	0.00	-1,641.89	0.00	1,641.89	4,775.51	2,387.75	7,912.75	3,962.26	5.05	-1.23	0.420
45.00	-25.01	-23.40	0.00	-1,526.99	0.00	1,526.99	4,632.48	2,316.24	7,443.09	3,727.08	6.40	-1.40	0.415
45.88	-24.61	-23.27	0.00	-1,506.40	0.00	1,506.40	4,127.52	2,063.76	6,764.96	3,387.51	6.66	-1.43	0.451
50.00	-23.64	-23.01	0.00	-1,410.54	0.00	1,410.54	4,021.65	2,010.83	6,420.54	3,215.04	7.96	-1.57	0.445
55.00	-22.50	-22.73	0.00	-1,295.47	0.00	1,295.47	3,893.17	1,946.58	6,014.64	3,011.79	9.70	-1.76	0.436
60.00	-21.38	-22.45	0.00	-1,181.80	0.00	1,181.80	3,764.68	1,882.34	5,621.99	2,815.17	11.65	-1.95	0.426
65.00	-20.29	-22.16	0.00	-1,069.56	0.00	1,069.56	3,636.20	1,818.10	5,242.60	2,625.19	13.79	-2.13	0.413
70.00	-19.23	-21.87	0.00	-958.76	0.00	958.76	3,507.71	1,753.86	4,876.46	2,441.85	16.12	-2.32	0.398
75.00	-18.20	-21.59	0.00	-849.40	0.00	849.40	3,379.23	1,689.61	4,523.57	2,265.15	18.65	-2.51	0.381
79.67	-17.29	-21.43	0.00	-748.50	0.00	748.50	3,259.13	1,629.57	4,205.72	2,105.99	21.20	-2.68	0.361
80.00	-17.18	-21.34	0.00	-741.50	0.00	741.50	3,250.74	1,625.37	4,183.94	2,095.08	21.38	-2.69	0.359
83.00	-14.96	-19.93	0.00	-677.48	0.00	677.48	3,173.65	1,586.82	3,986.52	1,996.22	23.11	-2.80	0.344
84.34	-14.58	-19.86	0.00	-650.78	0.00	650.78	2,286.71	1,143.35	2,923.37	1,463.86	23.90	-2.85	0.451
85.00	-14.45	-19.72	0.00	-637.67	0.00	637.67	2,277.67	1,138.84	2,896.31	1,450.31	24.30	-2.88	0.446
90.00	-13.67	-19.46	0.00	-539.08	0.00	539.08	2,193.67	1,096.84	2,676.37	1,340.17	27.43	-3.10	0.409
94.00	-11.34	-17.17	0.00	-461.23	0.00	461.23	2,120.25	1,060.13	2,499.32	1,251.52	30.10	-3.27	0.374
95.00	-11.19	-17.01	0.00	-444.07	0.00	444.07	2,101.90	1,050.95	2,456.00	1,229.83	30.79	-3.32	0.367
100.00	-10.57	-16.76	0.00	-359.00	0.00	359.00	2,010.12	1,005.06	2,245.10	1,124.22	34.37	-3.51	0.325
104.00	-8.69	-14.91	0.00	-291.97	0.00	291.97	1,936.70	968.35	2,083.19	1,043.15	37.38	-3.66	0.285
105.00	-8.56	-14.76	0.00	-277.06	0.00	277.06	1,918.35	959.17	2,043.66	1,023.35	38.15	-3.69	0.275
110.00	-8.02	-14.49	0.00	-203.25	0.00	203.25	1,826.57	913.29	1,851.70	927.22	42.10	-3.85	0.224
115.00	-7.51	-14.33	0.00	-130.80	0.00	130.80	1,734.80	867.40	1,669.20	835.84	46.20	-3.97	0.161
115.22	-7.49	-14.24	0.00	-127.65	0.00	127.65	1,730.76	865.38	1,661.38	831.93	46.39	-3.98	0.158
118.80	-6.98	-14.09	0.00	-76.63	0.00	76.63	956.25	478.12	907.22	454.29	49.40	-4.04	0.177
120.00	-3.45	-5.39	0.00	-59.78	0.00	59.78	947.93	473.97	887.63	444.47	50.41	-4.06	0.138
125.00	-3.19	-5.14	0.00	-32.81	0.00	32.81	912.05	456.02	806.99	404.09	54.70	-4.13	0.085
130.00	-0.42	-0.67	0.00	-7.08	0.00	7.08	874.32	437.16	728.52	364.80	59.05	-4.17	0.020
135.00	-0.25	-0.48	0.00	-3.75	0.00	3.75	834.76	417.38	652.50	326.73	63.42	-4.18	0.012
138.00	-0.06	-0.05	0.00	-0.09	0.00	0.09	809.68	404.84	607.85	304.38	66.05	-4.19	0.000
140.00	0.00	-0.04	0.00	0.00	0.00	0.00	787.66	393.83	575.06	287.96	67.80	-4.19	0.000

Site Number: 411256
Site Name: CANTON CT, CT
Customer: VERIZON WIRELESS

Code: ANSI/TIA-222-G
Engineering Number:OAA694198_C3_01

2/1/2017 1:42:50 PM

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 1.00 in Radial Ice — 23 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)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		63.5	0.0					0.0	0.0	63.5	0.0	0.0	0.0
5.00		125.9	2,112.5					0.0	490.5	125.9	2,603.1	0.0	0.0
10.00		123.6	2,118.3					0.0	508.8	123.6	2,627.0	0.0	0.0
15.00		121.0	2,093.2					0.0	518.2	121.0	2,611.5	0.0	0.0
20.00		118.3	2,058.0					0.0	524.9	118.3	2,582.9	0.0	0.0
25.00		115.5	2,017.5					0.0	530.0	115.5	2,547.6	0.0	0.0
30.00		114.1	1,973.8					0.0	534.3	114.1	2,508.0	0.0	0.0
35.00		114.9	1,927.6					0.0	537.9	114.9	2,465.6	0.0	0.0
40.00		59.4	1,879.8					0.0	541.1	59.4	2,420.9	0.0	0.0
40.13	Bot - Section 2	59.5	48.4					0.0	14.1	59.5	62.5	0.0	0.0
45.00		68.5	2,921.2					0.0	529.8	68.5	3,451.0	0.0	0.0
45.88	Top - Section 1	59.8	520.4					0.0	96.0	59.8	616.4	0.0	0.0
50.00		109.2	1,367.2					0.0	450.5	109.2	1,817.7	0.0	0.0
55.00		119.7	1,615.8					0.0	548.9	119.7	2,164.7	0.0	0.0
60.00		119.2	1,569.1					0.0	551.0	119.2	2,120.1	0.0	0.0
65.00		118.3	1,521.7					0.0	553.0	118.3	2,074.7	0.0	0.0
70.00		117.2	1,473.7					0.0	554.9	117.2	2,028.6	0.0	0.0
75.00		112.0	1,425.3					0.0	556.7	112.0	1,981.9	0.0	0.0
79.67	Bot - Section 3	57.6	1,288.5					0.0	521.8	57.6	1,810.3	0.0	0.0
80.00		38.5	132.2					0.0	36.5	38.5	168.8	0.0	0.0
83.00	Appertunance(s)	50.0	1,196.8	382.2	0.0	0.0	2,954.3	0.0	335.8	432.2	4,486.9	0.0	0.0
84.34	Top - Section 2	22.9	526.6					0.0	150.2	22.9	676.8	0.0	0.0
85.00		64.1	144.0					0.0	74.0	64.1	218.0	0.0	0.0
90.00		101.1	1,061.1					0.0	561.4	101.1	1,622.5	0.0	0.0
94.00	Appertunance(s)	55.5	821.6	613.8	0.0	0.0	4,831.1	0.0	450.1	669.3	6,102.8	0.0	0.0
95.00		65.3	202.4					0.0	87.1	65.3	289.6	0.0	0.0
100.00		96.8	981.0					0.0	436.6	96.8	1,417.6	0.0	0.0
104.00	Appertunance(s)	53.0	757.1	481.8	0.0	0.0	3,696.7	0.0	350.2	534.8	4,804.0	0.0	0.0
105.00		62.1	186.3					0.0	37.2	62.1	223.5	0.0	0.0
110.00		101.9	899.8					0.0	186.1	101.9	1,086.0	0.0	0.0
115.00		52.4	858.9					0.0	186.1	52.4	1,045.0	0.0	0.0
115.22	Bot - Section 4	37.6	37.2					0.0	8.2	37.6	45.4	0.0	0.0
118.80	Top - Section 3	47.1	799.5					0.0	133.4	47.1	932.9	0.0	0.0
120.00	Appertunance(s)	59.4	152.8	2,484.6	0.0	0.0	14,529.3	0.0	44.5	2,544.0	14,726.6	0.0	0.0
125.00		93.8	612.2					0.0	88.1	93.8	700.2	0.0	0.0
130.00	Appertunance(s)	90.4	580.7	1,084.9	0.0	0.0	9,247.6	0.0	88.1	1,175.3	9,916.4	0.0	0.0
135.00		70.1	549.0					0.0	4.0	70.1	552.9	0.0	0.0
138.00	Appertunance(s)	42.6	316.3	134.1	0.0	1,034.3	405.8	0.0	2.4	176.6	724.4	0.0	0.0
140.00		16.8	205.2					0.0	0.0	16.8	205.2	0.0	0.0
								Totals:		8,300.36	88,439.7	0.00	0.00

Site Number: 411256 Code: ANSI/TIA-222-G

Site Name: CANTON CT, CT Engineering Number:OAA694198_C3_01 2/1/2017 1:42:52 PM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 1.00 in Radial Ice 23 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

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	-88.44	-8.27	0.00	-874.50	0.00	874.50	5,907.57	2,953.79	12,233.7	6,125.97	0.00	0.00	0.158
5.00	-85.83	-8.22	0.00	-833.14	0.00	833.14	5,798.22	2,899.11	11,708.2	5,862.84	0.03	-0.05	0.157
10.00	-83.19	-8.16	0.00	-792.05	0.00	792.05	5,660.37	2,830.18	11,137.9	5,577.27	0.10	-0.10	0.157
15.00	-80.57	-8.11	0.00	-751.24	0.00	751.24	5,513.53	2,756.76	10,564.7	5,290.20	0.23	-0.14	0.157
20.00	-77.98	-8.05	0.00	-710.71	0.00	710.71	5,366.68	2,683.34	10,006.5	5,010.72	0.41	-0.20	0.156
25.00	-75.43	-7.99	0.00	-670.46	0.00	670.46	5,219.84	2,609.92	9,463.58	4,738.82	0.64	-0.25	0.156
30.00	-72.92	-7.94	0.00	-630.49	0.00	630.49	5,073.00	2,536.50	8,935.73	4,474.51	0.93	-0.30	0.155
35.00	-70.44	-7.88	0.00	-590.80	0.00	590.80	4,926.16	2,463.08	8,423.04	4,217.78	1.27	-0.35	0.154
40.00	-68.02	-7.83	0.00	-551.43	0.00	551.43	4,779.32	2,389.66	7,925.49	3,968.63	1.67	-0.41	0.153
40.13	-67.95	-7.81	0.00	-550.41	0.00	550.41	4,775.51	2,387.75	7,912.75	3,962.26	1.68	-0.41	0.153
45.00	-64.50	-7.75	0.00	-512.39	0.00	512.39	4,632.48	2,316.24	7,443.09	3,727.08	2.13	-0.47	0.151
45.88	-63.88	-7.72	0.00	-505.57	0.00	505.57	4,127.52	2,063.76	6,764.96	3,387.51	2.22	-0.48	0.165
50.00	-62.05	-7.65	0.00	-473.78	0.00	473.78	4,021.65	2,010.83	6,420.54	3,215.04	2.65	-0.53	0.163
55.00	-59.88	-7.58	0.00	-435.53	0.00	435.53	3,893.17	1,946.58	6,014.64	3,011.79	3.24	-0.59	0.160
60.00	-57.76	-7.50	0.00	-397.65	0.00	397.65	3,764.68	1,882.34	5,621.99	2,815.17	3.89	-0.65	0.157
65.00	-55.67	-7.42	0.00	-360.16	0.00	360.16	3,636.20	1,818.10	5,242.60	2,625.19	4.60	-0.71	0.153
70.00	-53.64	-7.33	0.00	-323.08	0.00	323.08	3,507.71	1,753.86	4,876.46	2,441.85	5.38	-0.78	0.148
75.00	-51.65	-7.25	0.00	-286.43	0.00	286.43	3,379.23	1,689.61	4,523.57	2,265.15	6.23	-0.84	0.142
79.67	-49.84	-7.19	0.00	-252.56	0.00	252.56	3,259.13	1,629.57	4,205.72	2,105.99	7.09	-0.90	0.135
80.00	-49.67	-7.16	0.00	-250.22	0.00	250.22	3,250.74	1,625.37	4,183.94	2,095.08	7.15	-0.90	0.135
83.00	-45.19	-6.68	0.00	-228.72	0.00	228.72	3,173.65	1,586.82	3,986.52	1,996.22	7.73	-0.94	0.129
84.34	-44.51	-6.66	0.00	-219.77	0.00	219.77	2,286.71	1,143.35	2,923.37	1,463.86	7.99	-0.96	0.170
85.00	-44.29	-6.62	0.00	-215.38	0.00	215.38	2,277.67	1,138.84	2,896.31	1,450.31	8.13	-0.96	0.168
90.00	-42.66	-6.54	0.00	-182.26	0.00	182.26	2,193.67	1,096.84	2,676.37	1,340.17	9.18	-1.04	0.155
94.00	-36.56	-5.78	0.00	-156.10	0.00	156.10	2,120.25	1,060.13	2,499.32	1,251.52	10.07	-1.10	0.142
95.00	-36.27	-5.74	0.00	-150.31	0.00	150.31	2,101.90	1,050.95	2,456.00	1,229.83	10.31	-1.11	0.140
100.00	-34.85	-5.65	0.00	-121.63	0.00	121.63	2,010.12	1,005.06	2,245.10	1,124.22	11.51	-1.18	0.126
104.00	-30.06	-5.03	0.00	-99.04	0.00	99.04	1,936.70	968.35	2,083.19	1,043.15	12.52	-1.23	0.110
105.00	-29.83	-4.98	0.00	-94.01	0.00	94.01	1,918.35	959.17	2,043.66	1,023.35	12.78	-1.24	0.107
110.00	-28.74	-4.88	0.00	-69.12	0.00	69.12	1,826.57	913.29	1,851.70	927.22	14.11	-1.29	0.090
115.00	-27.70	-4.81	0.00	-44.74	0.00	44.74	1,734.80	867.40	1,669.20	835.84	15.49	-1.34	0.070
115.22	-27.65	-4.78	0.00	-43.69	0.00	43.69	1,730.76	865.38	1,661.38	831.93	15.55	-1.34	0.069
118.80	-26.72	-4.71	0.00	-26.57	0.00	26.57	956.25	478.12	907.22	454.29	16.56	-1.36	0.087
120.00	-12.06	-1.82	0.00	-20.93	0.00	20.93	947.93	473.97	887.63	444.47	16.90	-1.37	0.060
125.00	-11.36	-1.72	0.00	-11.81	0.00	11.81	912.05	456.02	806.99	404.09	18.35	-1.39	0.042
130.00	-1.48	-0.30	0.00	-3.23	0.00	3.23	874.32	437.16	728.52	364.80	19.82	-1.41	0.011
135.00	-0.92	-0.22	0.00	-1.73	0.00	1.73	834.76	417.38	652.50	326.73	21.29	-1.41	0.006
138.00	-0.20	-0.02	0.00	-0.04	0.00	0.04	809.68	404.84	607.85	304.38	22.18	-1.41	0.000
140.00	0.00	-0.02	0.00	0.00	0.00	0.00	787.66	393.83	575.06	287.96	22.77	-1.41	0.000

Site Number: 411256 Code: ANSI/TIA-222-G

Site Name: CANTON CT, CT Engineering Number:OAA694198_C3_01 2/1/2017 1:42:52 PM

Customer: VERIZON WIRELESS

Load Case: 1.0D + 1.0W Serviceability 60 mph 22 Iterations

Gust Response Factor :1.10 Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		46.7	0.0					0.0	0.0	46.7	0.0	0.0	0.0
5.00		92.2	1,346.7					0.0	294.2	92.2	1,640.9	0.0	0.0
10.00		89.9	1,313.1					0.0	294.2	89.9	1,607.3	0.0	0.0
15.00		87.6	1,279.4					0.0	294.2	87.6	1,573.7	0.0	0.0
20.00		85.3	1,245.8					0.0	294.2	85.3	1,540.1	0.0	0.0
25.00		83.0	1,212.2					0.0	294.2	83.0	1,506.4	0.0	0.0
30.00		81.7	1,178.6					0.0	294.2	81.7	1,472.8	0.0	0.0
35.00		81.9	1,144.9					0.0	294.2	81.9	1,439.2	0.0	0.0
40.00		42.3	1,111.3					0.0	294.2	42.3	1,405.5	0.0	0.0
40.13	Bot - Section 2	42.3	28.4					0.0	7.7	42.3	36.1	0.0	0.0
45.00		48.7	1,988.9					0.0	286.6	48.7	2,275.5	0.0	0.0
45.88	Top - Section 1	42.4	353.0					0.0	51.8	42.4	404.8	0.0	0.0
50.00		77.1	768.9					0.0	242.5	77.1	1,011.3	0.0	0.0
55.00		84.2	906.3					0.0	294.2	84.2	1,200.5	0.0	0.0
60.00		83.5	876.8					0.0	294.2	83.5	1,171.1	0.0	0.0
65.00		82.6	847.4					0.0	294.2	82.6	1,141.7	0.0	0.0
70.00		81.4	818.0					0.0	294.2	81.4	1,112.2	0.0	0.0
75.00		77.4	788.6					0.0	294.2	77.4	1,082.8	0.0	0.0
79.67	Bot - Section 3	39.7	710.4					0.0	275.0	39.7	985.5	0.0	0.0
80.00		26.5	84.3					0.0	19.2	26.5	103.5	0.0	0.0
83.00	Appertunance(s)	34.4	764.2	310.1	0.0	0.0	1,566.0	0.0	176.6	344.5	2,506.8	0.0	0.0
84.34	Top - Section 2	15.7	335.5					0.0	78.9	15.7	414.3	0.0	0.0
85.00		43.9	69.3					0.0	38.8	43.9	108.1	0.0	0.0
90.00		68.9	512.9					0.0	294.2	68.9	807.1	0.0	0.0
94.00	Appertunance(s)	37.7	395.2	531.2	0.0	0.0	2,061.6	0.0	235.4	568.9	2,692.2	0.0	0.0
95.00		44.1	96.7					0.0	37.6	44.1	134.3	0.0	0.0
100.00		65.2	470.8					0.0	187.9	65.2	658.7	0.0	0.0
104.00	Appertunance(s)	35.5	361.5	417.1	0.0	0.0	1,675.4	0.0	150.3	452.6	2,187.3	0.0	0.0
105.00		41.4	88.3					0.0	31.0	41.4	119.3	0.0	0.0
110.00		67.5	428.8					0.0	155.1	67.5	583.9	0.0	0.0
115.00		34.6	407.8					0.0	155.1	34.6	562.9	0.0	0.0
115.22	Bot - Section 4	24.7	17.5					0.0	6.8	24.7	24.3	0.0	0.0
118.80	Top - Section 3	30.9	449.5					0.0	111.2	30.9	560.6	0.0	0.0
120.00	Appertunance(s)	38.6	55.6	2,153.6	0.0	0.0	4,500.0	0.0	37.1	2,192.3	4,592.7	0.0	0.0
125.00		60.6	224.5					0.0	73.4	60.6	297.9	0.0	0.0
130.00	Appertunance(s)	57.8	211.9	1,051.7	0.0	0.0	3,152.6	0.0	73.4	1,109.6	3,437.9	0.0	0.0
135.00		44.4	199.3					0.0	3.3	44.4	202.6	0.0	0.0
138.00	Appertunance(s)	26.7	113.5	83.6	0.0	574.9	125.0	0.0	2.0	110.3	240.5	0.0	0.0
140.00		10.5	73.2					0.0	0.0	10.5	73.2	0.0	0.0
								Totals:		6,706.75	42,915.5	0.00	0.00

Site Number: 411256 Code: ANSI/TIA-222-G

Site Name: CANTON CT, CT Engineering Number:OAA694198_C3_01 2/1/2017 1:42:54 PM

Customer: VERIZON WIRELESS

Load Case: 1.0D + 1.0W Serviceability 60 mph 22 Iterations

Gust Response Factor :1.10 Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load 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	-42.91	-6.67	0.00	-688.19	0.00	688.19	5,907.57	2,953.79	12,233.7	6,125.97	0.00	0.00	0.120
5.00	-41.27	-6.61	0.00	-654.82	0.00	654.82	5,798.22	2,899.11	11,708.2	5,862.84	0.02	-0.04	0.119
10.00	-39.66	-6.54	0.00	-621.78	0.00	621.78	5,660.37	2,830.18	11,137.9	5,577.27	0.08	-0.07	0.118
15.00	-38.08	-6.48	0.00	-589.07	0.00	589.07	5,513.53	2,756.76	10,564.7	5,290.20	0.18	-0.11	0.118
20.00	-36.53	-6.42	0.00	-556.67	0.00	556.67	5,366.68	2,683.34	10,006.5	5,010.72	0.32	-0.15	0.118
25.00	-35.02	-6.35	0.00	-524.59	0.00	524.59	5,219.84	2,609.92	9,463.58	4,738.82	0.50	-0.19	0.117
30.00	-33.55	-6.29	0.00	-492.83	0.00	492.83	5,073.00	2,536.50	8,935.73	4,474.51	0.73	-0.24	0.117
35.00	-32.10	-6.23	0.00	-461.38	0.00	461.38	4,926.16	2,463.08	8,423.04	4,217.78	1.00	-0.28	0.116
40.00	-30.70	-6.19	0.00	-430.24	0.00	430.24	4,779.32	2,389.66	7,925.49	3,968.63	1.31	-0.32	0.115
40.13	-30.66	-6.16	0.00	-429.44	0.00	429.44	4,775.51	2,387.75	7,912.75	3,962.26	1.32	-0.32	0.115
45.00	-28.38	-6.11	0.00	-399.45	0.00	399.45	4,632.48	2,316.24	7,443.09	3,727.08	1.67	-0.37	0.113
45.88	-27.97	-6.07	0.00	-394.08	0.00	394.08	4,127.52	2,063.76	6,764.96	3,387.51	1.74	-0.37	0.123
50.00	-26.96	-6.01	0.00	-369.05	0.00	369.05	4,021.65	2,010.83	6,420.54	3,215.04	2.08	-0.41	0.122
55.00	-25.75	-5.94	0.00	-339.00	0.00	339.00	3,893.17	1,946.58	6,014.64	3,011.79	2.54	-0.46	0.119
60.00	-24.58	-5.87	0.00	-309.30	0.00	309.30	3,764.68	1,882.34	5,621.99	2,815.17	3.04	-0.51	0.116
65.00	-23.43	-5.79	0.00	-279.97	0.00	279.97	3,636.20	1,818.10	5,242.60	2,625.19	3.60	-0.56	0.113
70.00	-22.31	-5.72	0.00	-251.00	0.00	251.00	3,507.71	1,753.86	4,876.46	2,441.85	4.22	-0.61	0.109
75.00	-21.23	-5.65	0.00	-222.40	0.00	222.40	3,379.23	1,689.61	4,523.57	2,265.15	4.88	-0.66	0.104
79.67	-20.24	-5.61	0.00	-196.00	0.00	196.00	3,259.13	1,629.57	4,205.72	2,105.99	5.54	-0.70	0.099
80.00	-20.14	-5.58	0.00	-194.17	0.00	194.17	3,250.74	1,625.37	4,183.94	2,095.08	5.59	-0.70	0.099
83.00	-17.63	-5.21	0.00	-177.42	0.00	177.42	3,173.65	1,586.82	3,986.52	1,996.22	6.04	-0.73	0.094
84.34	-17.22	-5.20	0.00	-170.44	0.00	170.44	2,286.71	1,143.35	2,923.37	1,463.86	6.25	-0.75	0.124
85.00	-17.11	-5.16	0.00	-167.01	0.00	167.01	2,277.67	1,138.84	2,896.31	1,450.31	6.35	-0.75	0.123
90.00	-16.30	-5.10	0.00	-141.21	0.00	141.21	2,193.67	1,096.84	2,676.37	1,340.17	7.17	-0.81	0.113
94.00	-13.61	-4.49	0.00	-120.83	0.00	120.83	2,120.25	1,060.13	2,499.32	1,251.52	7.87	-0.86	0.103
95.00	-13.47	-4.46	0.00	-116.33	0.00	116.33	2,101.90	1,050.95	2,456.00	1,229.83	8.05	-0.87	0.101
100.00	-12.81	-4.39	0.00	-94.06	0.00	94.06	2,010.12	1,005.06	2,245.10	1,124.22	8.99	-0.92	0.090
104.00	-10.63	-3.91	0.00	-76.50	0.00	76.50	1,936.70	968.35	2,083.19	1,043.15	9.78	-0.96	0.079
105.00	-10.51	-3.87	0.00	-72.59	0.00	72.59	1,918.35	959.17	2,043.66	1,023.35	9.98	-0.97	0.076
110.00	-9.93	-3.80	0.00	-53.26	0.00	53.26	1,826.57	913.29	1,851.70	927.22	11.02	-1.01	0.063
115.00	-9.36	-3.75	0.00	-34.28	0.00	34.28	1,734.80	867.40	1,669.20	835.84	12.09	-1.04	0.046
115.22	-9.34	-3.73	0.00	-33.46	0.00	33.46	1,730.76	865.38	1,661.38	831.93	12.14	-1.04	0.046
118.80	-8.78	-3.69	0.00	-20.09	0.00	20.09	956.25	478.12	907.22	454.29	12.93	-1.06	0.053
120.00	-4.23	-1.41	0.00	-15.67	0.00	15.67	947.93	473.97	887.63	444.47	13.19	-1.06	0.040
125.00	-3.93	-1.35	0.00	-8.60	0.00	8.60	912.05	456.02	806.99	404.09	14.31	-1.08	0.026
130.00	-0.51	-0.17	0.00	-1.85	0.00	1.85	874.32	437.16	728.52	364.80	15.45	-1.09	0.006
135.00	-0.31	-0.13	0.00	-0.98	0.00	0.98	834.76	417.38	652.50	326.73	16.60	-1.09	0.003
138.00	-0.07	-0.01	0.00	-0.02	0.00	0.02	809.68	404.84	607.85	304.38	17.29	-1.10	0.000
140.00	0.00	-0.01	0.00	0.00	0.00	0.00	787.66	393.83	575.06	287.96	17.75	-1.10	0.000

Equivalent Lateral Forces Method Analysis

(Based on ASCE7-10 Chapters 11, 12, 15)

Spectral Response Acceleration for Short Period (S_s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a:	1.60
Site Coeffiecient F_v:	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s	0.03
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	2.01
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.75
Total Unfactored Dead Load:	42.92 k
Seismic Base Shear (E):	1.90 k

Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
38	139.00	73	418	0.005	9	91
37	136.50	116	639	0.007	13	143
36	132.50	203	1,063	0.012	22	251
35	127.50	285	1,400	0.015	29	353
34	122.50	298	1,363	0.015	28	369
33	119.40	93	406	0.004	8	115
32	117.01	561	2,366	0.026	49	694
31	115.11	24	100	0.001	2	30
30	112.50	563	2,218	0.024	46	697
29	107.50	584	2,124	0.023	44	723
28	104.50	119	413	0.005	9	148
27	102.00	512	1,698	0.019	35	634
26	97.50	659	2,020	0.022	42	816
25	94.50	134	390	0.004	8	166
24	92.00	631	1,746	0.019	36	781
23	87.50	807	2,047	0.022	42	1,000
22	84.67	108	259	0.003	5	134
21	83.67	414	971	0.011	20	513
20	81.50	941	2,106	0.023	44	1,165
19	79.84	104	224	0.002	5	128
18	77.34	985	2,013	0.022	42	1,220
17	72.50	1,083	1,975	0.022	41	1,341
16	67.50	1,112	1,790	0.020	37	1,377

15	62.50	1,142	1,605	0.018	33	1,414
14	57.50	1,171	1,423	0.016	30	1,450
13	52.50	1,201	1,243	0.014	26	1,487
12	47.94	1,011	893	0.010	19	1,252
11	45.44	405	326	0.004	7	501
10	42.56	2,275	1,632	0.018	34	2,818
9	40.06	36	23	0.000	0	45
8	37.50	1,406	807	0.009	17	1,741
7	32.50	1,439	643	0.007	13	1,782
6	27.50	1,473	491	0.005	10	1,824
5	22.50	1,506	353	0.004	7	1,866
4	17.50	1,540	233	0.003	5	1,907
3	12.50	1,574	132	0.001	3	1,949
2	7.50	1,607	55	0.001	1	1,990
1	2.50	1,641	8	0.000	0	2,032
Stand-Off	138.00	75	423	0.005	9	93
18' Omni	138.00	50	282	0.003	6	62
CCI DTMABP7819VG12A	130.00	115	585	0.006	12	143
Raycap DC6-48-60-0-8	130.00	66	333	0.004	7	81
Ericsson RRUS-11 (50	130.00	300	1,523	0.017	32	372
Ericsson RRUS 32 (50	130.00	152	774	0.008	16	189
KMW AM-X-CD-14-65-00	130.00	36	185	0.002	4	45
Kathrein Scala 800-1	130.00	132	672	0.007	14	164
CSS DUO1417-8686	130.00	61	309	0.003	6	75
Andrew SBNHH-1D65A (	130.00	34	170	0.002	4	41
KMW AM-X-CD-17-65-00	130.00	60	302	0.003	6	74
Andrew SBNH-1D6565C	130.00	61	309	0.003	6	75
CCI HPA-65R-BUU-H8	130.00	136	690	0.008	14	168
Flat Platform w/ Han	130.00	2,000	10,152	0.111	211	2,477
Alcatel-Lucent B13 R	120.00	172	757	0.008	16	213
Alcatel-Lucent PCS B	120.00	165	728	0.008	15	204
Alcatel-Lucent B66 R	120.00	201	887	0.010	18	249
RFS DB-T1-6Z-8AB-0Z	120.00	88	388	0.004	8	109
Antel LPA-80080/4CF_	120.00	24	106	0.001	2	30
Antel LPA-80080/4CF	120.00	24	106	0.001	2	30
Antel LPA-80063/4CF	120.00	40	176	0.002	4	50
Amphenol Antel BXA-7	120.00	51	225	0.002	5	63
Commscope SBNHH-1D65	120.00	304	1,342	0.015	28	377
Flat Platform w/ Han	120.00	2,000	8,823	0.096	183	2,477
VZW Unused Reserve:	120.00	1,431	6,314	0.069	131	1,772
Kathrein Smart Bias	104.00	7	23	0.000	0	8
Ericsson KRY 112 489	104.00	31	106	0.001	2	38
RFS APXV18-209014-C	104.00	37	128	0.001	3	46
Commscope LNX-6515DS	104.00	101	345	0.004	7	125
Flat Low Profile Pla	104.00	1,500	5,149	0.056	107	1,858
PCTEL GPS-TMG-HR-26N	94.00	1	2	0.000	0	1
Alcatel-Lucent 800 M	94.00	159	457	0.005	9	197
Alcatel-Lucent 1900	94.00	180	518	0.006	11	223
Andrew DB980F65E-M	94.00	51	147	0.002	3	63
RFS APXVSPP18-C-A20	94.00	171	492	0.005	10	212
Flat Low Profile Pla	94.00	1,500	4,313	0.047	90	1,858
Kathrein Scala 742 2	83.00	66	153	0.002	3	82
Flat Low Profile Pla	83.00	1,500	3,468	0.038	72	1,858
		42,916	91,475	1.000	1,899	53,147

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
38	139.00	73	418	0.005	9	63

37	136.50	116	639	0.007	13	100
36	132.50	203	1,063	0.012	22	175
35	127.50	285	1,400	0.015	29	246
34	122.50	298	1,363	0.015	28	257
33	119.40	93	406	0.004	8	80
32	117.01	561	2,366	0.026	49	483
31	115.11	24	100	0.001	2	21
30	112.50	563	2,218	0.024	46	485
29	107.50	584	2,124	0.023	44	503
28	104.50	119	413	0.005	9	103
27	102.00	512	1,698	0.019	35	441
26	97.50	659	2,020	0.022	42	568
25	94.50	134	390	0.004	8	116
24	92.00	631	1,746	0.019	36	543
23	87.50	807	2,047	0.022	42	695
22	84.67	108	259	0.003	5	93
21	83.67	414	971	0.011	20	357
20	81.50	941	2,106	0.023	44	811
19	79.84	104	224	0.002	5	89
18	77.34	985	2,013	0.022	42	849
17	72.50	1,083	1,975	0.022	41	933
16	67.50	1,112	1,790	0.020	37	958
15	62.50	1,142	1,605	0.018	33	984
14	57.50	1,171	1,423	0.016	30	1,009
13	52.50	1,201	1,243	0.014	26	1,034
12	47.94	1,011	893	0.010	19	871
11	45.44	405	326	0.004	7	349
10	42.56	2,275	1,632	0.018	34	1,961
9	40.06	36	23	0.000	0	31
8	37.50	1,406	807	0.009	17	1,211
7	32.50	1,439	643	0.007	13	1,240
6	27.50	1,473	491	0.005	10	1,269
5	22.50	1,506	353	0.004	7	1,298
4	17.50	1,540	233	0.003	5	1,327
3	12.50	1,574	132	0.001	3	1,356
2	7.50	1,607	55	0.001	1	1,385
1	2.50	1,641	8	0.000	0	1,414
Stand-Off	138.00	75	423	0.005	9	65
18' Omni	138.00	50	282	0.003	6	43
CCI DTMABP7819VG12A	130.00	115	585	0.006	12	99
Raycap DC6-48-60-0-8	130.00	66	333	0.004	7	57
Ericsson RRUS-11 (50	130.00	300	1,523	0.017	32	258
Ericsson RRUS 32 (50	130.00	152	774	0.008	16	131
KMW AM-X-CD-14-65-00	130.00	36	185	0.002	4	31
Kathrein Scala 800-1	130.00	132	672	0.007	14	114
CSS DUO1417-8686	130.00	61	309	0.003	6	52
Andrew SBNHH-1D65A (	130.00	34	170	0.002	4	29
KMW AM-X-CD-17-65-00	130.00	60	302	0.003	6	51
Andrew SBNH-1D6565C	130.00	61	309	0.003	6	52
CCI HPA-65R-BUU-H8	130.00	136	690	0.008	14	117
Flat Platform w/ Han	130.00	2,000	10,152	0.111	211	1,723
Alcatel-Lucent B13 R	120.00	172	757	0.008	16	148
Alcatel-Lucent PCS B	120.00	165	728	0.008	15	142
Alcatel-Lucent B66 R	120.00	201	887	0.010	18	173
RFS DB-T1-6Z-8AB-0Z	120.00	88	388	0.004	8	76
Antel LPA-80080/4CF_	120.00	24	106	0.001	2	21
Antel LPA-80080/4CF	120.00	24	106	0.001	2	21
Antel LPA-80063/4CF	120.00	40	176	0.002	4	34
Amphenol Antel BXA-7	120.00	51	225	0.002	5	44
Commscope SBNHH-1D65	120.00	304	1,342	0.015	28	262
Flat Platform w/ Han	120.00	2,000	8,823	0.096	183	1,723
VZW Unused Reserve:	120.00	1,431	6,314	0.069	131	1,233
Kathrein Smart Bias	104.00	7	23	0.000	0	6
Ericsson KRY 112 489	104.00	31	106	0.001	2	27

RFS APXV18-209014-C	104.00	37	128	0.001	3	32
Commscope LNX-6515DS	104.00	101	345	0.004	7	87
Flat Low Profile Pla	104.00	1,500	5,149	0.056	107	1,292
PCTEL GPS-TMG-HR-26N	94.00	1	2	0.000	0	1
Alcatel-Lucent 800 M	94.00	159	457	0.005	9	137
Alcatel-Lucent 1900	94.00	180	518	0.006	11	155
Andrew DB980F65E-M	94.00	51	147	0.002	3	44
RFS APXVSPP18-C-A20	94.00	171	492	0.005	10	147
Flat Low Profile Pla	94.00	1,500	4,313	0.047	90	1,292
Kathrein Scala 742 2	83.00	66	153	0.002	3	57
Flat Low Profile Pla	83.00	1,500	3,468	0.038	72	1,292
		42,916	91,475	1.000	1,899	36,976

Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

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	-51.11	-1.90	0.00	-201.09	0.00	201.09	5,907.57	2,953.79	12,233.7	6,125.97	0.00	0.00	0.041
5.00	-49.12	-1.91	0.00	-191.57	0.00	191.57	5,798.22	2,899.11	11,708.2	5,862.84	0.01	-0.01	0.041
10.00	-47.17	-1.92	0.00	-182.02	0.00	182.02	5,660.37	2,830.18	11,137.9	5,577.27	0.02	-0.02	0.041
15.00	-45.27	-1.92	0.00	-172.43	0.00	172.43	5,513.53	2,756.76	10,564.7	5,290.20	0.05	-0.03	0.041
20.00	-43.40	-1.92	0.00	-162.83	0.00	162.83	5,366.68	2,683.34	10,006.5	5,010.72	0.09	-0.04	0.041
25.00	-41.58	-1.92	0.00	-153.23	0.00	153.23	5,219.84	2,609.92	9,463.58	4,738.82	0.15	-0.06	0.040
30.00	-39.79	-1.91	0.00	-143.64	0.00	143.64	5,073.00	2,536.50	8,935.73	4,474.51	0.21	-0.07	0.040
35.00	-38.05	-1.90	0.00	-134.09	0.00	134.09	4,926.16	2,463.08	8,423.04	4,217.78	0.29	-0.08	0.040
40.00	-38.01	-1.90	0.00	-124.59	0.00	124.59	4,779.32	2,389.66	7,925.49	3,968.63	0.38	-0.09	0.039
40.13	-35.19	-1.87	0.00	-124.34	0.00	124.34	4,775.51	2,387.75	7,912.75	3,962.26	0.39	-0.09	0.039
45.00	-34.69	-1.87	0.00	-115.24	0.00	115.24	4,632.48	2,316.24	7,443.09	3,727.08	0.49	-0.11	0.038
45.88	-33.44	-1.85	0.00	-113.59	0.00	113.59	4,127.52	2,063.76	6,764.96	3,387.51	0.51	-0.11	0.042
50.00	-31.95	-1.83	0.00	-105.98	0.00	105.98	4,021.65	2,010.83	6,420.54	3,215.04	0.61	-0.12	0.041
55.00	-30.50	-1.80	0.00	-96.84	0.00	96.84	3,893.17	1,946.58	6,014.64	3,011.79	0.74	-0.13	0.040
60.00	-29.08	-1.77	0.00	-87.83	0.00	87.83	3,764.68	1,882.34	5,621.99	2,815.17	0.89	-0.15	0.039
65.00	-27.71	-1.74	0.00	-78.97	0.00	78.97	3,636.20	1,818.10	5,242.60	2,625.19	1.05	-0.16	0.038
70.00	-26.36	-1.70	0.00	-70.28	0.00	70.28	3,507.71	1,753.86	4,876.46	2,441.85	1.23	-0.18	0.036
75.00	-25.14	-1.66	0.00	-61.79	0.00	61.79	3,379.23	1,689.61	4,523.57	2,265.15	1.42	-0.19	0.035
79.67	-25.02	-1.66	0.00	-54.03	0.00	54.03	3,259.13	1,629.57	4,205.72	2,105.99	1.61	-0.20	0.033
80.00	-23.85	-1.61	0.00	-53.49	0.00	53.49	3,250.74	1,625.37	4,183.94	2,095.08	1.62	-0.20	0.033
83.00	-21.40	-1.51	0.00	-48.66	0.00	48.66	3,173.65	1,586.82	3,986.52	1,996.22	1.75	-0.21	0.031
84.34	-21.26	-1.50	0.00	-46.63	0.00	46.63	2,286.71	1,143.35	2,923.37	1,463.86	1.81	-0.21	0.041
85.00	-20.26	-1.46	0.00	-45.64	0.00	45.64	2,277.67	1,138.84	2,896.31	1,450.31	1.84	-0.22	0.040
90.00	-19.48	-1.43	0.00	-38.33	0.00	38.33	2,193.67	1,096.84	2,676.37	1,340.17	2.08	-0.23	0.037
94.00	-16.76	-1.29	0.00	-32.63	0.00	32.63	2,120.25	1,060.13	2,499.32	1,251.52	2.28	-0.24	0.034
95.00	-15.95	-1.24	0.00	-31.34	0.00	31.34	2,101.90	1,050.95	2,456.00	1,229.83	2.33	-0.25	0.033
100.00	-15.32	-1.21	0.00	-25.12	0.00	25.12	2,010.12	1,005.06	2,245.10	1,124.22	2.59	-0.26	0.030
104.00	-13.09	-1.07	0.00	-20.29	0.00	20.29	1,936.70	968.35	2,083.19	1,043.15	2.82	-0.27	0.026
105.00	-12.37	-1.03	0.00	-19.22	0.00	19.22	1,918.35	959.17	2,043.66	1,023.35	2.87	-0.27	0.025
110.00	-11.67	-0.98	0.00	-14.09	0.00	14.09	1,826.57	913.29	1,851.70	927.22	3.17	-0.28	0.022
115.00	-11.64	-0.98	0.00	-9.19	0.00	9.19	1,734.80	867.40	1,669.20	835.84	3.47	-0.29	0.018
115.22	-10.95	-0.92	0.00	-8.98	0.00	8.98	1,730.76	865.38	1,661.38	831.93	3.48	-0.29	0.017
118.80	-10.83	-0.92	0.00	-5.67	0.00	5.67	956.25	478.12	907.22	454.29	3.70	-0.30	0.024
120.00	-4.89	-0.45	0.00	-4.57	0.00	4.57	947.93	473.97	887.63	444.47	3.78	-0.30	0.015
125.00	-4.54	-0.41	0.00	-2.34	0.00	2.34	912.05	456.02	806.99	404.09	4.09	-0.30	0.011
130.00	-0.39	-0.04	0.00	-0.27	0.00	0.27	874.32	437.16	728.52	364.80	4.41	-0.31	0.001
135.00	-0.25	-0.02	0.00	-0.07	0.00	0.07	834.76	417.38	652.50	326.73	4.74	-0.31	0.001
138.00	0.00	0.00	0.00	0.00	0.00	0.00	809.68	404.84	607.85	304.38	4.93	-0.31	0.000
140.00	0.00	0.00	0.00	0.00	0.00	0.00	787.66	393.83	575.06	287.96	5.06	-0.31	0.000

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

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	-35.56	-1.90	0.00	-198.76	0.00	198.76	5,907.57	2,953.79	12,233.7	6,125.97	0.00	0.00	0.038
5.00	-34.18	-1.91	0.00	-189.25	0.00	189.25	5,798.22	2,899.11	11,708.2	5,862.84	0.01	-0.01	0.038
10.00	-32.82	-1.91	0.00	-179.72	0.00	179.72	5,660.37	2,830.18	11,137.9	5,577.27	0.02	-0.02	0.038
15.00	-31.49	-1.91	0.00	-170.17	0.00	170.17	5,513.53	2,756.76	10,564.7	5,290.20	0.05	-0.03	0.038
20.00	-30.19	-1.91	0.00	-160.62	0.00	160.62	5,366.68	2,683.34	10,006.5	5,010.72	0.09	-0.04	0.038
25.00	-28.93	-1.90	0.00	-151.07	0.00	151.07	5,219.84	2,609.92	9,463.58	4,738.82	0.14	-0.06	0.037
30.00	-27.69	-1.89	0.00	-141.56	0.00	141.56	5,073.00	2,536.50	8,935.73	4,474.51	0.21	-0.07	0.037
35.00	-26.47	-1.88	0.00	-132.09	0.00	132.09	4,926.16	2,463.08	8,423.04	4,217.78	0.29	-0.08	0.037
40.00	-26.44	-1.88	0.00	-122.68	0.00	122.68	4,779.32	2,389.66	7,925.49	3,968.63	0.38	-0.09	0.036
40.13	-24.48	-1.85	0.00	-122.43	0.00	122.43	4,775.51	2,387.75	7,912.75	3,962.26	0.38	-0.09	0.036
45.00	-24.13	-1.85	0.00	-113.42	0.00	113.42	4,632.48	2,316.24	7,443.09	3,727.08	0.48	-0.11	0.036
45.88	-23.26	-1.83	0.00	-111.80	0.00	111.80	4,127.52	2,063.76	6,764.96	3,387.51	0.50	-0.11	0.039
50.00	-22.23	-1.80	0.00	-104.27	0.00	104.27	4,021.65	2,010.83	6,420.54	3,215.04	0.60	-0.12	0.038
55.00	-21.22	-1.78	0.00	-95.24	0.00	95.24	3,893.17	1,946.58	6,014.64	3,011.79	0.73	-0.13	0.037
60.00	-20.23	-1.75	0.00	-86.35	0.00	86.35	3,764.68	1,882.34	5,621.99	2,815.17	0.88	-0.15	0.036
65.00	-19.27	-1.71	0.00	-77.61	0.00	77.61	3,636.20	1,818.10	5,242.60	2,625.19	1.04	-0.16	0.035
70.00	-18.34	-1.67	0.00	-69.05	0.00	69.05	3,507.71	1,753.86	4,876.46	2,441.85	1.21	-0.17	0.034
75.00	-17.49	-1.63	0.00	-60.69	0.00	60.69	3,379.23	1,689.61	4,523.57	2,265.15	1.40	-0.19	0.032
79.67	-17.40	-1.63	0.00	-53.06	0.00	53.06	3,259.13	1,629.57	4,205.72	2,105.99	1.59	-0.20	0.031
80.00	-16.59	-1.58	0.00	-52.53	0.00	52.53	3,250.74	1,625.37	4,183.94	2,095.08	1.60	-0.20	0.030
83.00	-14.89	-1.48	0.00	-47.78	0.00	47.78	3,173.65	1,586.82	3,986.52	1,996.22	1.73	-0.21	0.029
84.34	-14.79	-1.48	0.00	-45.79	0.00	45.79	2,286.71	1,143.35	2,923.37	1,463.86	1.79	-0.21	0.038
85.00	-14.10	-1.44	0.00	-44.81	0.00	44.81	2,277.67	1,138.84	2,896.31	1,450.31	1.82	-0.21	0.037
90.00	-13.55	-1.40	0.00	-37.63	0.00	37.63	2,193.67	1,096.84	2,676.37	1,340.17	2.05	-0.23	0.034
94.00	-11.66	-1.26	0.00	-32.02	0.00	32.02	2,120.25	1,060.13	2,499.32	1,251.52	2.24	-0.24	0.031
95.00	-11.09	-1.22	0.00	-30.76	0.00	30.76	2,101.90	1,050.95	2,456.00	1,229.83	2.29	-0.24	0.030
100.00	-10.65	-1.19	0.00	-24.65	0.00	24.65	2,010.12	1,005.06	2,245.10	1,124.22	2.56	-0.26	0.027
104.00	-9.11	-1.05	0.00	-19.91	0.00	19.91	1,936.70	968.35	2,083.19	1,043.15	2.77	-0.27	0.024
105.00	-8.60	-1.01	0.00	-18.86	0.00	18.86	1,918.35	959.17	2,043.66	1,023.35	2.83	-0.27	0.023
110.00	-8.12	-0.96	0.00	-13.82	0.00	13.82	1,826.57	913.29	1,851.70	927.22	3.12	-0.28	0.019
115.00	-8.10	-0.96	0.00	-9.02	0.00	9.02	1,734.80	867.40	1,669.20	835.84	3.42	-0.29	0.015
115.22	-7.62	-0.91	0.00	-8.81	0.00	8.81	1,730.76	865.38	1,661.38	831.93	3.43	-0.29	0.015
118.80	-7.54	-0.90	0.00	-5.56	0.00	5.56	956.25	478.12	907.22	454.29	3.65	-0.29	0.020
120.00	-3.40	-0.44	0.00	-4.48	0.00	4.48	947.93	473.97	887.63	444.47	3.72	-0.29	0.014
125.00	-3.16	-0.41	0.00	-2.30	0.00	2.30	912.05	456.02	806.99	404.09	4.03	-0.30	0.009
130.00	-0.27	-0.04	0.00	-0.26	0.00	0.26	874.32	437.16	728.52	364.80	4.35	-0.30	0.001
135.00	-0.17	-0.02	0.00	-0.07	0.00	0.07	834.76	417.38	652.50	326.73	4.66	-0.30	0.000
138.00	0.00	0.00	0.00	0.00	0.00	0.00	809.68	404.84	607.85	304.38	4.85	-0.30	0.000
140.00	0.00	0.00	0.00	0.00	0.00	0.00	787.66	393.83	575.06	287.96	4.98	-0.30	0.000

Equivalent Modal Forces Analysis

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_E):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	2.01
Redundancy Factor (p):	1.30

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
38	139.00	73	1.863	1.841	1.090	0.352	22	91
37	136.50	116	1.797	1.523	0.972	0.310	31	143
36	132.50	203	1.693	1.096	0.804	0.250	44	251
35	127.50	285	1.568	0.682	0.627	0.182	45	353
34	122.50	298	1.447	0.379	0.482	0.124	32	369
33	119.40	93	1.375	0.238	0.406	0.093	7	115
32	117.01	561	1.320	0.150	0.354	0.072	35	694
31	115.11	24	1.278	0.091	0.317	0.056	1	30
30	112.50	563	1.220	0.025	0.270	0.037	18	697
29	107.50	584	1.114	-0.061	0.196	0.006	3	723
28	104.50	119	1.053	-0.093	0.159	-0.007	-1	148
27	102.00	512	1.003	-0.109	0.133	-0.016	-7	634
26	97.50	659	0.917	-0.121	0.094	-0.027	-15	816
25	94.50	134	0.861	-0.120	0.073	-0.030	-3	166
24	92.00	631	0.816	-0.115	0.059	-0.030	-17	781
23	87.50	807	0.738	-0.098	0.038	-0.027	-19	1,000
22	84.67	108	0.691	-0.084	0.028	-0.022	-2	134
21	83.67	414	0.675	-0.079	0.025	-0.019	-7	513
20	81.50	941	0.641	-0.067	0.020	-0.014	-11	1,165
19	79.84	104	0.615	-0.058	0.016	-0.010	-1	128
18	77.34	985	0.577	-0.044	0.012	-0.002	-2	1,220
17	72.50	1,083	0.507	-0.019	0.007	0.012	11	1,341
16	67.50	1,112	0.439	0.005	0.006	0.025	24	1,377
15	62.50	1,142	0.377	0.025	0.007	0.036	35	1,414
14	57.50	1,171	0.319	0.041	0.011	0.043	43	1,450
13	52.50	1,201	0.266	0.052	0.015	0.047	48	1,487
12	47.94	1,011	0.222	0.060	0.020	0.048	42	1,252
11	45.44	405	0.199	0.063	0.023	0.048	17	501
10	42.56	2,275	0.175	0.066	0.027	0.048	95	2,818
9	40.06	36	0.155	0.067	0.029	0.048	1	45
8	37.50	1,406	0.136	0.069	0.032	0.047	57	1,741
7	32.50	1,439	0.102	0.071	0.037	0.046	57	1,782
6	27.50	1,473	0.073	0.072	0.040	0.044	57	1,824
5	22.50	1,506	0.049	0.071	0.042	0.043	56	1,866

4	17.50	1,540	0.030	0.068	0.040	0.040	54	1,907
3	12.50	1,574	0.015	0.061	0.036	0.036	50	1,949
2	7.50	1,607	0.005	0.046	0.026	0.029	40	1,990
1	2.50	1,641	0.001	0.019	0.010	0.013	19	2,032
Stand-Off	138.00	75	1.836	1.709	1.041	0.335	22	93
18' Omni	138.00	50	1.836	1.709	1.041	0.335	15	62
CCI DTMABP7819VG12A	130.00	115	1.630	0.873	0.711	0.215	21	143
Raycap DC6-48-60-0-8	130.00	66	1.630	0.873	0.711	0.215	12	81
Ericsson RRUS-11 (50	130.00	300	1.630	0.873	0.711	0.215	56	372
Ericsson RRUS 32 (50	130.00	152	1.630	0.873	0.711	0.215	28	189
KMW AM-X-CD-14-65-00	130.00	36	1.630	0.873	0.711	0.215	7	45
Kathrein Scala 800-1	130.00	132	1.630	0.873	0.711	0.215	25	164
CSS DUO1417-8686	130.00	61	1.630	0.873	0.711	0.215	11	75
Andrew SBNHH-1D65A (	130.00	34	1.630	0.873	0.711	0.215	6	41
KMW AM-X-CD-17-65-00	130.00	60	1.630	0.873	0.711	0.215	11	74
Andrew SBNH-1D6565C	130.00	61	1.630	0.873	0.711	0.215	11	75
CCI HPA-65R-BUU-H8	130.00	136	1.630	0.873	0.711	0.215	25	168
Flat Platform w/ Han	130.00	2,000	1.630	0.873	0.711	0.215	372	2,477
Alcatel-Lucent B13 R	120.00	172	1.389	0.263	0.420	0.099	15	213
Alcatel-Lucent PCS B	120.00	165	1.389	0.263	0.420	0.099	14	204
Alcatel-Lucent B66 R	120.00	201	1.389	0.263	0.420	0.099	17	249
RFS DB-T1-6Z-8AB-0Z	120.00	88	1.389	0.263	0.420	0.099	8	109
Antel LPA-80080/4CF_	120.00	24	1.389	0.263	0.420	0.099	2	30
Antel LPA-80080/4CF	120.00	24	1.389	0.263	0.420	0.099	2	30
Antel LPA-80063/4CF	120.00	40	1.389	0.263	0.420	0.099	3	50
Amphenol Antel BXA-7	120.00	51	1.389	0.263	0.420	0.099	4	63
Commscope SBNHH-	120.00	304	1.389	0.263	0.420	0.099	26	377
Flat Platform w/ Han	120.00	2,000	1.389	0.263	0.420	0.099	171	2,477
VZW Unused Reserve:	120.00	1,431	1.389	0.263	0.420	0.099	123	1,772
Kathrein Smart Bias	104.00	7	1.043	-0.097	0.154	-0.009	0	8
Ericsson KRY 112 489	104.00	31	1.043	-0.097	0.154	-0.009	0	38
RFS APXV18-209014-C	104.00	37	1.043	-0.097	0.154	-0.009	0	46
Commscope LNX-	104.00	101	1.043	-0.097	0.154	-0.009	-1	125
Flat Low Profile Pla	104.00	1,500	1.043	-0.097	0.154	-0.009	-12	1,858
PCTEL GPS-TMG-HR-	94.00	1	0.852	-0.119	0.070	-0.030	0	1
Alcatel-Lucent 800 M	94.00	159	0.852	-0.119	0.070	-0.030	-4	197
Alcatel-Lucent 1900	94.00	180	0.852	-0.119	0.070	-0.030	-5	223
Andrew DB980F65E-M	94.00	51	0.852	-0.119	0.070	-0.030	-1	63
RFS APXVSPP18-C-A20	94.00	171	0.852	-0.119	0.070	-0.030	-4	212
Flat Low Profile Pla	94.00	1,500	0.852	-0.119	0.070	-0.030	-39	1,858
Kathrein Scala 742 2	83.00	66	0.664	-0.075	0.023	-0.018	-1	82
Flat Low Profile Pla	83.00	1,500	0.664	-0.075	0.023	-0.018	-23	1,858
		42,916	76.488	21.245	23.056	5.998	1,776	53,147

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
38	139.00	73	1.863	1.841	1.090	0.352	22	63
37	136.50	116	1.797	1.523	0.972	0.310	31	100
36	132.50	203	1.693	1.096	0.804	0.250	44	175
35	127.50	285	1.568	0.682	0.627	0.182	45	246
34	122.50	298	1.447	0.379	0.482	0.124	32	257
33	119.40	93	1.375	0.238	0.406	0.093	7	80
32	117.01	561	1.320	0.150	0.354	0.072	35	483
31	115.11	24	1.278	0.091	0.317	0.056	1	21
30	112.50	563	1.220	0.025	0.270	0.037	18	485
29	107.50	584	1.114	-0.061	0.196	0.006	3	503
28	104.50	119	1.053	-0.093	0.159	-0.007	-1	103

27	102.00	512	1.003	-0.109	0.133	-0.016	-7	441
26	97.50	659	0.917	-0.121	0.094	-0.027	-15	568
25	94.50	134	0.861	-0.120	0.073	-0.030	-3	116
24	92.00	631	0.816	-0.115	0.059	-0.030	-17	543
23	87.50	807	0.738	-0.098	0.038	-0.027	-19	695
22	84.67	108	0.691	-0.084	0.028	-0.022	-2	93
21	83.67	414	0.675	-0.079	0.025	-0.019	-7	357
20	81.50	941	0.641	-0.067	0.020	-0.014	-11	811
19	79.84	104	0.615	-0.058	0.016	-0.010	-1	89
18	77.34	985	0.577	-0.044	0.012	-0.002	-2	849
17	72.50	1,083	0.507	-0.019	0.007	0.012	11	933
16	67.50	1,112	0.439	0.005	0.006	0.025	24	958
15	62.50	1,142	0.377	0.025	0.007	0.036	35	984
14	57.50	1,171	0.319	0.041	0.011	0.043	43	1,009
13	52.50	1,201	0.266	0.052	0.015	0.047	48	1,034
12	47.94	1,011	0.222	0.060	0.020	0.048	42	871
11	45.44	405	0.199	0.063	0.023	0.048	17	349
10	42.56	2,275	0.175	0.066	0.027	0.048	95	1,961
9	40.06	36	0.155	0.067	0.029	0.048	1	31
8	37.50	1,406	0.136	0.069	0.032	0.047	57	1,211
7	32.50	1,439	0.102	0.071	0.037	0.046	57	1,240
6	27.50	1,473	0.073	0.072	0.040	0.044	57	1,269
5	22.50	1,506	0.049	0.071	0.042	0.043	56	1,298
4	17.50	1,540	0.030	0.068	0.040	0.040	54	1,327
3	12.50	1,574	0.015	0.061	0.036	0.036	50	1,356
2	7.50	1,607	0.005	0.046	0.026	0.029	40	1,385
1	2.50	1,641	0.001	0.019	0.010	0.013	19	1,414
Stand-Off	138.00	75	1.836	1.709	1.041	0.335	22	65
18' Omni	138.00	50	1.836	1.709	1.041	0.335	15	43
CCI DTMABP7819VG12A	130.00	115	1.630	0.873	0.711	0.215	21	99
Raycap DC6-48-60-0-8	130.00	66	1.630	0.873	0.711	0.215	12	57
Ericsson RRUS-11 (50	130.00	300	1.630	0.873	0.711	0.215	56	258
Ericsson RRUS 32 (50	130.00	152	1.630	0.873	0.711	0.215	28	131
KMW AM-X-CD-14-65-00	130.00	36	1.630	0.873	0.711	0.215	7	31
Kathrein Scala 800-1	130.00	132	1.630	0.873	0.711	0.215	25	114
CSS DUO1417-8686	130.00	61	1.630	0.873	0.711	0.215	11	52
Andrew SBNHH-1D65A (	130.00	34	1.630	0.873	0.711	0.215	6	29
KMW AM-X-CD-17-65-00	130.00	60	1.630	0.873	0.711	0.215	11	51
Andrew SBNH-1D6565C	130.00	61	1.630	0.873	0.711	0.215	11	52
CCI HPA-65R-BUU-H8	130.00	136	1.630	0.873	0.711	0.215	25	117
Flat Platform w/ Han	130.00	2,000	1.630	0.873	0.711	0.215	372	1,723
Alcatel-Lucent B13 R	120.00	172	1.389	0.263	0.420	0.099	15	148
Alcatel-Lucent PCS B	120.00	165	1.389	0.263	0.420	0.099	14	142
Alcatel-Lucent B66 R	120.00	201	1.389	0.263	0.420	0.099	17	173
RFS DB-T1-6Z-8AB-0Z	120.00	88	1.389	0.263	0.420	0.099	8	76
Antel LPA-80080/4CF_	120.00	24	1.389	0.263	0.420	0.099	2	21
Antel LPA-80080/4CF	120.00	24	1.389	0.263	0.420	0.099	2	21
Antel LPA-80063/4CF	120.00	40	1.389	0.263	0.420	0.099	3	34
Amphenol Antel BXA-7	120.00	51	1.389	0.263	0.420	0.099	4	44
Commscope SBNHH-	120.00	304	1.389	0.263	0.420	0.099	26	262
Flat Platform w/ Han	120.00	2,000	1.389	0.263	0.420	0.099	171	1,723
VZW Unused Reserve:	120.00	1,431	1.389	0.263	0.420	0.099	123	1,233
Kathrein Smart Bias	104.00	7	1.043	-0.097	0.154	-0.009	0	6
Ericsson KRY 112 489	104.00	31	1.043	-0.097	0.154	-0.009	0	27
RFS APXV18-209014-C	104.00	37	1.043	-0.097	0.154	-0.009	0	32
Commscope LNX-	104.00	101	1.043	-0.097	0.154	-0.009	-1	87
Flat Low Profile Pla	104.00	1,500	1.043	-0.097	0.154	-0.009	-12	1,292
PCTEL GPS-TMG-HR-	94.00	1	0.852	-0.119	0.070	-0.030	0	1
Alcatel-Lucent 800 M	94.00	159	0.852	-0.119	0.070	-0.030	-4	137
Alcatel-Lucent 1900	94.00	180	0.852	-0.119	0.070	-0.030	-5	155
Andrew DB980F65E-M	94.00	51	0.852	-0.119	0.070	-0.030	-1	44
RFS APXVSPP18-C-A20	94.00	171	0.852	-0.119	0.070	-0.030	-4	147
Flat Low Profile Pla	94.00	1,500	0.852	-0.119	0.070	-0.030	-39	1,292
Kathrein Scala 742 2	83.00	66	0.664	-0.075	0.023	-0.018	-1	57

Flat Low Profile Pla	83.00	1,500	0.664	-0.075	0.023	-0.018	-23	1,292
		42,916	76.488	21.245	23.056	5.998	1,776	36,976

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

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	-51.11	-1.76	0.00	-171.50	0.00	171.50	5,907.57	2,953.79	12,233.7	6,125.97	0.00	0.00	0.037
5.00	-49.12	-1.73	0.00	-162.70	0.00	162.70	5,798.22	2,899.11	11,708.2	5,862.84	0.00	-0.01	0.036
10.00	-47.17	-1.69	0.00	-154.05	0.00	154.05	5,660.37	2,830.18	11,137.9	5,577.27	0.02	-0.02	0.036
15.00	-45.27	-1.64	0.00	-145.62	0.00	145.62	5,513.53	2,756.76	10,564.7	5,290.20	0.04	-0.03	0.036
20.00	-43.40	-1.59	0.00	-137.42	0.00	137.42	5,366.68	2,683.34	10,006.5	5,010.72	0.08	-0.04	0.036
25.00	-41.58	-1.54	0.00	-129.46	0.00	129.46	5,219.84	2,609.92	9,463.58	4,738.82	0.12	-0.05	0.035
30.00	-39.79	-1.49	0.00	-121.76	0.00	121.76	5,073.00	2,536.50	8,935.73	4,474.51	0.18	-0.06	0.035
35.00	-38.05	-1.44	0.00	-114.32	0.00	114.32	4,926.16	2,463.08	8,423.04	4,217.78	0.25	-0.07	0.035
40.00	-38.01	-1.44	0.00	-107.14	0.00	107.14	4,779.32	2,389.66	7,925.49	3,968.63	0.32	-0.08	0.035
40.13	-35.19	-1.34	0.00	-106.95	0.00	106.95	4,775.51	2,387.75	7,912.75	3,962.26	0.33	-0.08	0.034
45.00	-34.69	-1.33	0.00	-100.41	0.00	100.41	4,632.48	2,316.24	7,443.09	3,727.08	0.41	-0.09	0.034
45.88	-33.44	-1.29	0.00	-99.24	0.00	99.24	4,127.52	2,063.76	6,764.96	3,387.51	0.43	-0.09	0.037
50.00	-31.95	-1.24	0.00	-93.93	0.00	93.93	4,021.65	2,010.83	6,420.54	3,215.04	0.52	-0.10	0.037
55.00	-30.50	-1.20	0.00	-87.71	0.00	87.71	3,893.17	1,946.58	6,014.64	3,011.79	0.63	-0.11	0.037
60.00	-29.09	-1.17	0.00	-81.68	0.00	81.68	3,764.68	1,882.34	5,621.99	2,815.17	0.76	-0.13	0.037
65.00	-27.71	-1.15	0.00	-75.82	0.00	75.82	3,636.20	1,818.10	5,242.60	2,625.19	0.90	-0.14	0.037
70.00	-26.37	-1.14	0.00	-70.06	0.00	70.06	3,507.71	1,753.86	4,876.46	2,441.85	1.05	-0.15	0.036
75.00	-25.15	-1.15	0.00	-64.34	0.00	64.34	3,379.23	1,689.61	4,523.57	2,265.15	1.22	-0.17	0.036
79.67	-25.02	-1.15	0.00	-58.97	0.00	58.97	3,259.13	1,629.57	4,205.72	2,105.99	1.39	-0.18	0.036
80.00	-23.85	-1.16	0.00	-58.60	0.00	58.60	3,250.74	1,625.37	4,183.94	2,095.08	1.40	-0.18	0.035
83.00	-21.40	-1.19	0.00	-55.11	0.00	55.11	3,173.65	1,586.82	3,986.52	1,996.22	1.52	-0.19	0.034
84.34	-21.27	-1.19	0.00	-53.52	0.00	53.52	2,286.71	1,143.35	2,923.37	1,463.86	1.57	-0.20	0.046
85.00	-20.27	-1.21	0.00	-52.74	0.00	52.74	2,277.67	1,138.84	2,896.31	1,450.31	1.60	-0.20	0.045
90.00	-19.48	-1.23	0.00	-46.69	0.00	46.69	2,193.67	1,096.84	2,676.37	1,340.17	1.82	-0.22	0.044
94.00	-16.77	-1.28	0.00	-41.78	0.00	41.78	2,120.25	1,060.13	2,499.32	1,251.52	2.01	-0.23	0.041
95.00	-15.95	-1.29	0.00	-40.50	0.00	40.50	2,101.90	1,050.95	2,456.00	1,229.83	2.06	-0.24	0.041
100.00	-15.31	-1.30	0.00	-34.03	0.00	34.03	2,010.12	1,005.06	2,245.10	1,124.22	2.31	-0.25	0.038
104.00	-13.09	-1.31	0.00	-28.82	0.00	28.82	1,936.70	968.35	2,083.19	1,043.15	2.53	-0.27	0.034
105.00	-12.37	-1.30	0.00	-27.51	0.00	27.51	1,918.35	959.17	2,043.66	1,023.35	2.59	-0.27	0.033
110.00	-11.67	-1.29	0.00	-20.99	0.00	20.99	1,826.57	913.29	1,851.70	927.22	2.88	-0.29	0.029
115.00	-11.64	-1.29	0.00	-14.56	0.00	14.56	1,734.80	867.40	1,669.20	835.84	3.19	-0.30	0.024
115.22	-10.95	-1.25	0.00	-14.28	0.00	14.28	1,730.76	865.38	1,661.38	831.93	3.20	-0.30	0.023
118.80	-10.83	-1.24	0.00	-9.81	0.00	9.81	956.25	478.12	907.22	454.29	3.43	-0.31	0.033
120.00	-4.89	-0.79	0.00	-8.32	0.00	8.32	947.93	473.97	887.63	444.47	3.51	-0.31	0.024
125.00	-4.54	-0.75	0.00	-4.37	0.00	4.37	912.05	456.02	806.99	404.09	3.84	-0.32	0.016
130.00	-0.39	-0.09	0.00	-0.64	0.00	0.64	874.32	437.16	728.52	364.80	4.18	-0.32	0.002
135.00	-0.25	-0.06	0.00	-0.18	0.00	0.18	834.76	417.38	652.50	326.73	4.52	-0.33	0.001
138.00	0.00	0.00	0.00	0.00	0.00	0.00	809.68	404.84	607.85	304.38	4.72	-0.33	0.000
140.00	0.00	0.00	0.00	0.00	0.00	0.00	787.66	393.83	575.06	287.96	4.86	-0.33	0.000

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

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	-35.56	-1.76	0.00	-169.39	0.00	169.39	5,907.57	2,953.79	12,233.7	6,125.97	0.00	0.00	0.034
5.00	-34.18	-1.73	0.00	-160.59	0.00	160.59	5,798.22	2,899.11	11,708.2	5,862.84	0.00	-0.01	0.033
10.00	-32.82	-1.68	0.00	-151.96	0.00	151.96	5,660.37	2,830.18	11,137.9	5,577.27	0.02	-0.02	0.033
15.00	-31.49	-1.63	0.00	-143.56	0.00	143.56	5,513.53	2,756.76	10,564.7	5,290.20	0.04	-0.03	0.033
20.00	-30.20	-1.58	0.00	-135.40	0.00	135.40	5,366.68	2,683.34	10,006.5	5,010.72	0.08	-0.04	0.033
25.00	-28.93	-1.53	0.00	-127.50	0.00	127.50	5,219.84	2,609.92	9,463.58	4,738.82	0.12	-0.05	0.032
30.00	-27.69	-1.47	0.00	-119.86	0.00	119.86	5,073.00	2,536.50	8,935.73	4,474.51	0.18	-0.06	0.032
35.00	-26.47	-1.42	0.00	-112.48	0.00	112.48	4,926.16	2,463.08	8,423.04	4,217.78	0.24	-0.07	0.032
40.00	-26.44	-1.42	0.00	-105.38	0.00	105.38	4,779.32	2,389.66	7,925.49	3,968.63	0.32	-0.08	0.032
40.13	-24.48	-1.33	0.00	-105.19	0.00	105.19	4,775.51	2,387.75	7,912.75	3,962.26	0.32	-0.08	0.032
45.00	-24.13	-1.31	0.00	-98.73	0.00	98.73	4,632.48	2,316.24	7,443.09	3,727.08	0.41	-0.09	0.032
45.88	-23.26	-1.27	0.00	-97.58	0.00	97.58	4,127.52	2,063.76	6,764.96	3,387.51	0.43	-0.09	0.034
50.00	-22.23	-1.23	0.00	-92.34	0.00	92.34	4,021.65	2,010.83	6,420.54	3,215.04	0.51	-0.10	0.034
55.00	-21.22	-1.18	0.00	-86.22	0.00	86.22	3,893.17	1,946.58	6,014.64	3,011.79	0.62	-0.11	0.034
60.00	-20.24	-1.15	0.00	-80.29	0.00	80.29	3,764.68	1,882.34	5,621.99	2,815.17	0.74	-0.13	0.034
65.00	-19.28	-1.13	0.00	-74.54	0.00	74.54	3,636.20	1,818.10	5,242.60	2,625.19	0.88	-0.14	0.034
70.00	-18.34	-1.12	0.00	-68.89	0.00	68.89	3,507.71	1,753.86	4,876.46	2,441.85	1.04	-0.15	0.033
75.00	-17.49	-1.12	0.00	-63.29	0.00	63.29	3,379.23	1,689.61	4,523.57	2,265.15	1.20	-0.17	0.033
79.67	-17.40	-1.13	0.00	-58.03	0.00	58.03	3,259.13	1,629.57	4,205.72	2,105.99	1.37	-0.18	0.033
80.00	-16.59	-1.14	0.00	-57.66	0.00	57.66	3,250.74	1,625.37	4,183.94	2,095.08	1.38	-0.18	0.033
83.00	-14.89	-1.16	0.00	-54.25	0.00	54.25	3,173.65	1,586.82	3,986.52	1,996.22	1.50	-0.19	0.032
84.34	-14.79	-1.17	0.00	-52.69	0.00	52.69	2,286.71	1,143.35	2,923.37	1,463.86	1.55	-0.19	0.042
85.00	-14.10	-1.19	0.00	-51.92	0.00	51.92	2,277.67	1,138.84	2,896.31	1,450.31	1.58	-0.19	0.042
90.00	-13.56	-1.20	0.00	-45.99	0.00	45.99	2,193.67	1,096.84	2,676.37	1,340.17	1.79	-0.21	0.040
94.00	-11.66	-1.26	0.00	-41.17	0.00	41.17	2,120.25	1,060.13	2,499.32	1,251.52	1.98	-0.23	0.038
95.00	-11.09	-1.27	0.00	-39.91	0.00	39.91	2,101.90	1,050.95	2,456.00	1,229.83	2.02	-0.23	0.038
100.00	-10.65	-1.28	0.00	-33.55	0.00	33.55	2,010.12	1,005.06	2,245.10	1,124.22	2.28	-0.25	0.035
104.00	-9.11	-1.29	0.00	-28.43	0.00	28.43	1,936.70	968.35	2,083.19	1,043.15	2.49	-0.26	0.032
105.00	-8.60	-1.28	0.00	-27.14	0.00	27.14	1,918.35	959.17	2,043.66	1,023.35	2.55	-0.27	0.031
110.00	-8.12	-1.27	0.00	-20.72	0.00	20.72	1,826.57	913.29	1,851.70	927.22	2.83	-0.28	0.027
115.00	-8.10	-1.27	0.00	-14.39	0.00	14.39	1,734.80	867.40	1,669.20	835.84	3.14	-0.30	0.022
115.22	-7.61	-1.23	0.00	-14.11	0.00	14.11	1,730.76	865.38	1,661.38	831.93	3.15	-0.30	0.021
118.80	-7.53	-1.22	0.00	-9.70	0.00	9.70	956.25	478.12	907.22	454.29	3.38	-0.30	0.029
120.00	-3.40	-0.78	0.00	-8.24	0.00	8.24	947.93	473.97	887.63	444.47	3.45	-0.31	0.022
125.00	-3.16	-0.74	0.00	-4.32	0.00	4.32	912.05	456.02	806.99	404.09	3.78	-0.32	0.014
130.00	-0.27	-0.09	0.00	-0.63	0.00	0.63	874.32	437.16	728.52	364.80	4.11	-0.32	0.002
135.00	-0.17	-0.06	0.00	-0.18	0.00	0.18	834.76	417.38	652.50	326.73	4.45	-0.32	0.001
138.00	0.00	0.00	0.00	0.00	0.00	0.00	809.68	404.84	607.85	304.38	4.65	-0.32	0.000
140.00	0.00	0.00	0.00	0.00	0.00	0.00	787.66	393.83	575.06	287.96	4.78	-0.32	0.000

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	25.86	0.00	51.47	0.00	0.00	2678.15	45.88	0.46
0.9D + 1.6W	25.65	0.00	38.59	0.00	0.00	2634.95	84.34	0.45
1.2D + 1.0Di + 1.0Wi	8.27	0.00	88.44	0.00	0.00	874.50	84.34	0.17
(1.2 + 0.2Sds) * DL + E ELFM	1.90	0.00	51.11	0.00	0.00	201.09	45.88	0.04
(1.2 + 0.2Sds) * DL + E EMAM	1.76	0.00	51.11	0.00	0.00	171.50	84.34	0.05
(0.9 - 0.2Sds) * DL + E ELFM	1.90	0.00	35.56	0.00	0.00	198.76	45.88	0.04
(0.9 - 0.2Sds) * DL + E EMAM	1.76	0.00	35.56	0.00	0.00	169.39	84.34	0.04
1.0D + 1.0W	6.67	0.00	42.91	0.00	0.00	688.19	84.34	0.12

Base Summary

Reactions

Original Design			Analysis			
Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment Design %
3,921.80	41.90	38.70	2,678.15	88.44	25.86	50.58

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
60.0	2.250	66.000	Round	0	0.00	8.093	341.34	553.13	0.62

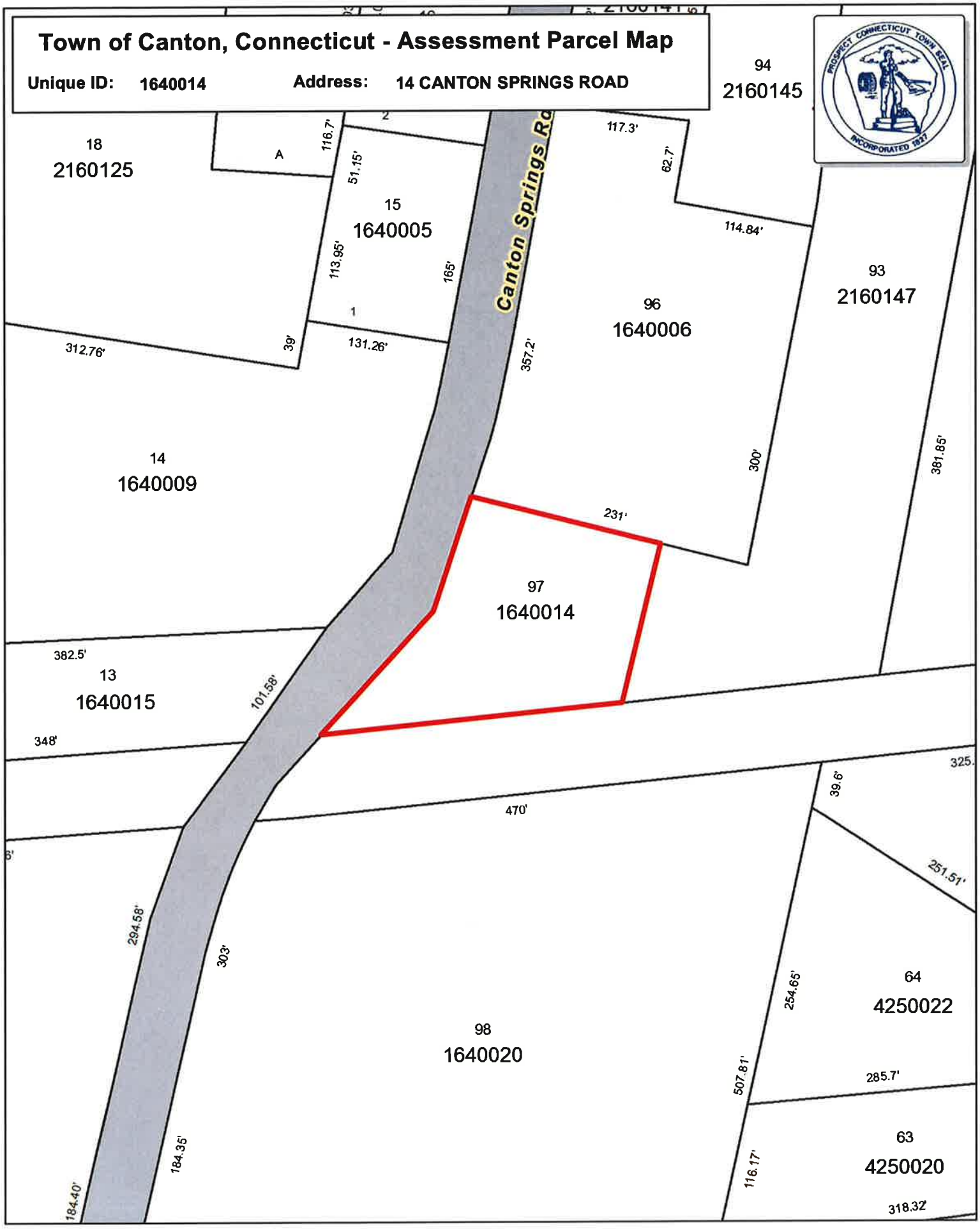
Anchor Bolts

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
60.00	20	2.25" 18J	2.25	75.00	100.00	Radial	0.00	0.0	111.55	260.00	0.44	102.70	260.00	0.40

ATTACHMENT 4

Town of Canton, Connecticut - Assessment Parcel Map

Unique ID: 1640014 **Address:** 14 CANTON SPRINGS ROAD



Approximate Scale:
1 inch = 100 feet

Disclaimer:
This map is for informational purposes only.
All information is subject to verification by any user.
The Town of Canton and its mapping contractors
assume no legal responsibility for the information contained herein.

Map Produced
July 2016

Sublot — 65 Sublot ID
Easement — 4850007 Parcel ID
Misc — 89' Dimension

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2013.

TOWN OF CANTON CT

Information on the Property Records for the Municipality of Canton was last updated on 2/24/2017.

Parcel Information

Location:	14 CANTON SPRINGS ROAD	Property Use:	Automotive	Primary Use:	Parking Structure
Unique ID:	1640014	Map Block Lot:	31/164/0014	Acres:	0.49
490 Acres:	0.00	Zone:	AR-1	Volume / Page:	059 /433
Developers Map / Lot:		Census:			

Value Information

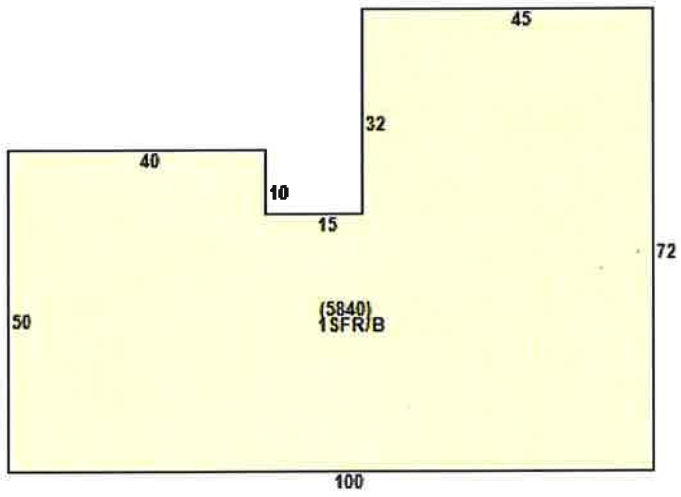
	Appraised Value	70% Assessed Value
Land	36,750	25,730
Buildings	442,100	309,470
Detached Outbuildings	0	0
Total	478,850	335,200

Owner's Information

Owner's Data
CANTON VOLUNTEER FIRE DEPARTMENT P.O. BOX 104 CANTON CT 06019

Building 1

Photo Not Available



Category:	Automotive	Use:	Serv Sta w/Bays	GLA:	5,840
Stories:	1.00	Construction:	Wood Frame	Year Built:	1962
Heating:	FHA	Fuel:	UnKnown	Cooling Percent:	100
Siding:	Wood Frame	Roof Material:	Asphalt	Beds/Units:	0