

November 4, 2016

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

Re: **Notice of Exempt Modification – Facility Modification
203 Davis Road, Chaplin, Connecticut**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains twelve (12) wireless telecommunications antennas at the 155-foot level of the existing 175-foot tower at 203 Davis Road in Chaplin, Connecticut (the “Property”). The tower is owned by SBA Communications Corporation (“SBA”). The Council approved Cellco’s use of the tower in 2007. Cellco now intends to modify its facility by replacing six (6) of its existing antennas with three (3) model SBNHH-1D65B, 700/1900 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™ fiber optic 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 Matthew Cunningham, First Selectman of the Town of Chaplin. A copy of this letter is also being sent to Truman Pearl, the owner of the Property and SBA, 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).

Robinson+Cole

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1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's replacement antennas and RRHs will be located at the 155-foot level on the 175-foot tower.

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

4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative General Power Density table for Cellco's modified facility is included behind Attachment 2.

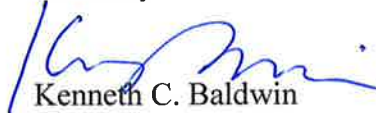
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

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

A copy of the Town Assessor'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:

Matthew Cunningham, First Selectman
Truman Pearl
SBA
Tim Parks

ATTACHMENT 1



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.](#)

General Specifications

Antenna Type	Sector with internal RET
Band	Multiband
Brand	DualPol®
Operating Frequency Band	1695 – 2360 MHz 698 – 896 MHz
Performance Note	Outdoor usage

Mechanical Specifications

Color	Light gray
Lightning Protection	dc Ground

SBNHH-1D65B

Radiator Material	Aluminum Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, total	6
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

Depth	180.0 mm 7.1 in
Length	1851.0 mm 72.9 in
Width	301.0 mm 11.9 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

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

Regulatory Compliance/Certifications

Agency

RoHS 2011/65/EU
China RoHS SJ/T 11364-2006
ISO 9001:2008

Classification

Compliant by Exemption
Above Maximum Concentration Value (MCV)
Designed, manufactured and/or distributed under this quality management system



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.

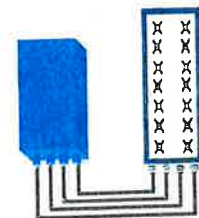


FEATURES

- 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

TECHNICAL SPECIFICATIONS

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 schema	2 dB typ. (<2.5 dB max) – 2 or 4 way Rx diversity
Sizes (HxWxD) in mm (in.)	550 x 305 x 230 (21.6" x 12.0" x 9") (with solar shield)
Volume in L	38 (with solar shield)
Weight in kg (lb) (w/o mounting HW)	26 (57.2) (with solar shield)
DC voltage range	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption
DC power consumption	550W typical @100% RF load (in 2Tx or 4TX mode)
Environmental conditions	-40°C (-40°F) / +55°C (+131°F)
Wind load (@150km/h or 93mph)	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

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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.

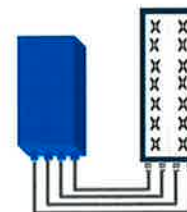


FEATURES

- 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

TECHNICAL SPECIFICATIONS

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

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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.

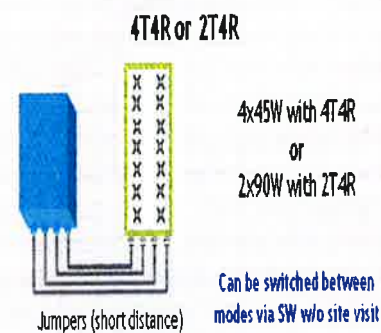
Its compactness and slim design makes the Alcatel-Lucent B66a RRH4x45 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the 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.)	655x299x182 (25.8x11.8x7.2) (with solar shield) 640x290x160 (25.2x11.4x6.3) (without solar shield)
Volume in Liters	35.5 (with solar shield) 29.7 (without solar shield)
Weight in kg (lb) (w/o mounting HW)	25.8kg (56.8lb) (with solar shield)
DC voltage range	Nominal: -48V, -40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption
DC power consumption	750W typical @100% RF load (in 2Tx or 4Tx mode); Add 58W for 2A*29V for AISG
Environmental conditions	-40°C (-40°F) / +55°C (+131°F) UL50E Type 4 Enclosure
Wind load (@150km/h or 93mph)	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

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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.

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



Figure 1: HYBRIFLEX Series

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))	0.68 (0.255)
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)			UL34-V0, UL1666 RoHS Compliant
Size (Power)		(mm (AWG))	8.4 (8)
Quantity, Wire Count (Power)			16 (8 pairs)
Size (Alarm)		(mm (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-95-658 UL Type XHHW-2, UL 44 UL-LS Limited Smoke, UL VW-1 IEEE-383 (1974), IEEE 1202/FT4 RoHS Compliant
Installation Temperature		(°C (°F))	-40 to +65 (-40 to 149)
Operation Temperature		(°C (°F))	-40 to +65 (-40 to 149)

* This data is provisional and subject to change

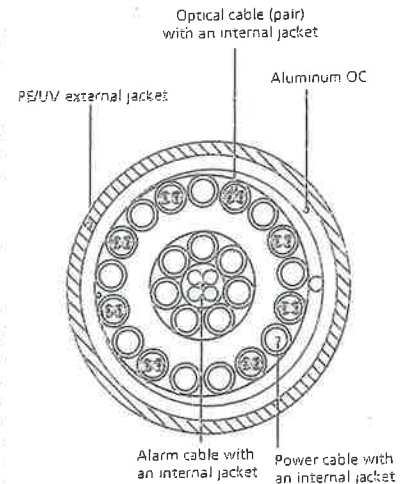


Figure 2: Construction Detail

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

ATTACHMENT 2

Site Name: Mansfield NE (Chaplin)		General	Power	Density				
Tower Height: 175ft								
CARRIER	# OF CHAN.	WATTS ERP	HEIGHT	CALC. POWER DENS	FREQ.	MAX. PERMISS. EXP.	FRACTION MPE	Total
*Sprint	2	769	162.5	1900	0.0226	1.0000	0.23%	
Verizon PCS	11	399	155	0.0657	1970	1.0000	6.57%	
Verizon Cellular	9	408	155	0.0550	869	0.5793	9.49%	
Verizon AWS	1	6907	155	0.1034	2145	1.0000	10.34%	
Verizon 700	1	1643	155	0.0246	746	0.4973	4.94%	
								31.56%
* Source: Siting Council								

ATTACHMENT 3



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
8445 Freeport Parkway, Suite 375, Irving, Texas 75063

Structural Analysis Report

Existing 175 ft. Fred Nudd Corporation Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT03113-S

Customer Site Name: North Chaplin

Carrier Name: Verizon

Carrier Site ID / Name: Mansfield NE

Site Location: 203 Davis Road

Chaplin, Connecticut

Windham County

Latitude: 41.793486

Longitude: -72.160178

Analysis Result:

Max Structural Usage: 40.3% [Pass]

Max Foundation Usage: 27.0% [Pass]

Report Prepared By : Walter Velez



Introduction

The purpose of this report is to summarize the analysis results on the 175 ft. Fred Nudd Corporation Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Monopole original structural design report & tower section data prepared by Fred A. Nudd Corporation. Dated 07-18-2000. Drawing No 00-7678-1. Project No 7678; 10125-056. / Base plate mapping report prepared by Hightower Solutions. Dated 09-28-2015. Site No CT03113-S. Monopole previous structural report prepared by Tower Engineering Solutions. Dated 09-30-2015. Project No 17346.
Foundation Drawing	Monopole original foundation design prepared by Fred A. Nudd Corporation. Dated 07-18-2000. Drawing No 00-7678-1. Project No 7678; 10125-056.
Geotechnical Report	Monopole geotechnical report prepared by FDH Engineering, Inc. Dated 08-20-2012. Project No 1206274EG1.
Modification Drawings	N/A

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA-222-G. In accordance with this standard, the structure was analyzed using **TESPoles**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis: (Based on IBC 2012)	Ultimate Design Wind Speed $V_{ult} = 130.0$ mph (3-Sec. Gust) Nominal Design Wind Speed $V_{asd} = 101.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA-222-G, 2012 IBC & 2016 Connecticut State Building Code
Exposure Category:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft.
Seismic Parameters:	$S_s = 0.173$, $S_1 = 0.062$

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	173.0	-	-	Low Profile Platform (Abandoned)	-	Nextel
2	165.0	12	Decibel DB980H90A-KL - Panel	Low Profile Platform	(12) 1 5/8"	Sprint
3	155.0	1	Antel BXA-171085-12BF - Panel	PiROD Low Profile Platform	(12) 1 5/8"	Verizon
4		2	Antel BXA-171063-12BF-EDIN-X - Panel			
5		3	Antel BXA-70063-6CF-2 - Panel			
6		2	Antel LPA-80080-6CF-EDIN - Panel			
7		4	Antel LPA-80063/6CF - Panel			
8		6	RFS FD9R6004/2C-3L - Diplexer			

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
9	155.0	6	Commscope SBNHH-1D65B - Panel	PiROD Low Profile Platform	(6) 1 5/8"; (2) 1 5/8" Fiber	Verizon
10		4	Antel LPA-80063/6CF - Panel			
11		2	Antel LPA-80080/6CF - Panel			
12		3	Alcatel RRH4X45 B66			
13		3	Alcatel RRH2x60-700			
14		3	Alcatel RRH2X60-1900			
15		6	RFS FD9R6004/2C-3L Diplexer			
16		2	RFS DB-T1-6Z-8AB-OZ			

All transmission lines are considered running inside of the pole shafts.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	40.3%	30.3%	39.5%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Original Design Reactions	5680.0	43.6	--
Analysis Reactions	3016.7	26.2	50.9
Factored Reactions*	7668.0	58.9	N/A

* Per section 15.5.1 of the TIA-222-G standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA-222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.6946 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA-222-G standards, the 2012 IBC and the 2016 Connecticut State Building Code under the design basic wind speed specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.
3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.
4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.
5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.
6. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
7. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
8. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 40.28% at 0.0ft

Structure: CT03113-S-SBA
Site Name: North Chaplin
Height: 175.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-G
Exposure: B
Gh: 1.1

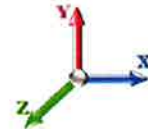
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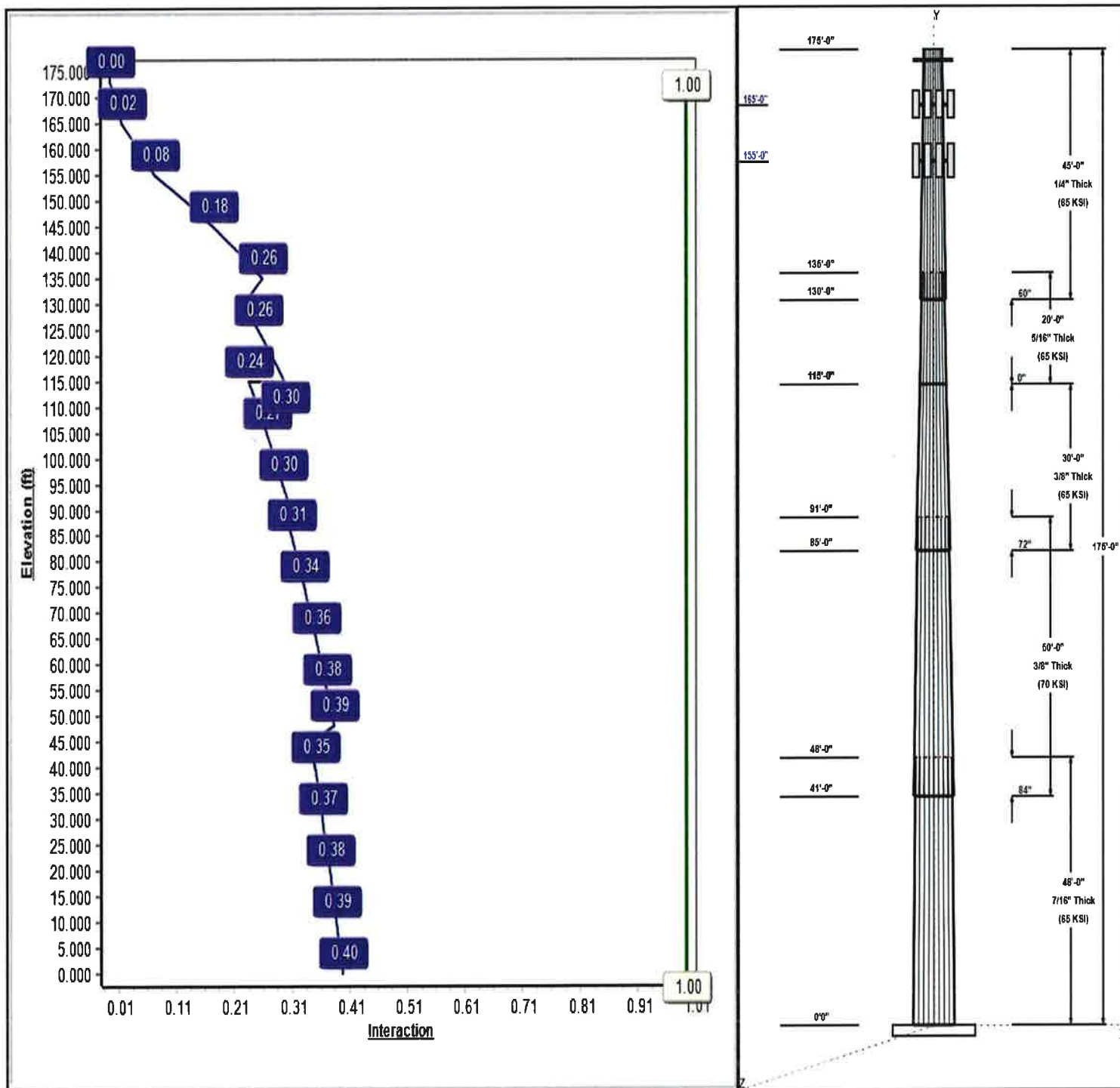
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 101 mph Wind



Iterations: 23

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Structure: CT03113-S-SBA

Type: Tapered
Site Name: North Chaplin
Height: 175.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.24286

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Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	48.00	52.84	64.50	0.438		0.24286	65
2	50.00	43.15	55.29	0.375	Slip	0.24286	70
3	30.00	38.07	45.36	0.375	Slip	0.24286	65
4	20.00	33.21	38.07	0.313	Butt	0.24286	65
5	45.00	24.00	34.93	0.250	Slip	0.24286	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
175.00	175.00	1	6' Lightning rod	Verizon
173.00	173.00	1	Low Profile Platform	Nextel
165.00	165.00	12	Decibel DB980H90A-KL	Sprint
165.00	165.00	1	Low Profile Platform	Sprint
155.00	155.00	4	Antel LPA-80063/6CF	Verizon
155.00	155.00	2	Antel LPA-80080/6CF	Verizon
155.00	155.00	6	RFS FD9R6004/2C-3L	Verizon
155.00	155.00	1	PIROD Low Profile	Verizon
155.00	155.00	6	Commscope	Verizon
155.00	155.00	3	Alcatel RRH2X60-1900	Verizon
155.00	155.00	3	Alcatel RRH2x60-700	Verizon
155.00	155.00	2	RFS DB-T1-6Z-8AB-0Z	Verizon
155.00	155.00	3	Alcatel RRH4X45 B66	Verizon

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
3.00	165.00	Inside	1 5/8" Coax	Sprint
3.00	155.00	Inside	1 5/8" Coax	Verizon
3.00	155.00	Inside	1 5/8" Fiber	Verizon

Anchor Bolts

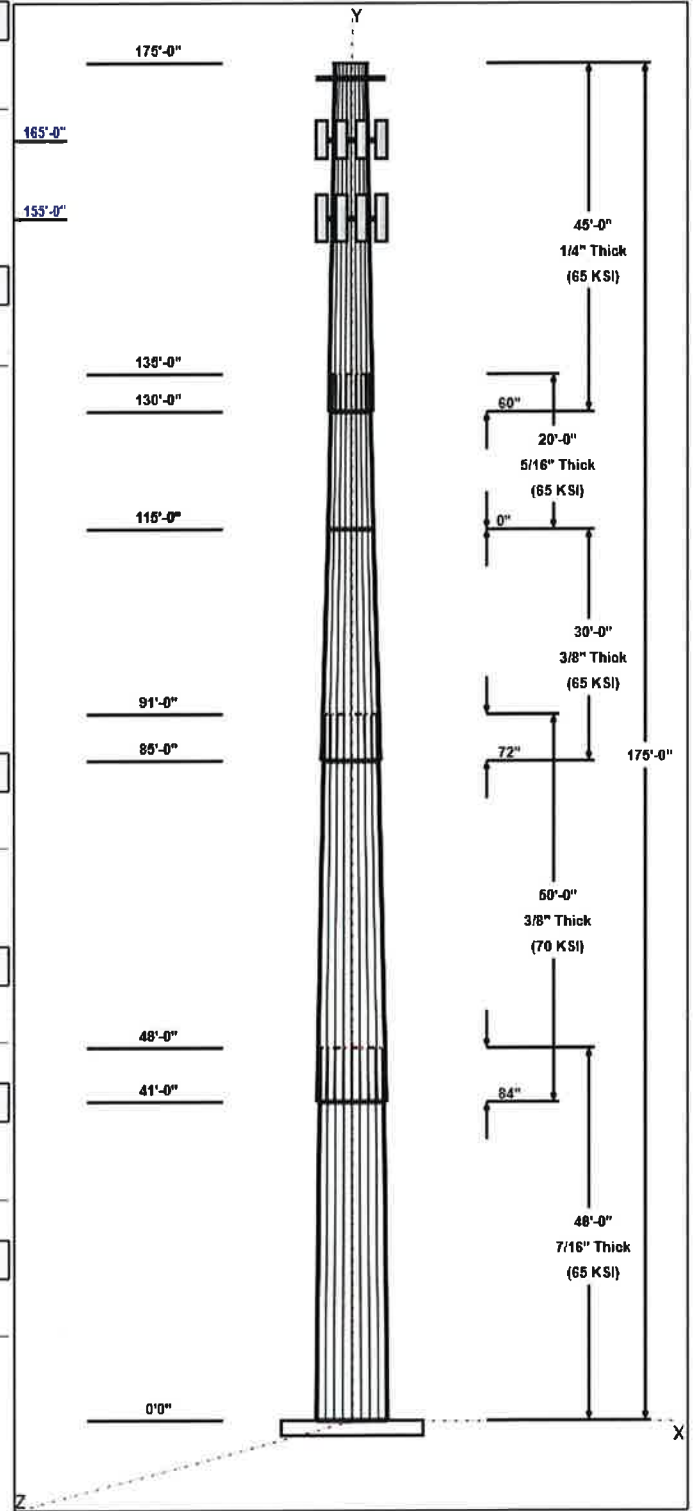
Qty	Specifications	Grade (ksi)	Arrangement
29	2.00" A687	105.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.5000	64.3	50.0	Polygon

Reactions

Load Case	Moment	Shear	Axial
1.2D + 1.6W 101 mph Wind	3016.7	26.2	50.9
0.9D + 1.6W 101 mph Wind	2995.0	26.2	38.2
1.2D + 1.0Di + 1.0Wi 50 mph Wind	881.6	7.6	83.6
1.2D + 1.0E	146.8	1.2	50.9
0.9D + 1.0E	145.7	1.2	38.2
1.0D + 1.0W 60 mph Wind	662.4	5.8	42.4

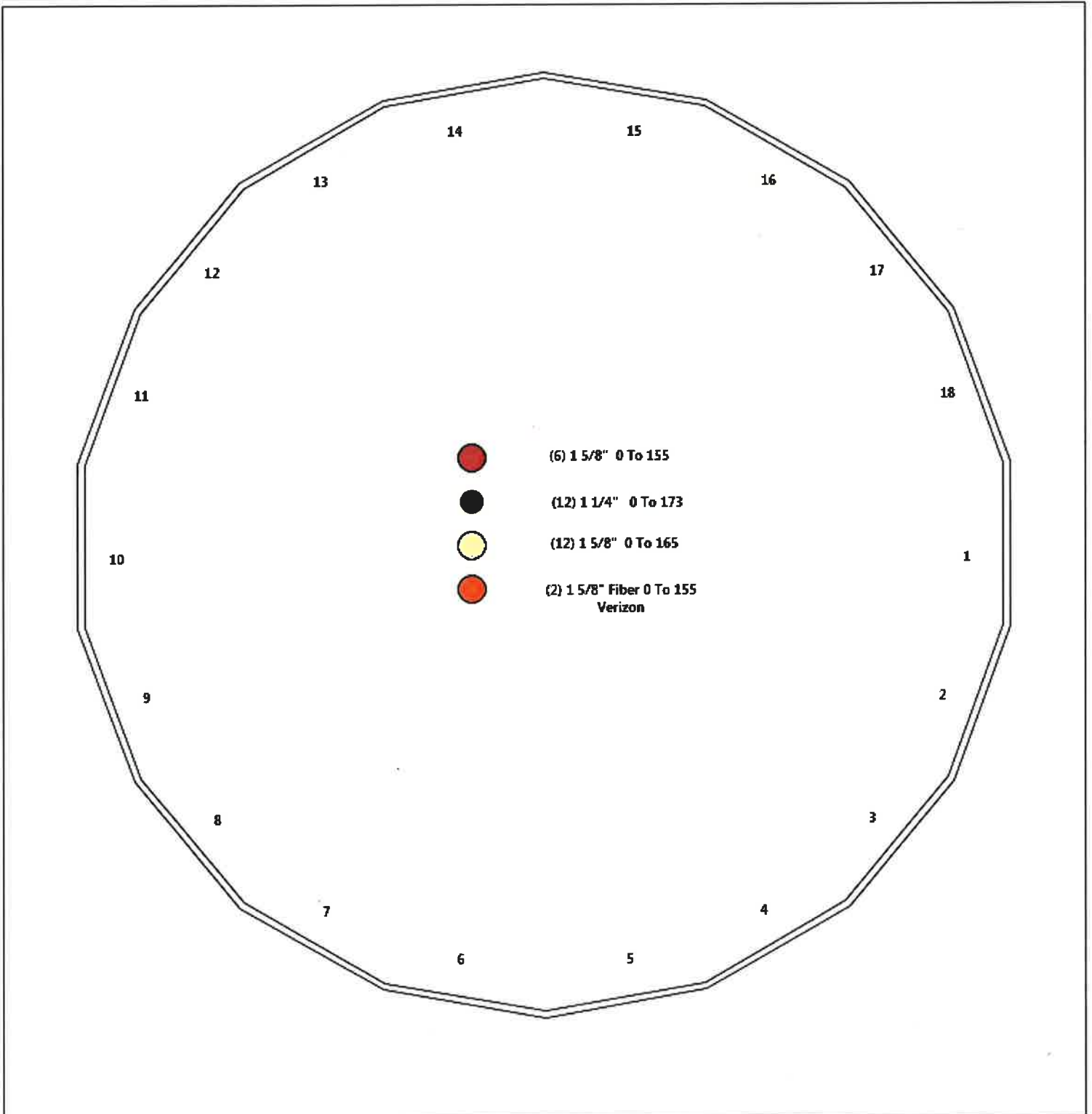


Structure: CT03113-S-SBA - Coax Line Placement

Type: Monopole
Site Name: North Chaplin
Height: 175.00 (ft)

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Shaft Properties

Structure: CT03113-S-SBA	Code: EIA/TIA-222-G	9/13/2016
Site Name: North Chaplin	Exposure: B	
Height: 175.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: C - Very Dense Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	48.000	0.4375	65		0.00	13,207
2	18	50.000	0.3750	70	Slip	84.00	9,891
3	18	30.000	0.3750	65	Slip	72.00	5,023
4	18	20.000	0.3125	65	Flange	0.00	2,385
5	18	45.000	0.2500	65	Slip	60.00	3,550
Total Shaft Weight:							34,056

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	64.50	0.00	88.96	46124.76	24.59	147.43	52.84	48.00	72.77	25249.3	19.89	120.7	0.242857
2	55.29	41.00	65.36	24906.71	24.59	147.45	43.15	91.00	50.91	11769.1	18.88	115.0	0.242857
3	45.36	85.00	53.54	13686.62	19.92	120.95	38.07	115.00	44.87	8055.20	16.49	101.5	0.242857
4	38.07	115.0	37.45	6746.11	20.07	121.83	33.21	135.00	32.63	4463.27	17.33	106.2	0.242857
5	34.93	130.0	27.52	4180.88	23.22	139.71	24.00	175.00	18.84	1343.00	15.52	96.00	0.242857

Load Summary

Structure: CT03113-S-SBA	Code: EIA/TIA-222-G	9/13/2016
Site Name: North Chaplin	Exposure: B	
Height: 175.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: C - Very Dense Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	175.00	6' Lightning rod	1	6.50	0.38	1.00	55.65	1.853	1.00	0.00	0.00
2	173.00	Low Profile Platform	1	1200.00	25.00	1.00	2616.23	53.325	1.00	0.00	0.00
3	165.00	Decibel DB980H90A-KL	12	8.50	3.80	0.79	145.06	5.241	0.79	0.00	0.00
4	165.00	Low Profile Platform	1	1200.00	25.00	1.00	2609.54	53.191	1.00	0.00	0.00
5	155.00	Antel LPA-80063/6CF	4	27.00	9.59	0.95	431.44	11.446	0.95	0.00	0.00
6	155.00	Antel LPA-80080/6CF	2	21.00	8.62	0.75	246.31	12.283	0.75	0.00	0.00
7	155.00	RFS FD9R6004/2C-3L Diplexer	6	3.00	0.31	0.67	13.39	0.821	0.67	0.00	0.00
8	155.00	PIROD Low Profile Platform	1	1500.00	22.00	1.00	4005.20	50.789	1.00	0.00	0.00
9	155.00	Commscope SBNHH-1D65B	6	50.71	8.05	0.83	337.45	9.820	0.83	0.00	0.00
10	155.00	Alcatel RRH2X60-1900	3	43.00	1.87	0.67	126.68	2.434	0.67	0.00	0.00
11	155.00	Alcatel RRH2x60-700	3	60.00	3.50	0.67	176.77	4.556	0.67	0.00	0.00
12	155.00	RFS DB-T1-6Z-8AB-0Z	2	44.00	4.80	0.67	370.25	6.055	0.67	0.00	0.00
13	155.00	Alcatel RRH4X45 B66	3	67.00	2.58	0.67	197.39	3.358	0.67	0.00	0.00
Totals:			45	5,078.76			17,593.87				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
3.00	165.00	(12) 1 5/8" Coax	0.00	Inside
3.00	155.00	(6) 1 5/8" Coax	0.00	Inside
3.00	155.00	(2) 1 5/8" Fiber	0.00	Inside

Shaft Section Properties

Structure: CT03113-S-SBA	Code: EIA/TIA-222-G	9/13/2016
Site Name: North Chaplin	Exposure: B	
Height: 175.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: C - Very Dense Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in ³)	Weight (lb)
0.00		0.4375	64.500	88.956	46124.8	24.59	147.43	72.5	1408.	0.0
5.00		0.4375	63.286	87.269	43551.3	24.10	144.65	73.1	1355.	1499.1
10.00		0.4375	62.071	85.583	41075.4	23.61	141.88	73.6	1303.	1470.4
15.00		0.4375	60.857	83.897	38695.2	23.12	139.10	74.2	1252.	1441.8
20.00		0.4375	59.643	82.211	36408.7	22.63	136.33	74.8	1202.	1413.1
25.00		0.4375	58.429	80.525	34214.2	22.14	133.55	75.4	1153.	1384.4
30.00		0.4375	57.214	78.839	32109.6	21.65	130.78	75.9	1105.	1355.7
35.00		0.4375	56.000	77.153	30093.2	21.16	128.00	76.5	1058.	1327.0
40.00		0.4375	54.786	75.467	28163.0	20.67	125.22	77.1	1012.	1298.3
41.00	Bot - Section 2	0.4375	54.543	75.129	27787.1	20.57	124.67	77.2	1003.	256.2
45.00		0.4375	53.571	73.780	26317.1	20.18	122.45	77.7	967.6	1895.2
48.00	Top - Section 1	0.3750	53.593	63.340	22664.6	23.79	142.91	0.0	0.0	1399.0
50.00		0.3750	53.107	62.762	22049.7	23.56	141.62	78.2	817.8	429.1
55.00		0.3750	51.893	61.317	20561.2	22.99	138.38	79.0	780.4	1055.5
60.00		0.3750	50.679	59.872	19141.3	22.42	135.14	79.7	743.9	1030.9
65.00		0.3750	49.464	58.426	17788.4	21.85	131.90	80.5	708.3	1006.4
70.00		0.3750	48.250	56.981	16500.7	21.28	128.67	81.2	673.6	981.8
75.00		0.3750	47.036	55.536	15276.7	20.71	125.43	82.0	639.7	957.2
80.00		0.3750	45.821	54.091	14114.8	20.13	122.19	82.7	606.7	932.6
85.00	Bot - Section 3	0.3750	44.607	52.645	13013.4	19.56	118.95	83.5	574.6	908.0
90.00		0.3750	43.393	51.200	11970.8	18.99	115.71	84.2	543.4	1782.0
91.00	Top - Section 2	0.3750	43.900	51.804	12399.2	19.23	117.07	0.0	0.0	350.5
95.00		0.3750	42.929	50.648	11587.3	18.77	114.48	79.3	531.6	697.2
100.00		0.3750	41.714	49.202	10623.4	18.20	111.24	80.0	501.6	849.4
105.00		0.3750	40.500	47.757	9714.5	17.63	108.00	80.7	472.4	824.8
110.00		0.3750	39.286	46.312	8859.0	17.06	104.76	81.3	444.2	800.2
115.00	Top - Section 3	0.3750	38.071	44.867	8055.2	16.49	101.52	82.0	416.7	775.6
115.00	Bot - Section 4	0.3125	38.071	37.451	6746.1	19.79	121.83	77.8	349.0	
120.00		0.3125	36.857	36.246	6116.0	19.39	117.94	78.6	326.8	626.9
125.00		0.3125	35.643	35.042	5526.4	18.70	114.06	79.4	305.4	606.4
130.00	Bot - Section 5	0.3125	34.429	33.838	4975.9	18.02	110.17	80.2	284.7	586.0
135.00	Top - Section 4	0.2500	33.714	26.553	3756.9	22.37	134.86	0.0	0.0	1025.4
140.00		0.2500	32.500	25.589	3362.6	21.51	130.00	76.1	203.8	443.6
145.00		0.2500	31.286	24.626	2996.9	20.66	125.14	77.1	188.7	427.2
150.00		0.2500	30.071	23.662	2658.7	19.80	120.29	78.1	174.1	410.8
155.00		0.2500	28.857	22.699	2347.0	18.94	115.43	79.1	160.2	394.4
160.00		0.2500	27.643	21.735	2060.6	18.09	110.57	80.1	146.8	378.0
165.00		0.2500	26.429	20.772	1798.5	17.23	105.71	81.1	134.0	361.6
170.00		0.2500	25.214	19.808	1559.7	16.37	100.86	82.1	121.8	345.2
173.00		0.2500	24.486	19.230	1427.1	15.86	97.94	82.5	114.8	199.3
175.00		0.2500	24.000	18.845	1343.0	15.52	96.00	82.5	110.2	129.6
										34056.0

Wind Loading - Shaft

Structure: CT03113-S-SBA
Site Name: North Chaplin
Height: 175.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: EIA/TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: C - Very Dense Soil
Struct Class: II

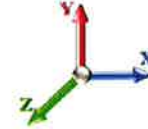
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Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	17.366	19.10	461.21	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	17.366	19.10	452.53	0.650	0.000	5.00	27.033	17.57	537.1	0.0	1799.0
10.00		1.00	0.70	17.366	19.10	443.84	0.650	0.000	5.00	26.519	17.24	526.8	0.0	1764.5
15.00		1.00	0.70	17.366	19.10	435.16	0.650	0.000	5.00	26.005	16.90	516.6	0.0	1730.1
20.00		1.00	0.70	17.366	19.10	426.48	0.650	0.000	5.00	25.491	16.57	506.4	0.0	1695.7
25.00		1.00	0.70	17.366	19.10	417.79	0.650	0.000	5.00	24.978	16.24	496.2	0.0	1661.3
30.00		1.00	0.70	17.381	19.12	409.28	0.650	0.000	5.00	24.464	15.90	486.4	0.0	1626.8
35.00		1.00	0.73	18.163	19.98	409.52	0.650	0.000	5.00	23.950	15.57	497.7	0.0	1592.4
40.00		1.00	0.76	18.870	20.76	408.35	0.650	0.000	5.00	23.436	15.23	505.9	0.0	1558.0
41.00 Bot - Section 2		1.00	0.77	19.003	20.90	407.98	0.650	0.000	1.00	4.626	3.01	100.6	0.0	307.5
45.00		1.00	0.79	19.516	21.47	406.08	0.650	0.000	4.00	18.551	12.06	414.2	0.0	2274.3
48.00 Top - Section 1		1.00	0.80	19.879	21.87	404.27	0.650	0.000	3.00	13.697	8.90	311.5	0.0	1678.8
50.00		1.00	0.81	20.112	22.12	408.66	0.650	0.000	2.00	9.029	5.87	207.7	0.0	514.9
55.00		1.00	0.83	20.667	22.73	404.79	0.650	0.000	5.00	22.212	14.44	525.2	0.0	1266.6
60.00		1.00	0.85	21.187	23.31	400.27	0.650	0.000	5.00	21.699	14.10	525.9	0.0	1237.1
65.00		1.00	0.87	21.678	23.85	395.17	0.650	0.000	5.00	21.185	13.77	525.4	0.0	1207.6
70.00		1.00	0.89	22.142	24.36	389.57	0.650	0.000	5.00	20.671	13.44	523.6	0.0	1178.1
75.00		1.00	0.91	22.582	24.84	383.53	0.650	0.000	5.00	20.157	13.10	520.7	0.0	1148.6
80.00		1.00	0.93	23.003	25.30	377.09	0.650	0.000	5.00	19.644	12.77	516.9	0.0	1119.1
85.00 Bot - Section 3		1.00	0.94	23.404	25.74	370.29	0.650	0.000	5.00	19.130	12.43	512.2	0.0	1089.6
90.00		1.00	0.96	23.790	26.17	363.16	0.650	0.000	5.00	18.933	12.31	515.3	0.0	2138.4
91.00 Top - Section 2		1.00	0.96	23.865	26.25	361.70	0.650	0.000	1.00	3.725	2.42	101.7	0.0	420.6
95.00		1.00	0.97	24.160	26.58	362.06	0.650	0.000	4.00	14.695	9.55	406.1	0.0	836.7
100.00		1.00	0.99	24.517	26.97	354.41	0.650	0.000	5.00	17.906	11.64	502.2	0.0	1019.3
105.00		1.00	1.00	24.861	27.35	346.50	0.650	0.000	5.00	17.392	11.30	494.7	0.0	989.8
110.00		1.00	1.02	25.194	27.71	338.35	0.650	0.000	5.00	16.878	10.97	486.5	0.0	960.3
115.00 Top - Section 3		1.00	1.03	25.516	28.07	329.98	0.650	0.000	5.00	16.365	10.64	477.7	0.0	930.8
120.00		1.00	1.04	25.828	28.41	321.40	0.650	0.000	5.00	15.851	10.30	468.3	0.0	752.3
125.00		1.00	1.05	26.131	28.74	312.63	0.650	0.000	5.00	15.337	9.97	458.5	0.0	727.7
130.00 Bot - Section 5		1.00	1.07	26.425	29.07	303.68	0.650	0.000	5.00	14.823	9.64	448.1	0.0	703.1
135.00 Top - Section 4		1.00	1.08	26.712	29.38	294.55	0.650	0.000	5.00	14.521	9.44	443.7	0.0	1230.5
140.00		1.00	1.09	26.991	29.69	289.72	0.650	0.000	5.00	14.007	9.10	432.5	0.0	532.3
145.00		1.00	1.10	27.263	29.99	280.30	0.650	0.000	5.00	13.494	8.77	420.8	0.0	512.6
150.00		1.00	1.11	27.528	30.28	270.72	0.650	0.000	5.00	12.980	8.44	408.8	0.0	492.9
155.00 Appurtenance(s)		1.00	1.12	27.787	30.57	261.01	0.650	0.000	5.00	12.466	8.10	396.3	0.0	473.3
160.00		1.00	1.13	28.040	30.84	251.17	0.650	0.000	5.00	11.952	7.77	383.4	0.0	453.6
165.00 Appurtenance(s)		1.00	1.14	28.288	31.12	241.19	0.650	0.000	5.00	11.439	7.44	370.2	0.0	433.9
170.00		1.00	1.15	28.530	31.38	231.09	0.650	0.000	5.00	10.925	7.10	356.6	0.0	414.3
173.00 Appurtenance(s)		1.00	1.16	28.673	31.54	224.98	0.650	0.000	3.00	6.308	4.10	206.9	0.0	239.1
175.00 Appurtenance(s)		1.00	1.16	28.768	31.64	220.88	0.650	0.000	2.00	4.103	2.67	135.0	0.0	155.5
Totals:									175.00			16,670.5		40,867.2

Discrete Appurtenance Forces

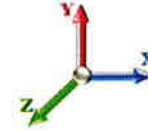
Structure: CT03113-S-SBA	Code: EIA/TIA-222-G	9/13/2016
Site Name: North Chaplin	Exposure: B	
Height: 175.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: C - Very Dense Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	175.00	6' Lightning rod	1	28.768	31.644	1.00	1.00	0.38	7.80	0.000	0.000	19.24	0.00	0.00
2	173.00	Low Profile Platform	1	28.673	31.541	1.00	1.00	25.00	1440.00	0.000	0.000	1261.63	0.00	0.00
3	165.00	Low Profile Platform	1	28.288	31.117	1.00	1.00	25.00	1440.00	0.000	0.000	1244.67	0.00	0.00
4	165.00	Decibel DB980H90A-KL	12	28.288	31.117	0.63	0.80	28.82	122.40	0.000	0.000	1434.82	0.00	0.00
5	155.00	RFS DB-T1-6Z-8AB-0Z	2	27.787	30.566	0.54	0.80	5.15	105.60	0.000	0.000	251.65	0.00	0.00
6	155.00	Antel LPA-80063/6CF	4	27.787	30.566	0.76	0.80	29.15	129.60	0.000	0.000	1425.77	0.00	0.00
7	155.00	Alcatel RRH4X45 B66	3	27.787	30.566	0.54	0.80	4.15	241.20	0.000	0.000	202.89	0.00	0.00
8	155.00	Alcatel RRH2x60-700	3	27.787	30.566	0.54	0.80	5.63	216.00	0.000	0.000	275.24	0.00	0.00
9	155.00	Alcatel RRH2X60-1900	3	27.787	30.566	0.54	0.80	3.01	154.80	0.000	0.000	147.06	0.00	0.00
10	155.00	Commscope	6	27.787	30.566	0.66	0.80	32.07	365.11	0.000	0.000	1568.46	0.00	0.00
11	155.00	PiROD Low Profile	1	27.787	30.566	1.00	1.00	22.00	1800.00	0.000	0.000	1075.92	0.00	0.00
12	155.00	RFS FD9R6004/2C-3L	6	27.787	30.566	0.54	0.80	1.00	21.60	0.000	0.000	48.76	0.00	0.00
13	155.00	Antel LPA-80080/6CF	2	27.787	30.566	0.60	0.80	10.34	50.40	0.000	0.000	505.88	0.00	0.00
Totals:								6,094.51				9,461.99		

Total Applied Force Summary

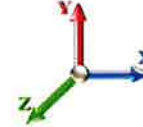
Structure: CT03113-S-SBA	Code: EIA/TIA-222-G	9/13/2016
Site Name: North Chaplin	Exposure: B	
Height: 175.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: C - Very Dense Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		537.06	1849.17	0.00	0.00
10.00		526.85	1890.06	0.00	0.00
15.00		516.64	1855.63	0.00	0.00
20.00		506.44	1821.21	0.00	0.00
25.00		496.23	1786.78	0.00	0.00
30.00		486.43	1752.36	0.00	0.00
35.00		497.66	1717.93	0.00	0.00
40.00		505.92	1683.51	0.00	0.00
41.00		100.56	332.57	0.00	0.00
45.00		414.16	2374.68	0.00	0.00
48.00		311.50	1754.16	0.00	0.00
50.00		207.74	565.13	0.00	0.00
55.00		525.18	1392.16	0.00	0.00
60.00		525.94	1362.65	0.00	0.00
65.00		525.37	1333.15	0.00	0.00
70.00		523.60	1303.64	0.00	0.00
75.00		520.75	1274.13	0.00	0.00
80.00		516.92	1244.62	0.00	0.00
85.00		512.20	1215.12	0.00	0.00
90.00		515.29	2263.93	0.00	0.00
91.00		101.70	445.70	0.00	0.00
95.00		406.15	937.10	0.00	0.00
100.00		502.21	1144.82	0.00	0.00
105.00		494.65	1115.31	0.00	0.00
110.00		486.46	1085.81	0.00	0.00
115.00		477.68	1056.30	0.00	0.00
120.00		468.35	877.85	0.00	0.00
125.00		458.48	853.26	0.00	0.00
130.00		448.12	828.67	0.00	0.00
135.00		443.74	1356.04	0.00	0.00
140.00		432.51	657.81	0.00	0.00
145.00		420.85	638.14	0.00	0.00
150.00		408.77	618.46	0.00	0.00
155.00	(30) attachments	5897.91	3683.10	0.00	0.00
160.00		383.41	528.48	0.00	0.00
165.00	(13) attachments	3049.67	2071.21	0.00	0.00
170.00		356.58	414.26	0.00	0.00
173.00	(1) attachments	1468.55	1679.11	0.00	0.00
175.00	(1) attachments	154.26	163.27	0.00	0.00
	Totals:	26,132.51	50,927.28	0.00	0.00

Wind Loading - Shaft

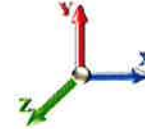
Structure: CT03113-S-SBA	Code: EIA/TIA-222-G	9/13/2016
Site Name: North Chaplin	Exposure: B	
Height: 175.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: C - Very Dense Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	17.366	19.10	461.21	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	17.366	19.10	452.53	0.650	0.000	5.00	27.033	17.57	537.1	0.0	1349.2
10.00		1.00	0.70	17.366	19.10	443.84	0.650	0.000	5.00	26.519	17.24	526.8	0.0	1323.4
15.00		1.00	0.70	17.366	19.10	435.16	0.650	0.000	5.00	26.005	16.90	516.6	0.0	1297.6
20.00		1.00	0.70	17.366	19.10	426.48	0.650	0.000	5.00	25.491	16.57	506.4	0.0	1271.8
25.00		1.00	0.70	17.366	19.10	417.79	0.650	0.000	5.00	24.978	16.24	496.2	0.0	1245.9
30.00		1.00	0.70	17.381	19.12	409.28	0.650	0.000	5.00	24.464	15.90	486.4	0.0	1220.1
35.00		1.00	0.73	18.163	19.98	409.52	0.650	0.000	5.00	23.950	15.57	497.7	0.0	1194.3
40.00		1.00	0.76	18.870	20.76	408.35	0.650	0.000	5.00	23.436	15.23	505.9	0.0	1168.5
41.00 Bot - Section 2		1.00	0.77	19.003	20.90	407.98	0.650	0.000	1.00	4.626	3.01	100.6	0.0	230.6
45.00		1.00	0.79	19.516	21.47	406.08	0.650	0.000	4.00	18.551	12.06	414.2	0.0	1705.7
48.00 Top - Section 1		1.00	0.80	19.879	21.87	404.27	0.650	0.000	3.00	13.697	8.90	311.5	0.0	1259.1
50.00		1.00	0.81	20.112	22.12	408.66	0.650	0.000	2.00	9.029	5.87	207.7	0.0	386.2
55.00		1.00	0.83	20.667	22.73	404.79	0.650	0.000	5.00	22.212	14.44	525.2	0.0	950.0
60.00		1.00	0.85	21.187	23.31	400.27	0.650	0.000	5.00	21.699	14.10	525.9	0.0	927.9
65.00		1.00	0.87	21.678	23.85	395.17	0.650	0.000	5.00	21.185	13.77	525.4	0.0	905.7
70.00		1.00	0.89	22.142	24.36	389.57	0.650	0.000	5.00	20.671	13.44	523.6	0.0	883.6
75.00		1.00	0.91	22.582	24.84	383.53	0.650	0.000	5.00	20.157	13.10	520.7	0.0	861.5
80.00		1.00	0.93	23.003	25.30	377.09	0.650	0.000	5.00	19.644	12.77	516.9	0.0	839.3
85.00 Bot - Section 3		1.00	0.94	23.404	25.74	370.29	0.650	0.000	5.00	19.130	12.43	512.2	0.0	817.2
90.00		1.00	0.96	23.790	26.17	363.16	0.650	0.000	5.00	18.933	12.31	515.3	0.0	1603.8
91.00 Top - Section 2		1.00	0.96	23.865	26.25	361.70	0.650	0.000	1.00	3.725	2.42	101.7	0.0	315.4
95.00		1.00	0.97	24.160	26.58	362.06	0.650	0.000	4.00	14.695	9.55	406.1	0.0	627.5
100.00		1.00	0.99	24.517	26.97	354.41	0.650	0.000	5.00	17.906	11.64	502.2	0.0	764.5
105.00		1.00	1.00	24.861	27.35	346.50	0.650	0.000	5.00	17.392	11.30	494.7	0.0	742.3
110.00		1.00	1.02	25.194	27.71	338.35	0.650	0.000	5.00	16.878	10.97	486.5	0.0	720.2
115.00 Top - Section 3		1.00	1.03	25.516	28.07	329.98	0.650	0.000	5.00	16.365	10.64	477.7	0.0	698.1
120.00		1.00	1.04	25.828	28.41	321.40	0.650	0.000	5.00	15.851	10.30	468.3	0.0	564.2
125.00		1.00	1.05	26.131	28.74	312.63	0.650	0.000	5.00	15.337	9.97	458.5	0.0	545.8
130.00 Bot - Section 5		1.00	1.07	26.425	29.07	303.68	0.650	0.000	5.00	14.823	9.64	448.1	0.0	527.4
135.00 Top - Section 4		1.00	1.08	26.712	29.38	294.55	0.650	0.000	5.00	14.521	9.44	443.7	0.0	922.9
140.00		1.00	1.09	26.991	29.69	289.72	0.650	0.000	5.00	14.007	9.10	432.5	0.0	399.2
145.00		1.00	1.10	27.263	29.99	280.30	0.650	0.000	5.00	13.494	8.77	420.8	0.0	384.5
150.00		1.00	1.11	27.528	30.28	270.72	0.650	0.000	5.00	12.980	8.44	408.8	0.0	369.7
155.00 Appurtenance(s)		1.00	1.12	27.787	30.57	261.01	0.650	0.000	5.00	12.466	8.10	396.3	0.0	355.0
160.00		1.00	1.13	28.040	30.84	251.17	0.650	0.000	5.00	11.952	7.77	383.4	0.0	340.2
165.00 Appurtenance(s)		1.00	1.14	28.288	31.12	241.19	0.650	0.000	5.00	11.439	7.44	370.2	0.0	325.4
170.00		1.00	1.15	28.530	31.38	231.09	0.650	0.000	5.00	10.925	7.10	356.6	0.0	310.7
173.00 Appurtenance(s)		1.00	1.16	28.673	31.54	224.98	0.650	0.000	3.00	6.308	4.10	206.9	0.0	179.3
175.00 Appurtenance(s)		1.00	1.16	28.768	31.64	220.88	0.650	0.000	2.00	4.103	2.67	135.0	0.0	116.6
Totals:									175.00			16,670.5		30,650.4

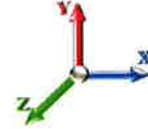
Discrete Appurtenance Forces

Structure: CT03113-S-SBA	Code: EIA/TIA-222-G	9/13/2016
Site Name: North Chaplin	Exposure: B	
Height: 175.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: C - Very Dense Soil	
Gh: 1.1	Topography: 1	Page: 12
	Struct Class: II	



Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	175.00	6' Lightning rod	1	28.768	31.644	1.00	1.00	0.38	5.85	0.000	0.000	19.24	0.00	0.00
2	173.00	Low Profile Platform	1	28.673	31.541	1.00	1.00	25.00	1080.00	0.000	0.000	1261.63	0.00	0.00
3	165.00	Low Profile Platform	1	28.288	31.117	1.00	1.00	25.00	1080.00	0.000	0.000	1244.67	0.00	0.00
4	165.00	Decibel DB980H90A-KL	12	28.288	31.117	0.63	0.80	28.82	91.80	0.000	0.000	1434.82	0.00	0.00
5	155.00	RFS DB-T1-6Z-8AB-0Z	2	27.787	30.566	0.54	0.80	5.15	79.20	0.000	0.000	251.65	0.00	0.00
6	155.00	Antel LPA-80063/6CF	4	27.787	30.566	0.76	0.80	29.15	97.20	0.000	0.000	1425.77	0.00	0.00
7	155.00	Alcatel RRH4X45 B66	3	27.787	30.566	0.54	0.80	4.15	180.90	0.000	0.000	202.89	0.00	0.00
8	155.00	Alcatel RRH2x60-700	3	27.787	30.566	0.54	0.80	5.63	162.00	0.000	0.000	275.24	0.00	0.00
9	155.00	Alcatel RRH2X60-1900	3	27.787	30.566	0.54	0.80	3.01	116.10	0.000	0.000	147.06	0.00	0.00
10	155.00	Commscope	6	27.787	30.566	0.66	0.80	32.07	273.83	0.000	0.000	1568.46	0.00	0.00
11	155.00	PiROD Low Profile	1	27.787	30.566	1.00	1.00	22.00	1350.00	0.000	0.000	1075.92	0.00	0.00
12	155.00	RFS FD9R6004/2C-3L	6	27.787	30.566	0.54	0.80	1.00	16.20	0.000	0.000	48.76	0.00	0.00
13	155.00	Antel LPA-80080/6CF	2	27.787	30.566	0.60	0.80	10.34	37.80	0.000	0.000	505.88	0.00	0.00
Totals:								4,570.88				9,461.99		

Total Applied Force Summary

Structure: CT03113-S-SBA	Code: EIA/TIA-222-G	9/13/2016
Site Name: North Chaplin	Exposure: B	
Height: 175.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: C - Very Dense Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		537.06	1386.88	0.00	0.00
10.00		526.85	1417.54	0.00	0.00
15.00		516.64	1391.73	0.00	0.00
20.00		506.44	1365.91	0.00	0.00
25.00		496.23	1340.09	0.00	0.00
30.00		486.43	1314.27	0.00	0.00
35.00		497.66	1288.45	0.00	0.00
40.00		505.92	1262.63	0.00	0.00
41.00		100.56	249.43	0.00	0.00
45.00		414.16	1781.01	0.00	0.00
48.00		311.50	1315.62	0.00	0.00
50.00		207.74	423.84	0.00	0.00
55.00		525.18	1044.12	0.00	0.00
60.00		525.94	1021.99	0.00	0.00
65.00		525.37	999.86	0.00	0.00
70.00		523.60	977.73	0.00	0.00
75.00		520.75	955.60	0.00	0.00
80.00		516.92	933.47	0.00	0.00
85.00		512.20	911.34	0.00	0.00
90.00		515.29	1697.94	0.00	0.00
91.00		101.70	334.28	0.00	0.00
95.00		406.15	702.83	0.00	0.00
100.00		502.21	858.62	0.00	0.00
105.00		494.65	836.49	0.00	0.00
110.00		486.46	814.35	0.00	0.00
115.00		477.68	792.22	0.00	0.00
120.00		468.35	658.38	0.00	0.00
125.00		458.48	639.94	0.00	0.00
130.00		448.12	621.50	0.00	0.00
135.00		443.74	1017.03	0.00	0.00
140.00		432.51	493.36	0.00	0.00
145.00		420.85	478.60	0.00	0.00
150.00		408.77	463.85	0.00	0.00
155.00	(30) attachments	5897.91	2762.33	0.00	0.00
160.00		383.41	396.36	0.00	0.00
165.00	(13) attachments	3049.67	1553.41	0.00	0.00
170.00		356.58	310.69	0.00	0.00
173.00	(1) attachments	1468.55	1259.33	0.00	0.00
175.00	(1) attachments	154.26	122.46	0.00	0.00
	Totals:	26,132.51	38,195.46	0.00	0.00

Discrete Appurtenance Forces

Structure: CT03113-S-SBA
Site Name: North Chaplin
Height: 175.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: EIA/TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: C - Very Dense Soil
Struct Class: II

9/13/2016

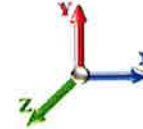
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 22

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	175.00	6' Lightning rod	1	7.050	7.755	1.00	1.00	1.85	51.65	0.000	0.000	14.37	0.00	0.00
2	173.00	Low Profile Platform	1	7.027	7.730	1.00	1.00	53.32	2556.23	0.000	0.000	412.19	0.00	0.00
3	165.00	Low Profile Platform	1	6.933	7.626	1.00	1.00	53.19	2549.54	0.000	0.000	405.63	0.00	0.00
4	165.00	Decibel DB980H90A-KL	12	6.933	7.626	0.63	0.80	39.75	1761.17	0.000	0.000	303.09	0.00	0.00
5	155.00	RFS DB-T1-6Z-8AB-0Z	2	6.810	7.491	0.54	0.80	6.49	743.89	0.000	0.000	48.62	0.00	0.00
6	155.00	Antel LPA-80063/6CF	4	6.810	7.491	0.76	0.80	34.80	1747.38	0.000	0.000	260.66	0.00	0.00
7	155.00	Alcatel RRH4X45 B66	3	6.810	7.491	0.54	0.80	5.40	593.07	0.000	0.000	40.45	0.00	0.00
8	155.00	Alcatel RRH2x60-700	3	6.810	7.491	0.54	0.80	7.33	506.00	0.000	0.000	54.88	0.00	0.00
9	155.00	Alcatel RRH2X60-1900	3	6.810	7.491	0.54	0.80	3.91	294.55	0.000	0.000	29.32	0.00	0.00
10	155.00	Commscope	6	6.810	7.491	0.66	0.80	39.12	2085.58	0.000	0.000	293.05	0.00	0.00
11	155.00	PiROD Low Profile	1	6.810	7.491	1.00	1.00	50.79	4040.20	0.000	0.000	380.46	0.00	0.00
12	155.00	RFS FD9R6004/2C-3L	6	6.810	7.491	0.54	0.80	2.64	69.54	0.000	0.000	19.77	0.00	0.00
13	155.00	Antel LPA-80080/6CF	2	6.810	7.491	0.60	0.80	14.74	404.41	0.000	0.000	110.41	0.00	0.00
Totals:								17,403.22				2,372.90		

Total Applied Force Summary

Structure: CT03113-S-SBA	Code: EIA/TIA-222-G	9/13/2016
Site Name: North Chaplin	Exposure: B	
Height: 175.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: C - Very Dense Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		159.62	2522.87	0.00	0.00
10.00		157.29	2599.91	0.00	0.00
15.00		154.75	2581.63	0.00	0.00
20.00		152.11	2554.55	0.00	0.00
25.00		149.43	2522.39	0.00	0.00
30.00		146.83	2486.86	0.00	0.00
35.00		150.58	2448.92	0.00	0.00
40.00		153.44	2409.15	0.00	0.00
41.00		30.53	477.45	0.00	0.00
45.00		125.80	2957.51	0.00	0.00
48.00		94.76	2188.52	0.00	0.00
50.00		63.26	853.40	0.00	0.00
55.00		160.24	2103.98	0.00	0.00
60.00		160.85	2064.78	0.00	0.00
65.00		161.07	2024.85	0.00	0.00
70.00		160.93	1984.29	0.00	0.00
75.00		160.47	1943.18	0.00	0.00
80.00		159.72	1901.56	0.00	0.00
85.00		158.71	1859.50	0.00	0.00
90.00		159.89	2905.74	0.00	0.00
91.00		31.61	573.54	0.00	0.00
95.00		126.43	1439.94	0.00	0.00
100.00		156.78	1759.75	0.00	0.00
105.00		154.93	1716.32	0.00	0.00
110.00		152.88	1672.59	0.00	0.00
115.00		150.66	1628.59	0.00	0.00
120.00		148.28	1435.40	0.00	0.00
125.00		145.75	1395.84	0.00	0.00
130.00		143.06	1356.05	0.00	0.00
135.00		142.06	1875.23	0.00	0.00
140.00		139.12	1161.43	0.00	0.00
145.00		136.05	1126.00	0.00	0.00
150.00		132.86	1090.39	0.00	0.00
155.00	(30) attachments	1367.17	11539.24	0.00	0.00
160.00		126.12	968.04	0.00	0.00
165.00	(13) attachments	831.32	5242.66	0.00	0.00
170.00		118.95	820.83	0.00	0.00
173.00	(1) attachments	481.65	3033.29	0.00	0.00
175.00	(1) attachments	59.88	363.08	0.00	0.00
	Totals:	7,565.86	83,589.21	0.00	0.00

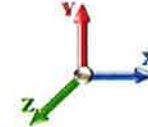
Seismic Segment Forces (Factored)

Structure: CT03113-S-SBA	Code: EIA/TIA-222-G	9/13/2016
Site Name: North Chaplin	Exposure: B	
Height: 175.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: C - Very Dense Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E					Iterations 20
Gust Response Factor	1.10	Seismic Load Factor	1.00	Sds 0.14	Ss 0.17
Dead Load Factor	1.20	Structure Frequency	0.41	Sd1 0.07	S1 0.06
Wind Load Factor	0.00			SA 0.03	Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1499.1	0.00	0.03	0.02	16.53	
10.00		1470.4	0.01	0.05	0.03	24.64	
15.00		1441.7	0.01	0.06	0.03	28.73	
20.00		1413.0	0.02	0.07	0.04	30.68	
25.00		1384.3	0.04	0.07	0.04	31.52	
30.00		1355.7	0.06	0.07	0.04	31.81	
35.00		1327.0	0.08	0.07	0.04	31.88	
40.00		1298.3	0.10	0.07	0.04	31.87	
41.00	Bot - Section 2	256.22	0.10	0.07	0.04	6.32	
45.00		1895.2	0.12	0.07	0.03	47.47	
48.00	Top - Section 1	1399.0	0.14	0.07	0.03	35.41	
50.00		429.10	0.15	0.07	0.03	10.93	
55.00		1055.5	0.19	0.06	0.02	27.09	
60.00		1030.9	0.22	0.06	0.02	26.24	
65.00		1006.3	0.26	0.05	0.02	24.73	
70.00		981.77	0.30	0.04	0.01	22.33	
75.00		957.18	0.35	0.03	0.01	18.83	
80.00		932.59	0.39	0.02	0.01	14.14	
85.00	Bot - Section 3	908.00	0.45	0.00	0.01	8.37	
90.00		1782.0	0.50	-0.02	0.01	3.85	
91.00	Top - Section 2	350.50	0.51	-0.02	0.01	0.23	
95.00		697.24	0.56	-0.04	0.01	-3.74	
100.00		849.42	0.62	-0.06	0.02	-10.57	
105.00		824.83	0.68	-0.08	0.03	-15.01	
110.00		800.24	0.75	-0.10	0.04	-17.54	
115.00	Top - Section 3	775.65	0.82	-0.11	0.06	-17.98	
120.00		626.94	0.89	-0.12	0.08	-13.66	
125.00		606.45	0.96	-0.12	0.11	-10.72	
130.00	Bot - Section 5	585.96	1.04	-0.10	0.15	-6.36	
135.00	Top - Section 4	1025.4	1.12	-0.05	0.20	-1.34	
140.00		443.57	1.21	0.01	0.26	4.86	
145.00		427.18	1.30	0.12	0.33	11.07	
150.00		410.79	1.39	0.26	0.42	17.93	
155.00	Appurtenance(s)	2964.6	1.48	0.46	0.52	190.15	
160.00		378.00	1.58	0.72	0.64	33.06	
165.00	Appurtenance(s)	1663.6	1.68	1.05	0.78	189.05	
170.00		345.22	1.78	1.46	0.95	49.28	
173.00	Appurtenance(s)	1399.2	1.85	1.76	1.06	226.17	
175.00	Appurtenance(s)	136.06	1.89	1.98	1.14	23.79	
Totals:		39,134.8				1,122.0	Total Wind: 26,132.5

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

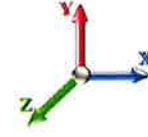
Seismic Segment Forces (Factored)

Structure: CT03113-S-SBA	Code: EIA/TIA-222-G	9/13/2016
Site Name: North Chaplin	Exposure: B	
Height: 175.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: C - Very Dense Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E		Iterations 20
Gust Response Factor 1.10	Sds 0.14	Ss 0.17
Dead Load Factor 0.90	Seismic Load Factor 1.00	S1 0.06
Wind Load Factor 0.00	Structure Frequency 0.41	SA 0.03
		Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1499.1	0.00	0.03	0.02	16.53	
10.00		1470.4	0.01	0.05	0.03	24.64	
15.00		1441.7	0.01	0.06	0.03	28.73	
20.00		1413.0	0.02	0.07	0.04	30.68	
25.00		1384.3	0.04	0.07	0.04	31.52	
30.00		1355.7	0.06	0.07	0.04	31.81	
35.00		1327.0	0.08	0.07	0.04	31.88	
40.00		1298.3	0.10	0.07	0.04	31.87	
41.00	Bot - Section 2	256.22	0.10	0.07	0.04	6.32	
45.00		1895.2	0.12	0.07	0.03	47.47	
48.00	Top - Section 1	1399.0	0.14	0.07	0.03	35.41	
50.00		429.10	0.15	0.07	0.03	10.93	
55.00		1055.5	0.19	0.06	0.02	27.09	
60.00		1030.9	0.22	0.06	0.02	26.24	
65.00		1006.3	0.26	0.05	0.02	24.73	
70.00		981.77	0.30	0.04	0.01	22.33	
75.00		957.18	0.35	0.03	0.01	18.83	
80.00		932.59	0.39	0.02	0.01	14.14	
85.00	Bot - Section 3	908.00	0.45	0.00	0.01	8.37	
90.00		1782.0	0.50	-0.02	0.01	3.85	
91.00	Top - Section 2	350.50	0.51	-0.02	0.01	0.23	
95.00		697.24	0.56	-0.04	0.01	-3.74	
100.00		849.42	0.62	-0.06	0.02	-10.57	
105.00		824.83	0.68	-0.08	0.03	-15.01	
110.00		800.24	0.75	-0.10	0.04	-17.54	
115.00	Top - Section 3	775.65	0.82	-0.11	0.06	-17.98	
120.00		626.94	0.89	-0.12	0.08	-13.66	
125.00		606.45	0.96	-0.12	0.11	-10.72	
130.00	Bot - Section 5	585.96	1.04	-0.10	0.15	-6.36	
135.00	Top - Section 4	1025.4	1.12	-0.05	0.20	-1.34	
140.00		443.57	1.21	0.01	0.26	4.86	
145.00		427.18	1.30	0.12	0.33	11.07	
150.00		410.79	1.39	0.26	0.42	17.93	
155.00	Appurtenance(s)	2964.6	1.48	0.46	0.52	190.15	
160.00		378.00	1.58	0.72	0.64	33.06	
165.00	Appurtenance(s)	1663.6	1.68	1.05	0.78	189.05	
170.00		345.22	1.78	1.46	0.95	49.28	
173.00	Appurtenance(s)	1399.2	1.85	1.76	1.06	226.17	
175.00	Appurtenance(s)	136.06	1.89	1.98	1.14	23.79	
Totals:		39,134.8				1,122.0	Total Wind: 26,132.5

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

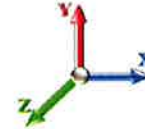
Discrete Appurtenance Forces

Structure: CT03113-S-SBA	Code: EIA/TIA-222-G	9/13/2016
Site Name: North Chaplin	Exposure: B	
Height: 175.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: C - Very Dense Soil	
Gh: 1.1	Topography: 1	Page: 24
	Struct Class: II	



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 22

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	175.00	6' Lightning rod	1	10.152	11.168	1.00	1.00	0.38	6.50	0.000	0.000	4.24	0.00	0.00
2	173.00	Low Profile Platform	1	10.119	11.131	1.00	1.00	25.00	1200.00	0.000	0.000	278.27	0.00	0.00
3	165.00	Low Profile Platform	1	9.983	10.981	1.00	1.00	25.00	1200.00	0.000	0.000	274.53	0.00	0.00
4	165.00	Decibel DB980H90A-KL	12	9.983	10.981	0.63	0.80	28.82	102.00	0.000	0.000	316.47	0.00	0.00
5	155.00	RFS DB-T1-6Z-8AB-OZ	2	9.806	10.787	0.54	0.80	5.15	88.00	0.000	0.000	55.51	0.00	0.00
6	155.00	Antel LPA-80063/6CF	4	9.806	10.787	0.76	0.80	29.15	108.00	0.000	0.000	314.48	0.00	0.00
7	155.00	Alcatel RRH4X45 B66	3	9.806	10.787	0.54	0.80	4.15	201.00	0.000	0.000	44.75	0.00	0.00
8	155.00	Alcatel RRH2x60-700	3	9.806	10.787	0.54	0.80	5.63	180.00	0.000	0.000	60.71	0.00	0.00
9	155.00	Alcatel RRH2X60-1900	3	9.806	10.787	0.54	0.80	3.01	129.00	0.000	0.000	32.44	0.00	0.00
10	155.00	Commscope	6	9.806	10.787	0.66	0.80	32.07	304.26	0.000	0.000	345.95	0.00	0.00
11	155.00	PiROD Low Profile	1	9.806	10.787	1.00	1.00	22.00	1500.00	0.000	0.000	237.31	0.00	0.00
12	155.00	RFS FD9R6004/2C-3L	6	9.806	10.787	0.54	0.80	1.00	18.00	0.000	0.000	10.75	0.00	0.00
13	155.00	Antel LPA-80080/6CF	2	9.806	10.787	0.60	0.80	10.34	42.00	0.000	0.000	111.58	0.00	0.00
Totals:									5,078.76			2,087.00		

Total Applied Force Summary

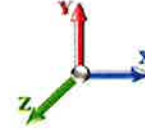
Structure: CT03113-S-SBA	Code: EIA/TIA-222-G	9/13/2016
Site Name: North Chaplin	Exposure: B	
Height: 175.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: C - Very Dense Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		118.46	1540.98	0.00	0.00
10.00		116.21	1575.05	0.00	0.00
15.00		113.95	1546.36	0.00	0.00
20.00		111.70	1517.67	0.00	0.00
25.00		109.45	1488.99	0.00	0.00
30.00		107.29	1460.30	0.00	0.00
35.00		109.77	1431.61	0.00	0.00
40.00		111.59	1402.92	0.00	0.00
41.00		22.18	277.14	0.00	0.00
45.00		91.35	1978.90	0.00	0.00
48.00		68.71	1461.80	0.00	0.00
50.00		45.82	470.94	0.00	0.00
55.00		115.84	1160.13	0.00	0.00
60.00		116.01	1135.54	0.00	0.00
65.00		115.88	1110.96	0.00	0.00
70.00		115.49	1086.37	0.00	0.00
75.00		114.86	1061.78	0.00	0.00
80.00		114.02	1037.19	0.00	0.00
85.00		112.97	1012.60	0.00	0.00
90.00		113.65	1886.60	0.00	0.00
91.00		22.43	371.42	0.00	0.00
95.00		89.58	780.92	0.00	0.00
100.00		110.77	954.02	0.00	0.00
105.00		109.10	929.43	0.00	0.00
110.00		107.30	904.84	0.00	0.00
115.00		105.36	880.25	0.00	0.00
120.00		103.30	731.54	0.00	0.00
125.00		101.13	711.05	0.00	0.00
130.00		98.84	690.56	0.00	0.00
135.00		97.87	1130.03	0.00	0.00
140.00		95.40	548.17	0.00	0.00
145.00		92.83	531.78	0.00	0.00
150.00		90.16	515.39	0.00	0.00
155.00	(30) attachments	1300.88	3069.25	0.00	0.00
160.00		84.57	440.40	0.00	0.00
165.00	(13) attachments	672.65	1726.01	0.00	0.00
170.00		78.65	345.22	0.00	0.00
173.00	(1) attachments	323.91	1399.26	0.00	0.00
175.00	(1) attachments	34.03	136.06	0.00	0.00
	Totals:	5,763.96	42,439.40	0.00	0.00

Final Analysis Summary

Structure: CT03113-S-SBA	Code: EIA/TIA-222-G	9/13/2016
Site Name: North Chaplin	Exposure: B	
Height: 175.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: C - Very Dense Soil	
Gh: 1.1	Topography: 1	Struct Class: II



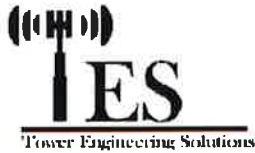
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Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 101 mph Wind	26.2	0.00	50.91	0.00	0.00	3016.66
0.9D + 1.6W 101 mph Wind	26.2	0.00	38.17	0.00	0.00	2994.98
1.2D + 1.0Di + 1.0Wi 50 mph Wind	7.6	0.00	83.59	0.00	0.00	881.65
1.2D + 1.0E	1.2	0.00	50.93	0.00	0.00	146.84
0.9D + 1.0E	1.2	0.00	38.20	0.00	0.00	145.72
1.0D + 1.0W 60 mph Wind	5.8	0.00	42.44	0.00	0.00	662.42

Max Stresses

Load Case	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)	Elev (ft)	Stress Ratio
1.2D + 1.6W 101 mph Wind	-50.91	-26.17	0.00	-3016.6	0.00	-3016.6	5803.10	2901.5	15291.3	7657.05	0.00	0.403
0.9D + 1.6W 101 mph Wind	-38.17	-26.16	0.00	-2994.9	0.00	-2994.9	5803.10	2901.5	15291.3	7657.05	0.00	0.398
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-83.59	-7.59	0.00	-881.65	0.00	-881.65	5803.10	2901.5	15291.3	7657.05	0.00	0.130
1.2D + 1.0E	-50.93	-1.22	0.00	-146.84	0.00	-146.84	5803.10	2901.5	15291.3	7657.05	0.00	0.028
0.9D + 1.0E	-38.20	-1.22	0.00	-145.72	0.00	-145.72	5803.10	2901.5	15291.3	7657.05	0.00	0.026
1.0D + 1.0W 60 mph Wind	-42.44	-5.77	0.00	-662.42	0.00	-662.42	5803.10	2901.5	15291.3	7657.05	0.00	0.094



Monopole Mat Foundation Design

Date

9/13/2016

Customer Name:	Verizon	EIA/TIA Standard:	EIA-222-G
Site Name:	North Chaplin	Structure Height (Ft.):	175
Site Number:	CT03113-S-SBA	Engineer Name:	W. Velez
Engr. Number:	26014	Engineer Login ID:	TES

Foundation Info Obtained from:

Drawings/Calculations

Structure Type:

Monopole

Analysis or Design?

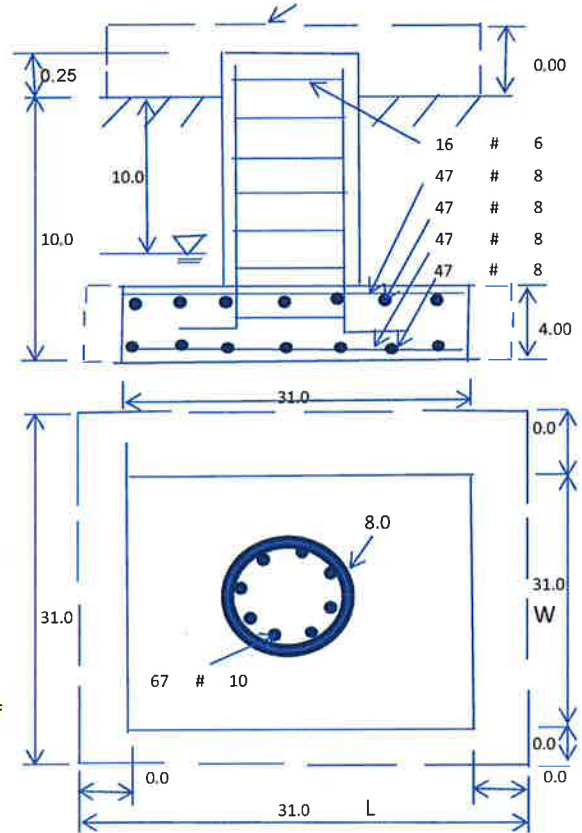
Analysis

Base Reactions (Factored):

Axial Load (Kips):	50.9	Shear Force (Kips):	26.2
Uplift Force (Kips):	0.0	Moment (Kips-ft):	3016.7

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	8.0	Depth of Base BG (ft.):	10.0
Pier Height A. G. (ft.):	0.25	Thickness of Pad (ft.):	4.00
Length of Pad (ft.):	31	Width of Pad (ft.):	31
Final Length of pad (ft)	31.0	Final width of pad (ft):	31.0
Control Value for Cell D18:	0	Control Value for Cell F18:	0



Material Properties and Rebar Info:

Concrete Strength (psi):	3500	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	10	Tie / Stirrup Size #:	6	
Qty. of Vertical Rebars:	67	Tie Spacing (in):	8.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	47	Qty. of Rebar in Pad (W):	47	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	47	Qty. of Rebar in Pad (W):	47	

Soil Design Parameters:

Soil Unit Weight (pcf):	135.0	Soil Buoyant Weight:	50.0	Pcf	
Water Table B.G.S. (ft):	10.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad: 30
Ultimate Bearing Pressure (psf):	30000	Ultimate Skin Friction:	0	Psf	Angle from Bottom of Pad: 25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottom of Pad: 25
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:	1.00		

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	5464.41	Total Dry Soil Weight (Kips):	737.69
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	737.69	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	4158.16	Total Dry Concrete Weight (Kips):	623.72
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	623.72	Total Vertical Load on Base (Kips):	1412.33

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	2198	<	Allowable Factored Soil Bearing (psf):	22500	0.10	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	19780.9	>	Design Factored Momont (kips-ft):	2540	0.13	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	7.79					OK!

Load/
Capacity
Ratio

Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00

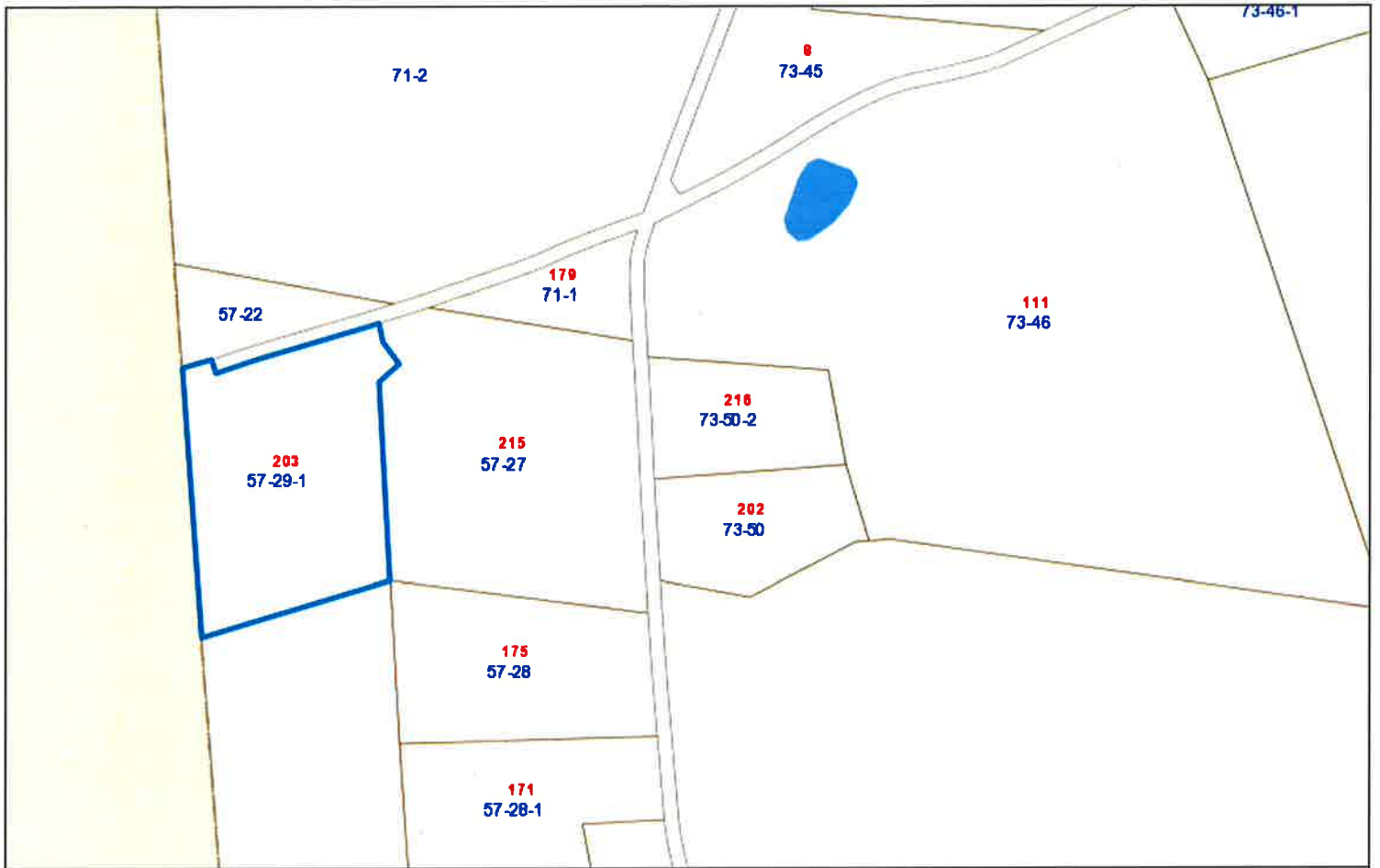
(1) Concrete Pier:

				Capacity Ratio	
Vertical Steel Rebar Area (sq. in./each):	1.27	Tie / Stirrup Area (sq. in./each):	0.44		
Calculated Moment Capacity (Mn,Kips-Ft):	15354.1	> Design Factored Moment (Mu, Kips-Ft)	3180.4	0.21	OK!
Calculated Shear Capacity (Kips):	1149.2	> Design Factored Shear (Kips):	26.2	0.02	OK!
Calculated Tension Capacity (Tn, Kips):	4594.9	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	11065.9	> Design Factored Axial Load (Pu Kips):	50.9	0.00	OK!
Moment & Axial Strength Combination:	0.21	OK! Check Tie Spacing (Design/Required):		0.6667	OK!
Pier Reinforcement Ratio:	0.012	Reinforcement Ratio is satisfied per ACI			

(2) Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	1469.0	> One-Way Factored Shear (L-D. Kips):	398.8	0.27	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1469.0	> One-Way Factored Shear (W-D., Kips)	398.8	0.27	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1698.4	> One-Way Factored Shear (C-C, Kips):	326.3	0.19	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0022	OK! Lower Steel Pad Reinf. Ratio (W-Direct	0.0022		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	7267.1	> Moment at Bottom (L-Direct. K-Ft):	1553.6	0.21	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	7267.1	> Moment at Bottom (W-Direct. K-Ft):	1553.6	0.21	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	10224.2	> Moment at Bottom (C-C Dir. K-Ft):	2197.1	0.21	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0022	OK! Upper Steel Reinf. Ratio (W-Direct.):	0.0022		
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	7267.1	> Moment at the top (L-Dir Kips-Ft):	282.4	0.04	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	7267.1	> Moment at the top (W-Dir Kips-Ft):	282.4	0.04	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	10224.2	> Moment at the top (C-C Direc. K-Ft):	347.3	0.03	OK!

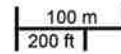
ATTACHMENT 4



Town of Chaplin, Connecticut

Selected Parcel: 203 DAVIS RD ID: 57-29-1

Printed on 11/1/2016 from <http://www.mainstreetmaps.com/ct/chaplin/public.asp>



This map is for informational purposes only. It is not for appraisal of, description of, or conveyance of land. The Town of Chaplin, Connecticut and MainStreetGIS, LLC assume no legal responsibility for the information contained herein.



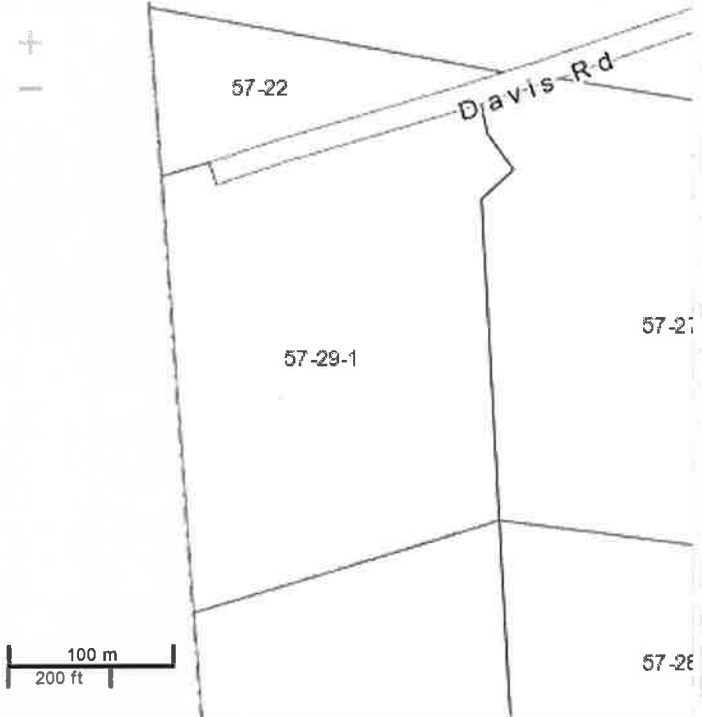
Town of Chaplin, Connecticut Property Record Card

ID: **57-29-1** Account #: **P000791**



Owner: PEARL TRUMAN J
Co-Owner:
Address: 203 DAVIS RD
CHAPLIN CT 06235

Assessment: Total: 148400, Assessed Value: 211800
Building: 88600 Land: 39800 Yard: 20000



Sales History

Grantor	Book / Page	Sale Date	Sale Price
PEARL TRUMAN J	51 / 677		0



Land Information

Land Area: 6.68 AC Zoning:
Land Use: 101 - Single Family
Neighborhood:

Building Information

Style: Cape Cod
Year Built: 1987
Room 6 Bedroom 03
Bath 2 Half Bath 1
Living Area: 1517
Gross Area: 3076

Stories

Heat Fuel: Oil
Heat Type: Hot Water
ACT Type: None
Roof Structure: Gable
Roof Covering: Asphalt Shingle

Extra Features

Description	Area / Units	Assessment
Canopy	420	3700
Garage	360	5300
Garage	420	6200
Shed	540	4800

Sub Areas

Description	Living Area	Gross Area
Fir Floor	946	946
Framed Open Por	0	210
Wood Deck	0	288
Three Quarter Story	571	816
Basement	0	816

Property information last updated: Wee - Printed from: <http://www.mainstreetmaps.com/ct/chaplin/>