AIROSMITH DEVELOPMENT
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June 19th, 2018

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

RE: Notice of Exempt Modification – Antenna Swap for wireless facility located at 355 NEW LONDON ROAD, COLCHESTER CONNECTICUT – CT73XC017 (lat. 41° 32' 42" N, long. - 72° 18' 18" W)

Dear Ms. Bachman:

Sprint Spectrum, LP ("Sprint") currently maintains wireless telecommunications antennas at the (180-foot level) on an existing (180-foot monopole tower) at the above-referenced address. The property is owned and the tower are owned by American Tower Corporation.

Sprint's proposed work involves antenna replacement and tower work. Sprint intends to replace three (3) antennas, add three (3) new antennas, relocate three (3) RRHs from ground level to the tower and add nine (9) new RRHs onto the tower. All the proposed work is contained within the existing fenced area. Please refer to the attached drawings for site plans prepared by Infinigy Engineering.

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). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to ART SHILOSKY, FIRST SELECTMAN and RANDALL BENSO, TOWN PLANNER of the Town of COLCHESTER. A copy of this letter is also being sent to JUSTINE PAUL the manager for AMERICAN TOWER CORPORATION who manages the site.

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

1. The proposed modifications will not result in an increase in the height of the existing tower.
2. The antennas work is a one-for-one replacement of facility components.
3. The proposed modifications will include the addition of ground base equipment as

32 Clinton Street, Saratoga Springs, NY 12866
Office 518-306-1733 – Fax 518-306-1711
www.airosmithdevelopment.com

depicted on the attached drawings; however, the proposed equipment will not require an extension of the site boundaries.

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

5. The additional ground based equipment will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) adopted safety standard.

For the foregoing reasons, Sprint 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).

If you have any questions or require any additional information regarding this request, please do not hesitate to give me a call at (518) 350-4222 or email me to aperkowski@airosmithdevelopment.com

Kind Regards,

Arthur Perkowski
Airosmith Development Inc.
32 Clinton Street
Saratoga Springs, NY 12866
518-306-1711 desk & fax
518-871-3707 cell
aperkowski@airosmithdevelopment.com

Attachment

CC: ART SHILOSKY (FIRST SELECTMAN / COLCHESTER, CT)
JUSTINE PAUL (Manager, AMERICAN TOWER CORPORATION)
RANDALL BENSON (TOWN PLANNER / COLCHESTER, CT)

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PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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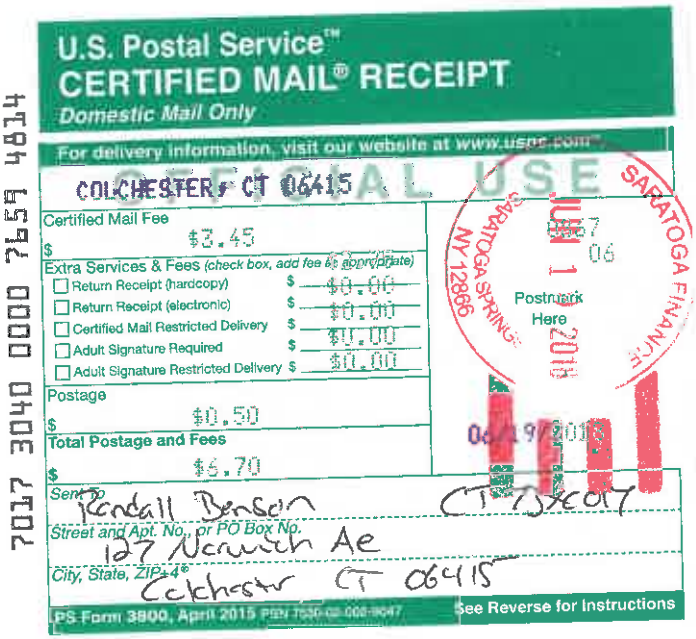

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Sent To: Kendall Benson CT13xc017

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City, State, ZIP+4®: Colchester CT 06415

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EBI Consulting
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RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

SPRINT Existing Facility

Site ID: CT73XC017

Colchester-Route 85
355 New London Road
Colchester, CT 06415

June 13, 2018

EBI Project Number: 6218004336

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	7.48 %

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting
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June 13, 2018

SPRINT
Attn: RF Engineering Manager
1 International Boulevard, Suite 800
Mahwah, NJ 07495

Emissions Analysis for Site: **CT73XC017 – Colchester-Route 85**

EBI Consulting was directed to analyze the proposed SPRINT facility located at **355 New London Road, Colchester, CT**, for the purpose of determining whether the emissions from the Proposed SPRINT Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

General population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 850 MHz Band is approximately 567 $\mu W/cm^2$. The general population exposure limit for the 1900 MHz (PCS) and 2500 MHz (BRS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed SPRINT Wireless antenna facility located at **355 New London Road, Colchester, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since SPRINT is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

1) 1 CDMA channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

2) 2 LTE channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 50 Watts per Channel.

3) 5 CDMA channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 16 Watts per Channel.

4) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

5) 8 LTE channels (2500 MHz (BRS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

6) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

7) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

8) The antennas used in this modeling are the **Commscope NNVV-65B-R4 and the RFS APXVTM14-ALU-I20** for transmission in the 850 MHz, 1900 MHz (PCS) and 2500 MHz (BRS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

9) The antenna mounting height centerlines of the proposed antennas are **180 feet** above ground level (AGL) for **Sector A**, **180 feet** above ground level (AGL) for **Sector B** and **180 feet** above ground level (AGL) for Sector C.

10) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculations were done with respect to uncontrolled / general population threshold limits.

SPRINT Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Commscope NNVV-65B-R4	Make / Model:	Commscope NNVV-65B-R4	Make / Model:	Commscope NNVV-65B-R4
Gain:	12.75 / 15.05 dBd	Gain:	12.75 / 15.05 dBd	Gain:	12.75 / 15.05 dBd
Height (AGL):	**180 feet**	Height (AGL):	**180 feet**	Height (AGL):	**180 feet**
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	10	Channel Count	10	Channel Count	10
Total TX Power(W):	280 Watts	Total TX Power(W):	280 Watts	Total TX Power(W):	280 Watts
ERP (W):	7,378.61	ERP (W):	7,378.61	ERP (W):	7,378.61
Antenna A1 MPE%	**1.08 %**	Antenna B1 MPE%	**1.08 %**	Antenna C1 MPE%	**1.08 %**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	RFS APXVTM14-ALU-I20	Make / Model:	RFS APXVTM14-ALU-I20	Make / Model:	RFS APXVTM14-ALU-I20
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	**180 feet**	Height (AGL):	**180 feet**	Height (AGL):	**180 feet**
Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)
Channel Count	8	Channel Count	8	Channel Count	8
Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts
ERP (W):	6,224.72	ERP (W):	6,224.72	ERP (W):	6,224.72
Antenna A2 MPE%	**0.74 %**	Antenna B2 MPE%	**0.74 %**	Antenna C2 MPE%	**0.74 %**

Site Composite MPE%	
Carrier	**MPE%**
SPRINT – Max per sector	**1.82 %**
T-Mobile	1.97 %
Verizon Wireless	2.03 %
AT&T	1.66 %
Enertrac (Receive Only)	0.00 %
Site Total MPE %:	**7.48 %**

SPRINT Sector A Total:	1.82 %
SPRINT Sector B Total:	1.82 %
SPRINT Sector C Total:	1.82 %
Site Total:	7.48 %

SPRINT _ Frequency Band / Technology Max Power Values (Per Sector)	**# Channels**	**Watts ERP (Per Channel)**	**Height (feet)**	**Total Power Density ($\mu W/cm^2$)**	**Frequency (MHz)**	**Allowable MPE ($\mu W/cm^2$)**	**Calculated % MPE**
Sprint 850 MHz CDMA	1	376.73	180	0.45	850 MHz	567	0.09%
Sprint 850 MHz LTE	2	941.82	180	2.24	850 MHz	567	0.39%
Sprint 1900 MHz (PCS) CDMA	5	511.82	180	3.04	1900 MHz (PCS)	1000	0.30%
Sprint 1900 MHz (PCS) LTE	2	1,279.56	180	3.04	1900 MHz (PCS)	1000	0.30%
Sprint 2500 MHz (BRS) LTE	8	778.09	180	7.39	2500 MHz (BRS)	1000	0.74%
						Total:	**1.82%**

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the SPRINT facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

SPRINT Sector	Power Density Value (%)
Sector A:	1.82 %
Sector B:	1.82 %
Sector C:	1.82 %
SPRINT Maximum Total (per sector):	1.82 %
Site Total:	7.48 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **7.48 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

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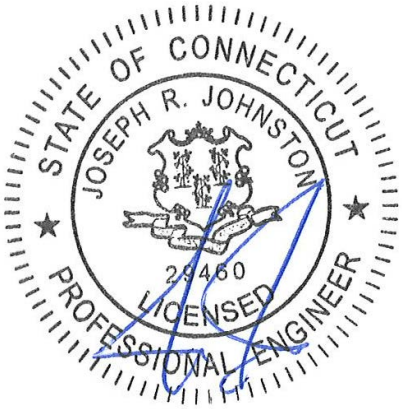
1033 WATERVLIET SHAKER RD, ALBANY, NY 12205

Mount Analysis Report

April 15, 2018

Sprint Site #	CT73XC017
Infinigy Job Number	526-104
Client	Airosmith
Proposed Carrier	Sprint
Site Location	355 Route 85 Colchester, CT 06415 41.54480˚ N NAD83 72.30490˚ W NAD83
Mount Centerline EL.	180.0’
Mount Classification	T-Arm
Passing Structural Usage	**90.7%**
Overall Result	**Pass**

Upon reviewing the results of this analysis, it is our opinion that the structure and anchorage meets the specified TIA code requirements. The mount is therefore deemed adequate to support the existing and proposed loading as listed in this report.



04-16-18

Nathaniel R. Ober, E.I.T.
Northeast Structural Region Lead

Contents

Introduction

Infinigy Engineering has been requested to perform a mount analysis on the existing Sprint mounts. All supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. The mount was analyzed using RISA-3D Version 16.0.2 structural analysis software.

Supporting Documentation

Structural Analysis	ATC Eng #OAA710393_C3_03, dated March 16, 2018

Analysis Code Requirements

Wind Speed	101 mph (3-Second Gust, V_{asd}) / 130 mph (3-Second Gust V_{ult})
Wind Speed w/ ice	50 mph (3-Second Gust) w/ 3/4" ice
TIA Revision	ANSI/TIA222-G
Adopted IBC	2012 IBC / 2016 Connecticut State Building Code
Structure Class	II
Exposure Category	B
Topographic Category	1
Calculated Crest Height	0 ft

Conclusion

Upon reviewing the results of this analysis, it is our opinion that the structure meets the specified TIA code requirements. The mount for the proposed carrier is therefore deemed adequate to support the final loading configuration as listed in this report.

If you have any questions, require additional information, or actual conditions differ from those as detailed in this report please contact me via the information below:

Nathaniel R Ober E.I.T.
Northeast Structural Region Lead | Infinigy
1033 Watervliet Shaker Road, Albany, NY 12205
(O) (518) 690-0790 | (M) (303) 704-0322
nober@infinigy.com | www.infinigy.com

Final Configuration Loading

Mount Centerline (ft)	RAD Height (ft)	Horizontal Offset (ft)*	Qty.	Appurtenance	Carrier
180.0	180.0	12.0	3	Commscope NNVV-65B-R4	Sprint
		0.0	3	RFS APXVTM14-ALU-I20	
		4.0	3	Alcatel-Lucent TD-RRH8x20-25	
		0.0,12.0	6	Alcatel-Lucent RRH2x50-08	
		8.0	3	Alcatel-Lucent 1900 MHz 4X45 RRH	

*** Horizontal Offset is defined as the distance from the left most edge of the mount face horizontal when viewed facing the tower**

Structure Usages

Stand off	71.0	Pass
Face Horizontal	90.7	Pass
Mount Pipe	54.6	Pass
RATING =	**90.7**	**Pass**

Assumptions and Limitations

Our structural calculations are completed assuming all information provided to Infinigy Engineering is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition of "like new" and all members and connections to be free of corrosion and/or structural defects. The structure owner and/or contractor shall verify the structure's condition prior to installation of any proposed equipment. If actual conditions differ from those described in this report Infinigy Engineering should be notified immediately to complete a revised evaluation.

Our evaluation is completed using standard TIA, AISC, ACI, and ASCE methods and procedures. Our structural results are proprietary and should not be used by others as their own. Infinigy Engineering is not responsible for decisions made by others that are or are not based on our supplied assumptions and conclusions.

This report is an evaluation of the proposed carriers mount structure only and does not reflect adequacy of the existing tower, other mounts, or coax mounting attachments. These elements are assumed to be adequate for the purposes of this analysis and are assumed to have been installed per their manufacturer requirements.

Site Name:	CT73CX017
Client:	Airosmith
Carrier:	Sprint
Engineer:	NRO
Date:	4/15/2018

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INFINIGY WIND LOAD CALCULATOR 3.0.2

Site Information Inputs:

Adopted Building Code:	2015 IBC
Structure Load Standard:	TIA-222-G
Antenna Load Standard:	TIA-222-G
Structure Risk Category:	II
Structure Type:	Mount - T-Arm
Number of Sectors:	3
Structure Shape 1:	Round

Rooftop Inputs:

Rooftop Wind Speed-Up?:	No

Wind Loading Inputs:

Design Wind Velocity:	101	mph (nominal 3-second gust)
Wind Centerline 1 (z_1):	180.0	ft
Side Face Angle (θ):	60	degrees
Exposure Category:	B	
Topographic Category:	1	

Wind with No Ice		
q_z (psf)	Gh	F_{ST} (psf)
29.00	1.00	**34.80**

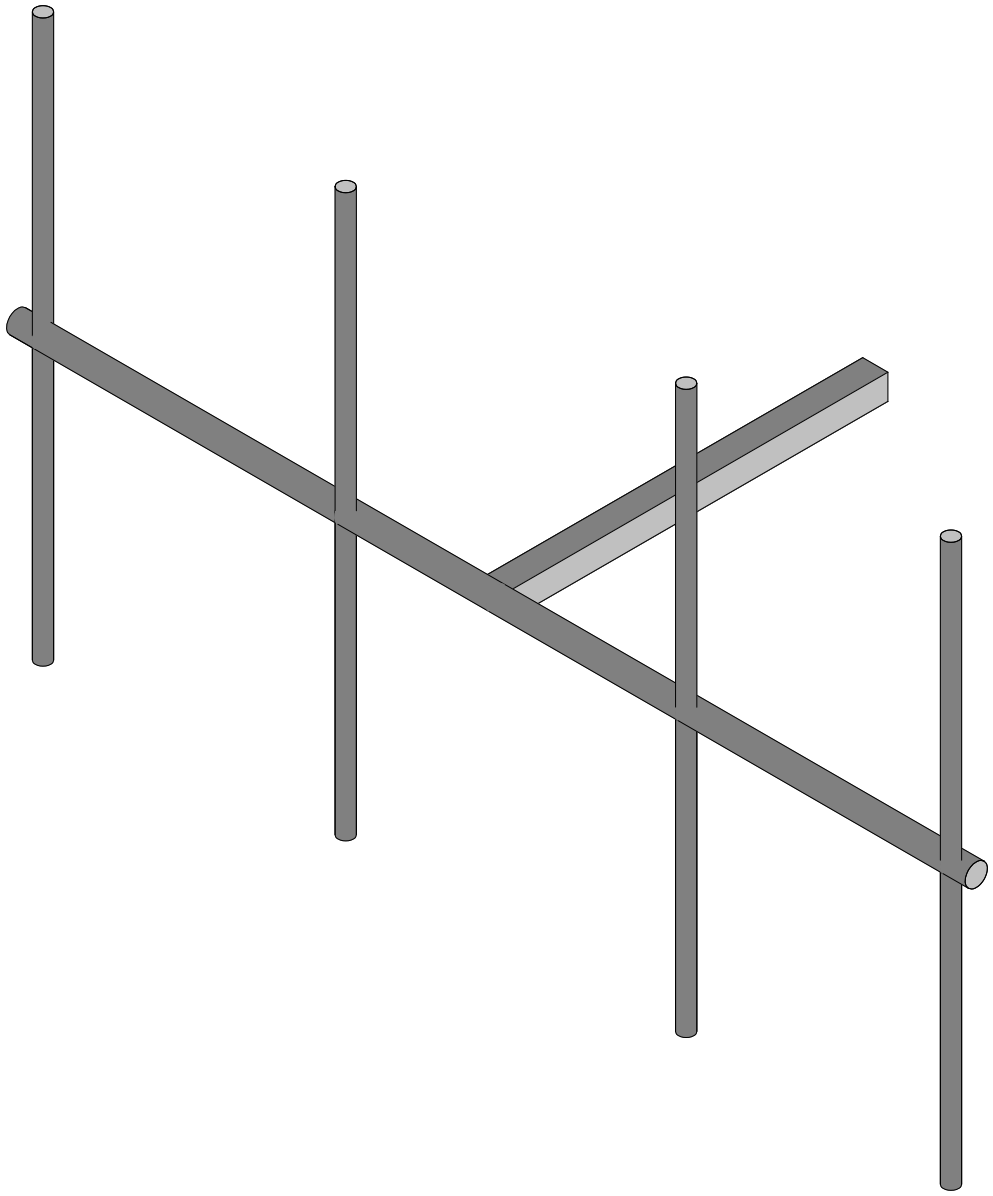
Wind with Ice		
q_z (psf)	Gh	F_{ST} (psf)
7.11	1.00	**20.26**

Ice Loading Inputs:

Is Ice Loading Needed?:	Yes	
Ice Wind Velocity:	50	mph (nominal 3-second gust)
Base Ice Thickness:	0.75	in

Input Appurtenance Information and Load Placements:

Appurtenance Name	Elevation (ft)	Total Quantity	Ka	Front Shape	Side Shape	q_z (psf)	EPA (ft^2)	Fz (lbs)	Fx (lbs)	Fz(60) (lbs)	Fx(30) (lbs)
Commscope NNVV-65B-R4	180.0	3	1.00	Flat	Flat	29.00	12.27	355.86	166.75	214.03	308.59
RFS APXVTM14-ALU-I20	180.0	3	1.00	Flat	Flat	29.00	6.34	183.93	104.61	124.44	164.10
TD-RRH8x20-25	180.0	6	1.00	Flat	Flat	29.00	3.70	107.42	37.52	55.00	89.95
RRH2x50-800	180.0	3	1.00	Flat	Flat	29.00	1.70	49.32	37.18	40.22	46.29
Alcatel-Lucent 1900 MHz RRH	180.0	3	1.00	Flat	Flat	29.00	2.31	67.06	68.88	68.42	67.52



Envelope Only Solution

Infingy Engineering PLLC	CT03XC017	
NRO		Apr 15, 2018 at 12:05 PM
526-104		CT73XC017.R3D

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N9	N7			Standoff	Beam	SquareTube	A500 Gr.B...	Typical
2	M2	N5	N12			Horizontal	Beam	Pipe	A53 Gr.B	Typical
3	MP1	N1	N13			PIPE 2STD	Column	Pipe	A53 Gr.B	Typical
4	MP2	N2	N14			PIPE 2STD	Column	Pipe	A53 Gr.B	Typical
5	MP3	N3	N15			PIPE 2STD	Column	Pipe	A53 Gr.B	Typical
6	MP4	N4	N16			PIPE 2STD	Column	Pipe	A53 Gr.B	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	Hot Rolled Steel				
2	A500 Gr.B Rect	HSS4x4x4	1	60	61.7
3	A53 Gr.B	PIPE_2.0	4	356	103
4	A53 Gr.B	PIPE_3.0	1	152	89.2
5	Total HR Steel		6	568	253.9

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(M...	Surface...
1	Self Weight	DL		-1			8			
2	Wind Load AZI 000	WLZ					8		1	
3	Wind Load AZI 090	WLX					8		1	
4	Ice Weight	OL1					8	6		
5	Wind + Ice Load AZI 000	OL2					8		1	
6	Wind + Ice Load AZI 090	OL3					8		1	
7	Service Live 1	LL								
8	Seismic Load AZI 000	ELZ					10			
9	Seismic Load AZI 090	ELX					10			
10	BLC 2 Transient Area Loads	None						5		
11	BLC 3 Transient Area Loads	None						5		
12	BLC 5 Transient Area Loads	None						5		
13	BLC 6 Transient Area Loads	None						5		

Load Combinations

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..
1	1.4D	Yes	Y		DL	1.4																		
2	1.2D + 1.6W AZI 000	Yes	Y		DL	1.2	W...	1.6																
3	1.2D + 1.6W AZI 030	Yes	Y		DL	1.2	W...	1.3...	W...	.8														
4	1.2D + 1.6W AZI 060	Yes	Y		DL	1.2	W...	.8	W...	1.3...														
5	1.2D + 1.6W AZI 090	Yes	Y		DL	1.2			W...	1.6														
6	1.2D + 1.6W AZI 120	Yes	Y		DL	1.2	W...	-.8	W...	1.3...														
7	1.2D + 1.6W AZI 150	Yes	Y		DL	1.2	W...	-1.3...	W...	.8														
8	1.2D + 1.6W AZI 180	Yes	Y		DL	1.2	W...	-1.6																
9	1.2D + 1.6W AZI 210	Yes	Y		DL	1.2	W...	-1.3...	W...	-.8														
10	1.2D + 1.6W AZI 240	Yes	Y		DL	1.2	W...	-.8	W...	-1.3...														
11	1.2D + 1.6W AZI 270	Yes	Y		DL	1.2			W...	-1.6														
12	1.2D + 1.6W AZI 300	Yes	Y		DL	1.2	W...	.8	W...	-1.3...														
13	1.2D + 1.6W AZI 330	Yes	Y		DL	1.2	W...	1.3...	W...	-.8														
14	0.9D + 1.6W AZI 000	Yes	Y		DL	.9	W...	1.6																
15	0.9D + 1.6W AZI 030	Yes	Y		DL	.9	W...	1.3...	W...	.8														
16	0.9D + 1.6W AZI 060	Yes	Y		DL	.9	W...	.8	W...	1.3...														
17	0.9D + 1.6W AZI 090	Yes	Y		DL	.9			W...	1.6														
18	0.9D + 1.6W AZI 120	Yes	Y		DL	.9	W...	-.8	W...	1.3...														

Load Combinations (Continued)

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
19	0.9D + 1.6W AZI 150	Yes	Y		DL	.9	W...	-1.3...	W...	.8																
20	0.9D + 1.6W AZI 180	Yes	Y		DL	.9	W...	-1.6																		
21	0.9D + 1.6W AZI 210	Yes	Y		DL	.9	W...	-1.3...	W...	-.8																
22	0.9D + 1.6W AZI 240	Yes	Y		DL	.9	W...	-.8	W...	-1.3...																
23	0.9D + 1.6W AZI 270	Yes	Y		DL	.9			W...	-1.6																
24	0.9D + 1.6W AZI 300	Yes	Y		DL	.9	W...	.8	W...	-1.3...																
25	0.9D + 1.6W AZI 330	Yes	Y		DL	.9	W...	1.3...	W...	-.8																
26	1.2D + 1.0Di	Yes	Y		DL	1.2	OL1	1																		
27	1.2D + 1.0Di + 1.0Wi A..	Yes	Y		DL	1.2	OL1	1	OL2	1																
28	1.2D + 1.0Di + 1.0Wi A..	Yes	Y		DL	1.2	OL1	1	OL2	.866	OL3	.5														
29	1.2D + 1.0Di + 1.0Wi A..	Yes	Y		DL	1.2	OL1	1	OL2	.5	OL3	.866														
30	1.2D + 1.0Di + 1.0Wi A..	Yes	Y		DL	1.2	OL1	1			OL3	1														
31	1.2D + 1.0Di + 1.0Wi A..	Yes	Y		DL	1.2	OL1	1	OL2	-.5	OL3	.866														
32	1.2D + 1.0Di + 1.0Wi A..	Yes	Y		DL	1.2	OL1	1	OL2	-.866	OL3	.5														
33	1.2D + 1.0Di + 1.0Wi A..	Yes	Y		DL	1.2	OL1	1	OL2	-1																
34	1.2D + 1.0Di + 1.0Wi A..	Yes	Y		DL	1.2	OL1	1	OL2	-.866	OL3	-.5														
35	1.2D + 1.0Di + 1.0Wi A..	Yes	Y		DL	1.2	OL1	1	OL2	-.5	OL3	-.866														
36	1.2D + 1.0Di + 1.0Wi A..	Yes	Y		DL	1.2	OL1	1			OL3	-1														
37	1.2D + 1.0Di + 1.0Wi A..	Yes	Y		DL	1.2	OL1	1	OL2	.5	OL3	-.866														
38	1.2D + 1.0Di + 1.0Wi A..	Yes	Y		DL	1.2	OL1	1	OL2	.866	OL3	-.5														
39	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	.063																
40	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	.054	W...	.031														
41	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	.031	W...	.054														
42	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5			W...	.063														
43	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	-.031	W...	.054														
44	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	-.054	W...	.031														
45	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	-.063																
46	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	-.054	W...	-.031														
47	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	-.031	W...	-.054														
48	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5			W...	-.063														
49	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	.031	W...	-.054														
50	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	.054	W...	-.031														
51	(1.2+0.2Sds) + 1.0 E A..	Yes	Y		DL	1.2...	ELZ	1																		
52	(1.2+0.2Sds) + 1.0 E A..	Yes	Y		DL	1.2...	ELZ	.866	ELX	.5																
53	(1.2+0.2Sds) + 1.0 E A..	Yes	Y		DL	1.2...	ELZ	.5	ELX	.866																
54	(1.2+0.2Sds) + 1.0 E A..	Yes	Y		DL	1.2...			ELX	1																
55	(1.2+0.2Sds) + 1.0 E A..	Yes	Y		DL	1.2...	ELZ	-.5	ELX	.866																
56	(1.2+0.2Sds) + 1.0 E A..	Yes	Y		DL	1.2...	ELZ	-.866	ELX	.5																
57	(1.2+0.2Sds) + 1.0 E A..	Yes	Y		DL	1.2...	ELZ	-1																		
58	(1.2+0.2Sds) + 1.0 E A..	Yes	Y		DL	1.2...	ELZ	-.866	ELX	-.5																
59	(1.2+0.2Sds) + 1.0 E A..	Yes	Y		DL	1.2...	ELZ	-.5	ELX	-.866																
60	(1.2+0.2Sds) + 1.0 E A..	Yes	Y		DL	1.2...			ELX	-1																
61	(1.2+0.2Sds) + 1.0 E A..	Yes	Y		DL	1.2...	ELZ	.5	ELX	-.866																
62	(1.2+0.2Sds) + 1.0 E A..	Yes	Y		DL	1.2...	ELZ	.866	ELX	-.5																
63	(0.9-0.2Sds) + 1.0E AZ..	Yes	Y		DL	.863	ELZ	1																		
64	(0.9-0.2Sds) + 1.0E AZ..	Yes	Y		DL	.863	ELZ	.866	ELX	.5																
65	(0.9-0.2Sds) + 1.0E AZ..	Yes	Y		DL	.863	ELZ	.5	ELX	.866																
66	(0.9-0.2Sds) + 1.0E AZ..	Yes	Y		DL	.863			ELX	1																
67	(0.9-0.2Sds) + 1.0E AZ..	Yes	Y		DL	.863	ELZ	-.5	ELX	.866																
68	(0.9-0.2Sds) + 1.0E AZ..	Yes	Y		DL	.863	ELZ	-.866	ELX	.5																
69	(0.9-0.2Sds) + 1.0E AZ..	Yes	Y		DL	.863	ELZ	-1																		
70	(0.9-0.2Sds) + 1.0E AZ..	Yes	Y		DL	.863	ELZ	-.866	ELX	-.5																
71	(0.9-0.2Sds) + 1.0E AZ..	Yes	Y		DL	.863	ELZ	-.5	ELX	-.866																
72	(0.9-0.2Sds) + 1.0E AZ..	Yes	Y		DL	.863			ELX	-1																
73	(0.9-0.2Sds) + 1.0E AZ..	Yes	Y		DL	.863	ELZ	.5	ELX	-.866																
74	(0.9-0.2Sds) + 1.0E AZ..	Yes	Y		DL	.863	ELZ	.866	ELX	-.5																

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N7	max	1758.451	5	1908.565	30	1744.255	2	-2147.262	14	8179.544	5	-9.604	23
2		min	-1758.451	11	488.938	66	-1744.255	20	-9244.576	33	-8199.448	11	-1358.038	30
3	Totals:	max	1758.451	5	1908.565	30	1744.255	2						
4		min	-1758.451	11	488.938	66	-1744.255	20						

Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code Check	Lo...	...	Shear C...	Loc[in]	...	LC	phi*Pnc...	phi*Pnt ...	phi*...	phi*...	...	Eqn
1	M2	PIPE_3.0	.907	76	2	.082	76		8	27623....	65205	5748...	5748...	...	H1-...
2	M1	HSS4x...	.710	60	...	.149	60	y	30	125658...	139518	1618...	1618...	...	H1-...
3	MP1	PIPE_2.0	.546	44.5	8	.043	44.5		8	16614....	32130	1871...	1871...	...	H1-...
4	MP3	PIPE_2.0	.282	44.5	8	.031	44.5		11	16614....	32130	1871...	1871...	...	H1-...
5	MP4	PIPE_2.0	.216	44.5	8	.020	44.5		11	16614....	32130	1871...	1871...	...	H1-...
6	MP2	PIPE_2.0	.118	44.5	5	.017	44.5		5	16614....	32130	1871...	1871...	...	H1-...

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Structural Analysis Report

Structure	:	**180 ft Monopole**
ATC Site Name	:	**Colchester CT 6, CT**
ATC Site Number	:	**302465**
Engineering Number	:	**OAA710393_C3_03**
Proposed Carrier	:	**Sprint Nextel**
Carrier Site Name	:	**Colchester CT 6**
Carrier Site Number	:	**CT73XC017**
Site Location	:	**355 Route 85** **Colchester, CT 06415-1825** **41.544800,-72.304900**
County	:	**New London**
Date	:	**March 16, 2018**
Max Usage	:	**69%**
Result	:	**Pass**

Prepared By:
Matthew Reeves, CWI
Structural Engineer II

Reviewed By:

COA: PEC.0001553

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Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 180 ft monopole to reflect the change in loading by Sprint Nextel.

Supporting Documents

Tower Drawings	Valmont order # 17494-98, dated June 8, 1998
Foundation Drawing	Valmont drawing # 17494-S-01 dated July 10, 1998
Geotechnical Report	Tectonic Engineering Consultants W.O. 1170.C877 dated June 5, 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:	101 mph (3-Second Gust, V_{ASD}) / 130 mph (3-Second Gust, V_{ULT})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" 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 = 0.17, 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					
180.0	-	-	-	T-Arms	(6) 1 5/8" Coax	Sprint Nextel
172.0	175.0	2	6' Omni	Standoff Mounts	(2) 0.405" Coax	Other
161.0	161.0	3	Alcatel-Lucent RRH2X60-AWS	Platform w/ Handrails	(2) 1 5/8" Coax	Verizon
		3	Alcatel-Lucent RRH2x60 700			
		1	RFS DB-T1-6Z-8AB-0Z			
		3	Commscope HBXX-6516DS-VTM			
		6	Commscope LNX-6514DS-VTM			
		3	Commscope HBXX-6517DS-VTM			
153.0	153.0	6	Powerwave LGP21401	Low Profile Platform	(12) 1 1/4" Coax (2) 0.65" 8 AWG 2C (1) 3" Conduit (1) 0.39" Fiber Trunk	AT&T Mobility
		1	Raycap DC6-48-60-18-8F (23.5" Height)			
		3	Ericsson RRUS-11 800MHz			
		6	Powerwave 7770.00			
		1	KMW AM-X-CD-16-65-00T-RET (54")			
		2	Powerwave P65-17-XLH-RR			
	150.0	6	LGP LGP21903			
138.0	138.0	3	Ericsson RRUS 11 B12	Platform w/ Handrails	(1) 1 5/8" Fiber	T-Mobile
		3	Ericsson RRUS 11 B2			
		3	Ericsson RRUS 11 B4			
		3	RFS APX16DWV-16DWVS-E-A20			
		3	Commscope LNX-6515DS-A1M (96.6" Height)			

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
180.0	180.0	3	EMS RR90-17-02DP	-	(9) 1 5/8" Coax	Sprint Nextel
		9	Decibel DB844H90E-XY			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
180.0	180.0	6	Alcatel-Lucent RRH2x50-08	T-Arms	(4) 1 1/4" Hybriflex	Sprint Nextel
		3	Alcatel-Lucent 1900MHz 4x45 RRH			
		3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
		3	RFS APXVTM14-ALU-I20			
		3	Commscope NNVV-65B-R4			

[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	59%	Pass
Shaft	69%	Pass
Base Plate	61%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	4,932.4	6,658.7	4,418.7	66%
Shear (Kips)	41.5	56.0	38.5	69%

*** 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) (°)
180.0	Alcatel-Lucent RRH2x50-08	Sprint Nextel	2.068	1.282
	Alcatel-Lucent 1900 MHz 4x45 RRH			
	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
	RFS APXVTM14-ALU-I20			
	Commscope NNVV-65B-R4			

***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 performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

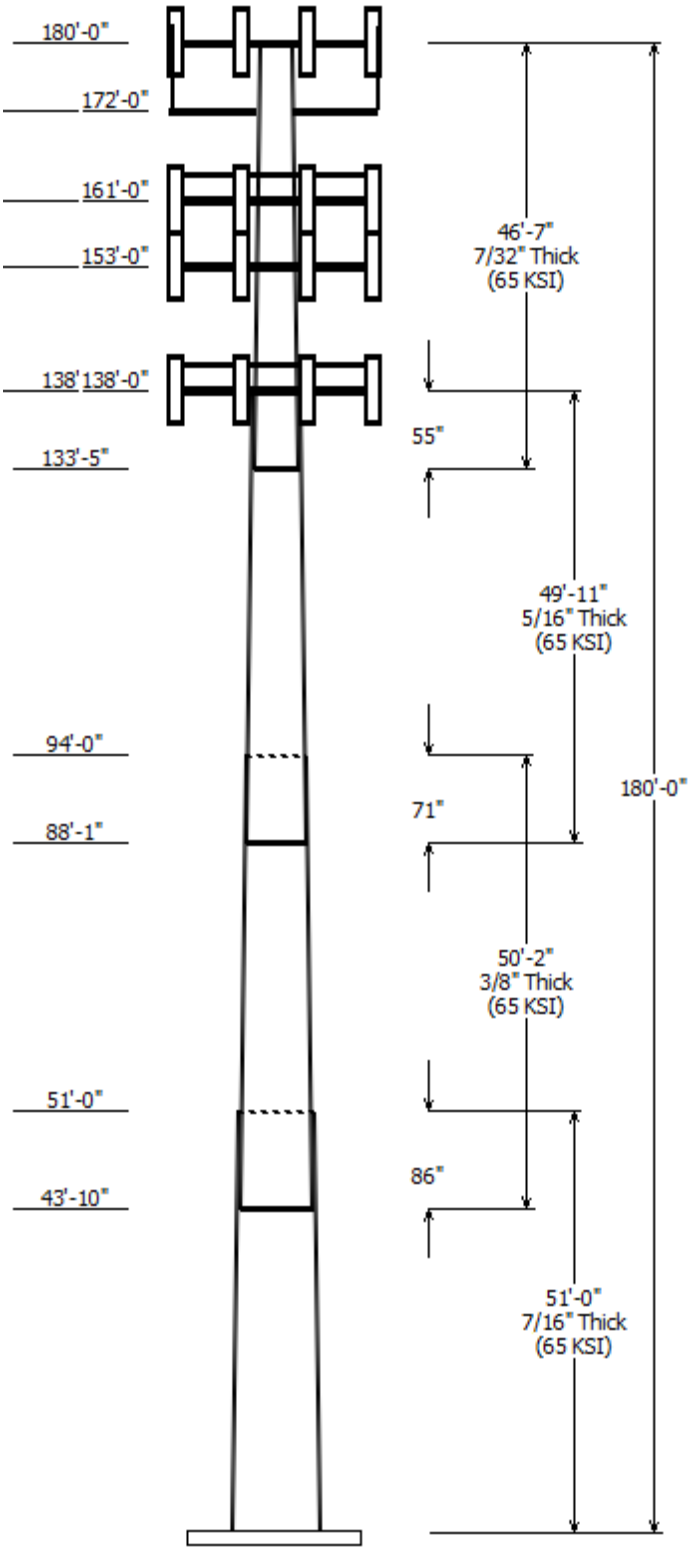
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

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 supplied herein.



Job Information

Pole :	302465	Code:	ANSI/TIA-222-G
Location :	Colchester CT 6, CT		
Description :	180 ft Valmont Monopole verified 10-16-12 JK		
Client :	SPRINT NEXTEL	Struct Class :	II
Shape :	12 Sides	Exposure :	B
Height :	180.00 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.260791 (in/ft)		

Sections Properties

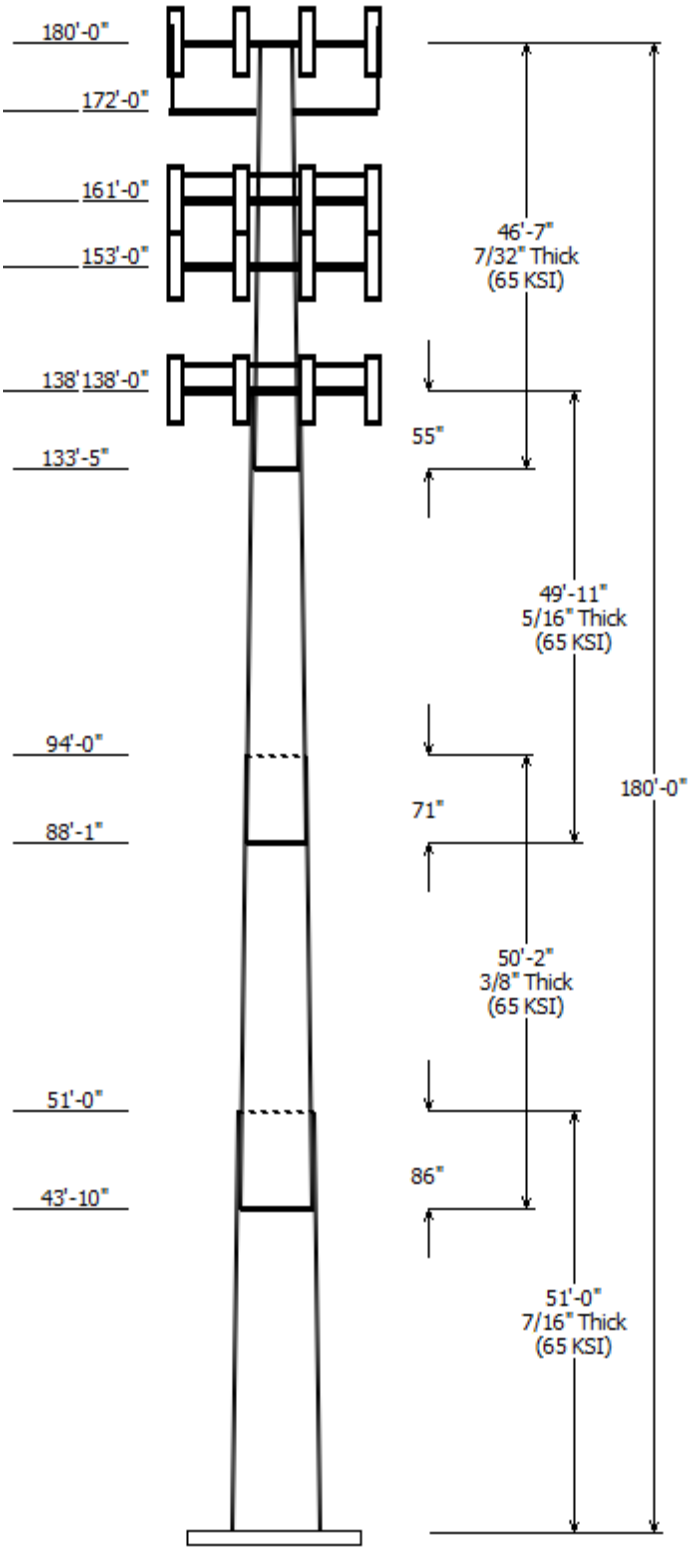
Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	51.000	50.70	64.00	0.438		0.000	12 Sides	65
2	50.167	40.23	53.31	0.375	Slip Joint	86.000	12 Sides	65
3	49.917	29.38	42.40	0.313	Slip Joint	71.000	12 Sides	65
4	46.583	18.87	31.01	0.219	Slip Joint	55.000	12 Sides	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
180.000	180.000	3	Commscope NNVV-65B-R4
180.000	180.000	3	Alcatel-Lucent TD-RRH8x20-25
180.000	180.000	3	RFS APXVTM14-ALU-I20
180.000	180.000	6	Alcatel-Lucent RRH2x50-08
180.000	180.000	3	Alcatel-Lucent 1900 MHz 4x45
180.000	180.000	3	Round T-Arm
172.000	175.000	2	6' Omni
172.000	172.000	2	Standoff Mounts
161.000	161.000	3	Commscope HBXX-6517DS-
161.000	161.000	6	Commscope LNX-6514DS-VTM
161.000	161.000	3	Commscope HBXX-6516DS-
161.000	161.000	1	Round Platform w/ Handrails
161.000	161.000	1	RFS DB-T1-6Z-8AB-0Z
161.000	161.000	3	Alcatel-Lucent RRH2X60-AWS
161.000	161.000	3	Alcatel-Lucent RRH2x60 700
153.000	153.000	1	Round Low Profile Platform
153.000	153.000	2	Powerwave Allgon P65-17-
153.000	153.000	1	KMW AM-X-CD-16-65-00T-RET
153.000	153.000	6	Powerwave Allgon 7770.00
153.000	153.000	3	Ericsson RRUS-11 800 MHz
153.000	153.000	1	Raycap DC6-48-60-18-8F (23.5"
153.000	153.000	6	Powerwave Allgon LGP21401
153.000	150.000	6	LGP Allgon LGP21903
138.000	138.000	1	Round Platform w/ Handrails
138.000	138.000	3	Commscope LNX-6515DS-A1M
138.000	138.000	3	RFS APX16DWV-16DWVS-E-A20
138.000	138.000	3	Ericsson RRUS 11 B2
138.000	138.000	3	Ericsson RRUS 11 B4
138.000	138.000	3	Ericsson RRUS 11 B12

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
0.000	138.0	1 5/8" Fiber	No
0.000	153.0	0.39" Fiber Trunk	No
0.000	153.0	0.65" 8 AWG 2C	No
0.000	153.0	1 1/4" Coax	No
0.000	153.0	3" Conduit	No
0.000	161.0	1 5/8" Coax	No
0.000	172.0	0.405" Coax	No
0.000	180.0	1 1/4" Hybriflex	No



0.000	180.0	1 5/8"	Coax		No

Load Cases

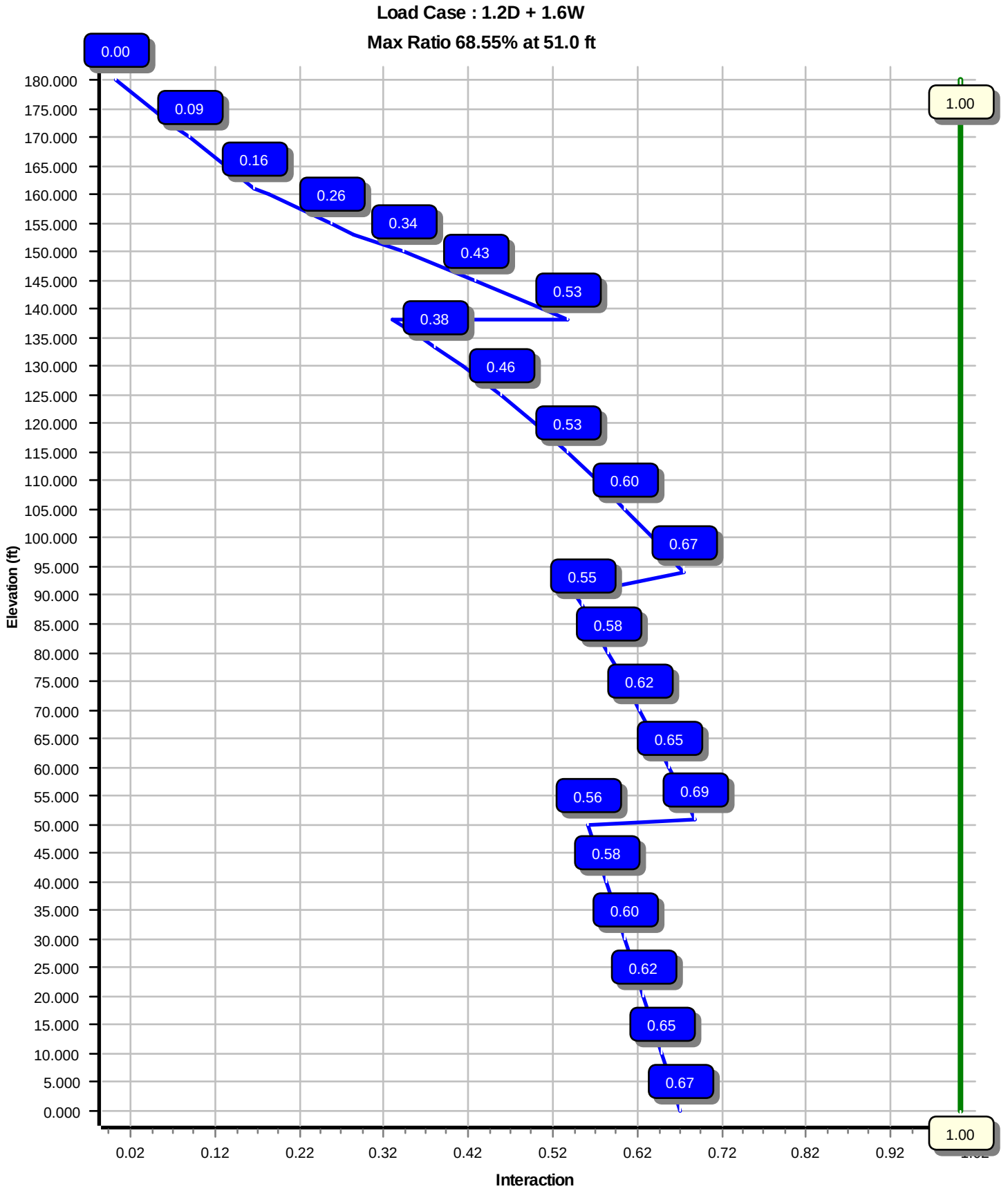
1.2D + 1.6W	101 mph with No Ice
0.9D + 1.6W	101 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) 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	4418.68	38.47	56.05
0.9D + 1.6W	4375.27	38.46	42.03
1.2D + 1.0Di + 1.0Wi	964.94	7.94	84.21
(1.2 + 0.2Sds) * DL + E ELFM	259.25	1.83	55.77
(1.2 + 0.2Sds) * DL + E EMAM	276.15	2.17	55.77
(0.9 - 0.2Sds) * DL + E ELFM	256.02	1.83	38.93
(0.9 - 0.2Sds) * DL + E EMAM	272.46	2.17	38.93
1.0D + 1.0W	969.22	8.48	46.74

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 68.55% at 51.0 ft
0.00
0.09
0.16
0.26
0.34
0.43
0.53
0.38
0.46
0.53
0.60
0.67
0.55
0.58
0.62
0.65
0.69
0.56
0.58
0.60
0.62
0.65
0.67
1.00
1.00
180.000
175.000
170.000
165.000
160.000
155.000
150.000
145.000
140.000
135.000
130.000
125.000
120.000
115.000
110.000
105.000
100.000
95.000
90.000
85.000
80.000
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
Elevation (ft)
0.02
0.12
0.22
0.32
0.42
0.52
0.62
0.72
0.82
0.92
Interaction

Site Number: 302465 Code: ANSI/TIA-222-G

Site Name: Colchester CT 6, CT Engineering Number:OAA710393_C3_03 3/16/2018 9:05:40 AM

Customer: SPRINT NEXTEL

Analysis Parameters

Location :	NEW LONDON County, CT	Height (ft) :	180
Code :	ANSI/TIA-222-G	Base Diameter (in) :	64.00
Shape :	12 Sides	Top Diameter (in) :	18.87
Pole Type :	Taper	Taper (in/ft) :	0.261
Pole Manfacturer :	Valmont	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	101 mph
Exposure Category:	B	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.75 in

Seismic Parameters

Analysis Method: Equivalent Modal Analysis & Equivalent Lateral Force Methods

Site Class: D - Stiff Soil

Period Based on Rayleigh Method (sec): 2.39

T_L (sec):	6	p:	1.3	C_s:	0.030
S_s:	0.172	S_1:	0.061	C_s Max:	0.030
F_a:	1.600	F_v:	2.400	C_s Min:	0.030
S_{ds}:	0.183	S_{d1}:	0.098		

Load Cases

1.2D + 1.6W	101 mph with No Ice
0.9D + 1.6W	101 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 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: 302465 Code: ANSI/TIA-222-G

Site Name: Colchester CT 6, CT Engineering Number:OAA710393_C3_03 3/16/2018 9:05:40 AM

Customer: SPRINT NEXTEL

Shaft Section Properties

							Bottom						Top					
Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Dia (in)	Elev (ft)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-12	51.000	0.4375	65		0.00	13,914	64.00	0.00	89.54	46176.7	37.05	146.29	50.70	51.00	70.81	22831.9	28.91	115.88	0.260791
2-12	50.167	0.3750	65	Slip	86.00	9,565	53.31	43.83	63.93	22872.6	35.95	142.18	40.23	94.00	48.13	9761.2	26.61	107.29	0.260791
3-12	49.917	0.3125	65	Slip	71.00	6,082	42.40	88.08	42.35	9577.7	34.21	135.69	29.38	138.00	29.25	3156.2	23.05	94.03	0.260791
4-12	46.583	0.2188	65	Slip	55.00	2,761	31.01	133.42	21.69	2626.8	35.85	141.80	18.87	180.00	13.14	583.3	20.97	86.26	0.260791
				Shaft Weight		32,321													

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		0.4375	64.000	89.544	46,176.7	37.05	146.29	64.3	1393.	0.0	0.0
5.00		0.4375	62.696	87.707	43,392.7	36.25	143.31	65.2	1337.	0.0	1,507.9
10.00		0.4375	61.392	85.870	40,722.9	35.46	140.32	66.0	1281.	0.0	1,476.6
15.00		0.4375	60.088	84.033	38,165.0	34.66	137.34	66.9	1227.	0.0	1,445.4
20.00		0.4375	58.784	82.196	35,716.4	33.86	134.36	67.8	1173.	0.0	1,414.1
25.00		0.4375	57.480	80.359	33,374.9	33.06	131.38	68.7	1121.	0.0	1,382.8
30.00		0.4375	56.176	78.522	31,138.1	32.26	128.40	69.5	1070.	0.0	1,351.6
35.00		0.4375	54.872	76.685	29,003.5	31.46	125.42	70.4	1021.	0.0	1,320.3
40.00		0.4375	53.568	74.848	26,968.7	30.66	122.44	71.3	972.6	0.0	1,289.1
43.83	Bot - Section 2	0.4375	52.569	73.440	25,474.9	30.05	120.16	71.9	936.2	0.0	967.1
45.00		0.4375	52.264	73.011	25,031.4	29.87	119.46	72.1	925.2	0.0	543.8
50.00		0.4375	50.960	71.174	23,189.2	29.07	116.48	73.0	879.1	0.0	2,294.6
51.00	Top - Section 1	0.3750	51.450	61.673	20,534.7	34.62	137.20	67.0	771.0	0.0	452.0
55.00		0.3750	50.406	60.413	19,302.0	33.87	134.42	67.8	739.8	0.0	830.9
60.00		0.3750	49.103	58.838	17,831.8	32.94	130.94	68.8	701.6	0.0	1,014.5
65.00		0.3750	47.799	57.264	16,438.3	32.01	127.46	69.8	664.4	0.0	987.7
70.00		0.3750	46.495	55.689	15,119.2	31.08	123.99	70.8	628.2	0.0	960.9
75.00		0.3750	45.191	54.115	13,872.7	30.15	120.51	71.8	593.0	0.0	934.1
80.00		0.3750	43.887	52.540	12,696.7	29.21	117.03	72.9	558.9	0.0	907.3
85.00		0.3750	42.583	50.966	11,589.1	28.28	113.55	73.9	525.8	0.0	880.5
88.08	Bot - Section 3	0.3750	41.779	49.995	10,939.2	27.71	111.41	74.5	505.8	0.0	529.7
90.00		0.3750	41.279	49.391	10,547.8	27.35	110.08	74.9	493.6	0.0	598.6
94.00	Top - Section 2	0.3125	40.861	40.801	8,562.5	32.89	130.75	68.8	404.8	0.0	1,226.3
95.00		0.3125	40.600	40.539	8,398.4	32.67	129.92	69.1	399.6	0.0	138.3
100.0		0.3125	39.296	39.227	7,609.0	31.55	125.75	70.3	374.1	0.0	678.6
105.0		0.3125	37.992	37.915	6,870.7	30.43	121.57	71.5	349.4	0.0	656.2
110.0		0.3125	36.688	36.603	6,181.8	29.31	117.40	72.7	325.5	0.0	633.9
115.0		0.3125	35.384	35.291	5,540.6	28.20	113.23	74.0	302.5	0.0	611.6
120.0		0.3125	34.080	33.979	4,945.3	27.08	109.06	75.2	280.3	0.0	589.3
125.0		0.3125	32.776	32.666	4,394.2	25.96	104.88	76.4	259.0	0.0	566.9
130.0		0.3125	31.472	31.354	3,885.7	24.84	100.71	77.6	238.5	0.0	544.6
133.4	Bot - Section 4	0.3125	30.581	30.458	3,561.7	24.08	97.86	78.5	225.0	0.0	359.4
135.0		0.3125	30.168	30.042	3,418.0	23.72	96.54	78.8	218.9	0.0	279.0
138.0		0.3125	29.386	29.255	3,156.3	23.05	94.03	79.6	207.5	0.0	518.3
138.0	Top - Section 3	0.2188	29.823	20.853	2,332.7	34.39	136.33	67.2	151.1	0.0	0.1
140.0		0.2188	29.302	20.485	2,211.6	33.75	133.95	67.9	145.8	0.0	140.6
145.0		0.2188	27.998	19.567	1,927.3	32.15	127.99	69.6	133.0	0.0	340.7
150.0		0.2188	26.694	18.648	1,668.4	30.55	122.03	71.4	120.7	0.0	325.1
153.0		0.2188	25.911	18.097	1,524.8	29.60	118.45	72.4	113.7	0.0	187.6
155.0		0.2188	25.390	17.730	1,433.8	28.96	116.07	73.1	109.1	0.0	121.9
160.0		0.2188	24.086	16.811	1,222.3	27.36	110.11	74.9	98.0	0.0	293.8
161.0		0.2188	23.825	16.628	1,182.7	27.04	108.91	75.2	95.9	0.0	56.9
165.0		0.2188	22.782	15.893	1,032.7	25.76	104.15	76.6	87.6	0.0	221.3
170.0		0.2188	21.478	14.974	863.8	24.17	98.19	78.4	77.7	0.0	262.6
172.0		0.2188	20.956	14.607	801.8	23.53	95.80	79.1	73.9	0.0	100.7
175.0		0.2188	20.174	14.056	714.4	22.57	92.22	80.1	68.4	0.0	146.3
180.0		0.2188	18.870	13.138	583.3	20.97	86.26	81.8	59.7	0.0	231.3
											32,320.8

Site Number: 302465 Code: ANSI/TIA-222-G

Site Name: Colchester CT 6, CT Engineering Number:OAA710393_C3_03 3/16/2018 9:05:40 AM

Customer: SPRINT NEXTEL

Load Case: 1.2D + 1.6W 101 mph with No Ice 25 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	-56.05	-38.47	0.00	-4,418.68	0.00	4,418.68	5,182.07	2,591.03	13,611.2	6,722.08	0.00	0.00	0.668
5.00	-53.98	-37.77	0.00	-4,226.32	0.00	4,226.32	5,144.52	2,572.26	13,233.5	6,535.53	0.07	-0.13	0.657
10.00	-51.96	-37.08	0.00	-4,037.46	0.00	4,037.46	5,104.08	2,552.04	12,852.5	6,347.41	0.28	-0.27	0.646
15.00	-49.97	-36.40	0.00	-3,852.07	0.00	3,852.07	5,060.77	2,530.38	12,468.9	6,157.95	0.64	-0.41	0.636
20.00	-48.02	-35.73	0.00	-3,670.09	0.00	3,670.09	5,014.58	2,507.29	12,083.1	5,967.39	1.14	-0.55	0.625
25.00	-46.11	-35.06	0.00	-3,491.47	0.00	3,491.47	4,965.50	2,482.75	11,695.4	5,775.95	1.79	-0.69	0.614
30.00	-44.25	-34.40	0.00	-3,316.15	0.00	3,316.15	4,913.55	2,456.77	11,306.5	5,583.87	2.59	-0.83	0.603
35.00	-42.42	-33.73	0.00	-3,144.14	0.00	3,144.14	4,858.72	2,429.36	10,916.7	5,391.38	3.54	-0.98	0.592
40.00	-40.64	-33.12	0.00	-2,975.49	0.00	2,975.49	4,801.00	2,400.50	10,526.6	5,198.71	4.65	-1.13	0.581
43.83	-39.31	-32.76	0.00	-2,848.55	0.00	2,848.55	4,754.80	2,377.40	10,227.5	5,051.02	5.61	-1.25	0.572
45.00	-38.58	-32.32	0.00	-2,810.33	0.00	2,810.33	4,740.41	2,370.20	10,136.6	5,006.09	5.92	-1.29	0.570
50.00	-35.61	-31.84	0.00	-2,648.73	0.00	2,648.73	4,676.94	2,338.47	9,747.16	4,813.75	7.35	-1.44	0.558
51.00	-35.00	-31.47	0.00	-2,616.90	0.00	2,616.90	3,716.51	1,858.26	7,840.37	3,872.06	7.66	-1.47	0.686
55.00	-33.81	-30.82	0.00	-2,491.00	0.00	2,491.00	3,684.81	1,842.40	7,613.55	3,760.05	8.95	-1.60	0.672
60.00	-32.35	-30.09	0.00	-2,336.89	0.00	2,336.89	3,642.58	1,821.29	7,328.69	3,619.37	10.72	-1.78	0.655
65.00	-30.93	-29.36	0.00	-2,186.42	0.00	2,186.42	3,597.48	1,798.74	7,042.78	3,478.16	12.68	-1.96	0.637
70.00	-29.55	-28.63	0.00	-2,039.61	0.00	2,039.61	3,549.49	1,774.75	6,756.28	3,336.67	14.83	-2.14	0.620
75.00	-28.20	-27.90	0.00	-1,896.46	0.00	1,896.46	3,498.63	1,749.31	6,469.65	3,195.12	17.18	-2.33	0.602
80.00	-26.88	-27.17	0.00	-1,756.98	0.00	1,756.98	3,444.88	1,722.44	6,183.38	3,053.74	19.71	-2.51	0.583
85.00	-25.61	-26.57	0.00	-1,621.15	0.00	1,621.15	3,388.26	1,694.13	5,897.93	2,912.77	22.45	-2.70	0.564
88.08	-24.85	-26.20	0.00	-1,539.23	0.00	1,539.23	3,351.90	1,675.95	5,722.49	2,826.13	24.23	-2.82	0.552
90.00	-24.04	-25.76	0.00	-1,489.03	0.00	1,489.03	3,328.76	1,664.38	5,613.77	2,772.43	25.38	-2.90	0.545
94.00	-22.41	-25.34	0.00	-1,385.98	0.00	1,385.98	2,527.94	1,263.97	4,232.29	2,090.17	27.88	-3.05	0.672
95.00	-22.18	-24.94	0.00	-1,360.65	0.00	1,360.65	2,520.58	1,260.29	4,192.63	2,070.58	28.52	-3.09	0.666
100.00	-21.14	-24.23	0.00	-1,235.97	0.00	1,235.97	2,482.05	1,241.03	3,993.88	1,972.43	31.88	-3.31	0.636
105.00	-20.14	-23.54	0.00	-1,114.80	0.00	1,114.80	2,440.64	1,220.32	3,794.84	1,874.13	35.47	-3.53	0.603
110.00	-19.17	-22.85	0.00	-997.12	0.00	997.12	2,396.35	1,198.17	3,595.97	1,775.91	39.29	-3.75	0.570
115.00	-18.23	-22.18	0.00	-882.86	0.00	882.86	2,349.18	1,174.59	3,397.74	1,678.02	43.33	-3.97	0.534
120.00	-17.33	-21.51	0.00	-771.99	0.00	771.99	2,299.13	1,149.56	3,200.62	1,580.67	47.60	-4.18	0.496
125.00	-16.45	-20.86	0.00	-664.44	0.00	664.44	2,246.20	1,123.10	3,005.08	1,484.10	52.09	-4.39	0.455
130.00	-15.62	-20.30	0.00	-560.16	0.00	560.16	2,190.38	1,095.19	2,811.58	1,388.54	56.79	-4.59	0.411
133.42	-15.07	-19.97	0.00	-490.78	0.00	490.78	2,150.58	1,075.29	2,680.76	1,323.92	60.12	-4.72	0.378
135.00	-14.67	-19.68	0.00	-459.17	0.00	459.17	2,131.69	1,065.85	2,620.61	1,294.22	61.69	-4.78	0.362
138.00	-10.97	-16.18	0.00	-400.12	0.00	400.12	2,095.09	1,047.55	2,507.42	1,238.32	64.72	-4.89	0.329
138.00	-10.97	-16.06	0.00	-400.11	0.00	400.11	1,261.36	630.68	1,542.30	761.69	64.72	-4.89	0.535
140.00	-10.73	-15.65	0.00	-368.00	0.00	368.00	1,251.99	625.99	1,503.68	742.61	66.78	-4.95	0.505
145.00	-10.16	-15.06	0.00	-289.73	0.00	289.73	1,226.53	613.27	1,406.57	694.65	72.08	-5.17	0.426
150.00	-9.62	-14.59	0.00	-214.42	0.00	214.42	1,198.19	599.10	1,309.07	646.50	77.59	-5.35	0.340
153.00	-7.04	-10.86	0.00	-170.66	0.00	170.66	1,179.81	589.90	1,250.58	617.61	80.98	-5.45	0.283
155.00	-6.88	-10.49	0.00	-148.94	0.00	148.94	1,166.98	583.49	1,211.66	598.39	83.27	-5.51	0.255
160.00	-6.49	-10.14	0.00	-96.52	0.00	96.52	1,132.88	566.44	1,114.79	550.56	89.11	-5.63	0.181
161.00	-3.47	-5.58	0.00	-86.37	0.00	86.37	1,125.72	562.86	1,095.53	541.04	90.29	-5.65	0.163
165.00	-3.20	-5.12	0.00	-64.04	0.00	64.04	1,095.90	547.95	1,018.96	503.22	95.05	-5.73	0.130
170.00	-2.86	-4.76	0.00	-38.43	0.00	38.43	1,056.05	528.02	924.61	456.63	101.07	-5.80	0.087
172.00	-2.40	-3.78	0.00	-28.39	0.00	28.39	1,039.30	519.65	887.39	438.25	103.50	-5.82	0.067
175.00	-2.22	-3.41	0.00	-17.05	0.00	17.05	1,013.31	506.66	832.22	411.00	107.16	-5.84	0.044
180.00	0.00	-3.17	0.00	0.00	0.00	0.00	967.70	483.85	742.26	366.57	113.28	-5.86	0.000

Site Number: 302465 Code: ANSI/TIA-222-G

Site Name: Colchester CT 6, CT Engineering Number:OAA710393_C3_03 3/16/2018 9:05:43 AM

Customer: SPRINT NEXTEL

Load Case: 0.9D + 1.6W 101 mph with No Ice (Reduced DL) 25 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	-42.03	-38.46	0.00	-4,375.27	0.00	4,375.27	5,182.07	2,591.03	13,611.2	6,722.08	0.00	0.00	0.659
5.00	-40.46	-37.72	0.00	-4,182.99	0.00	4,182.99	5,144.52	2,572.26	13,233.5	6,535.53	0.07	-0.13	0.648
10.00	-38.92	-37.00	0.00	-3,994.38	0.00	3,994.38	5,104.08	2,552.04	12,852.5	6,347.41	0.28	-0.27	0.637
15.00	-37.41	-36.29	0.00	-3,809.39	0.00	3,809.39	5,060.77	2,530.38	12,468.9	6,157.95	0.63	-0.40	0.626
20.00	-35.93	-35.59	0.00	-3,627.94	0.00	3,627.94	5,014.58	2,507.29	12,083.1	5,967.39	1.13	-0.54	0.615
25.00	-34.48	-34.90	0.00	-3,450.00	0.00	3,450.00	4,965.50	2,482.75	11,695.4	5,775.95	1.77	-0.68	0.604
30.00	-33.06	-34.22	0.00	-3,275.48	0.00	3,275.48	4,913.55	2,456.77	11,306.5	5,583.87	2.56	-0.83	0.594
35.00	-31.67	-33.52	0.00	-3,104.39	0.00	3,104.39	4,858.72	2,429.36	10,916.7	5,391.38	3.51	-0.97	0.583
40.00	-30.32	-32.89	0.00	-2,936.76	0.00	2,936.76	4,801.00	2,400.50	10,526.6	5,198.71	4.60	-1.12	0.571
43.83	-29.31	-32.53	0.00	-2,810.67	0.00	2,810.67	4,754.80	2,377.40	10,227.5	5,051.02	5.55	-1.24	0.563
45.00	-28.75	-32.08	0.00	-2,772.72	0.00	2,772.72	4,740.41	2,370.20	10,136.6	5,006.09	5.86	-1.27	0.560
50.00	-26.52	-31.60	0.00	-2,612.34	0.00	2,612.34	4,676.94	2,338.47	9,747.16	4,813.75	7.27	-1.42	0.549
51.00	-26.06	-31.23	0.00	-2,580.74	0.00	2,580.74	3,716.51	1,858.26	7,840.37	3,872.06	7.57	-1.46	0.674
55.00	-25.15	-30.56	0.00	-2,455.84	0.00	2,455.84	3,684.81	1,842.40	7,613.55	3,760.05	8.85	-1.58	0.660
60.00	-24.04	-29.81	0.00	-2,303.05	0.00	2,303.05	3,642.58	1,821.29	7,328.69	3,619.37	10.60	-1.76	0.643
65.00	-22.96	-29.07	0.00	-2,153.99	0.00	2,153.99	3,597.48	1,798.74	7,042.78	3,478.16	12.53	-1.94	0.626
70.00	-21.90	-28.32	0.00	-2,008.66	0.00	2,008.66	3,549.49	1,774.75	6,756.28	3,336.67	14.66	-2.12	0.608
75.00	-20.88	-27.58	0.00	-1,867.07	0.00	1,867.07	3,498.63	1,749.31	6,469.65	3,195.12	16.97	-2.30	0.591
80.00	-19.88	-26.83	0.00	-1,729.19	0.00	1,729.19	3,444.88	1,722.44	6,183.38	3,053.74	19.48	-2.48	0.572
85.00	-18.92	-26.23	0.00	-1,595.02	0.00	1,595.02	3,388.26	1,694.13	5,897.93	2,912.77	22.17	-2.67	0.553
88.08	-18.34	-25.86	0.00	-1,514.14	0.00	1,514.14	3,351.90	1,675.95	5,722.49	2,826.13	23.94	-2.79	0.541
90.00	-17.73	-25.42	0.00	-1,464.59	0.00	1,464.59	3,328.76	1,664.38	5,613.77	2,772.43	25.07	-2.86	0.534
94.00	-16.50	-25.01	0.00	-1,362.90	0.00	1,362.90	2,527.94	1,263.97	4,232.29	2,090.17	27.53	-3.01	0.659
95.00	-16.32	-24.60	0.00	-1,337.90	0.00	1,337.90	2,520.58	1,260.29	4,192.63	2,070.58	28.17	-3.05	0.653
100.00	-15.53	-23.88	0.00	-1,214.93	0.00	1,214.93	2,482.05	1,241.03	3,993.88	1,972.43	31.48	-3.27	0.623
105.00	-14.77	-23.18	0.00	-1,095.52	0.00	1,095.52	2,440.64	1,220.32	3,794.84	1,874.13	35.02	-3.48	0.591
110.00	-14.04	-22.49	0.00	-979.61	0.00	979.61	2,396.35	1,198.17	3,595.97	1,775.91	38.78	-3.70	0.558
115.00	-13.33	-21.81	0.00	-867.17	0.00	867.17	2,349.18	1,174.59	3,397.74	1,678.02	42.77	-3.91	0.523
120.00	-12.64	-21.14	0.00	-758.12	0.00	758.12	2,299.13	1,149.56	3,200.62	1,580.67	46.97	-4.12	0.485
125.00	-11.98	-20.49	0.00	-652.41	0.00	652.41	2,246.20	1,123.10	3,005.08	1,484.10	51.39	-4.32	0.445
130.00	-11.35	-19.94	0.00	-549.96	0.00	549.96	2,190.38	1,095.19	2,811.58	1,388.54	56.02	-4.52	0.402
133.42	-10.94	-19.61	0.00	-481.82	0.00	481.82	2,150.58	1,075.29	2,680.76	1,323.92	59.30	-4.65	0.369
135.00	-10.64	-19.32	0.00	-450.78	0.00	450.78	2,131.69	1,065.85	2,620.61	1,294.22	60.85	-4.71	0.354
138.00	-7.92	-15.90	0.00	-392.80	0.00	392.80	2,095.09	1,047.55	2,507.42	1,238.32	63.84	-4.81	0.321
138.00	-7.92	-15.79	0.00	-392.79	0.00	392.79	1,261.36	630.68	1,542.30	761.69	63.84	-4.81	0.523
140.00	-7.75	-15.38	0.00	-361.23	0.00	361.23	1,251.99	625.99	1,503.68	742.61	65.87	-4.88	0.493
145.00	-7.32	-14.79	0.00	-284.34	0.00	284.34	1,226.53	613.27	1,406.57	694.65	71.09	-5.09	0.416
150.00	-6.92	-14.32	0.00	-210.40	0.00	210.40	1,198.19	599.10	1,309.07	646.50	76.51	-5.27	0.332
153.00	-5.05	-10.66	0.00	-167.45	0.00	167.45	1,179.81	589.90	1,250.58	617.61	79.85	-5.37	0.276
155.00	-4.94	-10.29	0.00	-146.13	0.00	146.13	1,166.98	583.49	1,211.66	598.39	82.11	-5.42	0.249
160.00	-4.65	-9.95	0.00	-94.70	0.00	94.70	1,132.88	566.44	1,114.79	550.56	87.85	-5.54	0.176
161.00	-2.48	-5.48	0.00	-84.75	0.00	84.75	1,125.72	562.86	1,095.53	541.04	89.01	-5.56	0.159
165.00	-2.29	-5.02	0.00	-62.82	0.00	62.82	1,095.90	547.95	1,018.96	503.22	93.70	-5.64	0.127
170.00	-2.04	-4.67	0.00	-37.70	0.00	37.70	1,056.05	528.02	924.61	456.63	99.63	-5.70	0.085
172.00	-1.71	-3.70	0.00	-27.83	0.00	27.83	1,039.30	519.65	887.39	438.25	102.02	-5.73	0.065
175.00	-1.59	-3.34	0.00	-16.71	0.00	16.71	1,013.31	506.66	832.22	411.00	105.62	-5.75	0.042
180.00	0.00	-3.17	0.00	0.00	0.00	0.00	967.70	483.85	742.26	366.57	111.64	-5.77	0.000

Site Number: 302465 Code: ANSI/TIA-222-G

Site Name: Colchester CT 6, CT Engineering Number:OAA710393_C3_03 3/16/2018 9:05:47 AM

Customer: SPRINT NEXTEL

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 0.75 in Radial Ice 24 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	-84.21	-7.94	0.00	-964.94	0.00	964.94	5,182.07	2,591.03	13,611.2	6,722.08	0.00	0.00	0.160
5.00	-81.75	-7.83	0.00	-925.21	0.00	925.21	5,144.52	2,572.26	13,233.5	6,535.53	0.02	-0.03	0.157
10.00	-79.28	-7.71	0.00	-886.07	0.00	886.07	5,104.08	2,552.04	12,852.5	6,347.41	0.06	-0.06	0.155
15.00	-76.83	-7.60	0.00	-847.51	0.00	847.51	5,060.77	2,530.38	12,468.9	6,157.95	0.14	-0.09	0.153
20.00	-74.41	-7.49	0.00	-809.52	0.00	809.52	5,014.58	2,507.29	12,083.1	5,967.39	0.25	-0.12	0.151
25.00	-72.03	-7.37	0.00	-772.09	0.00	772.09	4,965.50	2,482.75	11,695.4	5,775.95	0.39	-0.15	0.148
30.00	-69.68	-7.26	0.00	-735.22	0.00	735.22	4,913.55	2,456.77	11,306.5	5,583.87	0.57	-0.18	0.146
35.00	-67.38	-7.15	0.00	-698.91	0.00	698.91	4,858.72	2,429.36	10,916.7	5,391.38	0.78	-0.22	0.144
40.00	-65.12	-7.04	0.00	-663.18	0.00	663.18	4,801.00	2,400.50	10,526.6	5,198.71	1.02	-0.25	0.141
43.83	-63.41	-6.98	0.00	-636.20	0.00	636.20	4,754.80	2,377.40	10,227.5	5,051.02	1.23	-0.28	0.139
45.00	-62.59	-6.90	0.00	-628.06	0.00	628.06	4,740.41	2,370.20	10,136.6	5,006.09	1.30	-0.28	0.139
50.00	-59.13	-6.81	0.00	-593.55	0.00	593.55	4,676.94	2,338.47	9,747.16	4,813.75	1.62	-0.32	0.136
51.00	-58.44	-6.75	0.00	-586.74	0.00	586.74	3,716.51	1,858.26	7,840.37	3,872.06	1.69	-0.33	0.167
55.00	-56.88	-6.64	0.00	-559.74	0.00	559.74	3,684.81	1,842.40	7,613.55	3,760.05	1.97	-0.35	0.164
60.00	-54.97	-6.51	0.00	-526.56	0.00	526.56	3,642.58	1,821.29	7,328.69	3,619.37	2.37	-0.39	0.161
65.00	-53.11	-6.38	0.00	-494.02	0.00	494.02	3,597.48	1,798.74	7,042.78	3,478.16	2.80	-0.44	0.157
70.00	-51.28	-6.25	0.00	-462.13	0.00	462.13	3,549.49	1,774.75	6,756.28	3,336.67	3.28	-0.48	0.153
75.00	-49.49	-6.12	0.00	-430.89	0.00	430.89	3,498.63	1,749.31	6,469.65	3,195.12	3.80	-0.52	0.149
80.00	-47.75	-5.99	0.00	-400.30	0.00	400.30	3,444.88	1,722.44	6,183.38	3,053.74	4.37	-0.56	0.145
85.00	-46.05	-5.88	0.00	-370.37	0.00	370.37	3,388.26	1,694.13	5,897.93	2,912.77	4.98	-0.60	0.141
88.08	-45.02	-5.81	0.00	-352.26	0.00	352.26	3,351.90	1,675.95	5,722.49	2,826.13	5.38	-0.63	0.138
90.00	-44.06	-5.73	0.00	-341.13	0.00	341.13	3,328.76	1,664.38	5,613.77	2,772.43	5.64	-0.65	0.136
94.00	-42.09	-5.65	0.00	-318.21	0.00	318.21	2,527.94	1,263.97	4,232.29	2,090.17	6.20	-0.68	0.169
95.00	-41.79	-5.58	0.00	-312.57	0.00	312.57	2,520.58	1,260.29	4,192.63	2,070.58	6.34	-0.69	0.168
100.00	-40.36	-5.45	0.00	-284.68	0.00	284.68	2,482.05	1,241.03	3,993.88	1,972.43	7.09	-0.74	0.161
105.00	-38.97	-5.32	0.00	-257.43	0.00	257.43	2,440.64	1,220.32	3,794.84	1,874.13	7.90	-0.80	0.153
110.00	-37.62	-5.20	0.00	-230.81	0.00	230.81	2,396.35	1,198.17	3,595.97	1,775.91	8.76	-0.85	0.146
115.00	-36.31	-5.07	0.00	-204.83	0.00	204.83	2,349.18	1,174.59	3,397.74	1,678.02	9.68	-0.90	0.138
120.00	-35.04	-4.95	0.00	-179.48	0.00	179.48	2,299.13	1,149.56	3,200.62	1,580.67	10.64	-0.95	0.129
125.00	-33.80	-4.82	0.00	-154.76	0.00	154.76	2,246.20	1,123.10	3,005.08	1,484.10	11.66	-0.99	0.119
130.00	-32.61	-4.71	0.00	-130.66	0.00	130.66	2,190.38	1,095.19	2,811.58	1,388.54	12.72	-1.04	0.109
133.42	-31.82	-4.65	0.00	-114.55	0.00	114.55	2,150.58	1,075.29	2,680.76	1,323.92	13.48	-1.07	0.101
135.00	-31.31	-4.59	0.00	-107.20	0.00	107.20	2,131.69	1,065.85	2,620.61	1,294.22	13.84	-1.08	0.098
138.00	-24.29	-3.74	0.00	-93.43	0.00	93.43	2,095.09	1,047.55	2,507.42	1,238.32	14.53	-1.11	0.087
138.00	-24.29	-3.72	0.00	-93.42	0.00	93.42	1,261.36	630.68	1,542.30	761.69	14.53	-1.11	0.142
140.00	-23.92	-3.64	0.00	-85.99	0.00	85.99	1,251.99	625.99	1,503.68	742.61	14.99	-1.13	0.135
145.00	-23.02	-3.52	0.00	-67.78	0.00	67.78	1,226.53	613.27	1,406.57	694.65	16.20	-1.17	0.116
150.00	-22.15	-3.42	0.00	-50.17	0.00	50.17	1,198.19	599.10	1,309.07	646.50	17.45	-1.22	0.096
153.00	-16.37	-2.54	0.00	-39.90	0.00	39.90	1,179.81	589.90	1,250.58	617.61	18.23	-1.24	0.078
155.00	-16.07	-2.46	0.00	-34.82	0.00	34.82	1,166.98	583.49	1,211.66	598.39	18.75	-1.26	0.072
160.00	-15.36	-2.38	0.00	-22.52	0.00	22.52	1,132.88	566.44	1,114.79	550.56	20.08	-1.28	0.054
161.00	-8.10	-1.30	0.00	-20.13	0.00	20.13	1,125.72	562.86	1,095.53	541.04	20.35	-1.29	0.044
165.00	-7.56	-1.20	0.00	-14.93	0.00	14.93	1,095.90	547.95	1,018.96	503.22	21.44	-1.31	0.037
170.00	-6.93	-1.11	0.00	-8.95	0.00	8.95	1,056.05	528.02	924.61	456.63	22.82	-1.32	0.026
172.00	-6.00	-0.87	0.00	-6.58	0.00	6.58	1,039.30	519.65	887.39	438.25	23.37	-1.33	0.021
175.00	-5.65	-0.79	0.00	-3.95	0.00	3.95	1,013.31	506.66	832.22	411.00	24.21	-1.33	0.015
180.00	0.00	-0.66	0.00	0.00	0.00	0.00	967.70	483.85	742.26	366.57	25.61	-1.34	0.000

Site Number: 302465 Code: ANSI/TIA-222-G

Site Name: Colchester CT 6, CT Engineering Number:OAA710393_C3_03 3/16/2018 9:05:50 AM

Customer: SPRINT NEXTEL

Load Case: 1.0D + 1.0W Serviceability 60 mph 24 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	-46.74	-8.48	0.00	-969.22	0.00	969.22	5,182.07	2,591.03	13,611.2	6,722.08	0.00	0.00	0.153
5.00	-45.09	-8.32	0.00	-926.81	0.00	926.81	5,144.52	2,572.26	13,233.5	6,535.53	0.02	-0.03	0.151
10.00	-43.47	-8.17	0.00	-885.19	0.00	885.19	5,104.08	2,552.04	12,852.5	6,347.41	0.06	-0.06	0.148
15.00	-41.88	-8.01	0.00	-844.36	0.00	844.36	5,060.77	2,530.38	12,468.9	6,157.95	0.14	-0.09	0.145
20.00	-40.32	-7.86	0.00	-804.30	0.00	804.30	5,014.58	2,507.29	12,083.1	5,967.39	0.25	-0.12	0.143
25.00	-38.79	-7.71	0.00	-765.01	0.00	765.01	4,965.50	2,482.75	11,695.4	5,775.95	0.39	-0.15	0.140
30.00	-37.30	-7.56	0.00	-726.45	0.00	726.45	4,913.55	2,456.77	11,306.5	5,583.87	0.57	-0.18	0.138
35.00	-35.83	-7.41	0.00	-688.65	0.00	688.65	4,858.72	2,429.36	10,916.7	5,391.38	0.78	-0.22	0.135
40.00	-34.40	-7.27	0.00	-651.60	0.00	651.60	4,801.00	2,400.50	10,526.6	5,198.71	1.02	-0.25	0.133
43.83	-33.32	-7.19	0.00	-623.72	0.00	623.72	4,754.80	2,377.40	10,227.5	5,051.02	1.23	-0.27	0.131
45.00	-32.74	-7.09	0.00	-615.33	0.00	615.33	4,740.41	2,370.20	10,136.6	5,006.09	1.30	-0.28	0.130
50.00	-30.31	-6.99	0.00	-579.86	0.00	579.86	4,676.94	2,338.47	9,747.16	4,813.75	1.61	-0.32	0.127
51.00	-29.82	-6.91	0.00	-572.87	0.00	572.87	3,716.51	1,858.26	7,840.37	3,872.06	1.68	-0.32	0.156
55.00	-28.88	-6.76	0.00	-545.24	0.00	545.24	3,684.81	1,842.40	7,613.55	3,760.05	1.96	-0.35	0.153
60.00	-27.72	-6.60	0.00	-511.43	0.00	511.43	3,642.58	1,821.29	7,328.69	3,619.37	2.35	-0.39	0.149
65.00	-26.59	-6.44	0.00	-478.43	0.00	478.43	3,597.48	1,798.74	7,042.78	3,478.16	2.78	-0.43	0.145
70.00	-25.48	-6.27	0.00	-446.25	0.00	446.25	3,549.49	1,774.75	6,756.28	3,336.67	3.25	-0.47	0.141
75.00	-24.40	-6.11	0.00	-414.89	0.00	414.89	3,498.63	1,749.31	6,469.65	3,195.12	3.76	-0.51	0.137
80.00	-23.35	-5.95	0.00	-384.34	0.00	384.34	3,444.88	1,722.44	6,183.38	3,053.74	4.32	-0.55	0.133
85.00	-22.33	-5.82	0.00	-354.59	0.00	354.59	3,388.26	1,694.13	5,897.93	2,912.77	4.92	-0.59	0.128
88.08	-21.71	-5.73	0.00	-336.66	0.00	336.66	3,351.90	1,675.95	5,722.49	2,826.13	5.31	-0.62	0.126
90.00	-21.06	-5.64	0.00	-325.67	0.00	325.67	3,328.76	1,664.38	5,613.77	2,772.43	5.56	-0.63	0.124
94.00	-19.72	-5.55	0.00	-303.12	0.00	303.12	2,527.94	1,263.97	4,232.29	2,090.17	6.11	-0.67	0.153
95.00	-19.55	-5.46	0.00	-297.57	0.00	297.57	2,520.58	1,260.29	4,192.63	2,070.58	6.25	-0.68	0.151
100.00	-18.73	-5.30	0.00	-270.28	0.00	270.28	2,482.05	1,241.03	3,993.88	1,972.43	6.98	-0.73	0.145
105.00	-17.93	-5.15	0.00	-243.78	0.00	243.78	2,440.64	1,220.32	3,794.84	1,874.13	7.77	-0.77	0.137
110.00	-17.15	-5.00	0.00	-218.03	0.00	218.03	2,396.35	1,198.17	3,595.97	1,775.91	8.61	-0.82	0.130
115.00	-16.40	-4.85	0.00	-193.05	0.00	193.05	2,349.18	1,174.59	3,397.74	1,678.02	9.49	-0.87	0.122
120.00	-15.66	-4.70	0.00	-168.81	0.00	168.81	2,299.13	1,149.56	3,200.62	1,580.67	10.43	-0.92	0.114
125.00	-14.96	-4.56	0.00	-145.30	0.00	145.30	2,246.20	1,123.10	3,005.08	1,484.10	11.41	-0.96	0.105
130.00	-14.27	-4.44	0.00	-122.51	0.00	122.51	2,190.38	1,095.19	2,811.58	1,388.54	12.44	-1.00	0.095
133.42	-13.81	-4.37	0.00	-107.34	0.00	107.34	2,150.58	1,075.29	2,680.76	1,323.92	13.17	-1.03	0.088
135.00	-13.49	-4.30	0.00	-100.43	0.00	100.43	2,131.69	1,065.85	2,620.61	1,294.22	13.51	-1.05	0.084
138.00	-10.19	-3.54	0.00	-87.52	0.00	87.52	2,095.09	1,047.55	2,507.42	1,238.32	14.18	-1.07	0.076
138.00	-10.19	-3.51	0.00	-87.52	0.00	87.52	1,261.36	630.68	1,542.30	761.69	14.18	-1.07	0.123
140.00	-10.00	-3.42	0.00	-80.50	0.00	80.50	1,251.99	625.99	1,503.68	742.61	14.63	-1.08	0.116
145.00	-9.52	-3.29	0.00	-63.38	0.00	63.38	1,226.53	613.27	1,406.57	694.65	15.79	-1.13	0.099
150.00	-9.06	-3.19	0.00	-46.90	0.00	46.90	1,198.19	599.10	1,309.07	646.50	17.00	-1.17	0.080
153.00	-6.65	-2.38	0.00	-37.33	0.00	37.33	1,179.81	589.90	1,250.58	617.61	17.74	-1.19	0.066
155.00	-6.51	-2.29	0.00	-32.58	0.00	32.58	1,166.98	583.49	1,211.66	598.39	18.24	-1.21	0.060
160.00	-6.16	-2.22	0.00	-21.12	0.00	21.12	1,132.88	566.44	1,114.79	550.56	19.52	-1.23	0.044
161.00	-3.32	-1.22	0.00	-18.90	0.00	18.90	1,125.72	562.86	1,095.53	541.04	19.78	-1.24	0.038
165.00	-3.06	-1.12	0.00	-14.01	0.00	14.01	1,095.90	547.95	1,018.96	503.22	20.82	-1.25	0.031
170.00	-2.75	-1.04	0.00	-8.41	0.00	8.41	1,056.05	528.02	924.61	456.63	22.15	-1.27	0.021
172.00	-2.29	-0.83	0.00	-6.21	0.00	6.21	1,039.30	519.65	887.39	438.25	22.68	-1.27	0.016
175.00	-2.12	-0.75	0.00	-3.73	0.00	3.73	1,013.31	506.66	832.22	411.00	23.48	-1.28	0.011
180.00	0.00	-0.70	0.00	0.00	0.00	0.00	967.70	483.85	742.26	366.57	24.82	-1.28	0.000

Site Number:	302465	Code: ANSI/TIA-222-G	
Site Name:	Colchester CT 6, CT	Engineering Number:OAA710393_C3_03	3/16/2018 9:05:54 AM
Customer:	SPRINT NEXTEL		

Load Case: 1.0D + 1.0W Serviceability 60 mph 24 Iterations

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

Wind Importance Factor 1.00

Site Number: 302465 Code: ANSI/TIA-222-G

Site Name: Colchester CT 6, CT Engineering Number:OAA710393_C3_03 3/16/2018 9:05:54 AM

Customer: SPRINT NEXTEL

Load Case: (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method 23 Iterations

Gust Response Factor :1.10 Sds : 0.00 Ss : 0.00

Dead Load Factor :1.20 Seismic Load Factor :1.00 Sd1 : 0.00 S1 : 0.00

Wind Load Factor :0.00 Structure Frequency :0.0000 SA : 0.00 Seismic Importance Factor :1.00

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	-55.77	-1.83	0.00	-259.25	0.00	259.25	5,182.07	2,591.03	13,611.2	6,722.08	0.00	0.00	0.049
5.00	-53.77	-1.83	0.00	-250.12	0.00	250.12	5,144.52	2,572.26	13,233.5	6,535.53	0.00	-0.01	0.049
10.00	-51.81	-1.84	0.00	-240.96	0.00	240.96	5,104.08	2,552.04	12,852.5	6,347.41	0.02	-0.02	0.048
15.00	-49.89	-1.84	0.00	-231.76	0.00	231.76	5,060.77	2,530.38	12,468.9	6,157.95	0.04	-0.02	0.047
20.00	-48.00	-1.85	0.00	-222.54	0.00	222.54	5,014.58	2,507.29	12,083.1	5,967.39	0.07	-0.03	0.047
25.00	-46.15	-1.85	0.00	-213.31	0.00	213.31	4,965.50	2,482.75	11,695.4	5,775.95	0.11	-0.04	0.046
30.00	-44.35	-1.85	0.00	-204.07	0.00	204.07	4,913.55	2,456.77	11,306.5	5,583.87	0.15	-0.05	0.046
35.00	-42.58	-1.84	0.00	-194.83	0.00	194.83	4,858.72	2,429.36	10,916.7	5,391.38	0.21	-0.06	0.045
40.00	-41.25	-1.84	0.00	-185.61	0.00	185.61	4,801.00	2,400.50	10,526.6	5,198.71	0.28	-0.07	0.044
43.83	-40.54	-1.84	0.00	-178.55	0.00	178.55	4,754.80	2,377.40	10,227.5	5,051.02	0.34	-0.08	0.044
45.00	-37.52	-1.82	0.00	-176.41	0.00	176.41	4,740.41	2,370.20	10,136.6	5,006.09	0.36	-0.08	0.043
50.00	-36.93	-1.82	0.00	-167.32	0.00	167.32	4,676.94	2,338.47	9,747.16	4,813.75	0.44	-0.09	0.043
51.00	-35.76	-1.81	0.00	-165.50	0.00	165.50	3,716.51	1,858.26	7,840.37	3,872.06	0.46	-0.09	0.052
55.00	-34.33	-1.80	0.00	-158.28	0.00	158.28	3,684.81	1,842.40	7,613.55	3,760.05	0.54	-0.10	0.051
60.00	-32.94	-1.78	0.00	-149.30	0.00	149.30	3,642.58	1,821.29	7,328.69	3,619.37	0.65	-0.11	0.050
65.00	-31.57	-1.77	0.00	-140.39	0.00	140.39	3,597.48	1,798.74	7,042.78	3,478.16	0.77	-0.12	0.049
70.00	-30.24	-1.75	0.00	-131.56	0.00	131.56	3,549.49	1,774.75	6,756.28	3,336.67	0.90	-0.13	0.048
75.00	-28.95	-1.73	0.00	-122.82	0.00	122.82	3,498.63	1,749.31	6,469.65	3,195.12	1.05	-0.14	0.047
80.00	-27.68	-1.70	0.00	-114.19	0.00	114.19	3,444.88	1,722.44	6,183.38	3,053.74	1.21	-0.16	0.045
85.00	-26.92	-1.69	0.00	-105.68	0.00	105.68	3,388.26	1,694.13	5,897.93	2,912.77	1.38	-0.17	0.044
88.08	-26.11	-1.67	0.00	-100.48	0.00	100.48	3,351.90	1,675.95	5,722.49	2,826.13	1.49	-0.18	0.043
90.00	-24.46	-1.62	0.00	-97.28	0.00	97.28	3,328.76	1,664.38	5,613.77	2,772.43	1.56	-0.18	0.042
94.00	-24.25	-1.62	0.00	-90.79	0.00	90.79	2,527.94	1,263.97	4,232.29	2,090.17	1.72	-0.19	0.053
95.00	-23.24	-1.59	0.00	-89.18	0.00	89.18	2,520.58	1,260.29	4,192.63	2,070.58	1.76	-0.19	0.052
100.00	-22.25	-1.56	0.00	-81.23	0.00	81.23	2,482.05	1,241.03	3,993.88	1,972.43	1.97	-0.21	0.050
105.00	-21.29	-1.53	0.00	-73.43	0.00	73.43	2,440.64	1,220.32	3,794.84	1,874.13	2.20	-0.22	0.048
110.00	-20.36	-1.49	0.00	-65.80	0.00	65.80	2,396.35	1,198.17	3,595.97	1,775.91	2.44	-0.24	0.046
115.00	-19.46	-1.46	0.00	-58.33	0.00	58.33	2,349.18	1,174.59	3,397.74	1,678.02	2.70	-0.25	0.043
120.00	-18.58	-1.42	0.00	-51.06	0.00	51.06	2,299.13	1,149.56	3,200.62	1,580.67	2.97	-0.27	0.040
125.00	-17.73	-1.37	0.00	-43.98	0.00	43.98	2,246.20	1,123.10	3,005.08	1,484.10	3.26	-0.28	0.038
130.00	-17.17	-1.35	0.00	-37.10	0.00	37.10	2,190.38	1,095.19	2,811.58	1,388.54	3.56	-0.29	0.035
133.42	-16.77	-1.32	0.00	-32.51	0.00	32.51	2,150.58	1,075.29	2,680.76	1,323.92	3.77	-0.30	0.032
135.00	-16.03	-1.28	0.00	-30.41	0.00	30.41	2,131.69	1,065.85	2,620.61	1,294.22	3.87	-0.31	0.031
138.00	-12.68	-1.07	0.00	-26.58	0.00	26.58	2,095.09	1,047.55	2,507.42	1,238.32	4.07	-0.31	0.028
138.00	-12.44	-1.05	0.00	-26.57	0.00	26.57	1,261.36	630.68	1,542.30	761.69	4.07	-0.31	0.045
140.00	-11.85	-1.02	0.00	-24.47	0.00	24.47	1,251.99	625.99	1,503.68	742.61	4.20	-0.32	0.042
145.00	-11.28	-0.98	0.00	-19.38	0.00	19.38	1,226.53	613.27	1,406.57	694.65	4.54	-0.33	0.037
150.00	-10.95	-0.96	0.00	-14.49	0.00	14.49	1,198.19	599.10	1,309.07	646.50	4.89	-0.34	0.032
153.00	-8.10	-0.74	0.00	-11.62	0.00	11.62	1,179.81	589.90	1,250.58	617.61	5.11	-0.35	0.026
155.00	-7.67	-0.71	0.00	-10.14	0.00	10.14	1,166.98	583.49	1,211.66	598.39	5.26	-0.35	0.024
160.00	-7.59	-0.70	0.00	-6.62	0.00	6.62	1,132.88	566.44	1,114.79	550.56	5.64	-0.36	0.019
161.00	-3.81	-0.38	0.00	-5.92	0.00	5.92	1,125.72	562.86	1,095.53	541.04	5.71	-0.36	0.014
165.00	-3.43	-0.35	0.00	-4.40	0.00	4.40	1,095.90	547.95	1,018.96	503.22	6.02	-0.37	0.012
170.00	-3.28	-0.33	0.00	-2.66	0.00	2.66	1,056.05	528.02	924.61	456.63	6.41	-0.37	0.009
172.00	-2.64	-0.27	0.00	-2.00	0.00	2.00	1,039.30	519.65	887.39	438.25	6.57	-0.38	0.007
175.00	-2.30	-0.24	0.00	-1.19	0.00	1.19	1,013.31	506.66	832.22	411.00	6.80	-0.38	0.005
180.00	0.00	-0.22	0.00	0.00	0.00	0.00	967.70	483.85	742.26	366.57	7.20	-0.38	0.000

Site Number: 302465 Code: ANSI/TIA-222-G

Site Name: Colchester CT 6, CT Engineering Number:OAA710393_C3_03 3/16/2018 9:05:54 AM

Customer: SPRINT NEXTEL

Load Case: (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method 23 Iterations

Gust Response Factor : 1.10		Sds : 0.00		Ss : 0.00
Dead Load Factor : 0.90	Seismic Load Factor : 1.00	Sd1 : 0.00		S1 : 0.00
Wind Load Factor : 0.00	Structure Frequency : 0.0000	SA : 0.00	Seismic Importance Factor :	1.00

Site Number: 302465 Code: ANSI/TIA-222-G

Site Name: Colchester CT 6, CT Engineering Number:OAA710393_C3_03 3/16/2018 9:05:54 AM

Customer: SPRINT NEXTEL

Load Case: (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method 23 Iterations

Gust Response Factor :1.10 Sds : 0.00 Ss : 0.00

Dead Load Factor :0.90 Seismic Load Factor :1.00 Sd1 : 0.00 S1 : 0.00

Wind Load Factor :0.00 Structure Frequency :0.0000 SA : 0.00 Seismic Importance Factor :1.00

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	-38.93	-1.83	0.00	-256.02	0.00	256.02	5,182.07	2,591.03	13,611.2	6,722.08	0.00	0.00	0.046
5.00	-37.54	-1.83	0.00	-246.89	0.00	246.89	5,144.52	2,572.26	13,233.5	6,535.53	0.00	-0.01	0.045
10.00	-36.17	-1.83	0.00	-237.74	0.00	237.74	5,104.08	2,552.04	12,852.5	6,347.41	0.02	-0.02	0.045
15.00	-34.82	-1.84	0.00	-228.57	0.00	228.57	5,060.77	2,530.38	12,468.9	6,157.95	0.04	-0.02	0.044
20.00	-33.51	-1.84	0.00	-219.39	0.00	219.39	5,014.58	2,507.29	12,083.1	5,967.39	0.07	-0.03	0.043
25.00	-32.22	-1.84	0.00	-210.21	0.00	210.21	4,965.50	2,482.75	11,695.4	5,775.95	0.11	-0.04	0.043
30.00	-30.96	-1.83	0.00	-201.03	0.00	201.03	4,913.55	2,456.77	11,306.5	5,583.87	0.15	-0.05	0.042
35.00	-29.72	-1.83	0.00	-191.86	0.00	191.86	4,858.72	2,429.36	10,916.7	5,391.38	0.21	-0.06	0.042
40.00	-28.79	-1.83	0.00	-182.71	0.00	182.71	4,801.00	2,400.50	10,526.6	5,198.71	0.28	-0.07	0.041
43.83	-28.30	-1.82	0.00	-175.71	0.00	175.71	4,754.80	2,377.40	10,227.5	5,051.02	0.33	-0.07	0.041
45.00	-26.19	-1.80	0.00	-173.58	0.00	173.58	4,740.41	2,370.20	10,136.6	5,006.09	0.35	-0.08	0.040
50.00	-25.78	-1.80	0.00	-164.58	0.00	164.58	4,676.94	2,338.47	9,747.16	4,813.75	0.44	-0.09	0.040
51.00	-24.96	-1.79	0.00	-162.78	0.00	162.78	3,716.51	1,858.26	7,840.37	3,872.06	0.46	-0.09	0.049
55.00	-23.97	-1.78	0.00	-155.63	0.00	155.63	3,684.81	1,842.40	7,613.55	3,760.05	0.53	-0.10	0.048
60.00	-22.99	-1.76	0.00	-146.75	0.00	146.75	3,642.58	1,821.29	7,328.69	3,619.37	0.64	-0.11	0.047
65.00	-22.04	-1.74	0.00	-137.95	0.00	137.95	3,597.48	1,798.74	7,042.78	3,478.16	0.76	-0.12	0.046
70.00	-21.11	-1.72	0.00	-129.23	0.00	129.23	3,549.49	1,774.75	6,756.28	3,336.67	0.89	-0.13	0.045
75.00	-20.21	-1.70	0.00	-120.60	0.00	120.60	3,498.63	1,749.31	6,469.65	3,195.12	1.03	-0.14	0.044
80.00	-19.32	-1.68	0.00	-112.09	0.00	112.09	3,444.88	1,722.44	6,183.38	3,053.74	1.19	-0.15	0.042
85.00	-18.79	-1.66	0.00	-103.70	0.00	103.70	3,388.26	1,694.13	5,897.93	2,912.77	1.36	-0.17	0.041
88.08	-18.23	-1.64	0.00	-98.58	0.00	98.58	3,351.90	1,675.95	5,722.49	2,826.13	1.47	-0.17	0.040
90.00	-17.07	-1.60	0.00	-95.43	0.00	95.43	3,328.76	1,664.38	5,613.77	2,772.43	1.54	-0.18	0.040
94.00	-16.93	-1.59	0.00	-89.04	0.00	89.04	2,527.94	1,263.97	4,232.29	2,090.17	1.69	-0.19	0.049
95.00	-16.22	-1.56	0.00	-87.45	0.00	87.45	2,520.58	1,260.29	4,192.63	2,070.58	1.73	-0.19	0.049
100.00	-15.53	-1.53	0.00	-79.63	0.00	79.63	2,482.05	1,241.03	3,993.88	1,972.43	1.94	-0.21	0.047
105.00	-14.86	-1.50	0.00	-71.97	0.00	71.97	2,440.64	1,220.32	3,794.84	1,874.13	2.17	-0.22	0.044
110.00	-14.21	-1.47	0.00	-64.46	0.00	64.46	2,396.35	1,198.17	3,595.97	1,775.91	2.40	-0.23	0.042
115.00	-13.58	-1.43	0.00	-57.14	0.00	57.14	2,349.18	1,174.59	3,397.74	1,678.02	2.66	-0.25	0.040
120.00	-12.97	-1.39	0.00	-50.00	0.00	50.00	2,299.13	1,149.56	3,200.62	1,580.67	2.92	-0.26	0.037
125.00	-12.38	-1.35	0.00	-43.06	0.00	43.06	2,246.20	1,123.10	3,005.08	1,484.10	3.20	-0.28	0.035
130.00	-11.98	-1.32	0.00	-36.32	0.00	36.32	2,190.38	1,095.19	2,811.58	1,388.54	3.50	-0.29	0.032
133.42	-11.71	-1.30	0.00	-31.82	0.00	31.82	2,150.58	1,075.29	2,680.76	1,323.92	3.71	-0.30	0.029
135.00	-11.19	-1.25	0.00	-29.77	0.00	29.77	2,131.69	1,065.85	2,620.61	1,294.22	3.81	-0.30	0.028
138.00	-8.85	-1.05	0.00	-26.02	0.00	26.02	2,095.09	1,047.55	2,507.42	1,238.32	4.00	-0.31	0.025
138.00	-8.68	-1.03	0.00	-26.02	0.00	26.02	1,261.36	630.68	1,542.30	761.69	4.00	-0.31	0.041
140.00	-8.27	-1.00	0.00	-23.95	0.00	23.95	1,251.99	625.99	1,503.68	742.61	4.13	-0.31	0.039
145.00	-7.88	-0.96	0.00	-18.98	0.00	18.98	1,226.53	613.27	1,406.57	694.65	4.46	-0.33	0.034
150.00	-7.64	-0.94	0.00	-14.18	0.00	14.18	1,198.19	599.10	1,309.07	646.50	4.81	-0.34	0.028
153.00	-5.66	-0.72	0.00	-11.38	0.00	11.38	1,179.81	589.90	1,250.58	617.61	5.03	-0.34	0.023
155.00	-5.36	-0.69	0.00	-9.93	0.00	9.93	1,166.98	583.49	1,211.66	598.39	5.17	-0.35	0.021
160.00	-5.30	-0.68	0.00	-6.48	0.00	6.48	1,132.88	566.44	1,114.79	550.56	5.54	-0.36	0.016
161.00	-2.66	-0.37	0.00	-5.80	0.00	5.80	1,125.72	562.86	1,095.53	541.04	5.62	-0.36	0.013
165.00	-2.39	-0.34	0.00	-4.31	0.00	4.31	1,095.90	547.95	1,018.96	503.22	5.92	-0.36	0.011
170.00	-2.29	-0.33	0.00	-2.61	0.00	2.61	1,056.05	528.02	924.61	456.63	6.30	-0.37	0.008
172.00	-1.84	-0.27	0.00	-1.96	0.00	1.96	1,039.30	519.65	887.39	438.25	6.45	-0.37	0.006
175.00	-1.60	-0.23	0.00	-1.16	0.00	1.16	1,013.31	506.66	832.22	411.00	6.69	-0.37	0.004
180.00	0.00	-0.22	0.00	0.00	0.00	0.00	967.70	483.85	742.26	366.57	7.08	-0.37	0.000

Load Case: (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method 23 Iterations

Gust Response Factor : 1.10		Sds : 0.00	Ss : 0.00
Dead Load Factor : 1.20	Seismic Load Factor : 1.00	Sd1 : 0.00	S1 : 0.00
Wind Load Factor : 0.00	Structure Frequency : 0.0000	SA : 0.00	Seismic Importance Factor : 1.00

Site Number: 302465 Code: ANSI/TIA-222-G

Site Name: Colchester CT 6, CT Engineering Number:OAA710393_C3_03 3/16/2018 9:05:54 AM

Customer: SPRINT NEXTEL

Load Case: (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method 23 Iterations

Gust Response Factor :1.10 Sds : 0.00 Ss : 0.00

Dead Load Factor :1.20 Seismic Load Factor :1.00 Sd1 : 0.00 S1 : 0.00

Wind Load Factor :0.00 Structure Frequency :0.0000 SA : 0.00 Seismic Importance Factor :1.00

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	-55.77	-2.17	0.00	-276.15	0.00	276.15	5,182.07	2,591.03	13,611.2	6,722.08	0.00	0.00	0.052
5.00	-53.77	-2.14	0.00	-265.28	0.00	265.28	5,144.52	2,572.26	13,233.5	6,535.53	0.00	-0.01	0.051
10.00	-51.81	-2.10	0.00	-254.55	0.00	254.55	5,104.08	2,552.04	12,852.5	6,347.41	0.02	-0.02	0.050
15.00	-49.89	-2.06	0.00	-244.04	0.00	244.04	5,060.77	2,530.38	12,468.9	6,157.95	0.04	-0.03	0.049
20.00	-48.00	-2.01	0.00	-233.75	0.00	233.75	5,014.58	2,507.29	12,083.1	5,967.39	0.07	-0.03	0.049
25.00	-46.15	-1.96	0.00	-223.71	0.00	223.71	4,965.50	2,482.75	11,695.4	5,775.95	0.11	-0.04	0.048
30.00	-44.35	-1.90	0.00	-213.93	0.00	213.93	4,913.55	2,456.77	11,306.5	5,583.87	0.16	-0.05	0.047
35.00	-42.58	-1.85	0.00	-204.40	0.00	204.40	4,858.72	2,429.36	10,916.7	5,391.38	0.22	-0.06	0.047
40.00	-41.25	-1.81	0.00	-195.14	0.00	195.14	4,801.00	2,400.50	10,526.6	5,198.71	0.29	-0.07	0.046
43.83	-40.54	-1.79	0.00	-188.19	0.00	188.19	4,754.80	2,377.40	10,227.5	5,051.02	0.36	-0.08	0.046
45.00	-37.52	-1.69	0.00	-186.10	0.00	186.10	4,740.41	2,370.20	10,136.6	5,006.09	0.38	-0.08	0.045
50.00	-36.93	-1.67	0.00	-177.66	0.00	177.66	4,676.94	2,338.47	9,747.16	4,813.75	0.47	-0.09	0.045
51.00	-35.76	-1.63	0.00	-175.98	0.00	175.98	3,716.51	1,858.26	7,840.37	3,872.06	0.49	-0.09	0.055
55.00	-34.33	-1.59	0.00	-169.45	0.00	169.45	3,684.81	1,842.40	7,613.55	3,760.05	0.57	-0.10	0.054
60.00	-32.94	-1.54	0.00	-161.51	0.00	161.51	3,642.58	1,821.29	7,328.69	3,619.37	0.69	-0.12	0.054
65.00	-31.57	-1.50	0.00	-153.79	0.00	153.79	3,597.48	1,798.74	7,042.78	3,478.16	0.81	-0.13	0.053
70.00	-30.24	-1.47	0.00	-146.28	0.00	146.28	3,549.49	1,774.75	6,756.28	3,336.67	0.95	-0.14	0.052
75.00	-28.95	-1.44	0.00	-138.95	0.00	138.95	3,498.63	1,749.31	6,469.65	3,195.12	1.11	-0.15	0.052
80.00	-27.68	-1.41	0.00	-131.77	0.00	131.77	3,444.88	1,722.44	6,183.38	3,053.74	1.28	-0.17	0.051
85.00	-26.92	-1.40	0.00	-124.71	0.00	124.71	3,388.26	1,694.13	5,897.93	2,912.77	1.46	-0.18	0.051
88.08	-26.11	-1.40	0.00	-120.38	0.00	120.38	3,351.90	1,675.95	5,722.49	2,826.13	1.59	-0.19	0.050
90.00	-24.46	-1.38	0.00	-117.71	0.00	117.71	3,328.76	1,664.38	5,613.77	2,772.43	1.66	-0.20	0.050
94.00	-24.25	-1.39	0.00	-112.17	0.00	112.17	2,527.94	1,263.97	4,232.29	2,090.17	1.83	-0.21	0.063
95.00	-23.24	-1.39	0.00	-110.79	0.00	110.79	2,520.58	1,260.29	4,192.63	2,070.58	1.88	-0.21	0.063
100.00	-22.25	-1.41	0.00	-103.83	0.00	103.83	2,482.05	1,241.03	3,993.88	1,972.43	2.11	-0.23	0.062
105.00	-21.29	-1.43	0.00	-96.78	0.00	96.78	2,440.64	1,220.32	3,794.84	1,874.13	2.37	-0.25	0.060
110.00	-20.36	-1.46	0.00	-89.62	0.00	89.62	2,396.35	1,198.17	3,595.97	1,775.91	2.64	-0.27	0.059
115.00	-19.46	-1.49	0.00	-82.32	0.00	82.32	2,349.18	1,174.59	3,397.74	1,678.02	2.93	-0.29	0.057
120.00	-18.58	-1.52	0.00	-74.88	0.00	74.88	2,299.13	1,149.56	3,200.62	1,580.67	3.25	-0.31	0.055
125.00	-17.73	-1.54	0.00	-67.30	0.00	67.30	2,246.20	1,123.10	3,005.08	1,484.10	3.58	-0.33	0.053
130.00	-17.17	-1.55	0.00	-59.62	0.00	59.62	2,190.38	1,095.19	2,811.58	1,388.54	3.94	-0.35	0.051
133.42	-16.77	-1.55	0.00	-54.33	0.00	54.33	2,150.58	1,075.29	2,680.76	1,323.92	4.20	-0.37	0.049
135.00	-16.02	-1.56	0.00	-51.87	0.00	51.87	2,131.69	1,065.85	2,620.61	1,294.22	4.32	-0.37	0.048
138.00	-12.67	-1.54	0.00	-47.20	0.00	47.20	2,095.09	1,047.55	2,507.42	1,238.32	4.56	-0.38	0.044
138.00	-12.43	-1.54	0.00	-47.20	0.00	47.20	1,261.36	630.68	1,542.30	761.69	4.56	-0.38	0.072
140.00	-11.85	-1.53	0.00	-44.12	0.00	44.12	1,251.99	625.99	1,503.68	742.61	4.72	-0.39	0.069
145.00	-11.28	-1.52	0.00	-36.44	0.00	36.44	1,226.53	613.27	1,406.57	694.65	5.14	-0.42	0.062
150.00	-10.95	-1.50	0.00	-28.85	0.00	28.85	1,198.19	599.10	1,309.07	646.50	5.60	-0.44	0.054
153.00	-8.10	-1.32	0.00	-24.34	0.00	24.34	1,179.81	589.90	1,250.58	617.61	5.88	-0.46	0.046
155.00	-7.67	-1.29	0.00	-21.69	0.00	21.69	1,166.98	583.49	1,211.66	598.39	6.07	-0.46	0.043
160.00	-7.59	-1.28	0.00	-15.26	0.00	15.26	1,132.88	566.44	1,114.79	550.56	6.57	-0.48	0.034
161.00	-3.81	-0.87	0.00	-13.98	0.00	13.98	1,125.72	562.86	1,095.53	541.04	6.67	-0.49	0.029
165.00	-3.43	-0.81	0.00	-10.51	0.00	10.51	1,095.90	547.95	1,018.96	503.22	7.08	-0.50	0.024
170.00	-3.28	-0.78	0.00	-6.46	0.00	6.46	1,056.05	528.02	924.61	456.63	7.61	-0.51	0.017
172.00	-2.63	-0.66	0.00	-4.90	0.00	4.90	1,039.30	519.65	887.39	438.25	7.83	-0.51	0.014
175.00	-2.29	-0.58	0.00	-2.91	0.00	2.91	1,013.31	506.66	832.22	411.00	8.15	-0.52	0.009
180.00	0.00	-0.56	0.00	0.00	0.00	0.00	967.70	483.85	742.26	366.57	8.70	-0.52	0.000

Load Case: (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method 23 Iterations

Gust Response Factor : 1.10		Sds : 0.00	Ss : 0.00
Dead Load Factor : 0.90	Seismic Load Factor : 1.00	Sd1 : 0.00	S1 : 0.00
Wind Load Factor : 0.00	Structure Frequency : 0.0000	SA : 0.00	Seismic Importance Factor : 1.00

Site Number: 302465 Code: ANSI/TIA-222-G

Site Name: Colchester CT 6, CT Engineering Number:OAA710393_C3_03 3/16/2018 9:05:54 AM

Customer: SPRINT NEXTEL

Load Case: (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method 23 Iterations

Gust Response Factor :1.10 Sds : 0.00 Ss : 0.00

Dead Load Factor :0.90 Seismic Load Factor :1.00 Sd1 : 0.00 S1 : 0.00

Wind Load Factor :0.00 Structure Frequency :0.0000 SA : 0.00 Seismic Importance Factor :1.00

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	-38.93	-2.17	0.00	-272.46	0.00	272.46	5,182.07	2,591.03	13,611.2	6,722.08	0.00	0.00	0.048
5.00	-37.54	-2.14	0.00	-261.60	0.00	261.60	5,144.52	2,572.26	13,233.5	6,535.53	0.00	-0.01	0.047
10.00	-36.17	-2.10	0.00	-250.89	0.00	250.89	5,104.08	2,552.04	12,852.5	6,347.41	0.02	-0.02	0.047
15.00	-34.82	-2.05	0.00	-240.40	0.00	240.40	5,060.77	2,530.38	12,468.9	6,157.95	0.04	-0.03	0.046
20.00	-33.51	-2.00	0.00	-230.16	0.00	230.16	5,014.58	2,507.29	12,083.1	5,967.39	0.07	-0.03	0.045
25.00	-32.22	-1.94	0.00	-220.17	0.00	220.17	4,965.50	2,482.75	11,695.4	5,775.95	0.11	-0.04	0.045
30.00	-30.96	-1.89	0.00	-210.45	0.00	210.45	4,913.55	2,456.77	11,306.5	5,583.87	0.16	-0.05	0.044
35.00	-29.72	-1.84	0.00	-200.99	0.00	200.99	4,858.72	2,429.36	10,916.7	5,391.38	0.22	-0.06	0.043
40.00	-28.79	-1.80	0.00	-191.81	0.00	191.81	4,801.00	2,400.50	10,526.6	5,198.71	0.29	-0.07	0.043
43.83	-28.30	-1.77	0.00	-184.92	0.00	184.92	4,754.80	2,377.40	10,227.5	5,051.02	0.35	-0.08	0.043
45.00	-26.19	-1.67	0.00	-182.85	0.00	182.85	4,740.41	2,370.20	10,136.6	5,006.09	0.37	-0.08	0.042
50.00	-25.78	-1.65	0.00	-174.50	0.00	174.50	4,676.94	2,338.47	9,747.16	4,813.75	0.46	-0.09	0.042
51.00	-24.96	-1.61	0.00	-172.84	0.00	172.84	3,716.51	1,858.26	7,840.37	3,872.06	0.48	-0.09	0.051
55.00	-23.97	-1.57	0.00	-166.39	0.00	166.39	3,684.81	1,842.40	7,613.55	3,760.05	0.56	-0.10	0.051
60.00	-22.99	-1.52	0.00	-158.55	0.00	158.55	3,642.58	1,821.29	7,328.69	3,619.37	0.68	-0.11	0.050
65.00	-22.04	-1.48	0.00	-150.94	0.00	150.94	3,597.48	1,798.74	7,042.78	3,478.16	0.80	-0.13	0.050
70.00	-21.11	-1.44	0.00	-143.54	0.00	143.54	3,549.49	1,774.75	6,756.28	3,336.67	0.94	-0.14	0.049
75.00	-20.21	-1.41	0.00	-136.33	0.00	136.33	3,498.63	1,749.31	6,469.65	3,195.12	1.09	-0.15	0.048
80.00	-19.32	-1.39	0.00	-129.29	0.00	129.29	3,444.88	1,722.44	6,183.38	3,053.74	1.26	-0.17	0.048
85.00	-18.79	-1.38	0.00	-122.36	0.00	122.36	3,388.26	1,694.13	5,897.93	2,912.77	1.44	-0.18	0.048
88.08	-18.23	-1.37	0.00	-118.12	0.00	118.12	3,351.90	1,675.95	5,722.49	2,826.13	1.56	-0.19	0.047
90.00	-17.07	-1.36	0.00	-115.50	0.00	115.50	3,328.76	1,664.38	5,613.77	2,772.43	1.64	-0.19	0.047
94.00	-16.93	-1.36	0.00	-110.07	0.00	110.07	2,527.94	1,263.97	4,232.29	2,090.17	1.80	-0.21	0.059
95.00	-16.22	-1.36	0.00	-108.71	0.00	108.71	2,520.58	1,260.29	4,192.63	2,070.58	1.85	-0.21	0.059
100.00	-15.53	-1.38	0.00	-101.89	0.00	101.89	2,482.05	1,241.03	3,993.88	1,972.43	2.08	-0.23	0.058
105.00	-14.86	-1.40	0.00	-94.99	0.00	94.99	2,440.64	1,220.32	3,794.84	1,874.13	2.33	-0.25	0.057
110.00	-14.21	-1.43	0.00	-87.98	0.00	87.98	2,396.35	1,198.17	3,595.97	1,775.91	2.59	-0.27	0.055
115.00	-13.58	-1.46	0.00	-80.84	0.00	80.84	2,349.18	1,174.59	3,397.74	1,678.02	2.88	-0.28	0.054
120.00	-12.97	-1.48	0.00	-73.56	0.00	73.56	2,299.13	1,149.56	3,200.62	1,580.67	3.19	-0.30	0.052
125.00	-12.38	-1.50	0.00	-66.14	0.00	66.14	2,246.20	1,123.10	3,005.08	1,484.10	3.52	-0.32	0.050
130.00	-11.98	-1.51	0.00	-58.63	0.00	58.63	2,190.38	1,095.19	2,811.58	1,388.54	3.87	-0.34	0.048
133.42	-11.70	-1.52	0.00	-53.45	0.00	53.45	2,150.58	1,075.29	2,680.76	1,323.92	4.12	-0.36	0.046
135.00	-11.18	-1.52	0.00	-51.05	0.00	51.05	2,131.69	1,065.85	2,620.61	1,294.22	4.25	-0.37	0.045
138.00	-8.84	-1.52	0.00	-46.48	0.00	46.48	2,095.09	1,047.55	2,507.42	1,238.32	4.48	-0.38	0.042
138.00	-8.68	-1.52	0.00	-46.48	0.00	46.48	1,261.36	630.68	1,542.30	761.69	4.48	-0.38	0.068
140.00	-8.27	-1.51	0.00	-43.45	0.00	43.45	1,251.99	625.99	1,503.68	742.61	4.64	-0.39	0.065
145.00	-7.87	-1.49	0.00	-35.91	0.00	35.91	1,226.53	613.27	1,406.57	694.65	5.06	-0.41	0.058
150.00	-7.64	-1.48	0.00	-28.45	0.00	28.45	1,198.19	599.10	1,309.07	646.50	5.50	-0.44	0.050
153.00	-5.65	-1.30	0.00	-24.02	0.00	24.02	1,179.81	589.90	1,250.58	617.61	5.78	-0.45	0.044
155.00	-5.35	-1.27	0.00	-21.41	0.00	21.41	1,166.98	583.49	1,211.66	598.39	5.97	-0.46	0.040
160.00	-5.29	-1.26	0.00	-15.07	0.00	15.07	1,132.88	566.44	1,114.79	550.56	6.46	-0.48	0.032
161.00	-2.66	-0.86	0.00	-13.81	0.00	13.81	1,125.72	562.86	1,095.53	541.04	6.56	-0.48	0.028
165.00	-2.39	-0.80	0.00	-10.39	0.00	10.39	1,095.90	547.95	1,018.96	503.22	6.96	-0.49	0.023
170.00	-2.29	-0.77	0.00	-6.39	0.00	6.39	1,056.05	528.02	924.61	456.63	7.48	-0.50	0.016
172.00	-1.84	-0.65	0.00	-4.84	0.00	4.84	1,039.30	519.65	887.39	438.25	7.69	-0.51	0.013
175.00	-1.60	-0.58	0.00	-2.88	0.00	2.88	1,013.31	506.66	832.22	411.00	8.01	-0.51	0.009
180.00	0.00	-0.56	0.00	0.00	0.00	0.00	967.70	483.85	742.26	366.57	8.55	-0.51	0.000

Analysis Summary

Load Case	Reactions Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Max Usage Elev (ft)	Interaction Ratio
1.2D + 1.6W	38.47	0.00	56.05	0.00	0.00	4418.68	51.00	0.69
0.9D + 1.6W	38.46	0.00	42.03	0.00	0.00	4375.27	51.00	0.67
1.2D + 1.0Di + 1.0Wi	7.94	0.00	84.21	0.00	0.00	964.94	94.00	0.17
(1.2 + 0.2Sds) * DL + E ELFM	1.83	0.00	55.77	0.00	0.00	259.25	94.00	0.05
(1.2 + 0.2Sds) * DL + E EMAM	2.17	0.00	55.77	0.00	0.00	276.15	138.00	0.07
(0.9 - 0.2Sds) * DL + E ELFM	1.83	0.00	38.93	0.00	0.00	256.02	94.00	0.05
(0.9 - 0.2Sds) * DL + E EMAM	2.17	0.00	38.93	0.00	0.00	272.46	138.00	0.07
1.0D + 1.0W	8.48	0.00	46.74	0.00	0.00	969.22	51.00	0.16

Base Summary

Reactions

Original Design			Analysis			
Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment Design %
4,932.40	45.02	41.52	4,418.68	84.21	38.47	66.36

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	2.500	78.760	Polygon	12	0.00	10.289	525.47	868.16	0.61

Anchor Bolts

								Start	Compression			Tension		
Bolt Circle	Num Bolts	Bolt Type	Bolt Dia (in)	Yield (ksi)	Ultimate (ksi)	Arrange	Cluster Dist (in)	Angle (deg)	Force (kip)	Allow (kip)	Ratio	Force (kip)	Allow (kip)	Ratio
72.76	20	2.25" A615-	2.25	75.00	100.00	Clustered	0.00	0.0	149.96	260.00	0.59	141.54	260.00	0.56

Sprint

PROJECT:	DO MACRO UPGRADE
SITE NAME:	COLCHESTER-ROUTE 85
SITE CASCADE:	CT73XC017
SITE ADDRESS:	355 NEW LONDON ROAD COLCHESTER, CT 06415
SITE TYPE:	MONOPOLE TOWER
MARKET:	NORTHERN CONNECTICUT

SITE INFORMATION

TOWER OWNER:
AMERICAN TOWER CORPORATION
10 PRESIDENTIAL WAY
WOBURN, MA 01801

LATITUDE (NAD83):
41° 32' 42" N
41.54500°

LONGITUDE (NAD83):
-72° 18' 18" W
-72.3050°

COUNTY:
NEW LONDON

ZONING JURISDICTION:
CONNECTICUT SITING COUNCIL

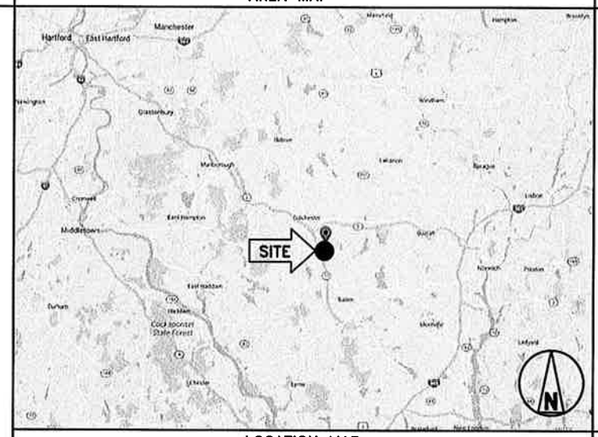
ZONING DISTRICT:
TBD

POWER COMPANY:
NORTHEAST UTILITIES
PHONE: (800) 286-2000

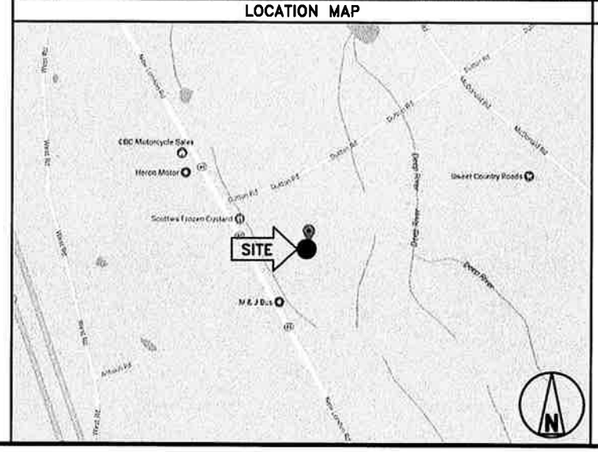
AAV PROVIDER:
AT&T
PHONE: (800) 288-2020

PROJECT MANAGER:
AIROSMITH DEVELOPMENT
TERRI BURKHOLDER
(315) 719-2928
TBURKHOLDER@AIROSMITHDEVELOPMENT.COM

AREA MAP



LOCATION MAP



PROJECT DESCRIPTION

SPRINT PROPOSES TO MODIFY AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY.

- REMOVE (3) EXISTING PANEL ANTENNAS
- INSTALL (6) PANEL ANTENNAS
- RELOCATE (3) 1900 MHz RRH'S TO TOWER TOP
- INSTALL (3) 2.5 GHz RRH'S & (3) 800 MHz RRH'S BEHIND ANTENNAS
- INSTALL (3) 800 MHz RRH'S TO PROPOSED PIPE MOUNT
- INSTALL (48) JUMPER CABLES
- INSTALL (4) HYBRID CABLE
- INSTALL 2.5 EQUIPMENT INSIDE EXISTING N.V. MMBS CABINET

THESE PLANS HAVE BEEN DEVELOPED FOR THE MODIFICATION OF AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY OWNED OR LEASED BY SPRINT IN ACCORDANCE WITH THE SCOPE OF WORK PROVIDED BY SPRINT. INFINIGY HAS INCORPORATED THIS SCOPE OF WORK IN THE PLANS. THESE PLANS ARE NOT FOR CONSTRUCTION UNLESS ACCOMPANIED BY A PASSING STRUCTURAL STABILITY ANALYSIS PREPARED BY A LICENSED STRUCTURAL ENGINEER. STRUCTURAL ANALYSIS MUST INCLUDE BOTH TOWER AND MOUNT.

APPLICABLE CODES

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALL IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. INTERNATIONAL BUILDING CODE (2015 IBC)
2. TIA-222-G OR LATEST EDITION
3. NFPA 780 – LIGHTNING PROTECTION CODE
4. 2011 NATIONAL ELECTRIC CODE OR LATEST EDITION
5. ANY OTHER NATIONAL OR LOCAL APPLICABLE CODES, MOST RECENT EDITIONS
6. CT BUILDING CODE
7. LOCAL BUILDING CODE
8. CITY/COUNTY ORDINANCES

811 Know what's below. Call before you dig. www.call811.com

DRAWING INDEX

SHEET NO.	SHEET TITLE	REV.
T-1	TITLE SHEET & PROJECT DATA	0
SP-1	SPRINT SPECIFICATIONS	0
SP-2	SPRINT SPECIFICATIONS	0
SP-3	SPRINT SPECIFICATIONS	0
A-1	SITE PLAN	0
A-2	TOWER ELEVATION	0
A-3	ANTENNA LAYOUT & MOUNTING DETAILS	0
A-4	EQUIPMENT & MOUNTING DETAILS	0
A-5	CIVIL DETAILS	0
A-6	PLUMBING DIAGRAM	0
E-1	UTILITY SITE PLAN	0
E-2	ELECTRICAL & GROUNDING PLAN	0
E-3	ELECTRICAL & GROUNDING DETAILS	

PLANS PREPARED FOR:
Sprint

PLANS PREPARED BY:

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless
1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com

JOB NUMBER 526-104

PROJECT MANAGER:

AIROSMITH DEVELOPMENT
32 CLINTON ST.
SARATOGA SPRINGS, NY 12866
OFFICE#: (518) 306-3740

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24765
LICENSED PROFESSIONAL ENGINEER
MAY 30 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/29/18	ETC	0

SITE NAME:
COLCHESTER-ROUTE 85

SITE NUMBER:
CT73XC017

SITE ADDRESS:
355 NEW LONDON ROAD
COLCHESTER, CT 06415

SHEET DESCRIPTION:
TITLE SHEET
& PROJECT DATA

SHEET NUMBER:
T-1

THESE OUTLINE SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT STANDARD CONSTRUCTION SPECIFICATIONS, INCLUDING CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

SECTION 01 100 – SCOPE OF WORK

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT CONSTRUCTION STANDARDS FOR WIRELESS SITES, CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 PRECEDENCE: SHOULD CONFLICTS OCCUR BETWEEN THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES INCLUDING THE STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE CONSTRUCTION DRAWINGS, INFORMATION ON THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE. NOTIFY SPRINT CONSTRUCTION MANAGER IF THIS OCCURS.

1.4 NATIONALLY RECOGNIZED CODES AND STANDARDS:

A. THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL AND LOCAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:

1. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
5. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
3. GR-1089 CORE, ELECTROMAGNETIC COMPATIBILITY AND ELECTRICAL SAFETY –GENERIC CRITERIA FOR NETWORK TELECOMMUNICATIONS EQUIPMENT.
4. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC") AND NFPA 101 (LIFE SAFETY CODE).
5. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM)
6. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE)
7. AMERICAN CONCRETE INSTITUTE (ACI)
8. AMERICAN WIRE PRODUCERS ASSOCIATION (AWPA)
9. CONCRETE REINFORCING STEEL INSTITUTE (CRSI)
10. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
11. PORTLAND CEMENT ASSOCIATION (PCA)
12. NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA)
13. BRICK INDUSTRY ASSOCIATION (BIA)
14. AMERICAN WELDING SOCIETY (AWS)
15. NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)
16. SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)
17. DOOR AND HARDWARE INSTITUTE (DHI)
18. OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)
19. APPLICABLE BUILDING CODES INCLUDING UNIFORM BUILDING CODE, SOUTHERN BUILDING CODE, BOCA, AND THE INTERNATIONAL BUILDING CODE.

1.5 DEFINITIONS:

A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.

B. COMPANY: SPRINT CORPORATION

C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.

D. CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.

E. THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.

F. OFCI: OWNER FURNISHED, CONTRACTOR INSTALLED EQUIPMENT.

G. CONSTRUCTION MANAGER – ALL PROJECTS RELATED COMMUNICATION TO FLOW THROUGH SPRINT REPRESENTATIVE IN CHARGE OF PROJECT...

1.6 SITE FAMILIARITY: CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE SPRINT CONSTRUCTION MANAGER PRIOR TO THE COMMENCEMENT OF WORK. NO COMPENSATION WILL BE AWARDED BASED ON CLAIM OF LACK OF KNOWLEDGE OR FIELD CONDITIONS.

1.7 POINT OF CONTACT: COMMUNICATION BETWEEN SPRINT AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE SPRINT CONSTRUCTION MANAGER APPOINTED TO MANAGE THE PROJECT FOR SPRINT.

1.8 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.

1.9 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.

A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN RED PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.

B. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK. CONTRACTOR SHALL NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY VARIATIONS PRIOR TO PROCEEDING WITH THE WORK.

C. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS NOTED OTHERWISE. SPACING BETWEEN EQUIPMENT IS THE REQUIRED CLEARANCE. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE SPRINT CONSTRUCTION MANAGER PRIOR TO PROCEEDING WITH THE WORK.

1.10 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.

1.11 UTILITIES SERVICES: WHERE NECESSARY TO CUT EXISTING PIPES, ELECTRICAL WIRES, CONDUITS, CABLES, ETC., OF UTILITY SERVICES, OR OF FIRE PROTECTION OR COMMUNICATIONS SYSTEMS, THEY SHALL BE CUT AND CAPPED AT SUITABLE PLACES OR WHERE SHOWN. ALL SUCH ACTIONS SHALL BE COORDINATED WITH THE UTILITY COMPANY INVOLVED:

1.12 PERMITS / FEES: WHEN REQUIRED THAT A PERMIT OR CONNECTION FEE BE PAID TO A PUBLIC UTILITY PROVIDER FOR NEW SERVICE TO THE CONSTRUCTION PROJECT, PAYMENT OF SUCH FEE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

1.13 CONTRACTOR SHALL TAKE ALL MEASURES AND PROVIDE ALL MATERIAL NECESSARY FOR PROTECTING EXISTING EQUIPMENT AND PROPERTY.

1.14 METHODS OF PROCEDURE (MOPS) FOR CONSTRUCTION: CONTRACTOR SHALL PERFORM WORK AS DESCRIBED IN THE FOLLOWING INSTALLATION AND COMMISSIONING MOPS.

NOTE: IN SHORT-FORM SPECIFICATIONS ON THE DRAWINGS, A/E TO INSERT LIST OF APPLICABLE MOPS INCLUDING EN-2012-001, EN-2013-002, EL-0568, AND TS-0193

1.15 USE OF ELECTRONIC PROJECT MANAGEMENT SYSTEMS:

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.

3.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.

3.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HEREWITH, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.

3.4 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

3.5 EXISTING CONDITIONS: NOTIFY THE SPRINT CONSTRUCTION MANAGER OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

SECTION 01 200 – COMPANY FURNISHED MATERIAL AND EQUIPMENT

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 RECEIPT OF MATERIAL AND EQUIPMENT:

A. A COMPANY FURNISHED MATERIAL AND EQUIPMENT IS IDENTIFIED ON THE RF DATA SHEET IN THE CONSTRUCTION DOCUMENTS.

B. THE CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:

1 ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.

2. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.

3. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.

4. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO SPRINT OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.

5. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.

6. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

3.2 DELIVERABLES:

A. COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE.

B. IF APPLICABLE, COMPLETE LOST/STOLEN/DAMAGED DOCUMENTATION REPORT AS NECESSARY IN ACCORDANCE WITH COMPANY PRACTICE, AND AS DIRECTED BY COMPANY.

C. UPLOAD DOCUMENTATION INTO SPRINT SITE MANAGEMENT SYSTEM (SMS) AND/OR PROVIDE HARD COPY DOCUMENTATION AS REQUESTED.

SECTION 01 300 – CELL SITE CONSTRUCTION CO.

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 NOTICE TO PROCEED

A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED AND THE ISSUANCE OF THE WORK ORDER.

B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE SPRINT WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 FUNCTIONAL REQUIREMENTS:

A. THE ACTIVITIES DESCRIBED IN THIS PARAGRAPH REPRESENT MINIMUM ACTIONS AND PROCESSES REQUIRED TO SUCCESSFULLY COMPLETE THE WORK. THE ACTIVITIES DESCRIBED ARE NOT EXHAUSTIVE, AND CONTRACTOR SHALL TAKE ANY AND ALL ACTIONS AS NECESSARY TO SUCCESSFULLY COMPLETE THE CONSTRUCTION OF A FULLY FUNCTIONING WIRELESS FACILITY AT THE SITE IN ACCORDANCE WITH COMPANY PROCESSES.

B. SUBMIT SPECIFIC DOCUMENTATION AS INDICATED HEREIN, AND OBTAIN REQUIRED APPROVALS WHILE THE WORK IS BEING PERFORMED.

C. MANAGE AND CONDUCT ALL FIELD CONSTRUCTION SERVICE RELATED ACTIVITIES

D. PROVIDE CONSTRUCTION ACTIVITIES TO THE EXTENT REQUIRED BY THE CONTRACT DOCUMENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

PLANS PREPARED FOR:

Sprint

PLANS PREPARED BY:

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless
1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com
JOB NUMBER 526-104

PROJECT MANAGER:

AIROSMITH DEVELOPMENT
32 CLINTON ST.
SARATOGA SPRINGS, NY 12866
OFFICE#: (518) 306-3740

ENGINEERING LICENSE:

STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24705
LICENSED PROFESSIONAL ENGINEER
MAY 30 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR PERMIT	05/29/18	ETC	0

SITE NAME:

COLCHESTER-ROUTE 85

SITE NUMBER:

CT73XC017

SITE ADDRESS:

355 NEW LONDON ROAD
COLCHESTER, CT 06415

SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

SHEET NUMBER:

SP-1

CONTINUE FROM SP-1

1. PERFORM ANY REQUIRED SITE ENVIRONMENTAL MITIGATION.
2. PREPARE GROUND SITES; PROVIDE DE-GRUBBING; AND ROUGH AND FINAL GRADING, AND COMPOUND SURFACE TREATMENTS.
3. MANAGE AND CONDUCT ALL ACTIVITIES FOR INSTALLATION OF UTILITIES INCLUDING ELECTRICAL AND TELCO BACKHAUL.
4. INSTALL UNDERGROUND FACILITIES INCLUDING UNDERGROUND POWER AND COMMUNICATIONS CONDUITS, AND UNDERGROUND GROUNDING SYSTEM.
5. INSTALL ABOVE GROUND GROUNDING SYSTEMS.
6. PROVIDE NEW HVAC INSTALLATIONS AND MODIFICATIONS.
7. INSTALL "H-FRAMES", CABINETS AND SHELTERS AS INDICATED.
8. INSTALL ROADS, ACCESS WAYS, CURBS AND DRAINS AS INDICATED.
9. ACCOMPLISH REQUIRED MODIFICATION OF EXISTING FACILITIES.
10. PROVIDE ANTENNA SUPPORT STRUCTURE FOUNDATIONS.
11. PROVIDE SLABS AND EQUIPMENT PLATFORMS.
12. INSTALL COMPOUND FENCING, SIGHT SHIELDING, LANDSCAPING AND ACCESS BARRIERS.
13. PERFORM INSPECTION AND MATERIAL TESTING AS REQUIRED HEREINAFTER.
14. CONDUCT SITE RESISTANCE TO EARTH TESTING AS REQUIRED HEREINAFTER
15. INSTALL FIXED GENERATOR SETS AND OTHER STANDBY POWER SOLUTIONS.
16. INSTALL TOWERS, ANTENNA SUPPORT STRUCTURES AND PLATFORMS ON EXISTING TOWERS AS REQUIRED.
17. INSTALL CELL SITE RADIOS, MICROWAVE, GPS, COAXIAL MAINLINE, ANTENNAS, CROSS BAND COUPLERS, TOWER TOP AMPLIFIERS, LOW NOISE AMPLIFIERS AND RELATED EQUIPMENT.
18. PERFORM, DOCUMENT, AND CLOSE OUT ANY CONSTRUCTION CONTROL DOCUMENTS THAT MAY BE REQUIRED BY GOVERNMENT AGENCIES AND LANDLORDS.
19. PERFORM ANTENNAL AND COAX SWEEP TESTING AND MAKE ANY AND ALL NECESSARY CORRECTIONS.
20. REMAIN ON SITE MOBILIZED THROUGHOUT HAND-OFF AND INTEGRATION TO ASSIST AS NEEDED UNTIL SITE IS DEEMED SUBSTANTIALLY COMPLETE AND PLACED "ON AIR."

3.2 GENERAL REQUIREMENTS FOR CIVIL CONSTRUCTION:

A. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.

B. EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.

C. CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.

1. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
2. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.

D. CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION

E. CONDUCT TESTING AS REQUIRED HEREIN.

3.3 DELIVERABLES:

A. CONTRACTOR SHALL REVIEW, APPROVE, AND SUBMIT TO SPRINT SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND SIMILAR SUBMITTALS AS REQUIRED HEREINAFTER

B. PROVIDE DOCUMENTATION INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING. DOCUMENTATION SHALL BE FORWARDED IN ORIGINAL FORMAT AND/OR UPLOADED INTO SMS.

1. ALL CORRESPONDENCE AND PRELIMINARY CONSTRUCTION REPORTS.
2. PROJECT PROGRESS REPORTS.
3. CIVIL CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
4. ELECTRICAL SERVICE COMPLETION DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
5. LINES AND ANTENNA INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
6. POWER INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
7. TELCO READY DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
8. PPC (OR SHELTER) INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
9. TOWER CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
10. TOWER CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
11. BTS AND RADIO EQUIPMENT DELIVERED AT SITE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
12. NETWORK OPERATIONS HANDOFF CHECKLIST (HOC WALK) COMPLETE (UPLOAD FORM IN SMS)
13. CIVIL CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
14. SITE CONSTRUCTION PROGRESS PHOTOS UNLOADED INTO SMS.

SECTION 01 400 - SUBMITTALS & TESTS

PART 1 - GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 SUBMITTALS:

A. THE WORK IN ALL ASPECTS SHALL COMPLY WITH THE CONSTRUCTION DRAWINGS AND THESE SPECIFICATIONS.

B. SUBMIT THE FOLLOWING TO COMPANY REPRESENTATIVE FOR APPROVAL.

1. CONCRETE MIX-DESIGNS FOR TOWER FOUNDATIONS, ANCHORS PIERS, AND CONCRETE PAVING.
2. CONCRETE BREAK TESTS AS SPECIFIED HEREIN.
3. SPECIAL FINISHES FOR INTERIOR SPACES, IF ANY.
4. ALL EQUIPMENT AND MATERIALS SO IDENTIFIED ON THE CONSTRUCTION DRAWINGS.
5. CHEMICAL GROUNDING DESIGN

D. ALTERNATES: AT THE COMPANY'S REQUEST, ANY ALTERNATIVES TO THE MATERIALS OR METHODS SPECIFIED SHALL BE SUBMITTED TO SPRINT'S CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO BEING SHIPPED TO SITE. SPRINT WILL REVIEW AND APPROVE ONLY THOSE REQUESTS MADE IN WRITING. NO VERBAL APPROVALS WILL BE CONSIDERED. SUBMITTAL FOR APPROVAL SHALL INCLUDE A STATEMENT OF COST REDUCTION PROPOSED FOR USE OF ALTERNATE PRODUCT.

1.4 TESTS AND INSPECTIONS:

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.

B. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. COAX SWEEPS AND FIBER TESTS PER TS-0200 REV 4 ANTENNA LINE ACCEPTANCE STANDARDS.
2. AGL, AZIMUTH AND DOWNTILT USING ELECTRONIC COMMERCIAL MADE-FOR-THE-PURPOSE ANTENNA ALIGNMENT TOOL.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.

C. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING;

1. AZIMUTH, DOWNTILT, AGL - UPLOAD REPORT FROM ANTENNA ALIGNMENT TOOL TO SITERRA TASK 465. INSTALLED AZIMUTH, DOWNTILT, AND AGL MUST CONFORM TO THE RF DATA SHEETS. SWEEP AND FIBER TESTS
2. SCANABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
3. ALL AVAILABLE JURISDICTIONAL INFORMATION
4. PDF SCAN OF REDLINES PRODUCED IN FIELD
5. ELECTRONIC AS-BUILT DRAWINGS IN AUTOCAD AND PDF FORMATS. ANY FIELD CHANGE MUST BE REFLECTED BY MODIFYING THE PLANS, ELEVATIONS, AND DETAILS IN THE DRAWING SETS. GENERAL NOTES INDICATING MODIFICATIONS WILL NOT BE ACCEPTED. CHANGES SHALL BE HIGHLIGHTED AS "CLOUDS" IDENTIFIED AS THE "AS-BUILT" CONDITION.
6. LIEN WAIVERS
7. FINAL PAYMENT APPLICATION
8. REQUIRED FINAL CONSTRUCTION PHOTOS
9. CONSTRUCTION AND COMMISSIONING CHECKLIST COMPLETE WITH NO DEFICIENT ITEMS
10. ALL POST NTP TASKS INCLUDING DOCUMENT UPLOADS COMPLETED IN SITERRA (SPRINTS DOCUMENT REPOSITORY OF RECORD).

1.5 COMMISSIONING: PERFORM ALL COMMISSIONING AS REQUIRED BY APPLICABLE MOPs

1.6 INTEGRATION: PERFORM ALL INTEGRATION ACTIVITIES AS REQUIRED BY APPLICABLE MOPs

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 REQUIREMENTS FOR TESTING:

A. THIRD PARTY TESTING AGENCY:

1. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
2. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
3. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASJTO, AND OTHER METHODS IS NEEDED.
4. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASJTO, AND OTHER METHODS IS NEEDED.

3.2 REQUIRED TESTS:

A. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. CONCRETE CYLINDER BREAK TESTS FOR THE TOWER AND ANCHOR FOUNDATIONS AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
2. ASPHALT ROADWAY COMPACTED THICKNESS, SURFACE SMOOTHNESS, AND COMPACTED DENSITY TESTING AS SPECIFIED IN SECTION: HOT MIX ASPHALT PAVING.
3. FIELD QUALITY CONTROL TESTING AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
4. TESTING REQUIRED UNDER SECTION: AGGREGATE BASE FOR ACCESS ROADS, PADS AND ANCHOR LOCATIONS
5. STRUCTURAL BACKFILL COMPACTION TESTS FOR THE TOWER FOUNDATION.
6. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
7. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
8. GROUNDING AT ANTENNA MASTS FOR GPS AND ANTENNAS
9. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

3.3 REQUIRED INSPECTIONS

A. SCHEDULE INSPECTIONS WITH COMPANY REPRESENTATIVE.

B. CONDUCT INSPECTIONS INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. GROUNDING SYSTEM INSTALLATION PRIOR TO EARTH CONCEALMENT DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
2. FORMING FOR CONCRETE AND REBAR PLACEMENT PRIOR TO POUR DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
3. COMPACTION OF BACKFILL MATERIALS; AGGREGATE BASE FOR ROADS, PADS, AND ANCHORS; ASPHALT PAVING; AND SHAFT BACKFILL FOR CONCRETE AND WOOD POLES, BY INDEPENDENT THIRD PARTY AGENCY.
4. PRE- AND POST-CONSTRUCTION ROOFTOP AND STRUCTURAL INSPECTIONS ON EXISTING FACILITIES.
5. TOWER ERECTION SECTION STACKING AND PLATFORM ATTACHMENT DOCUMENTED BY DIGITAL PHOTOGRAPHS BY THIRD PARTY AGENCY.
6. ANTENNA AZIMUTH , DOWN TILT AND PER SUNLIGHT TOOL SUNSIGHT INSTRUMENTS - ANTENNALIGN ALIGNMENT TOOL (AAT)

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JOB NUMBER 526-104

PROJECT MANAGER:
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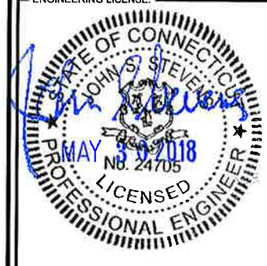
32 CLINTON ST.
SARATOGA SPRINGS, NY 12866
OFFICE#. (518) 306-3740

ENGINEERING LICENSE:



REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/29/18	ETC	0

SITE NAME:
COLCHESTER-ROUTE 85

SITE NUMBER:
CT73XC017

SITE ADDRESS:
355 NEW LONDON ROAD
COLCHESTER, CT 06415

SHEET DESCRIPTION:
SPRINT SPECIFICATIONS

SHEET NUMBER:
SP-2

CONTINUE FROM SP-2

7. VERIFICATION DOCUMENTED WITH THE ANTENNA CHECKLIST REPORT, BY A&E, SITE DEVELOPMENT REP, OR RF REP.
8. FINAL INSPECTION CHECKLIST AND HANDOFF WALK (HOC.). SIGNED FORM SHOWING ACCEPTANCE BY FIELD OPS IS TO BE UPLOADED INTO SMS.
9. COAX SWEEP AND FIBER TESTING DOCUMENTS SUBMITTED VIA SMS FOR RF APPROVAL.
10. SCAN-ABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
11. ALL AVAILABLE JURISDICTIONAL INFORMATION
12. PDF SCAN OF REDLINES PRODUCED IN FIELD

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.

D. CONSTRUCTION INSPECTIONS AND CORRECTIVE MEASURES SHALL BE DOCUMENTED BY THE CONTRACTOR WITH WRITTEN REPORTS AND PHOTOGRAPHS. PHOTOGRAPHS MUST BE DIGITAL AND OF SUFFICIENT QUALITY TO CLEARLY SHOW THE SITE CONSTRUCTION. PHOTOGRAPHS MUST CLEARLY IDENTIFY THE PHOTOGRAPHED ITEM AND BE LABELED WITH THE SITE CASCADE NUMBER, SITE NAME, DESCRIPTION, AND DATE.

3.4 DELIVERABLES: TEST AND INSPECTION REPORTS AND CLOSEOUT DOCUMENTATION SHALL BE UPLOADED TO THE SMS AND/OR FORWARDED TO SPRINT FOR INCLUSION INTO THE PERMANENT SITE FILES.

A. THE FOLLOWING TEST AND INSPECTION REPORTS SHALL BE PROVIDED AS APPLICABLE.

1. CONCRETE MIX AND CYLINDER BREAK REPORTS.
2. STRUCTURAL BACKFILL COMPACTION REPORTS.
3. SITE RESISTANCE TO EARTH TEST.
4. ANTENNA AZIMUTH AND DOWN TILT VERIFICATION
5. TOWER ERECTION INSPECTIONS AND MEASUREMENTS DOCUMENTING TOWER INSTALLED PER SUPPLIER'S REQUIREMENTS AND THE APPLICABLE SECTIONS HEREIN.
6. COAX CABLE SWEEP TESTS PER COMPANY'S "ANTENNA LINE ACCEPTANCE STANDARDS".

B. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES THE FOLLOWING;

1. TEST WELLS AND TRENCHES: PHOTOGRAPHS OF ALL TEST WELLS; PHOTOGRAPHS SHOWING ALL OPEN EXCAVATIONS AND TRENCHING PRIOR TO BACKFILLING SHOWING A TAPE MEASURE VISIBLE IN THE EXCAVATIONS INDICATING DEPTH.
2. CONDUITS, CONDUCTORS AND GROUNDING: PHOTOGRAPHS SHOWING TYPICAL INSTALLATION OF CONDUCTORS AND CONNECTORS; PHOTOGRAPHS SHOWING TYPICAL BEND RADIUS OF INSTALLED GROUND WIRES AND GROUND ROD SPACING;
3. CONCRETE FORMS AND REINFORCING: CONCRETE FORMING AT TOWER AND EQUIPMENT/SHELTER PAD/FOUNDATIONS – PHOTOGRAPHS SHOWING ALL REINFORCING STEEL, UTILITY AND CONDUIT STUB OUTS; PHOTOGRAPHS SHOWING CONCRETE POUR OF SHELTER SLAB/FOUNDATION, TOWER FOUNDATION AND GUY ANCHORS WITH VIBRATOR IN USE; PHOTOGRAPHS SHOWING EACH ANCHOR ON GUYED TOWERS, BEFORE CONCRETE POUR.
4. TOWER, ANTENNAS AND MAINLINE: INSPECTION AND PHOTOGRAPHS OF SECTION STACKING; INSPECTION AND PHOTOGRAPHS OF PLATFORM COMPONENT ATTACHMENT POINTS; PHOTOGRAPHS OF TOWER TOP GROUNDING; PHOTOS OF TOWER COAX LINE COLOR CODING AT THE TOP AND AT GROUND LEVEL; INSPECTION AND PHOTOGRAPHS OF OPERATIONAL OF TOWER LIGHTING, AND PLACEMENT OF FAA REGISTRATION SIGN; PHOTOGRAPHS SHOWING ADDITIONAL GROUNDING POINTS FOR TOWERS GREATER THAN 200 FEET.; PHOTOS OF ANTENNA GROUND BAR, EQUIPMENT GROUND BAR, AND MASTER GROUND BAR; PHOTOS OF GPS ANTENNA(S); PHOTOS OF EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA; PHOTOS OF COAX WEATHERPROOFING – TOP AND BOTTOM; PHOTOS OF COAX GROUNDING---TOP AND BOTTOM; PHOTOS OF ANTENNA AND MAST GROUNDING; PHOTOS OF COAX CABLE ENTRY INTO SHELTER; PHOTOS OF PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.
5. ROOF TOPS: PRE-CONSTRUCTION AND POST-CONSTRUCTION VISUAL INSPECTION AND PHOTOGRAPHS OF THE ROOF AND INTERIOR TO DETERMINE AND DOCUMENT CONDITIONS; ROOF TOP CONSTRUCTION INSPECTIONS AS REQUIRED BY THE JURISDICTION; PHOTOGRAPHS OF CABLE TRAY AND/OR ICE BRIDGE; PHOTOGRAPHS OF DOGHOUSE/CABLE EXIT FROM ROOF;
6. SITE LAYOUT – PHOTOGRAPHS OF THE OVERALL COMPOUND, INCLUDING EQUIPMENT PLATFORM FROM ALL FOUR CORNERS.
7. FINISHED UTILITIES: CLOSE-UP PHOTOGRAPHS OF THE PPC BREAKER PANEL; CLOSE-UP PHOTOGRAPH OF THE INSIDE OF THE TELCO PANEL AND NIU; CLOSE-UP PHOTOGRAPH OF THE POWER METER AND DISCONNECT; PHOTOS OF POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE; PHOTOGRAPHS AT METER BOX AND/OR FACILITY DISTRIBUTION PANEL.
8. REQUIRED MATERIALS CERTIFICATIONS: CONCRETE MIX DESIGNS; MILL CERTIFICATION FOR ALL REINFORCING AND STRUCTURAL STEEL; AND ASPHALT PAVING MIX DESIGN.
9. ANY AND ALL SUBMITTALS BY THE JURISDICTION OR COMPANY.

SECTION 01 400 – SUBMITTALS & TESTS

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 WEEKLY REPORTS:

A. CONTRACTOR SHALL PROVIDE SPRINT WITH WEEKLY REPORTS SHOWING PROJECT STATUS. THIS STATUS REPORT FORMAT WILL BE PROVIDED TO THE CONTRACTOR BY SPRINT. THE REPORT WILL CONTAIN SITE ID NUMBER, THE MILESTONES FOR EACH SITE, INCLUDING THE BASELINE DATE, ESTIMATED COMPLETION DATE AND ACTUAL COMPLETION DATE.

B. REPORT INFORMATION WILL BE TRANSMITTED TO SPRINT VIA ELECTRONIC MEANS AS REQUIRED. THIS INFORMATION WILL PROVIDE A BASIS FOR PROGRESS MONITORING AND PAYMENT.

3.2 PROJECT CONFERENCE CALLS:

A. SPRINT MAY HOLD WEEKLY PROJECT CONFERENCE CALLS. CONTRACTOR WILL BE REQUIRED TO COMMUNICATE SITE STATUS, MILESTONE COMPLETIONS AND UPCOMING MILESTONE PROJECTIONS, AND ANSWER ANY OTHER SITE STATUS QUESTIONS AS NECESSARY.

3.3 PROJECT TRACKING IN SMS:

A. CONTRACTOR SHALL PROVIDE SCHEDULE UPDATES AND PROJECTIONS IN THE SMS SYSTEM ON A WEEKLY BASIS.

3.4 ADDITIONAL REPORTING:

A. ADDITIONAL OR ALTERNATE REPORTING REQUIREMENTS MAY BE ADDED TO THE REPORT AS DETERMINED TO BE REASONABLY NECESSARY BY COMPANY.

3.5 PROJECT PHOTOGRAPHS:

A. FILE DIGITAL PHOTOGRAPHS OF COMPLETED SITE IN JPEG FORMAT IN THE SMS PHOTO LIBRARY FOR THE RESPECTIVE SITE. PHOTOGRAPHS SHALL BE CLEARLY LABELED WITH SITE NUMBER, NAME AND DESCRIPTION, AND SHALL INCLUDE AT A MINIMUM THE FOLLOWING AS APPLICABLE:

1. 1SHELTER AND TOWER OVERVIEW.
2. TOWER FOUNDATION(S) – FORMS AND STEEL BEFORE POUR (EACH ANCHOR ON GUYED TOWERS).
3. TOWER FOUNDATION(S) POUR WITH VIBRATOR IN USE (EACH ANCHOR ON GUYED TOWERS).
4. TOWER STEEL AS BEING INSTALLED INTO HOLE (SHOW ANCHOR STEEL ON GUYED TOWERS).
5. PHOTOS OF TOWER SECTION STACKING.
6. CONCRETE TESTING / SAMPLES.
7. PLACING OF ANCHOR BOLTS IN TOWER FOUNDATION.
8. BUILDING/WATER TANK FROM ROAD FOR TENANT IMPROVEMENTS OR COMMENTS.
9. SHELTER FOUNDATION--FORMS AND STEEL BEFORE POURING.
10. SHELTER FOUNDATION POUR WITH VIBRATOR IN USE.
11. COAX CABLE ENTRY INTO SHELTER.
12. PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.
13. ROOFTOP PRE AND POST CONSTRUCTION PHOTOS TO INCLUDE PENETRATIONS AND INTERIOR CEILING.
14. PHOTOS OF TOWER TOP COAX LINE COLOR CODING AND COLOR CODING AT GROUND LEVEL.
15. PHOTOS OF ALL APPROPRIATE COMPANY OR REGULATORY SIGNAGE.
16. PHOTOS OF EQUIPMENT BOLT DOWN INSIDE SHELTER.
17. POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE AND POWER AND TELCO SUPPLY LOCATIONS INCLUDING METER/DISCONNECT.
18. ELECTRICAL TRENCH(S) WITH ELECTRICAL / CONDUIT BEFORE BACKFILL.
19. ELECTRICAL TRENCH(S) WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.
20. TELCO TRENCH WITH TELEPHONE / CONDUIT BEFORE BACKFILL.
21. TELCO TRENCH WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.
22. SHELTER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
23. TOWER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
24. FENCE GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
25. ALL BTS GROUND CONNECTIONS.
26. ALL GROUND TEST WELLS.
27. ANTENNA GROUND BAR AND EQUIPMENT GROUND BAR.
28. ADDITIONAL GROUNDING POINTS ON TOWERS ABOVE 200'.
29. HVAC UNITS INCLUDING CONDENSERS ON SPLIT SYSTEMS.
30. GPS ANTENNAS.
31. CABLE TRAY AND/OR WAVEGUIDE BRIDGE.
32. DOGHOUSE/CABLE EXIT FROM ROOF.
33. EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA.
34. MASTER BUS BAR.
35. TELCO BOARD AND NIU.
36. ELECTRICAL DISTRIBUTION WALL.
37. CABLE ENTRY WITH SURGE SUPPRESSION.
38. ENTRANCE TO EQUIPMENT ROOM.
39. COAX WEATHERPROOFING-TOP AND BOTTOM OF TOWER.
40. COAX GROUNDING –TOP AND BOTTOM OF TOWER.
41. ANTENNA AND MAST GROUNDING.
42. LANDSCAPING – WHERE APPLICABLE.

3.6 FINAL PROJECT ACCEPTANCE: COMPLETE ALL REQUIRED REPORTING TASKS PER CONTRACT, CONTRACT DOCUMENTS OR THE SPRINT INTEGRATED CONSTRUCTION STANDARDS FOR WIRELESS SITES AND UPLOAD INTO SITERRA.

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www.infinigy.com
JOB NUMBER 526-104

PROJECT MANAGER:
AIROSMITH DEVELOPMENT
32 CLINTON ST.
SARATOGA SPRINGS, NY 12866
OFFICE# (518) 306-3740

ENGINEERING LICENSE:

STATE OF CONNECTICUT
JOHN S. STEVENS
MAY 30 2018
No. 24705
LICENSED PROFESSIONAL ENGINEER

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/29/18	ETC	0

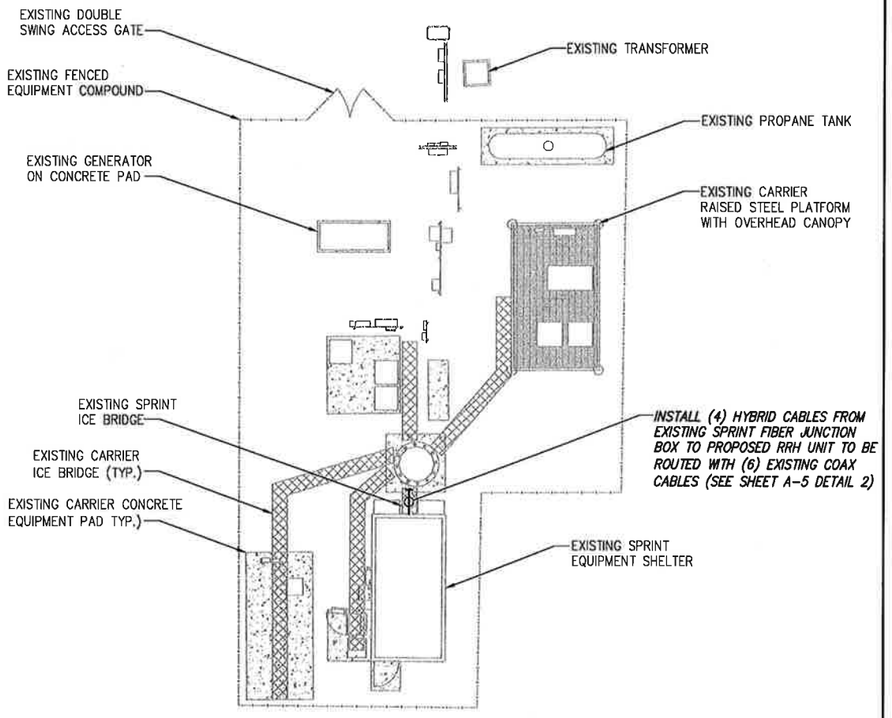
SITE NAME:
COLCHESTER-ROUTE 85

SITE NUMBER:
CT73XC017

SITE ADDRESS:
355 NEW LONDON ROAD
COLCHESTER, CT 06415

SHEET DESCRIPTION:
SPRINT SPECIFICATIONS

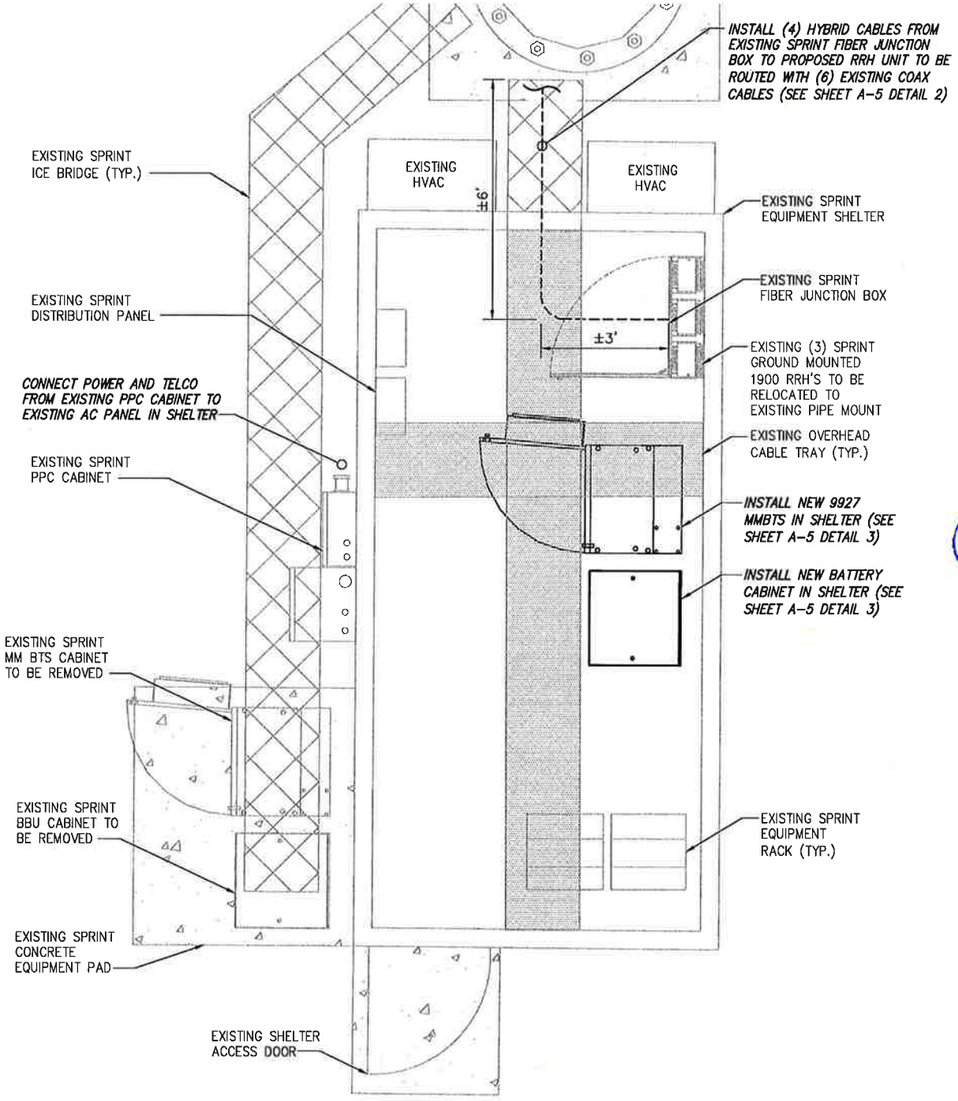
SHEET NUMBER:
SP-3



INFORMATION CONTAINED WITHIN DRAWINGS ARE BASED ON PROVIDED INFORMATION AND ARE NOT THE RESULT OF A FIELD SURVEY.

GRAPHIC SCALE:
20' 10' 0 10' 20'
SCALE (11x17): 1" = 20'-0"
SCALE (22x34): 1" = 10'-0"

OVERALL SITE PLAN | SCALE: AS NOTED | 1



GRAPHIC SCALE:
4' 2' 0 2' 4'
SCALE (11x17): 1" = 4'-0"
SCALE (22x34): 1" = 2'-0"

SPRINT EQUIPMENT PLAN | SCALE: AS NOTED | 2

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JOB NUMBER 526-104

PROJECT MANAGER:
AIROSMITH DEVELOPMENT
32 CLINTON ST.
SARATOGA SPRINGS, NY 12866
OFFICE#. (518) 306-3740

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24078
LICENSED PROFESSIONAL ENGINEER
MAY 30 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/29/18	ETC	0

SITE NAME:
COLCHESTER-ROUTE 85

SITE NUMBER:
CT73XC017

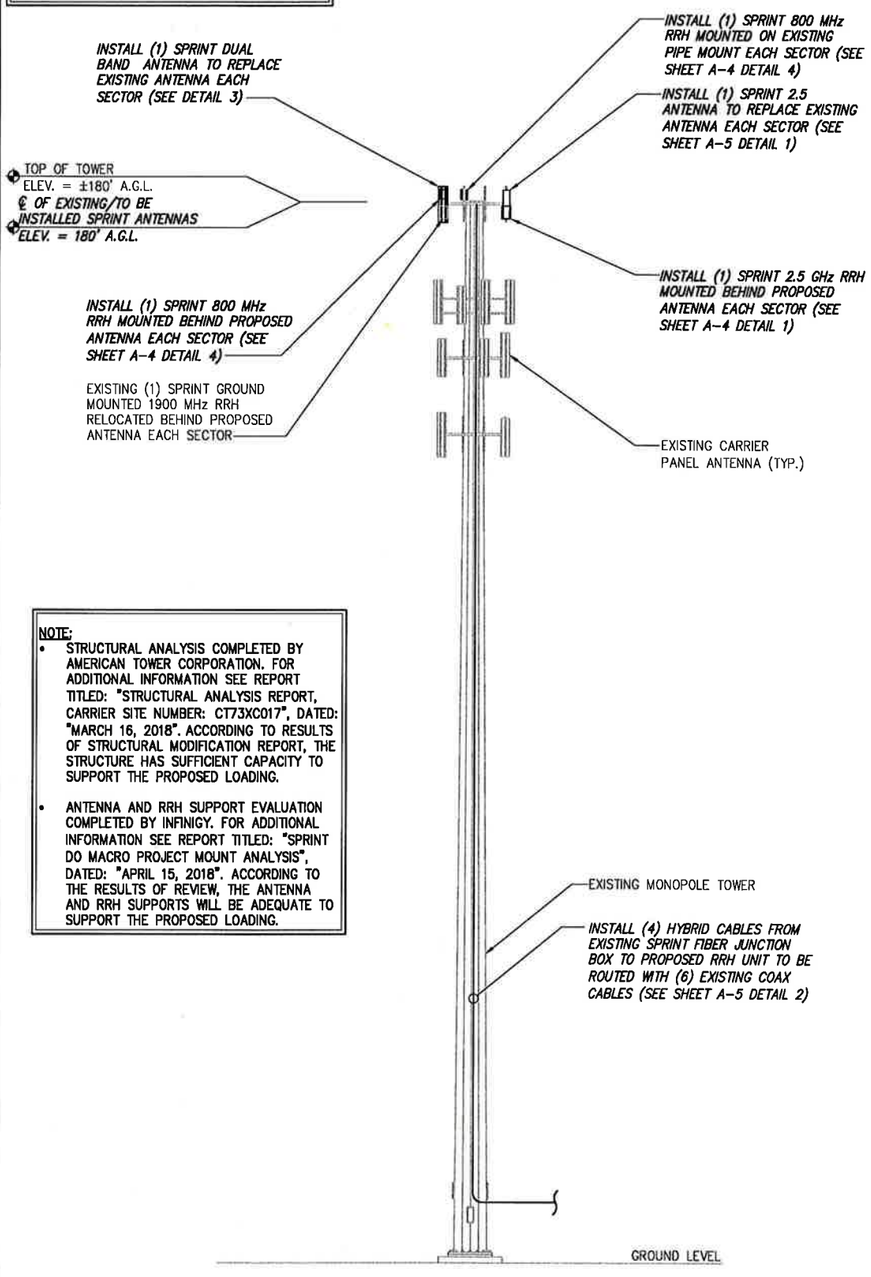
SITE ADDRESS:
355 NEW LONDON ROAD
COLCHESTER, CT 06415

SHEET DESCRIPTION:
SITE PLAN

SHEET NUMBER:
A-1

NOTE:
INFINIGY ENGINEERING HAS NOT EVALUATED THE EXISTING STRUCTURE FOR THIS SITE, AND ASSUMES NO RESPONSIBILITY FOR ITS STRUCTURAL INTEGRITY. REFER TO STRUCTURAL ANALYSIS BY OTHERS PRIOR TO ANY CONSTRUCTION.

NOTE:
SEE DETAIL 2 ON A-3 FOR ANTENNA LAYOUT



NOTE:
- STRUCTURAL ANALYSIS COMPLETED BY AMERICAN TOWER CORPORATION. FOR ADDITIONAL INFORMATION SEE REPORT TITLED: "STRUCTURAL ANALYSIS REPORT, CARRIER SITE NUMBER: CT73XC017", DATED: "MARCH 16, 2018". ACCORDING TO RESULTS OF STRUCTURAL MODIFICATION REPORT, THE STRUCTURE HAS SUFFICIENT CAPACITY TO SUPPORT THE PROPOSED LOADING.
- ANTENNA AND RRH SUPPORT EVALUATION COMPLETED BY INFINIGY. FOR ADDITIONAL INFORMATION SEE REPORT TITLED: "SPRINT DO MACRO PROJECT MOUNT ANALYSIS", DATED: "APRIL 15, 2018". ACCORDING TO THE RESULTS OF REVIEW, THE ANTENNA AND RRH SUPPORTS WILL BE ADEQUATE TO SUPPORT THE PROPOSED LOADING.

TOWER ELEVATION | NO SCALE | 1

SITE LOADING CHART

SECTOR	EXISTING/ PROPOSED	ANTENNA MODEL #	VENDOR	AZIMUTH	QTY.	REMAIN/ REMOVED	RRH (QTY/MODEL)	CABLE	CABLE LENGTH	RAD CENTER
ALPHA	PROPOSED	APXVTM14-ALU-120	RFS	320°	1	–	(2) 800 MHZ 2X50W RRH	SEE SHEET A-5 DETAIL 1	±210'*	±180' AGL
	PROPOSED	NNVV-65B-R4	COMMSCOPE	320°	1	–	(1) TD-RRH8X20-25 W/ SOLAR SHIELD	SEE SHEET A-5 DETAIL 1		
	EXISTING	DB844H90E-XY	DECIBEL	290°	1	REMOVE	(1) 1900 MHz 4X45 RRH	EXISTING COAX		
BETA	PROPOSED	APXVTM14-ALU-120	RFS	70°	1	–	(2) 800 MHZ 2X50W RRH	SEE SHEET A-5 DETAIL 1		±180' AGL
	PROPOSED	NNVV-65B-R4	COMMSCOPE	70°	1	–	(1) TD-RRH8X20-25 W/ SOLAR SHIELD	SEE SHEET A-5 DETAIL 1		
	EXISTING	DB844H90E-XY	DECIBEL	30°	1	REMOVE	(1) 1900 MHz 4X45 RRH	EXISTING COAX		
GAMMA	PROPOSED	APXVTM14-ALU-120	RFS	180°	1	–	(2) 800 MHZ 2X50W RRH	SEE SHEET A-5 DETAIL 1		±180' AGL
	PROPOSED	NNVV-65B-R4	COMMSCOPE	180°	1	–	(1) TD-RRH8X20-25 W/ SOLAR SHIELD	SEE SHEET A-5 DETAIL 1		
	EXISTING	DB844H90E-XY	DECIBEL	150°	1	REMOVE	(1) 1900 MHz 4X45 RRH	EXISTING COAX		

PROJECT SCOPE:

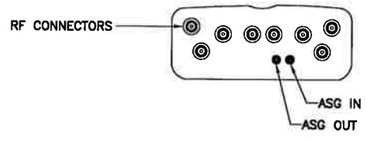
REMOVE: (3) PANEL ANTENNAS INSTALL: (6) PANEL ANTENNAS AND (9) RRH'S RELOCATE: (3) EXISTING RRH'S

* PROPOSED CABLE LENGTH WAS DETERMINED USING THE SUM OF THE RAD CENTER OF ANTENNAS, AND DISTANCE FROM EXISTING EQUIPMENT AREA TO TOWER BASE WITH AN ADDITIONAL 20' BUFFER. LENGTH TO BE VERIFIED IN FIELD PRIOR TO ORDERING MATERIALS.

SITE LOADING CHART | NO SCALE | 2

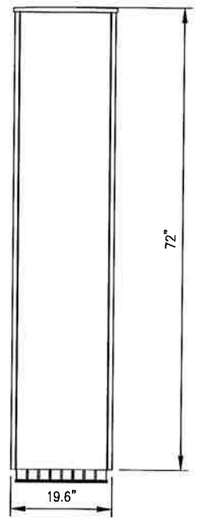
ANTENNA COMMSCOPE NNVV-65B-R4

RADOME MATERIAL:	FIBERGLASS
RADOME COLOR:	LIGHT GREY
DIMENSIONS, HxWxD.in(mim):	72"x19.6"x7.8" (1829x498x198mm)
WEIGHT:	77.4 lbs
CONNECTORS:	(8) PIN DIN FEMALE
	(8) 8 PIN DIN MALE



PLAN VIEW

SIDE VIEW



FRONT VIEW

DUAL BAND ANTENNA DETAIL | NO SCALE | 3

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Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com
JOB NUMBER 526-104

PROJECT MANAGER:
AIROSMITH DEVELOPMENT
32 CLINTON ST.
SARATOGA SPRINGS, NY 12866
OFFICE#. (518) 306-3740

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN S. STEVENS
MAY 30, 2018
No. 24705
LICENSED PROFESSIONAL ENGINEER

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/29/18	ETC	0

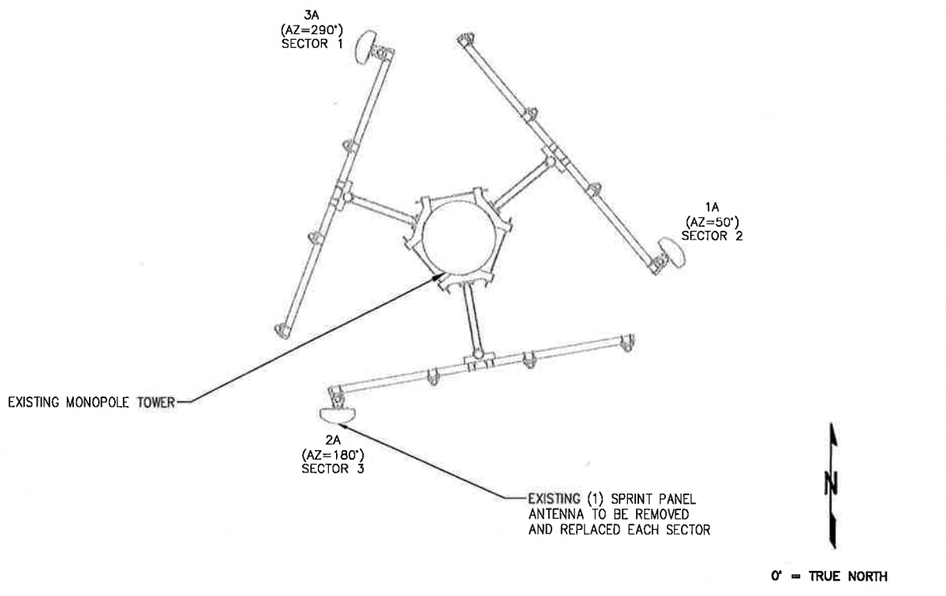
SITE NAME:
COLCHESTER-ROUTE 85

SITE NUMBER:
CT73XC017

SITE ADDRESS:
355 NEW LONDON ROAD
COLCHESTER, CT 06415

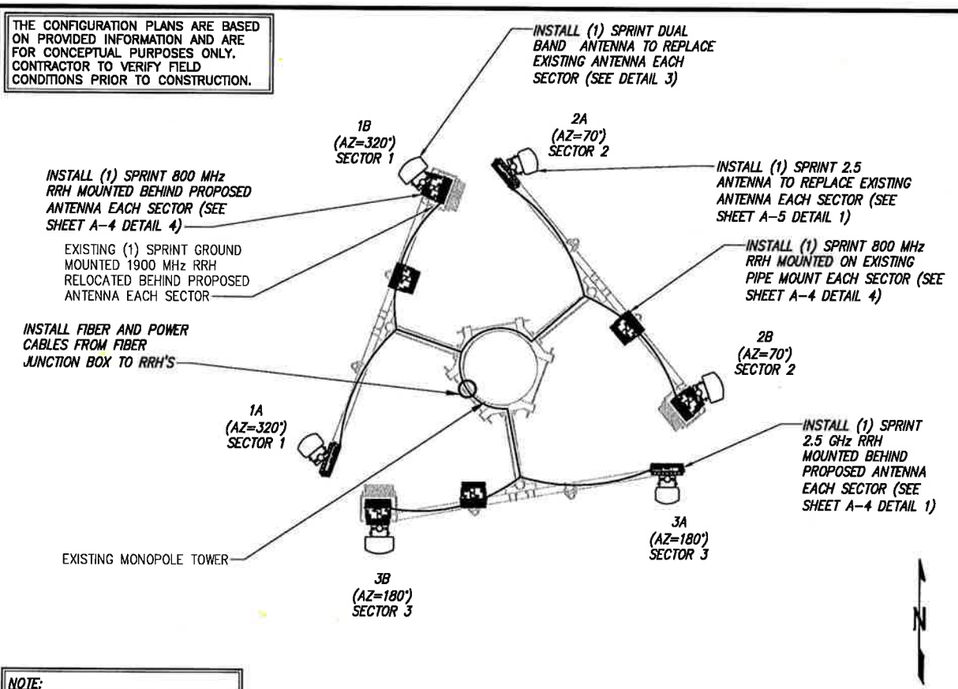
SHEET DESCRIPTION:
TOWER ELEVATION

SHEET NUMBER:
A-2



EXISTING ANTENNA LAYOUT | NO SCALE | 1

THE CONFIGURATION PLANS ARE BASED ON PROVIDED INFORMATION AND ARE FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR TO VERIFY FIELD CONDITIONS PRIOR TO CONSTRUCTION.

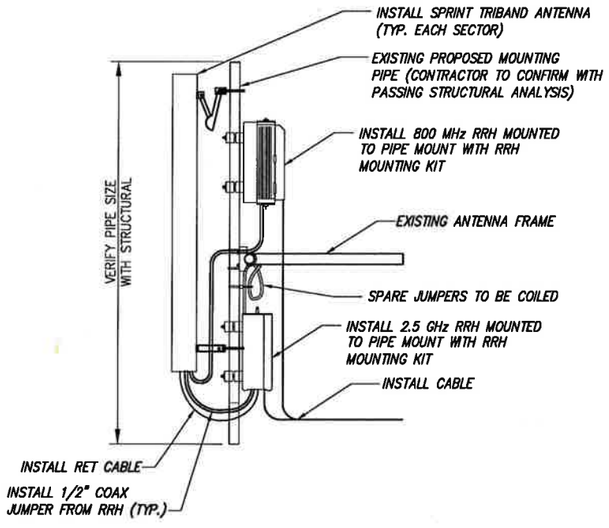


NOTE:
JUMPERS FROM 2.5 RRH TO THE 2.5 ANTENNA CANNOT EXCEED 15 FEET

FINAL ANTENNA & RRH LAYOUT | NO SCALE | 2

NOTE:
CONTRACTOR TO POSITION RRH ON MOUNT BEHIND ANTENNA SUCH THAT THE RRH DOES NOT INTERFERE WITH THE EXISTING PLATFORM/T-ARM MOUNTING HARDWARE.

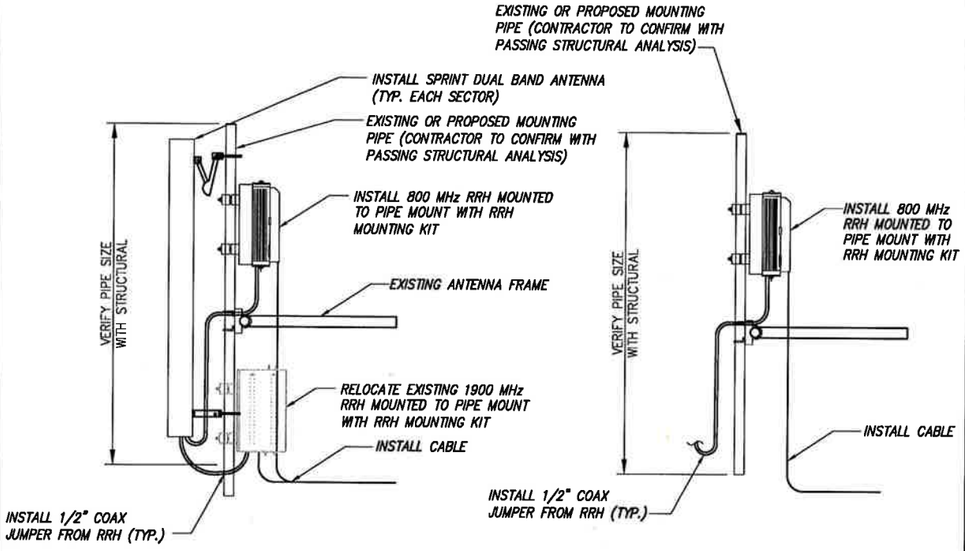
NOTE:
THE DIAGRAM IS FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR IS TO REFER TO PASSING STRUCTURAL ANALYSIS FOR ANTENNA AND RRH MOUNTING DETAILS



NOTES:

1. CUT DC CONDUCTORS TO LENGTH.
2. COIL FIBER CABLE AND SECURE AT SIDE OF RRH.
3. DO NO EXCEED BEND RADIUS.

TYPICAL ANTENNA & RRH MOUNTING DETAILS | NO SCALE | 3



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NOTES:

1. CUT DC CONDUCTORS TO LENGTH.
2. COIL FIBER CABLE AND SECURE AT SIDE OF RRH.
3. DO NO EXCEED BEND RADIUS.

TYPICAL RRH MOUNTING DETAILS | NO SCALE | 4

PLANS PREPARED FOR:

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SARATOGA SPRINGS, NY 12866
OFFICE#. (518) 306-3740

ENGINEERING LICENSE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/29/18	ETC	0

SITE NAME:
COLCHESTER-ROUTE 85

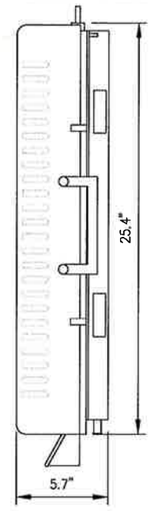
SITE NUMBER:
CT73XC017

SITE ADDRESS:
355 NEW LONDON ROAD
COLCHESTER, CT 06415

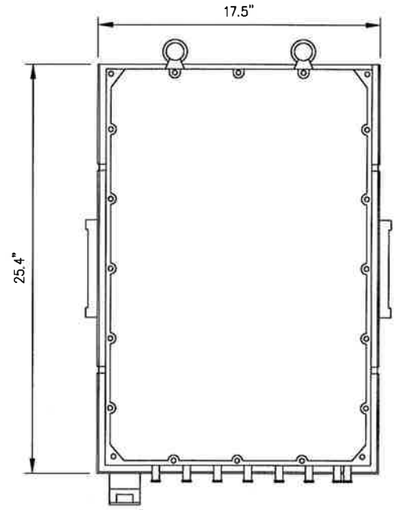
SHEET DESCRIPTION:
ANTENNA LAYOUT
& MOUNTING DETAILS

SHEET NUMBER:
A-3

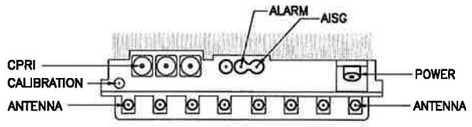
RRH: ALCATEL LUCENT TD-RRH8X20
COLOR: LIGHT GREY
WEIGHT: 70 LBS.



SIDE VIEW



FRONT VIEW



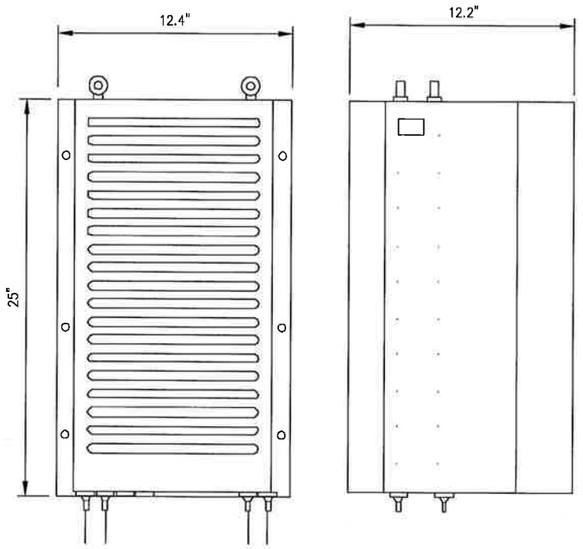
PLAN VIEW

NOTES

COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRH'S RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING. DO NOT OPEN RRH PACKAGES IN THE RAIN.

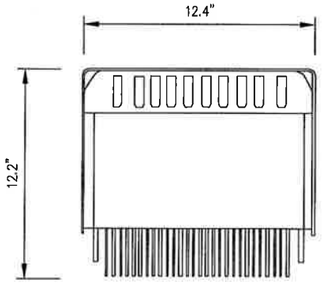
2.5 GHz RRH	NO SCALE	1

RRH: ALCATEL LUCENT 1900 MHz
COLOR: LIGHT GREY
WEIGHT: 70 LBS.
(INCLUDING OPTIONAL SOLAR SHIELD)



FRONT VIEW

SIDE VIEW

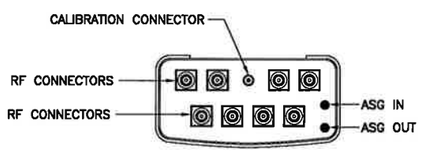


TOP VIEW

EXISTING 1900 MHz RRH	NO SCALE	2

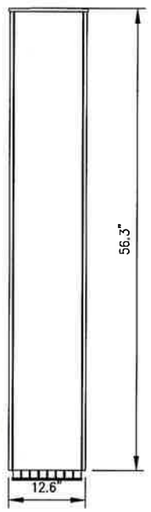
ANTENNA RFS APXVTM14-ALU-I20

RADOME MATERIAL:	ASA
RADOME COLOR:	LIGHT GREY
DIMENSIONS, HxWxD.in(mim):	56.3"x12.6"x6.3" (1549x439x300mm)
WEIGHT:	56.2 lbs
CONNECTORS:	(8) 4.1/9.5 DIN FEMALE (1) NF – CALIBRATION CONNECTOR



PLAN VIEW

SIDE VIEW



FRONT VIEW

2.5 ANTENNA DETAIL	NO SCALE	3

RRH: ALCATEL LUCENT RRH 800 MHz 2x50W
COLOR: LIGHT GREY
WEIGHT: 53 LBS.

NOTES

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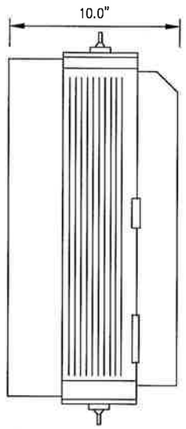
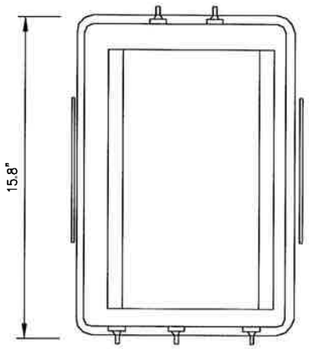
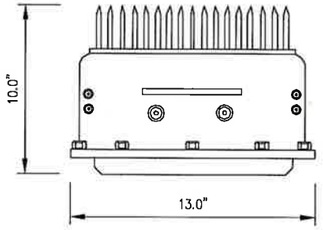


SIDE VIEW



FRONT VIEW



PLAN VIEW

800 MHz RRH	NO SCALE	4

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OFFICE#. (518) 308-3740

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN S. STEVENS
MAY 29 2018
No. 24705
LICENSED PROFESSIONAL ENGINEER

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SITE NUMBER:
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SITE ADDRESS:
355 NEW LONDON ROAD
COLCHESTER, CT 06415

SHEET DESCRIPTION:
EQUIPMENT & MOUNTING DETAILS

SHEET NUMBER:
A-4

RFS HYBRIFLEX RISER CABLE SCHEDULE

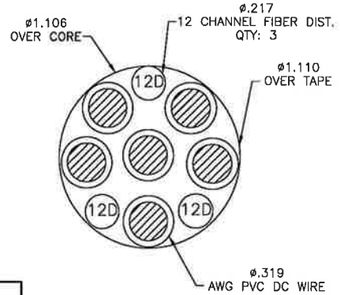
Fiber Only (Existing DC Power)	**Hybrid cable** MN: HB058-M12-050F 12x multi-mode fiber pairs, Top: Outdoor protected connectors, Bottom: LC Connectors, 5/8 cable, 50 ft	50 ft
	MN: HB058-M12-075F	75 ft
	MN: HB058-M12-100F	100 ft
	MN: HB058-M12-125F	125 ft
	MN: HB058-M12-150F	150 ft
	MN: HB058-M12-175F	175 ft
	MN: HB058-M12-200F	200 ft
8 AWG Power	**Hybrid cable** MN: HB114-08U3M12-050F 3x 8 AWG power pairs, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 50 ft	50 ft
	MN: HB114-08U3M12-075F	75 ft
	MN: HB114-08U3M12-100F	100 ft
	MN: HB114-08U3M12-125F	125 ft
	MN: HB114-08U3M12-150F	150 ft
	MN: HB114-08U3M12-175F	175 ft
	MN: HB114-08U3M12-200F	200 ft
6 AWG Power	**Hybrid cable** MN: HB114-13U3M12-225F 3x 6 AWG power pair, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 225 ft	225 ft (4)*
	MN: HB114-13U3M12-250F	250 ft
	MN: HB114-13U3M12-275F	275 ft
	MN: HB114-13U3M12-300F	300 ft
4 AWG Power	**Hybrid cable** MN: HB114-21U3M12-325F 3x 4 AWG power pair, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 325 ft	325 ft
	MN: HB114-21U3M12-350F	350 ft
	MN: HB114-21U3M12-375F	375 ft

RFS HYBRIFLEX JUMPER CABLE SCHEDULE

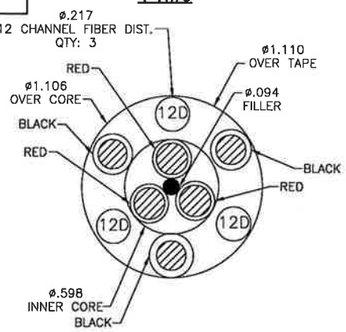
Fiber Only	**Hybrid Jumper cable** MN: HBF012-M3-5F1 5 ft, 3x multi-mode fiber pairs, Outdoor & LC connectors, 1/2 cable	5 ft
	MN: HBF012-M3-10F1	10 ft
	MN: HBF012-M3-15F1	15 ft
	MN: HBF012-M3-20F1	20 ft
	MN: HBF012-M3-25F1	25 ft
	MN: HBF012-M3-30F1	30 ft
8 AWG Power	**Hybrid Jumper cable** MN: HBF058-08U1M3-5F1 5 ft, 1x 8 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft
	MN: HBF058-08U1M3-10F1	10 ft
	MN: HBF058-08U1M3-15F1	15 ft
	MN: HBF058-08U1M3-20F1	20 ft
	MN: HBF058-08U1M3-25F1	25 ft
	MN: HBF058-08U1M3-30F1	30 ft
6 AWG Power	**Hybrid Jumper cable** MN: HBF058-13U1M3-5F1 5 ft, 1x 6 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft
	MN: HBF058-13U1M3-10F1	10 ft
	MN: HBF058-13U1M3-15F1	15 ft
	MN: HBF058-13U1M3-20F1	20 ft
	MN: HBF058-13U1M3-25F1	25 ft
	MN: HBF058-13U1M3-30F1	30 ft
4 AWG Power	**Hybrid Jumper cable** MN: HBF078-21U1M3-5F1 5 ft, 1x 4 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 7/8 cable	5 ft
	MN: HBF078-21U1M3-10F1	10 ft
	MN: HBF078-21U1M3-15F1	15 ft
	MN: HBF078-21U1M3-20F1	20 ft
	MN: HBF078-21U1M3-25F1	25 ft
	MN: HBF078-21U1M3-30F1	30 ft

NOTE:
SPRINT CM TO CONFIRM HYBRID OR FIBER RISER CABLE AND HYBRID OR FIBER JUMPER CABLE MODEL NUMBERS IF HYBRID CABLES ARE REQUIRED BEFORE PREPARING BOM.

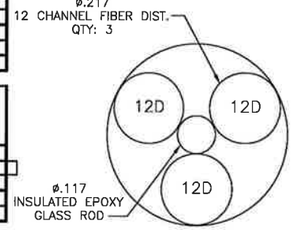
* PROPOSED CABLE LENGTH WAS DETERMINED USING THE SUM OF THE RAD CENTER OF ANTENNAS, AND DISTANCE FROM EXISTING EQUIPMENT AREA TO TOWER BASE WITH AN ADDITIONAL 20' BUFFER. LENGTH TO BE VERIFIED IN FIELD PRIOR TO ORDERING MATERIALS.



4 AWG



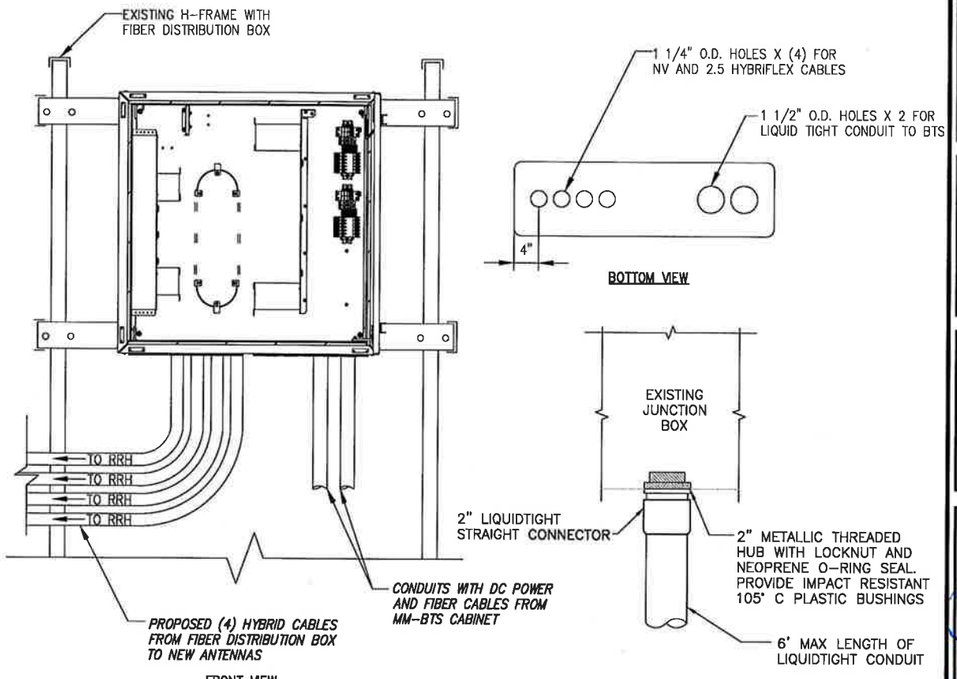
8 & 6 AWG



FIBER ONLY

800/1900/2500 CABLE CROSS SECTION DATA

NO SCALE | 1



FRONT VIEW

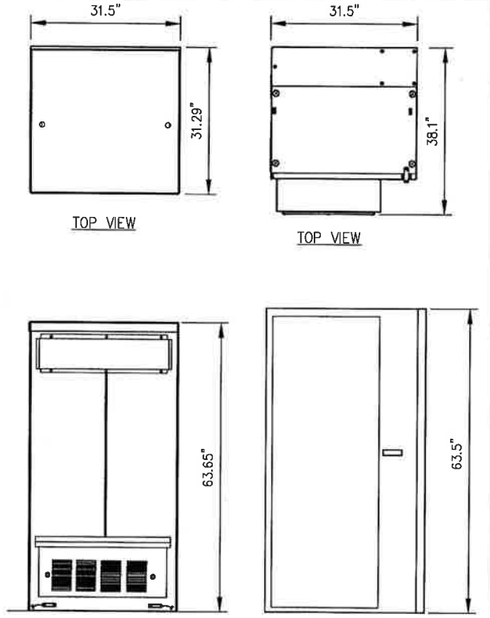
BOTTOM VIEW

FIBER JUNCTION BOX & PENETRATION

NO SCALE | 2

DESIGN CRITERIA:

2009 INTERNATIONAL BUILDING CODE W/ STATE MODIFICATION	
WIND SPEED (ASCE-7-05)	90 MPH
EXPOSURE B	
IMPORTANCE FACTOR	1.0
SEISMIC SITE CLASS	D
Ss=0.152 S1=0.050	
SEISMIC IMPORTANCE FACTOR	1.0
SEISMIC DESIGN CATEGORY	B
9927 MM BTS CABINET WEIGHT:	594 LBS.
EMERSON BATTERY CABINET SPECIFICATIONS:	
(31.29"x31.5"x63.65")	
WEIGHTS:	
SHIPPING WEIGHT:	600 LBS.
LIFT WEIGHT:	540 LBS.
TOTAL WEIGHT:	2640 LBS (WITH BATTERIES)
INDIVIDUAL BATTERY WEIGHT:	105 LBS
(DO NOT LIFT WITH BATTERIES IN CABINET)	
MATERIAL SPECIFICATIONS	
C-, M-, AND ANGLE SHAPES:	ASTM A36
HIGH-STRENGTH BOLTS:	ASTM A325SC OR (A325N)
STRUCTURAL WF SHAPES:	ASTM A572-GR50
TUBE STEEL & PIPE COLUMNS:	ASTM A500, GRADE B
WELDING ELECTRODES:	E70XX
W - SHAPES:	ASTM A992, GRADE 50
U-BOLTS:	ASTM A36



BATTERY CABINET PROFILE

BTS CABINET PROFILE

EQUIPMENT CABINET DETAILS

NO SCALE | 3

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OFFICE#: (518) 306-3740

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN S. STEVENS
LICENSED
PROFESSIONAL ENGINEER
DAY No. 042058
5-7-2018

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CIVIL DETAILS

SHEET NUMBER:
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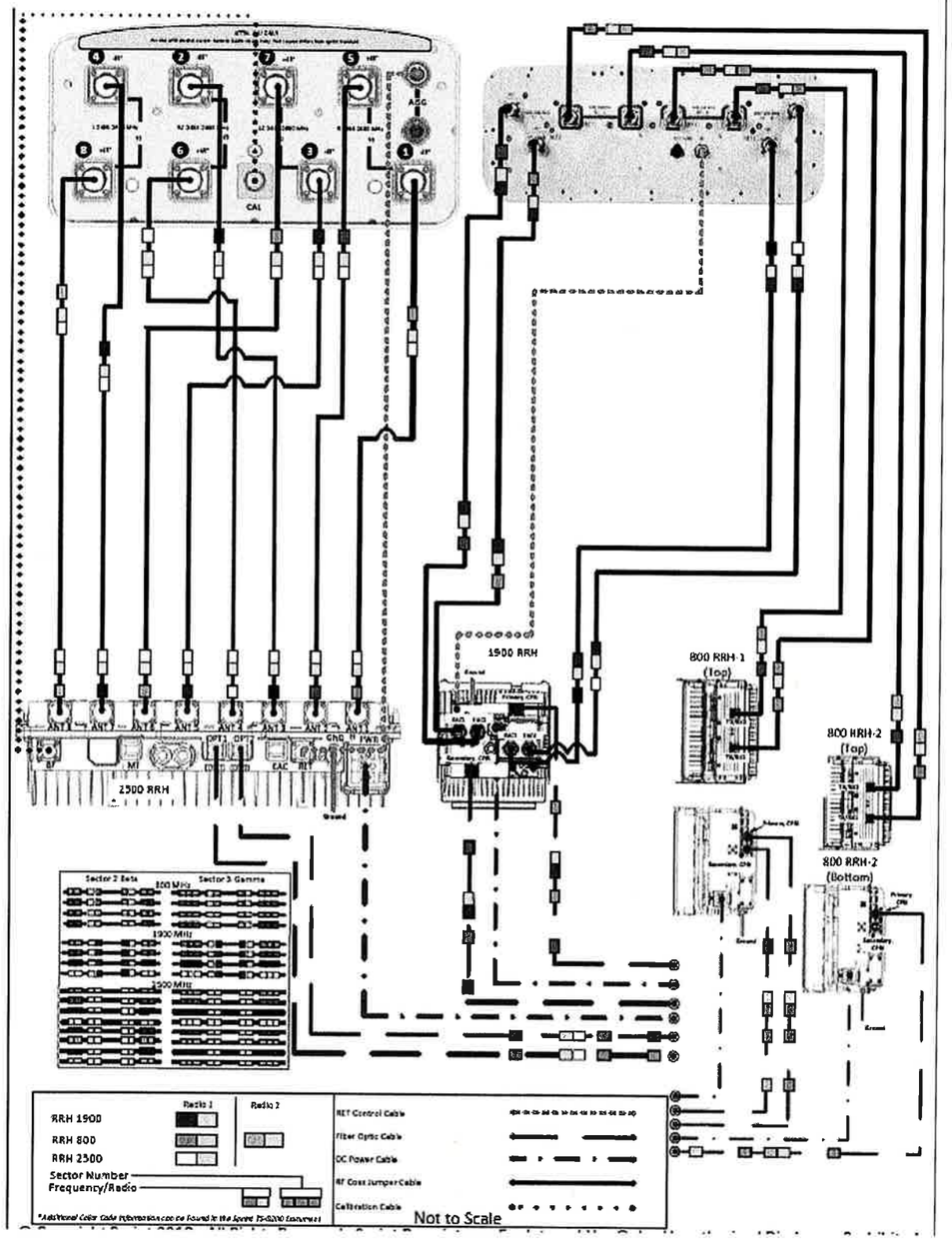
ALU-NSN 211 APXVTM14-ALU-I20 & NNVV-65B-R4 wo Filters



PLUMBING DIAGRAM | NO SCALE | 1

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JOHN S. STEVENS
LICENSED PROFESSIONAL ENGINEER
MAY 29 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/29/18	ETC	0

SITE NAME:
COLCHESTER-ROUTE 85

SITE NUMBER:
CT73XC017

SITE ADDRESS:
355 NEW LONDON ROAD
COLCHESTER, CT 06415

SHEET DESCRIPTION:
PLUMBING DIAGRAM

SHEET NUMBER:
A-6

CODED NOTES:

1. EXISTING SPRINT FIBER/POWER JUNCTION BOX MOUNTED TO EXISTING WALL
2. EXISTING NEXTEL METER, TRANSFER SWITCH AND DISCONNECT TO BE DECOMMISSIONED
3. PROPOSED 1-1/2" LIQUID TIGHT CONDUIT WITH PULL-STRING FOR TELCO FROM FIBER JUNCTION BOX TO RADIO EQUIPMENT CABINET, 10'
4. PROPOSED 1-1/2" LIQUID TIGHT CONDUIT WITH PULL-STRING FOR DC POWER FROM FIBER JUNCTION BOX TO RADIO EQUIPMENT CABINET, 10'
5. PROPOSED 9927 MULTIMODAL BTS CABINET
6. PROPOSED BATTERY BACKUP CABINET
7. PROPOSED HYBRIFLEX CABLES ROUTED FROM PROPOSED FIBER JUNCTION BOX TO PROPOSED RRH TO FOLLOW EXISTING CABLES (CONTRACTOR TO VERIFY) (TYP. OF (1) PER SECTOR)
8. PROPOSED 2"ø LIQUID TIGHT CONDUIT ROUTED FROM BTS TO EXISTING ELECTRICAL PANEL WITHIN EQUIPMENT SHELTER
9. PROPOSED 2"ø LIQUID TIGHT CONDUIT ROUTED FROM EXISTING EXTERIOR PPC PANEL THROUGH EXISTING J-BOX TO INTERIOR ELECTRICAL PANEL
10. CONTRACTOR TO INSTALL/REMOVE REQUIRED BREAKERS WITHIN EXISTING ELECTRICAL PANEL TO ACCOMMODATE THE RELOCATION OF NEW EQUIPMENT CABINETS AND THE DECOMMISSION OF EXISTING NEXTEL ELECTRICAL FEED
11. CONTRACTOR TO UTILIZE EXISTING 200A MAIN BREAKER AND 200A GENERATOR RELAY SWITCH INSTALL (1) 200A BREAKER TO FEED EXISTING PANEL ALL OTHER REMAINING BREAKERS TO BE REMOVED
12. CONTRACTOR TO UTILIZE EXISTING SPRINT ELECTRICAL FEED FOR EXISTING EQUIPMENT SHELTER

NOTE:
CONTRACTOR SHALL NOT STACK THE HYBRIFLEX CABLES ON TOP OF THE EXISTING COAXIAL CABLES AS TO PREVENT THE COAXIAL CABLES FROM BEING REMOVED.

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-922-4455
THREE WORKING DAYS BEFORE YOU DIG

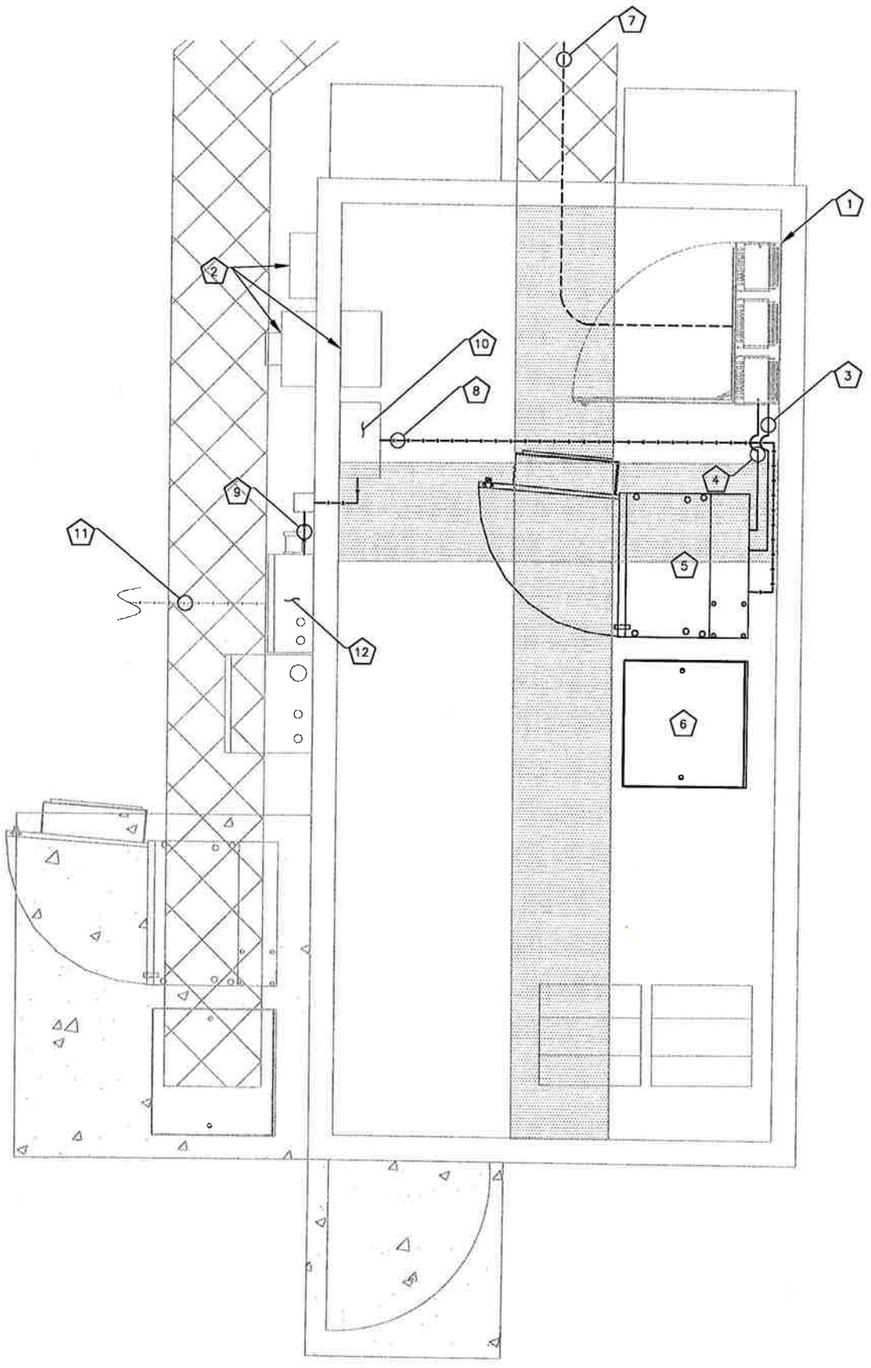
NOTES:

CONTRACTOR TO USE EXISTING SPARE CONDUITS, IF AVAILABLE. CONDUIT SIZES MUST BE EQUAL TO OR GREATER THAN THAT ALLOWED BY CODE.

EXISTING ALARMS NEED TO BE RE-ROUTED AND VERIFIED IN PROPER WORKING CONDITION WHEN NEW MMBTS EQUIPMENT IS INSTALLED.

REMAINING GROUND LEADS FROM REMOVED CABINETS TO BE COILED (NOT ON WALKING SURFACE).

REMAINING UNUSED CONDUITS FROM EXISTING CABINETS TO BE COVERED WITH WATERPROOF CAPS (NOT DUCT TAPE).



ELECTRICAL NOTES:

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (N.E.C.), AND APPLICABLE LOCAL CODES
2. GROUNDING SHALL COMPLY WITH THE ARTICLE 250 OF NATIONAL ELECTRICAL CODE.
3. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED.
4. ALL WIRES SHALL BE AWG MIN #12 THHN COPPER UNLESS NOTED.
5. CONDUCTORS SHALL BE INSTALLED IN SCHEDULE 40 PVC CONDUIT UNLESS NOTED OTHERWISE.
6. LABEL SPRINT SERVICE DISCONNECTS WITH SWITCH AND PPC CABINET WITH ENGRAVED LAMACOID LABELS, LETTERS 1" IN HEIGHT.
7. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 8" RADIUS.
8. ENGAGE AN INDEPENDENT TESTING FIRM TO TEST AND VERIFY THAT RESISTANCE DOES NOT EXCEED 10 OHMS TO GROUND. TEST GROUND RING RESISTANCE PRIOR TO MAKING FINAL GROUND CONNECTIONS TO INFRASTRUCTURE AND EQUIPMENT. GROUNDING AND OTHER OPERATIONAL TESTING SHALL BE WITNESSED BY SPRINTS REPRESENTATIVE.
9. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE REQUIRED SO THAT CONDUIT BENDS DO NOT EXCEED 360 DEGREES.
10. OBTAIN PERMITS AND PAY FEES RELATED TO ELECTRICAL WORK PERFORMED ON THIS PROJECT. DELIVER COPIES OF ALL PERMITS TO SPRINT REPRESENTATIVE.
11. SCHEDULE AND ATTEND INSPECTIONS RELATED TO ELECTRICAL WORK REQUIRED BY JURISDICTION HAVING AUTHORITY. CORRECT AND PAY FOR ANY WORK REQUIRED TO PASS ANY FAILED INSPECTION.
12. REDLINED AS-BUILTS ARE TO BE DELIVERED TO A SPRINT REPRESENTATIVE.
13. PROVIDE TWO COPIES OF OPERATION AND MAINTENANCE MANUALS IN THREE-RING BINDER.
14. FURNISH AND INSTALL THE COMPLETE ELECTRICAL SERVICE, TELCO CONDUIT, AND THE COMPLETE GROUNDING SYSTEM.
15. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND LOCAL ORDINANCES, INSTALLED IN A NEAT MANNER AND SHALL BE SUBJECT TO APPROVAL BY A SPRINT REPRESENTATIVE.
16. CONDUCT A PRE-CONSTRUCTION SITE VISIT AND VERIFY EXISTING SITE CONDITIONS AFFECTING THIS WORK. REPORT ANY OMISSIONS OR DISCREPANCIES FOR CLARIFICATION PRIOR TO THE START OF CONSTRUCTION.
17. PROTECT ADJACENT STRUCTURES AND FINISHES FROM DAMAGE, REPAIR TO ORIGINAL CONDITION ANY DAMAGED AREA.
18. REMOVE DEBRIS ON A DAILY BASIS. DEBRIS NOT REMOVED IN A TIMELY FASHION WILL BE REMOVED BY OTHERS AND THE RESPONSIBLE SUBCONTRACTOR SHALL BE CHARGED ACCORDINGLY. REMOVAL OF DEBRIS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE. DEBRIS SHALL BE REMOVED FROM THE PROPERTY AND DISPOSED OF LEGALLY.
19. UPON COMPLETION OF WORK, THE SITE SHALL BE CLEAN AND FREE OF DUST AND FINGERPRINTS.
20. PRIOR TO ANY TRENCHING, CONTACT LOCAL UTILITY TO VERIFY LOCATION OF ANY EXISTING BURIED SERVICE CONDUITS.
21. DOCUMENT GROUND RING INSTALLATION AND CONNECTIONS TO IT WITH PHOTOGRAPHS PRIOR TO BACKFILLING SITE. PRESENT PHOTO ARCHIVE A SITE "PUNCH LIST" WALK TO SPRINT'S REPRESENTATIVE.

NOTE:
INFINIGY ENGINEERING HAS NOT CONDUCTED AN ELECTRICAL LOAD STUDY FOR THIS SITE. CONTRACTOR IS TO VERIFY EXISTING ELECTRICAL LOADS PRIOR TO CONSTRUCTION TO ENSURE THERE IS AMPLE SERVICE AVAILABLE TO ACCOMMODATE THE EXISTING AND PROPOSED EQUIPMENT.

NOTE:
THERE ARE NO EXISTING DUAL POLE BREAKER POSITIONS AVAILABLE FOR THE MM BTS BREAKER. CONTRACTOR TO VERIFY IF THERE ARE EXISTING SPARE OR UNUSED BREAKERS INSIDE THE PANEL AND REPLACE WITH THE NEW 2P 60A BREAKER FOR THE MM BTS CABINET.

UTILITY SITE PLAN | NO SCALE | 1

PLANS PREPARED FOR:
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1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com
JOB NUMBER 526-104

PROJECT MANAGER:
AIROSMITH DEVELOPMENT
32 CLINTON ST.
SARATOGA SPRINGS, NY 12866
OFFICE#. (518) 306-3740

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24705
LICENSED PROFESSIONAL ENGINEER
MAY 3 0 2018

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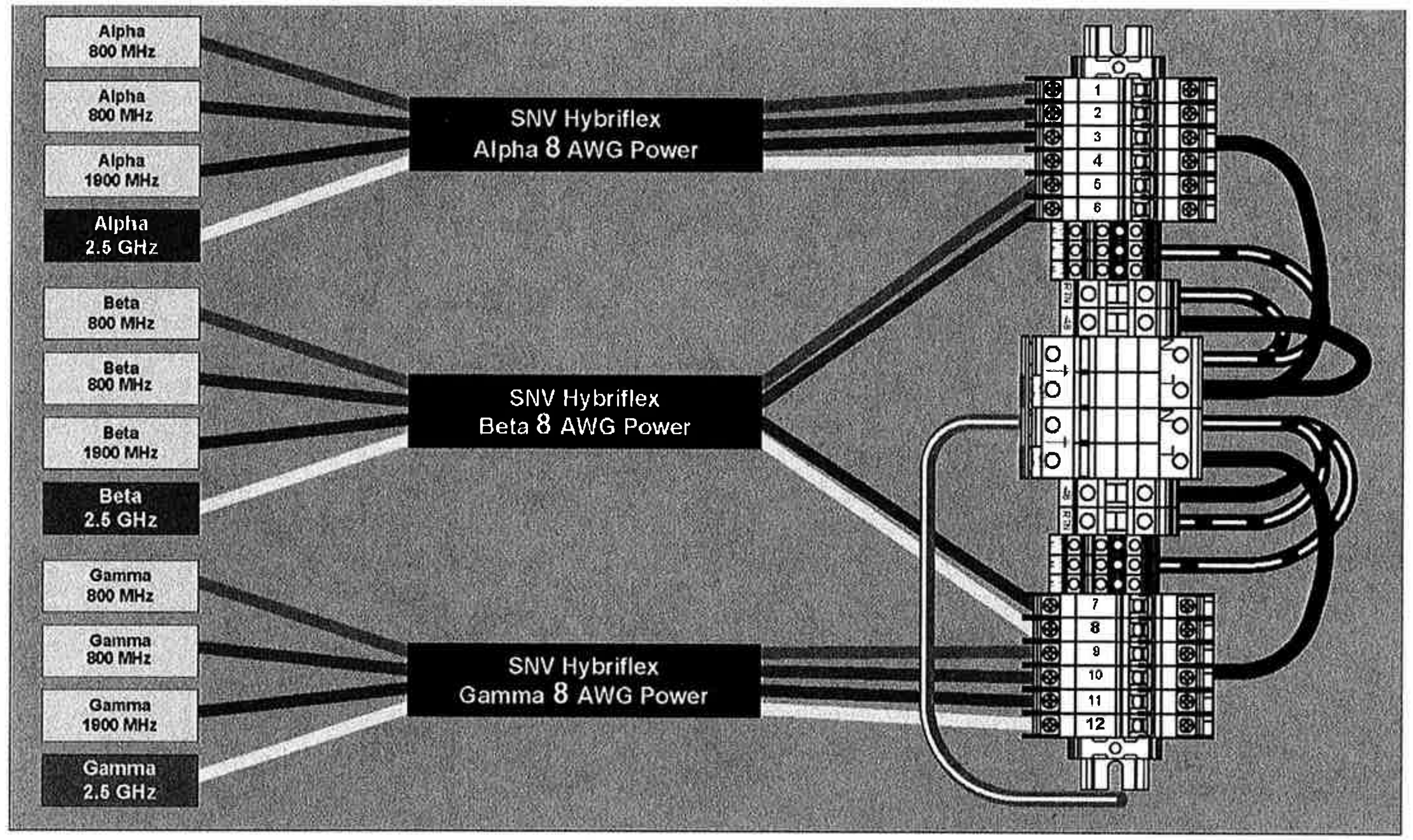
SHEET DESCRIPTION:
UTILITY SITE PLAN

SHEET NUMBER:
E-1

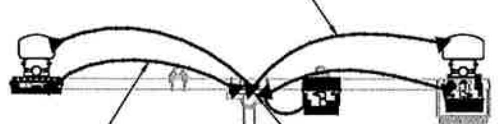


RRH TO DISTRIBUTION BOX POWER CONNECTIVITY | NO SCALE | 1

LEGEND:

— · — · —	EXISTING GROUND RING
■	CADWELD CONNECTION (EXOTHERMIC WELD)
▲	MECHANICAL CONNECTION
⊗	GROUND ROD
●	CABLE GROUND KIT

BOND INSTALL ANTENNA TO SECTOR GROUND BAR PER MANUFACTURER'S SPECIFICATIONS

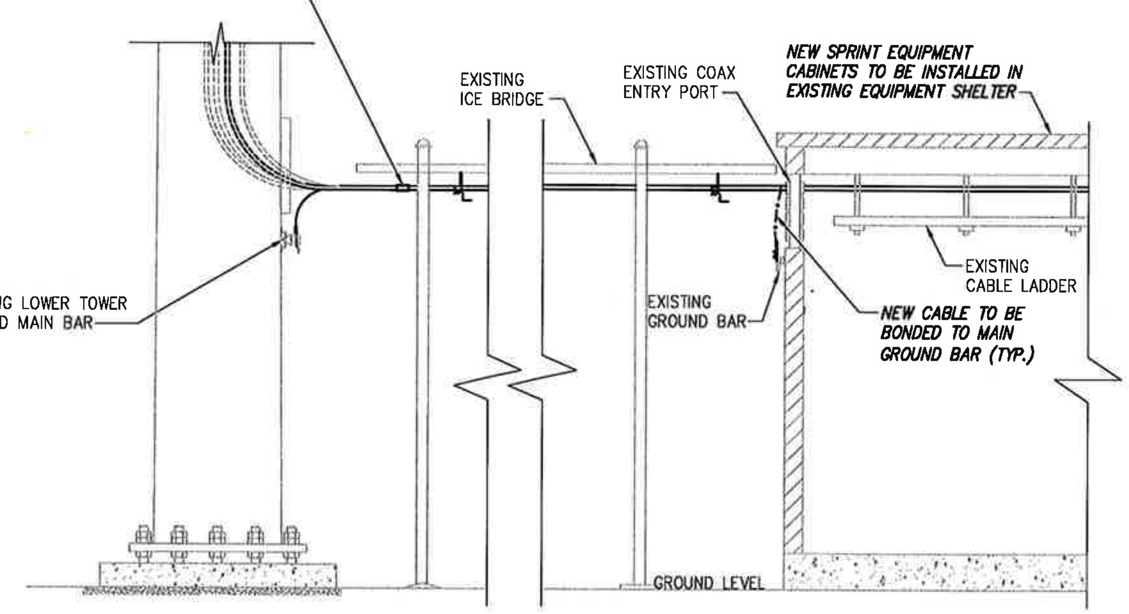


BOND RRH TO SECTOR BAR PER MANUFACTURER'S SPECIFICATIONS

EXISTING SPRINT TOWER GROUND BAR (CONTRACTOR TO VERIFY)

TYPICAL ANTENNA GROUNDING PLAN | NO SCALE | 3

INSTALL (4) HYBRID CABLES FROM EXISTING SPRINT FIBER JUNCTION BOX TO PROPOSED RRH UNIT TO BE ROUTED WITH (6) EXISTING COAX CABLES (SEE SHEET A-5 DETAIL 2)



NOTE:
DEPICTION IS FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR IS TO FIELD VERIFY PRIOR TO CONSTRUCTION

TYPICAL EQUIPMENT GROUNDING PLAN (ELEVATION) | NO SCALE | 4

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PROJECT MANAGER:
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32 CLINTON ST.
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OFFICE#: (518) 306-3740

ENGINEERING LICENSE:
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JOHN S. STEVENS
No. 24218
LICENSED
PROFESSIONAL ENGINEER
MAY 3 0 2018

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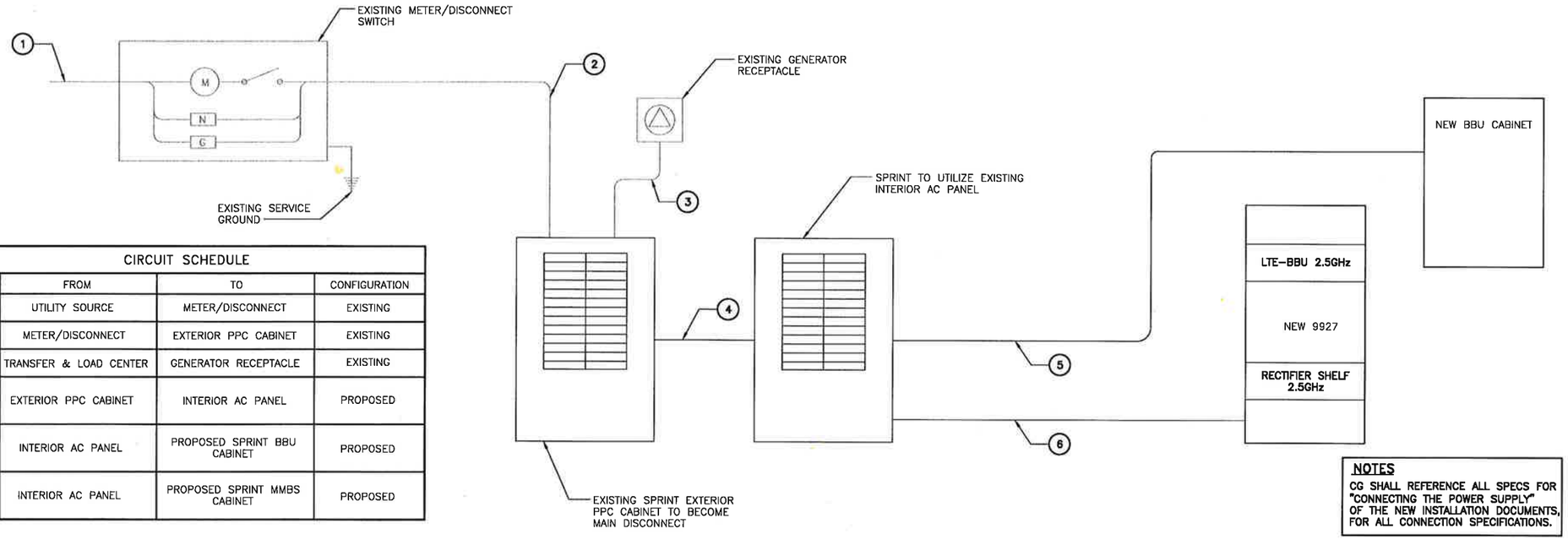
SHEET DESCRIPTION:
ELECTRICAL & GROUNDING PLAN

SHEET NUMBER:
E-1

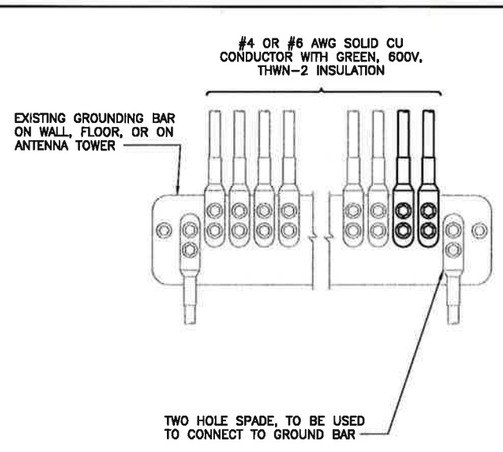


CIRCUIT SCHEDULE			
NO	FROM	TO	CONFIGURATION
1	UTILITY SOURCE	METER/DISCONNECT	EXISTING
2	METER/DISCONNECT	EXTERIOR PPC CABINET	EXISTING
3	TRANSFER & LOAD CENTER	GENERATOR RECEPTACLE	EXISTING
4	EXTERIOR PPC CABINET	INTERIOR AC PANEL	PROPOSED
5	INTERIOR AC PANEL	PROPOSED SPRINT BBU CABINET	PROPOSED
6	INTERIOR AC PANEL	PROPOSED SPRINT MMBS CABINET	PROPOSED

NOTES
CG SHALL REFERENCE ALL SPECS FOR "CONNECTING THE POWER SUPPLY" OF THE NEW INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.

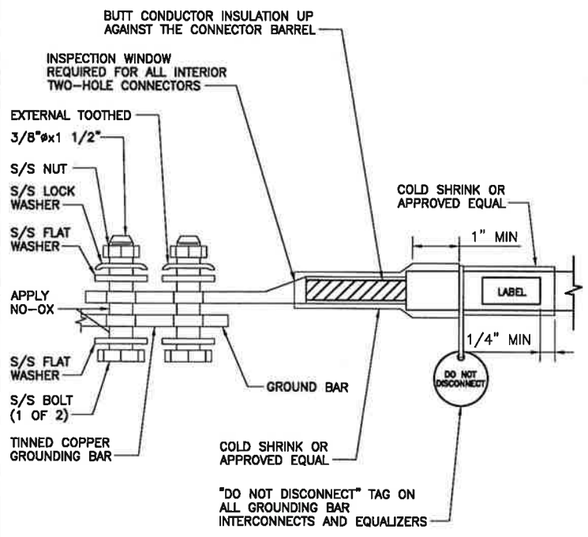
ELECTRICAL ONE–LINE DIAGRAM

NO SCALE | 1

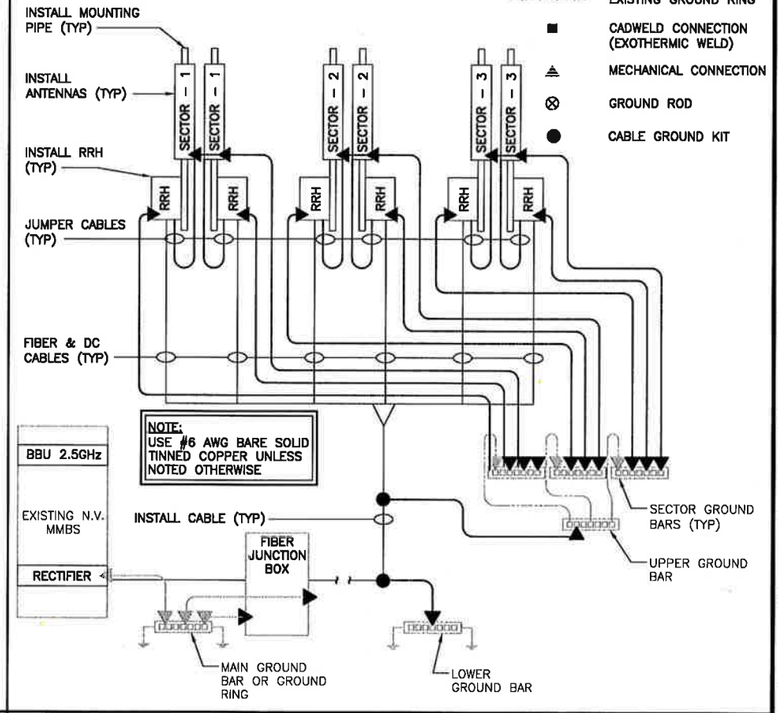


NOTES
1. APPLY NO–OX TO LUG AND BAR CONTACT SURFACE. DO NOT COAT INLINE LUG.
2. IF STOLEN GROUND BARS ARE ENCOUNTERED, CONTACT SPRINT CM FOR REPLACEMENT THREADED ROD KIT.

INSTALLATION OF GROUNDING CONDUCTOR TO GROUNDING BAR | NO SCALE | 2



TWO HOLE LUG | NO SCALE | 3



GROUNDING RISER DIAGRAM | NO SCALE | 4

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SHEET DESCRIPTION:
ELECTRICAL & GROUNDING DETAILS

SHEET NUMBER:
E-2