



Alex Murshteyn, Site Acquisition Consultant
c/o Cellco Partnership d/b/a Verizon Wireless
Centerline Communications, LLC
750 West Center Street, Floor 3
West Bridgewater, MA 02379
Mobile: (508) 821-0159
AMurshteyn@centerlinecommunications.com

December 7, 2018

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

**RE: Notice of Exempt Modification // Site: Old Saybrook East Relo CT (ATC: 370625)
77 Springbrook Road, Old Saybrook, CT 06475
N 41.3138 // W 72.3640**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless currently maintains 12 antennas at the 173-foot mount on the existing 175-foot monopole tower, located at 77 Springbrook Road, Old Saybrook, CT. The tower is owned by American Tower. The property is owned by Crossroads Communications of Old Saybrook LLC. Verizon Wireless facility was approved for colocation by the Council in 2008. Verizon Wireless now intends remove 6 of its antennas to replace with 6 and install on side-by-side mounts for the LTE (700/850/1900/2100 MHz) replacements for its PCS/AWS/LTE upgrade. Additionally, Verizon Wireless will remove unused cabling and all remote radio head units (RRUs) and replace with a total of 6 RRUs plus 3 combiners; altogether updating leased equipment rights, as reflected by the final configuration outlined in the structural analysis and proposed hereby.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Carl P. Fortuna, Jr, First Selectman for the Town of Old Saybrook, its Town Planner Christine Nelson, including for the Land Use Department, American Tower, the tower owner, and to the ground owner, Crossroads Communications of Old Saybrook LLC.

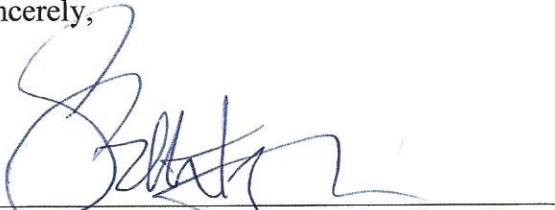
The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). Enclosed to accommodate this filing are construction drawings dated November 28, 2018 and a structural analysis dated October 25, 2018 by A.T. Engineering Service, PLLC, a structural mount analysis by Trylon Engineering Services dated

November 13, 2018 and radio frequency (RF) analysis table showing worst-case RF emission calculation by Verizon Wireless RF Design Engineering.

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the new antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading, as shown in the attached structural analyses by A.T. Engineering Service, PLLC, dated October 25, 2018 and Trylon, dated November 13, 2018.

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

Sincerely,



Alex Murshteyn, Site Acquisition Consultant
c/o Cellco Partnership d/b/a Verizon Wireless
Centerline Communications, LLC
750 West Center Street, Floor 3
West Bridgewater, MA 02379
Mobile: (508) 821-0159
AMurshteyn@centerlinecommunications.com

Attachments

cc: Carl P. Fortuna, Jr, First Selectman - as chief elected official
Christine Nelson, Town Planner c/o Land Use Department - as P&Z official
American Tower Corporation - as tower owner
Crossroads Communications of Old Saybrook LLC - as property owner

ALEX MURSHTEYN
508-821-0159
CENTERLINE COMMUNICATIONS, LLC
750 WEST CENTER STREET
WEST BRIDGEWATER MA 02379

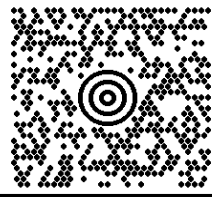
1 LBS

1 OF 1

DWT: 14,10,1

SHIP TO:

CARL FORTUNA, JR. - FIRST SELECTMAN
TOWN OF OLD SAYBROOK
SELETCTMAN'S OFFICE
302 MAIN STREET
TOWN HALL
OLD SAYBROOK CT 06475-2369

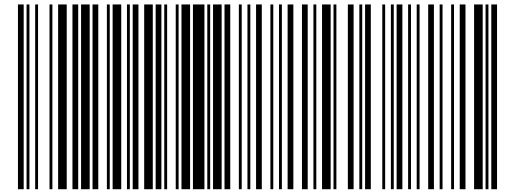


CT 063 5-02



UPS GROUND

TRACKING #: 1Z 9Y4 503 03 2074 7509



BILLING: P/P

Reference#1: 370625 aka Old Saybrook East Relo C
Reference#2: CSC EM - CEO

UIS 20.6.13. WNTNV50 06.0A 10/2018



ALEX MURSHTEYN
508-821-0159
CENTERLINE COMMUNICATIONS, LLC
750 WEST CENTER STREET
WEST BRIDGEWATER MA 02379

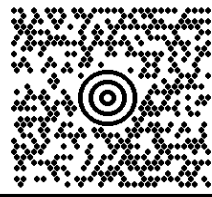
1 LBS

1 OF 1

DWT: 14,10,1

SHIP TO:

CHRISTINE NELSON - TOWN PLANNER
C/O LAND USE DEPARTMENT
302 MAIN STREET
TOWN HALL
OLD SAYBROOK CT 06475-2369

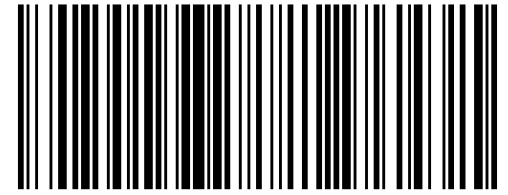


CT 063 5-02



UPS GROUND

TRACKING #: 1Z 9Y4 503 03 3251 7119



BILLING: P/P

Reference#1: 370625 aka Old Saybrook East Relo C
Reference#2: CSC EM - P&Z

UIS 20.6.13. WNTNV50 06.0A 10/2018



ALEX MURSHTEYN
508-821-0159
CENTERLINE COMMUNICATIONS, LLC
750 WEST CENTER STREET
WEST BRIDGEWATER MA 02379

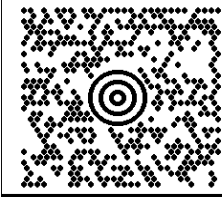
1 LBS

1 OF 1

DWT: 14,10,1

SHIP TO:

BLAKE E. PAYNTER
AMERICAN TOWER CORPORATION
NETWORK DEVELOPMENT - NORTHEAST
10 PRESIDENTIAL WAY
WOBURN MA 01801-1053

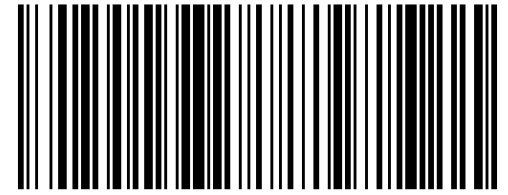


MA 018 9-04



UPS GROUND

TRACKING #: 1Z 9Y4 503 03 3857 0890



BILLING: P/P

Reference#1: 370625 aka Old Saybrook East Relo C
Reference#2: CSC EM - TO

UIS 20.6.13. WNTNV50 06.0A 10/2018



ALEX MURSHTEYN
508-821-0159
CENTERLINE COMMUNICATIONS, LLC
750 WEST CENTER STREET
WEST BRIDGEWATER MA 02379

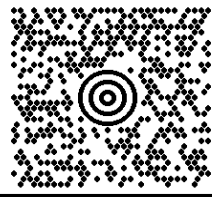
1 LBS

1 OF 1

DWT: 14,10,1

SHIP TO:

CROSSROADS COMMUNICATIONS OF
OLD SAYBROOK LLC
157 N SEIR HILL RD
NORWALK CT 06850-1333

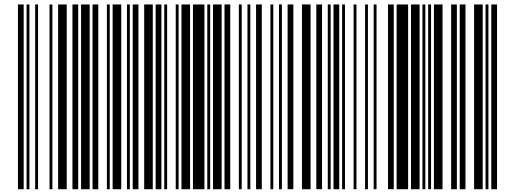


CT 069 9-04



UPS GROUND

TRACKING #: 1Z 9Y4 503 03 2939 6677



BILLING: P/P

Reference#1: 370625 aka Old Saybrook East Relo C
Reference#2: CSC EM - PO

UIS 20.6.13. WNTNV50 06.0A 10/2018





AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 175 ft Monopole
ATC Site Name : Old Saybrook, CT
ATC Site Number : 370625
Engineering Number : 12616992_C3_01
Proposed Carrier : Verizon
Carrier Site Name : Old Saybrook East Relo Ct
Carrier Site Number : PSLC# 468709 - PROJ# 15292751
Site Location : 77 Springbrook Road
Old Saybrook, CT 06475-0000
41.313800,-72.364000
County : Middlesex
Date : October 25, 2018
Max Usage : 67%
Result : Pass

Prepared By:
Thomas Pham
Structural Engineer I

Reviewed By:



Authorized by "EOR"
Oct 26 2018 5:15 PM

COA: PEC.0001553



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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 175 ft monopole to reflect the change in loading by Verizon.

Supporting Documents

Tower Drawings	DaVinci, Valmont Job #08242-1120, dated April 17, 2008
Foundation Drawing	DaVinci, Valmont Job #08242-1120, dated April 17, 2008
Geotechnical Report	JGI Project #J2085121, dated March 12, 2008

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:	103 mph (3-Second Gust, V_{asd}) / 132 mph (3-Second Gust, V_{ult})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	C
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.17$, $S_1 = 0.06$
Site Class:	D - Stiff Soil

Conclusion

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

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



Existing and Reserved Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
173.0	173.0	2	RFS DB-T1-6Z-8AB-0Z	Platform w/ Handrails	(16) 1 5/8" Coax (2) 1 5/8" Fiber	Verizon
		3	Andrew SBNHH-1D65B			
164.0	164.0	3	Ericsson AIR 21, 1.3M, B2A B4P (91.5 lbs)	T-Arms	(12) 1 5/8" Coax (1) 1 5/8" Hybriflex	Metro PCS
		3	Ericsson AIR 21, 1.3M, B4A B2P (90.4 lbs)			
		3	Andrew LNX-6515DS-A1M			
152.0	152.0	3	RFS APXV18-206517S-C	Flush	(6) 1 5/8" Coax	Metro PCS
101.0	104.0	1	7' Omni	Side Arm	(1) 7/8" Coax	Other

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
173.0	173.0	3	Antel BXA-70063/6CF_	-	(2) 1 5/8" Coax	Verizon
		3	Andrew SBNHH-1D65B			
		3	Antel BXA-80080/6CF			
		3	Alcatel-Lucent RRH2x60 700			
		3	Alcatel-Lucent PCS B25 RRH2x60/4x30			
		3	Alcatel-Lucent RRH4X45-B66 w/ Solar Shield			

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
173.0	173.0	3	RFS FDJ85020Q4-S1	Platform w/ Handrails	-	Verizon
		3	Samsung B2/B66A RRH-BR049			
		3	Samsung B5/B13 RRH-BR04C			
		3	Antel BXA-80063/4CF			
		6	Commscope JAHH-65B-R3B			

¹Mount 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	39%	Pass
Shaft	65%	Pass
Base Plate	41%	Pass

Foundations

Reaction Component	Original Design Reactions	Analysis Reactions	% of Design
Moment (Kips-Ft)	5,400.0	3,622.8	67%
Shear (Kips)	48.0	31.8	66%

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

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
173.0	RFS FDJ85020Q4-S1	Verizon	1.707	1.203
	Samsung B2/B66A RRH-BR049			
	Samsung B5/B13 RRH-BR04C			
	Antel BXA-80063/4CF			
	Commscope JAHH-65B-R3B			

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



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

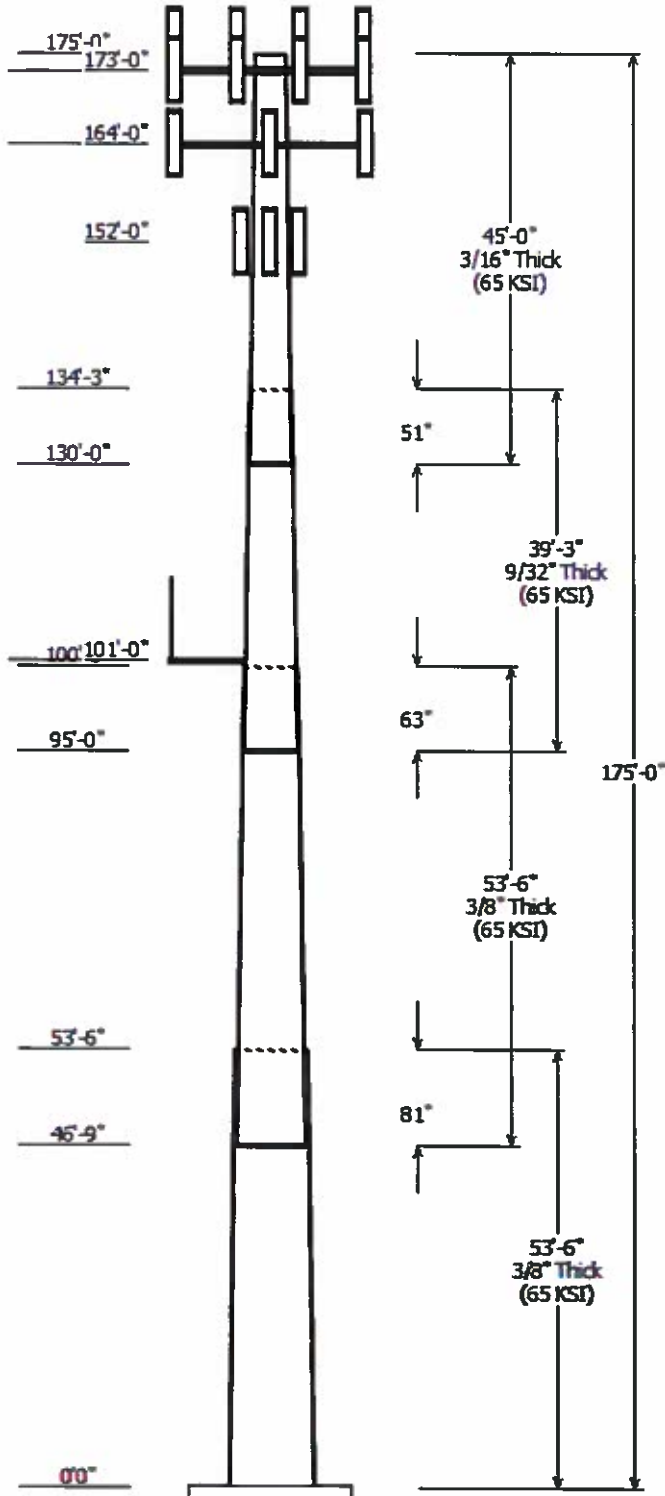
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

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.

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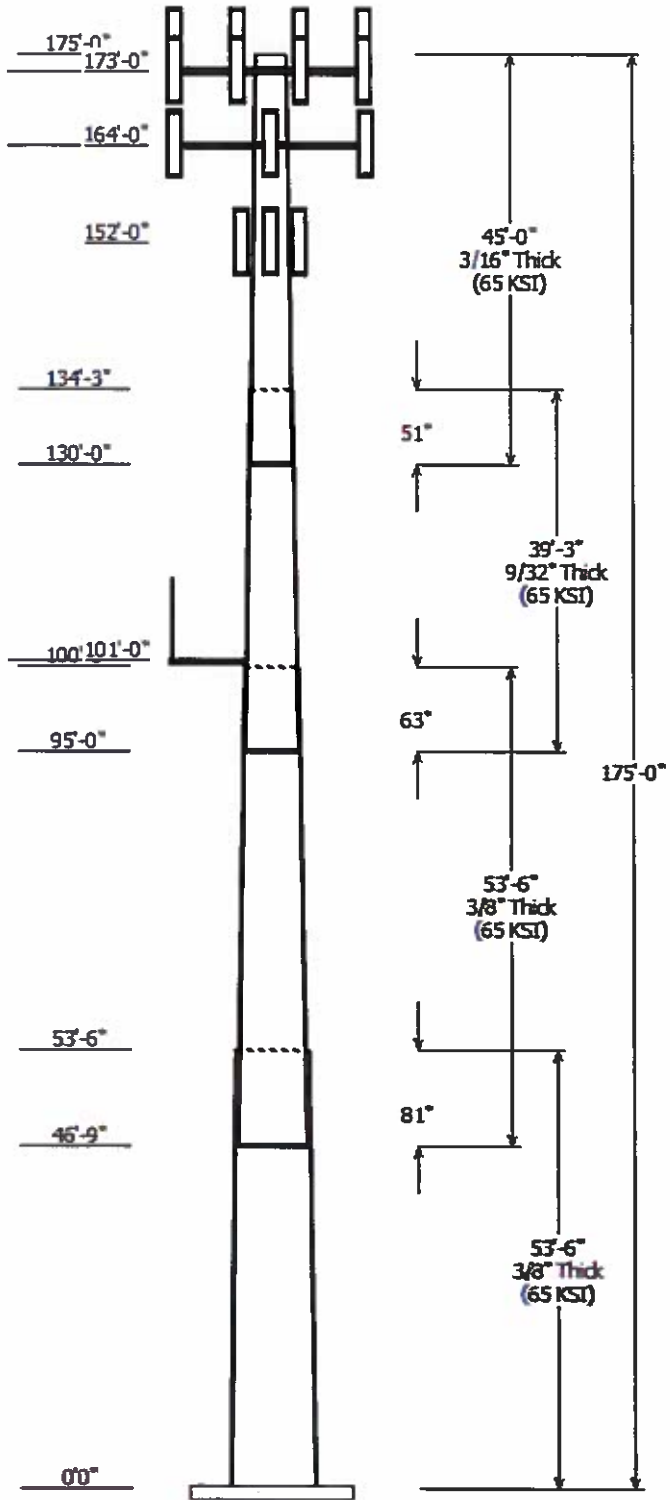
Job Information	
Pole : 370625	Code: ANSI/TIA-222-G
Location : Old Saybrook, CT	
Description :	
Client : VERIZON WIRELESS	Struct Class : II
Shape : 18 Sides	Exposure : C
Height : 175.00 (ft)	Topo : 1
Base Elev (ft): 0.00	
Taper: 0.265014(in/ft)	

Sections Properties							
Shaft Section	Length (ft)	Diameter (in) Across Flats		Thick Joint (in)	Overlap Length (in)	Steel Grade	Shape (ksi)
		Top	Bottom				
1	53.500	50.51	64.69	0.375	0.000	18 Sides	65
2	53.500	38.87	53.05	0.375	81.000	18 Sides	65
3	39.250	30.42	40.82	0.281	63.000	18 Sides	65
4	45.000	20.00	31.92	0.188	51.000	18 Sides	65

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
173.000	173.000	6	Commscope JAHH-65B-R3B
173.000	173.000	3	Antel BXA-80063/4CF
173.000	173.000	3	Samsung B5/B13 RRH-BR04C
173.000	173.000	3	Samsung B2/B66A RRH-BR049
173.000	173.000	3	RFS FDJ85020Q4-S1
173.000	173.000	1	Flat Platform w/ Handrails
173.000	173.000	3	Andrew SBNHH-1D65B
173.000	175.000	2	RFS DB-T1-6Z-8AB-0Z
164.000	164.000	3	Andrew LNX-6515DS-A1M
164.000	164.000	3	Round T-Arms
164.000	164.000	3	Ericsson AIR 21, 1.3M, B2A B4P
164.000	164.000	3	Ericsson AIR 21, 1.3M, B4A B2P
152.000	152.000	3	RFS APXV18-206517S-C
101.000	104.000	1	7' Omni
101.000	101.000	1	Round Side Arm

Linear Appurtenance			
Elev (ft) From	To	Description	Exposed To Wind
0.000	101.0	7/8" Coax	Yes
0.000	152.0	1 5/8" Coax	No
0.000	164.0	1 5/8" Coax	No
0.000	164.0	1 5/8" Hybriflex	No
0.000	173.0	1 5/8" Coax	No
0.000	173.0	1 5/8" Fiber	No

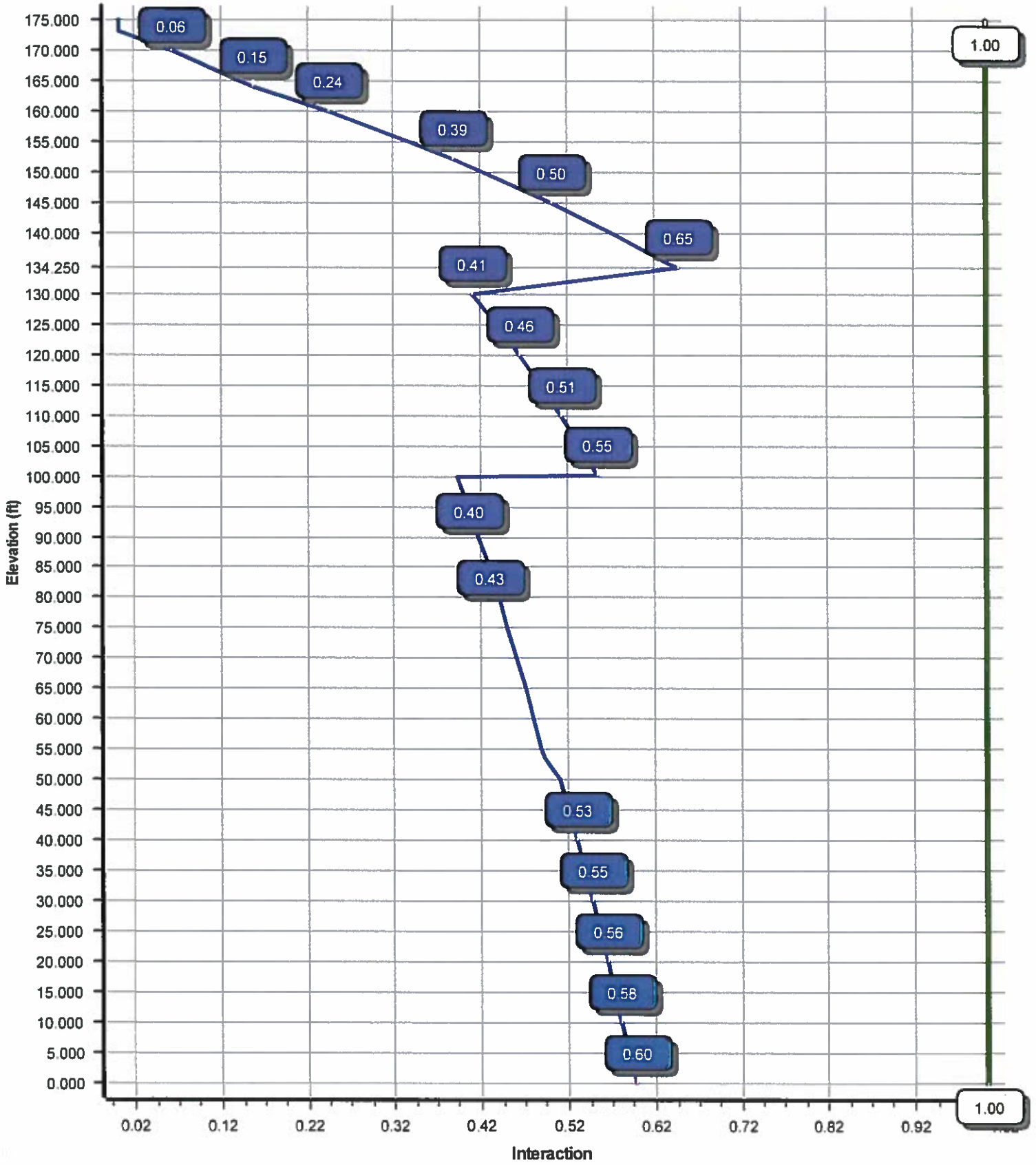
Load Cases	
1.2D + 1.6W	103 mph with No Ice
0.9D + 1.6W	103 mph with No Ice (Reduced DL)
1.2D + 1.0DI + 1.0WI	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph



Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	3622.78	31.81	46.93
0.9D + 1.6W	3593.27	31.79	35.19
1.2D + 1.0Di + 1.0Wi	929.32	8.39	68.87
(1.2 + 0.2Sds) * DL + E ELFM	158.49	1.18	46.55
(1.2 + 0.2Sds) * DL + E EMAM	210.43	1.60	46.55
(0.9 - 0.2Sds) * DL + E ELFM	156.95	1.17	32.59
(0.9 - 0.2Sds) * DL + E EMAM	208.20	1.60	32.59
1.0D + 1.0W	764.75	6.74	39.14

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

Load Case : 1.2D + 1.6W
Max Ratio 64.52% at 134.3 ft



Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number: 12616992_C3_01

10/25/2018 1:38:42 PM

Customer: VERIZON WIRELESS

Analysis Parameters

Location :	MIDDLESEX County, CT	Height (ft) :	175
Code :	ANSI/TIA-222-G	Base Diameter (in) :	64.69
Shape :	18 Sides	Top Diameter (in) :	20.00
Pole Type :	Taper	Taper (in/ft) :	0.265
Pole Manufacturer :	Valmont	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	103 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:	0.75 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	2.13		
T_L (sec):	6	p:	1
S_s :	0.165	S_T :	0.059
F_a :	1.600	F_v :	2.400
S_{ds} :	0.176	S_{d1} :	0.094
		C_s :	0.030
		C_s Max:	0.030
		C_s Min:	0.030

Load Cases

1.2D + 1.6W	103 mph with No Ice
0.9D + 1.6W	103 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2Sds) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number:12616992_C3_01

10/25/2018 1:38:42 PM

Customer: VERIZON WIRELESS

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom						Top						
							Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18	53.500	0.3750	65		0.00	12,399	64.69	0.00	76.55	40004.8	28.65	172.51	50.51	53.50	59.67	18951.5	21.99	134.70	0.265014
2-18	53.500	0.3750	65	Slip	81.00	9,877	53.05	46.75	62.69	21978.8	23.18	141.47	38.87	100.25	45.82	8579.6	16.51	103.66	0.265014
3-18	39.250	0.2813	65	Slip	63.00	4,214	40.82	95.00	36.19	7517.0	23.83	145.16	30.42	134.25	26.91	3088.9	17.31	108.18	0.265014
4-18	45.000	0.1875	65	Slip	51.00	2,349	31.92	130.00	18.89	2403.8	28.26	170.27	20.00	175.00	11.79	584.7	17.04	106.67	0.265014
Shaft Weight						28,839													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Distance From Face (ft)	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor
173.00	Andrew SBNHH-1D65B	3	0.000	0.000	50.70	8.170	0.69
173.00	Antel BXA-80063/4CF	3	0.000	0.000	9.90	4.710	0.65
173.00	Commscope JAHH-65B-R3B	6	0.000	0.000	60.60	9.110	0.69
173.00	Flat Platform w/ Handrails	1	0.000	0.000	2000.00	42.400	1.00
173.00	RFS DB-T1-6Z-8AB-0Z	2	0.000	2.000	44.00	4.800	0.67
173.00	RFS FDJ85020Q4-S1	3	0.000	0.000	23.60	0.960	0.50
173.00	Samsung B2/B66A RRH-BR049	3	0.000	0.000	84.40	1.880	0.50
173.00	Samsung B5/B13 RRH-BR04C	3	0.000	0.000	70.30	1.880	0.50
164.00	Andrew LNX-6515DS-A1M	3	0.000	0.000	49.80	11.450	0.70
164.00	Ericsson AIR 21, 1.3M, B2A B4P	3	0.000	0.000	91.50	6.040	0.70
164.00	Ericsson AIR 21, 1.3M, B4A B2P	3	0.000	0.000	90.40	6.090	0.70
164.00	Round T-Arms	3	0.000	0.000	250.00	9.700	0.67
152.00	RFS APXV18-206517S-C	3	0.000	0.000	26.40	5.170	0.68
101.00	7' Omni	1	0.000	3.000	25.00	2.100	1.00
101.00	Round Side Arm	1	0.000	0.000	150.00	5.200	1.00
Totals	Num Loadings:15	41			4867.60		

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Projected Width Flat (in)	Exposed To Wind	Carrier
0.00	173.00	16	1 5/8" Coax	1.98	0.82	N 0.00	N	Verizon
0.00	173.00	2	1 5/8" Fiber	1.63	1.61	N 0.00	N	Verizon
0.00	164.00	12	1 5/8" Coax	1.98	0.82	N 0.00	N	T-Mobile
0.00	164.00	1	1 5/8" Hybriflex	1.98	1.30	N 0.00	N	T-Mobile
0.00	152.00	6	1 5/8" Coax	1.98	0.82	N 0.00	N	Metro PCS
0.00	101.00	1	7/8" Coax	1.09	0.33	N 1.09	Y	American Messaging

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number:12616992_C3_01

10/25/2018 1:38:42 PM

Customer: VERIZON WIRELESS

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in ³)	Z (in ³)	Weight (lb)
0.00		0.3750	64.690	76.548	40,004.8	28.65	172.51	67.7	1218.	0.0	0.0
5.00		0.3750	63.365	74.971	37,582.8	28.03	168.97	68.4	1168.	0.0	1,289.0
10.00		0.3750	62.040	73.394	35,260.5	27.41	165.44	69.2	1119.	0.0	1,262.1
15.00		0.3750	60.715	71.817	33,036.0	26.79	161.91	69.9	1071.	0.0	1,235.3
20.00		0.3750	59.390	70.240	30,907.0	26.16	158.37	70.6	1025.	0.0	1,208.5
25.00		0.3750	58.065	68.663	28,871.5	25.54	154.84	71.4	979.4	0.0	1,181.6
30.00		0.3750	56.740	67.086	26,927.4	24.92	151.31	72.1	934.7	0.0	1,154.8
35.00		0.3750	55.415	65.508	25,072.6	24.29	147.77	72.8	891.2	0.0	1,128.0
40.00		0.3750	54.089	63.931	23,305.0	23.67	144.24	73.6	848.6	0.0	1,101.1
45.00		0.3750	52.764	62.354	21,622.4	23.05	140.70	74.3	807.1	0.0	1,074.3
46.75	Bot - Section 2	0.3750	52.301	61.802	21,053.3	22.83	139.47	74.6	792.9	0.0	369.7
50.00		0.3750	51.439	60.777	20,022.9	22.42	137.17	75.0	766.7	0.0	1,365.5
53.50	Top - Section 1	0.3750	51.262	60.566	19,814.8	22.34	136.70	75.1	761.3	0.0	1,445.2
55.00		0.3750	50.864	60.093	19,354.0	22.15	135.64	75.3	749.4	0.0	307.9
60.00		0.3750	49.539	58.516	17,869.9	21.53	132.10	76.1	710.5	0.0	1,009.0
65.00		0.3750	48.214	56.938	16,463.6	20.91	128.57	76.8	672.6	0.0	982.2
70.00		0.3750	46.889	55.361	15,133.1	20.28	125.04	77.5	635.7	0.0	955.3
75.00		0.3750	45.564	53.784	13,876.2	19.66	121.50	78.3	599.8	0.0	928.5
80.00		0.3750	44.239	52.207	12,691.0	19.04	117.97	79.0	565.0	0.0	901.7
85.00		0.3750	42.914	50.630	11,575.3	18.42	114.44	79.7	531.3	0.0	874.8
90.00		0.3750	41.589	49.053	10,526.9	17.79	110.90	80.5	498.5	0.0	848.0
95.00	Bot - Section 3	0.3750	40.264	47.476	9,543.8	17.17	107.37	81.2	466.9	0.0	821.2
100.0		0.3750	38.939	45.899	8,624.0	16.55	103.84	81.9	436.2	0.0	1,400.0
100.2	Top - Section 2	0.2813	39.435	34.951	6,769.4	22.96	140.21	74.4	338.1	0.0	68.8
101.0		0.2813	39.236	34.773	6,666.8	22.84	139.51	74.5	334.7	0.0	89.0
105.0		0.2813	38.176	33.827	6,137.3	22.17	135.74	75.3	316.6	0.0	466.9
110.0		0.2813	36.851	32.644	5,515.7	21.34	131.03	76.3	294.8	0.0	565.5
115.0		0.2813	35.526	31.461	4,937.6	20.51	126.31	77.3	273.7	0.0	545.3
120.0		0.2813	34.201	30.278	4,401.4	19.68	121.60	78.3	253.5	0.0	525.2
125.0		0.2813	32.876	29.096	3,905.4	18.85	116.89	79.2	234.0	0.0	505.1
130.0	Bot - Section 4	0.2813	31.551	27.913	3,448.2	18.02	112.18	80.2	215.3	0.0	485.0
134.2	Top - Section 3	0.1875	30.799	18.217	2,156.8	27.20	164.26	69.4	137.9	0.0	664.7
135.0		0.1875	30.601	18.099	2,115.1	27.01	163.20	69.6	136.1	0.0	46.3
140.0		0.1875	29.276	17.310	1,850.5	25.77	156.14	71.1	124.5	0.0	301.2
145.0		0.1875	27.950	16.522	1,608.9	24.52	149.07	72.6	113.4	0.0	287.8
150.0		0.1875	26.625	15.733	1,389.4	23.28	142.00	74.0	102.8	0.0	274.4
152.0		0.1875	26.095	15.418	1,307.5	22.78	139.18	74.6	98.7	0.0	106.0
155.0		0.1875	25.300	14.945	1,190.8	22.03	134.93	75.5	92.7	0.0	155.0
160.0		0.1875	23.975	14.156	1,012.1	20.78	127.87	77.0	83.1	0.0	247.6
164.0		0.1875	22.915	13.525	882.7	19.79	122.21	78.1	75.9	0.0	188.4
165.0		0.1875	22.650	13.368	852.2	19.54	120.80	78.4	74.1	0.0	45.8
170.0		0.1875	21.325	12.579	710.1	18.29	113.73	79.9	65.6	0.0	220.7
173.0		0.1875	20.530	12.106	632.9	17.54	109.49	80.8	60.7	0.0	126.0
175.0		0.1875	20.000	11.790	584.7	17.04	106.67	81.4	57.6	0.0	81.3
											28,839.5

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number:12616992_C3_01

10/25/2018 1:38:42 PM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W

103 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

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces			Sum of Forces			
		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		339.8	0.0					0.0	0.0	339.8	0.0	0.0	0.0
5.00		672.6	1,546.8					0.0	196.4	672.6	1,743.1	0.0	0.0
10.00		658.6	1,514.6					0.0	196.4	658.6	1,710.9	0.0	0.0
15.00		654.6	1,482.4					0.0	196.4	654.6	1,678.7	0.0	0.0
20.00		667.8	1,450.2					0.0	196.4	667.8	1,646.5	0.0	0.0
25.00		684.7	1,418.0					0.0	196.4	684.7	1,614.3	0.0	0.0
30.00		695.5	1,385.8					0.0	196.4	695.5	1,582.1	0.0	0.0
35.00		701.7	1,353.6					0.0	196.4	701.7	1,549.9	0.0	0.0
40.00		704.6	1,321.4					0.0	196.4	704.6	1,517.7	0.0	0.0
45.00		475.9	1,289.2					0.0	196.4	475.9	1,485.5	0.0	0.0
46.75	Bot - Section 2	355.3	443.6					0.0	68.7	355.3	512.3	0.0	0.0
50.00		481.1	1,638.6					0.0	127.6	481.1	1,766.2	0.0	0.0
53.50	Top - Section 1	355.5	1,734.2					0.0	137.5	355.5	1,871.7	0.0	0.0
55.00		459.5	369.5					0.0	58.9	459.5	428.4	0.0	0.0
60.00		703.0	1,210.8					0.0	196.4	703.0	1,407.2	0.0	0.0
65.00		695.8	1,178.6					0.0	196.4	695.8	1,375.0	0.0	0.0
70.00		687.3	1,146.4					0.0	196.4	687.3	1,342.8	0.0	0.0
75.00		677.7	1,114.2					0.0	196.4	677.7	1,310.6	0.0	0.0
80.00		667.0	1,082.0					0.0	196.4	667.0	1,278.4	0.0	0.0
85.00		655.3	1,049.8					0.0	196.4	655.3	1,246.2	0.0	0.0
90.00		642.8	1,017.6					0.0	196.4	642.8	1,214.0	0.0	0.0
95.00	Bot - Section 3	633.9	985.4					0.0	196.4	633.9	1,181.8	0.0	0.0
100.00		331.3	1,680.1					0.0	196.4	331.3	1,876.4	0.0	0.0
100.25	Top - Section 2	62.3	82.5					0.0	9.8	62.3	92.3	0.0	0.0
101.00	Appurtenance(s)	292.9	106.8	421.2	0.0	365.1	210.0	0.0	29.5	714.1	346.2	0.0	0.0
105.00		547.2	560.2					0.0	155.5	547.2	715.8	0.0	0.0
110.00		594.2	678.6					0.0	194.4	594.2	873.0	0.0	0.0
115.00		578.2	654.4					0.0	194.4	578.2	848.8	0.0	0.0
120.00		561.6	630.3					0.0	194.4	561.6	824.7	0.0	0.0
125.00		544.5	606.1					0.0	194.4	544.5	800.5	0.0	0.0
130.00	Bot - Section 4	491.3	582.0					0.0	194.4	491.3	776.4	0.0	0.0
134.25	Top - Section 3	262.1	797.6					0.0	165.2	262.1	962.9	0.0	0.0
135.00		291.7	55.6					0.0	29.2	291.7	84.8	0.0	0.0
140.00		496.6	361.5					0.0	194.4	496.6	555.9	0.0	0.0
145.00		477.7	345.4					0.0	194.4	477.7	539.8	0.0	0.0
150.00		324.9	329.3					0.0	194.4	324.9	523.7	0.0	0.0
152.00	Appurtenance(s)	224.2	127.2	662.0	0.0	0.0	95.0	0.0	77.8	886.2	300.0	0.0	0.0
155.00		347.6	186.0					0.0	98.9	347.6	284.9	0.0	0.0
160.00		378.3	297.1					0.0	164.9	378.3	462.0	0.0	0.0
164.00	Appurtenance(s)	204.1	226.1	3,459.2	0.0	0.0	1,734.1	0.0	131.9	3,663.3	2,092.1	0.0	0.0
165.00		233.7	54.9					0.0	19.6	233.7	74.5	0.0	0.0
170.00		304.9	264.9					0.0	98.0	304.9	362.9	0.0	0.0
173.00	Appurtenance(s)	183.1	151.2	6,476.2	0.0	623.8	3,802.0	0.0	58.8	6,659.4	4,012.0	0.0	0.0
175.00		72.0	97.6					0.0	0.0	72.0	97.6	0.0	0.0
Totals:										32,093.2	46,970.4	0.00	0.00

Site Number: 370625

Code: ANSITIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number:12616992_C3_01

10/25/2018 1:38:45 PM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.6W	103 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		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		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		339.8	0.0					0.0	0.0	339.8	0.0	0.0	0.0
5.00		672.6	1,160.1					0.0	147.3	672.6	1,307.4	0.0	0.0
10.00		658.6	1,135.9					0.0	147.3	658.6	1,263.2	0.0	0.0
15.00		654.6	1,111.8					0.0	147.3	654.6	1,259.1	0.0	0.0
20.00		667.8	1,087.6					0.0	147.3	667.8	1,234.9	0.0	0.0
25.00		684.7	1,063.5					0.0	147.3	684.7	1,210.8	0.0	0.0
30.00		695.5	1,039.3					0.0	147.3	695.5	1,186.6	0.0	0.0
35.00		701.7	1,015.2					0.0	147.3	701.7	1,162.5	0.0	0.0
40.00		704.6	991.0					0.0	147.3	704.6	1,138.3	0.0	0.0
45.00		475.9	966.9					0.0	147.3	475.9	1,114.2	0.0	0.0
46.75	Bot - Section 2	355.3	332.7					0.0	51.5	355.3	384.3	0.0	0.0
50.00		481.1	1,228.9					0.0	95.7	481.1	1,324.7	0.0	0.0
53.50	Top - Section 1	355.5	1,300.6					0.0	103.1	355.5	1,403.7	0.0	0.0
55.00		459.5	277.1					0.0	44.2	459.5	321.3	0.0	0.0
60.00		703.0	908.1					0.0	147.3	703.0	1,055.4	0.0	0.0
65.00		695.8	883.9					0.0	147.3	695.8	1,031.2	0.0	0.0
70.00		687.3	859.8					0.0	147.3	687.3	1,007.1	0.0	0.0
75.00		677.7	835.6					0.0	147.3	677.7	982.9	0.0	0.0
80.00		667.0	811.5					0.0	147.3	667.0	958.8	0.0	0.0
85.00		655.3	787.3					0.0	147.3	655.3	934.6	0.0	0.0
90.00		642.8	763.2					0.0	147.3	642.8	910.5	0.0	0.0
95.00	Bot - Section 3	633.9	739.0					0.0	147.3	633.9	886.3	0.0	0.0
100.00		331.3	1,260.0					0.0	147.3	331.3	1,407.3	0.0	0.0
100.25	Top - Section 2	62.3	61.9					0.0	7.4	62.3	69.3	0.0	0.0
101.00	Appurtenance(s)	292.9	80.1	421.2	0.0	365.1	157.5	0.0	22.1	714.1	259.7	0.0	0.0
105.00		547.2	420.2					0.0	116.6	547.2	536.8	0.0	0.0
110.00		594.2	508.9					0.0	145.8	594.2	654.7	0.0	0.0
115.00		578.2	490.8					0.0	145.8	578.2	636.6	0.0	0.0
120.00		561.6	472.7					0.0	145.8	561.6	618.5	0.0	0.0
125.00		544.5	454.6					0.0	145.8	544.5	600.4	0.0	0.0
130.00	Bot - Section 4	491.3	436.5					0.0	145.8	491.3	582.3	0.0	0.0
134.25	Top - Section 3	262.1	598.2					0.0	123.9	262.1	722.2	0.0	0.0
135.00		291.7	41.7					0.0	21.9	291.7	63.6	0.0	0.0
140.00		496.6	271.1					0.0	145.8	496.6	416.9	0.0	0.0
145.00		477.7	259.0					0.0	145.8	477.7	404.8	0.0	0.0
150.00		324.9	247.0					0.0	145.8	324.9	392.8	0.0	0.0
152.00	Appurtenance(s)	224.2	95.4	662.0	0.0	0.0	71.3	0.0	58.3	886.2	225.0	0.0	0.0
155.00		347.6	139.5					0.0	74.2	347.6	213.7	0.0	0.0
160.00		378.3	222.8					0.0	123.7	378.3	346.5	0.0	0.0
164.00	Appurtenance(s)	204.1	169.5	3,459.2	0.0	0.0	1,300.6	0.0	98.9	3,663.3	1,569.1	0.0	0.0
165.00		233.7	41.2					0.0	14.7	233.7	55.9	0.0	0.0
170.00		304.9	198.7					0.0	73.5	304.9	272.2	0.0	0.0
173.00	Appurtenance(s)	183.1	113.4	6,476.2	0.0	623.8	2,851.5	0.0	44.1	6,659.4	3,009.0	0.0	0.0
175.00		72.0	73.2					0.0	0.0	72.0	73.2	0.0	0.0
Totals:										32,093.2	35,227.8	0.00	0.00

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number:12616992_C3_01

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Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice	24 Iterations
Gust Response Factor :1.10	Ice Dead Load Factor :1.00	Wind Importance Factor :1.00
Dead Load Factor :1.20		Ice Importance Factor :1.00
Wind Load Factor :1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces			Sum of Forces			
		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		95.7	0.0					0.0	0.0	95.7	0.0	0.0	0.0
5.00		189.9	2,015.2					0.0	210.0	189.9	2,225.2	0.0	0.0
10.00		186.6	2,027.8					0.0	212.6	186.6	2,240.3	0.0	0.0
15.00		186.0	2,011.7					0.0	214.0	186.0	2,225.7	0.0	0.0
20.00		190.2	1,986.3					0.0	215.0	190.2	2,201.3	0.0	0.0
25.00		195.4	1,956.1					0.0	215.7	195.4	2,171.8	0.0	0.0
30.00		198.8	1,922.9					0.0	216.4	198.8	2,139.2	0.0	0.0
35.00		201.0	1,887.5					0.0	216.9	201.0	2,104.4	0.0	0.0
40.00		202.2	1,850.6					0.0	217.4	202.2	2,068.0	0.0	0.0
45.00		136.8	1,812.5					0.0	217.9	136.8	2,030.3	0.0	0.0
46.75	Bot - Section 2	102.2	626.6					0.0	76.3	102.2	703.0	0.0	0.0
50.00		138.5	1,979.6					0.0	141.9	138.5	2,121.5	0.0	0.0
53.50	Top - Section 1	102.5	2,097.7					0.0	153.0	102.5	2,250.6	0.0	0.0
55.00		132.7	524.9					0.0	65.6	132.7	590.5	0.0	0.0
60.00		203.2	1,718.6					0.0	219.0	203.2	1,937.5	0.0	0.0
65.00		201.6	1,677.5					0.0	219.3	201.6	1,896.7	0.0	0.0
70.00		199.6	1,635.9					0.0	219.6	199.6	1,855.4	0.0	0.0
75.00		197.2	1,593.8					0.0	219.8	197.2	1,813.7	0.0	0.0
80.00		194.6	1,551.4					0.0	220.1	194.6	1,771.5	0.0	0.0
85.00		191.7	1,508.6					0.0	220.4	191.7	1,728.9	0.0	0.0
90.00		188.5	1,465.4					0.0	220.6	188.5	1,686.0	0.0	0.0
95.00	Bot - Section 3	186.3	1,422.0					0.0	220.8	186.3	1,642.8	0.0	0.0
100.00		97.5	2,111.1					0.0	221.0	97.5	2,332.1	0.0	0.0
100.25	Top - Section 2	18.4	104.1					0.0	11.1	18.4	115.2	0.0	0.0
101.00	Appurtenance(s)	86.4	171.2	99.6	0.0	99.9	332.1	0.0	33.2	186.0	536.5	0.0	0.0
105.00		161.8	895.9					0.0	155.5	161.8	1,051.4	0.0	0.0
110.00		176.2	1,086.0					0.0	194.4	176.2	1,280.4	0.0	0.0
115.00		172.0	1,049.7					0.0	194.4	172.0	1,244.1	0.0	0.0
120.00		167.7	1,013.2					0.0	194.4	167.7	1,207.6	0.0	0.0
125.00		163.3	976.5					0.0	194.4	163.3	1,170.9	0.0	0.0
130.00	Bot - Section 4	147.8	939.7					0.0	194.4	147.8	1,134.1	0.0	0.0
134.25	Top - Section 3	79.0	1,095.9					0.0	165.2	79.0	1,261.2	0.0	0.0
135.00		88.3	108.0					0.0	29.2	88.3	137.2	0.0	0.0
140.00		150.8	697.3					0.0	194.4	150.8	891.7	0.0	0.0
145.00		145.8	668.1					0.0	194.4	145.8	862.5	0.0	0.0
150.00		99.6	638.7					0.0	194.4	99.6	833.1	0.0	0.0
152.00	Appurtenance(s)	69.1	249.0	142.3	0.0	0.0	293.7	0.0	77.8	211.4	620.4	0.0	0.0
155.00		107.5	363.7					0.0	98.9	107.5	462.6	0.0	0.0
160.00		117.6	579.5					0.0	164.9	117.6	744.4	0.0	0.0
164.00	Appurtenance(s)	63.7	443.4	747.9	0.0	0.0	3,420.8	0.0	131.9	811.6	3,996.1	0.0	0.0
165.00		73.5	108.7					0.0	19.6	73.5	128.3	0.0	0.0
170.00		96.2	519.9					0.0	98.0	96.2	617.9	0.0	0.0
173.00	Appurtenance(s)	58.2	299.3	1,293.6	0.0	119.5	8,285.0	0.0	58.8	1,351.8	8,643.2	0.0	0.0
175.00		22.9	194.1					0.0	0.0	22.9	194.1	0.0	0.0
Totals:										8,468.06	68,869.5	0.00	0.00

Site Number: 370625

Code: ANSITIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number:12616992_C3_01

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Customer: VERIZON WIRELESS

Load Case: 1.0D + 1.0W	Serviceability 60 mph	23 Iterations
Gust Response Factor :1.10		Wind Importance Factor 1.00
Dead Load Factor :1.00		
Wind Load Factor :1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces			Sum of Forces			
		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		72.1	0.0					0.0	0.0	72.1	0.0	0.0	0.0
5.00		142.7	1,289.0					0.0	163.7	142.7	1,452.6	0.0	0.0
10.00		139.7	1,262.1					0.0	163.7	139.7	1,425.8	0.0	0.0
15.00		138.8	1,235.3					0.0	163.7	138.8	1,399.0	0.0	0.0
20.00		141.6	1,208.5					0.0	163.7	141.6	1,372.1	0.0	0.0
25.00		145.2	1,181.6					0.0	163.7	145.2	1,345.3	0.0	0.0
30.00		147.5	1,154.8					0.0	163.7	147.5	1,318.5	0.0	0.0
35.00		148.8	1,128.0					0.0	163.7	148.8	1,291.6	0.0	0.0
40.00		149.4	1,101.1					0.0	163.7	149.4	1,264.8	0.0	0.0
45.00		100.9	1,074.3					0.0	163.7	100.9	1,238.0	0.0	0.0
46.75	Bot - Section 2	75.4	369.7					0.0	57.3	75.4	426.9	0.0	0.0
50.00		102.0	1,365.5					0.0	106.4	102.0	1,471.9	0.0	0.0
53.50	Top - Section 1	75.4	1,445.2					0.0	114.6	75.4	1,559.7	0.0	0.0
55.00		97.5	307.9					0.0	49.1	97.5	357.0	0.0	0.0
60.00		149.1	1,009.0					0.0	163.7	149.1	1,172.6	0.0	0.0
65.00		147.6	982.2					0.0	163.7	147.6	1,145.8	0.0	0.0
70.00		145.8	955.3					0.0	163.7	145.8	1,119.0	0.0	0.0
75.00		143.7	928.5					0.0	163.7	143.7	1,092.1	0.0	0.0
80.00		141.5	901.7					0.0	163.7	141.5	1,065.3	0.0	0.0
85.00		139.0	874.8					0.0	163.7	139.0	1,038.5	0.0	0.0
90.00		136.3	848.0					0.0	163.7	136.3	1,011.6	0.0	0.0
95.00	Bot - Section 3	134.4	821.2					0.0	163.7	134.4	984.8	0.0	0.0
100.00		70.3	1,400.0					0.0	163.7	70.3	1,563.7	0.0	0.0
100.25	Top - Section 2	13.2	68.8					0.0	8.2	13.2	77.0	0.0	0.0
101.00	Appurtenance(s)	62.1	89.0	89.3	0.0	77.4	175.0	0.0	24.5	151.4	288.5	0.0	0.0
105.00		116.1	466.9					0.0	129.6	116.1	596.5	0.0	0.0
110.00		126.0	565.5					0.0	162.0	126.0	727.5	0.0	0.0
115.00		122.6	545.3					0.0	162.0	122.6	707.3	0.0	0.0
120.00		119.1	525.2					0.0	162.0	119.1	687.2	0.0	0.0
125.00		115.5	505.1					0.0	162.0	115.5	667.1	0.0	0.0
130.00	Bot - Section 4	104.2	485.0					0.0	162.0	104.2	647.0	0.0	0.0
134.25	Top - Section 3	55.6	664.7					0.0	137.7	55.6	802.4	0.0	0.0
135.00		61.9	46.3					0.0	24.3	61.9	70.6	0.0	0.0
140.00		105.3	301.2					0.0	162.0	105.3	463.2	0.0	0.0
145.00		101.3	287.8					0.0	162.0	101.3	449.8	0.0	0.0
150.00		68.9	274.4					0.0	162.0	68.9	436.4	0.0	0.0
152.00	Appurtenance(s)	47.6	106.0	140.4	0.0	0.0	79.2	0.0	64.8	188.0	250.0	0.0	0.0
155.00		73.7	155.0					0.0	82.4	73.7	237.4	0.0	0.0
160.00		80.2	247.6					0.0	137.4	80.2	385.0	0.0	0.0
164.00	Appurtenance(s)	43.3	188.4	733.6	0.0	0.0	1,445.1	0.0	109.9	776.9	1,743.4	0.0	0.0
165.00		49.6	45.8					0.0	16.3	49.6	62.1	0.0	0.0
170.00		64.7	220.7					0.0	81.7	64.7	302.4	0.0	0.0
173.00	Appurtenance(s)	38.8	126.0	1,373.5	0.0	132.3	3,168.3	0.0	49.0	1,412.3	3,343.3	0.0	0.0
175.00		15.3	81.3					0.0	0.0	15.3	81.3	0.0	0.0
Totals:										6,806.46	39,142.0	0.00	0.00

Site Number: 370625

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Site Name: Old Saybrook, CT

Engineering Number: 12616992_C3_01

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Customer: VERIZON WIRELESS

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_{ds}):	0.17
Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.06
Long-Period Transition Period (T_L):	6
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}):	0.18
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
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):	2.13
Redundancy Factor (ρ):	1.00
Seismic Force Distribution Exponent (k):	1.82
Total Unfactored Dead Load:	39.14 k
Seismic Base Shear (E):	1.17 k

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

Segment	Height Above Base (ft)	Weight (lb)	W_2 (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
43	174.00	81	954	0.006	8	100
42	171.50	175	2,000	0.013	16	216
41	167.50	302	3,311	0.022	26	374
40	164.50	62	658	0.004	5	77
39	162.00	298	3,074	0.021	24	368
38	157.50	385	3,769	0.025	30	476
37	153.50	237	2,218	0.015	18	293
36	151.00	171	1,549	0.010	12	211
35	147.50	436	3,793	0.026	30	539
34	142.50	450	3,672	0.025	29	556
33	137.50	463	3,544	0.024	28	572
32	134.63	71	520	0.003	4	87
31	132.13	802	5,710	0.038	45	991
30	127.50	647	4,315	0.029	34	799
29	122.50	667	4,138	0.028	33	824
28	117.50	687	3,952	0.027	31	849
27	112.50	707	3,759	0.025	30	874
26	107.50	727	3,559	0.024	28	899
25	103.00	596	2,700	0.018	21	737
24	100.63	114	493	0.003	4	140
23	100.13	77	331	0.002	3	95
22	97.50	1,564	6,407	0.043	51	1,931
21	92.50	985	3,667	0.025	29	1,216

Site Number: 370625

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Site Name: Old Saybrook, CT

Engineering Number:12616992_C3_01

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Customer: VERIZON WIRELESS

20	87.50	1,012	3,406	0.023	27	1,250
19	82.50	1,038	3,142	0.021	25	1,283
18	77.50	1,065	2,877	0.019	23	1,316
17	72.50	1,092	2,613	0.018	21	1,349
16	67.50	1,119	2,351	0.016	19	1,382
15	62.50	1,146	2,094	0.014	17	1,415
14	57.50	1,173	1,841	0.012	15	1,448
13	54.25	357	504	0.003	4	441
12	51.75	1,560	2,023	0.014	16	1,927
11	48.38	1,472	1,689	0.011	13	1,818
10	45.88	427	445	0.003	4	527
9	42.50	1,238	1,123	0.008	9	1,529
8	37.50	1,265	914	0.006	7	1,562
7	32.50	1,292	720	0.005	6	1,595
6	27.50	1,318	542	0.004	4	1,629
5	22.50	1,345	384	0.003	3	1,662
4	17.50	1,372	248	0.002	2	1,695
3	12.50	1,399	137	0.001	1	1,728
2	7.50	1,426	55	0.000	0	1,761
1	2.50	1,453	8	0.000	0	1,794
RFS FDJ85020Q4-S1	173.00	71	822	0.006	6	87
Samsung B2/B66A RRH-	173.00	253	2,940	0.020	23	313
Samsung B5/B13 RRH-B	173.00	211	2,449	0.016	19	261
Antel BXA-80063/4CF	173.00	30	345	0.002	3	37
RFS DB-T1-6Z-8AB-0Z	173.00	88	1,022	0.007	8	109
Andrew SBNHH-1D65B	173.00	152	1,766	0.012	14	188
Commscope JAHH-65B-R	173.00	364	4,222	0.028	33	449
Flat Platform w/ Han	173.00	2,000	23,221	0.156	183	2,470
Ericsson AIR 21, 1.3	164.00	275	2,892	0.019	23	339
Ericsson AIR 21, 1.3	164.00	271	2,858	0.019	23	335
Round T-Arms	164.00	750	7,903	0.053	62	926
Andrew LNX-6515DS-A1	164.00	149	1,574	0.011	12	185
RFS APXV18-206517S-C	152.00	79	727	0.005	6	98
7' Omni	101.00	25	109	0.001	1	31
Round Side Arm	101.00	150	655	0.004	5	185
		39,142	148,711	1.000	1,174	48,348

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)
43	174.00	81	954	0.006	8	70
42	171.50	175	2,000	0.013	16	151
41	167.50	302	3,311	0.022	26	262
40	164.50	62	658	0.004	5	54
39	162.00	298	3,074	0.021	24	258
38	157.50	385	3,769	0.025	30	333
37	153.50	237	2,218	0.015	18	205
36	151.00	171	1,549	0.010	12	148
35	147.50	436	3,793	0.026	30	377
34	142.50	450	3,672	0.025	29	389
33	137.50	463	3,544	0.024	28	401
32	134.63	71	520	0.003	4	61
31	132.13	802	5,710	0.038	45	694
30	127.50	647	4,315	0.029	34	559
29	122.50	667	4,138	0.028	33	577
28	117.50	687	3,952	0.027	31	594
27	112.50	707	3,759	0.025	30	612
26	107.50	727	3,559	0.024	28	629
25	103.00	596	2,700	0.018	21	516

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number:12616992_C3_01

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Customer: VERIZON WIRELESS

24	100.63	114	493	0.003	4	98
23	100.13	77	331	0.002	3	67
22	97.50	1,564	6,407	0.043	51	1,352
21	92.50	985	3,667	0.025	29	852
20	87.50	1,012	3,406	0.023	27	875
19	82.50	1,038	3,142	0.021	25	898
18	77.50	1,065	2,877	0.019	23	921
17	72.50	1,092	2,613	0.018	21	944
16	67.50	1,119	2,351	0.016	19	968
15	62.50	1,146	2,094	0.014	17	991
14	57.50	1,173	1,841	0.012	15	1,014
13	54.25	357	504	0.003	4	309
12	51.75	1,560	2,023	0.014	16	1,349
11	48.38	1,472	1,689	0.011	13	1,273
10	45.88	427	445	0.003	4	369
9	42.50	1,238	1,123	0.008	9	1,071
8	37.50	1,265	914	0.006	7	1,094
7	32.50	1,292	720	0.005	6	1,117
6	27.50	1,318	542	0.004	4	1,140
5	22.50	1,345	384	0.003	3	1,163
4	17.50	1,372	248	0.002	2	1,187
3	12.50	1,399	137	0.001	1	1,210
2	7.50	1,426	55	0.000	0	1,233
1	2.50	1,453	8	0.000	0	1,256
RFS FDJ85020Q4-S1	173.00	71	822	0.006	6	61
Samsung B2/B66A RRH-	173.00	253	2,940	0.020	23	219
Samsung B5/B13 RRH-B	173.00	211	2,449	0.016	19	182
Antel BXA-80063/4CF	173.00	30	345	0.002	3	26
RFS DB-T1-6Z-8AB-0Z	173.00	88	1,022	0.007	8	76
Andrew SBNHH-1D65B	173.00	152	1,766	0.012	14	132
Commscope JAHH-65B-R	173.00	364	4,222	0.028	33	314
Flat Platform w/ Han	173.00	2,000	23,221	0.156	183	1,730
Ericsson AIR 21, 1.3	164.00	275	2,892	0.019	23	237
Ericsson AIR 21, 1.3	164.00	271	2,858	0.019	23	235
Round T-Arms	164.00	750	7,903	0.053	62	649
Andrew LNX-6515DS-A1	164.00	149	1,574	0.011	12	129
RFS APXV18-206517S-C	152.00	79	727	0.005	6	68
7' Omni	101.00	25	109	0.001	1	22
Round Side Arm	101.00	150	655	0.004	5	130
		39,142	148,711	1.000	1,174	33,850

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number:12616992_C3_01

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Customer: VERIZON WIRELESS

Load Case (1.2 + 0.2Sds) * DL + E ELMF 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	-46.55	-1.18	0.00	-158.49	0.00	158.49	4,663.96	2,331.98	12,350.3	6,184.38	0.00	0.00	0.036
5.00	-44.79	-1.18	0.00	-152.62	0.00	152.62	4,617.32	2,308.66	11,973.5	5,995.65	0.00	-0.01	0.035
10.00	-43.06	-1.18	0.00	-146.72	0.00	146.72	4,568.59	2,284.30	11,596.4	5,806.85	0.01	-0.01	0.035
15.00	-41.37	-1.18	0.00	-140.81	0.00	140.81	4,517.79	2,258.89	11,219.5	5,618.13	0.03	-0.02	0.034
20.00	-39.71	-1.18	0.00	-134.89	0.00	134.89	4,464.90	2,232.45	10,843.2	5,429.68	0.05	-0.02	0.034
25.00	-38.08	-1.18	0.00	-128.96	0.00	128.96	4,409.93	2,204.97	10,467.7	5,241.66	0.07	-0.03	0.033
30.00	-36.48	-1.18	0.00	-123.04	0.00	123.04	4,352.89	2,176.44	10,093.5	5,054.25	0.11	-0.04	0.033
35.00	-34.92	-1.18	0.00	-117.14	0.00	117.14	4,293.76	2,146.88	9,720.79	4,867.62	0.15	-0.04	0.032
40.00	-33.39	-1.17	0.00	-111.25	0.00	111.25	4,232.55	2,116.28	9,349.96	4,681.93	0.20	-0.05	0.032
45.00	-32.86	-1.17	0.00	-105.40	0.00	105.40	4,169.26	2,084.63	8,981.38	4,497.36	0.25	-0.05	0.031
46.75	-31.05	-1.16	0.00	-103.35	0.00	103.35	4,146.62	2,073.31	8,852.97	4,433.06	0.27	-0.06	0.031
50.00	-29.12	-1.14	0.00	-99.60	0.00	99.60	4,103.90	2,051.95	8,615.37	4,314.09	0.31	-0.06	0.030
53.50	-28.68	-1.14	0.00	-95.60	0.00	95.60	4,094.98	2,047.49	8,566.54	4,289.64	0.36	-0.07	0.029
55.00	-27.23	-1.12	0.00	-93.90	0.00	93.90	4,074.88	2,037.44	8,457.42	4,234.99	0.38	-0.07	0.029
60.00	-25.81	-1.11	0.00	-88.28	0.00	88.28	4,006.53	2,003.26	8,095.71	4,053.87	0.45	-0.08	0.028
65.00	-24.43	-1.09	0.00	-82.74	0.00	82.74	3,936.09	1,968.05	7,737.41	3,874.46	0.54	-0.08	0.028
70.00	-23.08	-1.07	0.00	-77.28	0.00	77.28	3,863.58	1,931.79	7,382.86	3,696.92	0.63	-0.09	0.027
75.00	-21.77	-1.05	0.00	-71.93	0.00	71.93	3,788.99	1,894.50	7,032.42	3,521.44	0.72	-0.10	0.026
80.00	-20.48	-1.02	0.00	-66.69	0.00	66.69	3,712.32	1,856.16	6,686.41	3,348.18	0.83	-0.10	0.025
85.00	-19.23	-1.00	0.00	-61.56	0.00	61.56	3,633.57	1,816.78	6,345.19	3,177.31	0.94	-0.11	0.025
90.00	-18.02	-0.97	0.00	-56.58	0.00	56.58	3,552.73	1,776.37	6,009.09	3,009.01	1.06	-0.12	0.024
95.00	-16.09	-0.92	0.00	-51.73	0.00	51.73	3,469.82	1,734.91	5,678.46	2,843.45	1.19	-0.12	0.023
100.00	-15.99	-0.91	0.00	-47.15	0.00	47.15	3,384.83	1,692.41	5,353.64	2,680.80	1.32	-0.13	0.022
100.25	-15.85	-0.91	0.00	-46.93	0.00	46.93	2,340.16	1,170.08	3,767.44	1,886.52	1.33	-0.13	0.032
101.00	-14.90	-0.88	0.00	-46.24	0.00	46.24	2,332.87	1,166.43	3,736.50	1,871.03	1.35	-0.13	0.031
105.00	-14.00	-0.85	0.00	-42.72	0.00	42.72	2,293.18	1,146.59	3,572.27	1,788.79	1.46	-0.14	0.030
110.00	-13.13	-0.82	0.00	-38.45	0.00	38.45	2,241.70	1,120.85	3,369.07	1,687.04	1.62	-0.15	0.029
115.00	-12.28	-0.79	0.00	-34.33	0.00	34.33	2,188.14	1,094.07	3,168.50	1,586.61	1.78	-0.16	0.027
120.00	-11.45	-0.76	0.00	-30.37	0.00	30.37	2,132.50	1,066.25	2,970.92	1,487.67	1.95	-0.17	0.026
125.00	-10.65	-0.72	0.00	-26.57	0.00	26.57	2,074.78	1,037.39	2,776.66	1,390.39	2.13	-0.18	0.024
130.00	-9.66	-0.68	0.00	-22.95	0.00	22.95	2,014.98	1,007.49	2,586.06	1,294.95	2.33	-0.19	0.023
134.25	-9.58	-0.67	0.00	-20.07	0.00	20.07	1,137.98	568.99	1,433.87	718.00	2.50	-0.20	0.036
135.00	-9.00	-0.65	0.00	-19.56	0.00	19.56	1,134.17	567.08	1,419.73	710.92	2.53	-0.20	0.035
140.00	-8.45	-0.62	0.00	-16.34	0.00	16.34	1,107.59	553.79	1,325.68	663.83	2.74	-0.21	0.032
145.00	-7.91	-0.59	0.00	-13.26	0.00	13.26	1,078.93	539.46	1,232.17	617.00	2.97	-0.22	0.029
150.00	-7.70	-0.57	0.00	-10.33	0.00	10.33	1,048.18	524.09	1,139.55	570.62	3.20	-0.23	0.025
152.00	-7.31	-0.55	0.00	-9.18	0.00	9.18	1,035.30	517.65	1,102.82	552.23	3.30	-0.23	0.024
155.00	-6.83	-0.52	0.00	-7.53	0.00	7.53	1,015.36	507.68	1,048.15	524.85	3.45	-0.24	0.021
160.00	-6.46	-0.49	0.00	-4.94	0.00	4.94	980.46	490.23	958.32	479.87	3.70	-0.25	0.017
164.00	-4.60	-0.36	0.00	-2.97	0.00	2.97	951.04	475.52	887.82	444.57	3.91	-0.25	0.012
165.00	-4.23	-0.33	0.00	-2.61	0.00	2.61	943.48	471.74	870.40	435.85	3.97	-0.25	0.010
170.00	-4.01	-0.32	0.00	-0.95	0.00	0.95	904.41	452.21	784.74	392.95	4.23	-0.26	0.007
173.00	0.00	0.00	0.00	0.00	0.00	0.00	879.98	439.99	734.56	367.83	4.39	-0.26	0.000
175.00	0.00	0.00	0.00	0.00	0.00	0.00	863.27	431.63	701.67	351.36	4.50	-0.26	0.000

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number: 12616992_C3_01

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Customer: VERIZON WIRELESS

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	-32.59	-1.17	0.00	-156.95	0.00	156.95	4,663.96	2,331.98	12,350.3	6,184.38	0.00	0.00	0.032
5.00	-31.36	-1.18	0.00	-151.07	0.00	151.07	4,617.32	2,308.66	11,973.5	5,995.65	0.00	-0.01	0.032
10.00	-30.15	-1.18	0.00	-145.19	0.00	145.19	4,568.59	2,284.30	11,596.4	5,806.85	0.01	-0.01	0.032
15.00	-28.96	-1.18	0.00	-139.29	0.00	139.29	4,517.79	2,258.89	11,219.5	5,618.13	0.03	-0.02	0.031
20.00	-27.80	-1.18	0.00	-133.39	0.00	133.39	4,464.90	2,232.45	10,843.2	5,429.68	0.05	-0.02	0.031
25.00	-26.66	-1.18	0.00	-127.50	0.00	127.50	4,409.93	2,204.97	10,467.7	5,241.66	0.07	-0.03	0.030
30.00	-25.54	-1.17	0.00	-121.61	0.00	121.61	4,352.89	2,176.44	10,093.5	5,054.25	0.11	-0.03	0.030
35.00	-24.45	-1.17	0.00	-115.74	0.00	115.74	4,293.76	2,146.88	9,720.79	4,867.62	0.15	-0.04	0.029
40.00	-23.38	-1.16	0.00	-109.90	0.00	109.90	4,232.55	2,116.28	9,349.96	4,681.93	0.19	-0.05	0.029
45.00	-23.01	-1.16	0.00	-104.09	0.00	104.09	4,169.26	2,084.63	8,981.38	4,497.36	0.25	-0.05	0.029
46.75	-21.74	-1.15	0.00	-102.06	0.00	102.06	4,146.62	2,073.31	8,852.97	4,433.06	0.27	-0.06	0.028
50.00	-20.39	-1.13	0.00	-98.34	0.00	98.34	4,103.90	2,051.95	8,615.37	4,314.09	0.31	-0.06	0.028
53.50	-20.08	-1.13	0.00	-94.38	0.00	94.38	4,094.98	2,047.49	8,566.54	4,289.64	0.35	-0.07	0.027
55.00	-19.06	-1.11	0.00	-92.69	0.00	92.69	4,074.88	2,037.44	8,457.42	4,234.99	0.37	-0.07	0.027
60.00	-18.07	-1.10	0.00	-87.12	0.00	87.12	4,006.53	2,003.26	8,095.71	4,053.87	0.45	-0.07	0.026
65.00	-17.11	-1.08	0.00	-81.63	0.00	81.63	3,936.09	1,968.05	7,737.41	3,874.46	0.53	-0.08	0.025
70.00	-16.16	-1.06	0.00	-76.24	0.00	76.24	3,863.58	1,931.79	7,382.86	3,696.92	0.62	-0.09	0.025
75.00	-15.24	-1.04	0.00	-70.94	0.00	70.94	3,788.99	1,894.50	7,032.42	3,521.44	0.71	-0.09	0.024
80.00	-14.34	-1.01	0.00	-65.75	0.00	65.75	3,712.32	1,856.16	6,686.41	3,348.18	0.82	-0.10	0.024
85.00	-13.47	-0.99	0.00	-60.69	0.00	60.69	3,633.57	1,816.78	6,345.19	3,177.31	0.93	-0.11	0.023
90.00	-12.61	-0.96	0.00	-55.76	0.00	55.76	3,552.73	1,776.37	6,009.09	3,009.01	1.05	-0.12	0.022
95.00	-11.26	-0.90	0.00	-50.98	0.00	50.98	3,469.82	1,734.91	5,678.46	2,843.45	1.17	-0.12	0.021
100.00	-11.20	-0.90	0.00	-46.45	0.00	46.45	3,384.83	1,692.41	5,353.64	2,680.80	1.30	-0.13	0.021
100.25	-11.10	-0.90	0.00	-46.23	0.00	46.23	2,340.16	1,170.08	3,767.44	1,886.52	1.31	-0.13	0.029
101.00	-10.43	-0.87	0.00	-45.55	0.00	45.55	2,332.87	1,166.43	3,736.50	1,871.03	1.33	-0.13	0.029
105.00	-9.80	-0.84	0.00	-42.07	0.00	42.07	2,293.18	1,146.59	3,572.27	1,788.79	1.45	-0.14	0.028
110.00	-9.19	-0.81	0.00	-37.86	0.00	37.86	2,241.70	1,120.85	3,369.07	1,687.04	1.60	-0.15	0.027
115.00	-8.60	-0.78	0.00	-33.79	0.00	33.79	2,188.14	1,094.07	3,168.50	1,586.61	1.76	-0.16	0.025
120.00	-8.02	-0.75	0.00	-29.89	0.00	29.89	2,132.50	1,066.25	2,970.92	1,487.67	1.93	-0.17	0.024
125.00	-7.46	-0.71	0.00	-26.14	0.00	26.14	2,074.78	1,037.39	2,776.66	1,390.39	2.11	-0.18	0.022
130.00	-6.76	-0.67	0.00	-22.57	0.00	22.57	2,014.98	1,007.49	2,586.06	1,294.95	2.30	-0.19	0.021
134.25	-6.70	-0.66	0.00	-19.74	0.00	19.74	1,137.98	568.99	1,433.87	718.00	2.47	-0.19	0.033
135.00	-6.30	-0.64	0.00	-19.24	0.00	19.24	1,134.17	567.08	1,419.73	710.92	2.50	-0.19	0.033
140.00	-5.91	-0.61	0.00	-16.06	0.00	16.06	1,107.59	553.79	1,325.68	663.83	2.71	-0.21	0.030
145.00	-5.54	-0.58	0.00	-13.03	0.00	13.03	1,078.93	539.46	1,232.17	617.00	2.93	-0.22	0.026
150.00	-5.39	-0.56	0.00	-10.15	0.00	10.15	1,048.18	524.09	1,139.55	570.62	3.16	-0.23	0.023
152.00	-5.12	-0.54	0.00	-9.02	0.00	9.02	1,035.30	517.65	1,102.82	552.23	3.26	-0.23	0.021
155.00	-4.78	-0.51	0.00	-7.40	0.00	7.40	1,015.36	507.68	1,048.15	524.85	3.40	-0.24	0.019
160.00	-4.52	-0.48	0.00	-4.86	0.00	4.86	980.46	490.23	958.32	479.87	3.66	-0.24	0.015
164.00	-3.22	-0.35	0.00	-2.92	0.00	2.92	951.04	475.52	887.82	444.57	3.86	-0.25	0.010
165.00	-2.96	-0.33	0.00	-2.56	0.00	2.56	943.48	471.74	870.40	435.85	3.91	-0.25	0.009
170.00	-2.81	-0.31	0.00	-0.93	0.00	0.93	904.41	452.21	784.74	392.95	4.18	-0.25	0.005
173.00	0.00	0.00	0.00	0.00	0.00	0.00	879.98	439.99	734.56	367.83	4.33	-0.25	0.000
175.00	0.00	0.00	0.00	0.00	0.00	0.00	863.27	431.63	701.67	351.36	4.44	-0.25	0.000

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number: 12616992_C3_01

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Customer: VERIZON WIRELESS

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_{sa}):	0.17
Spectral Response Acceleration at 1.0 Second Period (S_{s1}):	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_{dsa}):	0.18
Design Spectral Response Acceleration at 1.0 Second Period (S_{ds1}):	0.09
Period Based on Rayleigh Method (sec):	2.13
Redundancy Factor (ρ):	1.00

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)
43	174.00	81	1.868	1.868	1.100	0.324	18	100
42	171.50	175	1.815	1.608	1.004	0.294	34	216
41	167.50	302	1.731	1.245	0.864	0.248	50	374
40	164.50	62	1.670	1.012	0.769	0.216	9	77
39	162.00	298	1.620	0.841	0.697	0.190	38	368
38	157.50	385	1.531	0.580	0.580	0.149	38	476
37	153.50	237	1.454	0.394	0.490	0.115	18	293
36	151.00	171	1.407	0.298	0.439	0.096	11	211
35	147.50	436	1.343	0.184	0.375	0.071	21	539
34	142.50	450	1.253	0.061	0.296	0.041	12	556
33	137.50	463	1.167	-0.024	0.231	0.016	5	572
32	134.63	71	1.119	-0.059	0.198	0.004	0	87
31	132.13	802	1.077	-0.082	0.173	-0.005	-3	991
30	127.50	647	1.003	-0.109	0.133	-0.018	-8	799
29	122.50	667	0.926	-0.121	0.098	-0.027	-12	824
28	117.50	687	0.852	-0.119	0.070	-0.032	-14	849
27	112.50	707	0.781	-0.108	0.049	-0.031	-15	874
26	107.50	727	0.713	-0.091	0.032	-0.026	-13	899
25	103.00	596	0.655	-0.072	0.022	-0.019	-7	737
24	100.63	114	0.625	-0.062	0.018	-0.014	-1	140
23	100.13	77	0.619	-0.060	0.017	-0.013	-1	95
22	97.50	1,564	0.587	-0.048	0.013	-0.007	-7	1,931
21	92.50	985	0.528	-0.026	0.008	0.005	3	1,216
20	87.50	1,012	0.472	-0.006	0.006	0.016	11	1,250
19	82.50	1,038	0.420	0.012	0.006	0.026	18	1,283
18	77.50	1,065	0.371	0.027	0.008	0.033	24	1,316
17	72.50	1,092	0.324	0.039	0.010	0.039	28	1,349
16	67.50	1,119	0.281	0.049	0.014	0.043	32	1,382
15	62.50	1,146	0.241	0.057	0.018	0.044	34	1,415
14	57.50	1,173	0.204	0.062	0.023	0.045	35	1,448
13	54.25	357	0.182	0.065	0.026	0.045	11	441
12	51.75	1,560	0.165	0.067	0.028	0.045	47	1,927
11	48.38	1,472	0.144	0.068	0.031	0.044	44	1,818
10	45.88	427	0.130	0.069	0.033	0.044	13	527

Site Number: 370625

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Site Name: Old Saybrook, CT

Engineering Number: 12616992_C3_01

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Customer: VERIZON WIRELESS

9	42.50	1,238	0.111	0.070	0.036	0.043	36	1,529
8	37.50	1,265	0.087	0.071	0.039	0.042	36	1,562
7	32.50	1,292	0.065	0.072	0.041	0.041	36	1,595
6	27.50	1,318	0.047	0.071	0.042	0.040	35	1,629
5	22.50	1,345	0.031	0.068	0.041	0.038	34	1,662
4	17.50	1,372	0.019	0.063	0.037	0.036	33	1,695
3	12.50	1,399	0.010	0.054	0.031	0.031	29	1,728
2	7.50	1,426	0.003	0.039	0.022	0.024	23	1,761
1	2.50	1,453	0.000	0.016	0.009	0.010	10	1,794
RFS FDJ85020Q4-S1	173.00	71	1.847	1.761	1.060	0.312	15	87
Samsung B2/B66A RRH-	173.00	253	1.847	1.761	1.060	0.312	53	313
Samsung B5/B13 RRH-B	173.00	211	1.847	1.761	1.060	0.312	44	261
Antel BXA-80063/4CF	173.00	30	1.847	1.761	1.060	0.312	6	37
RFS DB-T1-6Z-8AB-0Z	173.00	88	1.847	1.761	1.060	0.312	18	109
Andrew SBNHH-1D65B	173.00	152	1.847	1.761	1.060	0.312	32	188
Commscope JAHH-65B-	173.00	364	1.847	1.761	1.060	0.312	76	449
Fiat Platform w/ Han	173.00	2,000	1.847	1.761	1.060	0.312	416	2,470
Ericsson AIR 21, 1.3	164.00	275	1.660	0.976	0.754	0.210	39	339
Ericsson AIR 21, 1.3	164.00	271	1.660	0.976	0.754	0.210	38	335
Round T-Arms	164.00	750	1.660	0.976	0.754	0.210	105	926
Andrew LNX-6515DS-A1	164.00	149	1.660	0.976	0.754	0.210	21	185
RFS APXV18-206517S-C	152.00	79	1.426	0.335	0.459	0.103	5	98
7' Omni	101.00	25	0.630	-0.064	0.018	-0.015	0	31
Round Side Arm	101.00	150	0.630	-0.064	0.018	-0.015	-1	185
		39,142	53.754	26.344	20.172	5.719	1,608	48,348

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)
43	174.00	81	1.868	1.868	1.100	0.324	18	70
42	171.50	175	1.815	1.608	1.004	0.294	34	151
41	167.50	302	1.731	1.245	0.864	0.248	50	262
40	164.50	62	1.670	1.012	0.769	0.216	9	54
39	162.00	298	1.620	0.841	0.697	0.190	38	258
38	157.50	385	1.531	0.580	0.580	0.149	38	333
37	153.50	237	1.454	0.394	0.490	0.115	18	205
36	151.00	171	1.407	0.298	0.439	0.096	11	148
35	147.50	436	1.343	0.184	0.375	0.071	21	377
34	142.50	450	1.253	0.061	0.296	0.041	12	389
33	137.50	463	1.167	-0.024	0.231	0.016	5	401
32	134.63	71	1.119	-0.059	0.198	0.004	0	61
31	132.13	802	1.077	-0.082	0.173	-0.005	-3	694
30	127.50	647	1.003	-0.109	0.133	-0.018	-8	559
29	122.50	667	0.926	-0.121	0.098	-0.027	-12	577
28	117.50	687	0.852	-0.119	0.070	-0.032	-14	594
27	112.50	707	0.781	-0.108	0.049	-0.031	-15	612
26	107.50	727	0.713	-0.091	0.032	-0.026	-13	629
25	103.00	596	0.655	-0.072	0.022	-0.019	-7	516
24	100.63	114	0.625	-0.062	0.018	-0.014	-1	98
23	100.13	77	0.619	-0.060	0.017	-0.013	-1	67
22	97.50	1,564	0.587	-0.048	0.013	-0.007	-7	1,352
21	92.50	985	0.528	-0.026	0.008	0.005	3	852
20	87.50	1,012	0.472	-0.006	0.006	0.016	11	875
19	82.50	1,038	0.420	0.012	0.006	0.026	18	898
18	77.50	1,065	0.371	0.027	0.008	0.033	24	921
17	72.50	1,092	0.324	0.039	0.010	0.039	28	944
16	67.50	1,119	0.281	0.049	0.014	0.043	32	968
15	62.50	1,146	0.241	0.057	0.018	0.044	34	991

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number:12616992_C3_01

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Customer: VERIZON WIRELESS

14	57.50	1,173	0.204	0.062	0.023	0.045	35	1,014
13	54.25	357	0.182	0.065	0.026	0.045	11	309
12	51.75	1,560	0.165	0.067	0.028	0.045	47	1,349
11	48.38	1,472	0.144	0.068	0.031	0.044	44	1,273
10	45.88	427	0.130	0.069	0.033	0.044	13	369
9	42.50	1,238	0.111	0.070	0.036	0.043	36	1,071
8	37.50	1,265	0.087	0.071	0.039	0.042	36	1,094
7	32.50	1,292	0.065	0.072	0.041	0.041	36	1,117
6	27.50	1,318	0.047	0.071	0.042	0.040	35	1,140
5	22.50	1,345	0.031	0.068	0.041	0.038	34	1,163
4	17.50	1,372	0.019	0.063	0.037	0.036	33	1,187
3	12.50	1,399	0.010	0.054	0.031	0.031	29	1,210
2	7.50	1,426	0.003	0.039	0.022	0.024	23	1,233
1	2.50	1,453	0.000	0.016	0.009	0.010	10	1,256
RFS FDJ85020Q4-S1	173.00	71	1.847	1.761	1.060	0.312	15	61
Samsung B2/B66A RRH-	173.00	253	1.847	1.761	1.060	0.312	53	219
Samsung B5/B13 RRH-B	173.00	211	1.847	1.761	1.060	0.312	44	182
Antel BXA-80063/4CF	173.00	30	1.847	1.761	1.060	0.312	6	26
RFS DB-T1-6Z-8AB-0Z	173.00	88	1.847	1.761	1.060	0.312	18	76
Andrew SBNHH-1D65B	173.00	152	1.847	1.761	1.060	0.312	32	132
Commscope JAHH-65B-	173.00	364	1.847	1.761	1.060	0.312	76	314
Flat Platform w/ Han	173.00	2,000	1.847	1.761	1.060	0.312	416	1,730
Ericsson AIR 21, 1.3	164.00	275	1.660	0.976	0.754	0.210	39	237
Ericsson AIR 21, 1.3	164.00	271	1.660	0.976	0.754	0.210	38	235
Round T-Arms	164.00	750	1.660	0.976	0.754	0.210	105	649
Andrew LNX-6515DS-A1	164.00	149	1.660	0.976	0.754	0.210	21	129
RFS APXV18-206517S-C	152.00	79	1.426	0.335	0.459	0.103	5	68
7' Omni	101.00	25	0.630	-0.064	0.018	-0.015	0	22
Round Side Arm	101.00	150	0.630	-0.064	0.018	-0.015	-1	130
		39,142	53.754	26.344	20.172	5.719	1,608	33,850

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number: 12616992_C3_01

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Customer: VERIZON WIRELESS

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	-46.55	-1.60	0.00	-210.43	0.00	210.43	4,663.96	2,331.98	12,350.3	6,184.38	0.00	0.00	0.044
5.00	-44.79	-1.58	0.00	-202.43	0.00	202.43	4,617.32	2,308.66	11,973.5	5,995.65	0.00	-0.01	0.043
10.00	-43.06	-1.56	0.00	-194.52	0.00	194.52	4,568.59	2,284.30	11,596.4	5,806.85	0.02	-0.01	0.043
15.00	-41.37	-1.53	0.00	-186.73	0.00	186.73	4,517.79	2,258.89	11,219.5	5,618.13	0.04	-0.02	0.042
20.00	-39.71	-1.50	0.00	-179.07	0.00	179.07	4,464.90	2,232.45	10,843.2	5,429.68	0.06	-0.03	0.042
25.00	-38.08	-1.47	0.00	-171.57	0.00	171.57	4,409.93	2,204.97	10,467.7	5,241.66	0.10	-0.04	0.041
30.00	-36.48	-1.44	0.00	-164.22	0.00	164.22	4,352.89	2,176.44	10,093.5	5,054.25	0.14	-0.05	0.041
35.00	-34.92	-1.41	0.00	-157.02	0.00	157.02	4,293.76	2,146.88	9,720.79	4,867.62	0.20	-0.06	0.040
40.00	-33.39	-1.37	0.00	-149.98	0.00	149.98	4,232.55	2,116.28	9,349.96	4,681.93	0.26	-0.06	0.040
45.00	-32.86	-1.37	0.00	-143.11	0.00	143.11	4,169.26	2,084.63	8,981.38	4,497.36	0.33	-0.07	0.040
46.75	-31.05	-1.32	0.00	-140.72	0.00	140.72	4,146.62	2,073.31	8,852.97	4,433.06	0.36	-0.08	0.039
50.00	-29.12	-1.28	0.00	-136.43	0.00	136.43	4,103.90	2,051.95	8,615.37	4,314.09	0.41	-0.08	0.039
53.50	-28.68	-1.27	0.00	-131.96	0.00	131.96	4,094.98	2,047.49	8,566.54	4,289.64	0.48	-0.09	0.038
55.00	-27.23	-1.23	0.00	-130.06	0.00	130.06	4,074.88	2,037.44	8,457.42	4,234.99	0.50	-0.09	0.037
60.00	-25.81	-1.20	0.00	-123.90	0.00	123.90	4,006.53	2,003.26	8,095.71	4,053.87	0.61	-0.10	0.037
65.00	-24.43	-1.17	0.00	-117.90	0.00	117.90	3,936.09	1,968.05	7,737.41	3,874.46	0.72	-0.11	0.037
70.00	-23.08	-1.14	0.00	-112.05	0.00	112.05	3,863.58	1,931.79	7,382.86	3,696.92	0.84	-0.12	0.036
75.00	-21.77	-1.12	0.00	-106.33	0.00	106.33	3,788.99	1,894.50	7,032.42	3,521.44	0.97	-0.13	0.036
80.00	-20.48	-1.10	0.00	-100.73	0.00	100.73	3,712.32	1,856.16	6,686.41	3,348.18	1.11	-0.14	0.036
85.00	-19.23	-1.09	0.00	-95.22	0.00	95.22	3,633.57	1,816.78	6,345.19	3,177.31	1.27	-0.15	0.035
90.00	-18.02	-1.09	0.00	-89.75	0.00	89.75	3,552.73	1,776.37	6,009.09	3,009.01	1.43	-0.16	0.035
95.00	-16.09	-1.10	0.00	-84.30	0.00	84.30	3,469.82	1,734.91	5,678.46	2,843.45	1.61	-0.18	0.034
100.00	-15.99	-1.10	0.00	-78.82	0.00	78.82	3,384.83	1,692.41	5,353.64	2,680.80	1.80	-0.19	0.034
100.25	-15.85	-1.10	0.00	-78.54	0.00	78.54	2,340.16	1,170.08	3,767.44	1,886.52	1.81	-0.19	0.048
101.00	-14.90	-1.11	0.00	-77.72	0.00	77.72	2,332.87	1,166.43	3,736.50	1,871.03	1.84	-0.19	0.048
105.00	-14.00	-1.12	0.00	-73.29	0.00	73.29	2,293.18	1,146.59	3,572.27	1,788.79	2.01	-0.20	0.047
110.00	-13.12	-1.14	0.00	-67.69	0.00	67.69	2,241.70	1,120.85	3,369.07	1,687.04	2.23	-0.22	0.046
115.00	-12.27	-1.15	0.00	-62.02	0.00	62.02	2,188.14	1,094.07	3,168.50	1,586.61	2.47	-0.24	0.045
120.00	-11.45	-1.16	0.00	-56.27	0.00	56.27	2,132.50	1,066.25	2,970.92	1,487.67	2.72	-0.25	0.043
125.00	-10.65	-1.17	0.00	-50.46	0.00	50.46	2,074.78	1,037.39	2,776.66	1,390.39	3.00	-0.27	0.041
130.00	-9.66	-1.17	0.00	-44.61	0.00	44.61	2,014.98	1,007.49	2,586.06	1,294.95	3.29	-0.29	0.039
134.25	-9.57	-1.17	0.00	-39.64	0.00	39.64	1,137.98	568.99	1,433.87	718.00	3.56	-0.30	0.064
135.00	-9.00	-1.16	0.00	-38.76	0.00	38.76	1,134.17	567.08	1,419.73	710.92	3.60	-0.31	0.062
140.00	-8.44	-1.15	0.00	-32.94	0.00	32.94	1,107.59	553.79	1,325.68	663.83	3.94	-0.33	0.057
145.00	-7.90	-1.13	0.00	-27.18	0.00	27.18	1,078.93	539.46	1,232.17	617.00	4.29	-0.35	0.051
150.00	-7.69	-1.12	0.00	-21.51	0.00	21.51	1,048.18	524.09	1,139.55	570.62	4.68	-0.37	0.045
152.00	-7.30	-1.10	0.00	-19.27	0.00	19.27	1,035.30	517.65	1,102.82	552.23	4.83	-0.38	0.042
155.00	-6.83	-1.06	0.00	-15.98	0.00	15.98	1,015.36	507.68	1,048.15	524.85	5.08	-0.39	0.037
160.00	-6.46	-1.02	0.00	-10.69	0.00	10.69	980.46	490.23	958.32	479.87	5.50	-0.41	0.029
164.00	-4.60	-0.79	0.00	-6.62	0.00	6.62	951.04	475.52	887.82	444.57	5.85	-0.42	0.020
165.00	-4.22	-0.74	0.00	-5.83	0.00	5.83	943.48	471.74	870.40	435.85	5.94	-0.42	0.018
170.00	-4.01	-0.71	0.00	-2.12	0.00	2.12	904.41	452.21	784.74	392.95	6.38	-0.43	0.010
173.00	0.00	0.00	0.00	0.00	0.00	0.00	879.98	439.99	734.56	367.83	6.65	-0.43	0.000
175.00	0.00	0.00	0.00	0.00	0.00	0.00	863.27	431.63	701.67	351.36	6.83	-0.43	0.000

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number: 12616992_C3_01

10/25/2018 1:38:53 PM

Customer: VERIZON WIRELESS

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	-32.59	-1.60	0.00	-208.20	0.00	208.20	4,663.96	2,331.98	12,350.3	6,184.38	0.00	0.00	0.041
5.00	-31.36	-1.58	0.00	-200.20	0.00	200.20	4,617.32	2,308.66	11,973.5	5,995.65	0.00	-0.01	0.040
10.00	-30.15	-1.55	0.00	-192.30	0.00	192.30	4,568.59	2,284.30	11,596.4	5,806.85	0.02	-0.01	0.040
15.00	-28.96	-1.53	0.00	-184.53	0.00	184.53	4,517.79	2,258.89	11,219.5	5,618.13	0.03	-0.02	0.039
20.00	-27.80	-1.49	0.00	-176.91	0.00	176.91	4,464.90	2,232.45	10,843.2	5,429.68	0.06	-0.03	0.039
25.00	-26.66	-1.46	0.00	-169.44	0.00	169.44	4,409.93	2,204.97	10,467.7	5,241.66	0.10	-0.04	0.038
30.00	-25.54	-1.43	0.00	-162.13	0.00	162.13	4,352.89	2,176.44	10,093.5	5,054.25	0.14	-0.05	0.038
35.00	-24.45	-1.40	0.00	-154.98	0.00	154.98	4,293.76	2,146.88	9,720.79	4,867.62	0.20	-0.05	0.038
40.00	-23.38	-1.36	0.00	-148.00	0.00	148.00	4,232.55	2,116.28	9,349.96	4,681.93	0.26	-0.06	0.037
45.00	-23.01	-1.35	0.00	-141.19	0.00	141.19	4,169.26	2,084.63	8,981.38	4,497.36	0.33	-0.07	0.037
46.75	-21.74	-1.31	0.00	-138.82	0.00	138.82	4,146.62	2,073.31	8,852.97	4,433.06	0.36	-0.08	0.037
50.00	-20.39	-1.26	0.00	-134.57	0.00	134.57	4,103.90	2,051.95	8,615.37	4,314.09	0.41	-0.08	0.036
53.50	-20.08	-1.25	0.00	-130.15	0.00	130.15	4,094.98	2,047.49	8,566.54	4,289.64	0.47	-0.09	0.035
55.00	-19.06	-1.22	0.00	-128.27	0.00	128.27	4,074.88	2,037.44	8,457.42	4,234.99	0.50	-0.09	0.035
60.00	-18.07	-1.19	0.00	-122.18	0.00	122.18	4,006.53	2,003.26	8,095.71	4,053.87	0.60	-0.10	0.035
65.00	-17.10	-1.15	0.00	-116.26	0.00	116.26	3,936.09	1,968.05	7,737.41	3,874.46	0.71	-0.11	0.034
70.00	-16.16	-1.13	0.00	-110.48	0.00	110.48	3,863.58	1,931.79	7,382.86	3,696.92	0.83	-0.12	0.034
75.00	-15.24	-1.10	0.00	-104.85	0.00	104.85	3,788.99	1,894.50	7,032.42	3,521.44	0.96	-0.13	0.034
80.00	-14.34	-1.09	0.00	-99.32	0.00	99.32	3,712.32	1,856.16	6,686.41	3,348.18	1.10	-0.14	0.034
85.00	-13.47	-1.08	0.00	-93.89	0.00	93.89	3,633.57	1,816.78	6,345.19	3,177.31	1.25	-0.15	0.033
90.00	-12.61	-1.07	0.00	-88.50	0.00	88.50	3,552.73	1,776.37	6,009.09	3,009.01	1.42	-0.16	0.033
95.00	-11.26	-1.08	0.00	-83.13	0.00	83.13	3,469.82	1,734.91	5,678.46	2,843.45	1.59	-0.17	0.032
100.00	-11.19	-1.08	0.00	-77.73	0.00	77.73	3,384.83	1,692.41	5,353.64	2,680.80	1.78	-0.19	0.032
100.25	-11.10	-1.08	0.00	-77.46	0.00	77.46	2,340.16	1,170.08	3,767.44	1,886.52	1.79	-0.19	0.046
101.00	-10.43	-1.09	0.00	-76.65	0.00	76.65	2,332.87	1,166.43	3,736.50	1,871.03	1.82	-0.19	0.045
105.00	-9.80	-1.10	0.00	-72.28	0.00	72.28	2,293.18	1,146.59	3,572.27	1,788.79	1.98	-0.20	0.045
110.00	-9.19	-1.12	0.00	-66.76	0.00	66.76	2,241.70	1,120.85	3,369.07	1,687.04	2.20	-0.22	0.044
115.00	-8.59	-1.13	0.00	-61.17	0.00	61.17	2,188.14	1,094.07	3,168.50	1,586.61	2.44	-0.23	0.042
120.00	-8.02	-1.15	0.00	-55.50	0.00	55.50	2,132.50	1,066.25	2,970.92	1,487.67	2.69	-0.25	0.041
125.00	-7.46	-1.15	0.00	-49.77	0.00	49.77	2,074.78	1,037.39	2,776.66	1,390.39	2.96	-0.27	0.039
130.00	-6.76	-1.15	0.00	-44.01	0.00	44.01	2,014.98	1,007.49	2,586.06	1,294.95	3.25	-0.28	0.037
134.25	-6.70	-1.15	0.00	-39.10	0.00	39.10	1,137.98	568.99	1,433.87	718.00	3.51	-0.30	0.060
135.00	-6.30	-1.15	0.00	-38.24	0.00	38.24	1,134.17	567.08	1,419.73	710.92	3.56	-0.30	0.059
140.00	-5.91	-1.14	0.00	-32.49	0.00	32.49	1,107.59	553.79	1,325.68	663.83	3.89	-0.33	0.054
145.00	-5.53	-1.12	0.00	-26.80	0.00	26.80	1,078.93	539.46	1,232.17	617.00	4.24	-0.35	0.049
150.00	-5.38	-1.11	0.00	-21.22	0.00	21.22	1,048.18	524.09	1,139.55	570.62	4.61	-0.37	0.042
152.00	-5.11	-1.08	0.00	-19.01	0.00	19.01	1,035.30	517.65	1,102.82	552.23	4.77	-0.38	0.039
155.00	-4.78	-1.04	0.00	-15.76	0.00	15.76	1,015.36	507.68	1,048.15	524.85	5.01	-0.39	0.035
160.00	-4.52	-1.00	0.00	-10.55	0.00	10.55	980.46	490.23	958.32	479.87	5.43	-0.40	0.027
164.00	-3.22	-0.78	0.00	-6.53	0.00	6.53	951.04	475.52	887.82	444.57	5.77	-0.41	0.018
165.00	-2.96	-0.73	0.00	-5.75	0.00	5.75	943.48	471.74	870.40	435.85	5.86	-0.42	0.016
170.00	-2.81	-0.70	0.00	-2.09	0.00	2.09	904.41	452.21	784.74	392.95	6.30	-0.42	0.008
173.00	0.00	0.00	0.00	0.00	0.00	0.00	879.98	439.99	734.56	367.83	6.57	-0.42	0.000
175.00	0.00	0.00	0.00	0.00	0.00	0.00	863.27	431.63	701.67	351.36	6.74	-0.42	0.000

Site Number: 370625

Code: ANSITIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number:12616992_C3_01

10/25/2018 1:38:53 PM

Customer: VERIZON WIRELESS

Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	31.81	0.00	46.93	0.00	0.00	3622.78	134.25	0.65
0.9D + 1.6W	31.79	0.00	35.19	0.00	0.00	3593.27	134.25	0.63
1.2D + 1.0Di + 1.0Wi	8.39	0.00	68.87	0.00	0.00	929.32	134.25	0.17
(1.2 + 0.2Sds) * DL + E ELFM	1.18	0.00	46.55	0.00	0.00	158.49	134.25	0.04
(1.2 + 0.2Sds) * DL + E EMAM	1.60	0.00	46.55	0.00	0.00	210.43	134.25	0.06
(0.9 - 0.2Sds) * DL + E ELFM	1.17	0.00	32.59	0.00	0.00	156.95	134.25	0.03
(0.9 - 0.2Sds) * DL + E EMAM	1.60	0.00	32.59	0.00	0.00	208.20	134.25	0.06
1.0D + 1.0W	6.74	0.00	39.14	0.00	0.00	764.75	134.25	0.14

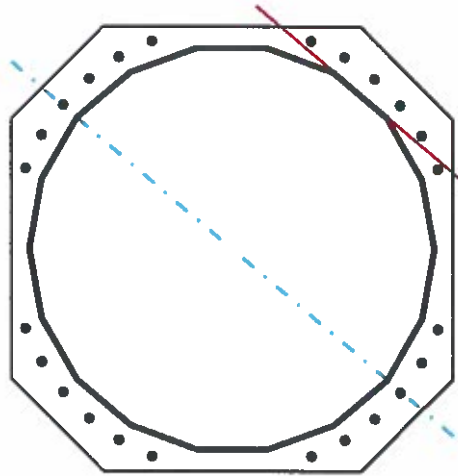
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	18	-
Diameter	64.69	in
Thickness	0.375	in
Orientation Offset	0	°

Base Reactions		
Moment, Mu	3622.8	k-ft
Axial, Pu	46.9	k
Shear, Vu	31.8	k
Neutral Axis	320	"

Report Capacities		
Component	Capacity	Result
Base Plate	41%	Pass
Anchor Rods	39%	Pass
Dwyldag	-	-

Base Plate		
Shape	Square	-
Width	72	in
Thickness	2 3/4	in
Grade	A572-50	-
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Cllp	15	in
Orientation Offset	0	°
Anchor Rod Detail	d	η=0.5
Clear Distance	3	in
Applied Moment, Mu	1275.5	k
Bending Stress, φMn	3138.0	k



Original Anchor Rods		
Arrangement	Cluster	-
Quantity	24	-
Diameter, ø	2 1/4	in
Bolt Circle	72	in
Grade	A615-75	-
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	6.0	in
Orientation Offset	0	°
Applied Force, Pu	102.5	k
Anchor Rods, φPn	259.8	k

Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	31.8	3622.8	1.00
Anchor Rod Forces	31.8	3622.8	1.00
Additional Bolt (Grp1) Forces			
Additional Bolt (Grp2) Forces			
Dywidag Forces			
Stiffener Forces			

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in ²	in ²	in ⁴	#	in ⁴
Pole	75.3852	4.1881	0.1969		38981.66
Bolt	3.9761	3.2477	0.8393	4.5	50528.21
Bolt1					
Bolt2					
Dywidag					
Stiffener					

Base Plate		
Shape	Square	-
Width, W	72	in
Thickness, t	2.75	in
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Base Plate Chord	31.610	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

Anchor Rods		
Anchor Rod Quantity, N	24	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	72	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	102.5	k
Applied Shear, Vu	0.0	k
Compressive Capacity, φPn	259.8	k
Tensile Capacity, φRnt	0.395	OK
Interaction Capacity	0.395	OK

External Base Plate		
Chord Length AA	36.883	in
Additional AA	0.000	in
Section Modulus, Z	69.733	in ³
Applied Moment, Mu	1275.5	k-ft
Bending Capacity, φMn	3138.0	k-ft
Capacity, Mu/φMn	0.406	OK
Chord Length AB	35.882	in
Additional AB	0.000	in
Section Modulus, Z	67.839	in ³
Applied Moment, Mu	1025.6	k-ft
Bending Capacity, φMn	3052.7	k-ft
Capacity, Mu/φMn	0.336	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		



Trylon

Prepared For



AMERICAN TOWER®

Mount Analysis



Michael F. Plahovinsak, P.E.

Sole Proprietor - Independent Engineer

18301 SR 161, Plain City, Ohio

614-398-6250 / mike@mfpeng.com

MFP Project #23218-332

OLD SAYBROOK EAST

RELO CT

ATC SITE #370625

11/13/2018

Conditional Pass (90%)



MOUNT ANALYSIS REPORT

American Tower Corporation

10 Presidential Way
Woburn, MA 01801

Attention: Mr. Blake Paynter

Reference: Analysis of the existing Platform installed at 173-ft elevation.

Trylon Job Number: 143864
ATC Asset Number: 370625
ATC Site Name: Old Saybrook
Verizon Site ID: 468709
Verizon Site Name: OLD SAYBROOK EAST RELO CT
Site Address: 77 Springbrook Road, Old Saybrook City, Middlesex County, CT 06475
Tower Profile: Monopole Tower

Dear Sir:

We have been provided with RF information, photos and sketches of the structure for above-referenced site. Verizon is proposing to change the equipment configuration on the existing mounting hardware.

A revised antenna, coax and miscellaneous equipment schematic has been provided to us. We have been asked to evaluate this information to determine whether or not the existing mounting apparatus are adequate to safely support the proposed loading change. The structural evaluation refers to the existing Platform installed at 173-ft elevation on the Monopole tower located 7 Springbrook Road, Old Saybrook City, Middlesex County, CT 06475.

The proposed changes were provided to us in a RFDS package dated 10/11/2018. The antennas are located at 173-ft elevation on all sectors.

The final configuration consists of:

- (1) SBNHH-1D65B antenna (72.7"x11.9"x7.1" – 50.7lbs.) on each sector in position #1,
- (2) JAHH-65B-R3B antennas (72"x13.8"x8.2" – 60.6lbs.) mounted on side by side on a BSAMNT-SBS-2-2 mounting bracket, on each sector in position #3,
- (1) BXA-80063/4CF antenna (47.4"x11.2"x5" – 9.9lbs.) on each sector in position #4.

Additional equipment:

- (1) B2/B66A RRH-BR049 on each sector in position #2,
- (1) B5/B12 RRH-BR4C and (1) FDJ85020Q4-S1 Diplexer on each sector in position #3,
- (2) DB-T1-6Z-8AB-0Z for all sectors.

The members dimensions that we considered in our evaluation are as per sketches and pictures provided by the site visit crew. The structural members that we considered in our analysis are presented in the attached model sketches.



Steel grades have been assumed as follows, unless noted otherwise:

Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36)
HSS (Rectangular)	ASTM 500 (GR B-46)
Pipe	ASTM A53 (GR 35)
Connection Bolts	ASTM A325

CONCLUSIONS AND RECOMMENDATIONS

Based on information provided, our calculations conclude that the existing Verizon Platform **with modifications**, located at 173-ft elevation on the existing Monopole tower at the specified address, are **ADEQUATE** to safely support the proposed equipment, subject to the attached Standard Conditions on page 3.

In order for this analysis result to be valid the following reinforcement has to be completed:

- **Replace the pipes from position #3, with new ones of 2.875" O.D. Sch. 40 pipes on each sector.**
- **The centerline of the antennas was considered at approximately 18" below the bottom face horizontal.**

Should you have any questions, comments or require additional information, please do not hesitate to call.

Sincerely,

Analysis performed by:

Constantin Tudosa

Reviewed by:

A handwritten signature in black ink, appearing to read "Michael Plahovinsak".

Michael Plahovinsak, P.E.



Standard Conditions for Providing Structural Consulting Services on Existing Structures

1. Mounting hardware is analyzed to the best of our ability using all information that is provided or can be obtained during fieldwork (if authorized by client). If the existing conditions are not as we have represented in this analysis, we should be contacted to evaluate the significance of the deviation and revise the assessment accordingly.
2. The structural analysis has been performed assuming that hardware is in “like new” condition. No allowance was made for excessive corrosion, damaged or missing structural members, loose bolts, misaligned parts, or any reduction in strength due to the age or fatigue of the product.
3. The structural analysis provided is an assessment of the primary load carrying capacity of the hardware. We provide a limited scope of service. In some cases we cannot verify the capacity of every weld, plate, connection detail, etc. In some cases, structural fabrication details are unknown at the time of our analysis, and the detailed field measurement of some of the required details may not be possible. In instances where we cannot perform connection capacity calculations, it is assumed that the existing manufactured connections develop the full capacity of the primary members being connected.
4. We cannot be held responsible for mounting hardware that is installed improperly or hardware that is loose or has a tendency of working loose over the lifetime of the mounting hardware. Our analysis has been performed assuming fully tightened connections, and proper installation and symmetry of the mounting hardware per manufacturer’s instructions.
5. The structural analysis has been performed using information currently provided by the client and potentially field verified. We have been provided with a mounting arrangement for all telecommunications equipment, including antennas RRH’s, TMA’s, RRU’s, diplexers, surge protection devices, etc. Our analysis has been based upon a particular mounting arrangement. We are not responsible for deviations in the mounting arrangement that may occur over time. If deviations in equipment type or mounting arrangements are proposed, then we should be contacted to revise the recommendations of this structural report.
6. We cannot be held responsible for temporary and unbalanced loads on mounting hardware. Our analysis is based on a particular mounting arrangement or as-built field condition. We are not responsible for the methods and means of how the mounting arrangement is accomplished by the contractor. These methods and means may include rigging of equipment or hardware to lift and locate, temporary hanging of equipment in locations other than the final arrangement, movement and tie off of tower riggers, personnel, and their equipment, etc.
7. Steel grade and strength is unknown and cannot be field tested. We cannot be held responsible for equipment manufactured from inferior steel or bolts. Our analysis assumes that standard structural grade steel has been used by the equipment manufacturer for all assembled parts of the mounting apparatus. Acceptable steels and connection components are specified by the American Institute of Steel Construction. It is assumed all welded connections are performed in the shop under the latest American Welding Society Code. No field welds are permitted or assumed for the existing pre-manufactured equipment.

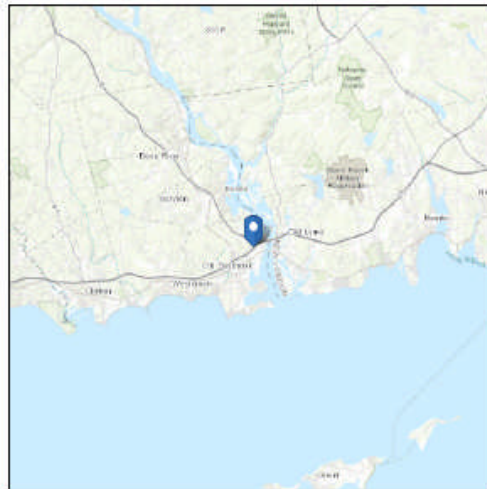
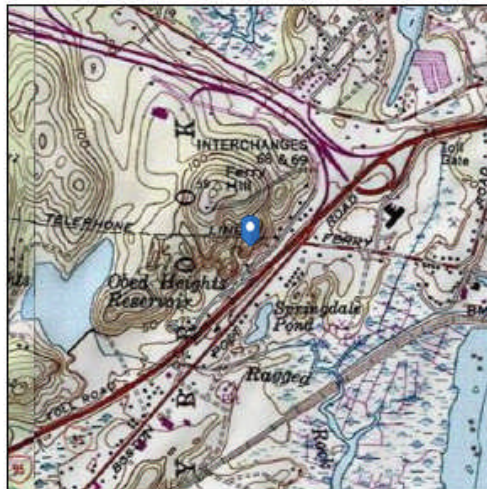


Address:
No Address at This Location

ASCE 7 Hazards Report

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class:

Elevation: 68.49 ft (NAVD 88)
Latitude: 41.313833
Longitude: -72.364028



Wind

Results:	79 Vmph
Wind Speed:	132 Vmph
10-year MRI	79 Vmph
25-year MRI	89 Vmph
50-year MRI	98 Vmph
100-year MRI	107 Vmph

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1-CC-4, incorporating errata of March 12, 2014

Date Accessed: Tue Nov 13 2018

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings shall be protected against wind-borne debris as specified in Section 26.10.3.

Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.



Ice**Results:**

Ice Thickness: 0.75 in.
Concurrent Temperature: 15 F
Gust Speed: 50 mph

Data Source: Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

Date Accessed: Tue Nov 13 2018

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.



General Info

Site Code : 370625
 Site Name : OLD SAYBROOK EAST RELO CT
 State : Connecticut
 County : Middlesex
 Trylon job number: 143625
 Design by: CT



Analysis Criteria

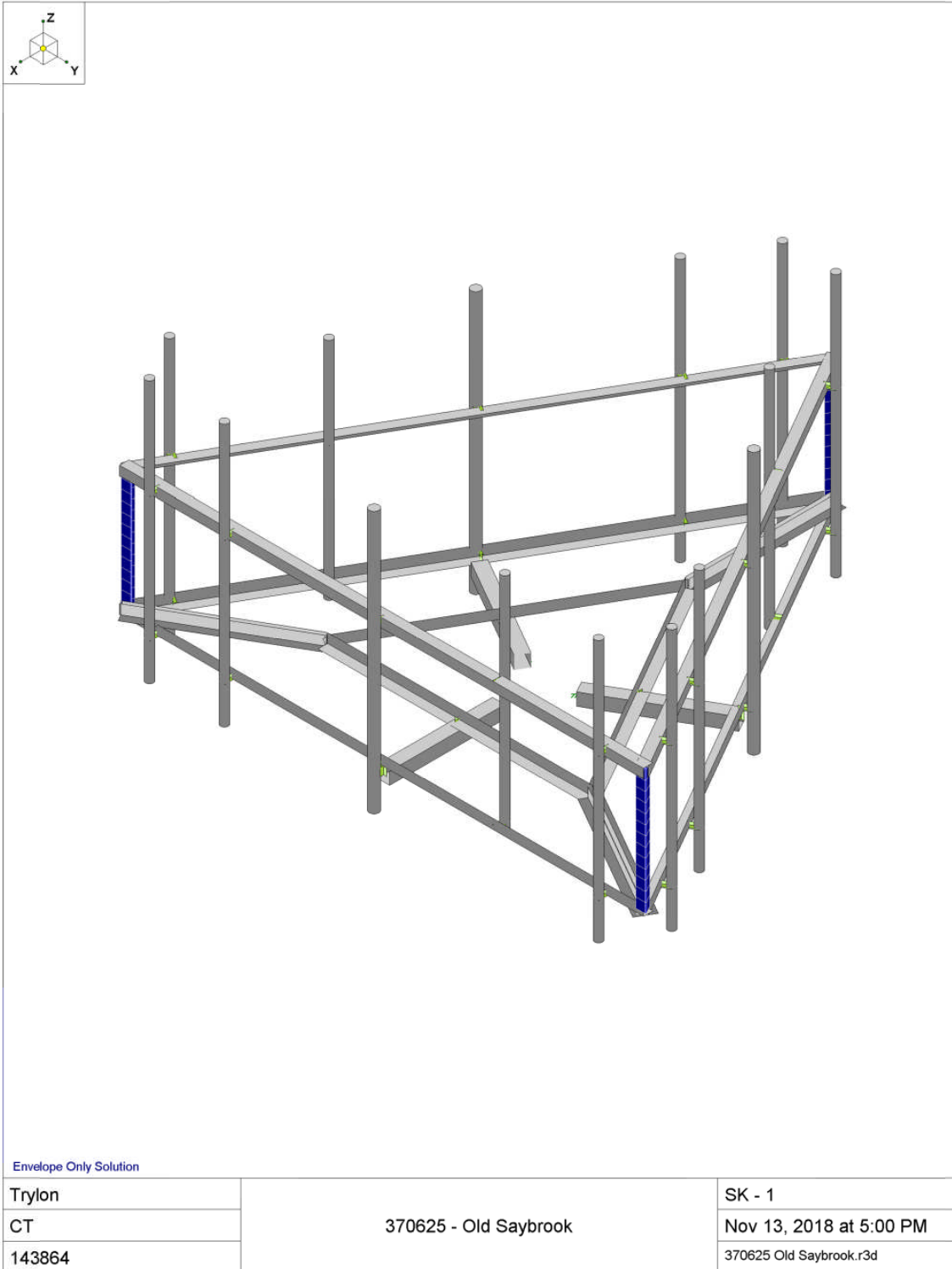
Standard 2015 IBC / ASCE 7-10 / TIA-222-G

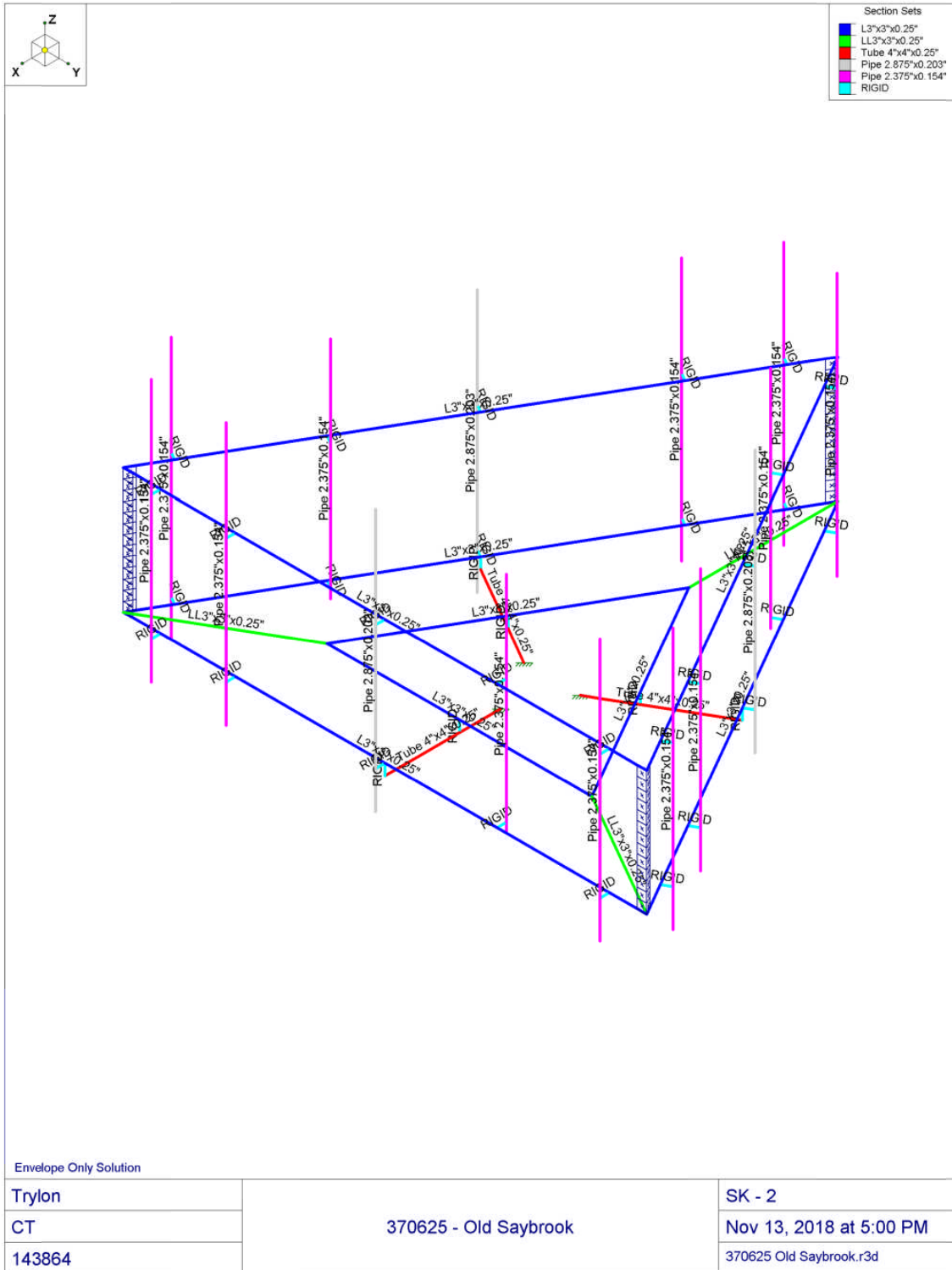
The mount structural analysis was performed in accordance with the requirements of TIA-222-G Structural Standards for Steel Antenna Supporting structure using a 3-second gust wind speed of 102.2 mph with no ice, 50.0 mph with 0.75 inch escalated ice thickness, Exposure Category C and Topographic Category 1 with a crest height of 0 ft.

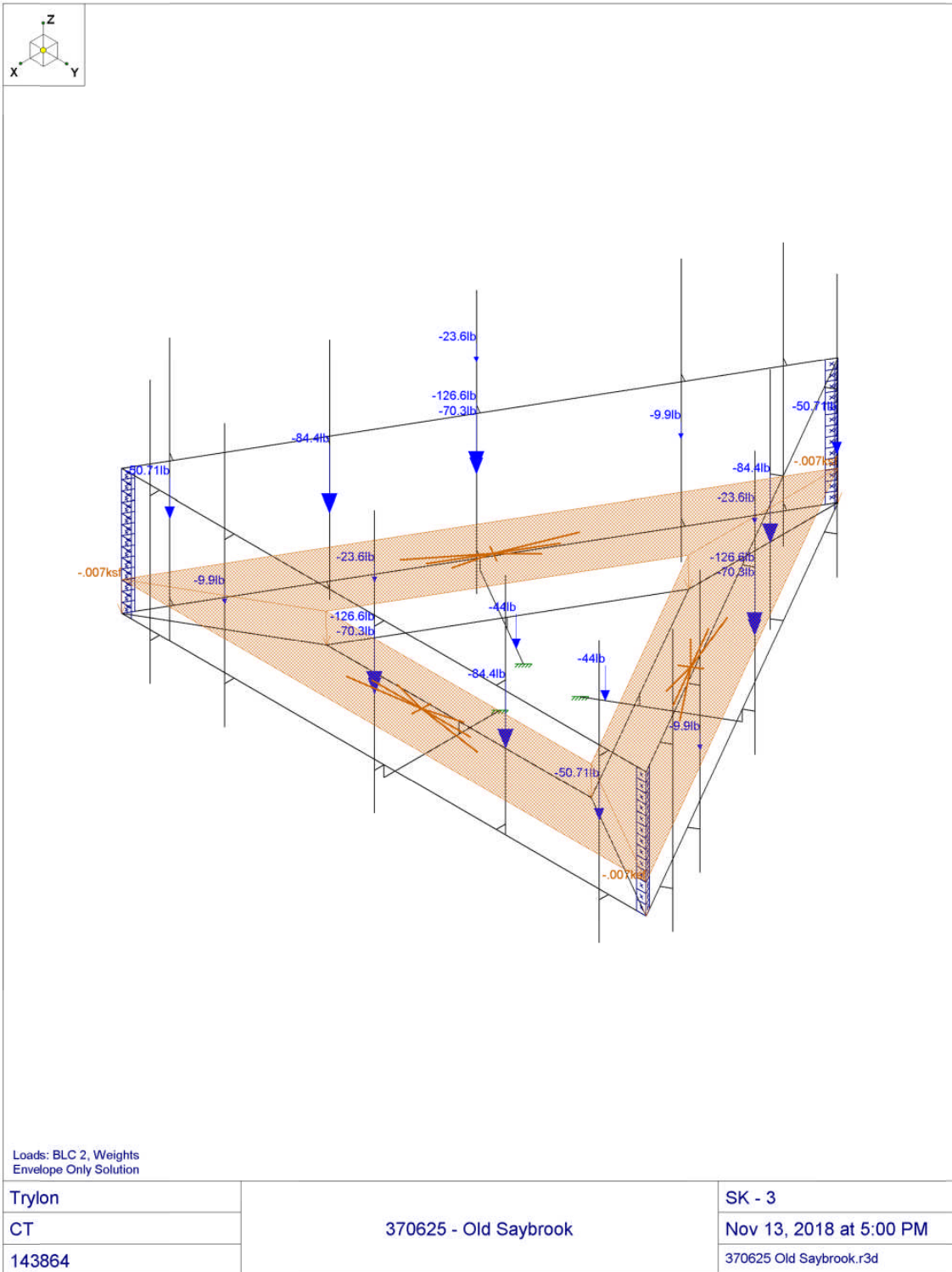
In addition, the platform has been analysed for various live loading conditions consisting of a 250-pound man live load applied individually at the midpoint and cantilevered ends of horizontal members as well as a 500-pound man live load applied individually at mount pipe locations using a 3-second gust wind speed of 30 mph.

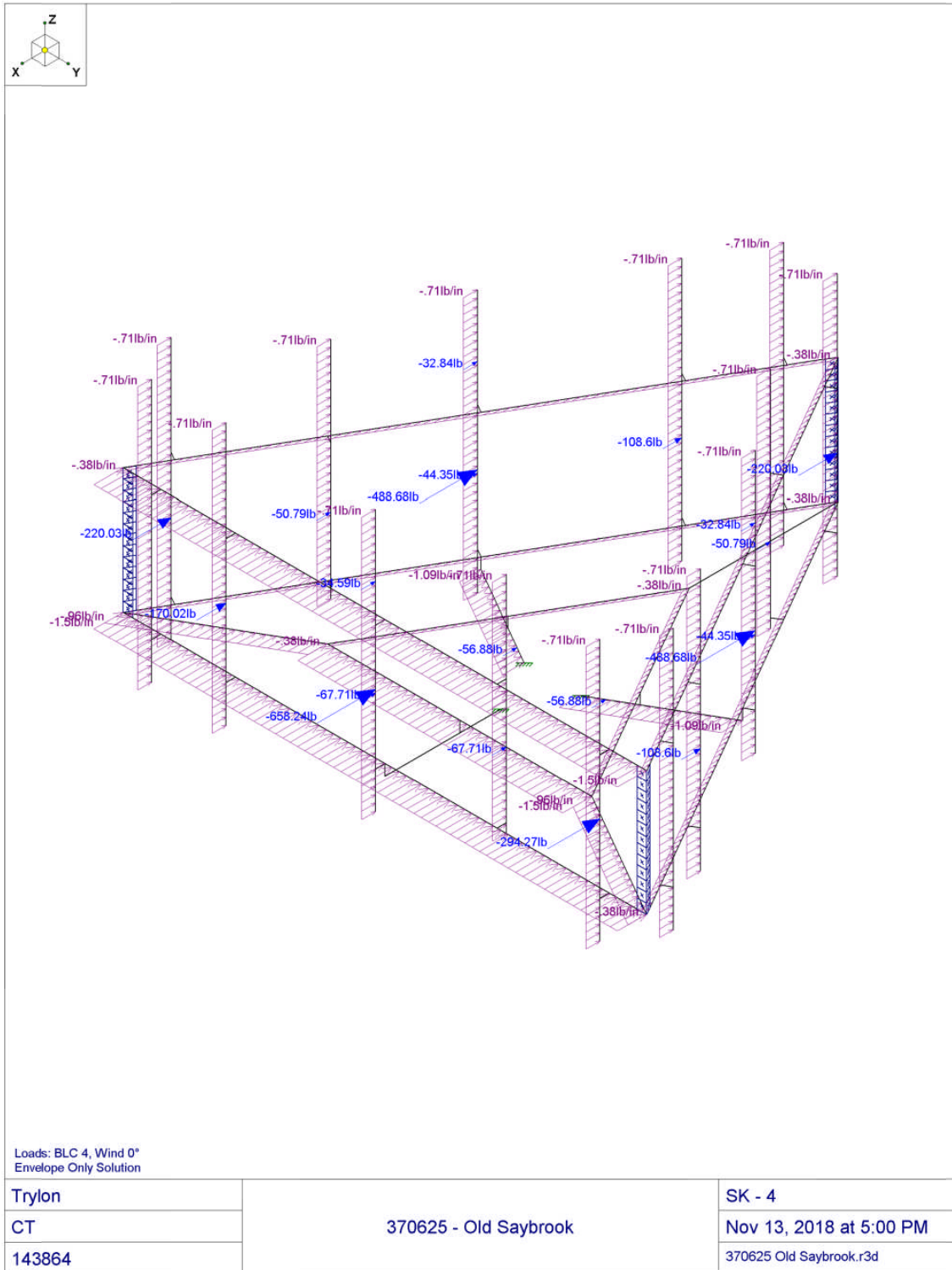
Design Loads

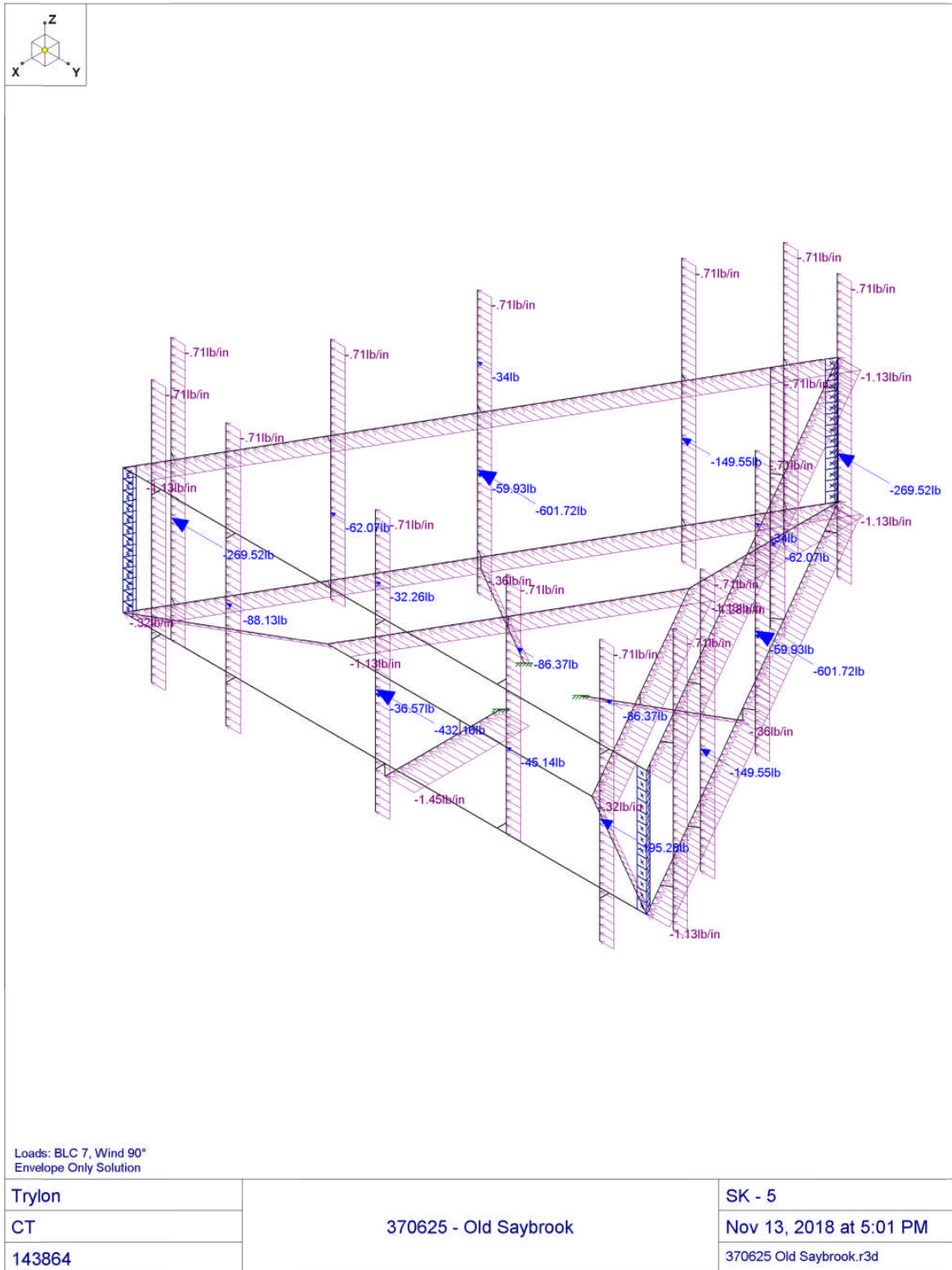
Appurtenances			Dimensions				Wind Forces without ice				Wind Forces with ice				
No.	Manufacturer	Model	Height [in]	Width [in]	Thk. [in]	Weight [lbs]	ICE				0° [lbs]	30° [lbs]	60° [lbs]	90° [lbs]	
							Weight [lbs]	0° [lbs]	30° [lbs]	60° [lbs]					90° [lbs]
3	Andrew	SBNHH-1D65B	72.7	11.9	7.1	50.7	204.3	294.3	269.5	220.0	195.3	92.1	86.2	74.3	68.4
3	Antel	BXA-80063/4CF	47.4	11.2	5.0	9.9	119.9	170.0	149.5	108.6	88.1	56.0	50.8	40.5	35.3
6	Commscope	JAHH-65B-R3B	72.0	13.8	8.2	63.3	231.3	329.1	300.9	244.3	216.1	100.8	93.8	80.0	73.1
3	Samsung	B5/B13 RRH-BR04C	15.0	15.0	8.1	70.3	50.9	67.7	59.9	44.4	36.6	24.7	22.4	17.8	15.5
3	Samsung	B2/B66A RRH-BR049	15.0	15.0	10.0	84.4	53.5	67.7	62.1	50.8	45.1	24.7	23.1	19.7	18.1
3	RFS	FDJ85020Q4-S1	16.9	6.8	6.3	23.6	33.6	34.6	34.0	32.8	32.3	15.2	15.0	14.7	14.5
2	RFS	DB-T1-6Z-8AB-OZ	24.0	24.0	10.0	44.0	111.5	56.9	86.4	101.1	86.4	19.7	27.8	31.8	27.8

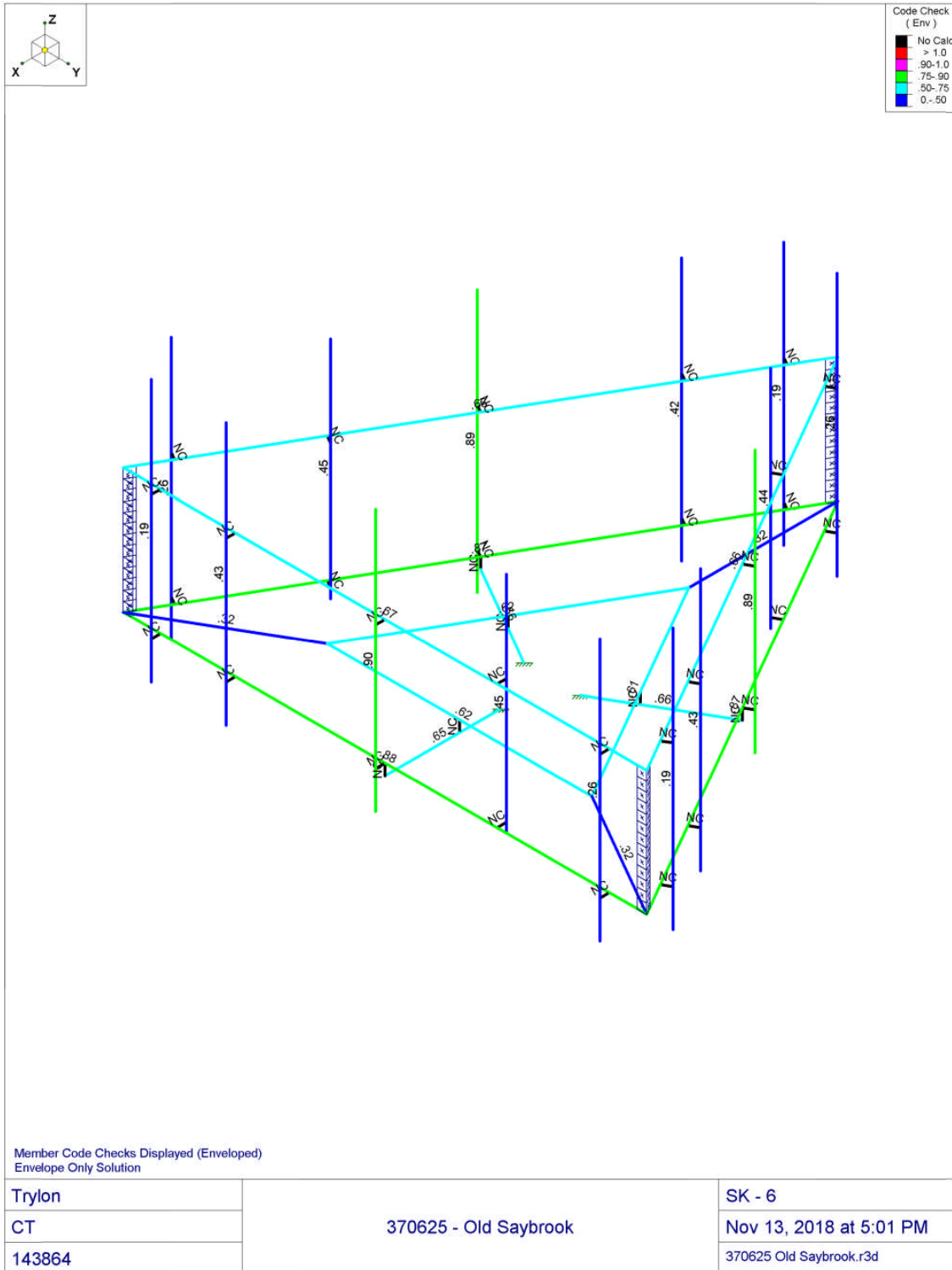


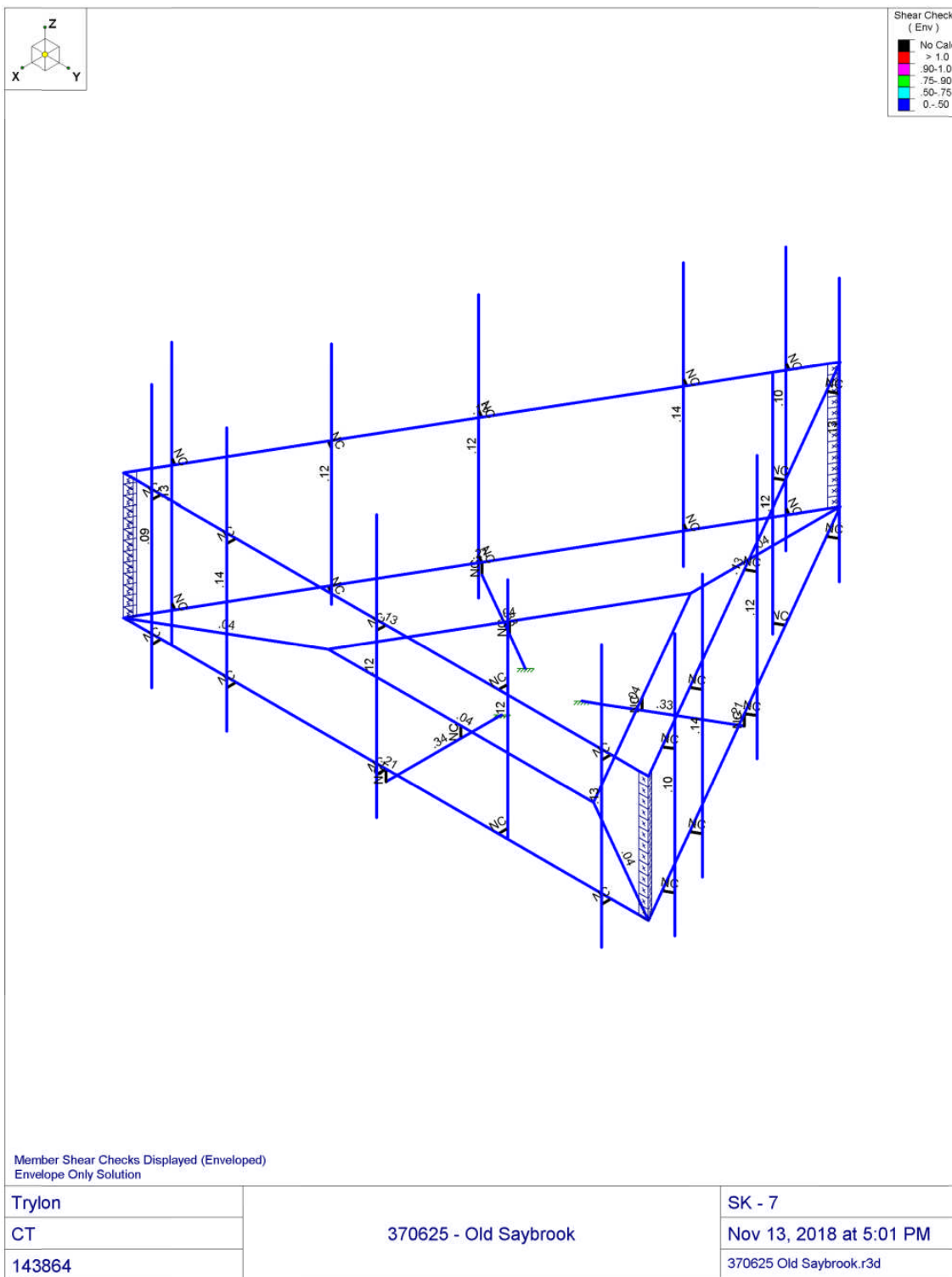












Site Name: **OLD SAYBROOK EAST RELO CT**
Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm ²)	(mW/cm ²)	(%)
VZW 700	746	1	1260	1260	173	0.0151	0.4973	3.04%
VZW Cellular	876	3	260	779	173	0.0094	0.5840	1.60%
VZW 850 LTE	869	1	1451	1451	173	0.0174	0.5793	3.01%
VZW PCS	1970	1	2766	2766	173	0.0332	1.0000	3.32%
VZW AWS	2145	1	2911	2911	173	0.0350	1.0000	3.50%

Total Percentage of Maximum Permissible Exposure 14.48%

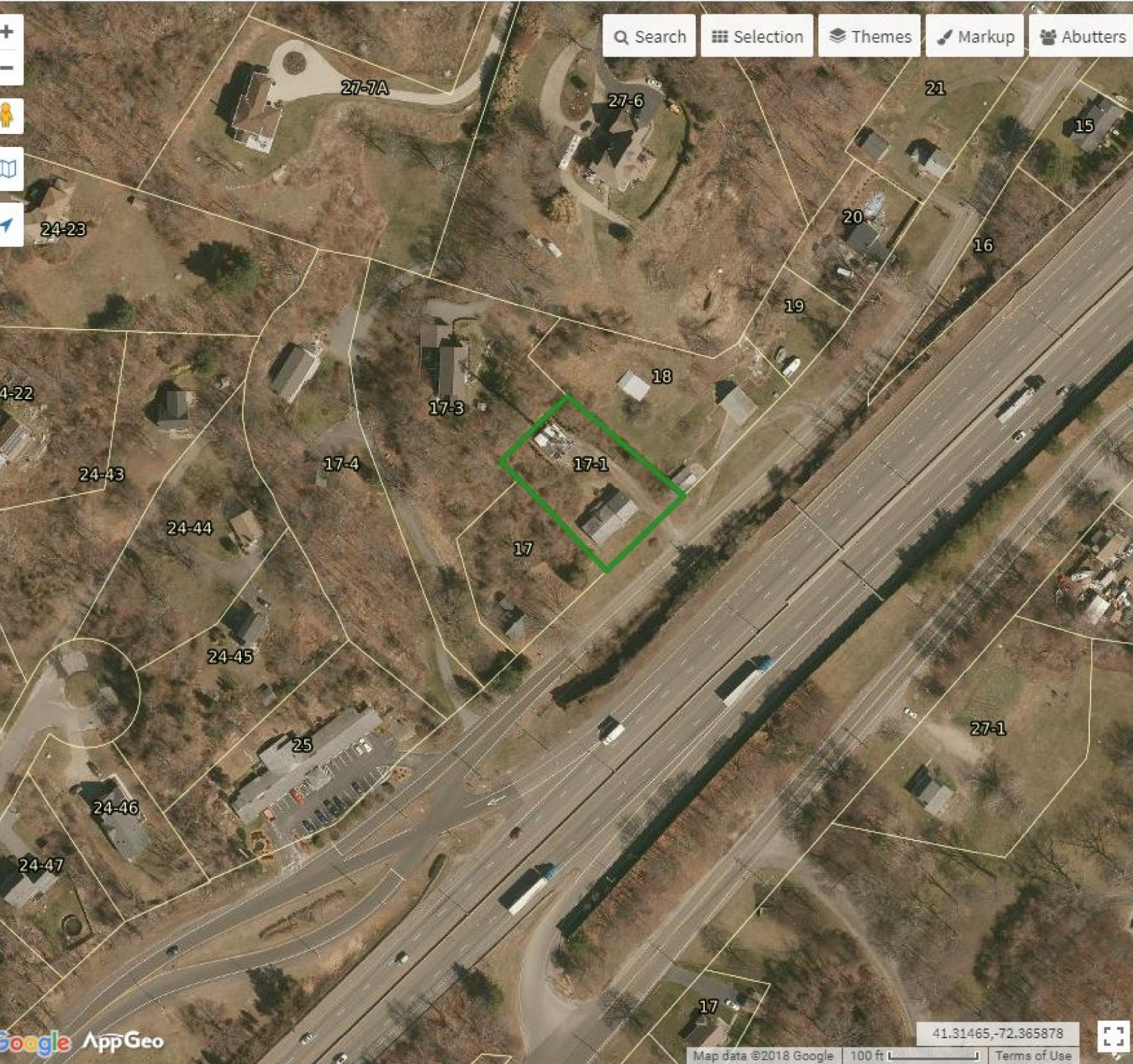
*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.



77 SPRINGBROOK RD

Location 77 SPRINGBROOK RD

MBLU 058/ 017/ 0001/ /

Acct# 00598500

Owner CROSSROADS
COMMUNICATIONS OF OLD

Assessment \$224,500

Appraisal \$320,700

PID 6223

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2018	\$141,100	\$179,600	\$320,700

Assessment			
Valuation Year	Improvements	Land	Total
2018	\$98,800	\$125,700	\$224,500

Owner of Record

Owner CROSSROADS COMMUNICATIONS OF OLD

Sale Price \$275,000

Co-Owner SAYBROOK LLC

Certificate

Address 157 NORTH SEIR HILL RD
NORWALK, CT 06850

Book & Page 0339/0287

Sale Date 10/28/1996

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
CROSSROADS COMMUNICATIONS OF OLD	\$275,000		0339/0287	10/28/1996

Building Information

Building 1 : Section 1

Year Built: 1956

Living Area: 2,044

Building Attributes	
Field	Description
STYLE	Office Bldg
MODEL	Commercial
Stories:	1

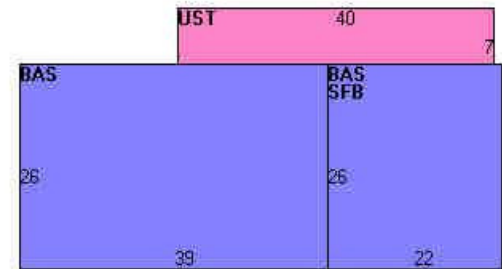
Occupancy	1
Exterior Wall 1	Aluminum Sidng
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Plywood Panel
Interior Wall 2	Drywall/Sheet
Interior Floor 1	Carpet
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Forced Air-Duc
AC Type	Central
Bldg Use	RAD/TV TR
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	4330
Heat/AC	NONE
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	8
% Comn Wall	0

Building Photo



(<http://images.vgsi.com/photos/OldSaybrookCTPhotos//\00\02\0>)

Building Layout



(<http://images.vgsi.com/photos/OldSaybrookCTPhotos//Sketches>)

Building Sub-Areas (sq ft)		Legend	
Code	Description	Gross Area	Living Area
BAS	First Floor	1,586	1,586
SFB	Bsmt, Above grade-Finished	572	458
UST	Utility, Storage, Unfinished	280	0
		2,438	2,044

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Land Line Valuation

Use Code 4330
Description RAD/TV TR
Zone B2

Size (Acres) 0.46
Depth 0
Assessed Value \$125,700
Appraised Value \$179,600

Outbuildings

Outbuildings	<u>Legend</u>
No Data for Outbuildings	

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2016	\$106,700	\$217,900	\$324,600
2015	\$106,700	\$217,900	\$324,600
2014	\$313,000	\$217,900	\$530,900

Assessment			
Valuation Year	Improvements	Land	Total
2016	\$74,700	\$152,500	\$227,200
2015	\$74,700	\$152,500	\$227,200
2014	\$219,100	\$152,500	\$371,600

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GENERAL CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC MASTER SPECIFICATIONS.
2. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
4. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
5. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
6. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
7. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
9. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
10. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE VERIZON WIRELESS REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE VERIZON WIRELESS REP PRIOR TO PROCEEDING.
11. EACH CONTRACTOR SHALL COOPERATE WITH THE VERIZON WIRELESS REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
12. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE VERIZON WIRELESS CONSTRUCTION MANAGER.
13. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
14. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE VERIZON WIRELESS REP IMMEDIATELY.
15. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
16. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
17. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH LANDLORD AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
18. CONTRACTOR SHALL FURNISH VERIZON WIRELESS WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
19. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON WIRELESS REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
20. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON WIRELESS REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY VERIZON WIRELESS MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
21. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH VERIZON WIRELESS SPECIFICATIONS AND REQUIREMENTS.
22. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO VERIZON WIRELESS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
23. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO VERIZON WIRELESS SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
24. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
25. CONTRACTOR SHALL NOTIFY VERIZON WIRELESS REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING BARRIERS, ETC.

27. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
28. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE VERIZON WIRELESS REP. ANY WORK FOUND BY THE VERIZON WIRELESS REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
29. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS"
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
 - A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
 - B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.
 - C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
 - D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
 - E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
 - A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
 - B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
 - C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
 - D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
 - E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
 - F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
 - G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING 1/2" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.



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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	TC	11/27/18

ATC SITE NUMBER:
370625
 ATC SITE NAME:
OLD SAYBROOK
 SITE ADDRESS:
 77 SPRINGBROOK ROAD
 OLD SAYBROOK, CT 06475



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DRAWN BY:	TC
APPROVED BY:	PBB
DATE DRAWN:	11/27/18
ATC JOB NO:	12623726
CUSTOMER ID:	OLD SAYBROOK EAST RELO CT
CUSTOMER #:	468709

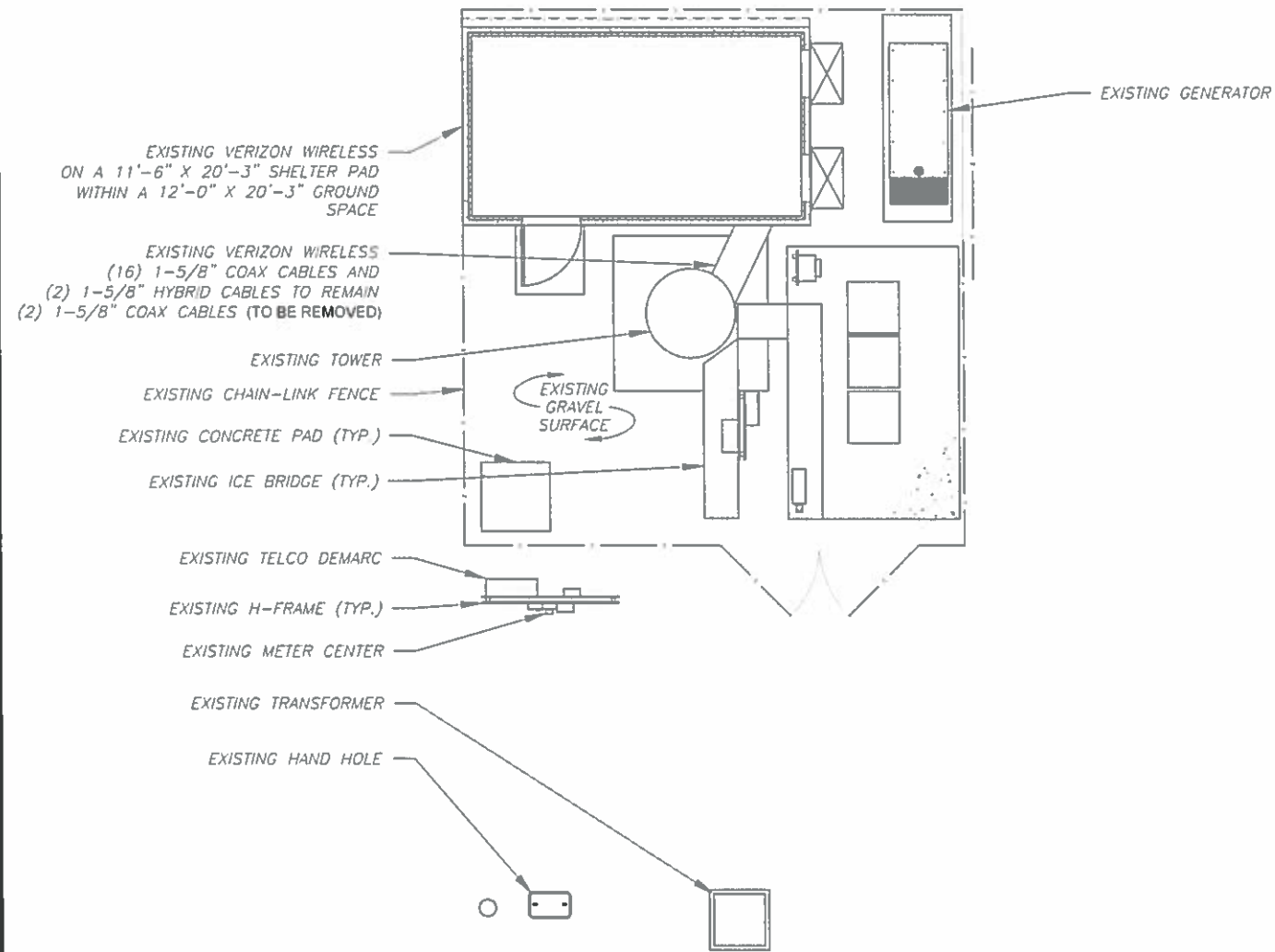
GENERAL NOTES

SHEET NUMBER:	REVISION:
G-002	0

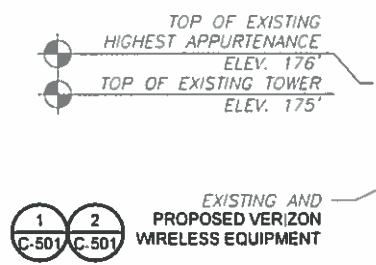
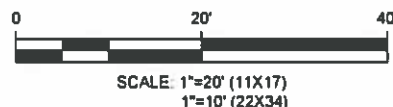
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SITE PLAN NOTES:

1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, CABLE SUPPORTS, AND CABLES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE INSTALLING NEW CABLE SUPPORT STRUCTURES, COAX PORTS, OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE ATC CONSTRUCTION MANAGER AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.

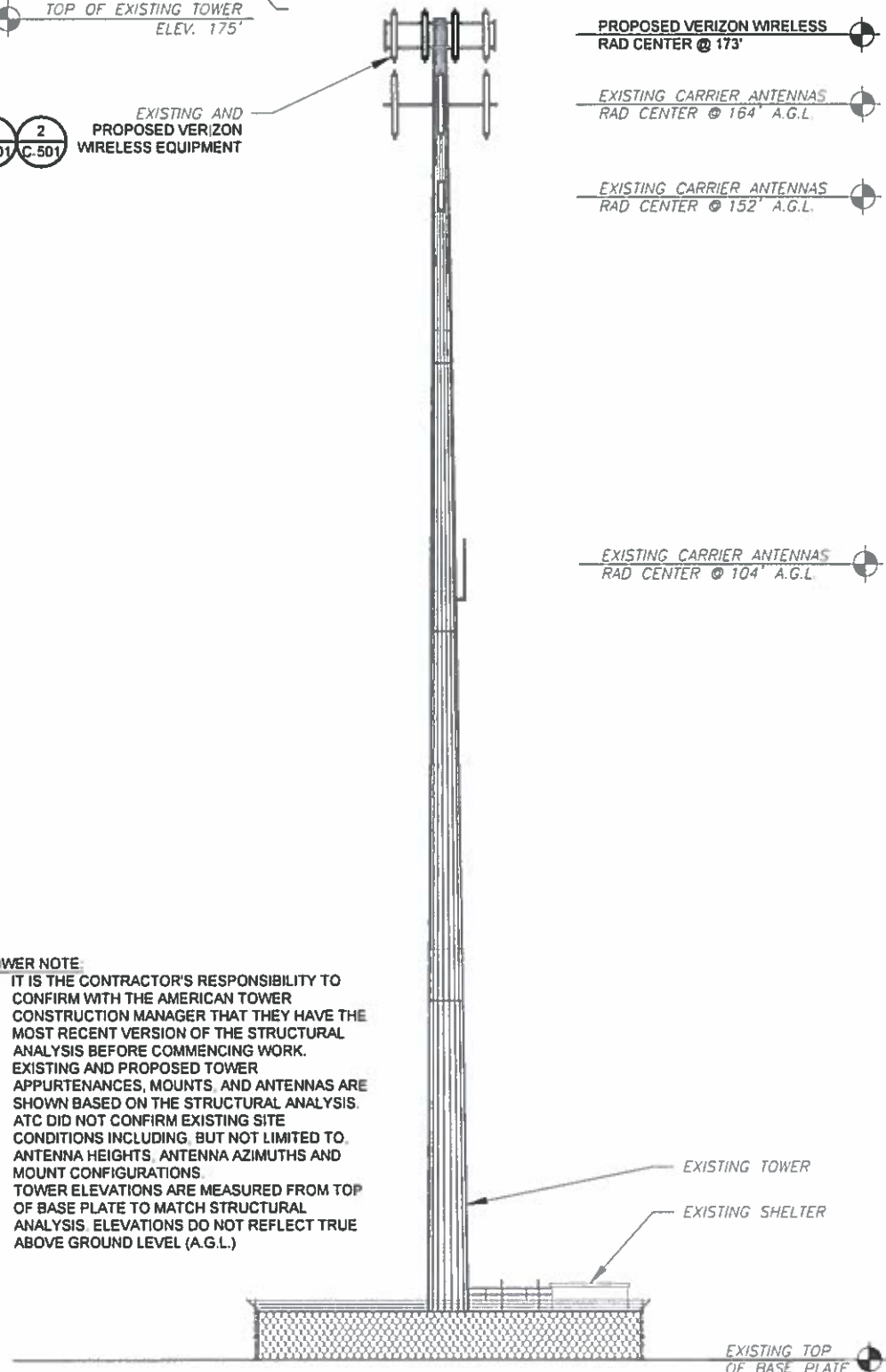


1 DETAILED SITE PLAN



EXISTING AND PROPOSED VERIZON WIRELESS EQUIPMENT

- TOWER NOTE:**
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE AMERICAN TOWER CONSTRUCTION MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS. ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA HEIGHTS, ANTENNA AZIMUTHS AND MOUNT CONFIGURATIONS.
 2. TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)



2 TOWER ELEVATION SCALE: NOT TO SCALE



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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	TC	11/27/18

ATC SITE NUMBER:
370625
 ATC SITE NAME:
OLD SAYBROOK
 SITE ADDRESS:
 77 SPRINGBROOK ROAD
 OLD SAYBROOK, CT 06475



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APPROVED BY:	PBB
DATE DRAWN:	11/27/18
ATC JOB NO:	12523726
CUSTOMER ID:	OLD SAYBROOK EAST RELO CT
CUSTOMER #:	468709

DETAILED SITE PLAN AND TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-101	0

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	TC	11/27/18
1	PROJ DESC AND RAD HEIGHT	TC	11/28/18

ATC SITE NUMBER:
370625

ATC SITE NAME:
OLD SAYBROOK

SITE ADDRESS:
 77 SPRINGBROOK ROAD
 OLD SAYBROOK, CT 06475



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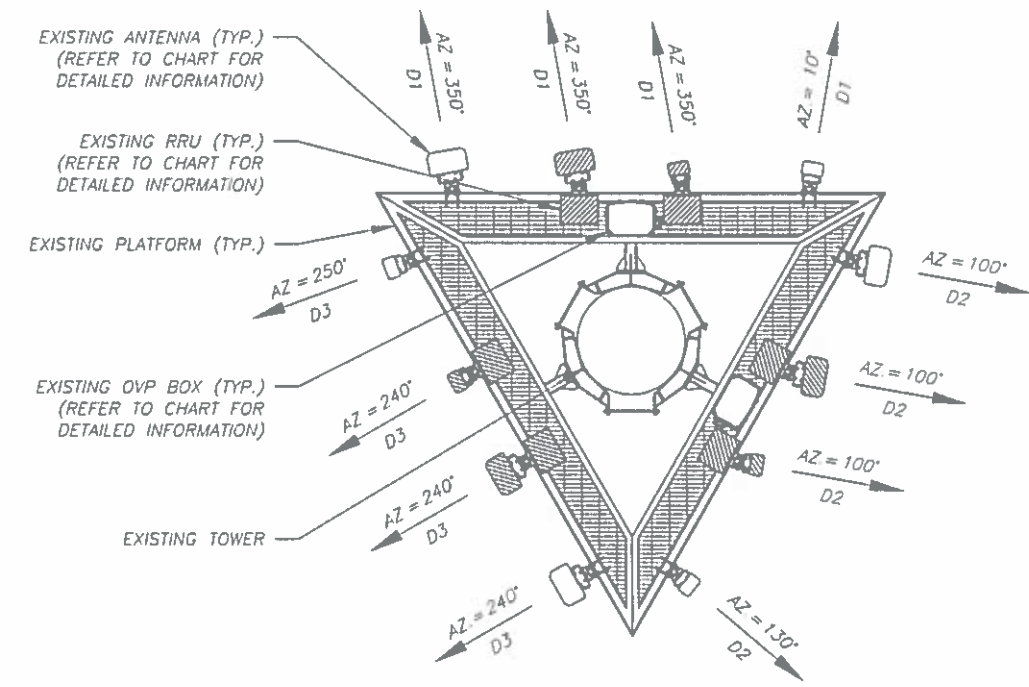


DRAWN BY:	TC
APPROVED BY:	PBB
DATE DRAWN:	11/27/18
ATC JOB NO:	12623726
CUSTOMER ID:	OLD SAYBROOK EAST RELO CT
CUSTOMER #:	468709

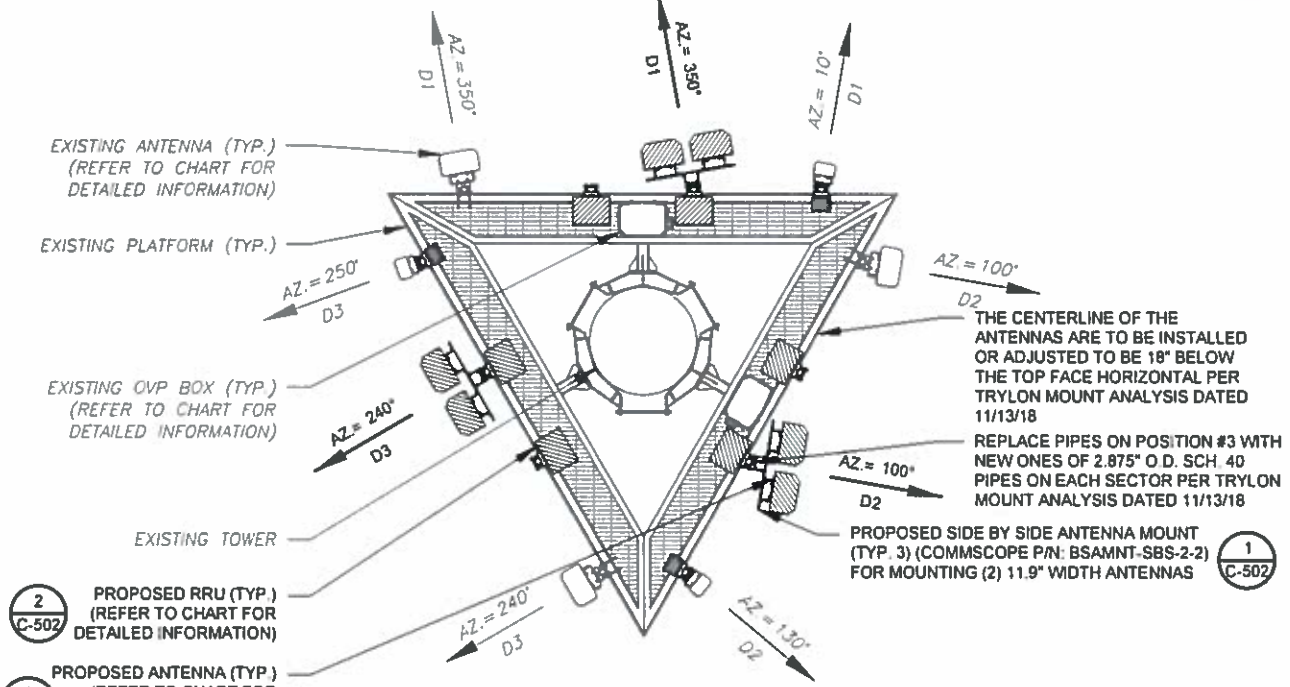
RF SCHEDULE AND ANTENNA INSTALLATION

SHEET NUMBER:
C-501

REVISION:
1



1 CURRENT ANTENNA PLAN



2 PROPOSED ANTENNA PLAN

CURRENT ANTENNA AND RF EQUIPMENT SCHEDULE									
LOCATION		ANTENNA SUMMARY				NON ANTENNA SUMMARY			
SECTOR	RAD	AZ	POS	BAND	MODEL NUMBER	STATUS	POS	MODEL NUMBER	STATUS
D1	173'	350°	1	-	SBNHH-1D65B	RMN	1	-	-
			2	2100LTE	SBNHH-1D65B	RMV	2	(2) PCS B25 RRH2x60/4x30	RMV
			3	-	BXA-70063/6CF	RMV	3	PCS B25 RRH2x60/4x30	RMV
		10°	4	850CDMA	BXA-80063/4CF	RMN	4	-	-
D2	173'	100°	1	-	SBNHH-1D65B	RMN	1	-	-
			2	2100LTE	SBNHH-1D65B	RMV	2	(2) RRH2x60 700	RMV
			3	-	BXA-70063/6CF	RMV	3	RRH2x60 700	RMV
		130°	4	850CDMA	BXA-80063/4CF	RMN	4	-	-
D3	173'	240°	1	-	SBNHH-1D65B	RMN	1	-	-
			2	2100LTE	SBNHH-1D65B	RMV	2	(2) RRH4x45-B66	RMV
			3	-	BXA-70063/6CF	RMV	3	RRH4x45-B66	RMV
		250°	4	850CDMA	BXA-80063/4CF	RMN	4	-	-

NOTES

- BASED ON APPROVED ATC APPLICATION 12616992 DATED 10/15/18 CONFIRM WITH VERIZON WIRELESS REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS.
- ATC HAS NOT YET VERIFIED ANY EXISTING ANTENNA CONFIGURATION OR MOUNT CONFIGURATION. CONTRACTOR TO VERIFY MOUNT CONFIGURATION HAS SUFFICIENT SPACE FOR PROPOSED LESSEE EQUIPMENT (I.E. CLEARANCES, MOUNT PIPE OR SUFFICIENT LENGTH, ETC.) ATC DID NOT ANALYZE ANTENNA MOUNT TO DETERMINE ADEQUATE STRUCTURAL CAPACITY FOR ANY LESSEE LOADING.
- ALL PROPOSED EQUIPMENT INCLUDING ANTENNAS, COAX, ETC SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS ON FILE WITH THE ATC CM.
- CONFIRM SPACING OF PROPOSED EQUIPMENT DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
- POSITIONS START WITH FIRST PIPE ON THE LEFT SIDE (AS VIEWED FROM BEHIND THE MOUNT).
- CABLE LENGTHS SHOWN ESTIMATE MAXIMUM TYPICAL RUN AND INCORPORATE A 15% SAFETY FACTOR.

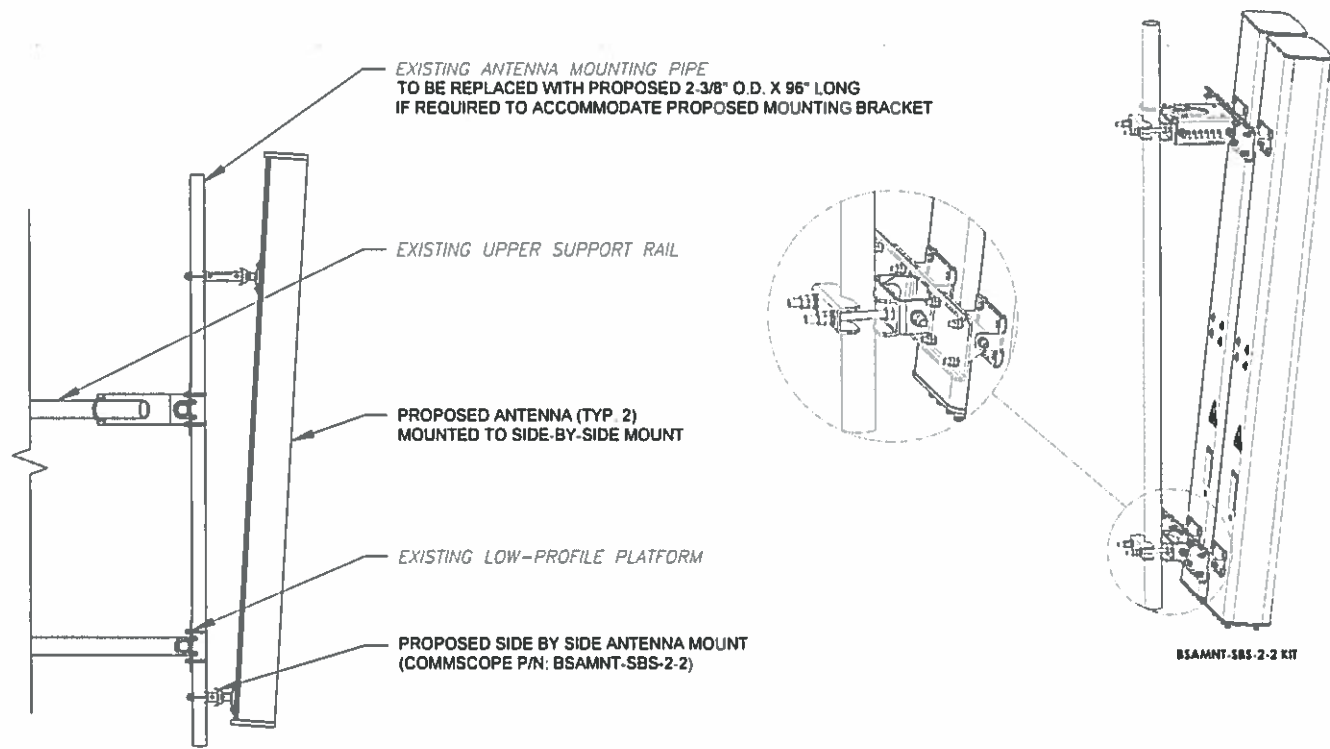
PROPOSED ANTENNA AND RF EQUIPMENT SCHEDULE									
LOCATION		ANTENNA SUMMARY				NON ANTENNA SUMMARY			
SECTOR	RAD	AZ	POS	BAND	MODEL NUMBER	STATUS	POS	MODEL NUMBER	STATUS
D1	173'	350°	1	-	SBNHH-1D65B	RMN	1	-	-
			2	700/850/1900/2100LTE	JAHH-65B-R3B	ADD	2	B2/B66A RRH-BR049	ADD
			3	700/850/1900/2100LTE	JAHH-65B-R3B	ADD	3	B5/B13 RRH-BR04C	ADD
		10°	4	850CDMA	BXA-80063/4CF	RMN	4	DB-T1-6Z-8AB-0Z	ADD
D2	173'	100°	1	-	SBNHH-1D65B	RMN	1	-	-
			2	700/850/1900/2100LTE	JAHH-65B-R3B	ADD	2	B2/B66A RRH-BR049	ADD
			3	700/850/1900/2100LTE	JAHH-65B-R3B	ADD	3	B5/B13 RRH-BR04C	ADD
		130°	4	850CDMA	BXA-80063/4CF	RMN	4	DB-T1-6Z-8AB-0Z	ADD
D3	173'	240°	1	-	SBNHH-1D65B	RMN	1	-	-
			2	700/850/1900/2100LTE	JAHH-65B-R3B	ADD	2	B2/B66A RRH-BR049	ADD
			3	700/850/1900/2100LTE	JAHH-65B-R3B	ADD	3	B5/B13 RRH-BR04C	ADD
		250°	4	850CDMA	BXA-80063/4CF	RMN	4	DB-T1-6Z-8AB-0Z	ADD

STATUS ABBREVIATIONS
 RMV: TO BE REMOVED DSC: TO BE DISCONNECTED
 RMN: TO REMAIN AND TO REMAIN
 REL: TO BE RELOCATED

3 ANTENNA AND RF EQUIPMENT SCHEDULES

CABLE LENGTHS FOR FIBER AND DC JUMPERS
 FROM FIBER DISTRIBUTION / OVP BOX TO RRU: 15' JUMPERS
 FROM RRU TO COMBINER: 10' JUMPERS
 FROM COMBINER TO ANTENNA: 10' JUMPERS

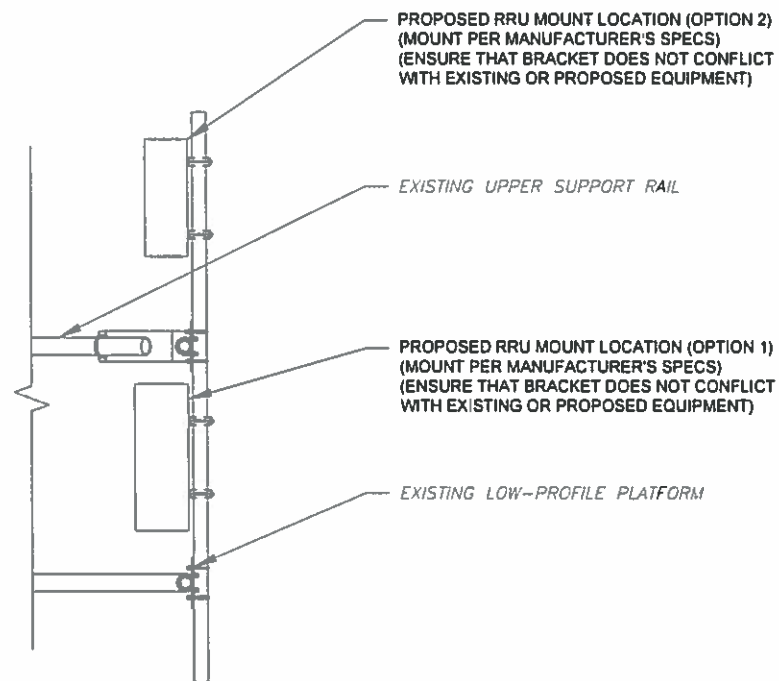
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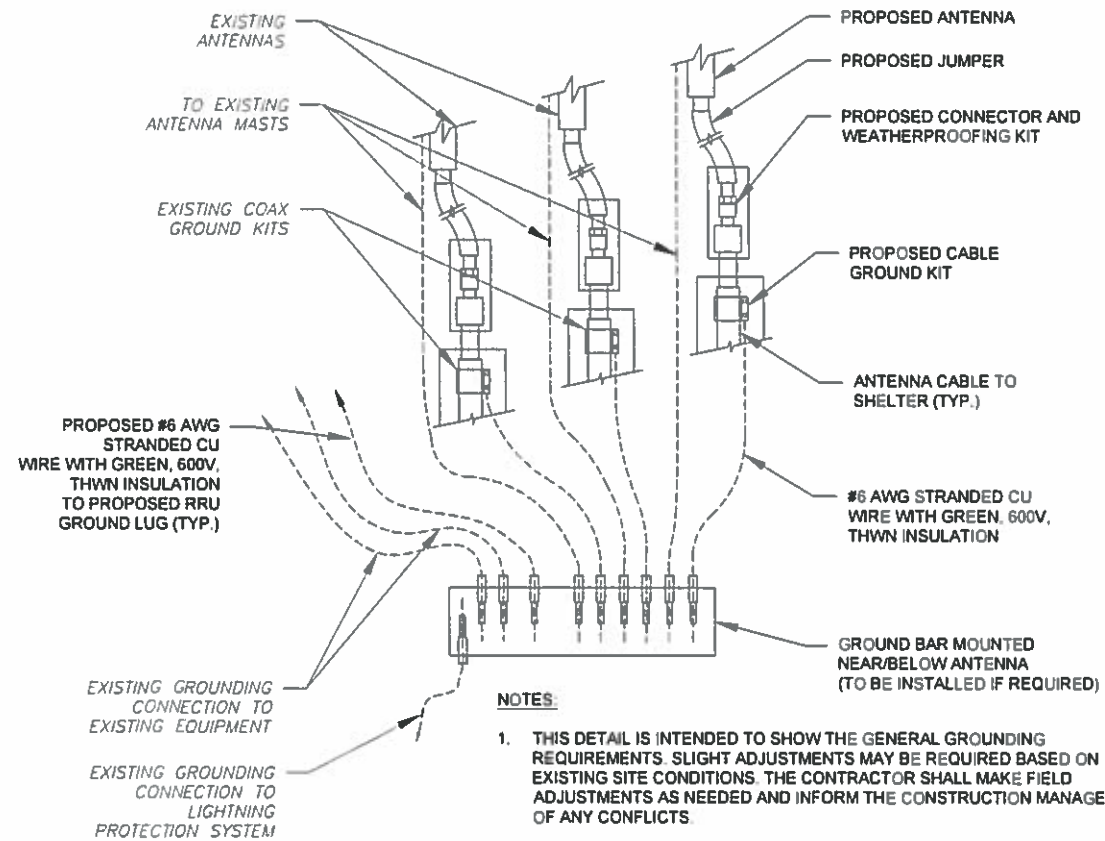
PROFILE VIEW

ISOMETRIC VIEW (BY MANUFACTURER)

1 PROPOSED SIDE-BY-SIDE MOUNT
SCALE: NOT TO SCALE



2 PROPOSED RRU MOUNTING DETAIL - TYPICAL
SCALE: NOT TO SCALE



NOTES:

1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH VERIZON WIRELESS GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH VERIZON WIRELESS GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

3 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE



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0	FOR CONSTRUCTION	TC	11/27/18

ATC SITE NUMBER:

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ATC SITE NAME:

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SITE ADDRESS

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OLD SAYBROOK CT 06475

SEAL:



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DRAWN BY:	TC
APPROVED BY:	PBB
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ATC JOB NO:	12623726
CUSTOMER ID:	OLD SAYBROOK EAST RELO CT
CUSTOMER #:	468709

CONSTRUCTION
DETAILS

SHEET NUMBER:
C-502

REVISION:
0