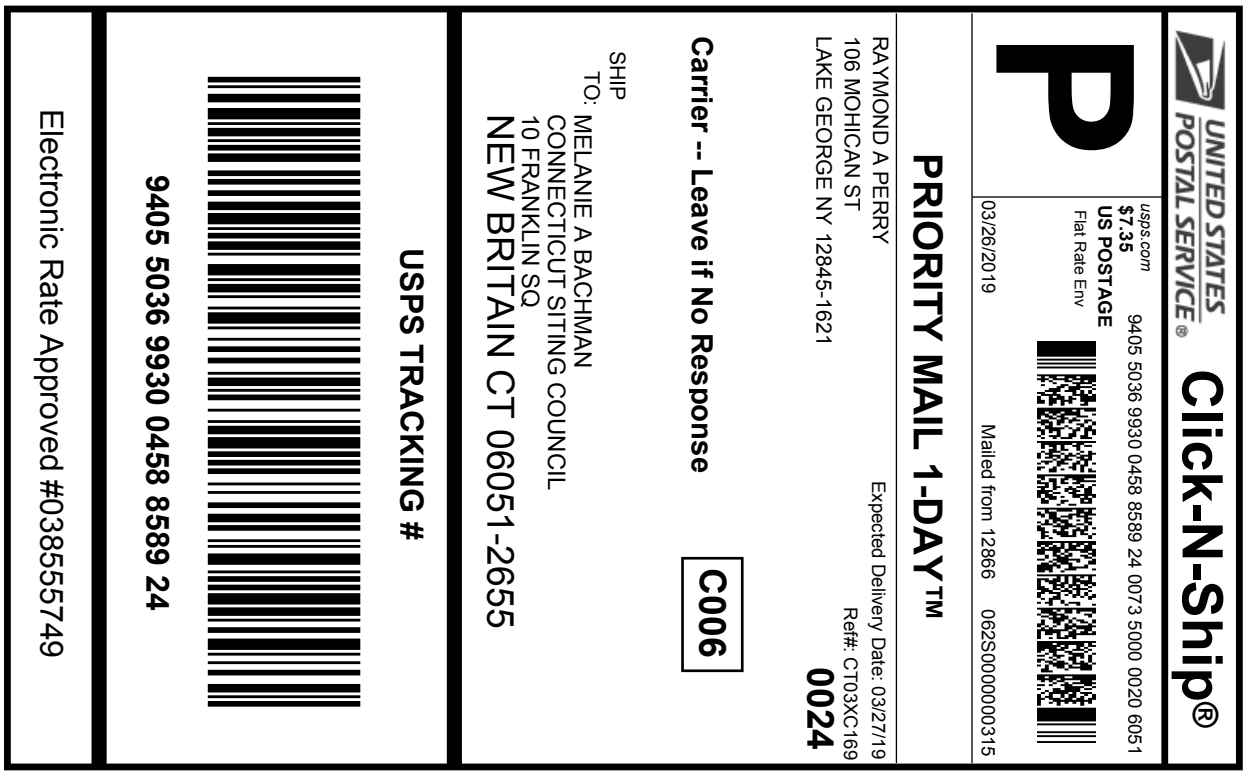

Cut on dotted line.

Instructions

1. **Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.**
2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0458 8589 24

Trans. #:	460089221
Print Date:	03/26/2019
Ship Date:	03/26/2019
Expected Delivery Date:	03/27/2019

Priority Mail® Postage:	**$7.35**
Total	**$7.35**

From: RAYMOND A PERRY
106 MOHICAN ST
LAKE GEORGE NY 12845-1621
Ref#: CT03XC169

To: MELANIE A BACHMAN
CONNECTICUT SITING COUNCIL
10 FRANKLIN SQ
NEW BRITAIN CT 06051-2655

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

UNITED STATES POSTAL SERVICE®

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com

UNITED STATES POSTAL SERVICE®

Shipment Confirmation Acceptance Notice

A. Mailer Action

Note To Mailer: The labels and volume associated to this form online, **must** match the labeled packages being presented to the USPS® employee with this form.

Shipment Date: 03/26/19

Shipped From:

RAYMOND A PERRY
106 MOHICAN ST
LAKE GEORGE NY 12845-1621

Type of Mail	Volume
Priority Mail®	2
Priority Mail Express™*	0
International Mail*	0
Other	0
Total Volume	2

*Start time for products with service guarantees will begin when mail arrives at the local Post Office™ and items receive individual processing and acceptance scans.

B. USPS Action

- USPS EMPLOYEE: Please scan upon pickup or receipt of mail. Leave form with customer or in customer's mail receptacle.
- Employee verifies the package volume count on the Package Pickup Carrier Manifest.
  - If the volume on the manifest matches the volume being collected from the customer, the employee should make the **1:YES** selection by pressing the number 1 on the keypad of the handheld scanner, or on the keyboard of the POS ONE terminal.
  - If the volume on the manifest does not match the volume being collected from the customer, the employee should make the **2:NO** selection**.** The mail should still be collected and dispatched as normal.

USPS SCAN

9475 7036 9930 0308 6524 84

March 26th, 2019

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

RE: Notice of Exempt Modification – Antenna Modification for wireless facility located at Town Farm Road, Enfield, CT 06082 CT52XC022 (lat. 41.959900 N, long. -72.552700 W)

Dear Ms. Bachman:

Sprint Spectrum, LP ("Sprint") currently maintains wireless telecommunications antennas at the (111-foot level) on an existing (152-foot monopole tower) at the above-referenced address. The property is owned by Enfield School District and the tower is owned by American Tower Corporation.

Sprint's proposed work involves antenna replacement and tower work. Sprint intends to replace three (3) antennas with six (6) new antennas and add nine (9) 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 MICHAEL LUDWICK, MAYOR and LAURIE WHITTEN, DIRECTOR OF DEVELOPMENT SERVICES for the TOWN OF ENFIELD. A copy of this letter is also being sent to AMERICAN TOWER CORPOATION the owner of the tower, and The ENFIELD SCHOOL DISTRICT who owns the property.

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

1. The proposed modifications will not result in an increase in the height of the existing tower.
2. The antennas work is a like-for-like replacement of existing facility components and additional components to increase capacity and employ updated technologies.

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

3. The proposed modifications will include the addition of ground base equipment as 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,

Raymond A Perry

Ray Perry
Airosmith Development Inc.
32 Clinton Street
Saratoga Springs, NY 12866
518-796-9165 cell
518-306-1711 fax
rperry@airosmithdevelopment.com

Attachment

CC: MICHAEL LUDWICK (MAYOR, ENFIELD, CT)
LAURIE WHITTEN (Director of Development Services, ENFIELD, CT)
JUSTINE PAUL (Tower Owner - American Tower Corporation)
ENFIELD SCHOOL DISTRICT (Property Owner)

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ENFIELD, CT 06082

OFFICIAL USE

Certified Mail Fee $3.50

Extra Services & Fees (check box, add fee as appropriate)
- Return Receipt (hardcopy) $0.00
- Return Receipt (electronic) $0.00
- Certified Mail Restricted Delivery $0.00
- Adult Signature Required $0.00
- Adult Signature Restricted Delivery $

Postage $0.55

Total Postage and Fees $6.85

Sent To Michael Ludwick
Street and Apt. No., or PO Box No. 820 Enfield Street
City, State, ZIP+4® Enfield CT 06082

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

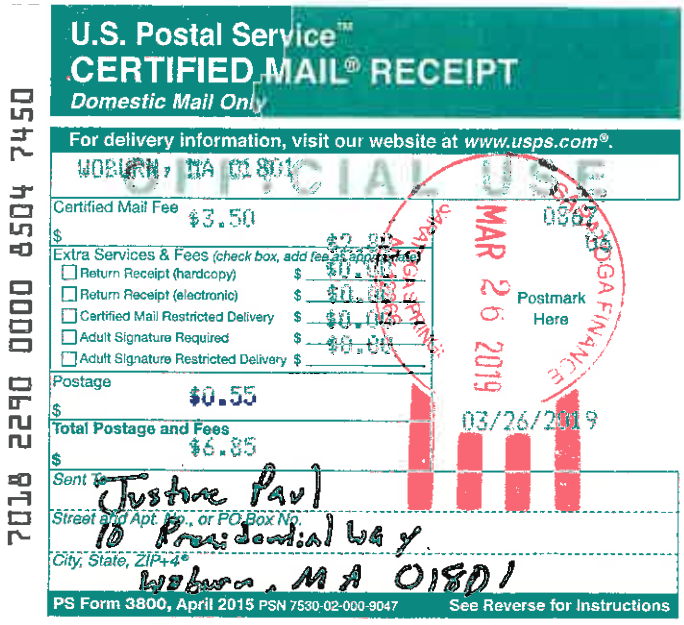
SARATOGA SPRINGS NY 12866 MAR 26 2019 0867 06

SARATOGA FINANCE

Postmark Here

03/26/2019

7018 2290 0000 8504 7467



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WOBURN, MA 01801

OFFICIAL USE

Certified Mail Fee $3.50

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- Return Receipt (electronic) $0.00
- Certified Mail Restricted Delivery $0.00
- Adult Signature Required $0.00
- Adult Signature Restricted Delivery $

Postage $0.55

Total Postage and Fees $6.85

Sent To Justine Paul
Street and Apt. No., or PO Box No. 10 Presidential Way
City, State, ZIP+4® Woburn, MA 01801

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

SARATOGA SPRINGS NY 12866 MAR 26 2019 0867 06

SARATOGA FINANCE

Postmark Here

03/26/2019

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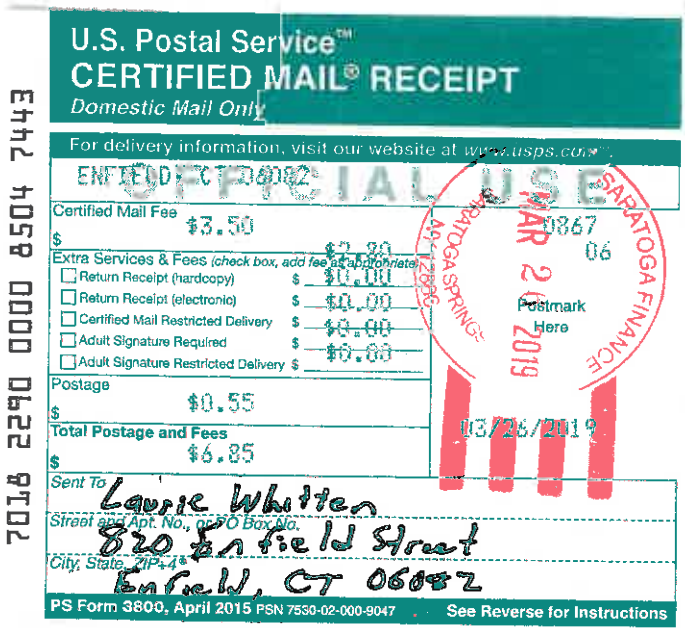

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ENFIELD CT 06082

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- Return Receipt (electronic) $0.00
- Certified Mail Restricted Delivery $0.00
- Adult Signature Required $0.00
- Adult Signature Restricted Delivery $

Postage $0.55

Total Postage and Fees $6.85

Sent To Laurie Whitten
Street and Apt. No., or PO Box No. 820 Enfield Street
City, State, ZIP+4® Enfield, CT 06082

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

SARATOGA SPRINGS NY 12866 MAR 26 2019 0867 06

SARATOGA FINANCE

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03/26/2019

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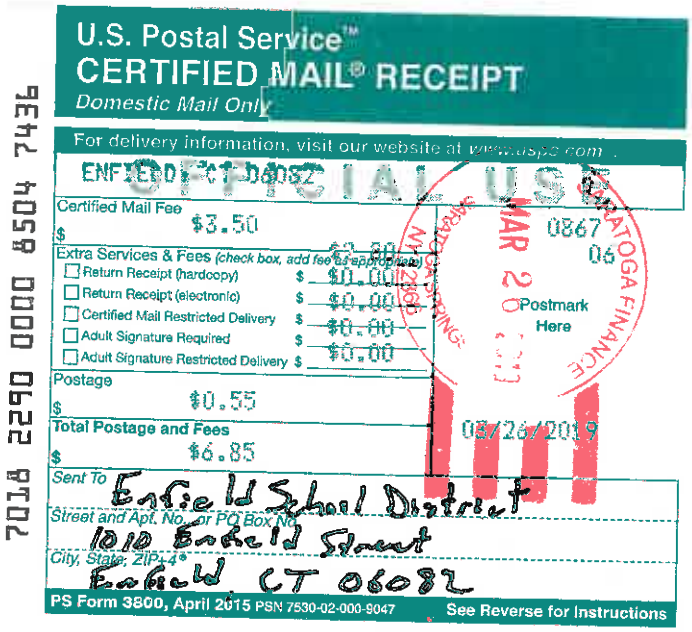

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- Return Receipt (electronic) $0.00
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- Adult Signature Required $0.00
- Adult Signature Restricted Delivery $0.00

Postage $0.55

Total Postage and Fees $6.85

Sent To Enfield School District
Street and Apt. No., or PO Box No. 1010 Enfield Street
City, State, ZIP+4® Enfield CT 06082

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

SARATOGA SPRINGS NY 12866 MAR 26 2019 0867 06

SARATOGA FINANCE

Postmark Here

03/26/2019

7018 2290 0000 8504 7436

DEPARTMENT OF ADMINISTRATIVE SERVICES

March 25, 2019

Ray Perry, Site Acquisition
Airosmith Development
32 Clinton Street
Saratoga Springs, NY 12866

Re: Structural Analysis Report for Site #CT52XC022
Town Farm Road, Enfield

Mr. Perry,

Based on the Structural Analysis Report by AT Engineering Services, dated, January 7, 2019, the proposed additions to this tower comply with the structural requirements of the 2018 Connecticut State Building Code.

If you have any questions you may contact me as 860-713-5900.

Sincerely,

Joseph V. Cassidy, P.E.
State Building Inspector

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**150 ft Monopole**
ATC Site Name	:	**Enfd - Enfield, CT**
ATC Site Number	:	**302489**
Engineering Number	:	**OAA713357_C3_02**
Proposed Carrier	:	**Clearwire**
Carrier Site Name	:	**Enfd Enfield**
Carrier Site Number	:	**CT52XC022**
Site Location	:	**Town Farm Road** **Enfield, CT 06082-5152** **41.965900,-72.552700**
County	:	**HARTFORD**
Date	:	**January 7, 2019**
Max Usage	:	**100%**
Result	:	**Pass**

Prepared By:
Adam Pittman
Structural Engineer II

Adam S Pittman

Reviewed By:

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 150 ft monopole to reflect the change in loading by Clearwire.

Supporting Documents

Tower Drawings	Smith Cullum Acquisition #CT-0025, dated May 14, 2001 ITT Meyer Specification #AT-8935, Type B, dated April 13, 1984
Foundation Drawing	Southern New England Telephone, dated June 6, 1985
Geotechnical Report	MB & A Project #011107, dated June 16, 2001
Modifications	ATC Job #40071639, dated December 6, 2007 ATC Job #48982632, dated April 25, 2012 ATC Job #613768312, dated February 2, 2016

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:	97 mph (3-Second Gust, Vasd) / 125 mph (3-second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	C
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.18, S_1 = 0.06
Site Class:	D - Stiff Soil

Conclusion

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

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
150.0	154.0	3	Kaelus DBC0061F1V51-2	Platform w/ Handrails	(11) 1 5/8" Coax (4) 0.78" 8 AWG 6 (2) 0.39" Fiber Trunk (1) 2" Conduit (1) 3" Conduit	AT&T Mobility
		3	Powerwave LGP21401			
		2	Raycap DC6-48-60-18-8F ("Squid")			
		3	Ericsson RRUS A2 B2			
		3	Ericsson RRUS 11 (Band 12) (55 lb)			
		3	Ericsson RRUS 32 B30			
		3	Ericsson RRUS-11 (19.7â€□)			
		3	Ericsson RRUS-12 B2			
		3	Ericsson Radio 8843			
		3	Powerwave 7770.00			
	151.0	3	CCI OPA-65R-LCUU-H8			
		3	CCI TPA-65R-LCUUUU-H8			
	157.0	1	Decibel DB809KE-SY		(1) 1 5/8" Coax	Spok Holdings
144.0	144.0	2	Diamond X50A	Stand-Offs	(2) 1/2" Coax	Senet
140.0	140.0	3	Ericsson KRY 112 144/1	Platform w/ Handrails	(12) 1 5/8" Coax (1) 1 1/4" Hybriflex	T-Mobile
		3	Ericsson RRUS-11 (50 lbs.)			
		3	Ericsson AIR 21, 1.3 M, B2A B4P			
		3	Ericsson AIR 21, 1.3M, B4A B2P			
		3	Andrew LNX-6515DS-VTM			
127.0	130.0	6	RFS FD9R6004/2C-3L	Low Profile Platform	(12) 1 5/8" Coax (2) 1 5/8" Hybriflex	Verizon
		3	Nokia AirScale RRH 4T4R B5 160W AHCA			
		3	Alcatel-Lucent B25 RRH4x30			
		3	Alcatel-Lucent B13 RRH4x30-4R 700U			
		3	Alcatel-Lucent B66A RRH 4x45			
		3	Antel BXA-70063/4CF			
	127.0	2	RFS DB-T1-6Z-8AB-0Z			
		3	Antel BXA-80080-6CF-EDIN- X			
		6	Commscope JAHH-65B-R3B			
115.0	115.0	3	76" x 6" Panel	Flush	(6) 1 5/8" Coax	Metro PCS
104.0	111.0	2	DragonWave Horizon Compact	Side Arms	(4) 1/2" Coax (4) 1 1/4" Hybriflex (2) 2" Conduit	Clearwire
		2	DragonWave A-ANT-11G-2-C			
	108.0	1	24" x 24" Junction Box			
64.0	64.0	1	Channel Master Type 120	Leg	(1) 0.28" RG-6	Spok Holdings

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
108.0	111.0	3	Argus LLPX310R	-	(6) 5/16" Coax	Clearwire
		3	NextNet BTS-2500			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
104.0	108.0	3	RFS APXVTM14-ALU-I20	Side Arms	-	Clearwire
		3	Commscope NNVV-65B-R4			
	111.0	6	Alcatel-Lucent RRH2x50-08			
		3	Nokia FZHN Flexi RRH 8TR 2600 9*20W			
		3	Alcatel-Lucent 1900MHz RRH (65MHz) w/ solar shield			

[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).

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	79%	Pass
Shaft	99%	Pass
Base Plate	54%	Pass
Flanges	61%	Pass
Reinforcement	100%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	3,922.8	94%
Axial (Kips)	127.6	49%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
104.0	Alcatel-Lucent RRH2x50-08	Clearwire	1.169	1.410
	Nokia FZHN Flexi RRH 8TR 2600 9*20W			
	Alcatel-Lucent 1900MHz RRH (65MHz) w/ solar shield			
	DragonWave A-ANT-11G-2-C			
	RFS APXVTM14-ALU-I20			
	Commscope NNVV-65B-R4			
64.0	Channel Master Type 120	Spok Holdings	0.423	0.738

***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:

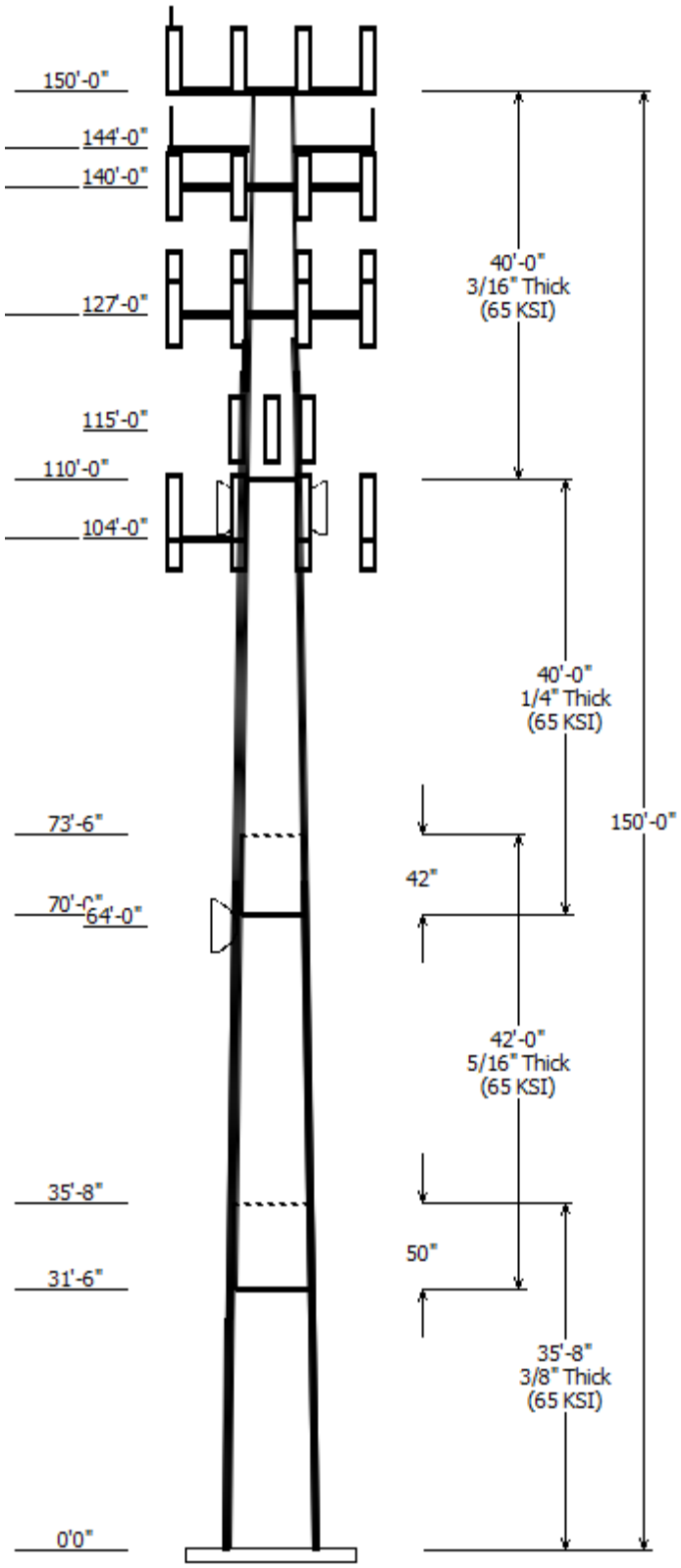
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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

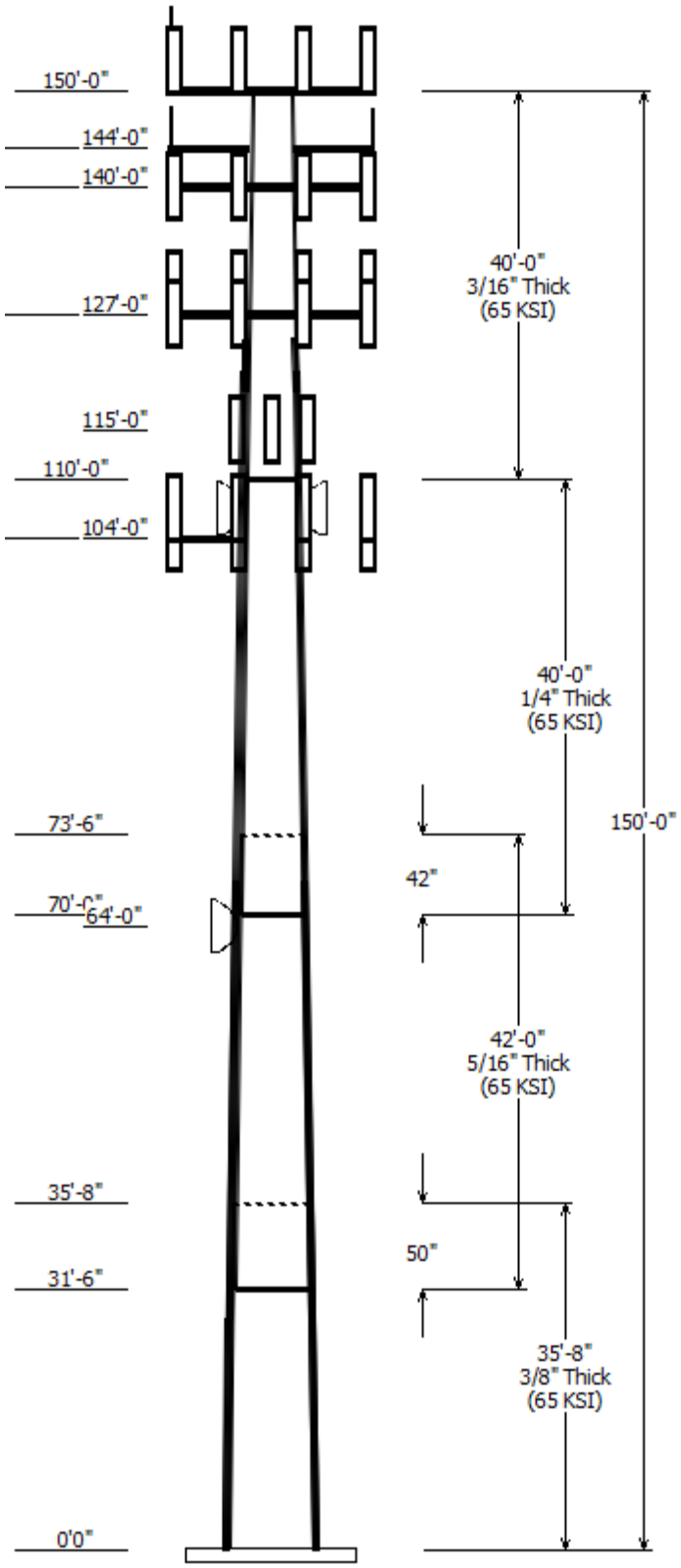
Pole :	302489	Code:	ANSI/TIA-222-G
Location :	Enfd - Enfield, CT		
Description :			
Client :	CLEARWIRE CORPORATION	Struct Class :	II
Shape :	12 Sides	Exposure :	C
Height :	150.00 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.156700 (in/ft)		

Sections Properties

Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	35.667	31.79	37.38	0.375		0.000	12 Sides	65
2	42.000	26.48	33.06	0.313	Slip Joint	50.000	12 Sides	65
3	40.000	21.26	27.53	0.250	Slip Joint	42.000	12 Sides	65
4	40.000	15.00	21.26	0.188	Butt Joint	0.000	12 Sides	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
150.000	151.000	3	CCI TPA-65R-LCUUUU-H8
150.000	151.000	3	CCI OPA-65R-LCUU-H8
150.000	154.000	3	Ericsson Radio 8843
150.000	154.000	3	Powerwave Allgon LGP21401
150.000	154.000	3	Kaelus DBC0061F1V51-2
150.000	150.000	3	Round Side Arm
150.000	154.000	3	Ericsson RRUS-12 B2
150.000	154.000	3	Ericsson RRUS-11 (19.7")
150.000	154.000	3	Ericsson RRUS 32 B30
150.000	154.000	3	Ericsson RRUS A2 B2
150.000	154.000	3	Ericsson RRUS 11 (Band 12) (55
150.000	154.000	2	Raycap DC6-48-60-18-8F
150.000	154.000	3	Powerwave Allgon 7770.00
150.000	157.000	1	Decibel DB809KE-SY
150.000	150.000	1	Platform w/ Handrails
144.000	144.000	2	Stand-Off
144.000	144.000	2	Diamond X50A
140.000	140.000	3	Ericsson RRUS-11 (50 lbs.)
140.000	140.000	3	Ericsson AIR 21, 1.3 M, B2A B4
140.000	140.000	3	Ericsson AIR 21, 1.3M, B4A B2P
140.000	140.000	3	Ericsson KRY 112 144/1
140.000	140.000	3	Andrew LNX-6515DS-VTM
140.000	140.000	1	Platform w/ Handrails
127.000	127.000	6	Commscope JAHH-65B-R3B
127.000	130.000	3	Antel BXA-70063/4CF
127.000	130.000	3	Alcatel-Lucent B25 RRH4x30
127.000	130.000	3	Nokia AirScale RRH 4T4R B5 160
127.000	130.000	3	Alcatel-Lucent B66A RRH 4x45
127.000	130.000	3	Alcatel-Lucent B13 RRH4x30-
127.000	127.000	2	RFS DB-T1-6Z-8AB-0Z
127.000	127.000	1	Round Low Profile Platform
127.000	127.000	3	Antel BXA-80080-6CF-EDIN- X
127.000	130.000	6	RFS FD9R6004/2C-3L
115.000	115.000	3	76" x 6" Panel
104.000	108.000	3	Commscope NNVV-65B-R4
104.000	108.000	3	RFS APXVTM14-ALU-I20
104.000	108.000	3	Nokia FZHN Flexi RRH 8TR 2600
104.000	104.000	3	Alcatel-Lucent 1900MHz RRH
104.000	104.000	6	Alcatel-Lucent RRH2x50-08
104.000	104.000	1	Side Arms
104.000	108.000	1	24" x 24" Junction Box
104.000	111.000	2	DragonWave Horizon Compact
104.000	111.000	2	DragonWave A-ANT-11G-2-C
64.000	64.000	1	Channel Master Type 120



Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
140.0	150.0	0.39" Fiber Trunk	Yes
140.0	150.0	1 5/8" Coax	Yes
140.0	150.0	3" Conduit	Yes
114.0	129.0	#20 Dywidag bars	Yes
31.000	76.700	#20 Dywidag bars	Yes
10.000	104.0	1 1/4" Hybriflex	Yes
10.000	104.0	1/2" Coax	No
10.000	104.0	2" Conduit	Yes
10.000	64.000	0.28" RG-6	No
10.000	127.0	1 5/8" Coax	Yes
10.000	127.0	1 5/8" Hybriflex	Yes
10.000	140.0	1 1/4" Hybriflex	No
10.000	140.0	1 5/8" Coax	No
10.000	140.0	1 5/8" Coax	Yes
10.000	144.0	1/2" Coax	Yes
10.000	150.0	0.78" 8 AWG 6	No
10.000	150.0	0.78" 8 AWG 6	Yes
10.000	150.0	1 5/8" Coax	No
10.000	150.0	1 5/8" Coax	No
10.000	150.0	2" Conduit	No
0.000	31.000	#20 Dywidag bars	Yes
0.000	115.0	1 5/8" Coax	No
0.000	125.0	#20 Dywidag bars	Yes

Load Cases

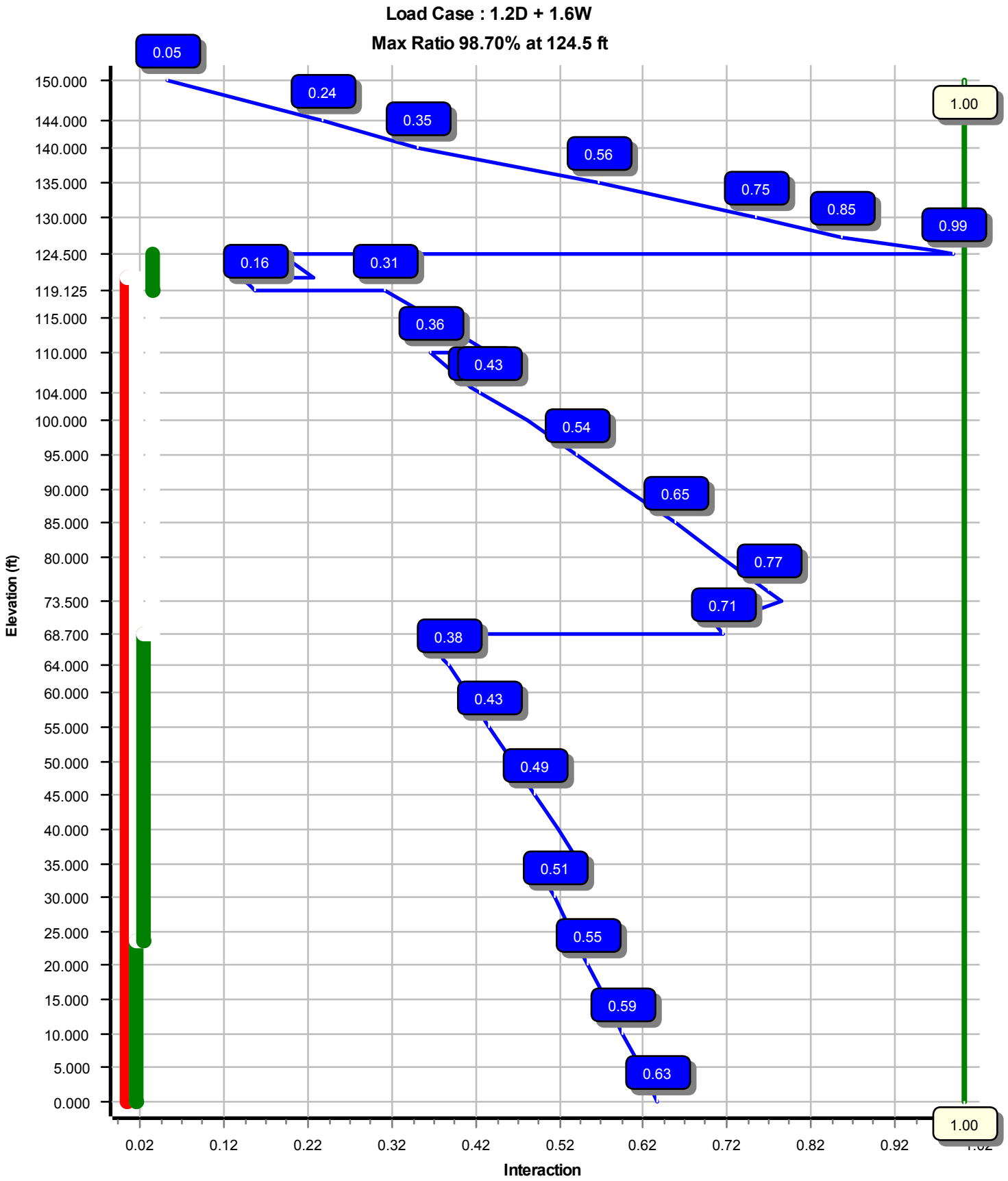
1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	3922.81	35.37	71.46
0.9D + 1.6W	3731.23	33.88	53.58
1.2D + 1.0Di + 1.0Wi	997.01	8.03	127.62
(1.2 + 0.2Sds) * DL + E ELFM	288.50	2.34	71.17
(1.2 + 0.2Sds) * DL + E EMAM	375.42	3.23	71.17
(0.9 - 0.2Sds) * DL + E ELFM	282.36	2.33	49.60
(0.9 - 0.2Sds) * DL + E EMAM	366.75	3.22	49.60
1.0D + 1.0W	904.61	8.15	59.62

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	64.00	5.081	0.738
1.0D + 1.0W	104.00	14.030	1.410


Load Case : 1.2D + 1.6W
Max Ratio 98.70% at 124.5 ft
0.05
0.24
0.35
0.56
0.75
0.85
0.99
1.00
0.16
0.31
0.36
0.43
0.54
0.65
0.77
0.71
0.38
0.43
0.49
0.51
0.55
0.59
0.63
1.00
150.000
144.000
140.000
135.000
130.000
124.500
119.125
115.000
110.000
104.000
100.000
95.000
90.000
85.000
80.000
73.500
68.700
64.000
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:	302489	Code: ANSI/TIA-222-G	
Site Name:	Enfd - Enfield, CT	Engineering Number:OAA713357_C3_02	1/7/2019 11:31:54 AM
Customer:	CLEARWIRE		

Analysis Parameters

Location :	HARTFORD County, CT	Height (ft) :	150
Code :	ANSI/TIA-222-G	Base Diameter (in) :	37.38
Shape :	12 Sides	Top Diameter (in) :	15.00
Pole Type :	Taper	Taper (in/ft) :	0.157
Pole Manfacturer :	ITT Meyer	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	97 mph
Exposure Category:	C	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	1.00 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods				
Site Class:	D - Stiff Soil				
Period Based on Rayleigh Method (sec):	2.80				
T_L (sec):	6	p:	1.3	C_s:	0.030
S_s:	0.176	S_1:	0.065	C_s Max:	0.030
F_a:	1.600	F_v:	2.400	C_s Min:	0.030
S_{ds}:	0.188	S_{d1}:	0.104		

Load Cases

1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2Sds) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-12	35.667	0.3750	65		0.00	5,014	37.38	0.00	44.68	7810.1	24.03	99.68	31.79	35.67	37.93	4778.9	20.04	84.78	0.156700
2-12	42.000	0.3125	65	Slip	50.00	4,237	33.06	31.50	32.96	4514.2	25.68	105.82	26.48	73.50	26.34	2303.3	20.03	84.76	0.156700
3-12	40.000	0.2500	65	Slip	42.00	2,646	27.53	70.00	21.97	2087.4	26.83	110.14	21.26	110.00	16.92	954.0	20.12	85.07	0.156700
4-12	40.000	0.1875	65	Butt	0.00	1,475	21.26	110.00	12.73	721.9	27.71	113.43	15.00	150.00	8.94	250.5	18.76	80.00	0.156700
				Shaft Weight		13,372													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Distance From Face (ft)	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	Orientation Factor
150.00	CCI OPA-65R-LCUU-H8	3	0.000	1.000	88.00	12.980	0.67
150.00	CCI TPA-65R-LCUUUU-H8	3	0.000	1.000	81.60	13.300	0.69
150.00	Decibel DB809KE-SY	1	0.000	7.000	26.00	3.400	0.85
150.00	Ericsson Radio 8843	3	0.000	4.000	85.00	3.500	0.50
150.00	Ericsson RRUS 11 (Band 12) (55	3	0.000	4.000	55.00	2.520	0.50
150.00	Ericsson RRUS 32 B30	3	0.000	4.000	60.00	2.740	0.50
150.00	Ericsson RRUS A2 B2	3	0.000	4.000	22.00	2.060	0.50
150.00	Ericsson RRUS-11 (19.7”)	3	0.000	4.000	51.00	2.790	0.50
150.00	Ericsson RRUS-12 B2	3	0.000	4.000	58.00	3.150	0.50
150.00	Kaelus DBC0061F1V51-2	3	0.000	4.000	25.50	0.510	0.50
150.00	Platform w/ Handrails	1	0.000	0.000	2000.00	25.000	0.90
150.00	Powerwave Allgon 7770.00	3	0.000	4.000	35.00	5.510	0.65
150.00	Powerwave Allgon LGP21401	3	0.000	4.000	14.10	1.100	0.50
150.00	Raycap DC6-48-60-18-8F ("Squid	2	0.000	4.000	31.80	1.280	0.50
150.00	Round Side Arm	3	0.000	0.000	150.00	5.200	0.67
144.00	Diamond X50A	2	0.000	0.000	2.30	1.120	1.00
144.00	Stand-Off	2	0.000	0.000	75.00	2.500	0.75
140.00	Andrew LNX-6515DS-VTM	3	0.000	0.000	51.30	11.430	0.70
140.00	Ericsson AIR 21, 1.3 M, B2A B4	3	0.000	0.000	83.00	6.050	0.71
140.00	Ericsson AIR 21, 1.3M, B4A B2P	3	0.000	0.000	81.50	6.090	0.70
140.00	Ericsson KRY 112 144/1	3	0.000	0.000	11.00	0.410	0.50
140.00	Ericsson RRUS-11 (50 lbs.)	3	0.000	0.000	50.00	2.570	0.50
140.00	Platform w/ Handrails	1	0.000	0.000	2000.00	30.000	0.90
127.00	Alcatel-Lucent B13 RRH4x30-4R	3	0.000	3.000	57.20	2.170	0.50
127.00	Alcatel-Lucent B25 RRH4x30	3	0.000	3.000	53.00	2.120	0.50
127.00	Alcatel-Lucent B66A RRH 4x45	3	0.000	3.000	67.00	2.580	0.50
127.00	Antel BXA-70063/4CF	3	0.000	3.000	9.90	4.710	0.65
127.00	Antel BXA-80080-6CF-EDIN- X	3	0.000	0.000	18.00	5.770	0.73
127.00	Commscope JAHH-65B-R3B	6	0.000	0.000	60.60	9.110	0.69
127.00	Nokia AirScale RRH 4T4R B5 160	3	0.000	3.000	35.30	1.290	0.50
127.00	RFS DB-T1-6Z-8AB-0Z	2	0.000	0.000	44.00	4.800	0.50
127.00	RFS FD9R6004/2C-3L	6	0.000	3.000	2.60	0.370	0.50
127.00	Round Low Profile Platform	1	0.000	0.000	1350.00	20.000	0.90
115.00	76" x 6" Panel	3	0.000	0.000	40.00	5.030	0.69
104.00	24" x 24" Junction Box	1	0.000	4.000	20.00	4.800	0.50
104.00	Alcatel-Lucent 1900MHz RRH (65	3	0.000	0.000	60.00	2.580	0.50
104.00	Alcatel-Lucent RRH2x50-08	6	0.000	0.000	52.90	1.700	0.50
104.00	Commscope NNVV-65B-R4	3	0.000	4.000	77.40	12.270	0.64
104.00	DragonWave A-ANT-11G-2-C	2	0.000	7.000	27.00	4.690	0.80
104.00	DragonWave Horizon Compact	2	0.000	7.000	10.60	0.430	0.50
104.00	Nokia FZHN Flexi RRH 8TR 2600	3	0.000	4.000	44.10	2.020	0.50
104.00	RFS APXVTM14-ALU-I20	3	0.000	4.000	56.20	6.340	0.66
104.00	Side Arms	1	0.000	0.000	560.00	8.500	1.00
64.00	Channel Master Type 120	1	0.000	0.000	126.00	20.190	0.90
Totals	Num Loadings:44	121			11720.30		

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Flat	Projected Width (in)	Exposed To Wind	Carrier
10.00	150.00	2	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility
10.00	150.00	2	0.78" 8 AWG 6	0.78	0.59	N	0.00	Y	AT&T Mobility
10.00	150.00	3	1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility
10.00	150.00	1	1 5/8" Coax	1.98	0.00	N	0.00	N	Spok Holdings
10.00	150.00	1	2" Conduit	2.38	3.65	N	0.00	N	AT&T Mobility
140.00	150.00	2	0.39" Fiber Trunk	0.39	0.06	N	0.00	Y	AT&T Mobility
140.00	150.00	8	1 5/8" Coax	1.98	0.82	N	3.96	Y	AT&T Mobility
140.00	150.00	1	3" Conduit	3.50	7.58	N	0.00	Y	AT&T Mobility
10.00	144.00	2	1/2" Coax	0.63	0.15	N	0.00	Y	Senet, INC
10.00	140.01	8	1 5/8" Coax	1.98	0.82	N	0.00	Y	AT&T Mobility
10.00	140.00	1	1 1/4" Hybriflex	1.54	1.00	N	0.00	N	T-Mobile
10.00	140.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	T-Mobile
114.00	129.00	4	#20 Dywidag bars	2.50	16.70	N	0.08	Y	--
10.00	127.00	12	1 5/8" Coax	1.98	0.82	N	3.96	Y	Verizon
10.00	127.00	2	1 5/8" Hybriflex	1.63	1.61	N	0.00	Y	Verizon
0.00	125.00	4	#20 Dywidag bars	2.50	16.70	N	0.00	Y	--
0.00	115.00	6	1 5/8" Coax	1.98	0.82	N	0.00	N	Metro PCS
10.00	104.00	4	1 1/4" Hybriflex Cable	1.54	1.00	N	0.00	Y	Clearwire
10.00	104.00	4	1/2" Coax	0.63	0.15	N	0.00	N	Clearwire
10.00	104.00	2	2" Conduit	2.35	3.65	N	0.00	Y	Clearwire
31.00	76.70	4	#20 Dywidag bars	2.50	16.70	N	0.00	Y	--
10.00	64.00	1	0.28" RG-6	0.28	0.03	N	0.00	N	Spok Holdings
0.00	31.00	4	#20 Dywidag bars	2.50	16.70	N	0.00	Y	--

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	Intermediate Connections: Description	Spacing (in)	Len (in)	Connectors	Continuation?
0.00	121.0	4	SOL #20 All Thread	75	2.19	6" Angle Bracket	27.0	3.31	5/8" A36 U-Bolt	Yes
0.00	23.60	4	SOL #20 All Thread	80	8.28	6" T Bracket	27.0	3.31	5/8" A36 U-Bolt	Yes
23.60	68.70	4	SOL #20 All Thread	80	8.28	6" T Bracket	30.0	3.31	5/8" A36 U-Bolt	Yes
119.1	124.5	3	SOL #20 (15 deg	80	8.28	6" T Bracket	30.0	3.31	5/8" A36 U-Bolt	No

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)	Additional Reinforcing Area (in^2)	Additional Reinforcing Ix (in^4)	Additional Reinforcing Weight (lb)
0.00		0.3750	37.380	44.684	7,810.1	24.03	99.68	78.5	403.6	0.0	0.0	39.28	12,96	0.0
5.00		0.3750	36.597	43.737	7,324.4	23.47	97.59	79.1	386.6	0.0	752.2	39.28	12,56	668.0
10.00		0.3750	35.813	42.791	6,859.3	22.91	95.50	79.7	370.0	0.0	736.1	39.28	12,16	668.0
15.00		0.3750	35.029	41.845	6,414.3	22.35	93.41	80.3	353.7	0.0	720.0	39.28	11,77	668.0
20.00		0.3750	34.246	40.899	5,989.0	21.79	91.32	80.9	337.8	0.0	703.9	39.28	11,39	668.0
23.60	Reinf. Top Reinf	0.3750	33.682	40.218	5,694.8	21.39	89.82	81.4	326.6	0.0	496.8	39.28	11,12	481.0
25.00		0.3750	33.462	39.953	5,583.0	21.23	89.23	81.6	322.3	0.0	191.0	39.28	11,01	187.0
30.00		0.3750	32.679	39.007	5,195.7	20.67	87.14	81.9	307.1	0.0	671.7	39.28	10,64	668.0
31.50	Bot - Section 2	0.3750	32.444	38.723	5,083.1	20.50	86.52	81.9	302.7	0.0	198.4	39.28	10,53	200.4
35.00		0.3750	31.895	38.061	4,826.7	20.11	85.05	81.9	292.3	0.0	846.5	39.28	10,57	467.6
35.67	Top - Section 1	0.3125	32.416	32.304	4,249.6	25.12	103.73	77.3	253.3	0.0	159.6	39.28	10,52	89.1
40.00		0.3125	31.737	31.621	3,985.6	24.53	101.56	78.0	242.6	0.0	471.3	39.28	10,20	578.9
45.00		0.3125	30.953	30.833	3,694.9	23.86	99.05	78.7	230.6	0.0	531.3	39.28	9,853	668.0
50.00		0.3125	30.170	30.044	3,418.6	23.19	96.54	79.4	218.9	0.0	517.9	39.28	9,503	668.0
55.00		0.3125	29.386	29.256	3,156.5	22.52	94.04	80.2	207.5	0.0	504.5	39.28	9,159	668.0
60.00		0.3125	28.603	28.467	2,908.1	21.85	91.53	80.9	196.4	0.0	491.0	39.28	8,822	668.0
64.00		0.3125	27.976	27.837	2,719.1	21.31	89.52	81.5	187.8	0.0	383.2	39.28	8,557	534.4
65.00		0.3125	27.819	27.679	2,673.1	21.17	89.02	81.6	185.6	0.0	94.5	39.28	8,491	133.6
68.70	Reinf. Top	0.3125	27.240	27.096	2,507.6	20.68	87.17	81.9	177.8	0.0	344.8	39.28	8,251	494.3
70.00	Bot - Section 3	0.3125	27.036	26.891	2,451.2	20.50	86.52	81.9	175.1	0.0	119.4	19.64	2,879	86.8
73.50	Top - Section 2	0.2500	26.988	21.524	1,964.0	26.25	107.95	76.1	140.6	0.0	575.9	19.64	2,870	233.8
75.00		0.2500	26.752	21.335	1,912.7	25.99	107.01	76.4	138.1	0.0	109.4	19.64	2,830	100.2
80.00		0.2500	25.969	20.704	1,748.0	25.15	103.88	77.3	130.0	0.0	357.6	19.64	2,696	334.0
85.00		0.2500	25.185	20.073	1,593.1	24.31	100.74	78.2	122.2	0.0	346.9	19.64	2,566	334.0
90.00		0.2500	24.402	19.442	1,447.6	23.47	97.61	79.1	114.6	0.0	336.2	19.64	2,439	334.0
95.00		0.2500	23.618	18.812	1,311.2	22.63	94.47	80.0	107.2	0.0	325.4	19.64	2,315	334.0
100.0		0.2500	22.835	18.181	1,183.7	21.79	91.34	80.9	100.1	0.0	314.7	19.64	2,195	334.0
104.0		0.2500	22.208	17.676	1,087.9	21.12	88.83	81.7	94.6	0.0	244.0	19.64	2,101	267.2
105.0		0.2500	22.051	17.550	1,064.7	20.96	88.21	81.9	93.3	0.0	59.9	19.64	2,078	66.8
110.0	Top - Section 3	0.2500	21.268	16.919	954.0	20.12	85.07	81.9	86.7	0.0	293.2	19.64	1,963	334.0
110.0	Bot - Section 4	0.1875	21.268	12.727	721.9	27.71	113.43	74.5	65.6	0.0		19.64	1,963	
115.0		0.1875	20.484	12.254	644.4	26.59	109.25	75.7	60.8	0.0	212.5	19.64	1,853	334.0
119.1	Reinf Bottom	0.1875	19.838	11.864	584.8	25.67	105.80	76.7	56.9	0.0	169.3	19.64	1,764	275.5
120.0		0.1875	19.701	11.781	572.6	25.47	105.07	76.9	56.1	0.0	35.2	32.45	4,143	102.3
121.0	Reinf. Top	0.1875	19.544	11.687	558.9	25.25	104.24	77.2	55.2	0.0	39.9	32.45	4,231	384.1
124.5	Reinf. Top	0.1875	18.996	11.356	512.7	24.47	101.31	78.0	52.1	0.0	137.2	12.81	2,308	175.4
125.0		0.1875	18.917	11.308	506.4	24.35	100.89	78.2	51.7	0.0	19.3			
127.0		0.1875	18.604	11.119	481.4	23.91	99.22	78.6	50.0	0.0	76.3			
130.0		0.1875	18.134	10.835	445.4	23.24	96.71	79.4	47.5	0.0	112.1			
135.0		0.1875	17.350	10.362	389.6	22.12	92.54	80.6	43.4	0.0	180.3			
140.0		0.1875	16.567	9.889	338.6	21.00	88.36	81.8	39.5	0.0	172.3			
144.0		0.1875	15.940	9.511	301.2	20.10	85.01	81.9	36.5	0.0	132.0			
145.0		0.1875	15.783	9.416	292.3	19.88	84.18	81.9	35.8	0.0	32.2			
150.0		0.1875	15.000	8.943	250.5	18.76	80.00	81.9	32.3	0.0	156.2			
											13,372.1			13,208.

Load Case: 1.2D + 1.6W — 97 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

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		272.1	0.0					0.0	0.0	272.1	0.0	0.0	0.0
5.00		538.5	902.6					0.0	1,632.7	538.5	2,535.3	0.0	0.0
10.00		533.2	883.3					0.0	1,632.7	533.2	2,516.0	0.0	0.0
15.00		537.9	864.0					0.0	1,939.6	537.9	2,803.6	0.0	0.0
20.00		472.8	844.7					0.0	1,939.6	472.8	2,784.3	0.0	0.0
23.60	Reinf. Top Reinf	281.4	596.2					0.0	1,396.5	281.4	1,992.8	0.0	0.0
25.00		368.7	229.2					0.0	543.1	368.7	772.3	0.0	0.0
30.00		376.9	806.1					0.0	1,939.6	376.9	2,745.7	0.0	0.0
31.50	Bot - Section 2	298.6	238.1					0.0	581.9	298.6	819.9	0.0	0.0
35.00		251.1	1,015.8					0.0	1,357.8	251.1	2,373.6	0.0	0.0
35.67	Top - Section 1	302.9	191.5					0.0	258.6	302.9	450.1	0.0	0.0
40.00		568.2	565.6					0.0	1,681.0	568.2	2,246.6	0.0	0.0
45.00		613.5	637.5					0.0	1,939.6	613.5	2,577.2	0.0	0.0
50.00		616.9	621.4					0.0	1,939.6	616.9	2,561.1	0.0	0.0
55.00		618.9	605.4					0.0	1,939.6	618.9	2,545.0	0.0	0.0
60.00		557.6	589.3					0.0	1,939.6	557.6	2,528.9	0.0	0.0
64.00	Appurtenance(s)	309.8	459.8	840.1	0.0	0.0	151.2	0.0	1,551.7	1,149.9	2,162.7	0.0	0.0
65.00		290.9	113.3					0.0	387.9	290.9	501.2	0.0	0.0
68.70	Reinf. Top	309.3	413.8					0.0	1,435.2	309.3	1,849.0	0.0	0.0
70.00	Bot - Section 3	300.4	143.3					0.0	400.1	300.4	543.3	0.0	0.0
73.50	Top - Section 2	313.5	691.1					0.0	1,077.1	313.5	1,768.2	0.0	0.0
75.00		404.2	131.3					0.0	461.6	404.2	592.9	0.0	0.0
80.00		619.7	429.1					0.0	1,274.1	619.7	1,703.3	0.0	0.0
85.00		616.1	416.3					0.0	1,137.9	616.1	1,554.1	0.0	0.0
90.00		611.8	403.4					0.0	1,137.9	611.8	1,541.3	0.0	0.0
95.00		606.9	390.5					0.0	1,137.9	606.9	1,528.4	0.0	0.0
100.00		541.9	377.6					0.0	1,137.9	541.9	1,515.5	0.0	0.0
104.00	Appurtenance(s)	299.3	292.8	2,847.6	0.0	9,168.1	2,022.8	0.0	910.3	3,147.0	3,226.0	0.0	0.0
105.00		355.9	71.9					0.0	213.3	355.9	285.2	0.0	0.0
110.00	Top - Section 3	589.7	351.9					0.0	1,066.5	589.7	1,418.4	0.0	0.0
115.00	Appurtenance(s)	534.7	255.0	435.7	0.0	0.0	144.0	0.0	1,146.6	970.3	1,545.7	0.0	0.0
119.13	Reinf Bottom	292.0	203.1					0.0	1,186.1	292.0	1,389.3	0.0	0.0
120.00		108.8	42.2					0.0	304.2	108.8	346.5	0.0	0.0
121.00	Reinf. Top	243.1	47.9					0.0	668.3	243.1	716.2	0.0	0.0
124.50	Reinf. Top	211.2	164.7					65.5	936.3	276.7	1,100.9	0.0	0.0
125.00		129.7	23.1					9.4	103.7	139.0	126.8	0.0	0.0
127.00	Appurtenance(s)	230.8	91.6	4,285.3	0.0	2,902.7	3,046.1	37.5	254.5	4,553.7	3,392.1	0.0	0.0
130.00		333.5	134.5					0.0	254.5	333.5	389.0	0.0	0.0
135.00		404.9	216.4					0.0	157.0	404.9	373.4	0.0	0.0
140.00	Appurtenance(s)	382.7	206.7	3,685.8	0.0	0.0	3,396.5	0.0	157.0	4,068.5	3,760.2	0.0	0.0
144.00	Appurtenance(s)	229.1	158.4	295.6	0.0	0.0	185.5	74.3	110.6	599.0	454.6	0.0	0.0
145.00		264.6	38.6					18.6	27.3	283.2	65.9	0.0	0.0
150.00	Appurtenance(s)	219.6	187.4	5,822.3	0.0	9,679.1	5,118.2	93.3	136.4	6,135.1	5,442.0	0.0	0.0
									Totals:	35,474.1	71,544.6	0.00	0.00

Site Number: 302489 Code: ANSI/TIA-222-G

Site Name: Enfd - Enfield, CT Engineering Number:OAA713357_C3_02 1/7/2019 11:32:03 AM

Customer: CLEARWIRE

Load Case: 1.2D + 1.6W 97 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	-71.46	-35.37	0.00	-3,922.81	0.00	3,922.81	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.633
5.00	-68.77	-35.14	0.00	-3,745.96	0.00	3,745.96	3,114.35	1,557.18	4,645.51	2,294.24	0.14	-0.26	0.613
10.00	-66.10	-34.89	0.00	-3,570.26	0.00	3,570.26	3,070.50	1,535.25	4,480.02	2,212.51	0.56	-0.52	0.593
15.00	-63.14	-34.61	0.00	-3,395.81	0.00	3,395.81	3,025.61	1,512.81	4,315.90	2,131.46	1.25	-0.78	0.573
20.00	-60.23	-34.32	0.00	-3,222.77	0.00	3,222.77	2,979.68	1,489.84	4,153.25	2,051.14	2.21	-1.04	0.552
23.60	-58.17	-34.13	0.00	-3,099.21	0.00	3,099.21	2,945.97	1,472.98	4,037.12	1,993.78	3.07	-1.23	0.537
23.60	-58.17	-34.13	0.00	-3,099.21	0.00	3,099.21	2,945.97	1,472.98	4,037.12	1,993.78	3.07	-1.23	0.537
25.00	-57.31	-33.91	0.00	-3,051.42	0.00	3,051.42	2,932.71	1,466.36	3,992.19	1,971.59	3.44	-1.30	0.531
30.00	-54.48	-33.62	0.00	-2,881.86	0.00	2,881.86	2,875.21	1,437.61	3,820.20	1,886.65	4.94	-1.56	0.511
31.50	-53.59	-33.42	0.00	-2,831.42	0.00	2,831.42	2,854.29	1,427.15	3,764.49	1,859.14	5.44	-1.63	0.505
35.00	-51.17	-33.19	0.00	-2,714.44	0.00	2,714.44	2,805.48	1,402.74	3,636.10	1,795.73	6.71	-1.81	0.483
35.67	-50.66	-32.99	0.00	-2,692.31	0.00	2,692.31	2,248.07	1,124.03	2,973.91	1,468.70	6.97	-1.84	0.538
40.00	-48.30	-32.54	0.00	-2,549.38	0.00	2,549.38	2,218.59	1,109.29	2,872.23	1,418.49	8.74	-2.05	0.515
45.00	-45.61	-32.02	0.00	-2,386.71	0.00	2,386.71	2,183.60	1,091.80	2,755.77	1,360.97	11.02	-2.30	0.488
50.00	-42.95	-31.47	0.00	-2,226.62	0.00	2,226.62	2,147.58	1,073.79	2,640.30	1,303.95	13.57	-2.54	0.461
55.00	-40.31	-30.90	0.00	-2,069.25	0.00	2,069.25	2,110.52	1,055.26	2,525.94	1,247.47	16.36	-2.78	0.434
60.00	-37.70	-30.35	0.00	-1,914.74	0.00	1,914.74	2,072.42	1,036.21	2,412.79	1,191.58	19.40	-3.01	0.407
64.00	-35.55	-29.16	0.00	-1,793.34	0.00	1,793.34	2,041.18	1,020.59	2,323.20	1,147.34	22.00	-3.19	0.385
65.00	-35.01	-28.90	0.00	-1,764.18	0.00	1,764.18	2,033.27	1,016.64	2,300.94	1,136.35	22.67	-3.24	0.380
68.70	-33.13	-28.55	0.00	-1,657.25	0.00	1,657.25	1,997.21	998.60	2,211.95	1,092.40	25.24	-3.40	0.361
68.70	-33.13	-28.55	0.00	-1,657.25	0.00	1,657.25	1,997.21	998.60	2,211.95	1,092.40	25.24	-3.40	0.712
70.00	-32.52	-28.32	0.00	-1,620.14	0.00	1,620.14	1,982.10	991.05	2,178.42	1,075.84	26.18	-3.45	0.703
73.50	-30.67	-28.00	0.00	-1,521.04	0.00	1,521.04	1,473.96	736.98	1,624.57	802.32	28.82	-3.75	0.782
75.00	-29.97	-27.70	0.00	-1,479.04	0.00	1,479.04	1,466.28	733.14	1,601.77	791.05	30.01	-3.87	0.766
80.00	-28.12	-27.17	0.00	-1,340.52	0.00	1,340.52	1,440.00	720.00	1,526.12	753.69	34.29	-4.29	0.711
85.00	-26.44	-26.62	0.00	-1,204.67	0.00	1,204.67	1,412.68	706.34	1,451.11	716.65	39.01	-4.70	0.655
90.00	-24.78	-26.04	0.00	-1,071.59	0.00	1,071.59	1,384.32	692.16	1,376.86	679.98	44.14	-5.09	0.597
95.00	-23.16	-25.44	0.00	-941.38	0.00	941.38	1,354.92	677.46	1,303.45	643.72	49.66	-5.46	0.538
100.00	-21.58	-24.87	0.00	-814.18	0.00	814.18	1,324.47	662.24	1,230.99	607.94	55.56	-5.80	0.478
104.00	-18.63	-21.45	0.00	-705.55	0.00	705.55	1,299.37	649.69	1,173.78	579.69	60.52	-6.06	0.423
105.00	-18.32	-21.13	0.00	-684.10	0.00	684.10	1,292.99	646.50	1,159.59	572.68	61.80	-6.12	0.412
110.00	-16.88	-20.46	0.00	-578.47	0.00	578.47	1,247.14	623.57	1,077.81	532.29	68.35	-6.41	0.363
110.00	-16.88	-20.46	0.00	-578.47	0.00	578.47	853.24	426.62	741.79	366.34	68.35	-6.41	0.435
115.00	-15.38	-19.39	0.00	-476.15	0.00	476.15	834.99	417.50	698.71	345.06	75.19	-6.66	0.365
119.13	-13.99	-18.96	0.00	-396.18	0.00	396.18	819.16	409.58	663.43	327.64	81.03	-6.87	0.310
120.00	-13.65	-18.82	0.00	-379.59	0.00	379.59	815.71	407.86	655.98	323.96	82.30	-6.91	0.149
121.00	-12.95	-18.50	0.00	-360.77	0.00	360.77	811.73	405.86	647.49	319.77	83.74	-6.93	0.138
121.00	-12.95	-18.50	0.00	-360.77	0.00	360.77	811.73	405.86	647.49	319.77	83.74	-6.93	0.224
124.50	-11.88	-18.10	0.00	-296.01	0.00	296.01	797.47	398.73	617.91	305.16	88.84	-7.00	0.185
124.50	-11.88	-18.10	0.00	-296.01	0.00	296.01	797.47	398.73	617.91	305.16	88.84	-7.00	0.987
125.00	-11.72	-17.98	0.00	-286.96	0.00	286.96	795.39	397.69	613.71	303.09	89.58	-7.02	0.964
127.00	-8.85	-13.10	0.00	-248.09	0.00	248.09	786.97	393.48	596.95	294.81	92.57	-7.32	0.854
130.00	-8.39	-12.79	0.00	-208.80	0.00	208.80	774.02	387.01	572.00	282.49	97.29	-7.72	0.751
135.00	-7.97	-12.40	0.00	-144.86	0.00	144.86	751.62	375.81	530.94	262.21	105.67	-8.29	0.564
140.00	-4.81	-7.85	0.00	-82.85	0.00	82.85	728.18	364.09	490.64	242.31	114.56	-8.70	0.349
144.00	-4.44	-7.20	0.00	-51.45	0.00	51.45	701.03	350.52	454.07	224.25	121.93	-8.93	0.236
145.00	-4.41	-6.92	0.00	-44.25	0.00	44.25	694.06	347.03	445.03	219.78	123.79	-8.97	0.208
150.00	0.00	-6.14	0.00	-9.68	0.00	9.68	659.19	329.60	401.19	198.13	133.24	-9.11	0.049

Load Case: 0.9D + 1.6W — 97 mph with No Ice (Reduced DL) — 25 Iterations

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

Wind Importance Factor 1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		272.1	0.0					0.0	0.0	272.1	0.0	0.0	0.0
5.00		538.5	677.0					0.0	1,224.5	538.5	1,901.5	0.0	0.0
10.00		526.9	662.5					0.0	1,224.5	526.9	1,887.0	0.0	0.0
15.00		523.5	648.0					0.0	1,454.7	523.5	2,102.7	0.0	0.0
20.00		457.3	633.5					0.0	1,454.7	457.3	2,088.2	0.0	0.0
23.60	Reinf. Top Reinf	270.8	447.2					0.0	1,047.4	270.8	1,494.6	0.0	0.0
25.00		352.5	171.9					0.0	407.3	352.5	579.2	0.0	0.0
30.00		359.5	604.5					0.0	1,454.7	359.5	2,059.3	0.0	0.0
31.50	Bot - Section 2	282.9	178.5					0.0	436.4	282.9	615.0	0.0	0.0
35.00		237.5	761.9					0.0	1,018.3	237.5	1,780.2	0.0	0.0
35.67	Top - Section 1	286.3	143.6					0.0	194.0	286.3	337.6	0.0	0.0
40.00		534.9	424.2					0.0	1,260.8	534.9	1,684.9	0.0	0.0
45.00		573.0	478.2					0.0	1,454.7	573.0	1,932.9	0.0	0.0
50.00		571.0	466.1					0.0	1,454.7	571.0	1,920.8	0.0	0.0
55.00		567.5	454.0					0.0	1,454.7	567.5	1,908.8	0.0	0.0
60.00		506.8	441.9					0.0	1,454.7	506.8	1,896.7	0.0	0.0
64.00	Appurtenance(s)	279.9	344.9	840.1	0.0	0.0	113.4	0.0	1,163.8	1,120.0	1,622.1	0.0	0.0
65.00		260.7	85.0					0.0	290.9	260.7	375.9	0.0	0.0
68.70	Reinf. Top	276.6	310.3					0.0	1,076.4	276.6	1,386.7	0.0	0.0
70.00	Bot - Section 3	266.5	107.5					0.0	300.0	266.5	407.5	0.0	0.0
73.50	Top - Section 2	277.9	518.3					0.0	807.8	277.9	1,326.2	0.0	0.0
75.00		356.6	98.4					0.0	346.2	356.6	444.6	0.0	0.0
80.00		542.7	321.9					0.0	955.6	542.7	1,277.5	0.0	0.0
85.00		533.1	312.2					0.0	853.4	533.1	1,165.6	0.0	0.0
90.00		522.8	302.5					0.0	853.4	522.8	1,155.9	0.0	0.0
95.00		511.8	292.9					0.0	853.4	511.8	1,146.3	0.0	0.0
100.00		451.3	283.2					0.0	853.4	451.3	1,136.6	0.0	0.0
104.00	Appurtenance(s)	247.1	219.6	2,847.6	0.0	9,168.1	1,517.1	0.0	682.7	3,094.7	2,419.5	0.0	0.0
105.00		289.8	53.9					0.0	160.0	289.8	213.9	0.0	0.0
110.00	Top - Section 3	475.3	263.9					0.0	799.9	475.3	1,063.8	0.0	0.0
115.00	Appurtenance(s)	422.8	191.3	435.7	0.0	0.0	108.0	0.0	860.0	858.4	1,159.2	0.0	0.0
119.13	Reinf Bottom	227.7	152.3					0.0	889.6	227.7	1,042.0	0.0	0.0
120.00		84.1	31.7					0.0	228.2	84.1	259.8	0.0	0.0
121.00	Reinf. Top	229.8	35.9					0.0	501.2	229.8	537.2	0.0	0.0
124.50	Reinf. Top	211.2	123.5					65.5	702.2	276.7	825.7	0.0	0.0
125.00		129.7	17.4					9.4	77.8	139.0	95.1	0.0	0.0
127.00	Appurtenance(s)	230.8	68.7	4,285.3	0.0	2,902.7	2,284.6	37.5	190.8	4,553.7	2,544.1	0.0	0.0
130.00		333.5	100.9					0.0	190.9	333.5	291.7	0.0	0.0
135.00		404.9	162.3					0.0	117.8	404.9	280.0	0.0	0.0
140.00	Appurtenance(s)	382.7	155.0	3,685.8	0.0	0.0	2,547.4	0.0	117.8	4,068.5	2,820.2	0.0	0.0
144.00	Appurtenance(s)	229.1	118.8	295.6	0.0	0.0	139.1	74.3	83.0	599.0	340.9	0.0	0.0
145.00		264.6	29.0					18.6	20.5	283.2	49.4	0.0	0.0
150.00	Appurtenance(s)	219.6	140.6	5,822.3	0.0	9,679.1	3,838.7	93.3	102.3	6,135.1	4,081.5	0.0	0.0
									Totals:	34,034.3	53,658.4	0.00	0.00

Site Number: 302489 Code: ANSI/TIA-222-G

Site Name: Enfd - Enfield, CT Engineering Number:OAA713357_C3_02 1/7/2019 11:32:11 AM

Customer: CLEARWIRE

Load Case: 0.9D + 1.6W 97 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	-53.58	-33.88	0.00	-3,731.23	0.00	3,731.23	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.600
5.00	-51.54	-33.56	0.00	-3,561.82	0.00	3,561.82	3,114.35	1,557.18	4,645.51	2,294.24	0.13	-0.25	0.581
10.00	-49.51	-33.24	0.00	-3,394.01	0.00	3,394.01	3,070.50	1,535.25	4,480.02	2,212.51	0.53	-0.50	0.562
15.00	-47.27	-32.90	0.00	-3,227.81	0.00	3,227.81	3,025.61	1,512.81	4,315.90	2,131.46	1.19	-0.75	0.542
20.00	-45.07	-32.57	0.00	-3,063.33	0.00	3,063.33	2,979.68	1,489.84	4,153.25	2,051.14	2.10	-0.99	0.523
23.60	-43.51	-32.37	0.00	-2,946.07	0.00	2,946.07	2,945.97	1,472.98	4,037.12	1,993.78	2.92	-1.17	0.508
23.60	-43.51	-32.37	0.00	-2,946.07	0.00	2,946.07	2,945.97	1,472.98	4,037.12	1,993.78	2.92	-1.17	0.508
25.00	-42.85	-32.12	0.00	-2,900.75	0.00	2,900.75	2,932.71	1,466.36	3,992.19	1,971.59	3.27	-1.24	0.503
30.00	-40.72	-31.82	0.00	-2,740.15	0.00	2,740.15	2,875.21	1,437.61	3,820.20	1,886.65	4.70	-1.48	0.484
31.50	-40.04	-31.61	0.00	-2,692.42	0.00	2,692.42	2,854.29	1,427.15	3,764.49	1,859.14	5.18	-1.55	0.479
35.00	-38.22	-31.39	0.00	-2,581.79	0.00	2,581.79	2,805.48	1,402.74	3,636.10	1,795.73	6.38	-1.72	0.458
35.67	-37.82	-31.17	0.00	-2,560.86	0.00	2,560.86	2,248.07	1,124.03	2,973.91	1,468.70	6.62	-1.75	0.510
40.00	-36.04	-30.72	0.00	-2,425.80	0.00	2,425.80	2,218.59	1,109.29	2,872.23	1,418.49	8.31	-1.95	0.488
45.00	-34.01	-30.21	0.00	-2,272.22	0.00	2,272.22	2,183.60	1,091.80	2,755.77	1,360.97	10.48	-2.19	0.463
50.00	-31.99	-29.69	0.00	-2,121.16	0.00	2,121.16	2,147.58	1,073.79	2,640.30	1,303.95	12.90	-2.42	0.438
55.00	-30.00	-29.16	0.00	-1,972.70	0.00	1,972.70	2,110.52	1,055.26	2,525.94	1,247.47	15.56	-2.65	0.412
60.00	-28.03	-28.66	0.00	-1,826.91	0.00	1,826.91	2,072.42	1,036.21	2,412.79	1,191.58	18.45	-2.86	0.387
64.00	-26.42	-27.50	0.00	-1,712.29	0.00	1,712.29	2,041.18	1,020.59	2,323.20	1,147.34	20.92	-3.04	0.366
65.00	-26.01	-27.27	0.00	-1,684.78	0.00	1,684.78	2,033.27	1,016.64	2,300.94	1,136.35	21.56	-3.08	0.361
68.70	-24.59	-26.96	0.00	-1,583.90	0.00	1,583.90	1,997.21	998.60	2,211.95	1,092.40	24.01	-3.23	0.344
68.70	-24.59	-26.96	0.00	-1,583.90	0.00	1,583.90	1,997.21	998.60	2,211.95	1,092.40	24.01	-3.23	0.678
70.00	-24.12	-26.74	0.00	-1,548.85	0.00	1,548.85	1,982.10	991.05	2,178.42	1,075.84	24.90	-3.29	0.670
73.50	-22.72	-26.46	0.00	-1,455.26	0.00	1,455.26	1,473.96	736.98	1,624.57	802.32	27.41	-3.57	0.746
75.00	-22.18	-26.18	0.00	-1,415.56	0.00	1,415.56	1,466.28	733.14	1,601.77	791.05	28.55	-3.69	0.731
80.00	-20.76	-25.70	0.00	-1,284.65	0.00	1,284.65	1,440.00	720.00	1,526.12	753.69	32.63	-4.09	0.679
85.00	-19.47	-25.21	0.00	-1,156.16	0.00	1,156.16	1,412.68	706.34	1,451.11	716.65	37.12	-4.48	0.626
90.00	-18.21	-24.71	0.00	-1,030.11	0.00	1,030.11	1,384.32	692.16	1,376.86	679.98	42.01	-4.86	0.572
95.00	-16.96	-24.20	0.00	-906.56	0.00	906.56	1,354.92	677.46	1,303.45	643.72	47.29	-5.21	0.517
100.00	-15.76	-23.73	0.00	-785.54	0.00	785.54	1,324.47	662.24	1,230.99	607.94	52.92	-5.54	0.460
104.00	-13.60	-20.44	0.00	-681.47	0.00	681.47	1,299.37	649.69	1,173.78	579.69	57.66	-5.79	0.407
105.00	-13.36	-20.17	0.00	-661.02	0.00	661.02	1,292.99	646.50	1,159.59	572.68	58.88	-5.85	0.397
110.00	-12.26	-19.65	0.00	-560.15	0.00	560.15	1,247.14	623.57	1,077.81	532.29	65.15	-6.13	0.350
110.00	-12.26	-19.65	0.00	-560.15	0.00	560.15	853.24	426.62	741.79	366.34	65.15	-6.13	0.419
115.00	-11.13	-18.71	0.00	-461.92	0.00	461.92	834.99	417.50	698.71	345.06	71.69	-6.38	0.353
119.13	-10.08	-18.39	0.00	-384.74	0.00	384.74	819.16	409.58	663.43	327.64	77.28	-6.57	0.299
120.00	-9.82	-18.28	0.00	-368.65	0.00	368.65	815.71	407.86	655.98	323.96	78.49	-6.61	0.143
121.00	-9.30	-18.00	0.00	-350.37	0.00	350.37	811.73	405.86	647.49	319.77	79.87	-6.64	0.133
121.00	-9.30	-18.00	0.00	-350.37	0.00	350.37	811.73	405.86	647.49	319.77	79.87	-6.64	0.216
124.50	-8.50	-17.63	0.00	-287.38	0.00	287.38	797.47	398.73	617.91	305.16	84.76	-6.70	0.178
124.50	-8.50	-17.63	0.00	-287.38	0.00	287.38	797.47	398.73	617.91	305.16	84.76	-6.70	0.954
125.00	-8.37	-17.51	0.00	-278.57	0.00	278.57	795.39	397.69	613.71	303.09	85.46	-6.72	0.932
127.00	-6.32	-12.72	0.00	-240.66	0.00	240.66	786.97	393.48	596.95	294.81	88.33	-7.01	0.825
130.00	-5.96	-12.40	0.00	-202.50	0.00	202.50	774.02	387.01	572.00	282.49	92.85	-7.40	0.726
135.00	-5.64	-12.01	0.00	-140.50	0.00	140.50	751.62	375.81	530.94	262.21	100.89	-7.95	0.544
140.00	-3.39	-7.60	0.00	-80.45	0.00	80.45	728.18	364.09	490.64	242.31	109.42	-8.35	0.337
144.00	-3.12	-6.96	0.00	-50.05	0.00	50.05	701.03	350.52	454.07	224.25	116.49	-8.57	0.228
145.00	-3.11	-6.68	0.00	-43.09	0.00	43.09	694.06	347.03	445.03	219.78	118.29	-8.62	0.201
150.00	0.00	-6.14	0.00	-9.68	0.00	9.68	659.19	329.60	401.19	198.13	127.36	-8.75	0.049

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 1.00 in Radial Ice — 25 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

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		58.8	0.0					0.0	0.0	58.8	0.0	0.0	0.0
5.00		117.0	1,284.1					0.0	1,802.9	117.0	3,087.0	0.0	0.0
10.00		115.4	1,302.3					0.0	1,824.0	115.4	3,126.3	0.0	0.0
15.00		115.4	1,296.7					0.0	2,726.2	115.4	4,022.9	0.0	0.0
20.00		101.2	1,283.4					0.0	2,757.3	101.2	4,040.7	0.0	0.0
23.60	Reinf. Top Reinf	60.1	914.4					0.0	2,000.4	60.1	2,914.9	0.0	0.0
25.00		78.5	353.6					0.0	780.9	78.5	1,134.5	0.0	0.0
30.00		80.2	1,246.2					0.0	2,801.4	80.2	4,047.6	0.0	0.0
31.50	Bot - Section 2	63.3	370.8					0.0	843.8	63.3	1,214.6	0.0	0.0
35.00		53.1	1,328.7					0.0	1,974.6	53.1	3,303.3	0.0	0.0
35.67	Top - Section 1	64.2	251.3					0.0	377.0	64.2	628.3	0.0	0.0
40.00		120.3	949.4					0.0	2,456.4	120.3	3,405.8	0.0	0.0
45.00		129.3	1,075.5					0.0	2,846.7	129.3	3,922.2	0.0	0.0
50.00		129.4	1,054.0					0.0	2,858.8	129.4	3,912.8	0.0	0.0
55.00		129.2	1,031.9					0.0	2,869.8	129.2	3,901.7	0.0	0.0
60.00		115.9	1,009.2					0.0	2,879.9	115.9	3,889.1	0.0	0.0
64.00	Appurtenance(s)	64.2	791.6	165.5	0.0	0.0	343.7	0.0	2,310.7	229.7	3,446.0	0.0	0.0
65.00		60.0	196.2					0.0	578.5	60.0	774.7	0.0	0.0
68.70	Reinf. Top	63.7	715.6					0.0	2,143.6	63.7	2,859.2	0.0	0.0
70.00	Bot - Section 3	61.5	249.0					0.0	650.1	61.5	899.1	0.0	0.0
73.50	Top - Section 2	64.1	976.3					0.0	1,752.9	64.1	2,729.2	0.0	0.0
75.00		82.6	252.9					0.0	752.4	82.6	1,005.4	0.0	0.0
80.00		126.2	825.5					0.0	2,166.7	126.2	2,992.2	0.0	0.0
85.00		124.6	804.2					0.0	1,994.6	124.6	2,798.8	0.0	0.0
90.00		122.9	782.6					0.0	2,000.8	122.9	2,783.3	0.0	0.0
95.00		121.0	760.7					0.0	2,006.6	121.0	2,767.3	0.0	0.0
100.00		107.2	738.6					0.0	2,012.2	107.2	2,750.8	0.0	0.0
104.00	Appurtenance(s)	59.0	575.8	672.6	0.0	1,973.0	6,588.6	0.0	1,613.6	731.6	8,778.0	0.0	0.0
105.00		69.6	142.4					0.0	356.7	69.6	499.0	0.0	0.0
110.00	Top - Section 3	114.5	693.9					0.0	1,785.7	114.5	2,479.6	0.0	0.0
115.00	Appurtenance(s)	102.6	587.2	96.9	0.0	0.0	630.4	0.0	1,895.7	199.4	3,113.3	0.0	0.0
119.13	Reinf Bottom	55.5	470.6					0.0	1,893.0	55.5	2,363.5	0.0	0.0
120.00		20.6	98.7					0.0	454.5	20.6	553.3	0.0	0.0
121.00	Reinf. Top	48.9	112.1					0.0	840.3	48.9	952.3	0.0	0.0
124.50	Reinf. Top	43.3	384.0					40.7	1,539.4	84.0	1,923.5	0.0	0.0
125.00		26.7	54.4					5.8	190.0	32.5	244.4	0.0	0.0
127.00	Appurtenance(s)	52.9	215.0	1,047.1	0.0	663.3	8,249.2	23.4	547.7	1,123.5	9,011.8	0.0	0.0
130.00		83.1	315.8					0.0	473.0	83.1	788.8	0.0	0.0
135.00		101.7	507.9					0.0	434.5	101.7	942.4	0.0	0.0
140.00	Appurtenance(s)	89.3	487.8	862.1	0.0	0.0	7,786.3	0.0	435.8	951.3	8,709.9	0.0	0.0
144.00	Appurtenance(s)	48.7	376.6	95.0	0.0	0.0	159.8	31.3	422.4	175.0	958.7	0.0	0.0
145.00		56.9	92.8					7.9	96.4	64.8	189.2	0.0	0.0
150.00	Appurtenance(s)	47.3	447.1	1,371.5	0.0	2,293.5	12,830.1	39.5	482.9	1,458.3	13,760.1	0.0	0.0
								Totals:		8,009.18	127,625.	0.00	0.00

Site Number: 302489 Code: ANSI/TIA-222-G

Site Name: Enfd - Enfield, CT Engineering Number:OAA713357_C3_02 1/7/2019 11:32:19 AM

Customer: CLEARWIRE

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 1.00 in Radial Ice 25 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	-127.62	-8.03	0.00	-997.01	0.00	997.01	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.179
5.00	-124.52	-8.05	0.00	-956.88	0.00	956.88	3,114.35	1,557.18	4,645.51	2,294.24	0.04	-0.07	0.175
10.00	-121.39	-8.07	0.00	-916.62	0.00	916.62	3,070.50	1,535.25	4,480.02	2,212.51	0.14	-0.13	0.170
15.00	-117.36	-8.08	0.00	-876.25	0.00	876.25	3,025.61	1,512.81	4,315.90	2,131.46	0.32	-0.20	0.165
20.00	-113.31	-8.08	0.00	-835.83	0.00	835.83	2,979.68	1,489.84	4,153.25	2,051.14	0.56	-0.27	0.160
23.60	-110.39	-8.07	0.00	-806.74	0.00	806.74	2,945.97	1,472.98	4,037.12	1,993.78	0.79	-0.32	0.156
23.60	-110.39	-8.07	0.00	-806.74	0.00	806.74	2,945.97	1,472.98	4,037.12	1,993.78	0.79	-0.32	0.156
25.00	-109.25	-8.07	0.00	-795.44	0.00	795.44	2,932.71	1,466.36	3,992.19	1,971.59	0.88	-0.34	0.155
30.00	-105.20	-8.04	0.00	-755.11	0.00	755.11	2,875.21	1,437.61	3,820.20	1,886.65	1.27	-0.40	0.150
31.50	-103.98	-8.03	0.00	-743.05	0.00	743.05	2,854.29	1,427.15	3,764.49	1,859.14	1.40	-0.42	0.148
35.00	-100.67	-8.00	0.00	-714.95	0.00	714.95	2,805.48	1,402.74	3,636.10	1,795.73	1.73	-0.47	0.142
35.67	-100.04	-7.99	0.00	-709.62	0.00	709.62	2,248.07	1,124.03	2,973.91	1,468.70	1.79	-0.48	0.159
40.00	-96.63	-7.94	0.00	-675.02	0.00	675.02	2,218.59	1,109.29	2,872.23	1,418.49	2.25	-0.53	0.153
45.00	-92.70	-7.88	0.00	-635.33	0.00	635.33	2,183.60	1,091.80	2,755.77	1,360.97	2.84	-0.60	0.146
50.00	-88.78	-7.80	0.00	-595.96	0.00	595.96	2,147.58	1,073.79	2,640.30	1,303.95	3.51	-0.66	0.139
55.00	-84.87	-7.72	0.00	-556.95	0.00	556.95	2,110.52	1,055.26	2,525.94	1,247.47	4.24	-0.73	0.132
60.00	-80.97	-7.63	0.00	-518.36	0.00	518.36	2,072.42	1,036.21	2,412.79	1,191.58	5.03	-0.79	0.124
64.00	-77.53	-7.39	0.00	-487.84	0.00	487.84	2,041.18	1,020.59	2,323.20	1,147.34	5.71	-0.84	0.118
65.00	-76.75	-7.36	0.00	-480.45	0.00	480.45	2,033.27	1,016.64	2,300.94	1,136.35	5.89	-0.85	0.117
68.70	-73.89	-7.29	0.00	-453.23	0.00	453.23	1,997.21	998.60	2,211.95	1,092.40	6.57	-0.89	0.112
68.70	-73.89	-7.29	0.00	-453.23	0.00	453.23	1,997.21	998.60	2,211.95	1,092.40	6.57	-0.89	0.213
70.00	-72.98	-7.27	0.00	-443.75	0.00	443.75	1,982.10	991.05	2,178.42	1,075.84	6.81	-0.91	0.211
73.50	-70.25	-7.24	0.00	-418.29	0.00	418.29	1,473.96	736.98	1,624.57	802.32	7.51	-0.99	0.237
75.00	-69.24	-7.23	0.00	-407.44	0.00	407.44	1,466.28	733.14	1,601.77	791.05	7.82	-1.02	0.232
80.00	-66.23	-7.18	0.00	-371.31	0.00	371.31	1,440.00	720.00	1,526.12	753.69	8.96	-1.14	0.217
85.00	-63.42	-7.12	0.00	-335.42	0.00	335.42	1,412.68	706.34	1,451.11	716.65	10.22	-1.25	0.202
90.00	-60.63	-7.04	0.00	-299.84	0.00	299.84	1,384.32	692.16	1,376.86	679.98	11.59	-1.36	0.186
95.00	-57.85	-6.95	0.00	-264.62	0.00	264.62	1,354.92	677.46	1,303.45	643.72	13.07	-1.47	0.170
100.00	-55.10	-6.86	0.00	-229.85	0.00	229.85	1,324.47	662.24	1,230.99	607.94	14.66	-1.56	0.153
104.00	-46.34	-5.92	0.00	-200.45	0.00	200.45	1,299.37	649.69	1,173.78	579.69	16.00	-1.64	0.135
105.00	-45.84	-5.87	0.00	-194.54	0.00	194.54	1,292.99	646.50	1,159.59	572.68	16.34	-1.65	0.132
110.00	-43.35	-5.74	0.00	-165.18	0.00	165.18	1,247.14	623.57	1,077.81	532.29	18.12	-1.73	0.118
110.00	-43.35	-5.74	0.00	-165.18	0.00	165.18	853.24	426.62	741.79	366.34	18.12	-1.73	0.141
115.00	-40.24	-5.49	0.00	-136.47	0.00	136.47	834.99	417.50	698.71	345.06	19.98	-1.81	0.121
119.13	-37.88	-5.39	0.00	-113.80	0.00	113.80	819.16	409.58	663.43	327.64	21.57	-1.87	0.104
120.00	-37.33	-5.35	0.00	-109.09	0.00	109.09	815.71	407.86	655.98	323.96	21.91	-1.88	0.053
121.00	-36.37	-5.28	0.00	-103.74	0.00	103.74	811.73	405.86	647.49	319.77	22.30	-1.88	0.050
121.00	-36.37	-5.28	0.00	-103.74	0.00	103.74	811.73	405.86	647.49	319.77	22.30	-1.88	0.083
124.50	-34.45	-5.14	0.00	-85.26	0.00	85.26	797.47	398.73	617.91	305.16	23.69	-1.90	0.071
124.50	-34.45	-5.14	0.00	-85.26	0.00	85.26	797.47	398.73	617.91	305.16	23.69	-1.90	0.323
125.00	-34.21	-5.13	0.00	-82.69	0.00	82.69	795.39	397.69	613.71	303.09	23.89	-1.91	0.316
127.00	-25.23	-3.74	0.00	-71.77	0.00	71.77	786.97	393.48	596.95	294.81	24.71	-2.00	0.276
130.00	-24.44	-3.69	0.00	-60.54	0.00	60.54	774.02	387.01	572.00	282.49	26.01	-2.11	0.246
135.00	-23.49	-3.61	0.00	-42.08	0.00	42.08	751.62	375.81	530.94	262.21	28.31	-2.28	0.192
140.00	-14.82	-2.33	0.00	-24.02	0.00	24.02	728.18	364.09	490.64	242.31	30.76	-2.40	0.120
144.00	-13.87	-2.12	0.00	-14.70	0.00	14.70	701.03	350.52	454.07	224.25	32.80	-2.46	0.085
145.00	-13.68	-2.06	0.00	-12.58	0.00	12.58	694.06	347.03	445.03	219.78	33.32	-2.48	0.077
150.00	0.00	-1.46	0.00	-2.29	0.00	2.29	659.19	329.60	401.19	198.13	35.94	-2.51	0.012

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

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		65.3	0.0					0.0	0.0	65.3	0.0	0.0	0.0
5.00		129.2	752.2					0.0	1,360.6	129.2	2,112.8	0.0	0.0
10.00		126.5	736.1					0.0	1,360.6	126.5	2,096.7	0.0	0.0
15.00		125.6	720.0					0.0	1,616.4	125.6	2,336.4	0.0	0.0
20.00		109.7	703.9					0.0	1,616.4	109.7	2,320.3	0.0	0.0
23.60	Reinf. Top Reinf	65.0	496.8					0.0	1,163.8	65.0	1,660.6	0.0	0.0
25.00		84.6	191.0					0.0	452.6	84.6	643.5	0.0	0.0
30.00		86.3	671.7					0.0	1,616.4	86.3	2,288.1	0.0	0.0
31.50	Bot - Section 2	67.9	198.4					0.0	484.9	67.9	683.3	0.0	0.0
35.00		57.0	846.5					0.0	1,131.5	57.0	1,978.0	0.0	0.0
35.67	Top - Section 1	68.7	159.6					0.0	215.5	68.7	375.1	0.0	0.0
40.00		128.4	471.3					0.0	1,400.9	128.4	1,872.2	0.0	0.0
45.00		137.5	531.3					0.0	1,616.4	137.5	2,147.7	0.0	0.0
50.00		137.0	517.9					0.0	1,616.4	137.0	2,134.2	0.0	0.0
55.00		136.2	504.5					0.0	1,616.4	136.2	2,120.8	0.0	0.0
60.00		121.6	491.0					0.0	1,616.4	121.6	2,107.4	0.0	0.0
64.00	Appurtenance(s)	67.2	383.2	201.6	0.0	0.0	126.0	0.0	1,293.1	268.8	1,802.3	0.0	0.0
65.00		62.6	94.5					0.0	323.2	62.6	417.7	0.0	0.0
68.70	Reinf. Top	66.4	344.8					0.0	1,196.0	66.4	1,540.8	0.0	0.0
70.00	Bot - Section 3	64.0	119.4					0.0	333.4	64.0	452.8	0.0	0.0
73.50	Top - Section 2	66.7	575.9					0.0	897.6	66.7	1,473.5	0.0	0.0
75.00		85.6	109.4					0.0	384.7	85.6	494.0	0.0	0.0
80.00		130.3	357.6					0.0	1,061.8	130.3	1,419.4	0.0	0.0
85.00		127.9	346.9					0.0	948.2	127.9	1,295.1	0.0	0.0
90.00		125.5	336.2					0.0	948.2	125.5	1,284.4	0.0	0.0
95.00		122.8	325.4					0.0	948.2	122.8	1,273.7	0.0	0.0
100.00		108.3	314.7					0.0	948.2	108.3	1,262.9	0.0	0.0
104.00	Appurtenance(s)	59.3	244.0	683.4	0.0	2,200.3	1,685.7	0.0	758.6	742.7	2,688.3	0.0	0.0
105.00		69.6	59.9					0.0	177.7	69.6	237.7	0.0	0.0
110.00	Top - Section 3	114.1	293.2					0.0	888.7	114.1	1,182.0	0.0	0.0
115.00	Appurtenance(s)	101.5	212.5	104.6	0.0	0.0	120.0	0.0	955.5	206.0	1,288.0	0.0	0.0
119.13	Reinf Bottom	54.6	169.3					0.0	988.5	54.6	1,157.7	0.0	0.0
120.00		20.2	35.2					0.0	253.5	20.2	288.7	0.0	0.0
121.00	Reinf. Top	55.2	39.9					0.0	556.9	55.2	596.9	0.0	0.0
124.50	Reinf. Top	50.7	137.2					18.0	780.2	68.7	917.5	0.0	0.0
125.00		31.1	19.3					2.6	86.4	33.7	105.7	0.0	0.0
127.00	Appurtenance(s)	55.4	76.3	1,028.5	0.0	696.6	2,538.4	10.3	212.1	1,094.2	2,826.8	0.0	0.0
130.00		80.0	112.1					0.0	212.1	80.0	324.2	0.0	0.0
135.00		97.2	180.3					0.0	130.8	97.2	311.2	0.0	0.0
140.00	Appurtenance(s)	91.8	172.3	884.6	0.0	0.0	2,830.4	0.0	130.8	976.4	3,133.5	0.0	0.0
144.00	Appurtenance(s)	55.0	132.0	71.0	0.0	0.0	154.6	20.8	92.2	146.7	378.8	0.0	0.0
145.00		63.5	32.2					5.2	22.7	68.7	54.9	0.0	0.0
150.00	Appurtenance(s)	52.7	156.2	1,397.3	0.0	2,323.0	4,265.2	26.2	113.6	1,476.2	4,535.0	0.0	0.0
								Totals:		8,179.68	59,620.4	0.00	0.00

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	-59.62	-8.15	0.00	-904.61	0.00	904.61	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.153
5.00	-57.49	-8.08	0.00	-863.88	0.00	863.88	3,114.35	1,557.18	4,645.51	2,294.24	0.03	-0.06	0.148
10.00	-55.39	-8.01	0.00	-823.50	0.00	823.50	3,070.50	1,535.25	4,480.02	2,212.51	0.13	-0.12	0.144
15.00	-53.05	-7.93	0.00	-783.47	0.00	783.47	3,025.61	1,512.81	4,315.90	2,131.46	0.29	-0.18	0.139
20.00	-50.72	-7.86	0.00	-743.83	0.00	743.83	2,979.68	1,489.84	4,153.25	2,051.14	0.51	-0.24	0.134
23.60	-49.05	-7.81	0.00	-715.55	0.00	715.55	2,945.97	1,472.98	4,037.12	1,993.78	0.71	-0.28	0.130
23.60	-49.05	-7.81	0.00	-715.55	0.00	715.55	2,945.97	1,472.98	4,037.12	1,993.78	0.71	-0.28	0.130
25.00	-48.41	-7.75	0.00	-704.62	0.00	704.62	2,932.71	1,466.36	3,992.19	1,971.59	0.79	-0.30	0.129
30.00	-46.11	-7.68	0.00	-665.85	0.00	665.85	2,875.21	1,437.61	3,820.20	1,886.65	1.14	-0.36	0.124
31.50	-45.43	-7.64	0.00	-654.33	0.00	654.33	2,854.29	1,427.15	3,764.49	1,859.14	1.26	-0.38	0.122
35.00	-43.45	-7.58	0.00	-627.61	0.00	627.61	2,805.48	1,402.74	3,636.10	1,795.73	1.55	-0.42	0.117
35.67	-43.07	-7.53	0.00	-622.55	0.00	622.55	2,248.07	1,124.03	2,973.91	1,468.70	1.61	-0.43	0.131
40.00	-41.19	-7.43	0.00	-589.91	0.00	589.91	2,218.59	1,109.29	2,872.23	1,418.49	2.02	-0.47	0.125
45.00	-39.04	-7.31	0.00	-552.77	0.00	552.77	2,183.60	1,091.80	2,755.77	1,360.97	2.54	-0.53	0.119
50.00	-36.90	-7.19	0.00	-516.23	0.00	516.23	2,147.58	1,073.79	2,640.30	1,303.95	3.13	-0.59	0.112
55.00	-34.77	-7.06	0.00	-480.29	0.00	480.29	2,110.52	1,055.26	2,525.94	1,247.47	3.78	-0.64	0.106
60.00	-32.66	-6.94	0.00	-444.98	0.00	444.98	2,072.42	1,036.21	2,412.79	1,191.58	4.48	-0.70	0.099
64.00	-30.86	-6.67	0.00	-417.21	0.00	417.21	2,041.18	1,020.59	2,323.20	1,147.34	5.08	-0.74	0.094
65.00	-30.44	-6.61	0.00	-410.55	0.00	410.55	2,033.27	1,016.64	2,300.94	1,136.35	5.24	-0.75	0.093
68.70	-28.89	-6.54	0.00	-386.09	0.00	386.09	1,997.21	998.60	2,211.95	1,092.40	5.83	-0.79	0.088
68.70	-28.89	-6.54	0.00	-386.09	0.00	386.09	1,997.21	998.60	2,211.95	1,092.40	5.83	-0.79	0.172
70.00	-28.44	-6.49	0.00	-377.59	0.00	377.59	1,982.10	991.05	2,178.42	1,075.84	6.05	-0.80	0.170
73.50	-26.96	-6.42	0.00	-354.89	0.00	354.89	1,473.96	736.98	1,624.57	802.32	6.66	-0.87	0.189
75.00	-26.46	-6.36	0.00	-345.26	0.00	345.26	1,466.28	733.14	1,601.77	791.05	6.94	-0.90	0.185
80.00	-25.03	-6.25	0.00	-313.48	0.00	313.48	1,440.00	720.00	1,526.12	753.69	7.93	-1.00	0.173
85.00	-23.73	-6.13	0.00	-282.25	0.00	282.25	1,412.68	706.34	1,451.11	716.65	9.02	-1.09	0.159
90.00	-22.44	-6.02	0.00	-251.59	0.00	251.59	1,384.32	692.16	1,376.86	679.98	10.22	-1.18	0.146
95.00	-21.16	-5.90	0.00	-221.50	0.00	221.50	1,354.92	677.46	1,303.45	643.72	11.50	-1.27	0.132
100.00	-19.89	-5.79	0.00	-192.01	0.00	192.01	1,324.47	662.24	1,230.99	607.94	12.87	-1.35	0.118
104.00	-17.22	-4.99	0.00	-166.67	0.00	166.67	1,299.37	649.69	1,173.78	579.69	14.03	-1.41	0.104
105.00	-16.98	-4.93	0.00	-161.68	0.00	161.68	1,292.99	646.50	1,159.59	572.68	14.33	-1.42	0.102
110.00	-15.80	-4.80	0.00	-137.05	0.00	137.05	1,247.14	623.57	1,077.81	532.29	15.86	-1.49	0.090
110.00	-15.80	-4.80	0.00	-137.05	0.00	137.05	853.24	426.62	741.79	366.34	15.86	-1.49	0.108
115.00	-14.51	-4.57	0.00	-113.06	0.00	113.06	834.99	417.50	698.71	345.06	17.45	-1.55	0.091
119.13	-13.35	-4.49	0.00	-94.19	0.00	94.19	819.16	409.58	663.43	327.64	18.82	-1.60	0.078
120.00	-13.06	-4.47	0.00	-90.26	0.00	90.26	815.71	407.86	655.98	323.96	19.11	-1.61	0.038
121.00	-12.47	-4.40	0.00	-85.79	0.00	85.79	811.73	405.86	647.49	319.77	19.45	-1.62	0.035
121.00	-12.47	-4.40	0.00	-85.79	0.00	85.79	811.73	405.86	647.49	319.77	19.45	-1.62	0.059
124.50	-11.55	-4.30	0.00	-70.40	0.00	70.40	797.47	398.73	617.91	305.16	20.64	-1.63	0.049
124.50	-11.55	-4.30	0.00	-70.40	0.00	70.40	797.47	398.73	617.91	305.16	20.64	-1.63	0.245
125.00	-11.44	-4.28	0.00	-68.25	0.00	68.25	795.39	397.69	613.71	303.09	20.82	-1.64	0.240
127.00	-8.65	-3.11	0.00	-59.00	0.00	59.00	786.97	393.48	596.95	294.81	21.52	-1.71	0.211
130.00	-8.32	-3.04	0.00	-49.67	0.00	49.67	774.02	387.01	572.00	282.49	22.62	-1.81	0.187
135.00	-8.00	-2.95	0.00	-34.47	0.00	34.47	751.62	375.81	530.94	262.21	24.59	-1.94	0.142
140.00	-4.90	-1.87	0.00	-19.73	0.00	19.73	728.18	364.09	490.64	242.31	26.68	-2.04	0.088
144.00	-4.53	-1.71	0.00	-12.25	0.00	12.25	701.03	350.52	454.07	224.25	28.41	-2.09	0.061
145.00	-4.48	-1.64	0.00	-10.54	0.00	10.54	694.06	347.03	445.03	219.78	28.85	-2.10	0.054
150.00	0.00	-1.48	0.00	-2.32	0.00	2.32	659.19	329.60	401.19	198.13	31.07	-2.13	0.012

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.18	
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06	
Long-Period Transition Period (T_L):	6	
Importance Factor (I_E):	1.00	
Site Coefficient F_a:	1.60	
Site Coeffiecient F_v:	2.40	
Response Modification Coefficient (R):	1.50	
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19	
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10	
Seismic Response Coefficient (C_s):	0.03	
Upper Limit C_s	0.03	
Lower Limit C_s	0.03	
Period based on Rayleigh Method (sec):	2.80	
Redundancy Factor (p):	1.30	
Seismic Force Distribution Exponent (k):	2.00	
Total Unfactored Dead Load:	59.62	k
Seismic Base Shear (E):	2.33	k

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
42	147.50	270	5,870	0.013	31	334
41	144.50	55	1,147	0.003	6	68
40	142.00	224	4,521	0.010	24	277
39	137.50	303	5,731	0.013	30	375
38	132.50	311	5,463	0.012	29	385
37	128.50	324	5,353	0.012	28	401
36	126.00	288	4,578	0.010	24	357
35	124.75	106	1,645	0.004	9	131
34	122.75	917	13,824	0.031	72	1,135
33	120.50	597	8,666	0.020	45	739
32	119.56	289	4,127	0.009	22	357
31	117.06	1,158	15,865	0.036	83	1,433
30	112.50	1,168	14,783	0.033	78	1,446
29	107.50	1,182	13,659	0.031	72	1,463
28	104.50	238	2,596	0.006	14	294
27	102.00	1,003	10,431	0.024	55	1,241
26	97.50	1,263	12,006	0.027	63	1,563
25	92.50	1,274	10,898	0.025	57	1,576
24	87.50	1,284	9,834	0.022	52	1,589
23	82.50	1,295	8,815	0.020	46	1,603
22	77.50	1,419	8,525	0.019	45	1,757
21	74.25	494	2,724	0.006	14	611
20	71.75	1,474	7,586	0.017	40	1,824

19	69.35	453	2,178	0.005	11	560
18	66.85	1,541	6,886	0.016	36	1,907
17	64.50	418	1,738	0.004	9	517
16	62.00	1,676	6,444	0.015	34	2,074
15	57.50	2,107	6,968	0.016	37	2,608
14	52.50	2,121	5,846	0.013	31	2,625
13	47.50	2,134	4,815	0.011	25	2,641
12	42.50	2,148	3,879	0.009	20	2,658
11	37.83	1,872	2,680	0.006	14	2,317
10	35.33	375	468	0.001	2	464
9	33.25	1,978	2,187	0.005	11	2,448
8	30.75	683	646	0.001	3	846
7	27.50	2,288	1,730	0.004	9	2,832
6	24.30	644	380	0.001	2	796
5	21.80	1,661	789	0.002	4	2,055
4	17.50	2,320	711	0.002	4	2,871
3	12.50	2,336	365	0.001	2	2,891
2	7.50	2,097	118	0.000	1	2,595
1	2.50	2,113	13	0.000	0	2,615
Kaelus DBC0061F1V51-	150.00	76	1,721	0.004	9	95
Powerwave Allgon LGP	150.00	42	952	0.002	5	52
Raycap DC6-48-60-18-	150.00	64	1,431	0.003	8	79
Ericsson RRUS A2 B2	150.00	66	1,485	0.003	8	82
Ericsson RRUS 11 (Ba	150.00	165	3,713	0.008	19	204
Ericsson RRUS 32 B30	150.00	180	4,050	0.009	21	223
Ericsson RRUS-11 (19	150.00	153	3,443	0.008	18	189
Ericsson RRUS-12 B2	150.00	174	3,915	0.009	21	215
Decibel DB809KE-SY	150.00	26	585	0.001	3	32
Ericsson Radio 8843	150.00	255	5,738	0.013	30	316
Round Side Arm	150.00	450	10,125	0.023	53	557
Powerwave Allgon 777	150.00	105	2,363	0.005	12	130
CCI OPA-65R-LCUU-H8	150.00	264	5,940	0.013	31	327
CCI TPA-65R-LCUUUU-H	150.00	245	5,508	0.012	29	303
Platform w/ Handrail	150.00	2,000	45,000	0.101	236	2,475
Diamond X50A	144.00	5	95	0.000	1	6
Stand-Off	144.00	150	3,110	0.007	16	186
Ericsson KRY 112 144	140.00	33	647	0.001	3	41
Ericsson RRUS-11 (50	140.00	150	2,940	0.007	15	186
Ericsson AIR 21, 1.3	140.00	249	4,880	0.011	26	308
Ericsson AIR 21, 1.3	140.00	244	4,792	0.011	25	303
Andrew LNX-6515DS-VT	140.00	154	3,016	0.007	16	190
Platform w/ Handrail	140.00	2,000	39,200	0.088	206	2,475
RFS FD9R6004/2C-3L	127.00	16	252	0.001	1	19
Nokia AirScale RRH 4	127.00	106	1,708	0.004	9	131
Alcatel-Lucent B25 R	127.00	159	2,565	0.006	13	197
Alcatel-Lucent B13 R	127.00	172	2,768	0.006	15	212
Alcatel-Lucent B66A	127.00	201	3,242	0.007	17	249
Antel BXA-70063/4CF	127.00	30	479	0.001	3	37
RFS DB-T1-6Z-8AB-0Z	127.00	88	1,419	0.003	7	109
Antel BXA-80080-6CF-	127.00	54	871	0.002	5	67
Commscope JAHH-65B-R	127.00	364	5,865	0.013	31	450
Round Low Profile Pl	127.00	1,350	21,774	0.049	114	1,671
76" x 6" Panel	115.00	120	1,587	0.004	8	149
DragonWave Horizon C	104.00	21	229	0.001	1	26
Alcatel-Lucent RRH2x	104.00	317	3,433	0.008	18	393
Nokia FZHN Flexi RRH	104.00	132	1,431	0.003	8	164
Alcatel-Lucent 1900M	104.00	180	1,947	0.004	10	223
DragonWave A-ANT-11G	104.00	54	584	0.001	3	67
24" x 24" Junction	104.00	20	216	0.000	1	25
RFS APXVTM14-ALU-I20	104.00	169	1,824	0.004	10	209
Side Arms	104.00	560	6,057	0.014	32	693
Commscope NNVV-65B-R	104.00	232	2,511	0.006	13	287
Channel Master Type	64.00	126	516	0.001	3	156

		59,620	443,411	1.000	2,325	73,783

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
42	147.50	270	5,870	0.013	31	233
41	144.50	55	1,147	0.003	6	47
40	142.00	224	4,521	0.010	24	193
39	137.50	303	5,731	0.013	30	261
38	132.50	311	5,463	0.012	29	268
37	128.50	324	5,353	0.012	28	280
36	126.00	288	4,578	0.010	24	249
35	124.75	106	1,645	0.004	9	91
34	122.75	917	13,824	0.031	72	791
33	120.50	597	8,666	0.020	45	515
32	119.56	289	4,127	0.009	22	249
31	117.06	1,158	15,865	0.036	83	998
30	112.50	1,168	14,783	0.033	78	1,007
29	107.50	1,182	13,659	0.031	72	1,019
28	104.50	238	2,596	0.006	14	205
27	102.00	1,003	10,431	0.024	55	865
26	97.50	1,263	12,006	0.027	63	1,089
25	92.50	1,274	10,898	0.025	57	1,098
24	87.50	1,284	9,834	0.022	52	1,108
23	82.50	1,295	8,815	0.020	46	1,117
22	77.50	1,419	8,525	0.019	45	1,224
21	74.25	494	2,724	0.006	14	426
20	71.75	1,474	7,586	0.017	40	1,271
19	69.35	453	2,178	0.005	11	391
18	66.85	1,541	6,886	0.016	36	1,329
17	64.50	418	1,738	0.004	9	360
16	62.00	1,676	6,444	0.015	34	1,446
15	57.50	2,107	6,968	0.016	37	1,818
14	52.50	2,121	5,846	0.013	31	1,829
13	47.50	2,134	4,815	0.011	25	1,841
12	42.50	2,148	3,879	0.009	20	1,852
11	37.83	1,872	2,680	0.006	14	1,615
10	35.33	375	468	0.001	2	324
9	33.25	1,978	2,187	0.005	11	1,706
8	30.75	683	646	0.001	3	589
7	27.50	2,288	1,730	0.004	9	1,973
6	24.30	644	380	0.001	2	555
5	21.80	1,661	789	0.002	4	1,432
4	17.50	2,320	711	0.002	4	2,001
3	12.50	2,336	365	0.001	2	2,015
2	7.50	2,097	118	0.000	1	1,808
1	2.50	2,113	13	0.000	0	1,822
Kaelus DBC0061F1V51-	150.00	76	1,721	0.004	9	66
Powerwave Allgon LGP	150.00	42	952	0.002	5	36
Raycap DC6-48-60-18-	150.00	64	1,431	0.003	8	55
Ericsson RRUS A2 B2	150.00	66	1,485	0.003	8	57
Ericsson RRUS 11 (Ba	150.00	165	3,713	0.008	19	142
Ericsson RRUS 32 B30	150.00	180	4,050	0.009	21	155
Ericsson RRUS-11 (19	150.00	153	3,443	0.008	18	132
Ericsson RRUS-12 B2	150.00	174	3,915	0.009	21	150
Decibel DB809KE-SY	150.00	26	585	0.001	3	22
Ericsson Radio 8843	150.00	255	5,738	0.013	30	220
Round Side Arm	150.00	450	10,125	0.023	53	388
Powerwave Allgon 777	150.00	105	2,363	0.005	12	91

CCI OPA-65R-LCUU-H8	150.00	264	5,940	0.013	31	228
CCI TPA-65R-LCUUUU-H	150.00	245	5,508	0.012	29	211
Platform w/ Handrail	150.00	2,000	45,000	0.101	236	1,725
Diamond X50A	144.00	5	95	0.000	1	4
Stand-Off	144.00	150	3,110	0.007	16	129
Ericsson KRY 112 144	140.00	33	647	0.001	3	28
Ericsson RRUS-11 (50	140.00	150	2,940	0.007	15	129
Ericsson AIR 21, 1.3	140.00	249	4,880	0.011	26	215
Ericsson AIR 21, 1.3	140.00	244	4,792	0.011	25	211
Andrew LNX-6515DS-VT	140.00	154	3,016	0.007	16	133
Platform w/ Handrail	140.00	2,000	39,200	0.088	206	1,725
RFS FD9R6004/2C-3L	127.00	16	252	0.001	1	13
Nokia AirScale RRH 4	127.00	106	1,708	0.004	9	91
Alcatel-Lucent B25 R	127.00	159	2,565	0.006	13	137
Alcatel-Lucent B13 R	127.00	172	2,768	0.006	15	148
Alcatel-Lucent B66A	127.00	201	3,242	0.007	17	173
Antel BXA-70063/4CF	127.00	30	479	0.001	3	26
RFS DB-T1-6Z-8AB-0Z	127.00	88	1,419	0.003	7	76
Antel BXA-80080-6CF-	127.00	54	871	0.002	5	47
Commscope JAHH-65B-R	127.00	364	5,865	0.013	31	314
Round Low Profile Pl	127.00	1,350	21,774	0.049	114	1,164
76" x 6" Panel	115.00	120	1,587	0.004	8	103
DragonWave Horizon C	104.00	21	229	0.001	1	18
Alcatel-Lucent RRH2x	104.00	317	3,433	0.008	18	274
Nokia FZHN Flexi RRH	104.00	132	1,431	0.003	8	114
Alcatel-Lucent 1900M	104.00	180	1,947	0.004	10	155
DragonWave A-ANT-11G	104.00	54	584	0.001	3	47
24" x 24" Junction	104.00	20	216	0.000	1	17
RFS APXVTM14-ALU-I20	104.00	169	1,824	0.004	10	145
Side Arms	104.00	560	6,057	0.014	32	483
Commscope NNVV-65B-R	104.00	232	2,511	0.006	13	200
Channel Master Type	64.00	126	516	0.001	3	109
		59,620	443,411	1.000	2,325	51,420

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	-71.17	-2.34	0.00	-288.50	0.00	288.50	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.058
5.00	-68.57	-2.36	0.00	-276.81	0.00	276.81	3,114.35	1,557.18	4,645.51	2,294.24	0.01	-0.02	0.056
10.00	-65.68	-2.38	0.00	-265.02	0.00	265.02	3,070.50	1,535.25	4,480.02	2,212.51	0.04	-0.04	0.054
15.00	-62.81	-2.39	0.00	-253.13	0.00	253.13	3,025.61	1,512.81	4,315.90	2,131.46	0.09	-0.06	0.053
20.00	-60.75	-2.40	0.00	-241.17	0.00	241.17	2,979.68	1,489.84	4,153.25	2,051.14	0.16	-0.08	0.051
23.60	-59.96	-2.41	0.00	-232.51	0.00	232.51	2,945.97	1,472.98	4,037.12	1,993.78	0.23	-0.09	0.050
23.60	-59.96	-2.41	0.00	-232.51	0.00	232.51	2,945.97	1,472.98	4,037.12	1,993.78	0.23	-0.09	0.050
25.00	-57.12	-2.41	0.00	-229.14	0.00	229.14	2,932.71	1,466.36	3,992.19	1,971.59	0.25	-0.10	0.049
30.00	-56.28	-2.42	0.00	-217.09	0.00	217.09	2,875.21	1,437.61	3,820.20	1,886.65	0.37	-0.12	0.047
31.50	-53.83	-2.41	0.00	-213.46	0.00	213.46	2,854.29	1,427.15	3,764.49	1,859.14	0.40	-0.12	0.047
35.00	-53.36	-2.41	0.00	-205.03	0.00	205.03	2,805.48	1,402.74	3,636.10	1,795.73	0.50	-0.14	0.045
35.67	-51.05	-2.40	0.00	-203.42	0.00	203.42	2,248.07	1,124.03	2,973.91	1,468.70	0.52	-0.14	0.050
40.00	-48.39	-2.39	0.00	-193.02	0.00	193.02	2,218.59	1,109.29	2,872.23	1,418.49	0.65	-0.15	0.048
45.00	-45.75	-2.37	0.00	-181.07	0.00	181.07	2,183.60	1,091.80	2,755.77	1,360.97	0.82	-0.17	0.046
50.00	-43.12	-2.35	0.00	-169.21	0.00	169.21	2,147.58	1,073.79	2,640.30	1,303.95	1.01	-0.19	0.043
55.00	-40.51	-2.31	0.00	-157.48	0.00	157.48	2,110.52	1,055.26	2,525.94	1,247.47	1.22	-0.21	0.041
60.00	-38.44	-2.28	0.00	-145.92	0.00	145.92	2,072.42	1,036.21	2,412.79	1,191.58	1.45	-0.23	0.038
64.00	-37.76	-2.27	0.00	-136.79	0.00	136.79	2,041.18	1,020.59	2,323.20	1,147.34	1.64	-0.24	0.036
65.00	-35.86	-2.23	0.00	-134.52	0.00	134.52	2,033.27	1,016.64	2,300.94	1,136.35	1.70	-0.24	0.036
68.70	-35.30	-2.22	0.00	-126.25	0.00	126.25	1,997.21	998.60	2,211.95	1,092.40	1.89	-0.26	0.034
68.70	-35.30	-2.22	0.00	-126.25	0.00	126.25	1,997.21	998.60	2,211.95	1,092.40	1.89	-0.26	0.064
70.00	-33.47	-2.18	0.00	-123.36	0.00	123.36	1,982.10	991.05	2,178.42	1,075.84	1.96	-0.26	0.062
73.50	-32.86	-2.18	0.00	-115.72	0.00	115.72	1,473.96	736.98	1,624.57	802.32	2.16	-0.28	0.070
75.00	-31.10	-2.13	0.00	-112.45	0.00	112.45	1,466.28	733.14	1,601.77	791.05	2.25	-0.29	0.068
80.00	-29.50	-2.10	0.00	-101.78	0.00	101.78	1,440.00	720.00	1,526.12	753.69	2.57	-0.32	0.064
85.00	-27.91	-2.05	0.00	-91.30	0.00	91.30	1,412.68	706.34	1,451.11	716.65	2.93	-0.35	0.059
90.00	-26.33	-2.00	0.00	-81.05	0.00	81.05	1,384.32	692.16	1,376.86	679.98	3.32	-0.38	0.054
95.00	-24.77	-1.93	0.00	-71.07	0.00	71.07	1,354.92	677.46	1,303.45	643.72	3.73	-0.41	0.049
100.00	-23.53	-1.88	0.00	-61.41	0.00	61.41	1,324.47	662.24	1,230.99	607.94	4.18	-0.44	0.044
104.00	-21.15	-1.76	0.00	-53.89	0.00	53.89	1,299.37	649.69	1,173.78	579.69	4.55	-0.46	0.039
105.00	-19.69	-1.68	0.00	-52.14	0.00	52.14	1,292.99	646.50	1,159.59	572.68	4.65	-0.46	0.038
110.00	-18.24	-1.59	0.00	-43.75	0.00	43.75	1,247.14	623.57	1,077.81	532.29	5.15	-0.48	0.034
110.00	-18.24	-1.59	0.00	-43.75	0.00	43.75	853.24	426.62	741.79	366.34	5.15	-0.48	0.041
115.00	-16.66	-1.49	0.00	-35.79	0.00	35.79	834.99	417.50	698.71	345.06	5.66	-0.50	0.034
119.13	-16.30	-1.47	0.00	-29.63	0.00	29.63	819.16	409.58	663.43	327.64	6.11	-0.52	0.030
120.00	-15.57	-1.42	0.00	-28.34	0.00	28.34	815.71	407.86	655.98	323.96	6.20	-0.52	0.016
121.00	-14.43	-1.34	0.00	-26.92	0.00	26.92	811.73	405.86	647.49	319.77	6.31	-0.52	0.015
121.00	-14.43	-1.34	0.00	-26.92	0.00	26.92	811.73	405.86	647.49	319.77	6.31	-0.52	0.025
124.50	-14.30	-1.33	0.00	-22.24	0.00	22.24	797.47	398.73	617.91	305.16	6.70	-0.53	0.022
124.50	-14.30	-1.33	0.00	-22.24	0.00	22.24	797.47	398.73	617.91	305.16	6.70	-0.53	0.091
125.00	-13.94	-1.30	0.00	-21.57	0.00	21.57	795.39	397.69	613.71	303.09	6.75	-0.53	0.089
127.00	-10.40	-1.03	0.00	-18.96	0.00	18.96	786.97	393.48	596.95	294.81	6.98	-0.55	0.078
130.00	-10.02	-1.01	0.00	-15.86	0.00	15.86	774.02	387.01	572.00	282.49	7.34	-0.58	0.069
135.00	-9.64	-0.98	0.00	-10.83	0.00	10.83	751.62	375.81	530.94	262.21	7.97	-0.63	0.054
140.00	-5.86	-0.62	0.00	-5.93	0.00	5.93	728.18	364.09	490.64	242.31	8.64	-0.66	0.033
144.00	-5.61	-0.60	0.00	-3.43	0.00	3.43	701.03	350.52	454.07	224.25	9.20	-0.67	0.023
145.00	-5.27	-0.57	0.00	-2.83	0.00	2.83	694.06	347.03	445.03	219.78	9.34	-0.68	0.020
150.00	0.00	-0.50	0.00	0.00	0.00	0.00	659.19	329.60	401.19	198.13	10.06	-0.68	0.000

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-49.60	-2.33	0.00	-282.36	0.00	282.36	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.053
5.00	-47.79	-2.35	0.00	-270.70	0.00	270.70	3,114.35	1,557.18	4,645.51	2,294.24	0.01	-0.02	0.052
10.00	-45.77	-2.36	0.00	-258.96	0.00	258.96	3,070.50	1,535.25	4,480.02	2,212.51	0.04	-0.04	0.050
15.00	-43.77	-2.37	0.00	-247.16	0.00	247.16	3,025.61	1,512.81	4,315.90	2,131.46	0.09	-0.06	0.048
20.00	-42.34	-2.38	0.00	-235.31	0.00	235.31	2,979.68	1,489.84	4,153.25	2,051.14	0.16	-0.08	0.047
23.60	-41.78	-2.38	0.00	-226.76	0.00	226.76	2,945.97	1,472.98	4,037.12	1,993.78	0.22	-0.09	0.046
23.60	-41.78	-2.38	0.00	-226.76	0.00	226.76	2,945.97	1,472.98	4,037.12	1,993.78	0.22	-0.09	0.046
25.00	-39.81	-2.38	0.00	-223.43	0.00	223.43	2,932.71	1,466.36	3,992.19	1,971.59	0.25	-0.09	0.045
30.00	-39.22	-2.38	0.00	-211.55	0.00	211.55	2,875.21	1,437.61	3,820.20	1,886.65	0.36	-0.11	0.044
31.50	-37.51	-2.37	0.00	-207.98	0.00	207.98	2,854.29	1,427.15	3,764.49	1,859.14	0.39	-0.12	0.043
35.00	-37.19	-2.37	0.00	-199.68	0.00	199.68	2,805.48	1,402.74	3,636.10	1,795.73	0.49	-0.13	0.041
35.67	-35.57	-2.36	0.00	-198.10	0.00	198.10	2,248.07	1,124.03	2,973.91	1,468.70	0.51	-0.13	0.046
40.00	-33.72	-2.35	0.00	-187.87	0.00	187.87	2,218.59	1,109.29	2,872.23	1,418.49	0.63	-0.15	0.044
45.00	-31.88	-2.32	0.00	-176.15	0.00	176.15	2,183.60	1,091.80	2,755.77	1,360.97	0.80	-0.17	0.042
50.00	-30.05	-2.30	0.00	-164.52	0.00	164.52	2,147.58	1,073.79	2,640.30	1,303.95	0.99	-0.19	0.039
55.00	-28.23	-2.26	0.00	-153.03	0.00	153.03	2,110.52	1,055.26	2,525.94	1,247.47	1.19	-0.20	0.037
60.00	-26.79	-2.23	0.00	-141.72	0.00	141.72	2,072.42	1,036.21	2,412.79	1,191.58	1.41	-0.22	0.035
64.00	-26.32	-2.22	0.00	-132.79	0.00	132.79	2,041.18	1,020.59	2,323.20	1,147.34	1.61	-0.23	0.033
65.00	-24.99	-2.18	0.00	-130.57	0.00	130.57	2,033.27	1,016.64	2,300.94	1,136.35	1.65	-0.24	0.033
68.70	-24.60	-2.17	0.00	-122.49	0.00	122.49	1,997.21	998.60	2,211.95	1,092.40	1.84	-0.25	0.031
68.70	-24.60	-2.17	0.00	-122.49	0.00	122.49	1,997.21	998.60	2,211.95	1,092.40	1.84	-0.25	0.059
70.00	-23.33	-2.13	0.00	-119.66	0.00	119.66	1,982.10	991.05	2,178.42	1,075.84	1.91	-0.25	0.058
73.50	-22.90	-2.12	0.00	-112.19	0.00	112.19	1,473.96	736.98	1,624.57	802.32	2.11	-0.27	0.065
75.00	-21.67	-2.08	0.00	-109.01	0.00	109.01	1,466.28	733.14	1,601.77	791.05	2.19	-0.28	0.063
80.00	-20.56	-2.04	0.00	-98.61	0.00	98.61	1,440.00	720.00	1,526.12	753.69	2.51	-0.32	0.059
85.00	-19.45	-1.99	0.00	-88.41	0.00	88.41	1,412.68	706.34	1,451.11	716.65	2.85	-0.35	0.054
90.00	-18.35	-1.94	0.00	-78.45	0.00	78.45	1,384.32	692.16	1,376.86	679.98	3.23	-0.37	0.050
95.00	-17.26	-1.87	0.00	-68.77	0.00	68.77	1,354.92	677.46	1,303.45	643.72	3.64	-0.40	0.045
100.00	-16.39	-1.82	0.00	-59.40	0.00	59.40	1,324.47	662.24	1,230.99	607.94	4.07	-0.43	0.040
104.00	-14.74	-1.70	0.00	-52.12	0.00	52.12	1,299.37	649.69	1,173.78	579.69	4.44	-0.44	0.036
105.00	-13.72	-1.62	0.00	-50.42	0.00	50.42	1,292.99	646.50	1,159.59	572.68	4.53	-0.45	0.035
110.00	-12.71	-1.54	0.00	-42.30	0.00	42.30	1,247.14	623.57	1,077.81	532.29	5.01	-0.47	0.031
110.00	-12.71	-1.54	0.00	-42.30	0.00	42.30	853.24	426.62	741.79	366.34	5.01	-0.47	0.037
115.00	-11.61	-1.45	0.00	-34.59	0.00	34.59	834.99	417.50	698.71	345.06	5.51	-0.49	0.031
119.13	-11.36	-1.42	0.00	-28.62	0.00	28.62	819.16	409.58	663.43	327.64	5.94	-0.50	0.027
120.00	-10.84	-1.37	0.00	-27.38	0.00	27.38	815.71	407.86	655.98	323.96	6.04	-0.51	0.014
121.00	-10.05	-1.30	0.00	-26.00	0.00	26.00	811.73	405.86	647.49	319.77	6.14	-0.51	0.013
121.00	-10.05	-1.30	0.00	-26.00	0.00	26.00	811.73	405.86	647.49	319.77	6.14	-0.51	0.021
124.50	-9.96	-1.29	0.00	-21.47	0.00	21.47	797.47	398.73	617.91	305.16	6.52	-0.51	0.019
124.50	-9.96	-1.29	0.00	-21.47	0.00	21.47	797.47	398.73	617.91	305.16	6.52	-0.51	0.083
125.00	-9.71	-1.26	0.00	-20.83	0.00	20.83	795.39	397.69	613.71	303.09	6.57	-0.51	0.081
127.00	-7.25	-1.00	0.00	-18.30	0.00	18.30	786.97	393.48	596.95	294.81	6.79	-0.54	0.071
130.00	-6.98	-0.97	0.00	-15.30	0.00	15.30	774.02	387.01	572.00	282.49	7.14	-0.57	0.063
135.00	-6.72	-0.94	0.00	-10.44	0.00	10.44	751.62	375.81	530.94	262.21	7.75	-0.61	0.049
140.00	-4.09	-0.60	0.00	-5.72	0.00	5.72	728.18	364.09	490.64	242.31	8.41	-0.64	0.029
144.00	-3.90	-0.58	0.00	-3.31	0.00	3.31	701.03	350.52	454.07	224.25	8.95	-0.65	0.020
145.00	-3.67	-0.55	0.00	-2.73	0.00	2.73	694.06	347.03	445.03	219.78	9.08	-0.65	0.018
150.00	0.00	-0.50	0.00	0.00	0.00	0.00	659.19	329.60	401.19	198.13	9.77	-0.66	0.000

Equivalent Modal Forces Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_E):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	2.80
Redundancy Factor (p):	1.30

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

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
42	147.50	270	1.828	1.667	1.025	0.316	74	334
41	144.50	55	1.754	1.337	0.900	0.272	13	68
40	142.00	224	1.694	1.099	0.805	0.238	46	277
39	137.50	303	1.588	0.742	0.654	0.181	48	375
38	132.50	311	1.475	0.441	0.513	0.126	34	385
37	128.50	324	1.387	0.260	0.419	0.087	24	401
36	126.00	288	1.334	0.170	0.367	0.065	16	357
35	124.75	106	1.307	0.131	0.343	0.055	5	131
34	122.75	917	1.266	0.076	0.307	0.040	32	1,135
33	120.50	597	1.220	0.024	0.270	0.024	13	739
32	119.56	289	1.201	0.005	0.255	0.018	5	357
31	117.06	1,158	1.151	-0.037	0.220	0.003	3	1,433
30	112.50	1,168	1.063	-0.088	0.165	-0.019	-20	1,446
29	107.50	1,182	0.971	-0.116	0.117	-0.037	-38	1,463
28	104.50	238	0.917	-0.121	0.094	-0.044	-9	294
27	102.00	1,003	0.874	-0.121	0.078	-0.048	-42	1,241
26	97.50	1,263	0.799	-0.112	0.053	-0.050	-54	1,563
25	92.50	1,274	0.719	-0.092	0.034	-0.045	-50	1,576
24	87.50	1,284	0.643	-0.068	0.020	-0.033	-37	1,589
23	82.50	1,295	0.572	-0.043	0.012	-0.017	-19	1,603
22	77.50	1,419	0.505	-0.018	0.007	0.002	2	1,757
21	74.25	494	0.463	-0.003	0.006	0.013	6	611
20	71.75	1,474	0.432	0.008	0.006	0.022	28	1,824
19	69.35	453	0.404	0.017	0.006	0.029	11	560
18	66.85	1,541	0.375	0.026	0.007	0.035	47	1,907
17	64.50	418	0.349	0.033	0.009	0.040	14	517
16	62.00	1,676	0.323	0.040	0.010	0.044	64	2,074
15	57.50	2,107	0.278	0.050	0.014	0.050	90	2,608
14	52.50	2,121	0.232	0.058	0.019	0.052	96	2,625
13	47.50	2,134	0.190	0.064	0.025	0.053	98	2,641
12	42.50	2,148	0.152	0.068	0.030	0.053	98	2,658
11	37.83	1,872	0.120	0.070	0.034	0.052	84	2,317
10	35.33	375	0.105	0.071	0.037	0.051	17	464
9	33.25	1,978	0.093	0.071	0.038	0.051	87	2,448

8	30.75	683	0.079	0.072	0.040	0.050	30	846
7	27.50	2,288	0.064	0.072	0.041	0.049	97	2,832
6	24.30	644	0.050	0.071	0.042	0.048	27	796
5	21.80	1,661	0.040	0.070	0.042	0.047	68	2,055
4	17.50	2,320	0.026	0.067	0.040	0.045	91	2,871
3	12.50	2,336	0.013	0.059	0.034	0.041	83	2,891
2	7.50	2,097	0.005	0.044	0.025	0.033	59	2,595
1	2.50	2,113	0.001	0.018	0.010	0.015	28	2,615
Kaelus DBC0061F1V51-	150.00	76	1.890	1.980	1.140	0.355	24	95
Powerwave Allgon LGP	150.00	42	1.890	1.980	1.140	0.355	13	52
Raycap DC6-48-60-18-	150.00	64	1.890	1.980	1.140	0.355	20	79
Ericsson RRUS A2 B2	150.00	66	1.890	1.980	1.140	0.355	20	82
Ericsson RRUS 11 (Ba	150.00	165	1.890	1.980	1.140	0.355	51	204
Ericsson RRUS 32 B30	150.00	180	1.890	1.980	1.140	0.355	55	223
Ericsson RRUS-11 (19	150.00	153	1.890	1.980	1.140	0.355	47	189
Ericsson RRUS-12 B2	150.00	174	1.890	1.980	1.140	0.355	54	215
Decibel DB809KE-SY	150.00	26	1.890	1.980	1.140	0.355	8	32
Ericsson Radio 8843	150.00	255	1.890	1.980	1.140	0.355	78	316
Round Side Arm	150.00	450	1.890	1.980	1.140	0.355	138	557
Powerwave Allgon 777	150.00	105	1.890	1.980	1.140	0.355	32	130
CCI OPA-65R-LCUU-H8	150.00	264	1.890	1.980	1.140	0.355	81	327
CCI TPA-65R-LCUUUU-H	150.00	245	1.890	1.980	1.140	0.355	75	303
Platform w/ Handrail	150.00	2,000	1.890	1.980	1.140	0.355	615	2,475
Diamond X50A	144.00	5	1.742	1.287	0.880	0.265	1	6
Stand-Off	144.00	150	1.742	1.287	0.880	0.265	34	186
Ericsson KRY 112 144	140.00	33	1.646	0.929	0.735	0.212	6	41
Ericsson RRUS-11 (50	140.00	150	1.646	0.929	0.735	0.212	28	186
Ericsson AIR 21, 1.3	140.00	249	1.646	0.929	0.735	0.212	46	308
Ericsson AIR 21, 1.3	140.00	244	1.646	0.929	0.735	0.212	45	303
Andrew LNX-6515DS-VT	140.00	154	1.646	0.929	0.735	0.212	28	190
Platform w/ Handrail	140.00	2,000	1.646	0.929	0.735	0.212	368	2,475
RFS FD9R6004/2C-3L	127.00	16	1.355	0.204	0.387	0.074	1	19
Nokia AirScale RRH 4	127.00	106	1.355	0.204	0.387	0.074	7	131
Alcatel-Lucent B25 R	127.00	159	1.355	0.204	0.387	0.074	10	197
Alcatel-Lucent B13 R	127.00	172	1.355	0.204	0.387	0.074	11	212
Alcatel-Lucent B66A	127.00	201	1.355	0.204	0.387	0.074	13	249
Antel BXA-70063/4CF	127.00	30	1.355	0.204	0.387	0.074	2	37
RFS DB-T1-6Z-8AB-0Z	127.00	88	1.355	0.204	0.387	0.074	6	109
Antel BXA-80080-6CF-	127.00	54	1.355	0.204	0.387	0.074	3	67
Commscope JAHH-65B-	127.00	364	1.355	0.204	0.387	0.074	23	450
Round Low Profile Pl	127.00	1,350	1.355	0.204	0.387	0.074	86	1,671
76" x 6" Panel	115.00	120	1.111	-0.064	0.194	-0.008	-1	149
DragonWave Horizon C	104.00	21	0.909	-0.122	0.091	-0.045	-1	26
Alcatel-Lucent RRH2x	104.00	317	0.909	-0.122	0.091	-0.045	-12	393
Nokia FZHN Flexi RRH	104.00	132	0.909	-0.122	0.091	-0.045	-5	164
Alcatel-Lucent 1900M	104.00	180	0.909	-0.122	0.091	-0.045	-7	223
DragonWave A-ANT-11G	104.00	54	0.909	-0.122	0.091	-0.045	-2	67
24" x 24" Junction	104.00	20	0.909	-0.122	0.091	-0.045	-1	25
RFS APXVTM14-ALU-I20	104.00	169	0.909	-0.122	0.091	-0.045	-7	209
Side Arms	104.00	560	0.909	-0.122	0.091	-0.045	-22	693
Commscope NNVV-	104.00	232	0.909	-0.122	0.091	-0.045	-9	287
Channel Master Type	64.00	126	0.344	0.034	0.009	0.041	4	156
		59,620	92.950	44.943	35.327	9.505	3,240	73,783

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

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
42	147.50	270	1.828	1.667	1.025	0.316	74	233

41	144.50	55	1.754	1.337	0.900	0.272	13	47
40	142.00	224	1.694	1.099	0.805	0.238	46	193
39	137.50	303	1.588	0.742	0.654	0.181	48	261
38	132.50	311	1.475	0.441	0.513	0.126	34	268
37	128.50	324	1.387	0.260	0.419	0.087	24	280
36	126.00	288	1.334	0.170	0.367	0.065	16	249
35	124.75	106	1.307	0.131	0.343	0.055	5	91
34	122.75	917	1.266	0.076	0.307	0.040	32	791
33	120.50	597	1.220	0.024	0.270	0.024	13	515
32	119.56	289	1.201	0.005	0.255	0.018	5	249
31	117.06	1,158	1.151	-0.037	0.220	0.003	3	998
30	112.50	1,168	1.063	-0.088	0.165	-0.019	-20	1,007
29	107.50	1,182	0.971	-0.116	0.117	-0.037	-38	1,019
28	104.50	238	0.917	-0.121	0.094	-0.044	-9	205
27	102.00	1,003	0.874	-0.121	0.078	-0.048	-42	865
26	97.50	1,263	0.799	-0.112	0.053	-0.050	-54	1,089
25	92.50	1,274	0.719	-0.092	0.034	-0.045	-50	1,098
24	87.50	1,284	0.643	-0.068	0.020	-0.033	-37	1,108
23	82.50	1,295	0.572	-0.043	0.012	-0.017	-19	1,117
22	77.50	1,419	0.505	-0.018	0.007	0.002	2	1,224
21	74.25	494	0.463	-0.003	0.006	0.013	6	426
20	71.75	1,474	0.432	0.008	0.006	0.022	28	1,271
19	69.35	453	0.404	0.017	0.006	0.029	11	391
18	66.85	1,541	0.375	0.026	0.007	0.035	47	1,329
17	64.50	418	0.349	0.033	0.009	0.040	14	360
16	62.00	1,676	0.323	0.040	0.010	0.044	64	1,446
15	57.50	2,107	0.278	0.050	0.014	0.050	90	1,818
14	52.50	2,121	0.232	0.058	0.019	0.052	96	1,829
13	47.50	2,134	0.190	0.064	0.025	0.053	98	1,841
12	42.50	2,148	0.152	0.068	0.030	0.053	98	1,852
11	37.83	1,872	0.120	0.070	0.034	0.052	84	1,615
10	35.33	375	0.105	0.071	0.037	0.051	17	324
9	33.25	1,978	0.093	0.071	0.038	0.051	87	1,706
8	30.75	683	0.079	0.072	0.040	0.050	30	589
7	27.50	2,288	0.064	0.072	0.041	0.049	97	1,973
6	24.30	644	0.050	0.071	0.042	0.048	27	555
5	21.80	1,661	0.040	0.070	0.042	0.047	68	1,432
4	17.50	2,320	0.026	0.067	0.040	0.045	91	2,001
3	12.50	2,336	0.013	0.059	0.034	0.041	83	2,015
2	7.50	2,097	0.005	0.044	0.025	0.033	59	1,808
1	2.50	2,113	0.001	0.018	0.010	0.015	28	1,822
Kaelus DBC0061F1V51-	150.00	76	1.890	1.980	1.140	0.355	24	66
Powerwave Allgon LGP	150.00	42	1.890	1.980	1.140	0.355	13	36
Raycap DC6-48-60-18-	150.00	64	1.890	1.980	1.140	0.355	20	55
Ericsson RRUS A2 B2	150.00	66	1.890	1.980	1.140	0.355	20	57
Ericsson RRUS 11 (Ba	150.00	165	1.890	1.980	1.140	0.355	51	142
Ericsson RRUS 32 B30	150.00	180	1.890	1.980	1.140	0.355	55	155
Ericsson RRUS-11 (19	150.00	153	1.890	1.980	1.140	0.355	47	132
Ericsson RRUS-12 B2	150.00	174	1.890	1.980	1.140	0.355	54	150
Decibel DB809KE-SY	150.00	26	1.890	1.980	1.140	0.355	8	22
Ericsson Radio 8843	150.00	255	1.890	1.980	1.140	0.355	78	220
Round Side Arm	150.00	450	1.890	1.980	1.140	0.355	138	388
Powerwave Allgon 777	150.00	105	1.890	1.980	1.140	0.355	32	91
CCI OPA-65R-LCUU-H8	150.00	264	1.890	1.980	1.140	0.355	81	228
CCI TPA-65R-LCUUUU-H	150.00	245	1.890	1.980	1.140	0.355	75	211
Platform w/ Handrail	150.00	2,000	1.890	1.980	1.140	0.355	615	1,725
Diamond X50A	144.00	5	1.742	1.287	0.880	0.265	1	4
Stand-Off	144.00	150	1.742	1.287	0.880	0.265	34	129
Ericsson KRY 112 144	140.00	33	1.646	0.929	0.735	0.212	6	28
Ericsson RRUS-11 (50	140.00	150	1.646	0.929	0.735	0.212	28	129
Ericsson AIR 21, 1.3	140.00	249	1.646	0.929	0.735	0.212	46	215
Ericsson AIR 21, 1.3	140.00	244	1.646	0.929	0.735	0.212	45	211
Andrew LNX-6515DS-VT	140.00	154	1.646	0.929	0.735	0.212	28	133
Platform w/ Handrail	140.00	2,000	1.646	0.929	0.735	0.212	368	1,725

RFS FD9R6004/2C-3L	127.00	16	1.355	0.204	0.387	0.074	1	13
Nokia AirScale RRH 4	127.00	106	1.355	0.204	0.387	0.074	7	91
Alcatel-Lucent B25 R	127.00	159	1.355	0.204	0.387	0.074	10	137
Alcatel-Lucent B13 R	127.00	172	1.355	0.204	0.387	0.074	11	148
Alcatel-Lucent B66A	127.00	201	1.355	0.204	0.387	0.074	13	173
Antel BXA-70063/4CF	127.00	30	1.355	0.204	0.387	0.074	2	26
RFS DB-T1-6Z-8AB-0Z	127.00	88	1.355	0.204	0.387	0.074	6	76
Antel BXA-80080-6CF-	127.00	54	1.355	0.204	0.387	0.074	3	47
Commscope JAHH-65B-	127.00	364	1.355	0.204	0.387	0.074	23	314
Round Low Profile Pl	127.00	1,350	1.355	0.204	0.387	0.074	86	1,164
76" x 6" Panel	115.00	120	1.111	-0.064	0.194	-0.008	-1	103
DragonWave Horizon C	104.00	21	0.909	-0.122	0.091	-0.045	-1	18
Alcatel-Lucent RRH2x	104.00	317	0.909	-0.122	0.091	-0.045	-12	274
Nokia FZHN Flexi RRH	104.00	132	0.909	-0.122	0.091	-0.045	-5	114
Alcatel-Lucent 1900M	104.00	180	0.909	-0.122	0.091	-0.045	-7	155
DragonWave A-ANT-11G	104.00	54	0.909	-0.122	0.091	-0.045	-2	47
24" x 24" Junction	104.00	20	0.909	-0.122	0.091	-0.045	-1	17
RFS APXVTM14-ALU-I20	104.00	169	0.909	-0.122	0.091	-0.045	-7	145
Side Arms	104.00	560	0.909	-0.122	0.091	-0.045	-22	483
Commscope NNVV-	104.00	232	0.909	-0.122	0.091	-0.045	-9	200
Channel Master Type	64.00	126	0.344	0.034	0.009	0.041	4	109
		59,620	92.950	44.943	35.327	9.505	3,240	51,420

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	-71.17	-3.23	0.00	-375.42	0.00	375.42	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.071
5.00	-68.57	-3.20	0.00	-359.28	0.00	359.28	3,114.35	1,557.18	4,645.51	2,294.24	0.01	-0.03	0.069
10.00	-65.68	-3.14	0.00	-343.30	0.00	343.30	3,070.50	1,535.25	4,480.02	2,212.51	0.05	-0.05	0.067
15.00	-62.81	-3.07	0.00	-327.60	0.00	327.60	3,025.61	1,512.81	4,315.90	2,131.46	0.12	-0.08	0.065
20.00	-60.75	-3.03	0.00	-312.23	0.00	312.23	2,979.68	1,489.84	4,153.25	2,051.14	0.21	-0.10	0.063
23.60	-59.95	-3.01	0.00	-301.34	0.00	301.34	2,945.97	1,472.98	4,037.12	1,993.78	0.29	-0.12	0.061
23.60	-59.95	-3.01	0.00	-301.34	0.00	301.34	2,945.97	1,472.98	4,037.12	1,993.78	0.29	-0.12	0.061
25.00	-57.12	-2.92	0.00	-297.12	0.00	297.12	2,932.71	1,466.36	3,992.19	1,971.59	0.33	-0.13	0.061
30.00	-56.27	-2.91	0.00	-282.51	0.00	282.51	2,875.21	1,437.61	3,820.20	1,886.65	0.48	-0.15	0.059
31.50	-53.83	-2.83	0.00	-278.15	0.00	278.15	2,854.29	1,427.15	3,764.49	1,859.14	0.52	-0.16	0.058
35.00	-53.36	-2.82	0.00	-268.26	0.00	268.26	2,805.48	1,402.74	3,636.10	1,795.73	0.65	-0.18	0.056
35.67	-51.04	-2.74	0.00	-266.39	0.00	266.39	2,248.07	1,124.03	2,973.91	1,468.70	0.67	-0.18	0.062
40.00	-48.39	-2.65	0.00	-254.53	0.00	254.53	2,218.59	1,109.29	2,872.23	1,418.49	0.84	-0.20	0.060
45.00	-45.74	-2.56	0.00	-241.28	0.00	241.28	2,183.60	1,091.80	2,755.77	1,360.97	1.07	-0.22	0.058
50.00	-43.12	-2.47	0.00	-228.48	0.00	228.48	2,147.58	1,073.79	2,640.30	1,303.95	1.31	-0.25	0.055
55.00	-40.51	-2.39	0.00	-216.12	0.00	216.12	2,110.52	1,055.26	2,525.94	1,247.47	1.59	-0.27	0.053
60.00	-38.44	-2.33	0.00	-204.19	0.00	204.19	2,072.42	1,036.21	2,412.79	1,191.58	1.89	-0.30	0.050
64.00	-37.76	-2.31	0.00	-194.88	0.00	194.88	2,041.18	1,020.59	2,323.20	1,147.34	2.15	-0.32	0.049
65.00	-35.85	-2.26	0.00	-192.57	0.00	192.57	2,033.27	1,016.64	2,300.94	1,136.35	2.21	-0.32	0.048
68.70	-35.29	-2.25	0.00	-184.20	0.00	184.20	1,997.21	998.60	2,211.95	1,092.40	2.47	-0.34	0.047
68.70	-35.29	-2.25	0.00	-184.20	0.00	184.20	1,997.21	998.60	2,211.95	1,092.40	2.47	-0.34	0.088
70.00	-33.47	-2.23	0.00	-181.27	0.00	181.27	1,982.10	991.05	2,178.42	1,075.84	2.56	-0.35	0.087
73.50	-32.86	-2.23	0.00	-173.47	0.00	173.47	1,473.96	736.98	1,624.57	802.32	2.83	-0.38	0.100
75.00	-31.10	-2.24	0.00	-170.13	0.00	170.13	1,466.28	733.14	1,601.77	791.05	2.95	-0.39	0.098
80.00	-29.50	-2.27	0.00	-158.95	0.00	158.95	1,440.00	720.00	1,526.12	753.69	3.39	-0.44	0.093
85.00	-27.90	-2.32	0.00	-147.61	0.00	147.61	1,412.68	706.34	1,451.11	716.65	3.88	-0.49	0.089
90.00	-26.32	-2.37	0.00	-136.04	0.00	136.04	1,384.32	692.16	1,376.86	679.98	4.42	-0.54	0.084
95.00	-24.76	-2.43	0.00	-124.17	0.00	124.17	1,354.92	677.46	1,303.45	643.72	5.01	-0.59	0.079
100.00	-23.52	-2.48	0.00	-112.01	0.00	112.01	1,324.47	662.24	1,230.99	607.94	5.65	-0.63	0.073
104.00	-21.13	-2.53	0.00	-102.10	0.00	102.10	1,299.37	649.69	1,173.78	579.69	6.20	-0.67	0.068
105.00	-19.67	-2.56	0.00	-99.57	0.00	99.57	1,292.99	646.50	1,159.59	572.68	6.34	-0.68	0.066
110.00	-18.22	-2.58	0.00	-86.75	0.00	86.75	1,247.14	623.57	1,077.81	532.29	7.08	-0.72	0.060
110.00	-18.22	-2.58	0.00	-86.75	0.00	86.75	853.24	426.62	741.79	366.34	7.08	-0.72	0.072
115.00	-16.64	-2.57	0.00	-73.86	0.00	73.86	834.99	417.50	698.71	345.06	7.85	-0.76	0.063
119.13	-16.28	-2.56	0.00	-63.28	0.00	63.28	819.16	409.58	663.43	327.64	8.53	-0.79	0.056
120.00	-15.54	-2.54	0.00	-61.04	0.00	61.04	815.71	407.86	655.98	323.96	8.67	-0.80	0.028
121.00	-14.41	-2.49	0.00	-58.50	0.00	58.50	811.73	405.86	647.49	319.77	8.84	-0.80	0.026
121.00	-14.41	-2.49	0.00	-58.50	0.00	58.50	811.73	405.86	647.49	319.77	8.84	-0.80	0.043
124.50	-14.28	-2.49	0.00	-49.76	0.00	49.76	797.47	398.73	617.91	305.16	9.43	-0.81	0.038
124.50	-14.28	-2.49	0.00	-49.76	0.00	49.76	797.47	398.73	617.91	305.16	9.43	-0.81	0.181
125.00	-13.92	-2.47	0.00	-48.52	0.00	48.52	795.39	397.69	613.71	303.09	9.52	-0.82	0.178
127.00	-10.38	-2.25	0.00	-43.57	0.00	43.57	786.97	393.48	596.95	294.81	9.87	-0.87	0.161
130.00	-9.99	-2.22	0.00	-36.83	0.00	36.83	774.02	387.01	572.00	282.49	10.44	-0.94	0.143
135.00	-9.61	-2.18	0.00	-25.72	0.00	25.72	751.62	375.81	530.94	262.21	11.48	-1.04	0.111
140.00	-5.84	-1.55	0.00	-14.80	0.00	14.80	728.18	364.09	490.64	242.31	12.61	-1.11	0.069
144.00	-5.58	-1.50	0.00	-8.60	0.00	8.60	701.03	350.52	454.07	224.25	13.57	-1.15	0.046
145.00	-5.25	-1.42	0.00	-7.10	0.00	7.10	694.06	347.03	445.03	219.78	13.81	-1.16	0.040
150.00	0.00	-1.31	0.00	0.00	0.00	0.00	659.19	329.60	401.19	198.13	15.04	-1.18	0.000

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-49.60	-3.22	0.00	-366.75	0.00	366.75	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.066
5.00	-47.79	-3.18	0.00	-350.64	0.00	350.64	3,114.35	1,557.18	4,645.51	2,294.24	0.01	-0.02	0.064
10.00	-45.77	-3.12	0.00	-334.73	0.00	334.73	3,070.50	1,535.25	4,480.02	2,212.51	0.05	-0.05	0.062
15.00	-43.77	-3.04	0.00	-319.14	0.00	319.14	3,025.61	1,512.81	4,315.90	2,131.46	0.12	-0.07	0.060
20.00	-42.34	-2.99	0.00	-303.92	0.00	303.92	2,979.68	1,489.84	4,153.25	2,051.14	0.21	-0.10	0.058
23.60	-41.78	-2.97	0.00	-293.17	0.00	293.17	2,945.97	1,472.98	4,037.12	1,993.78	0.29	-0.12	0.057
23.60	-41.78	-2.97	0.00	-293.17	0.00	293.17	2,945.97	1,472.98	4,037.12	1,993.78	0.29	-0.12	0.057
25.00	-39.81	-2.88	0.00	-289.01	0.00	289.01	2,932.71	1,466.36	3,992.19	1,971.59	0.32	-0.12	0.056
30.00	-39.22	-2.86	0.00	-274.62	0.00	274.62	2,875.21	1,437.61	3,820.20	1,886.65	0.46	-0.15	0.055
31.50	-37.51	-2.77	0.00	-270.33	0.00	270.33	2,854.29	1,427.15	3,764.49	1,859.14	0.51	-0.15	0.054
35.00	-37.19	-2.76	0.00	-260.62	0.00	260.62	2,805.48	1,402.74	3,636.10	1,795.73	0.63	-0.17	0.052
35.67	-35.57	-2.68	0.00	-258.78	0.00	258.78	2,248.07	1,124.03	2,973.91	1,468.70	0.65	-0.17	0.058
40.00	-33.72	-2.59	0.00	-247.15	0.00	247.15	2,218.59	1,109.29	2,872.23	1,418.49	0.82	-0.19	0.056
45.00	-31.88	-2.50	0.00	-234.20	0.00	234.20	2,183.60	1,091.80	2,755.77	1,360.97	1.04	-0.22	0.053
50.00	-30.05	-2.41	0.00	-221.70	0.00	221.70	2,147.58	1,073.79	2,640.30	1,303.95	1.28	-0.24	0.051
55.00	-28.23	-2.32	0.00	-209.66	0.00	209.66	2,110.52	1,055.26	2,525.94	1,247.47	1.55	-0.27	0.049
60.00	-26.78	-2.26	0.00	-198.05	0.00	198.05	2,072.42	1,036.21	2,412.79	1,191.58	1.84	-0.29	0.047
64.00	-26.31	-2.24	0.00	-189.01	0.00	189.01	2,041.18	1,020.59	2,323.20	1,147.34	2.09	-0.31	0.045
65.00	-24.98	-2.19	0.00	-186.76	0.00	186.76	2,033.27	1,016.64	2,300.94	1,136.35	2.15	-0.31	0.044
68.70	-24.59	-2.19	0.00	-178.64	0.00	178.64	1,997.21	998.60	2,211.95	1,092.40	2.40	-0.33	0.043
68.70	-24.59	-2.19	0.00	-178.64	0.00	178.64	1,997.21	998.60	2,211.95	1,092.40	2.40	-0.33	0.083
70.00	-23.32	-2.16	0.00	-175.80	0.00	175.80	1,982.10	991.05	2,178.42	1,075.84	2.49	-0.34	0.082
73.50	-22.90	-2.16	0.00	-168.24	0.00	168.24	1,473.96	736.98	1,624.57	802.32	2.75	-0.37	0.093
75.00	-21.67	-2.16	0.00	-165.00	0.00	165.00	1,466.28	733.14	1,601.77	791.05	2.87	-0.38	0.092
80.00	-20.55	-2.19	0.00	-154.19	0.00	154.19	1,440.00	720.00	1,526.12	753.69	3.30	-0.43	0.088
85.00	-19.44	-2.23	0.00	-143.24	0.00	143.24	1,412.68	706.34	1,451.11	716.65	3.77	-0.48	0.084
90.00	-18.34	-2.29	0.00	-132.07	0.00	132.07	1,384.32	692.16	1,376.86	679.98	4.30	-0.52	0.079
95.00	-17.25	-2.35	0.00	-120.63	0.00	120.63	1,354.92	677.46	1,303.45	643.72	4.87	-0.57	0.074
100.00	-16.38	-2.39	0.00	-108.89	0.00	108.89	1,324.47	662.24	1,230.99	607.94	5.50	-0.62	0.069
104.00	-14.72	-2.45	0.00	-99.33	0.00	99.33	1,299.37	649.69	1,173.78	579.69	6.03	-0.65	0.064
105.00	-13.70	-2.49	0.00	-96.87	0.00	96.87	1,292.99	646.50	1,159.59	572.68	6.17	-0.66	0.062
110.00	-12.69	-2.50	0.00	-84.45	0.00	84.45	1,247.14	623.57	1,077.81	532.29	6.88	-0.70	0.057
110.00	-12.69	-2.50	0.00	-84.45	0.00	84.45	853.24	426.62	741.79	366.34	6.88	-0.70	0.068
115.00	-11.59	-2.49	0.00	-71.94	0.00	71.94	834.99	417.50	698.71	345.06	7.64	-0.74	0.059
119.13	-11.34	-2.49	0.00	-61.66	0.00	61.66	819.16	409.58	663.43	327.64	8.29	-0.77	0.052
120.00	-10.82	-2.47	0.00	-59.48	0.00	59.48	815.71	407.86	655.98	323.96	8.43	-0.78	0.026
121.00	-10.03	-2.43	0.00	-57.01	0.00	57.01	811.73	405.86	647.49	319.77	8.59	-0.78	0.024
121.00	-10.03	-2.43	0.00	-57.01	0.00	57.01	811.73	405.86	647.49	319.77	8.59	-0.78	0.040
124.50	-9.94	-2.42	0.00	-48.51	0.00	48.51	797.47	398.73	617.91	305.16	9.17	-0.79	0.035
124.50	-9.94	-2.42	0.00	-48.51	0.00	48.51	797.47	398.73	617.91	305.16	9.17	-0.79	0.171
125.00	-9.69	-2.41	0.00	-47.30	0.00	47.30	795.39	397.69	613.71	303.09	9.25	-0.79	0.168
127.00	-7.22	-2.19	0.00	-42.48	0.00	42.48	786.97	393.48	596.95	294.81	9.60	-0.84	0.153
130.00	-6.95	-2.17	0.00	-35.90	0.00	35.90	774.02	387.01	572.00	282.49	10.15	-0.91	0.136
135.00	-6.69	-2.12	0.00	-25.07	0.00	25.07	751.62	375.81	530.94	262.21	11.16	-1.01	0.105
140.00	-4.06	-1.51	0.00	-14.44	0.00	14.44	728.18	364.09	490.64	242.31	12.26	-1.08	0.065
144.00	-3.88	-1.46	0.00	-8.39	0.00	8.39	701.03	350.52	454.07	224.25	13.19	-1.12	0.043
145.00	-3.65	-1.39	0.00	-6.93	0.00	6.93	694.06	347.03	445.03	219.78	13.42	-1.13	0.037
150.00	0.00	-1.31	0.00	0.00	0.00	0.00	659.19	329.60	401.19	198.13	14.62	-1.15	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	35.37	0.00	71.46	0.00	0.00	3922.81	124.50	0.99
0.9D + 1.6W	33.88	0.00	53.58	0.00	0.00	3731.23	124.50	0.95
1.2D + 1.0Di + 1.0Wi	8.03	0.00	127.62	0.00	0.00	997.01	124.50	0.32
(1.2 + 0.2Sds) * DL + E ELFM	2.34	0.00	71.17	0.00	0.00	288.50	124.50	0.09
(1.2 + 0.2Sds) * DL + E EMAM	3.23	0.00	71.17	0.00	0.00	375.42	124.50	0.18
(0.9 - 0.2Sds) * DL + E ELFM	2.33	0.00	49.60	0.00	0.00	282.36	124.50	0.08
(0.9 - 0.2Sds) * DL + E EMAM	3.22	0.00	49.60	0.00	0.00	366.75	124.50	0.17
1.0D + 1.0W	8.15	0.00	59.62	0.00	0.00	904.61	124.50	0.25

Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors VQ/I (lb/in)	Shear Applied (kips)	Shear phiVn (kips)	Upper Termination Connectors MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Lower Termination Connectors MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Max Member Pu (kip)	phiPn (kip)	Ratio
0.00	121.	(4) SOL-#20 All Thre	539.3	14.6	16.8	60.8	12.0	6	10	0.0	12.0	0	0	315.1	314.9	1.001
0.00	23.6	(4) SOL-#20 All Thre	265.4	7.2	16.8	0.0	12.0	0	24	0.0	12.0	0	0	321.7	334.7	0.961
23.6	68.7	(4) SOL-#20 All Thre	304.9	9.1	16.8	211.4	12.0	18	24	0.0	12.0	0	0	292.8	330.5	0.886
119.	124.	(3) SOL-#20 (15 deg	519.7	15.6	16.8	102.0	12.0	9	12	82.7	12.0	7	12	123.4	284.5	0.434

Base/Flange Plate	Plate Type	***Flange***	***@ 110.0 ft***
	Pole Diameter	21.25	in
	Pole Thickness	0.1875	in
	Plate Diameter	28.5	in
	Plate Thickness	1	in
	Plate Fy	60	ksi
	Weld Length	0.1875	in
	ϕ_s Resistance	96.45	k-in
	Applied	49.90	k-in
Stiffeners	#		

Bolts	#	***8***	
	Bolt Circle	25.75	in
	(R)adial / (S)quare	R	
●	Diameter	1	in
	Hole Diameter	1.125	in
	Type	A325	
	Fy	92	ksi
	Fu	120	ksi
	ϕ_s Resistance	54.52	k
	Applied	33.27	k
Reinforcement ●	#	***4***	
	DYW. Circle	28	in
	Offset Angle	24	°
	Type	#20	
	Diameter	2.5	in
	Fu	100	ksi
	ϕ_s Resistance	392.70	k
	Applied	166.34	k
Extra Bolts O	#	***0***	

Code Rev. ***G***

Moment 578.5 k-ft
Axial 16.9 k

Date	1/7/2019
Engineer	adam.pittman
Site #	302489
Carrier	CLEARWIRE CORPORATION

Required Flange Thickness:
0.72 in OK

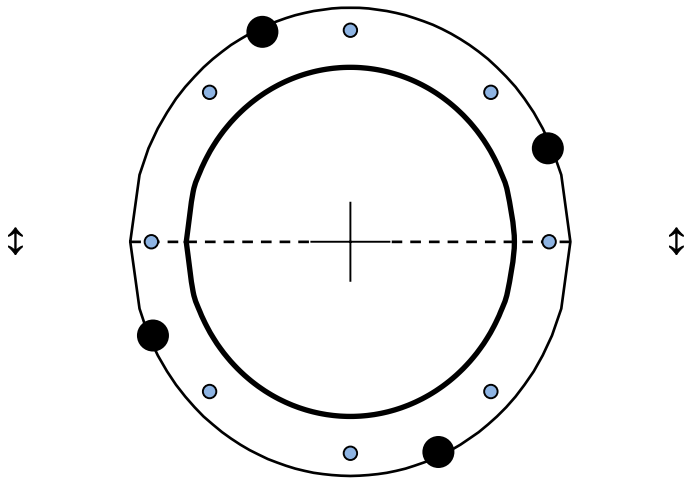


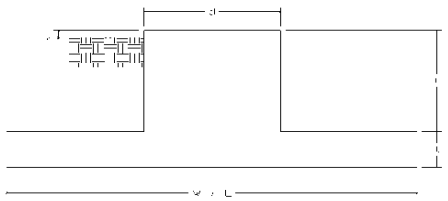
Plate Stress Ratio:
0.52 (Pass)

Bolt Stress Ratio:
0.61 (Pass)

Reinforcement Stress Ratio:
0.42 (Pass)

Site Name:	Enfd-Enfield, CT
Site Number:	302489
Engineering Number:	OAA713357
Engineer:	ASP
Date:	01/07/19
Tower Type:	MP

Program Last Updated: *5/13/2014*



Design Loads (Factored) - Analysis per TIA-222-G Standards

Design / Analysis / Mapping:	Analysis				
Compression/Leg:	127.3	k	Concrete Strength (f'_c):	3000	psi
Uplift/Leg:	0.0	k	Pad Tension Steel Depth:	32.00	in
Total Shear:	35.4	k	ϕ_{Shear}:	0.75	
Moment:	3922.8	k-ft	$\phi_{Flexure\ /\ Tension}$:	0.90	
Tower + Appurtenance Weight:	217.1	k	$\phi_{Compression:}$	0.65	
Depth to Base of Foundation (l + t - h):	8.00	ft	β:	0.85	
Diameter of Pier (d):	5.64	ft	Bottom Pad Rebar Size #:	10	
Height of Pier above Ground (h):	0.50		# of Bottom Pad Rebar:	34	
Width of Pad (W):	18.00	ft	Pad Bottom Steel Area:	43.18	in^2
Length of Pad (L):	18.00	ft	Pad Steel F_y:	60000	psi
Thickness of Pad (t):	3.00	ft	Top Pad Rebar Size #:	10	
Tower Leg Center to Center:	0.00	ft	# of Top Pad Rebar:	34	
Number of Tower Legs:	1.0	(1 if MP or GT)	Pad Top Steel Area:	43.18	in^2
Tower Center from Mat Center:	0.00	ft	Pier Rebar Size #:	11	
Depth Below Ground Surface to Water Table:	99.00	ft	Pier Steel Area (Single Bar):	1.56	in^2
Unit Weight of Concrete:	150.0	pcf	# of Pier Rebar:	52	
Unit Weight of Soil Above Water Table:	115.0	pcf	Pier Steel F_y:	60000	psi
Unit Weight of Water:	62.4	pcf	Pier Cage Diameter:	59.7	in
Unit Weight of Soil Below Water Table:	52.6	pcf	Rebar Strain Limit:	0.008	
Friction Angle of Uplift:	15.0	Degrees	Steel Elastic Modulus:	29000	ksi
Ultimate Coefficient of Shear Friction:	0.30		Tie Rebar Size #:	4	
Ultimate Compressive Bearing Pressure:	24000.0	psf	Tie Steel Area (Single Bar):	0.20	in^2
Ultimate Passive Pressure on Pad Face:	0.0	psf	Tie Spacing:	12	in
$\phi_{Soil\ and\ Concrete\ Weight}$:	0.9		Tie Steel F_y:	60000	psi
ϕ_{Soil}:	0.75				

Overturning Moment Usage

Design OTM:	4223.5	k-ft
OTM Resistance:	4505.1	k-ft
Design OTM / OTM Resistance:	0.94	Result: OK

Soil Bearing Pressure Usage

Net Bearing Pressure:	8773	psf
Factored Nominal Bearing Pressure:	18000	psf
Net Bearing Pressure/Factored Nominal Bearing Pressure:	0.49	Result: OK
Load Direction Controling Design Bearing Pressure:	Diagonal to Pad Edge	

Sliding Factor of Safety

Total Factored Sliding Resistance:	116.8	k
Sliding Design / Sliding Resistance:	0.30	Result: OK

Base Plate & Anchor Rod Analysis

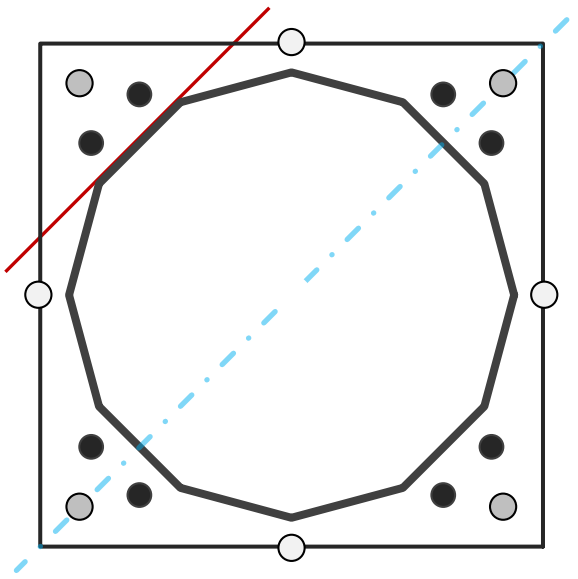
Pole Dimensions		
Number of Sides	12	-
Diameter	37.38	in
Thickness	0.375	in
Orientation Offset		°

Base Reactions		
Moment, Mu	3922.8	k-ft
Axial, Pu	71.5	k
Shear, Vu	35.4	k
Neutral Axis	45	°

Report Capacities		
Component	Capacity	Result
Base Plate	54%	Pass
Anchor Rods	79%	Pass
Dwyidag	77%	Pass

Base Plate		
Shape	Square	-
Width	44	in
Thickness	2 1/2	in
Grade	A572-60	-
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Clip	0	in
Orientation Offset		°
Anchor Rod Detail	d	η=0.5
Clear Distance	3	in
Applied Moment, Mu	1113.1	k
Bending Stress, ϕMn	2075.2	k

Original Anchor Rods		
Arrangement	Cluster	-
Quantity	8	-
Diameter, ø	2 1/4	in
Bolt Circle	44	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	6.0	in
Orientation Offset	0	°
Applied Force, Pu	186.7	k
Anchor Rods, ϕPn	259.8	k



Dywidag Reinforcement		
Quantity	4	-
Bar Size	#20	in
Diameter, ø	2.5	in
Bracket Type	Angle	-
Circle	44.26	in
Orientation Offset	0	°
Applied Force, Pu	303.6	k
Dywidag Bar, ϕPn	392.7	k

Additional Anchor Rods		
Quantity	4	-
Diameter, ø	2.5	in
Bolt Circle	52.4	in
Grade	Other	
Yield Strength, Fy	80	ksi
Tensile Strength, Fu	100	ksi
Bypass Base?	Yes	
Orientation Offset	45	°
Applied Force, Pu	236.4	k
Additional Rod, ϕPn	319.9	k

Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	35.4	1360.6	0.35
Anchor Rod Forces	35.4	1360.6	0.35
Additional Bolt (Grp1) Forces	0.0	1013.2	0.26
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	1549.1	0.39
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in^2	in^2	in^4	#	in^4
Pole	43.0992	3.5916	0.1692		7379.37
Bolt	3.9761	3.2477	0.8393	4.5	6294.24
Bolt1	4.9087	3.9988	1.2725	4	5495.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	4.9087	4.9087	1.9175		4815.65
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate		
Shape	Square	-
Width, W	44	in
Thickness, t	2.5	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Base Plate Chord	23.211	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

External Base Plate		
Chord Length AA	24.595	in
Additional AA	0.000	in
Section Modulus, Z	38.430	in^3
Applied Moment, Mu	1113.1	k-ft
Bending Capacity, ϕMn	2075.2	k-ft
Capacity, Mu/ϕMn	0.536	OK
Chord Length AB	23.268	in
Additional AB	0.000	in
Section Modulus, Z	36.356	in^3
Applied Moment, Mu	865.3	k-ft
Bending Capacity, ϕMn	1963.2	k-ft
Capacity, Mu/ϕMn	0.441	OK
Bend Line Length	0.000	in
Additional Bend Line	0.000	in
Section Modulus, Z	0.000	in^3
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	k-ft
Capacity, Mu/ϕMn		

Internal Base Plate		
Arc Length	0.000	in
Section Modulus, Z	0.000	in^3
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	k-ft
Capacity, Mu/ϕMn		

Anchor Rods		
Anchor Rod Quantity, N	8	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	44	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	186.7	k
Applied Shear, Vu	1.1	k
Compressive Capacity, ϕPn	259.8	k
Tensile Capacity, ϕRnt	0.719	OK
Interaction Capacity	0.727	OK

Additional Bolt Group 1		
Bolt Quantity, N	4	-
Bolt Diameter, d	2.5	in
Bolt Circle, BC	52.4	in
Yield Strength, Fy	80	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	236.4	k
Applied Shear, Vu	0.0	k
Compressive Capacity, ϕPn	319.9	k
Compressive Capacity, ϕPn	0.739	OK
Interaction Capacity	0.788	OK

Additional Bolt Group 2		
Bolt Quantity, N	0	-
Bolt Diameter, d	0	in
Bolt Circle, BC	0	in
Yield Strength, Fy	0	ksi
Tensile Strength, Fu	0	ksi
Applied Axial, Pu	0.0	k
Applied Shear, Vu	0.0	k
Compressive Capacity, ϕPn	0.0	k
Compressive Capacity, ϕPn		
Interaction Capacity		

Dywidag Reinforcement		
Dywidag Quantity, N	4	-
Dywidag Diameter, d	2.5	in
Bolt Circle, BC	44.26	in
Yield Strength, Fy	80	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	303.6	k
Compressive Capacity, ϕPn	392.7	k
Capacity, Pu/ϕPn	0.773	OK

Base Plate Stiffeners		
Applied Axial Force, Pu	0.0	k
Applied Horizontal Force, Vu	0.00	k

Vertical Weld		
Vert.-to-Stiffener a=e_x/l	#DIV/0!	-
Spacing Ratio, k	#DIV/0!	-
Weld Coefficient, C	#DIV/0!	-
Compressive Capacity, ϕPn	#DIV/0!	k
Vert.-to-Plate a=e_x/l	#DIV/0!	-
Spacing Ratio, k	#DIV/0!	-
Weld Coefficient, C	#DIV/0!	-
Shear Capacity, ϕVn	#DIV/0!	k
$P_u/\phi_P P_n + V_u/\phi_V V_n$	-	

Horizontal Weld		
Horz.-to-Stiffener a=e_x/l	#DIV/0!	-
Spacing Ratio, k	#DIV/0!	-
Weld Coefficient, C	#DIV/0!	-
Effective Fillet	0.000	in
Compressive Capacity, ϕPn	#DIV/0!	k
Horz.-to-Pole a=e_x/l	#DIV/0!	-
Spacing Ratio, k	#DIV/0!	-
Weld Coefficient, C	#DIV/0!	-
Shear Capacity, ϕVn	#DIV/0!	k
$P_u/\phi_P P_n + V_u/\phi_V V_n$	-	

Plate Tension		
Gross Cross Section	0.000	in^2
Net Cross Section	0.000	in^2
Tensile Capacity, ϕTn	0.0	k
Capacity, Tu/ϕTn	-	

Plate Compression		
Radius of Gyration	#DIV/0!	in^3
kl/r	#DIV/0!	-
4.71 √(E/Fy)	0.00	-
Buckling Stress(Fe)	0.0	-
Crit. Buckling Stress(Fcr)	0.0	ksi
Compressive Capacity, ϕPn	0.0	k
Capacity, Pu/ϕPn	-	

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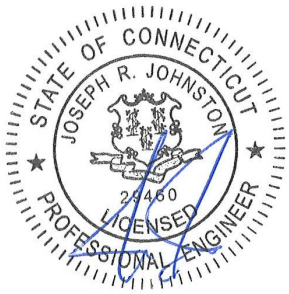
1033 WATERVLIET SHAKER RD, ALBANY, NY 12205

Mount Analysis Report

January 10, 2019

Site Name	ENFD Endfield
Site Cascade	CT52XC022
Client	Airosmith
Carrier	Sprint
Infinigy Job Number	526-104
Site Location	Town Farm Road, Enfield, CT, 06082 41° 57’ 57.30” N NAD83 72° 33’ 09.72” N NAD83
Mount Type	Mount Platform
Mount Centerline E.L.	111.0 ft.
Mount Usage	**75.9%**
Overall Result	**Pass**

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



01-10-19

Ishan Patel, E.I.T
Project Engineer I | INFINIGY

Contents

Introduction

Infinigy Engineering has been requested to perform a mount analysis on the existing Sprint antenna mounted structure. 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 17.0.2 analysis software.

Supporting Documentation

Colo App	Project #OAA713357, dated December 6, 2018
Construction Drawings	Infinigy Engineering, Job #526-104, dated February 22, 2019
Structural Analysis	ATC, Site #302489, dated January 7, 2019
Previous Analysis	Infinigy Engineering, Job #526-104, dated March 6, 2018

Analysis Code Requirements

Wind Speed	97 mph (3-Second Gust, V_{ASD})/ 125 mph (3-second Gust, V_{ULT})
Wind Speed w/ ice	50 mph (3-Second Gust, V_{ASD}) w/ 1" ice
TIA Revision	ANSI/TIA-222-G
Adopted IBC	2015 IBC/ 2018 Connecticut State Building Code.
Structure Class	II
Exposure Category	C
Topographic Category	1
Calculated Crest Height	0 ft.

Conclusion

Upon reviewing the results of this analysis, it is our opinion that the mount meets the specified TIA code requirements. The mount and anchors are therefore deemed adequate to support the final loading 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:

Ishan Patel, E.I.T
Project Engineer I | INFINIGY
1033 Watervliet Shaker Road, Albany, NY 12205
(M) (832) -7167721
ipatel@infinigy.com | www.infinigy.com

Final Configuration Loading

Mount CL (ft)	Rad. HT (ft)	Vert. O/S (ft)	Horiz. O/S (ft) [1]	Qty	Appurtenance [2]	Carrier
111.0	111.0	0.0	12.0	3	RFS APXVTM14-ALU-120	Sprint
			6.0	3	Commscope NNVV-65B-R4	
			6.0	6	Alcatel Lucent 800	
			12.0	3	Alcatel Lucent 1900	
			1.0	3	Nokia Flexi RRH 8TR 2600	
			1.0	2	Dragonwave A-ANT-11G-2-C	
			12.0	2	Dragonwave Horizon Compact	
			--	1	Generic Junction Box	

(1) Horizontal Offset is defined as the distance from the left most edge of the mount face horizontal when viewed facing the tower.
(2) Radios are mounted behind antennas at respective locations see appended documents for vertical locations.

Structure Usages

Stand-off	75.9%	Pass
Horizontal	27.2%	Pass
Mount Pipe	39.9%	Pass
Result:	**75.9%**	**Pass**

Mount Connections

Reaction Data	Design Capacity*	Analysis Reactions	Results
Max Tension (Kips)	19.66	3.25	16.5%
Max Shear (Kips)	12.02	2.12	17.6%
Unity Check	--	--	34.1%

***Assumed (2) 5/8" A307 threaded rods. Contractor to field verify anchors diameter prior to proposed installation.**

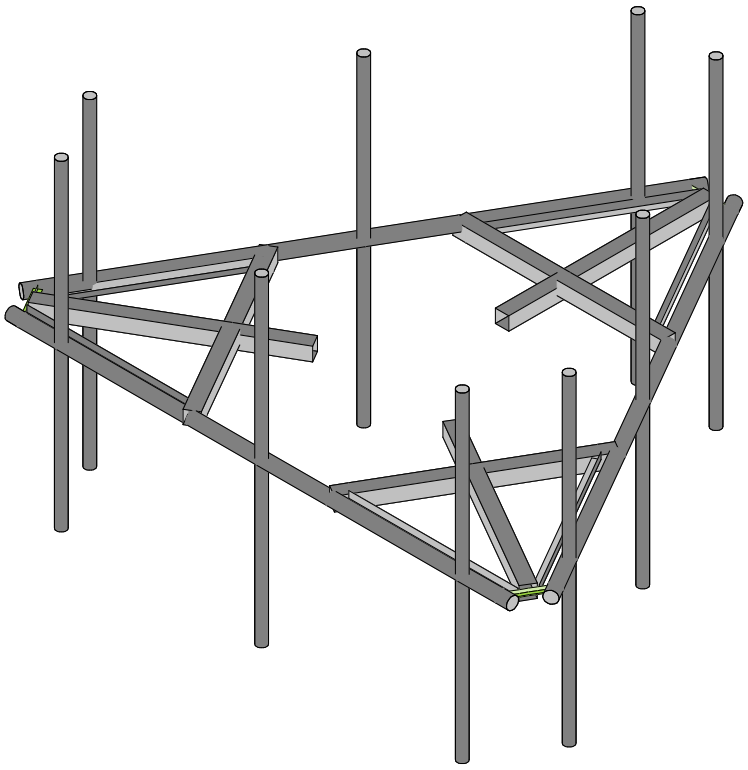
- Anchors reactions are acceptable when compare to code calculated capacities.

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.



Envelope Only Solution

Infinigy	CT52XC022	Proposed Configuration
IP		Jan 10, 2019 at 3:06 PM
526-104		CT52XC022.r3d

Site Name:	CT52XC022
Client:	Airosmith
Carrier:	Sprint
Engineer:	IP
Date:	1/10/2019

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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 - Platform
Number of Sectors:	3
Structure Shape 1:	Round

Rooftop Inputs:

Rooftop Wind Speed-Up?:	No

Wind Loading Inputs:

Design Wind Velocity:	97	mph (nominal 3-second gust)
Wind Centerline 1 (z_1):	111.0	ft
Side Face Angle (θ):	60	degrees
Exposure Category:	C	
Topographic Category:	1	

Wind with No Ice		
q_z (psf)	Gh	F_{ST} (psf)
29.60	1.00	**35.52**

Wind with Ice		
q_z (psf)	Gh	F_{ST} (psf)
7.87	1.00	**23.53**

Ice Loading Inputs:

Is Ice Loading Needed?:	Yes	
Ice Wind Velocity:	50	mph (nominal 3-second gust)
Base Ice Thickness:	1.00	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)
RFS APXVTM14-ALU-120	111.0	3	1.00	Flat	Flat	29.60	6.34	187.76	106.79	127.04	167.52
Commscope NNVV-65B-R4	111.0	3	1.00	Flat	Flat	29.60	12.27	363.27	170.22	218.49	315.01
Alcatel Lucent RRH 800	111.0	3	1.00	Flat	Flat	29.60	1.71	50.67	38.98	41.90	47.75
Alcatel Lucent RRH 800	111.0	3	1.00	Flat	Flat	29.60	1.71	50.67	38.98	41.90	47.75
Alcatel Lucent RRH 1900	111.0	3	1.00	Flat	Flat	29.60	2.58	76.48	75.24	75.55	76.17
Nokia Flexi RRH 8TR 2600	111.0	3	1.00	Flat	Flat	29.60	2.68	79.45	26.02	39.38	66.09
Dragonwave A-ANT-11G-2-C	111.0	2	1.00	Flat	Flat	29.60	5.70	168.83	77.44	100.29	145.98
Dragonwave Horizon Compact	111.0	2	1.00	Flat	Flat	29.60	0.72	21.34	10.90	13.51	18.73
Generic Junction Box	111.0	1	1.00	Flat	Flat	29.60	4.80	142.10	48.24	71.71	118.64

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N2			HSS 4"x4"x1/4"	Beam	HSS Pipe	A53 Gr.B	Typical
2	M2	N3	N4			RIGID	None	None	RIGID	Typical
3	M3	N5	N8			HSS 4"x4"x1/4"	Beam	HSS Pipe	A53 Gr.B	Typical
4	M4	N9	N10			RIGID	None	None	RIGID	Typical
5	M5	N6	N11			HSS 4"x4"x1/4"	Beam	HSS Pipe	A53 Gr.B	Typical
6	M6	N12	N13			RIGID	None	None	RIGID	Typical
7	M7	N16	N15			3" STD Pipe	Beam	Pipe	A53 Gr.B	Typical
8	M8	N19	N18			3" STD Pipe	Beam	Pipe	A53 Gr.B	Typical
9	M9	N22	N21			3" STD Pipe	Beam	Pipe	A53 Gr.B	Typical
10	M10	N26	N27			HSS 4"x4"x1/4"	Beam	HSS Pipe	A53 Gr.B	Typical
11	M11	N28	N29			HSS 4"x4"x1/4"	Beam	HSS Pipe	A53 Gr.B	Typical
12	M12	N30	N31			HSS 4"x4"x1/4"	Beam	HSS Pipe	A53 Gr.B	Typical
13	M13	N33	N34			L2"x2"x1/8"	Beam	Single Angle	A36 Gr.36	Typical
14	M14	N32	N35		270	L2"x2"x1/8"	Beam	Single Angle	A36 Gr.36	Typical
15	M15	N37	N38			L2"x2"x1/8"	Beam	Single Angle	A36 Gr.36	Typical
16	M16	N36	N39		270	L2"x2"x1/8"	Beam	Single Angle	A36 Gr.36	Typical
17	M17	N41	N42			L2"x2"x1/8"	Beam	Single Angle	A36 Gr.36	Typical
18	M18	N40	N43		270	L2"x2"x1/8"	Beam	Single Angle	A36 Gr.36	Typical
19	MP1	N100	N101			2.5" STD Pipe	Beam	Pipe	A53 Gr.B	Typical
20	MP2	N102	N103			2.5" STD Pipe	Beam	Pipe	A53 Gr.B	Typical
21	MP3	N104	N105			2.5" STD Pipe	Beam	Pipe	A53 Gr.B	Typical
22	MP7	N112	N113			2.5" STD Pipe	Beam	Pipe	A53 Gr.B	Typical
23	MP8	N114	N115			2.5" STD Pipe	Beam	Pipe	A53 Gr.B	Typical
24	MP9	N116	N117			2.5" STD Pipe	Beam	Pipe	A53 Gr.B	Typical
25	MP4	N106	N107			2.5" STD Pipe	Beam	Pipe	A53 Gr.B	Typical
26	MP5	N108	N109			2.5" STD Pipe	Beam	Pipe	A53 Gr.B	Typical
27	MP6	N110	N111			2.5" STD Pipe	Beam	Pipe	A53 Gr.B	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	General				
2	RIGID		3	36	0
3	Total General		3	36	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	L2x2x2	6	303.1	0
7	A53 Gr.B	HSS4X4X4	6	374.3	.4
8	A53 Gr.B	PIPE_2.5	9	864	.4
9	A53 Gr.B	PIPE_3.0	3	450	.3
10	Total HR Steel		24	1991.4	1.1

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
1	Self Weight	DL		-1			27			
2	Wind Load AZI 000	WLZ					27		1	
3	Wind Load AZI 090	WLX					27		1	
4	Ice Weight	OL1					27	27		
5	Wind + Ice Load AZI 000	OL2					27		1	
6	Wind + Ice Load AZI 090	OL3					27		1	
7	Service Live 1	LL				6				
8	BLC 2 Transient Area Loads	None						26		
9	BLC 3 Transient Area Loads	None						22		
10	BLC 5 Transient Area Loads	None						26		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
11	BLC 6 Transient Area Loads	None						22		

Load Combinations

	Description	Solve	PDelta	S...	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Fa...
1	1.4D	Yes	Y		DL	1.4						
2	1.2D + 1.6W AZI 000	Yes	Y		DL	1.2	WLZ	1.6				
3	1.2D + 1.6W AZI 030	Yes	Y		DL	1.2	WLZ	1.386	WLX	.8		
4	1.2D + 1.6W AZI 060	Yes	Y		DL	1.2	WLZ	.8	WLX	1.386		
5	1.2D + 1.6W AZI 090	Yes	Y		DL	1.2			WLX	1.6		
6	1.2D + 1.6W AZI 120	Yes	Y		DL	1.2	WLZ	-.8	WLX	1.386		
7	1.2D + 1.6W AZI 150	Yes	Y		DL	1.2	WLZ	-1.386	WLX	.8		
8	1.2D + 1.6W AZI 180	Yes	Y		DL	1.2	WLZ	-1.6				
9	1.2D + 1.6W AZI 210	Yes	Y		DL	1.2	WLZ	-1.386	WLX	-.8		
10	1.2D + 1.6W AZI 240	Yes	Y		DL	1.2	WLZ	-.8	WLX	-1.386		
11	1.2D + 1.6W AZI 270	Yes	Y		DL	1.2			WLX	-1.6		
12	1.2D + 1.6W AZI 300	Yes	Y		DL	1.2	WLZ	.8	WLX	-1.386		
13	1.2D + 1.6W AZI 330	Yes	Y		DL	1.2	WLZ	1.386	WLX	-.8		
14	0.9D + 1.6W AZI 000	Yes	Y		DL	.9	WLZ	1.6				
15	0.9D + 1.6W AZI 030	Yes	Y		DL	.9	WLZ	1.386	WLX	.8		
16	0.9D + 1.6W AZI 060	Yes	Y		DL	.9	WLZ	.8	WLX	1.386		
17	0.9D + 1.6W AZI 090	Yes	Y		DL	.9			WLX	1.6		
18	0.9D + 1.6W AZI 120	Yes	Y		DL	.9	WLZ	-.8	WLX	1.386		
19	0.9D + 1.6W AZI 150	Yes	Y		DL	.9	WLZ	-1.386	WLX	.8		
20	0.9D + 1.6W AZI 180	Yes	Y		DL	.9	WLZ	-1.6				
21	0.9D + 1.6W AZI 210	Yes	Y		DL	.9	WLZ	-1.386	WLX	-.8		
22	0.9D + 1.6W AZI 240	Yes	Y		DL	.9	WLZ	-.8	WLX	-1.386		
23	0.9D + 1.6W AZI 270	Yes	Y		DL	.9			WLX	-1.6		
24	0.9D + 1.6W AZI 300	Yes	Y		DL	.9	WLZ	.8	WLX	-1.386		
25	0.9D + 1.6W AZI 330	Yes	Y		DL	.9	WLZ	1.386	WLX	-.8		
26	1.2D + 1.0Di	Yes	Y		DL	1.2	OL1	1				
27	1.2D + 1.0Di + 1.0Wi AZI ...	Yes	Y		DL	1.2	OL1	1	OL2	1		
28	1.2D + 1.0Di + 1.0Wi AZI ...	Yes	Y		DL	1.2	OL1	1	OL2	.866	OL3	.5
29	1.2D + 1.0Di + 1.0Wi AZI ...	Yes	Y		DL	1.2	OL1	1	OL2	.5	OL3	.866
30	1.2D + 1.0Di + 1.0Wi AZI ...	Yes	Y		DL	1.2	OL1	1			OL3	1
31	1.2D + 1.0Di + 1.0Wi AZI ...	Yes	Y		DL	1.2	OL1	1	OL2	-.5	OL3	.866
32	1.2D + 1.0Di + 1.0Wi AZI ...	Yes	Y		DL	1.2	OL1	1	OL2	-.866	OL3	.5
33	1.2D + 1.0Di + 1.0Wi AZI ...	Yes	Y		DL	1.2	OL1	1	OL2	-1		
34	1.2D + 1.0Di + 1.0Wi AZI ...	Yes	Y		DL	1.2	OL1	1	OL2	-.866	OL3	-.5
35	1.2D + 1.0Di + 1.0Wi AZI ...	Yes	Y		DL	1.2	OL1	1	OL2	-.5	OL3	-.8...
36	1.2D + 1.0Di + 1.0Wi AZI ...	Yes	Y		DL	1.2	OL1	1			OL3	-1
37	1.2D + 1.0Di + 1.0Wi AZI ...	Yes	Y		DL	1.2	OL1	1	OL2	.5	OL3	-.8...
38	1.2D + 1.0Di + 1.0Wi AZI ...	Yes	Y		DL	1.2	OL1	1	OL2	.866	OL3	-.5
39	1.2D + 1.5L + 1.0WL (30 ...	Yes	Y		DL	1.2	LL	1.5	WLZ	.096		
40	1.2D + 1.5L + 1.0WL (30 ...	Yes	Y		DL	1.2	LL	1.5	WLZ	.083	WLX	.048
41	1.2D + 1.5L + 1.0WL (30 ...	Yes	Y		DL	1.2	LL	1.5	WLZ	.048	WLX	.083
42	1.2D + 1.5L + 1.0WL (30 ...	Yes	Y		DL	1.2	LL	1.5			WLX	.096
43	1.2D + 1.5L + 1.0WL (30 ...	Yes	Y		DL	1.2	LL	1.5	WLZ	-.048	WLX	.083
44	1.2D + 1.5L + 1.0WL (30 ...	Yes	Y		DL	1.2	LL	1.5	WLZ	-.083	WLX	.048
45	1.2D + 1.5L + 1.0WL (30 ...	Yes	Y		DL	1.2	LL	1.5	WLZ	-.096		
46	1.2D + 1.5L + 1.0WL (30 ...	Yes	Y		DL	1.2	LL	1.5	WLZ	-.083	WLX	-.0...
47	1.2D + 1.5L + 1.0WL (30 ...	Yes	Y		DL	1.2	LL	1.5	WLZ	-.048	WLX	-.0...
48	1.2D + 1.5L + 1.0WL (30 ...	Yes	Y		DL	1.2	LL	1.5			WLX	-.0...
49	1.2D + 1.5L + 1.0WL (30 ...	Yes	Y		DL	1.2	LL	1.5	WLZ	.048	WLX	-.0...
50	1.2D + 1.5L + 1.0WL (30 ...	Yes	Y		DL	1.2	LL	1.5	WLZ	.083	WLX	-.0...

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	N1	max	1953.158	18	3258.084	29	2122.242	2	759.24	14	1918.932	15	177.619	23
2		min	-1952.944	12	537.455	22	-2121.817	20	-4515.391	33	-1917.791	9	-6948.582	30
3	N5	max	1704.366	4	2647.806	35	1657.656	14	-70.866	15	1162.779	6	4900.006	29
4		min	-1705.063	22	430.248	16	-1658.081	8	-3448.364	34	-1162.587	24	831.265	23
5	N6	max	2059.623	5	3075.48	33	1600.223	2	7984.136	27	5137.85	11	1250.996	11
6		min	-2059.623	11	661.072	14	-1600.223	20	736.924	20	-5138.336	5	-1183.06	17
7	Totals:	max	5178.958	5	8901.368	32	5380.115	2						
8		min	-5178.958	11	1930.043	25	-5380.115	20						

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

	Member	Shape	Code Check	Loc[in]	LC	Shear ..	Loc[in]	Dir	LC	phi*Pnc ...	phi*Pnt [...	phi*Mn y...	phi*Mn z...	Cb	Eqn
1	M5	HSS4X4X4	.759	0	36	.191	0	z	11	101755....	106155	12311.25	12311.25	1	H1-1b
2	M1	HSS4X4X4	.695	0	30	.191	0	z	9	101755....	106155	12311.25	12311.25	1	H1-1b
3	M3	HSS4X4X4	.512	0	31	.148	0	y	35	101755....	106155	12311.25	12311.25	1	H1-1b
4	MP2	PIPE_2.5	.399	48	8	.028	48		8	30038.4...	50715	3596.25	3596.25	1....	H1-1b
5	MP8	PIPE_2.5	.354	48	11	.025	48		11	30038.4...	50715	3596.25	3596.25	1....	H1-1b
6	MP5	PIPE_2.5	.354	48	5	.025	48		5	30038.4...	50715	3596.25	3596.25	1....	H1-1b
7	M9	PIPE_3.0	.266	96.875	11	.272	145....		5	59302.8...	65205	5748.75	5748.75	1	H1-1b
8	M8	PIPE_3.0	.241	54.688	28	.169	145....		8	59302.8...	65205	5748.75	5748.75	1	H1-1b
9	M7	PIPE_3.0	.235	95.312	11	.252	95.312		4	59302.8...	65205	5748.75	5748.75	1	H3-6
10	MP1	PIPE_2.5	.229	48	8	.022	48		8	30038.4...	50715	3596.25	3596.25	1....	H1-1b
11	M10	HSS4X4X4	.228	31.26	36	.110	58.612	y	12	103885....	106155	12311.25	12311.25	1	H1-1b
12	M11	HSS4X4X4	.226	31.26	28	.127	58.612	y	5	103885....	106155	12311.25	12311.25	1	H1-1b
13	M18	L2x2x2	.216	50.52	32	.012	50.52	z	27	6508.508	15908.4	402.563	777.206	1....	H2-1
14	M16	L2x2x2	.215	50.52	29	.011	50.52	z	30	6508.508	15908.4	402.563	798.73	2....	H2-1
15	MP4	PIPE_2.5	.211	48	5	.020	48		5	30038.4...	50715	3596.25	3596.25	1....	H1-1b
16	MP7	PIPE_2.5	.211	48	11	.020	48		11	30038.4...	50715	3596.25	3596.25	1....	H1-1b
17	M15	L2x2x2	.205	50.52	31	.011	50.52	y	32	6508.508	15908.4	402.563	809.168	2....	H2-1
18	M12	HSS4X4X4	.205	31.26	33	.066	3.907	y	11	103885....	106155	12311.25	12311.25	1	H1-1b
19	M17	L2x2x2	.203	50.52	35	.011	50.52	y	36	6508.508	15908.4	402.563	809.793	2....	H2-1
20	M14	L2x2x2	.179	50.52	37	.011	50.52	z	36	6508.508	15908.4	402.563	783.554	2....	H2-1
21	M13	L2x2x2	.168	50.52	34	.011	50.52	y	27	6508.508	15908.4	402.563	799.198	2....	H2-1
22	MP3	PIPE_2.5	.126	48	8	.021	48		8	30038.4...	50715	3596.25	3596.25	1....	H1-1b
23	MP6	PIPE_2.5	.110	48	5	.019	48		5	30038.4...	50715	3596.25	3596.25	1....	H1-1b
24	MP9	PIPE_2.5	.031	48	9	.004	48		9	30038.4...	50715	3596.25	3596.25	1....	H1-1b

Sprint

PROJECT:	DO MACRO UPGRADE
SITE NAME:	ENFD ENDFIELD
SITE CASCADE:	CT52XC022
SITE ADDRESS:	TOWN FARM ROAD ENFIELD, CT 06082
SITE TYPE:	MONOPOLE TOWER
MARKET:	NORTHERN CONNECTICUT

SITE INFORMATION

TOWER OWNER:
AMERICAN TOWERS, LLC
10 PRESIDENTIAL WAY
WOBURN, MA 01801
(781) 926-4500

LATITUDE (NAD83):
41° 57' 57.30" N
41.96591667

LONGITUDE (NAD83):
72° 33' 9.72" W
-72.5527

COUNTY:
HARTFORD COUNTY

ZONING JURISDICTION:
CONNECTICUT SITING COUNCIL

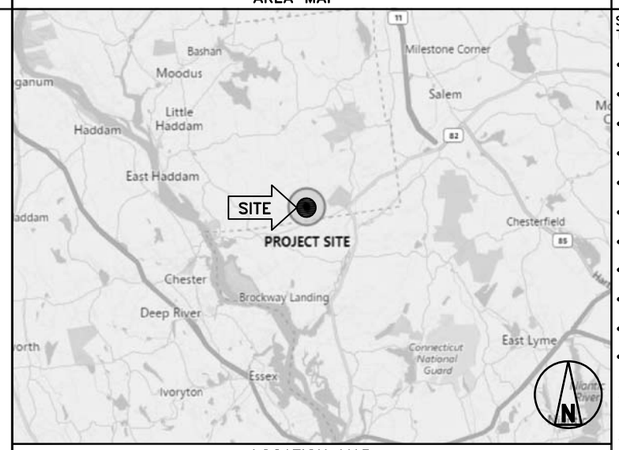
ZONING DISTRICT:
TBD

POWER COMPANY:
CL&P
PHONE: (800) 286-2000

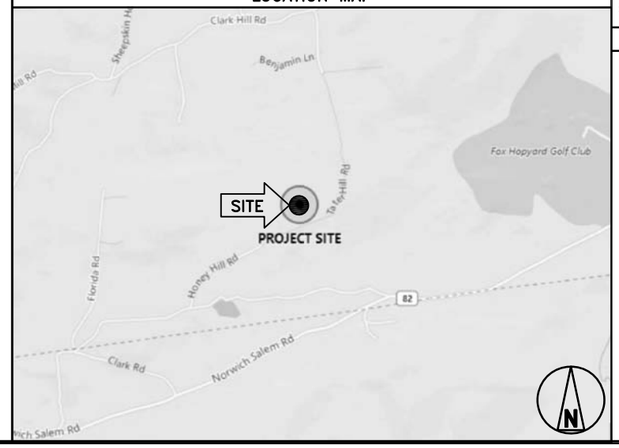
AAV PROVIDER:
AT&T
PHONE: (800) 288-2020

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) PANEL ANTENNAS AND RRH'S
- INSTALL (6) PANEL ANTENNAS
- INSTALL (3) 1900 MHz & 2.5 GHz RRH'S BEHIND ANTENNAS
- INSTALL (3) 800 MHz RRH'S BEHIND ANTENNAS
- INSTALL (3) 800 MHz RRH'S ON PROPOSED PIPE MOUNTS
- INSTALL (48) JUMPER CABLES
- INSTALL (4) HYBRID CABLES
- REMOVE EXISTING CLEARWIRE GROUND EQUIPMENT
- INSTALL (2) EQUIPMENT CABINETS WITHIN EXISTING LEASE AREA
- INSTALL 7'x7' CONCRETE EQUIPMENT PAD
- 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	EQUIPMENT & MOUNTING DETAILS	0
A-6	EQUIPMENT DETAILS	0
A-7	CIVIL DETAILS	0
A-8	PLUMBING DIAGRAM	0
E-1	ONE LINE & NOTES	0
E-2	ELECTRICAL & GROUNDING DETAILS	0
E-3	ELECTRICAL & GROUNDING DETAILS	0

PLANS PREPARED FOR:
Sprint

PLANS PREPARED BY:
INFINIGY
INFINIGY ENGINEERING, PLLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793
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
24705
LICENSED PROFESSIONAL ENGINEER
02/22/2019

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	02/01/19	MAP	0

SITE NAME:
ENFD ENFIELD

SITE NUMBER:
CT52XC022

SITE ADDRESS:
TOWN FARM ROAD
ENFIELD, CT 06082

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

INFINIGY ENGINEERING, PLLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

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
24705
LICENSED PROFESSIONAL ENGINEER

02/22/2019

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	02/01/19	MAP	0

SITE NAME:

ENFD ENFIELD

SITE NUMBER:

CT52XC022

SITE ADDRESS:

TOWN FARM ROAD
ENFIELD, CT 06082

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)

PLANS PREPARED FOR:

Sprint

PLANS PREPARED BY:

INFINIGY

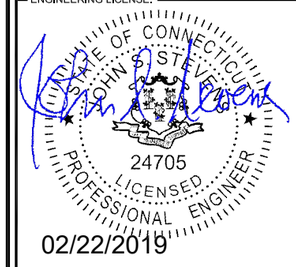
INFINIGY ENGINEERING, PLLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793
JOB NUMBER 526-104

PROJECT MANAGER:

AIROSMITH DEVELOPMENT

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

ENGINEERING LICENSE:



DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	02/01/19	MAP	0

SITE NAME:

ENFD ENFIELD

SITE NUMBER:

CT52XC022

SITE ADDRESS:

TOWN FARM ROAD
ENFIELD, CT 06082

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.

PLANS PREPARED FOR:

Sprint

PLANS PREPARED BY:

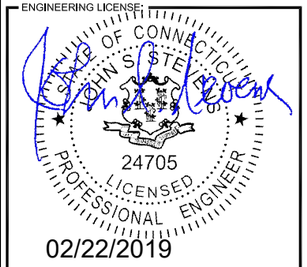
INFINIGY ENGINEERING, PLLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

JOB NUMBER 526-104

PROJECT MANAGER:

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

ENGINEERING LICENSE:



02/22/2019

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	02/01/19	MAP	0

SITE NAME:

ENFD ENFIELD

SITE NUMBER:

CT52XC022

SITE ADDRESS:

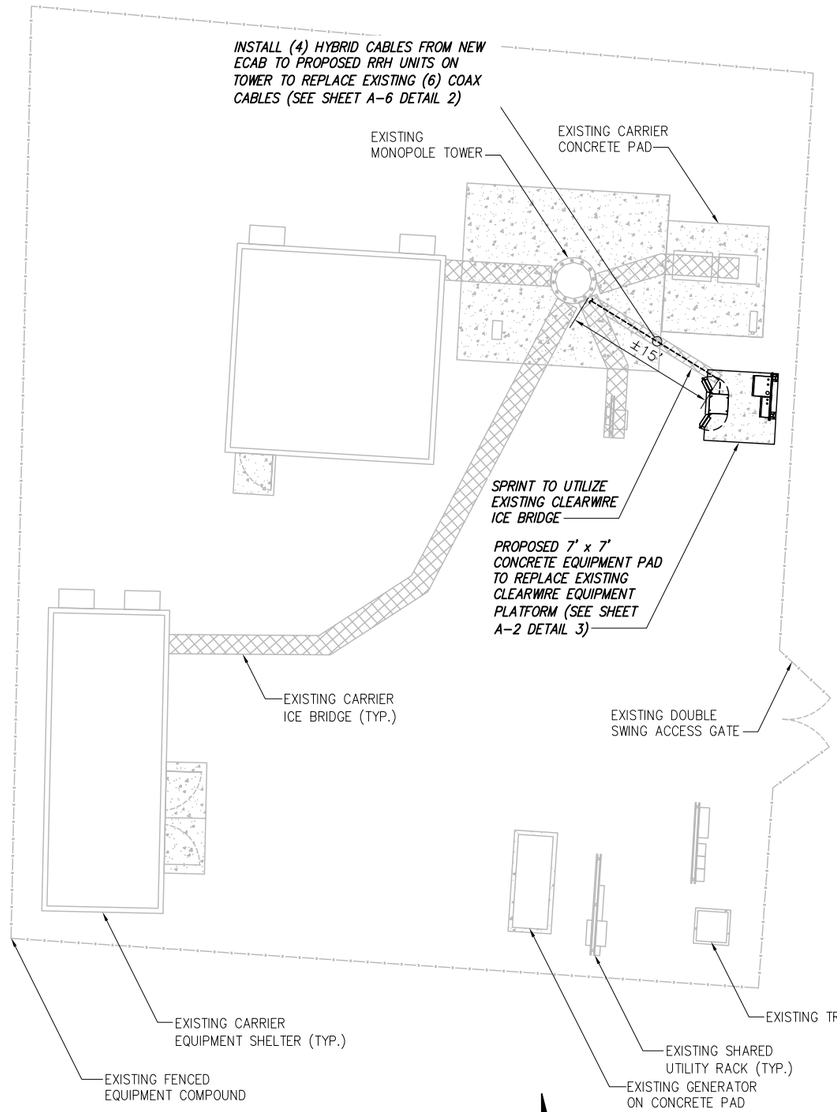
TOWN FARM ROAD
ENFIELD, CT 06082

SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

SHEET NUMBER:

SP-3



N

GRAPHIC SCALE:

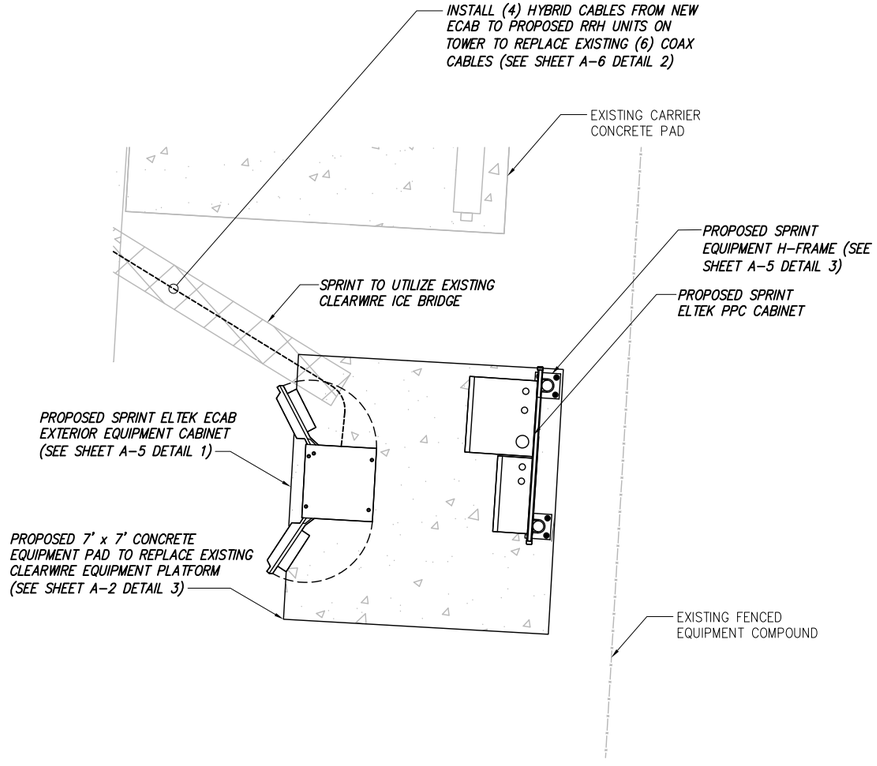
20' 10' 0 10' 20'

SCALE (11x17): 1" = 20'-0"

SCALE (22x34): 1" = 10'-0"

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

OVERALL SITE PLAN | SCALE: AS NOTED | 1



N

GRAPHIC SCALE:

4' 2' 0 2' 4'

SCALE (11x17): 1" = 4'-0"

SCALE (22x34): 1" = 2'-0"

SPRINT EQUIPMENT PLAN | SCALE: AS NOTED | 2

PLANS PREPARED FOR:

Sprint

PLANS PREPARED BY:

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ENGINEERING LICENSE:

STATE OF CONNECTICUT
JOHN S. STEVENS
24705
LICENSED PROFESSIONAL ENGINEER

02/22/2019

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TOWN FARM ROAD
ENFIELD, CT 06082

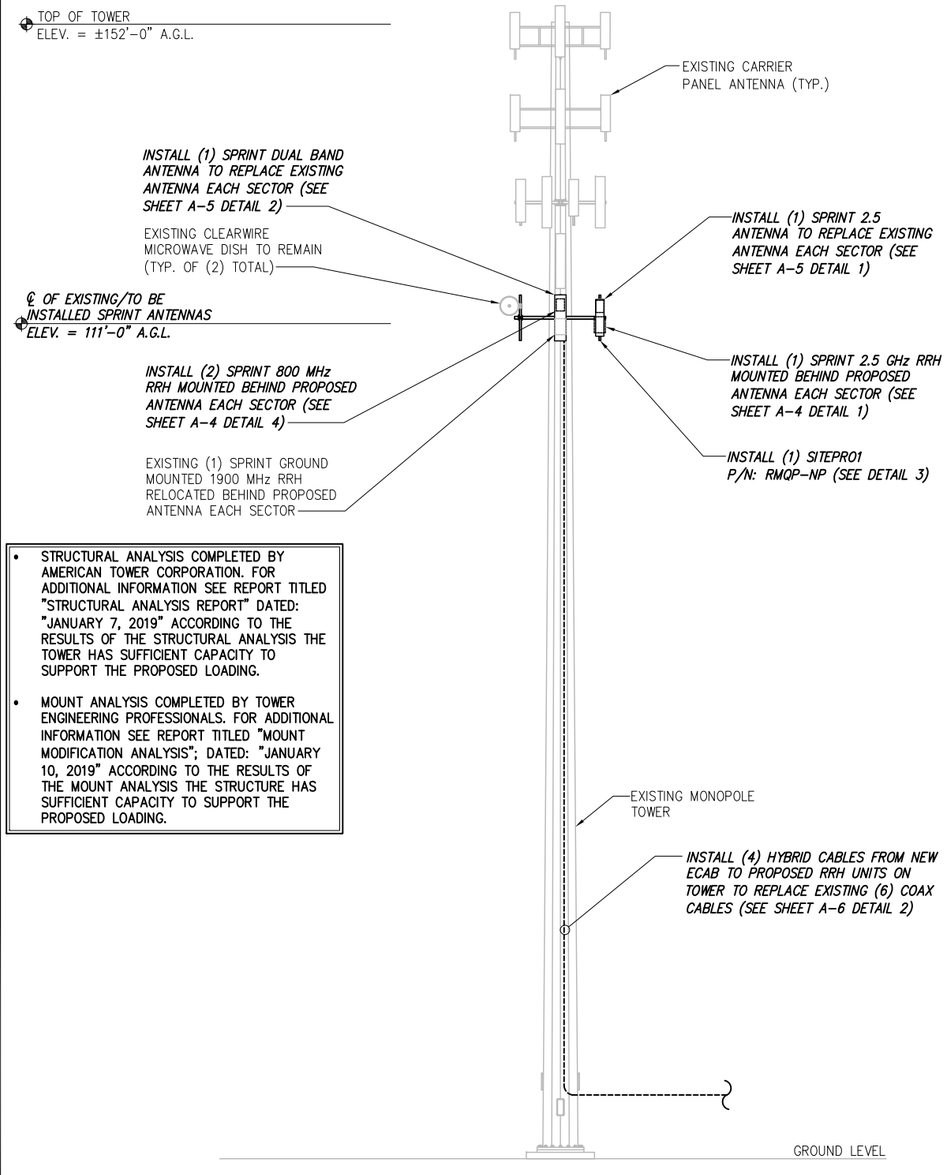
SHEET DESCRIPTION:

SITE PLAN

SHEET NUMBER:

A-1

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



- STRUCTURAL ANALYSIS COMPLETED BY AMERICAN TOWER CORPORATION. FOR ADDITIONAL INFORMATION SEE REPORT TITLED "STRUCTURAL ANALYSIS REPORT" DATED: "JANUARY 7, 2019" ACCORDING TO THE RESULTS OF THE STRUCTURAL ANALYSIS THE TOWER HAS SUFFICIENT CAPACITY TO SUPPORT THE PROPOSED LOADING.
- MOUNT ANALYSIS COMPLETED BY TOWER ENGINEERING PROFESSIONALS. FOR ADDITIONAL INFORMATION SEE REPORT TITLED "MOUNT MODIFICATION ANALYSIS"; DATED: "JANUARY 10, 2019" ACCORDING TO THE RESULTS OF THE MOUNT ANALYSIS THE STRUCTURE HAS SUFFICIENT CAPACITY TO SUPPORT THE PROPOSED LOADING.

TOWER ELEVATION | NO SCALE | 1

SITE LOADING CHART

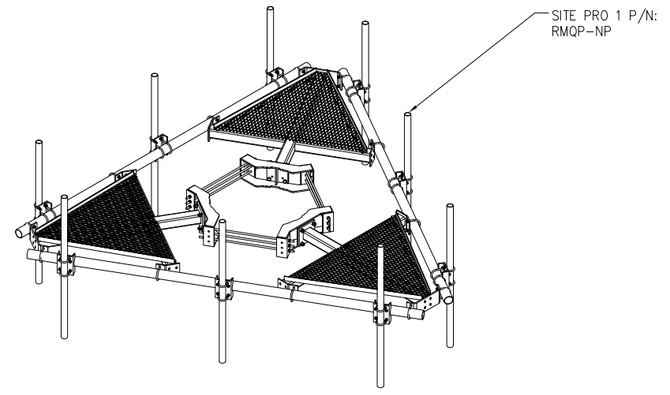
SECTOR	EXISTING/ PROPOSED	ANTENNA MODEL #	VENDOR	AZIMUTH	QTY.	REMAIN/ REMOVED	RRH (QTY/MODEL)	CABLE	CABLE LENGTH	RAD CENTER
ALPHA	PROPOSED	APXVTM14-ALU-120	RFS	0°	1	–	(2) 800 MHZ 2X50W RRH W/ FILTER	SEE SHEET A-5 DETAIL 1	±160'*	±111' AGL
	PROPOSED	NNVV-65B-R4	COMMSCOPE	0°	1	–	(1) FZHN FLEXI RRH 8TR 2600 9*20W	SEE SHEET A-5 DETAIL 1		
	EXISTING	LLPX310R	ARGUS	0°	1	REMOVE	(1) 1900 MHz 4X45 RRH	EXISTING COAX		
BETA	PROPOSED	APXVTM14-ALU-120	RFS	120°	1	–	(2) 800 MHZ 2X50W RRH W/ FILTER	SEE SHEET A-5 DETAIL 1		±111' AGL
	PROPOSED	NNVV-65B-R4	COMMSCOPE	120°	1	–	(1) FZHN FLEXI RRH 8TR 2600 9*20W	SEE SHEET A-5 DETAIL 1		
	EXISTING	LLPX310R	ARGUS	120°	1	REMOVE	(1) 1900 MHz 4X45 RRH	EXISTING COAX		
GAMMA	PROPOSED	APXVTM14-ALU-120	RFS	240°	1	–	(2) 800 MHZ 2X50W RRH W/ FILTER	SEE SHEET A-5 DETAIL 1		±111' AGL
	PROPOSED	NNVV-65B-R4	COMMSCOPE	240°	1	–	(1) FZHN FLEXI RRH 8TR 2600 9*20W	SEE SHEET A-5 DETAIL 1		
	EXISTING	LLPX310R	ARGUS	240°	1	REMOVE	(1) 1900 MHz 4X45 RRH	EXISTING COAX		

PROJECT SCOPE:

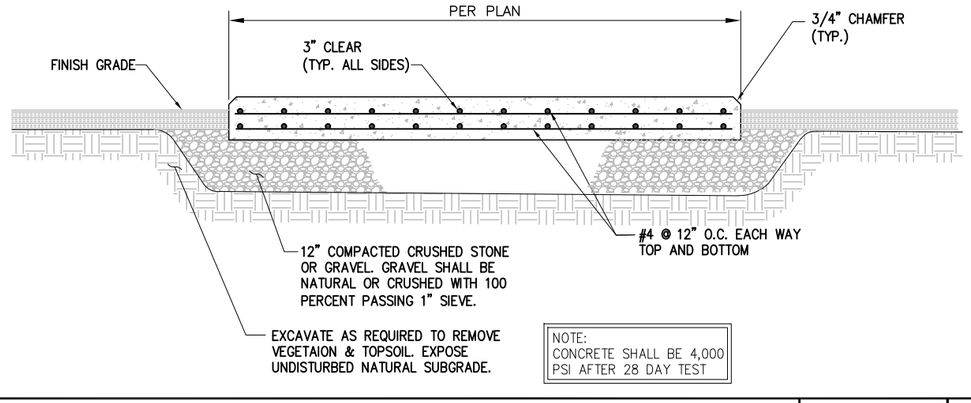
REMOVE: (3) PANEL ANTENNAS INSTALL: (6) PANEL ANTENNAS AND (9) RRH'S

* 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 MOUNT DETAIL | NO SCALE | 3



EQUIPMENT CABINET FOUNDATION | NO SCALE | 4

PLANS PREPARED FOR:
Sprint

PLANS PREPARED BY:
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OFFICE#. (518) 306-3740

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN G. STEVENS
24705
LICENSED PROFESSIONAL ENGINEER
02/22/2019

DRAWING NOTICE:

REVISIONS:

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ISSUED FOR PERMIT	02/01/19	MAP	0

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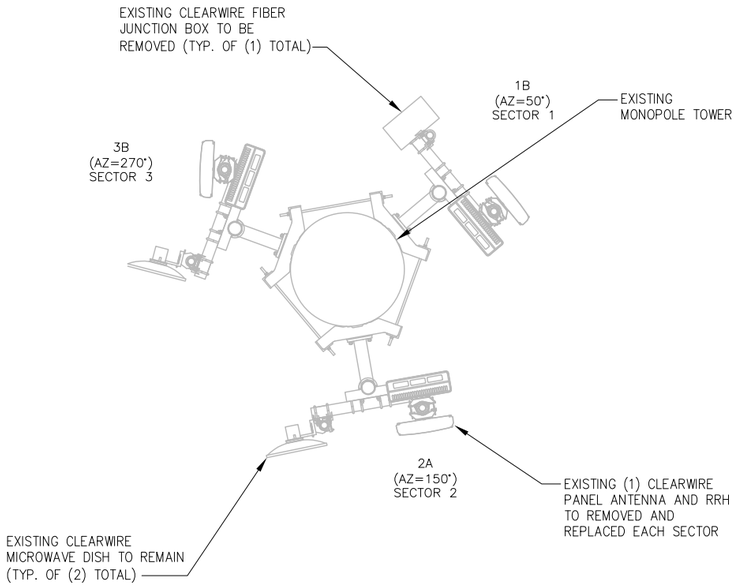
SITE NUMBER:
CT52XC022

SITE ADDRESS:
TOWN FARM ROAD
ENFIELD, CT 06082

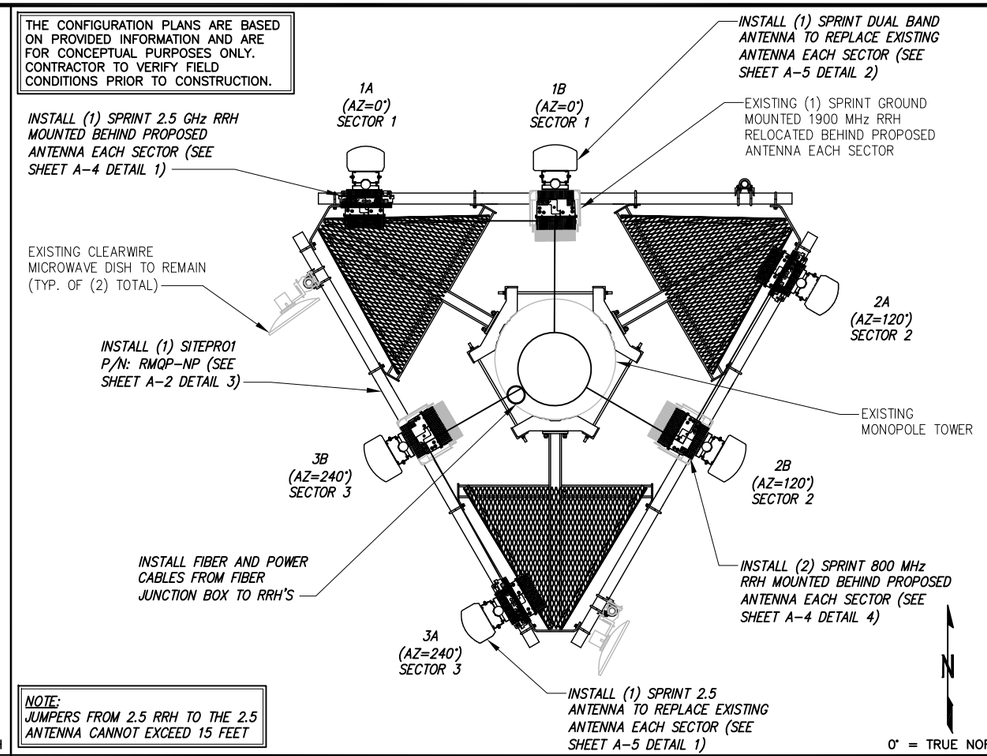
SHEET DESCRIPTION:
TOWER ELEVATION

SHEET NUMBER:
A-2



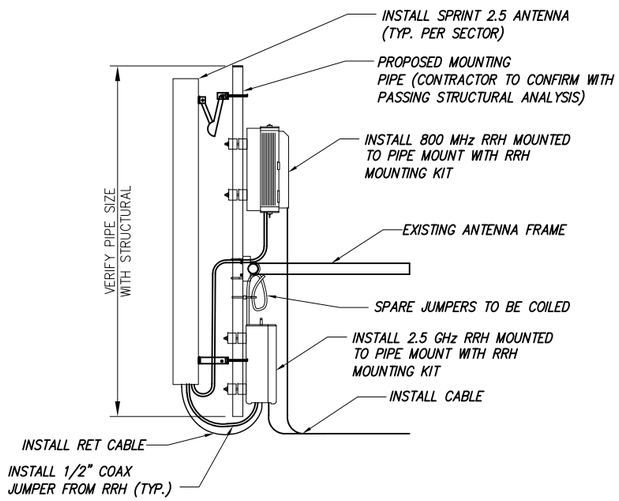
EXISTING ANTENNA LAYOUT | NO SCALE | 1

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



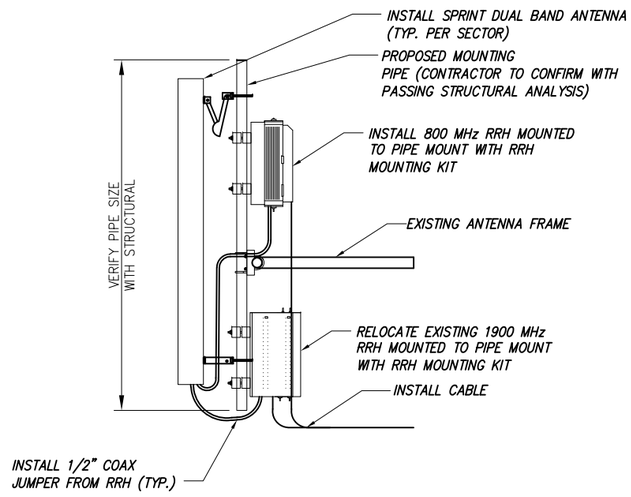
NOTE:
CONTRACTOR TO POSITION RRH ON MOUNT BEHIND ANTENNA SUCH THAT THE RRH DOES NOT INTERFERE WITH THE EXISTING PLATFORM/T-ARM MOUNTING HARDWARE.

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 2.5 ANTENNA & RRH MOUNTING DETAILS | NO SCALE | 3



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 DUAL BAND ANTENNA & RRH MOUNTING DETAILS | NO SCALE | 4

PLANS PREPARED FOR:

Sprint

PLANS PREPARED BY:

INFINIGY
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32 CLINTON ST.
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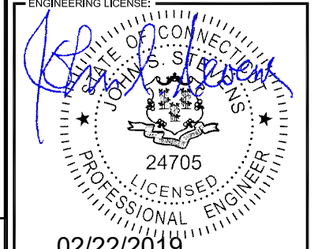
OFFICE#. (518) 306-3740

ENGINEERING LICENSE:



02/22/2019

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SITE NUMBER:

CT52XC022

SITE ADDRESS:

TOWN FARM ROAD
ENFIELD, CT 06082

SHEET DESCRIPTION:

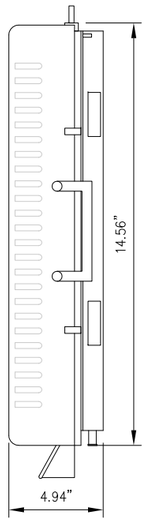
ANTENNA LAYOUT
& MOUNTING DETAILS

SHEET NUMBER:

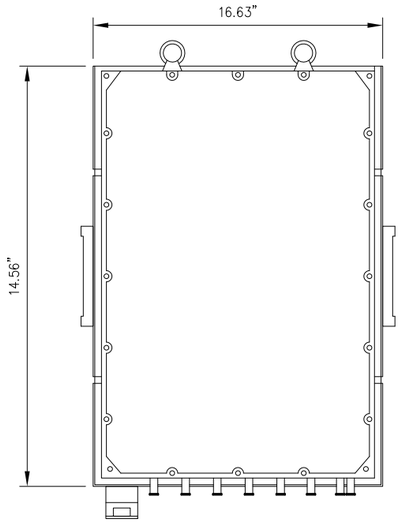
A-3

RRU: FLEXI RRH 8TR 2600 8x20W

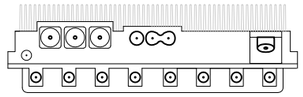
COLOR: LIGHT GREY
WEIGHT: 44 LBS.



SIDE VIEW



FRONT VIEW



PLAN VIEW

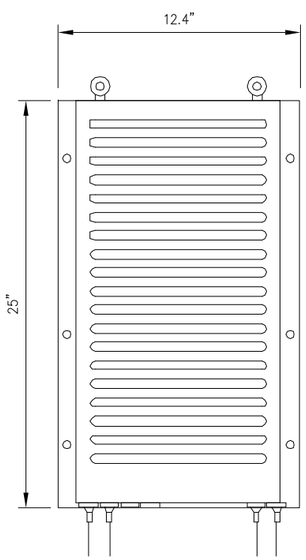
NOTES

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

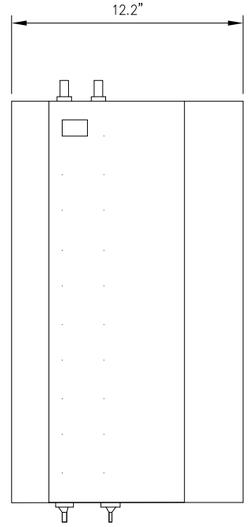
2.5 GHz RRH	NO SCALE	1

RRH: ALCATEL LUCENT 1900 MHz

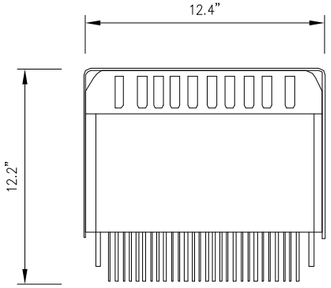
COLOR: LIGHT GREY
WEIGHT: 70 LBS.
(INCLUDING OPTIONAL SOLAR SHIELD)



FRONT VIEW



SIDE VIEW



TOP VIEW

1900 MHz RRH	NO SCALE	2

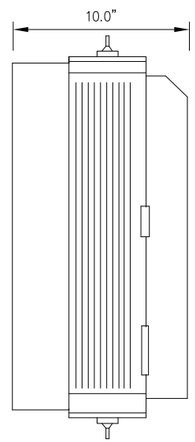
DETAIL NOT USED	NO SCALE	3

RRH: ALCATEL LUCENT RRH 800 MHz 2x50W

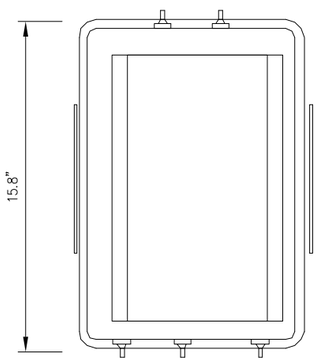
COLOR: LIGHT GREY
WEIGHT: 53 LBS.

NOTES

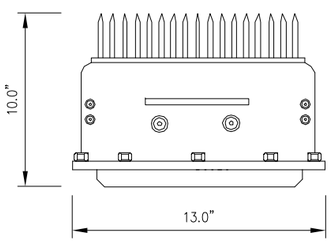
COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRH'S RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING. DO NOT OPEN RRH PACKAGES IN THE RAIN.



SIDE VIEW



FRONT VIEW



PLAN VIEW

800 MHz RRH	NO SCALE	4

PLANS PREPARED FOR:

Sprint

PLANS PREPARED BY:

INFINIGY

INFINIGY ENGINEERING, PLLC
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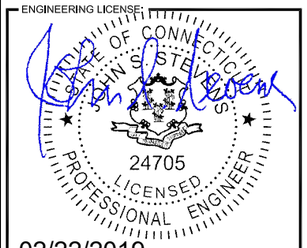

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SITE NUMBER:

CT52XC022

SITE ADDRESS:

TOWN FARM ROAD
ENFIELD, CT 06082

SHEET DESCRIPTION:

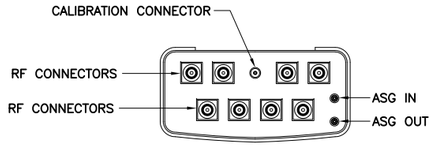
EQUIPMENT &
MOUNTING DETAILS

SHEET NUMBER:

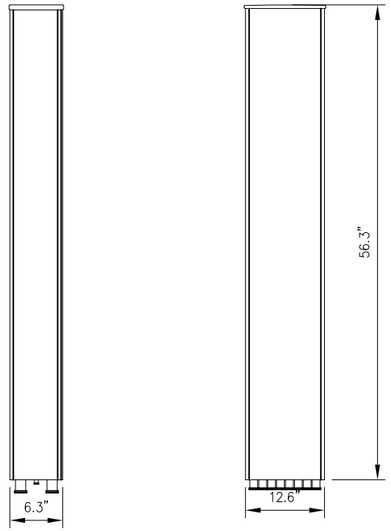
A-4

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

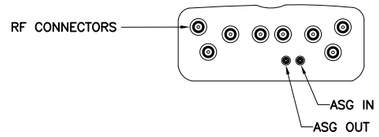


SIDE VIEW FRONT VIEW

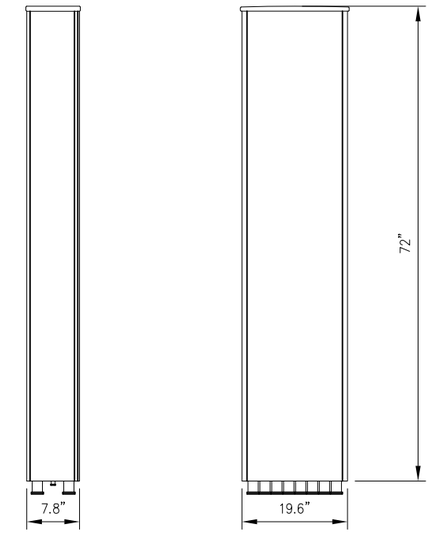
2.5 ANTENNA DETAIL	NO SCALE	1

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	2

DETAIL NOT USED	NO SCALE	3

DETAIL NOT USED	NO SCALE	4

PLANS PREPARED FOR:

Sprint

PLANS PREPARED BY:

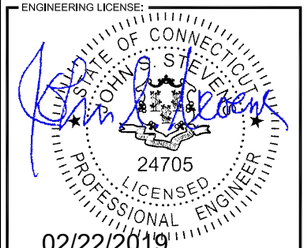
INFINIGY

INFINIGY ENGINEERING, PLLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793
JOB NUMBER 526-104

PROJECT MANAGER:

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

ENGINEERING LICENSE:



02/22/2019

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	02/01/19	MAP	0

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ENFD ENFIELD

SITE NUMBER:

CT52XC022

SITE ADDRESS:

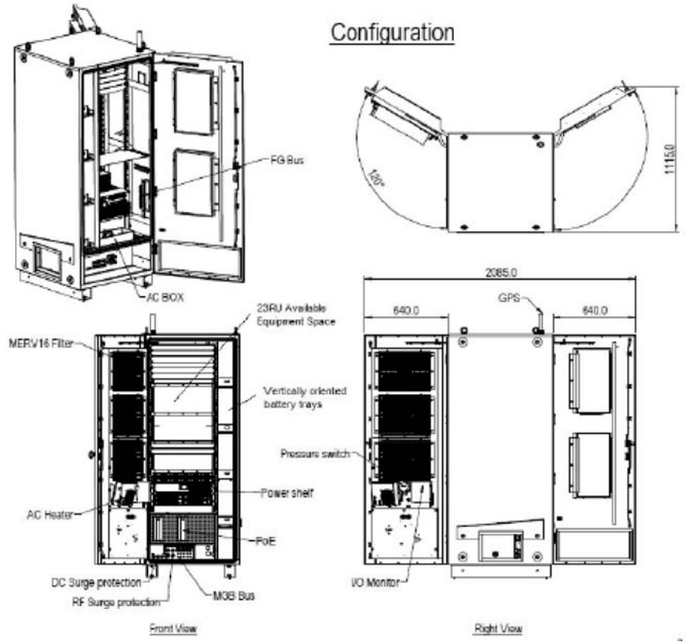
TOWN FARM ROAD
ENFIELD, CT 06082

SHEET DESCRIPTION:

EQUIPMENT &
MOUNTING DETAILS

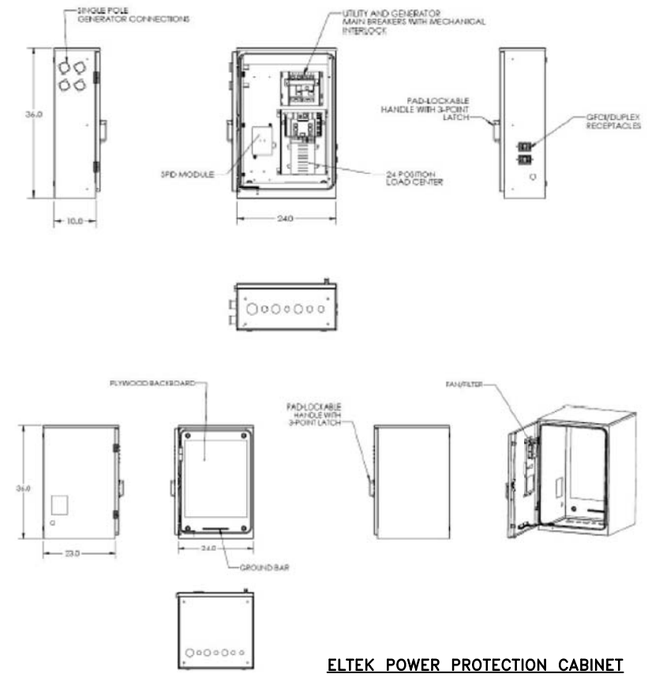
SHEET NUMBER:

A-5



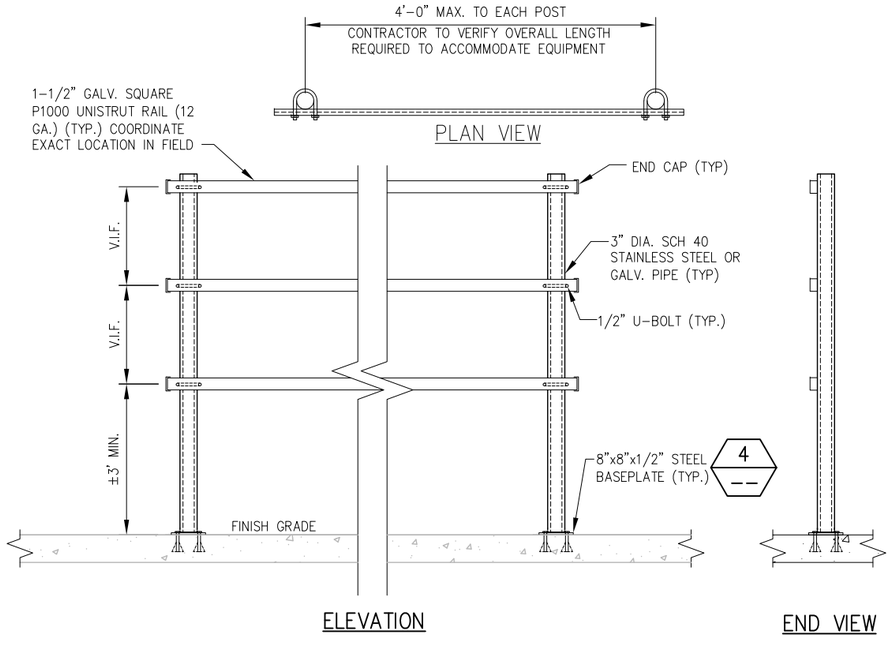
ELTEK ECAB EXTERIOR CABINET
P/N: ESOA220-SCA02

EQUIPMENT CABINET DETAIL	NO SCALE	1

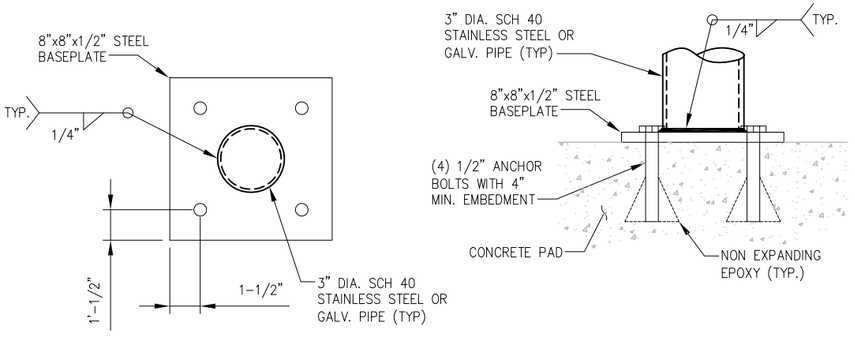


ELTEK POWER PROTECTION CABINET
P/N: 5811122212

EQUIPMENT CABINET DETAIL	NO SCALE	2



H-FRAME DETAIL	NO SCALE	3



SUPPORT POST MOUNTING DETAIL	NO SCALE	4

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

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN S. STEVENS
24705
LICENSED PROFESSIONAL ENGINEER
02/22/2019

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ENFIELD, CT 06082

SHEET DESCRIPTION:
EQUIPMENT & MOUNTING DETAILS

SHEET NUMBER:
A-6

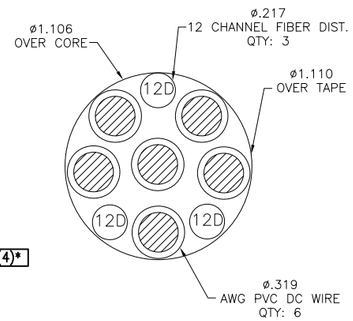
RFS HYBRIFLEX RISER CABLE SCHEDULE

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 (4)*
	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
	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

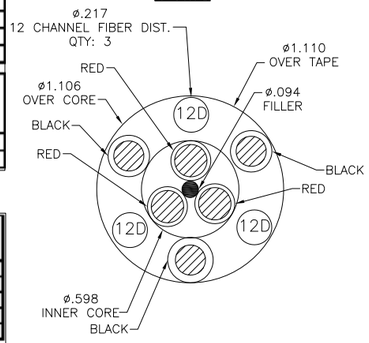
RFS HYBRIFLEX JUMPER CABLE SCHEDULE

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

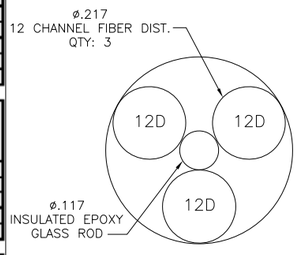
NOTE:
SPRINT CM TO CONFIRM HYBRID OR FIBER RISER CABLE AND HYBRID OR FIBER JUMPER CABLE MODEL NUMBERS IF HYBRID CABLES ARE REQUIRED BEFORE PREPARING BOM.



4 AWG



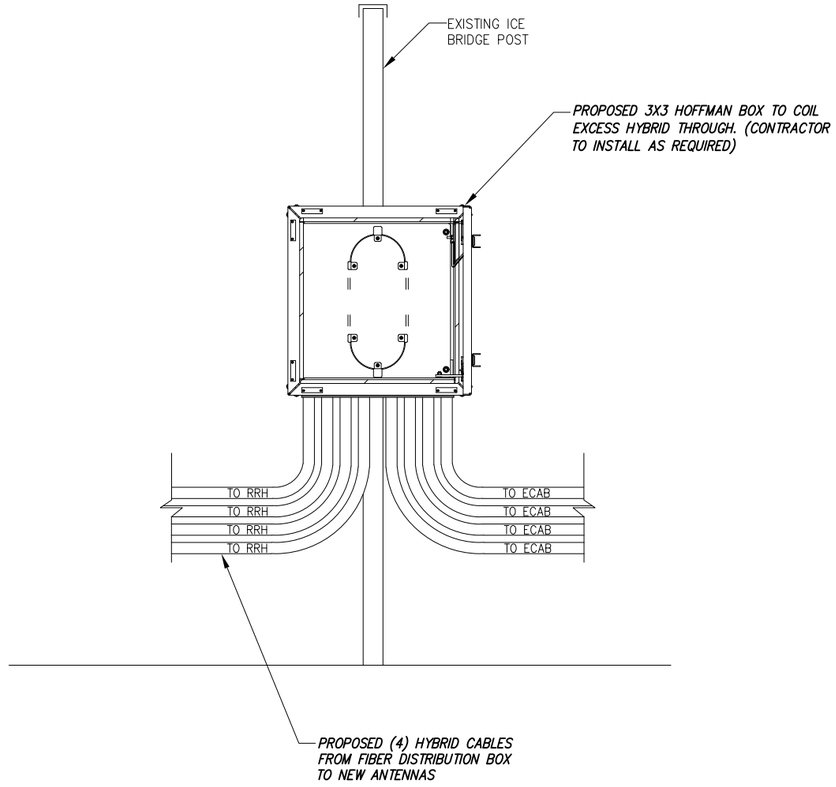
8 & 6 AWG



FIBER ONLY

* 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.

800/1900/2500 CABLE CROSS SECTION DATA | NO SCALE | 1



OPTIONAL HYBRID SLACK BOX | NO SCALE | 2

DETAIL NOT USED | NO SCALE | 3

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32 CLINTON ST.
SARATOGA SPRINGS, NY 12866
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02/22/2019

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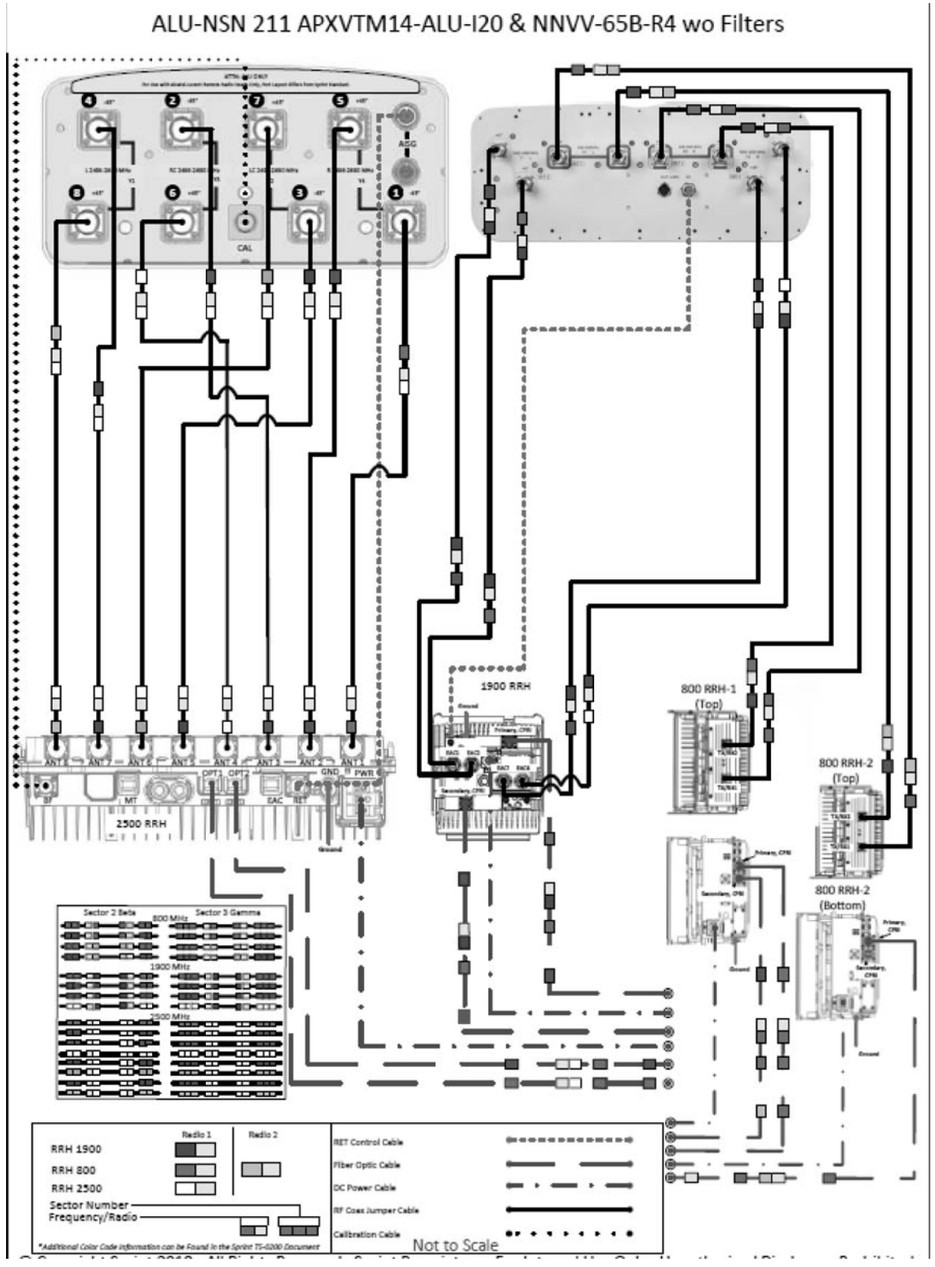
ENFIELD, CT 06082

SHEET DESCRIPTION:
CIVIL DETAILS

SHEET NUMBER:
A-7



PLUMBING DIAGRAM | NO SCALE | 1

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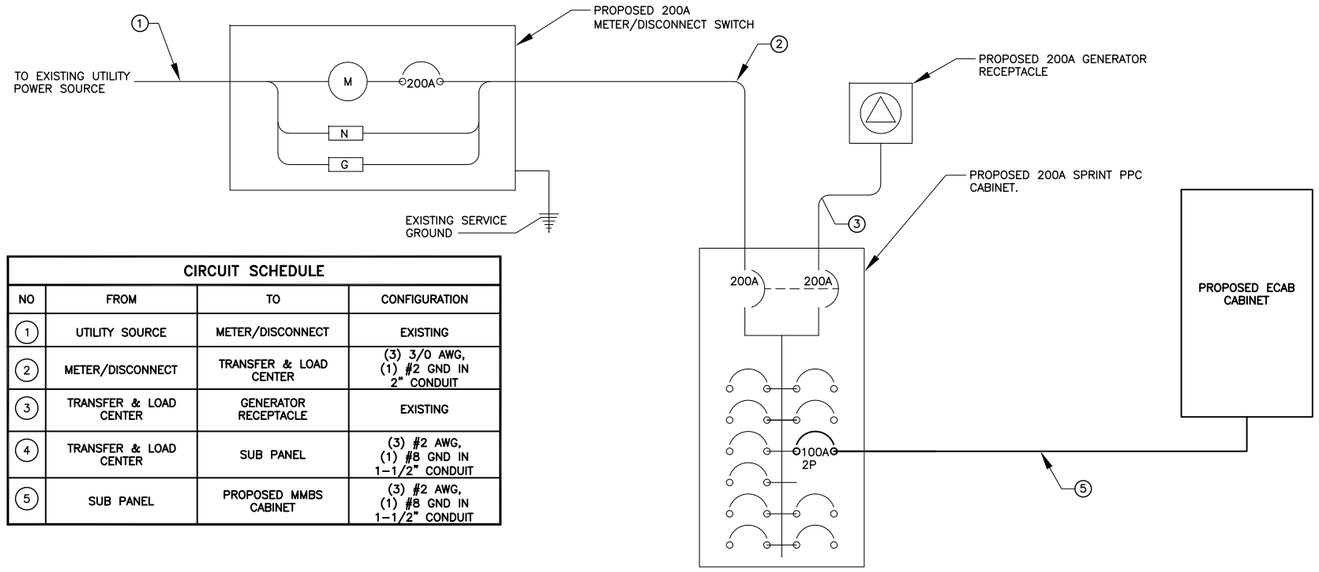
ENFIELD, CT 06082

SHEET DESCRIPTION:

PLUMBING DIAGRAM

SHEET NUMBER:

A-8



CIRCUIT SCHEDULE

NO	FROM	TO	CONFIGURATION
1	UTILITY SOURCE	METER/DISCONNECT	EXISTING
2	METER/DISCONNECT	TRANSFER & LOAD CENTER	(3) 3/0 AWG, (1) #2 GND IN 2" CONDUIT
3	TRANSFER & LOAD CENTER	GENERATOR RECEPTACLE	EXISTING
4	TRANSFER & LOAD CENTER	SUB PANEL	(3) #2 AWG, (1) #8 GND IN 1-1/2" CONDUIT
5	SUB PANEL	PROPOSED MMBS CABINET	(3) #2 AWG, (1) #8 GND IN 1-1/2" CONDUIT

ONE LINE DIAGRAM | NO SCALE | 1

GENERAL ELECTRICAL NOTES:

1. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE NATIONAL ELECTRICAL CODE AND ALL LOCAL AND STATE CODES, LAWS, AND ORDINANCES.
2. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40 UNLESS OTHERWISE INDICATED. CONDUITS EXPOSED ABOVE GROUND SHALL BE RIGID GALVANIZED STEEL. ALL UNDERGROUND CONDUIT SHALL TRANSITION FROM PVC TO RIGID ABOVE GRADE. PROVIDE 36" SEPARATION BETWEEN UNDERGROUND POWER AND TELEPHONE CONDUITS. SUPPLY UTILITY MARKING TAPE BURIED 12" BELOW GRADE ALONG ENTIRE LENGTH OF UNDERGROUND CONDUITS.
3. ALL CONDUCTORS SHALL BE COPPER WITH THHN/THWN INSULATION. CONTROL CONDUCTORS SHALL BE STRANDED, POWER & LIGHTING CONDUCTORS SHALL BE SOLID FOR #10 & #12 CONDUCTORS AND STRANDED FOR ALL OTHER SIZES.
4. ELECTRICAL DRAWINGS ARE IN PART DIAGRAMMATIC. COORDINATE ELECTRICAL WORK WITH SITE CONDITIONS.
5. LOCATE ALL UNDERGROUND UTILITIES BEFORE TRENCHING. IF CONFLICTS ARISE, CONTACT UTILITY COMPANY AND ENGINEER IMMEDIATELY.
6. ALL EXPOSED CONDUITS SHALL HAVE WEATHERPROOF CAPS NOT DUCT TAPE.
7. PROVIDE 200 LB TEST PULL WIRES IN EACH TELEPHONE AND POWER CONDUIT.
8. PULL BOXES SHALL BE INSTALLED AS NEEDED PER NEC UTILITY REQUIREMENTS.

ELECTRICAL NOTES | NO SCALE | 2

GENERAL GROUNDING NOTES:

1. TO ENSURE PROPER BONDING, ALL CONNECTIONS SHALL BE AS FOLLOWS:
   – #2/0 BARE TINNED SOLID COPPER CONDUCTOR: CADWELD TO RODS OR GROUND RING
   – LUGS AND BUS BAR (UNLESS NOTED OTHERWISE): SANDED CLEAN, COATED WITH OXIDE INHIBITOR AND BOLTED FOR MAXIMUM SURFACE CONTACT. ALL LUGS SHALL BE COPPER (NO ALUMINUM SHALL BE PERMITTED). PROVIDE LOCK WASHERS FOR ALL MECHANICAL CONNECTIONS FOR GROUND CONDUCTORS. USE STAINLESS STEEL HARDWARE THROUGHOUT.
2. ALL GROUNDING CABLE IN CONCRETE OR THROUGH WALLS SHALL BE IN 3/4" PVC CONDUIT. SEAL AROUND CONDUIT THROUGH WALLS. NO METALLIC CONDUIT SHALL BE USED FOR GROUNDING CONDUCTORS.
3. OWNER'S REPRESENTATIVE WILL INSPECT CADWELDS AND CONDUCT MEGGER TEST PRIOR TO BURIAL. MAXIMUM 5 OHMS RESISTANCE IS REQUIRED.
4. DO NOT INSTALL GROUND RING OUTSIDE OF LEASED AREA.
5. MAKE ALL GROUND CONNECTIONS AS SHORT AND DIRECT AS POSSIBLE. AVOID SHARP BENDS. ALL BENDS SHALL BE A MINIMUM 8" RADIUS AND NO GREATER THAN 90 DEGREES.
6. ALL CADWELDS TO BURIED GROUND RING SHALL BE THE PARALLEL TYPE, EXCEPT FOR THE GROUND RODS WHICH SHALL BE THE TEE TYPE.
7. BOND SERVICE CONDUITS TO GROUND RING AS THEY CROSS. DO NOT EXOTHERMICALLY WELD TO CONDUITS.
8. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER WHEN THE GROUNDING SYSTEM IS COMPLETE. THE CONSTRUCTION MANAGER SHALL INSPECT THE GROUNDING SYSTEM PRIOR TO BACKFILLING.
9. THE MINIMUM SPACING BETWEEN GROUND RODS SHALL BE 10'–0" (MAX. 15'–0").
10. BOND CIGBE TO EXTERNAL GROUND RING WITH 2 RUNS OF #2 BARE, TINNED, SOLID COPPER CONDUCTOR IN PVC. CONNECT BAR END WITH 2 HOLE LUG, AND "CADWELD" THE OTHER END TO THE EXTERNAL GROUND ROD.
11. THE PREFERRED LOCATION FOR COAX GROUNDING IS AT THE BASE OF THE TOWER PRIOR TO THE COAX BEND. BONDING IS SHOWN ON THE ICE BRIDGE DUE TO DIFFICULTY WITH WELDING OR ATTACHING TO TOWER LEGS. CONTRACTOR SHALL ADVISE CONSTRUCTION MANAGER PRIOR TO PLACING CIGBE ON ICE BRIDGE IF MOUNTING TO TOWER LEG IS POSSIBLE.
12. BONDING OF THE GROUNDED CONDUCTOR (NEUTRAL) AND THE GROUNDING CONDUCTOR SHALL BE AT THE SERVICE DISCONNECTING MEANS. BONDING JUMPER SHALL BE INSTALLED PER N.E.C. ARTICLE 250–30.

GROUNDING NOTES | NO SCALE | 3

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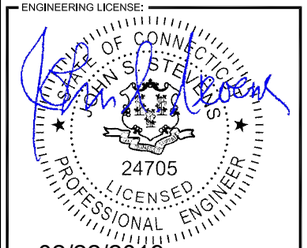

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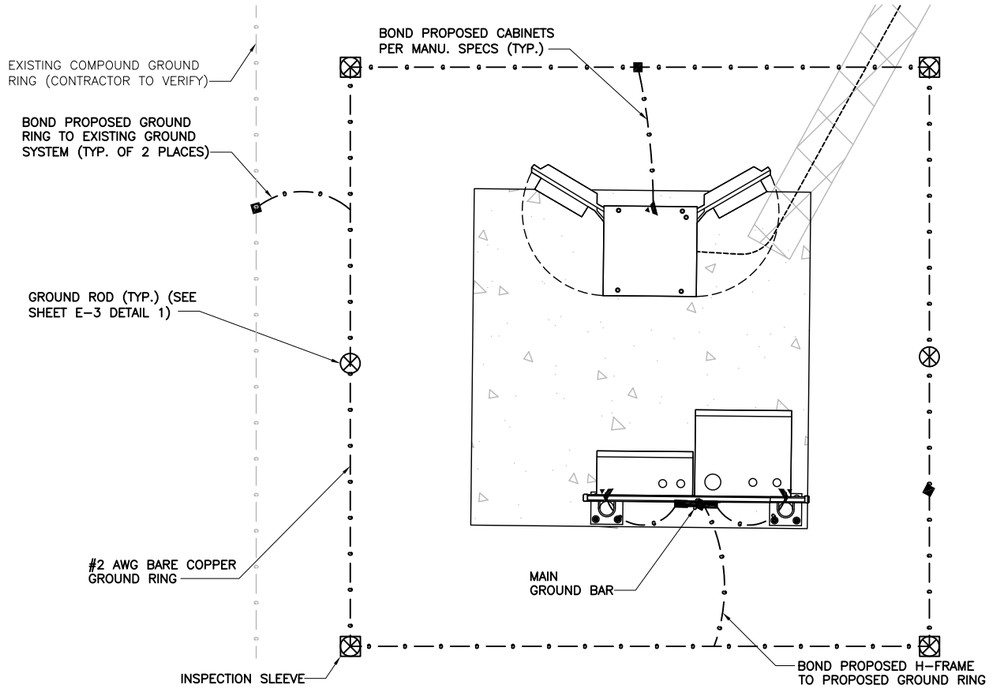
ELECTRICAL & GROUNDING PLAN

SHEET NUMBER:

E-1

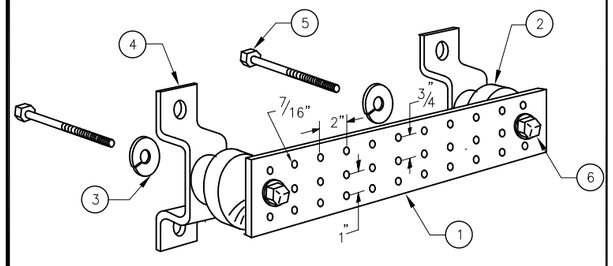


LEGEND:

- EXISTING GROUND RING
- CADWELD CONNECTION (EXOTHERMIC WELD)
- MECHANICAL CONNECTION
- GROUND ROD

GROUNDING PLAN

NO SCALE | 1



LEGEND

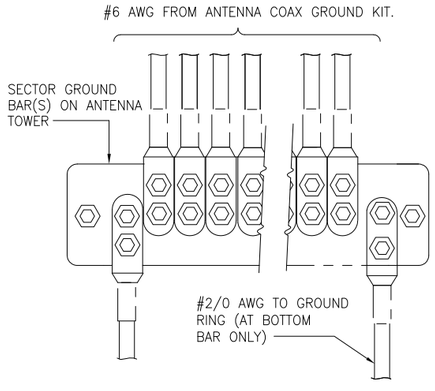
1 – TINNED COPPER GROUND BAR, 1/4"x 4"x 24"
2 – INSULATORS (NO INSULATORS ON TOWER)
3 – 5/8" LOCK WASHERS
4 – MOUNTING BRACKET (MOUNT HORIZONTAL ON VERTICAL CABLE LADDER)
5 – 5/8–11 X 1" H.H.C.S.BOLTS
6 – "LOCTITE" THREAD LOCK (RED) ON ALL REMOVABLE BOLTS

TINNED GROUND BAR DETAIL

NO SCALE | 2

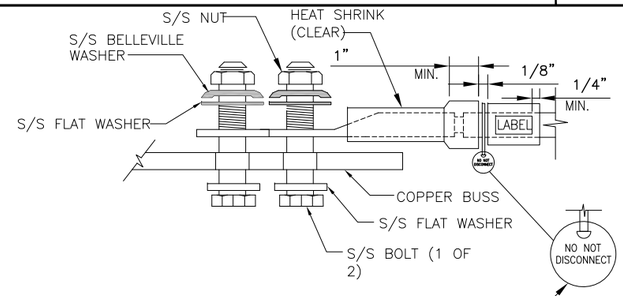
NOTE:

1. COPPER GROUND BAR 1/4"x4"x24" 2–HOLE CONTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
2. SIMILAR INSTALLATION FOR TOP AND BOTTOM TOWER GROUND BARS AND FOR COAX ENTRY PORT GROUND BARS.



ANTENNA GROUND WIRE INSTALLATION

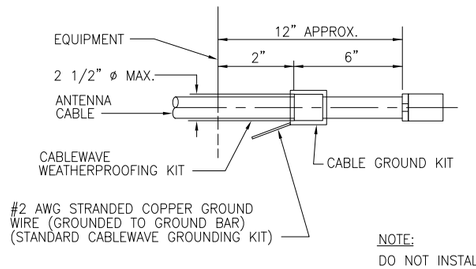
NO SCALE | 3



NOTE:
ALL MECHANICAL EXTERNAL TERMINATION SURFACES SHALL BE TREATED WITH T&B KOPR–SHIELD CP8 ANTI–OXIDATION COMPOUND.

EQUIPMENT GROUND CONNECTION

NO SCALE | 4



NOTE:
DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

CABLE GROUND KIT CONNECTION

NO SCALE | 5

PLANS PREPARED FOR:

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PLANS PREPARED BY:

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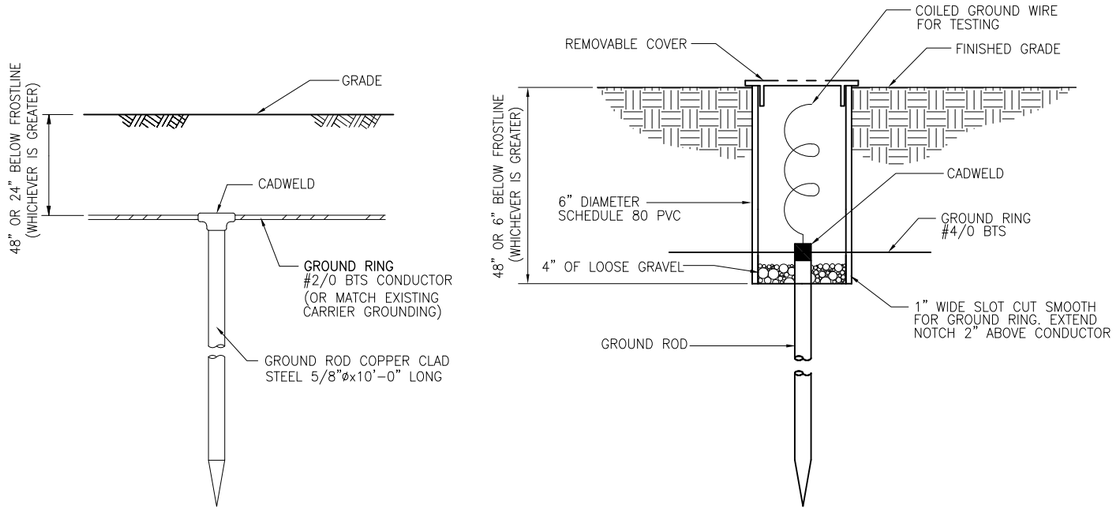
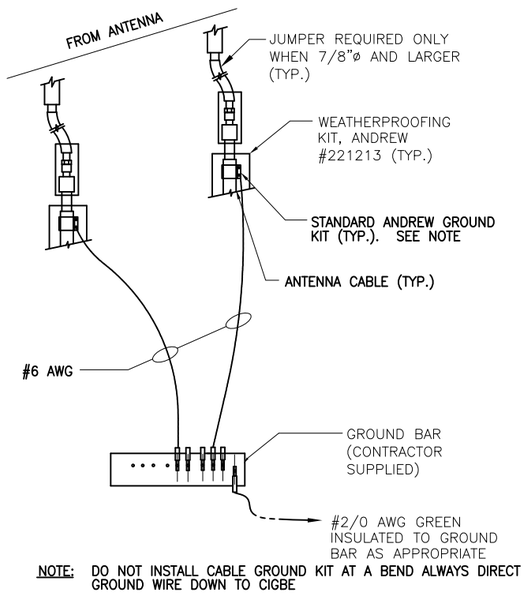
SHEET NUMBER:

E-2



GROUND ROD & INSPECTION SLEEVE DETAIL

NO SCALE | 1



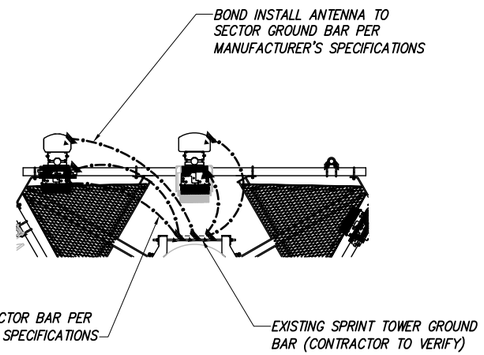
NOTE: DO NOT INSTALL CABLE GROUND KIT AT A BEND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE

CONNECTION OF GROUND WIRES TO GROUND BARS @ ANTENNAS

NO SCALE | 2

LEGEND:

- EXISTING GROUND RING
- CADWELD CONNECTION (EXOTHERMIC WELD)
- MECHANICAL CONNECTION
- GROUND ROD
- CABLE GROUND KIT

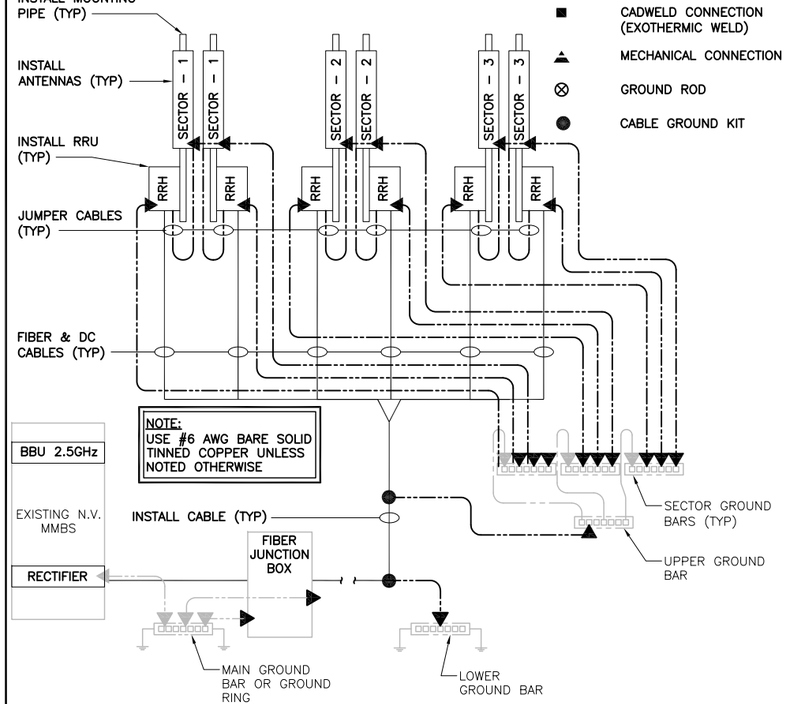


TYPICAL ANTENNA GROUNDING PLAN

NO SCALE | 3

LEGEND:

- EXISTING GROUND RING
- CADWELD CONNECTION (EXOTHERMIC WELD)
- MECHANICAL CONNECTION
- GROUND ROD
- CABLE GROUND KIT



GROUNDING RISER DIAGRAM

NO SCALE | 4

PLANS PREPARED FOR:

Sprint

PLANS PREPARED BY:

INFINIGY

INFINIGY ENGINEERING, PLLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

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 STEVENS · 24705 · LICENSED PROFESSIONAL ENGINEER

02/22/2019

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	02/01/19	MAP	0

SITE NAME:

ENFD ENFIELD

SITE NUMBER:

CT52XC022

SITE ADDRESS:

TOWN FARM ROAD
ENFIELD, CT 06082

SHEET DESCRIPTION:

ELECTRICAL & GROUNDING DETAILS

SHEET NUMBER:

E-3

EBI Consulting
environmental | engineering | due diligence

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

SPRINT Existing Facility

Site ID: CT52XC022

ENFD Endfield
Town Farm Road
Enfield, CT 06082

March 18, 2019

EBI Project Number: 6219000776

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	32.16 %

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

EBI Consulting
environmental | engineering | due diligence

March 18, 2019

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

Emissions Analysis for Site: **CT52XC022 – ENFD Endfield**

EBI Consulting was directed to analyze the proposed SPRINT facility located at **Town Farm Road, Enfield, 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), 2500 MHz (BRS) and 11 GHz 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 **Town Farm Road, Enfield, 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 for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, 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) 4 LTE channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 50 Watts per Channel.

2) 4 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.

3) 3 LTE channels (2500 MHz (BRS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

4) 1 microwave channel (11 GHz) was considered each for Sectors B & C of the proposed installation. This channel has a transmit power of 1 Watt.

5) 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.

6) 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 for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, 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.

7) 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 as well as the **Dragonwave A-ANT-11G-2-C** microwave dish for transmission in the 11 GHz band. 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 for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, 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.

8) The antenna mounting height centerlines of the proposed panel are **108 feet** above ground level (AGL) for **Sector A**, **108 feet** above ground level (AGL) for **Sector B** and **108 feet** above ground level (AGL) for Sector C. The antenna mounting height centerlines of the proposed microwave dishes for Sectors B & C are **111 feet** above ground level (AGL.

9) 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):	**108 feet**	Height (AGL):	**108 feet**	Height (AGL):	**108 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%	**3.15 %**	Antenna B1 MPE%	**3.15 %**	Antenna C1 MPE%	**3.15 %**
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):	**108 feet**	Height (AGL):	**108 feet**	Height (AGL):	**108 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%	**2.15 %**	Antenna B2 MPE%	**2.15 %**	Antenna C2 MPE%	**2.15 %**

Microwave Backhaul Data

Antenna Type:	Gain (dBd)	Height (feet AGL):	Frequency Bands	Channel Count	Total TX Power(W)	ERP (W)	MPE %	Sector
Dragonwave A-ANT-11G-2-C	32.35 dBd	111	11 GHz	1	1	1,717.91	**0.05**	B
Dragonwave A-ANT-11G-2-C	32.35 dBd	111	11 GHz	1	1	1,717.91	**0.05**	C

Site Composite MPE%	
Carrier	**MPE%**
SPRINT – Sectors B & C	**5.35 %**
Enertrac	0.00 %
SNET Paging	0.35 %
AT&T	2.36 %
MetroPCS	0.51 %
T-Mobile	2.28 %
Verizon Wireless	21.31 %
Site Total MPE %:	**32.16 %**

SPRINT Sector A Total:	5.30 %
SPRINT Sector B Total:	5.35 %
SPRINT Sector C Total:	5.35 %
Site Total:	32.16 %

Sprint MPE Power Values (Sectors B & C)

SPRINT _ Frequency Band / Technology (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	108	1.30	850 MHz	567	0.23%
Sprint 850 MHz LTE	2	941.82	108	6.51	850 MHz	567	1.15%
Sprint 1900 MHz (PCS) CDMA	5	511.82	108	8.84	1900 MHz (PCS)	1000	0.88%
Sprint 1900 MHz (PCS) LTE	2	1,279.56	108	8.84	1900 MHz (PCS)	1000	0.88%
Sprint 2500 MHz (BRS) LTE	8	778.09	108	21.51	2500 MHz (BRS)	1000	2.15%
Sprint 11 GHz Microwave	1	1,717.91	111	0.56	11 GHz	1000	0.06%
						Total:	**5.35%**

Summary

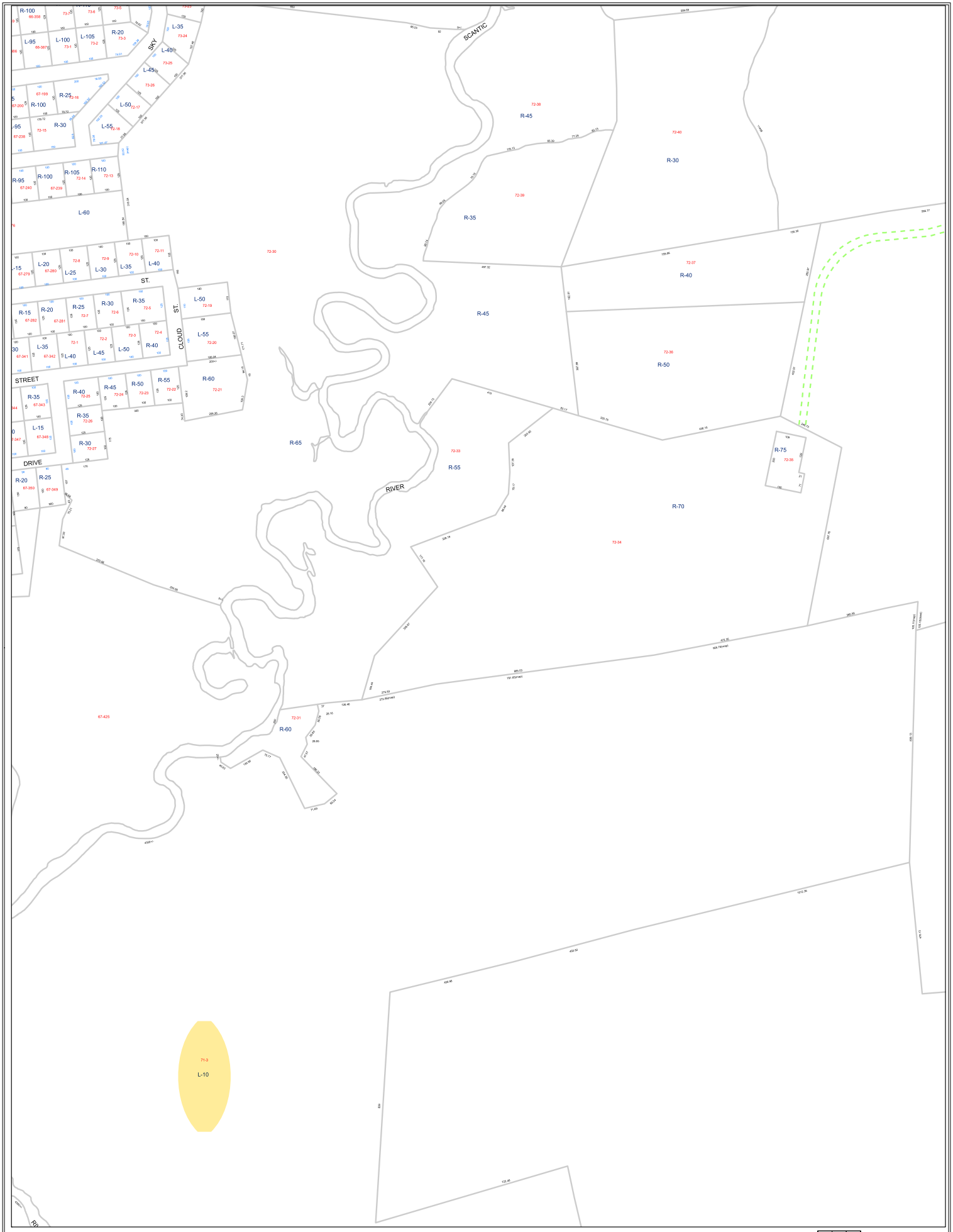
All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

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:	5.30 %
Sector B:	5.35 %
Sector C:	5.35 %
SPRINT Maximum MPE % (per sector):	5.35 %
Site Total:	32.16 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **32.16 %** 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.



THESE MAPS ARE NOT LEGAL DOCUMENTS

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Legend

- Property Line
- Water Body
- Easements
- 67-9 Map-Lot Number
- L-25 Parcel ID

N W E S

Town of Enfield

Property Map Atlas

0 100 200 400 Feet

Scale: 1"=200'

66	73	84
67	72	85
68	71	86

72

77 TOWN FARM RD

Location	77 TOWN FARM RD	**Mblu**	071/ / 0003/ /
Acct#	002800010010	**Owner**	ENFIELD TOWN OF
Assessment	$1,329,970	**Appraisal**	$1,899,950
PID	4350	**Building Count**	1
Fire District	1		

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$802,530	$1,097,420	$1,899,950

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$561,770	$768,200	$1,329,970

Owner of Record

Owner	ENFIELD TOWN OF	**Sale Price**	$0
Co-Owner	REFUSE AREA (DUMP)	**Certificate**	1
Address	820 ENFIELD ST ENFIELD, CT 06082	**Book & Page**	0/ 0
		Sale Date	

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
ENFIELD TOWN OF	$0	1	0/ 0	

Building Information

Building 1 : Section 1

Year Built: 1970
Living Area: 160
Replacement Cost: $7,069
Building Percent Good: 56
Replacement Cost Less Depreciation: $3,960

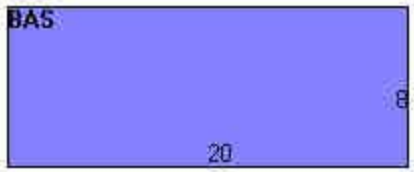
Building Attributes	
Field	**Description**
STYLE	Job Shop
MODEL	Ind/Comm
Grade	Minimum
Stories:	1
Occupancy	1
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Flat

Building Photo

(http://images.vgsi.com/photos2/EnfieldCTPhotos//\00\01\68/96

Roof Cover	Metal/Tin
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Minimum/Plywd
Interior Floor 2	
Heating Fuel	Electric
Heating Type	Electr Basebrd
AC Type	None
Bldg Use	Exempt Comm
Total Rooms	
Total Bedrms	
Total Baths	
Total H Bths	
Extra Fixtures	
1st Floor Use:	
Heat/AC	
Frame Type	Steel
Baths/Plumbing	None
Ceiling/Wall	Ceil Walls
Rooms/Prtns	Average
Wall Height	7
% Comn Wall	

Building Layout



(http://images.vgsi.com/photos2/EnfieldCTPhotos//Sketches/435

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	160	160
		160	160

Building 1 : Section 1

Year Built: 1970

Building Photo

Living Area:	0
Replacement Cost:	$7,069
Building Percent Good:	56
Replacement Cost Less Depreciation:	$3,960

Building Attributes	
Field	**Description**
Style	Outbuildings
Model	
Grade:	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Full Bthrms:	
Half Baths:	

Building Photo

(http://images.vgsi.com/photos2/EnfieldCTPhotos//default.jpg)

Building Layout

Building Layout
(http://images.vgsi.com/photos2/EnfieldCTPhotos//Sketches/435

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Fixtures	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Extra Kitchens	
Fireplace(s)	
Extra Opening(s)	
Gas Fireplace(s)	
Blocked FPL(s)	
Bsmt Garage(s)	
Fin Bsmt	
FBM Quality	
Whirlpool(s)	
Walk Out	
Solar	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Land Line Valuation

Use Code	930	**Size (Acres)**	173.6
Description	Exempt Ind	**Frontage**	1513
Zone	R88	**Depth**	
Neighborhood	C500	**Assessed Value**	$768,200
Alt Land Appr	No	**Appraised Value**	$1,097,420
Category			

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
SHD1	Shed	MS	Masonry	100 S.F.	$820	1
SCL2	SCALES-ELECT			60 TONS	$23,100	1
TWR2	Cell Twr 2 Carriers			1 UNITS	$206,250	1
SHD1	Shed	MS	Masonry	140 S.F.	$1,760	1
TWR4	Cell Twr4 Carriers			1 UNITS	$562,500	1
FN3	FENCE-8' CHAIN			256 L.F.	$4,140	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$802,530	$1,097,420	$1,899,950
2017	$802,530	$1,097,420	$1,899,950
2016	$802,530	$1,097,420	$1,899,950

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**

2018	$561,770	$768,200	$1,329,970
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2016	$561,770	$768,200	$1,329,970