



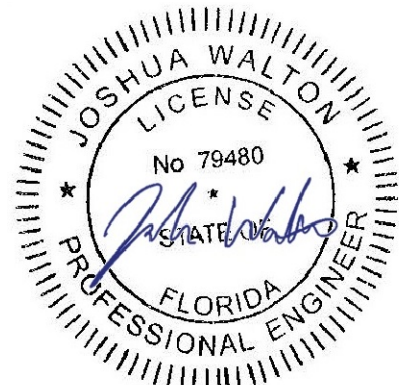
AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 145.5 ft Monopole
ATC Site Name : Thomasson Drive, FL
ATC Asset Number : 412252
Engineering Number : 13331356_C3_03
Proposed Carrier : T-MOBILE
Carrier Site Name : E. NAPLES COMMUNITY PARK
Carrier Site Number : 6NC1013A
Site Location : 3510 THOMASSON DR
NAPLES, FL 34112-7309
26.105700,-81.763600
County : Collier
Date : December 8, 2020
Max Usage : 95%
Result : Pass

Prepared By:
Cole Melody Koffi
Structural Engineer I

Reviewed By:



This item has been electronically signed and sealed by
Joshua Walton, PE, CWI on the date shown using a digital signature.
Printed copies of this are not considered signed and sealed and the
signature must be verified on any electronic copies.

COA: 9053



Table of Contents

Introduction	1
Supporting Documents	1
Analysis	1
Conclusion.....	1
Existing and Reserved Equipment.....	2
Equipment to be Removed.....	2
Proposed Equipment	3
Structure Usages	3
Foundations	3
Deflection and Sway	3
Standard Conditions	4
Calculations	Attached

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 145.5 ft monopole to reflect the change in loading by T-MOBILE.

Supporting Documents

Tower Drawings	FWT Job #15098, dated September 26, 1997
Foundation Drawing	FDH Velocitel Project #15CBGD1500 R1, dated November 11, 2015
Geotechnical Report	Universal Engineering Sciences Order #70025-026-01, dated December 23, 1997

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:	166 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	No Ice Considered
Code:	ANSI/TIA-222-H / 2018 IBC / 7th Ed. (2020) Florida Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Spectral Response:	$S_s = 0.04$, $S_1 = 0.02$
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

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
150.0	5	Andrew E15Z01P04	Platform with Handrails	(3) 0.39" Fiber Trunk (6) 0.78" 8 AWG 6 (18) 1 5/8" Coax (3) 3/8" RET Control Cable	AT&T MOBILITY
	2	Raycap DC6-48-60-18-8F ("Squid")			
	1	Andrew E15Z01P08			
	6	Andrew CBC819-DF			
	3	Ericsson RRUS 4478 B14			
	1	Raycap DC6-48-60-18-8C			
	3	Commscope JAHH-65B-R3B (63.3 lb)			
	3	Ericsson RRUS-11 (50 lbs.)			
	3	Ericsson RRUS 32 B30 (60 lbs)			
	3	Ericsson RRUS 32 B66			
	3	Ericsson RRUS 32 B2			
	3	EMS MB72RR8001VDPALQ_R12			
	6	Andrew SBNHH-1D65B			
	3	Ericsson RRUS A2 Module (15.1"Height)			
140.0	3	RFS IBC1900HG-1	Low Profile Platform	(2) 0.38" Cat 5e (3) 1.54" Hybrid (1) 1.7" Hybrid	SPRINT NEXTEL
	2	Ceragon IP-20C			
	3	Ericsson 800MHz SMR Filter			
	9	RFS ACU-A20-N			
	3	Ericsson RRUS A2 Module			
	3	Generic 72" x 12" Panel			
	3	RFS APXVERR18-C			
	3	Ericsson AIR 6468 B41			
	1	RFS SC2-190BB			
	9	Ericsson RRUS 11 (Band 4)			
	3	Ericsson RRUS 11 (Band 12) (55 lb)			
129.0	6	CSS X7CAP-680	Platform with Handrails	(22) 1 5/8" Coax (2) 1 5/8" Hybriflex	VERIZON WIRELESS
	6	Ericsson RRUS 32 (50.8 lbs)			
	3	Commscope ATSBT-TOP-MF-4G			
	1	VZW Unused Reserve (12679.74 sqin)			
	6	CSS X7CQAP-86-865-V			
	2	Raycap RxxDC-3315-PF-48			
118.0	3	CellMax CMA-B/6519/E0-8	Platform with Handrails	(1) 1 5/8" Fiber (18) 7/8" Coax	T-MOBILE
	3	Commscope FFHH-65C-R3			
	1	Nokia ASU9338TYP01			
	3	Nokia AirScale Dual RRH 4T4R B12/71 240W AHLOA			
	3	Commscope TMAT1921B68-21-43			
108.0	2	MTI Wireless Edge MT – 384024/NVH	Collar	(1) 0.24" Cat 5 (1) 0.39" Cable	GOOGLE LLC
	1	Delta ESOM012-ECU01			

Equipment to be Removed

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
118.0	3	CellMax CMA-B/6519/E0-8	-	-	T-MOBILE
	3	Nokia AirScale Dual RRH 4T4R B25/66 320W AHFIB (66.1lbs)			

Proposed Equipment

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
118.0	1	Commscope HELIAX FiberFeed 12 RRU Pendant Connect	Platform with Handrails	(1) 1.49" Hybrid	T-MOBILE
	3	Nokia AHFIG 70.55 lbs			
	3	Nokia AEHC			

¹ Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed line inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	73%	Pass
Shaft	74%	Pass
Base Plate	24%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	5,948.0	8,029.8	7,595.6	95%
Shear (Kips)	58.7	79.2	69.2	87%

* The design reactions are factored by 1.35 per ANSI/TIA-222-h, Sec. 15.6.2

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) (°)
140.0	RFS SC2-190BB	SPRINT NEXTEL	0.751	0.619
118.0	Commscope HELIAX FiberFeed 12 RRU Pendant Connect	T-MOBILE	0.526	0.542
	Nokia AHFIG 70.55 lbs			
	Nokia AEHC			

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



Standard Conditions

All engineering services performed by ATC Tower Services LLC 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:

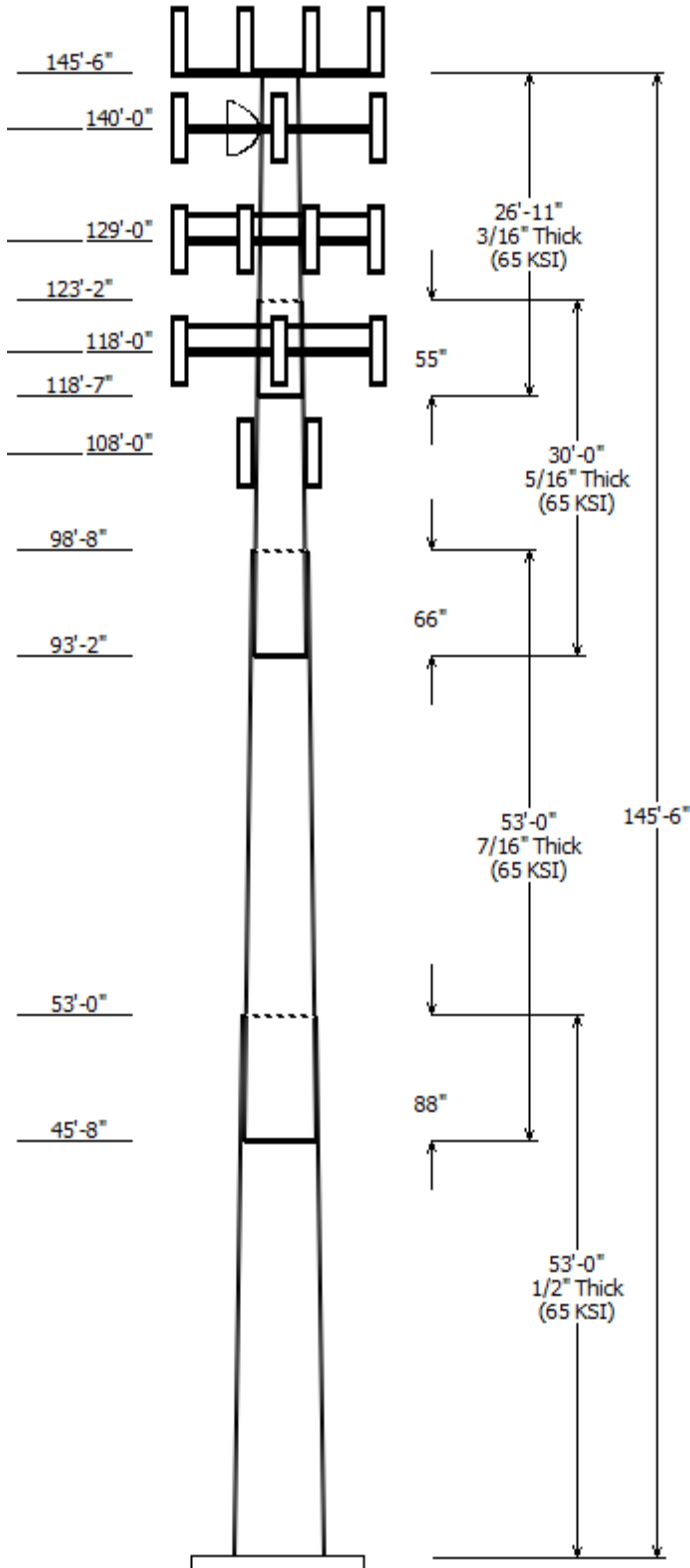
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of ATC Tower Services LLC

It is the responsibility of the client to ensure that the information provided to ATC Tower Services LLC 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 ATC Tower Services LLC, 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. ATC Tower Services LLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



Job Information

Client : T-MOBILE

Pole : 412252

Code: ANSI/TIA-222-H

Location : Thomasson Drive, FL

Description :

Risk Category : II

Shape : 18 Sides

Exposure : B

Height : 145.50 (ft)

Topo Method : Method 1

Base Elev (ft): 0.00

Topographic Category : 1

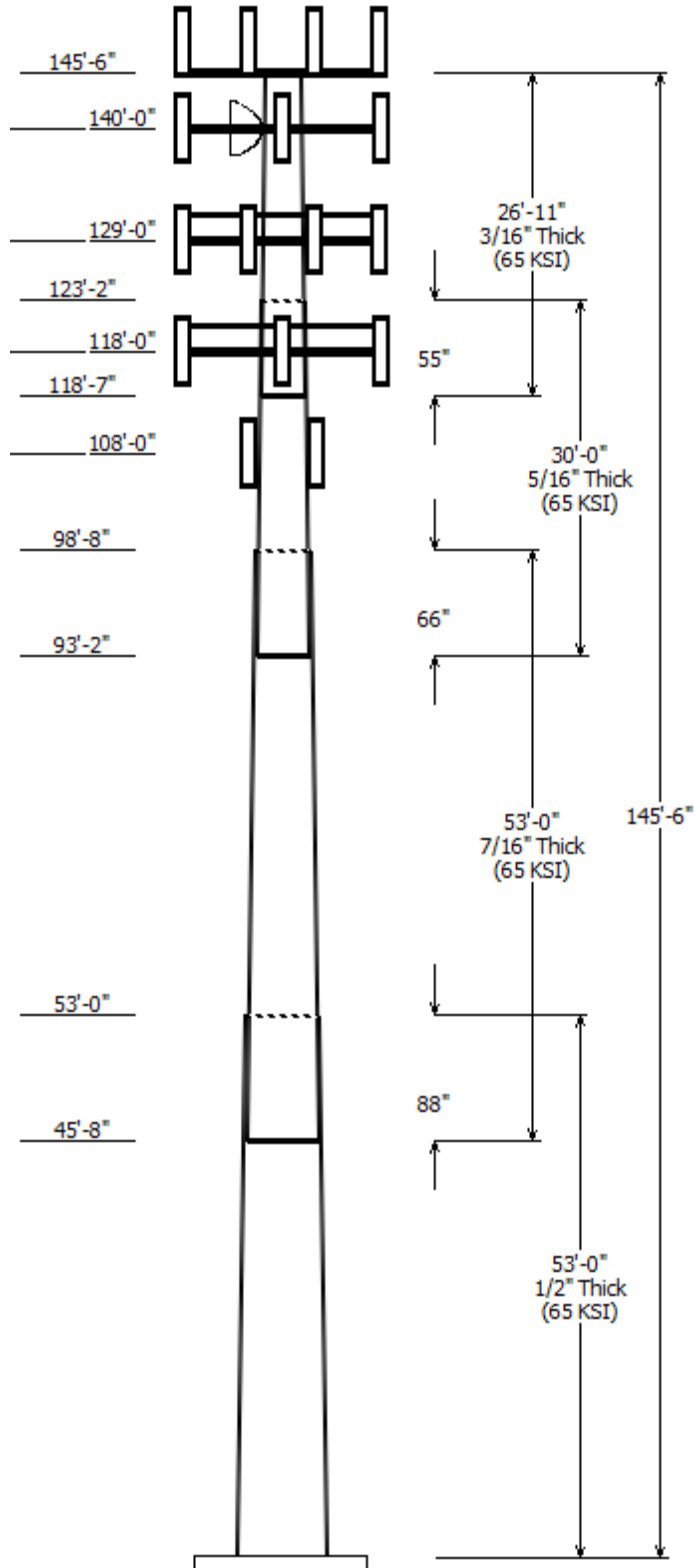
Taper: 0.304997(in/ft)

Sections Properties

Section	Length (ft)	Diameter (in)		Thick (in)	Joint Type	Overlap Length (in)	Steel Grade
		Top	Bottom				
1	53.000	53.33	69.50	0.500		0.000	18 Sides 65
2	53.000	40.28	56.44	0.438	Slip Joint	88.000	18 Sides 65
3	30.000	33.43	42.58	0.313	Slip Joint	66.000	18 Sides 65
4	26.917	27.00	35.20	0.188	Slip Joint	55.000	18 Sides 65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
145.500	150.000	3	Commscope JAHH-65B-R3B
145.500	150.000	6	Andrew SBNHH-1D65B
145.500	150.000	3	EMS MB72RR8001VDPALQ_R12
145.500	150.000	3	Ericsson RRUS 32 B2
145.500	150.000	3	Ericsson RRUS 32 B66
145.500	150.000	3	Ericsson RRUS 32 B30 (60 lbs)
145.500	150.000	3	Ericsson RRUS-11 (50 lbs.)
145.500	150.000	3	Ericsson RRUS A2 Module
145.500	150.000	1	Raycap DC6-48-60-18-8C
145.500	150.000	3	Ericsson RRUS 4478 B14
145.500	150.000	5	Andrew E15Z01P04
145.500	150.000	2	Raycap DC6-48-60-18-8F
145.500	150.000	1	Andrew E15Z01P08
145.500	150.000	6	Andrew CBC819-DF
145.500	145.500	1	Flat Platform w/ Handrails
140.000	140.000	1	Flat Low Profile Platform
140.000	140.000	3	Generic 72" x 12" Panel
140.000	140.000	3	RFS APXVERR18-C
140.000	140.000	3	Ericsson AIR 6468 B41
140.000	140.000	1	RFS SC2-190BB
140.000	140.000	9	Ericsson RRUS 11 (Band 4)
140.000	140.000	3	Ericsson RRUS 11 (Band 12) (55
140.000	140.000	3	Ericsson RRUS A2 Module
140.000	140.000	3	RFS IBC1900HG-1
140.000	140.000	2	Ceragon IP-20C
140.000	140.000	3	Ericsson 800MHz SMR Filter
140.000	140.000	9	RFS ACU-A20-N
129.000	129.000	1	VZW Unused Reserve
129.000	129.000	1	Round Platform w/ Handrails
129.000	129.000	6	CSS X7CQAP-86-865-V
129.000	129.000	6	CSS X7CAP-680
129.000	129.000	6	Ericsson RRUS 32 (50.8 lbs)
129.000	129.000	2	Raycap RxxDC-3315-PF-48
129.000	129.000	3	Commscope ATSBT-TOP-MF-
118.000	118.000	1	Generic Round Platform with
118.000	118.000	3	Commscope FFHH-65C-R3
118.000	118.000	3	Nokia AEHC
118.000	118.000	3	CellMax CMA-B/6519/E0-8
118.000	118.000	3	Nokia AHFIG 70.55 lbs
118.000	118.000	1	Nokia ASU9338TYP01
118.000	118.000	3	Nokia AirScale Dual RRH 4T4R B
118.000	118.000	1	Commscope HELIAX
118.000	118.000	3	Commscope TMAT1921B68-
108.000	108.000	1	Delta ESOM012-ECU01



108.000 108.000 2 MTI Wireless Edge MT -

Linear Appurtenance

Elev (ft)		Description	Exposed To Wind
From	To		
0.000	108.0	0.24" (6mm) Cat 5	No
0.000	108.0	0.39" (10 mm)	No
0.000	118.0	1 5/8" (1.63"-	No
0.000	118.0	1.49" (37.8mm)	No
0.000	118.0	7/8" Coax	No
0.000	129.0	1 5/8" Coax	Yes
0.000	129.0	1 5/8" Coax	Yes
0.000	129.0	1 5/8" Coax	No
0.000	129.0	1 5/8" Hybriflex	Yes
0.000	140.0	0.38" (9.7mm) Cat	No
0.000	140.0	1.54" (39.2mm)	No
0.000	140.0	1.7" (43.2mm)	No
0.000	150.0	0.39" (10mm)	Yes
0.000	150.0	0.78" (19.7mm) 8	Yes
0.000	150.0	1 5/8" Coax	No
0.000	150.0	1 5/8" Coax	Yes
0.000	150.0	3/8" (0.38"-	No

Load Cases

1.2D + 1.0W	166 mph with No Ice
0.9D + 1.0W	166 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	0 mph with 0.00 in Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	Serviceability 60 mph

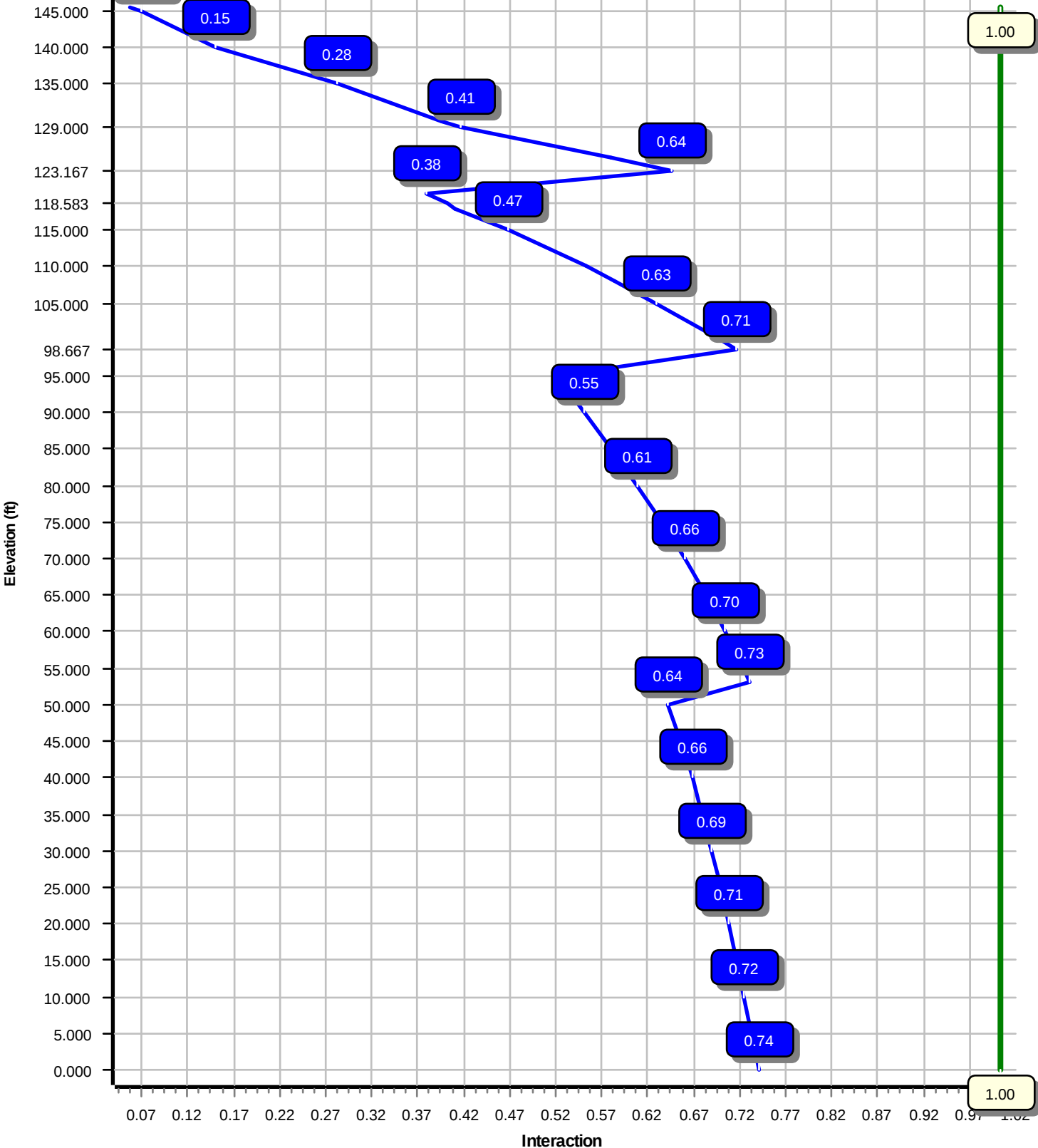
Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.0W	7595.63	69.21	69.11
0.9D + 1.0W	7548.73	69.19	51.81
1.2D + 1.0Di + 1.0Wi	0.00	0.00	66.59
1.2D + 1.0Ev + 1.0Eh	199.10	1.73	67.17
0.9D - 1.0Ev + 1.0Eh	197.87	1.73	49.49
1.0D + 1.0W	885.05	8.09	57.67

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	140.00	9.014	0.619

Load Case : 1.2D + 1.0W
Max Ratio 73.75% at 0.0 ft



Site Number: 412252

Code: ANSI/TIA-222-H

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Site Name: Thomasson Drive, FL

Engineering Number:13331356_C3_03

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Customer: T-MOBILE

Analysis Parameters

Location :	Collier County, FL	Height (ft) :	145.5
Code :	ANSI/TIA-222-H	Base Diameter (in) :	69.50
Shape :	18 Sides	Top Diameter (in) :	27.00
Pole Type :	Taper	Taper (in/ft) :	0.305
Pole Manufacturer :	FWT	Rotation (deg) :	0.00
Kd (non-service) :	0.95	Ke :	1.00

Ice & Wind Parameters

Exposure Category:	B	Design Wind Speed Without Ice:	166 mph
Risk Category:	II	Design Wind Speed With Ice:	0 mph
Topographic Factor Procedure:	Method 1	Operational Wind Speed:	60 mph
Topographic Category:	1	Design Ice Thickness:	0.00 in
Crest Height:	0 ft	HMSL:	5.00 ft

Seismic Parameters

Analysis Method: Equivalent Lateral Force Method

Site Class: D - Stiff Soil

Period Based on Rayleigh Method (sec): 1.71

T_L (sec):	8	p:	1	C_s :	0.030
S_s :	0.043	S_1 :	0.022	C_s Max:	0.030
F_a :	1.600	F_v :	2.400	C_s Min:	0.030
S_{ds} :	0.046	S_{d1} :	0.035		

Load Cases

1.2D + 1.0W	166 mph with No Ice
0.9D + 1.0W	166 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	0 mph with 0.00 in Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	Serviceability 60 mph

Site Number: 412252

Code: ANSI/TIA-222-H

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Site Name: Thomasson Drive, FL

Engineering Number:13331356_C3_03

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Customer: T-MOBILE

Shaft Section Properties

Shaft Section Properties							Bottom				Top								
Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Joint Len (in)	Weight (lb)	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18	53.000	0.5000	65		0.00	17,435	69.50	0.00	109.50	65871.8	22.75	139.00	53.33	53.00	83.85	29575.6	17.05	106.67	0.304997
2-18	53.000	0.4375	65	Slip	88.00	12,003	56.44	45.67	77.78	30828.3	20.99	129.03	40.28	98.67	55.33	11099.2	14.47	92.08	0.304997
3-18	30.000	0.3125	65	Slip	66.00	3,817	42.58	93.17	41.93	9467.0	22.27	136.28	33.43	123.17	32.85	4554.3	17.10	107.00	0.304997
4-18	26.917	0.1875	65	Slip	55.00	1,685	35.20	118.58	20.84	3229.7	31.35	187.78	27.00	145.50	15.96	1449.3	23.63	144.00	0.304997
Shaft Weight						34,940													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor	Weight (lb)	Ice EPAa (sf)	Orientation Factor
145.50	Andrew CBC819-DF	6	0.75	4.500	4.30	0.444	0.50	4.30	0.444	0.50
145.50	Andrew E15Z01P08	1	0.75	4.500	18.50	1.311	0.50	18.50	1.311	0.50
145.50	Raycap DC6-48-60-18-8F	2	0.75	4.500	31.80	1.470	1.00	31.80	1.470	1.00
145.50	Andrew E15Z01P04	5	0.75	4.500	33.10	1.843	0.50	33.10	1.843	0.50
145.50	Ericsson RRUS 4478 B14	3	0.75	4.500	59.40	2.021	0.67	59.40	2.021	0.67
145.50	Raycap DC6-48-60-18-8C	1	0.75	4.500	16.00	2.030	1.00	16.00	2.030	1.00
145.50	Ericsson RRUS A2 Module	3	0.75	4.500	22.00	2.064	0.67	22.00	2.064	0.67
145.50	Ericsson RRUS-11 (50 lbs.)	3	0.75	4.500	50.00	2.566	0.67	50.00	2.566	0.67
145.50	Ericsson RRUS 32 B30 (60 lbs)	3	0.75	4.500	60.00	2.692	0.67	60.00	2.692	0.67
145.50	Ericsson RRUS 32 B66	3	0.75	4.500	53.00	2.743	0.67	53.00	2.743	0.67
145.50	Ericsson RRUS 32 B2	3	0.75	4.500	53.00	2.743	0.67	53.00	2.743	0.67
145.50	EMS MB72RR8001VDPALQ_R12	3	0.75	4.500	35.50	8.133	0.69	35.50	8.133	0.69
145.50	Andrew SBNHH-1D65B	6	0.75	4.500	50.70	8.173	0.69	50.70	8.173	0.69
145.50	Commscope JAHH-65B-R3B	3	0.75	4.500	63.30	9.113	0.69	63.30	9.113	0.69
145.50	Flat Platform w/ Handrails	1	1.00	0.000	2,000.00	42.400	1.00	2,000.00	42.400	1.00
140.00	RFS ACU-A20-N	9	0.80	0.000	1.00	0.117	0.50	1.00	0.117	0.50
140.00	Ericsson 800MHz SMR Filter	3	0.80	0.000	10.00	0.422	0.50	10.00	0.422	0.50
140.00	Ceragon IP-20C	2	0.80	0.000	13.00	0.745	0.50	13.00	0.745	0.50
140.00	RFS IBC1900HG-1	3	0.80	0.000	22.00	1.182	0.50	22.00	1.182	0.50
140.00	Ericsson RRUS A2 Module	3	0.80	0.000	21.20	1.600	0.50	21.20	1.600	0.50
140.00	Ericsson RRUS 11 (Band 12) (55	3	0.80	0.000	55.00	2.522	0.67	55.00	2.522	0.67
140.00	Ericsson RRUS 11 (Band 4)	9	0.80	0.000	44.00	2.566	0.67	44.00	2.566	0.67
140.00	RFS SC2-190BB	1	1.00	0.000	20.00	4.796	1.00	20.00	4.796	1.00
140.00	Ericsson AIR 6468 B41	3	0.80	0.000	133.20	6.543	0.61	133.20	6.543	0.61
140.00	RFS APXVERR18-C	3	0.80	0.000	50.00	8.024	0.69	50.00	8.024	0.69
140.00	Generic 72" x 12" Panel	3	0.80	0.000	45.00	8.133	0.67	45.00	8.133	0.67
140.00	Flat Low Profile Platform	1	1.00	0.000	1,500.00	26.100	1.00	1,500.00	26.100	1.00
129.00	Commscope ATSBT-TOP-MF-4G	3	0.75	0.000	1.80	0.173	0.50	1.80	0.173	0.50
129.00	Raycap RxxDC-3315-PF-48	2	0.75	0.000	21.40	2.512	0.67	21.40	2.512	0.67
129.00	Ericsson RRUS 32 (50.8 lbs)	6	0.75	0.000	50.80	2.692	0.67	50.80	2.692	0.67
129.00	CSS X7CAP-680	6	0.75	0.000	44.00	9.549	0.68	44.00	9.549	0.68
129.00	CSS X7CQAP-86-865-V	6	0.75	0.000	53.60	13.443	0.70	53.60	13.443	0.70
129.00	Round Platform w/ Handrails	1	1.00	0.000	2,000.00	27.200	1.00	2,000.00	27.200	1.00
129.00	VZW Unused Reserve (12679.74	1	0.75	0.000	1,561.40	88.054	0.90	1,561.40	88.054	0.90
118.00	Commscope TMAT1921B68-21-	3	0.75	0.000	15.70	0.660	0.50	15.70	0.660	0.50
118.00	Commscope HELIAX FiberFeed	1	0.75	0.000	20.00	0.944	1.00	20.00	0.944	1.00
118.00	Nokia AirScale Dual RRH 4T4R	3	0.75	0.000	83.80	2.218	0.67	83.80	2.218	0.67
118.00	Nokia ASU9338TYP01	1	0.75	0.000	14.90	2.536	1.00	14.90	2.536	1.00
118.00	Nokia AHFIG 70.55 lbs	3	0.75	0.000	70.60	2.763	0.67	70.60	2.763	0.67
118.00	CellMax CMA-B/6519/E0-8	3	0.75	0.000	21.00	3.772	0.70	21.00	3.772	0.70
118.00	Nokia AEHC	3	0.75	0.000	103.60	6.844	0.62	103.60	6.844	0.62
118.00	Commscope FFHH-65C-R3	3	0.75	0.000	125.70	21.138	0.63	125.70	21.138	0.63
118.00	Generic Round Platform with	1	1.00	0.000	2,500.00	27.200	1.00	2,500.00	27.200	1.00
108.00	MTI Wireless Edge MT –	2	1.00	0.000	5.10	2.497	0.67	5.10	2.497	0.67
108.00	Delta ESOM012-ECU01	1	1.00	0.000	165.30	3.167	1.00	165.30	3.167	1.00

Site Number: 412252

Code: ANSI/TIA-222-H

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Site Name: Thomasson Drive, FL

Engineering Number:13331356_C3_03

12/8/2020 7:51:24 PM

Customer: T-MOBILE

Totals	Num Loadings:45	138	15,214.00	15,214.00
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Linear Appurtenance Properties Load Case Azimuth (deg) : 330

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Max Coax / Flat Row	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	150.00	3	0.39" (10mm) Fiber	0.39	0.06	N 3	1.00	1.00	5	3.98	Y	AT&T MOBILITY
0.00	150.00	6	0.78" (19.7mm) 8 AWG	0.78	0.59	N 3	1.00	1.00	350	1.00	Y	AT&T MOBILITY
0.00	150.00	12	1 5/8" Coax	1.98	0.82	N 0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	150.00	6	1 5/8" Coax	1.98	0.82	N 6	1.00	1.00	20	1.00	Y	AT&T MOBILITY
0.00	150.00	3	3/8" (0.38"- 9.5mm)	0.38	0.23	N 0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	140.00	2	0.38" (9.7mm) Cat 5e	0.38	0.09	N 0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	140.00	3	1.54" (39.2mm) Hybrid	1.54	1.60	N 0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	140.00	1	1.7" (43.2mm) Hybrid	1.70	1.78	N 0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	129.00	12	1 5/8" Coax	1.98	0.82	N 6	1.00	1.00	300	1.00	Y	VERIZON WIRELESS
0.00	129.00	6	1 5/8" Coax	1.98	0.82	N 6	1.00	1.00	60	1.00	Y	VERIZON WIRELESS
0.00	129.00	4	1 5/8" Coax	1.98	0.82	N 0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	129.00	2	1 5/8" Hybriflex	1.98	1.30	N 2	1.00	1.00	90	1.00	Y	VERIZON WIRELESS
0.00	118.00	1	1 5/8" (1.63"-41.3mm)	1.63	1.61	N 0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	118.00	1	1.49" (37.8mm) Hybrid	1.49	1.87	N 0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	118.00	18	7/8" Coax	1.09	0.33	N 0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	108.00	1	0.24" (6mm) Cat 5	0.24	0.04	N 0	0.00	0.00	0	0.00	N	GOOGLE LLC
0.00	108.00	1	0.39" (10 mm) Cable	0.39	0.07	N 0	0.00	0.00	0	0.00	N	GOOGLE LLC

Site Number: 412252

Code: ANSI/TIA-222-H

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Site Name: Thomasson Drive, FL

Engineering Number:13331356_C3_03

12/8/2020 7:51:24 PM

Customer: T-MOBILE

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in ³)	Z (in ³)	Weight (lb)
0.00		0.5000	69.502	109.502	65,871.8	22.75	139.00	74.6	1866.	0.0	0.0
5.00		0.5000	67.977	107.082	61,600.2	22.21	135.95	75.3	1784.	0.0	1,842.5
10.00		0.5000	66.452	104.662	57,517.4	21.67	132.90	75.9	1704.	0.0	1,801.3
15.00		0.5000	64.927	102.242	53,619.0	21.13	129.85	76.5	1626.	0.0	1,760.1
20.00		0.5000	63.402	99.822	49,901.0	20.60	126.80	77.2	1550.	0.0	1,718.9
25.00		0.5000	61.877	97.402	46,358.9	20.06	123.75	77.8	1475.	0.0	1,677.8
30.00		0.5000	60.352	94.982	42,988.5	19.52	120.70	78.4	1402.	0.0	1,636.6
35.00		0.5000	58.827	92.562	39,785.6	18.98	117.65	79.1	1332.	0.0	1,595.4
40.00		0.5000	57.302	90.142	36,745.9	18.44	114.60	79.7	1263.	0.0	1,554.2
45.00		0.5000	55.777	87.722	33,865.0	17.91	111.55	80.3	1195.	0.0	1,513.1
45.67	Bot - Section 2	0.5000	55.574	87.399	33,492.7	17.84	111.15	80.4	1187.	0.0	198.6
50.00		0.5000	54.252	85.302	31,138.8	17.37	108.50	81.0	1130.	0.0	2,406.6
53.00	Top - Section 1	0.4375	54.212	74.670	27,280.7	20.09	123.91	77.8	991.2	0.0	1,632.1
55.00		0.4375	53.602	73.823	26,362.8	19.84	122.52	78.1	968.7	0.0	505.3
60.00		0.4375	52.077	71.706	24,158.7	19.23	119.03	78.8	913.7	0.0	1,238.0
65.00		0.4375	50.552	69.588	22,081.0	18.61	115.55	79.5	860.3	0.0	1,202.0
70.00		0.4375	49.027	67.470	20,125.9	18.00	112.06	80.2	808.5	0.0	1,165.9
75.00		0.4375	47.502	65.353	18,289.8	17.38	108.58	81.0	758.4	0.0	1,129.9
80.00		0.4375	45.977	63.235	16,568.9	16.77	105.09	81.7	709.8	0.0	1,093.9
85.00		0.4375	44.452	61.118	14,959.5	16.15	101.61	82.4	662.8	0.0	1,057.9
90.00		0.4375	42.927	59.000	13,457.9	15.54	98.12	82.6	617.5	0.0	1,021.8
93.17	Bot - Section 3	0.4375	41.961	57.659	12,560.9	15.15	95.91	82.6	589.6	0.0	628.5
95.00		0.4375	41.402	56.883	12,060.2	14.92	94.63	82.6	573.7	0.0	617.1
98.67	Top - Section 2	0.3125	40.909	40.265	8,384.2	21.32	130.91	76.3	403.7	0.0	1,209.3
100.0		0.3125	40.502	39.862	8,134.7	21.09	129.61	76.6	395.6	0.0	181.8
105.0		0.3125	38.977	38.349	7,243.4	20.23	124.73	77.6	366.0	0.0	665.3
108.0		0.3125	38.062	37.442	6,741.3	19.71	121.80	78.2	348.8	0.0	386.9
110.0		0.3125	37.452	36.837	6,419.7	19.37	119.85	78.6	337.6	0.0	252.8
115.0		0.3125	35.927	35.324	5,661.0	18.51	114.97	79.6	310.3	0.0	613.9
118.0		0.3125	35.012	34.417	5,235.8	17.99	112.04	80.2	294.5	0.0	356.0
118.5	Bot - Section 4	0.3125	34.834	34.240	5,155.6	17.89	111.47	80.4	291.5	0.0	68.1
120.0		0.3125	34.402	33.812	4,964.5	17.65	110.09	80.6	284.2	0.0	263.9
123.1	Top - Section 3	0.1875	33.812	20.010	2,858.2	30.03	180.33	66.1	166.5	0.0	577.9
125.0		0.1875	33.252	19.677	2,718.0	29.51	177.35	66.7	161.0	0.0	123.8
129.0		0.1875	32.032	18.951	2,428.1	28.36	170.84	68.0	149.3	0.0	262.9
130.0		0.1875	31.727	18.770	2,359.0	28.07	169.21	68.4	146.4	0.0	64.2
135.0		0.1875	30.202	17.862	2,033.1	26.64	161.08	70.1	132.6	0.0	311.6
140.0		0.1875	28.677	16.954	1,738.7	25.21	152.95	71.8	119.4	0.0	296.2
145.0		0.1875	27.152	16.047	1,474.2	23.77	144.81	73.4	106.9	0.0	280.7
145.5		0.1875	27.000	15.956	1,449.3	23.63	144.00	73.6	105.7	0.0	27.2
											34,940.1

Site Number: 412252

Code: ANSI/TIA-222-H

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Site Name: Thomasson Drive, FL

Engineering Number:13331356_C3_03

12/8/2020 7:51:24 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.0W

166 mph with No Ice

20 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.20

Wind Load Factor :1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
Seg			Dead	Torsion		Moment	Dead		Dead	Torsion		Moment	
Elev		Wind FX	Load	Wind FX	MY	MZ	Load	Wind FX	Load	Wind FX	Load	MY	MZ
(ft)	Description	(lb)	(lb)	(lb)	(lb-ft)	(lb-ft)	(lb)	(lb)	(lb)	(lb)	(lb)	(lb-ft)	(lb)
0.00		547.7	0.0					0.0	0.0	547.7	0.0	0.0	0.0
5.00		1,083.2	2,211.0					0.0	336.6	1,083.2	2,547.6	0.0	0.0
10.00		1,058.9	2,161.6					0.0	336.6	1,058.9	2,498.2	0.0	0.0
15.00		1,034.6	2,112.1					0.0	336.6	1,034.6	2,448.7	0.0	0.0
20.00		1,010.3	2,062.7					0.0	336.6	1,010.3	2,399.3	0.0	0.0
25.00		986.0	2,013.3					0.0	336.6	986.0	2,349.9	0.0	0.0
30.00		973.1	1,963.9					0.0	336.6	973.1	2,300.5	0.0	0.0
35.00		979.7	1,914.5					0.0	336.6	979.7	2,251.1	0.0	0.0
40.00		991.5	1,865.1					0.0	336.6	991.5	2,201.7	0.0	0.0
45.00		564.6	1,815.7					0.0	336.6	564.6	2,152.3	0.0	0.0
45.67	Bot - Section 2	510.9	238.4					0.0	44.9	510.9	283.2	0.0	0.0
50.00		757.0	2,887.9					0.0	291.7	757.0	3,179.6	0.0	0.0
53.00	Top - Section 1	520.8	1,958.5					0.0	202.0	520.8	2,160.5	0.0	0.0
55.00		735.4	606.3					0.0	134.6	735.4	741.0	0.0	0.0
60.00		1,064.4	1,485.6					0.0	336.6	1,064.4	1,822.2	0.0	0.0
65.00		1,084.7	1,442.4					0.0	336.6	1,084.7	1,779.0	0.0	0.0
70.00		1,108.9	1,399.1					0.0	336.6	1,108.9	1,735.7	0.0	0.0
75.00		1,136.0	1,355.9					0.0	336.6	1,136.0	1,692.5	0.0	0.0
80.00		1,163.2	1,312.7					0.0	336.6	1,163.2	1,649.3	0.0	0.0
85.00		1,190.8	1,269.4					0.0	336.6	1,190.8	1,606.0	0.0	0.0
90.00		991.1	1,226.2					0.0	336.6	991.1	1,562.8	0.0	0.0
93.17	Bot - Section 3	619.8	754.2					0.0	213.2	619.8	967.4	0.0	0.0
95.00		698.2	740.5					0.0	123.4	698.2	864.0	0.0	0.0
98.67	Top - Section 2	635.9	1,451.2					0.0	246.8	635.9	1,698.0	0.0	0.0
100.00		809.0	218.1					0.0	89.8	809.0	307.9	0.0	0.0
105.00		1,030.8	798.4					0.0	336.6	1,030.8	1,135.0	0.0	0.0
108.00	Appurtenance(s)	653.3	464.2	484.9	0.0	0.0	210.6	0.0	202.0	1,138.2	876.8	0.0	0.0
110.00		929.7	303.3					0.0	134.4	929.7	437.7	0.0	0.0
115.00		1,073.5	736.6					0.0	335.9	1,073.5	1,072.6	0.0	0.0
118.00	Appurtenance(s)	486.5	427.2	6,377.4	0.0	0.0	4,555.3	0.0	201.6	6,863.9	5,184.0	0.0	0.0
118.58	Bot - Section 4	276.2	81.8					0.0	32.6	276.2	114.4	0.0	0.0
120.00		621.2	316.7					0.0	79.2	621.2	395.8	0.0	0.0
123.17	Top - Section 3	666.5	693.5					223.7	177.0	890.1	870.4	0.0	0.0
125.00		758.8	148.6					130.8	102.5	889.5	251.0	0.0	0.0
129.00	Appurtenance(s)	594.2	315.5	13,241.3	0.0	0.0	5,400.0	228.0	223.5	14,063.6	5,939.0	0.0	0.0
130.00		454.7	77.0					0.0	31.1	454.7	108.1	0.0	0.0
135.00		740.2	373.9					0.0	155.6	740.2	529.5	0.0	0.0
140.00	Appurtenance(s)	710.1	355.4	7,067.4	0.0	0.0	3,552.2	0.0	155.6	7,777.5	4,063.2	0.0	0.0
145.00		381.3	336.9					0.0	115.0	381.3	451.9	0.0	0.0
145.50	Appurtenance(s)	33.9	32.7	10,240.3	0.0	30,612.3	4,538.6	0.0	11.5	10,274.2	4,582.8	0.0	0.0
Totals:										69,660.3	69,210.8	0.00	0.00

Site Number: 412252

Code: ANSI/TIA-222-H

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Site Name: Thomasson Drive, FL

Engineering Number:13331356_C3_03

12/8/2020 7:51:28 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.0W

166 mph with No Ice

20 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.20

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-69.11	-69.21	0.00	-7,595.63	0.00	7,595.63	7,356.54	1,921.76	11,977.0	10,450.8	0.00	0.00	0.737
5.00	-66.37	-68.31	0.00	-7,249.57	0.00	7,249.57	7,254.92	1,879.29	11,453.5	10,077.1	0.09	-0.16	0.730
10.00	-63.68	-67.43	0.00	-6,908.01	0.00	6,908.01	7,150.54	1,836.82	10,941.7	9,706.00	0.34	-0.32	0.722
15.00	-61.05	-66.56	0.00	-6,570.88	0.00	6,570.88	7,043.40	1,794.35	10,441.6	9,337.84	0.77	-0.49	0.714
20.00	-58.46	-65.70	0.00	-6,238.11	0.00	6,238.11	6,933.51	1,751.88	9,953.27	8,972.90	1.38	-0.66	0.705
25.00	-55.93	-64.85	0.00	-5,909.64	0.00	5,909.64	6,820.86	1,709.40	9,476.57	8,611.43	2.17	-0.83	0.696
30.00	-53.44	-64.01	0.00	-5,585.39	0.00	5,585.39	6,705.46	1,666.93	9,011.56	8,253.70	3.13	-1.01	0.686
35.00	-51.01	-63.15	0.00	-5,265.36	0.00	5,265.36	6,587.31	1,624.46	8,558.26	7,899.95	4.29	-1.19	0.676
40.00	-48.63	-62.26	0.00	-4,949.64	0.00	4,949.64	6,466.39	1,581.99	8,116.65	7,550.47	5.63	-1.37	0.665
45.00	-46.38	-61.73	0.00	-4,638.34	0.00	4,638.34	6,342.73	1,539.52	7,686.73	7,205.50	7.17	-1.56	0.653
45.67	-46.01	-61.29	0.00	-4,597.19	0.00	4,597.19	6,326.03	1,533.85	7,630.30	7,159.86	7.39	-1.58	0.651
50.00	-42.71	-60.54	0.00	-4,331.62	0.00	4,331.62	6,216.30	1,497.04	7,268.52	6,865.31	8.91	-1.75	0.639
53.00	-40.46	-60.02	0.00	-4,150.00	0.00	4,150.00	5,226.78	1,310.46	6,365.06	5,781.58	10.04	-1.86	0.728
55.00	-39.60	-59.36	0.00	-4,029.96	0.00	4,029.96	5,186.71	1,295.60	6,221.49	5,671.64	10.84	-1.94	0.720
60.00	-37.60	-58.37	0.00	-3,733.16	0.00	3,733.16	5,084.58	1,258.43	5,869.74	5,399.19	12.99	-2.15	0.701
65.00	-35.65	-57.35	0.00	-3,441.31	0.00	3,441.31	4,979.70	1,221.27	5,528.22	5,130.35	15.36	-2.36	0.680
70.00	-33.76	-56.29	0.00	-3,154.57	0.00	3,154.57	4,872.06	1,184.11	5,196.93	4,865.39	17.95	-2.58	0.658
75.00	-31.92	-55.20	0.00	-2,873.11	0.00	2,873.11	4,761.67	1,146.94	4,875.88	4,604.58	20.76	-2.79	0.633
80.00	-30.13	-54.06	0.00	-2,597.12	0.00	2,597.12	4,648.53	1,109.78	4,565.07	4,348.18	23.80	-3.00	0.606
85.00	-28.39	-52.89	0.00	-2,326.81	0.00	2,326.81	4,532.63	1,072.62	4,264.50	4,096.44	27.05	-3.21	0.577
90.00	-26.74	-51.89	0.00	-2,062.35	0.00	2,062.35	4,383.43	1,035.45	3,974.15	3,822.99	30.53	-3.42	0.548
93.17	-25.72	-51.26	0.00	-1,898.02	0.00	1,898.02	4,283.79	1,011.92	3,795.56	3,650.30	32.85	-3.55	0.529
95.00	-24.80	-50.56	0.00	-1,804.05	0.00	1,804.05	4,226.10	998.29	3,694.05	3,552.15	34.23	-3.63	0.516
98.67	-23.06	-49.86	0.00	-1,618.66	0.00	1,618.66	2,765.92	706.65	2,591.14	2,310.74	37.07	-3.78	0.714
100.00	-22.67	-49.09	0.00	-1,552.19	0.00	1,552.19	2,747.90	699.58	2,539.49	2,272.51	38.14	-3.83	0.696
105.00	-21.45	-48.06	0.00	-1,306.75	0.00	1,306.75	2,678.56	673.03	2,350.45	2,130.47	42.29	-4.08	0.626
108.00	-20.56	-46.90	0.00	-1,162.58	0.00	1,162.58	2,635.64	657.10	2,240.53	2,046.32	44.90	-4.23	0.581
110.00	-20.06	-46.00	0.00	-1,068.78	0.00	1,068.78	2,606.47	646.49	2,168.72	1,990.71	46.69	-4.32	0.550
115.00	-18.95	-44.90	0.00	-838.80	0.00	838.80	2,531.62	619.94	1,994.30	1,853.49	51.34	-4.53	0.465
118.00	-14.29	-37.66	0.00	-704.12	0.00	704.12	2,485.39	604.01	1,893.16	1,772.48	54.22	-4.65	0.407
118.58	-14.17	-37.38	0.00	-682.15	0.00	682.15	2,476.28	600.92	1,873.80	1,756.85	54.79	-4.67	0.398
120.00	-13.78	-36.75	0.00	-629.20	0.00	629.20	2,454.01	593.40	1,827.19	1,719.07	56.18	-4.72	0.375
123.17	-12.94	-35.81	0.00	-512.83	0.00	512.83	1,189.95	351.17	1,066.44	825.12	59.35	-4.83	0.643
125.00	-12.69	-34.92	0.00	-447.19	0.00	447.19	1,181.12	345.33	1,031.27	805.30	61.22	-4.88	0.576
129.00	-7.97	-20.41	0.00	-307.50	0.00	307.50	1,160.55	332.59	956.58	761.92	65.38	-5.04	0.414
130.00	-7.87	-19.96	0.00	-287.09	0.00	287.09	1,155.14	329.41	938.35	751.06	66.44	-5.08	0.393
135.00	-7.36	-19.19	0.00	-187.29	0.00	187.29	1,126.40	313.48	849.81	696.75	71.83	-5.22	0.279
140.00	-4.02	-11.08	0.00	-91.33	0.00	91.33	1,094.91	297.55	765.66	642.65	77.35	-5.32	0.147
145.00	-3.60	-10.66	0.00	-35.94	0.00	35.94	1,060.66	281.62	685.89	589.01	82.94	-5.37	0.066
145.50	0.00	-10.27	0.00	-30.61	0.00	30.61	1,057.09	280.03	678.16	583.68	83.50	-5.37	0.054

Site Number: 412252

Code: ANSI/TIA-222-H

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Site Name: Thomasson Drive, FL

Engineering Number:13331356_C3_03

12/8/2020 7:51:28 PM

Customer: T-MOBILE

Load Case: 0.9D + 1.0W

166 mph with No Ice (Reduced DL)

20 Iterations

Gust Response Factor :1.10

Dead Load Factor :0.90

Wind Load Factor :1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
Seg			Dead	Torsion		Moment	Dead		Dead	Torsion		Moment	
Elev		Wind FX	Load	Wind FX	MY	MZ	Load	Wind FX	Load	Wind FX	Load	MY	MZ
(ft)	Description	(lb)	(lb)	(lb)	(lb-ft)	(lb-ft)	(lb)	(lb)	(lb)	(lb)	(lb)	(lb-ft)	(lb)
0.00		547.7	0.0					0.0	0.0	547.7	0.0	0.0	0.0
5.00		1,083.2	1,658.2					0.0	252.4	1,083.2	1,910.7	0.0	0.0
10.00		1,058.9	1,621.2					0.0	252.4	1,058.9	1,873.6	0.0	0.0
15.00		1,034.6	1,584.1					0.0	252.4	1,034.6	1,836.6	0.0	0.0
20.00		1,010.3	1,547.1					0.0	252.4	1,010.3	1,799.5	0.0	0.0
25.00		986.0	1,510.0					0.0	252.4	986.0	1,762.4	0.0	0.0
30.00		973.1	1,472.9					0.0	252.4	973.1	1,725.4	0.0	0.0
35.00		979.7	1,435.9					0.0	252.4	979.7	1,688.3	0.0	0.0
40.00		991.5	1,398.8					0.0	252.4	991.5	1,651.3	0.0	0.0
45.00		564.6	1,361.8					0.0	252.4	564.6	1,614.2	0.0	0.0
45.67	Bot - Section 2	510.9	178.8					0.0	33.7	510.9	212.4	0.0	0.0
50.00		757.0	2,165.9					0.0	218.8	757.0	2,384.7	0.0	0.0
53.00	Top - Section 1	520.8	1,468.9					0.0	151.5	520.8	1,620.4	0.0	0.0
55.00		735.4	454.8					0.0	101.0	735.4	555.7	0.0	0.0
60.00		1,064.4	1,114.2					0.0	252.4	1,064.4	1,366.7	0.0	0.0
65.00		1,084.7	1,081.8					0.0	252.4	1,084.7	1,334.2	0.0	0.0
70.00		1,108.9	1,049.4					0.0	252.4	1,108.9	1,301.8	0.0	0.0
75.00		1,136.0	1,016.9					0.0	252.4	1,136.0	1,269.4	0.0	0.0
80.00		1,163.2	984.5					0.0	252.4	1,163.2	1,237.0	0.0	0.0
85.00		1,190.8	952.1					0.0	252.4	1,190.8	1,204.5	0.0	0.0
90.00		991.1	919.7					0.0	252.4	991.1	1,172.1	0.0	0.0
93.17	Bot - Section 3	619.8	565.7					0.0	159.9	619.8	725.6	0.0	0.0
95.00		698.2	555.4					0.0	92.6	698.2	648.0	0.0	0.0
98.67	Top - Section 2	635.9	1,088.4					0.0	185.1	635.9	1,273.5	0.0	0.0
100.00		809.0	163.6					0.0	67.3	809.0	230.9	0.0	0.0
105.00		1,030.8	598.8					0.0	252.4	1,030.8	851.3	0.0	0.0
108.00	Appurtenance(s)	653.3	348.2	484.9	0.0	0.0	158.0	0.0	151.5	1,138.2	657.6	0.0	0.0
110.00		929.7	227.5					0.0	100.8	929.7	328.3	0.0	0.0
115.00		1,073.5	552.5					0.0	252.0	1,073.5	804.4	0.0	0.0
118.00	Appurtenance(s)	486.5	320.4	6,377.4	0.0	0.0	3,416.5	0.0	151.2	6,863.9	3,888.0	0.0	0.0
118.58	Bot - Section 4	276.2	61.3					0.0	24.4	276.2	85.8	0.0	0.0
120.00		621.2	237.5					0.0	59.4	621.2	296.9	0.0	0.0
123.17	Top - Section 3	666.5	520.1					223.7	132.7	890.1	652.8	0.0	0.0
125.00		758.8	111.4					130.8	76.8	889.5	188.3	0.0	0.0
129.00	Appurtenance(s)	594.2	236.6	13,241.3	0.0	0.0	4,050.0	228.0	167.7	14,063.6	4,454.2	0.0	0.0
130.00		454.7	57.8					0.0	23.3	454.7	81.1	0.0	0.0
135.00		740.2	280.5					0.0	116.7	740.2	397.1	0.0	0.0
140.00	Appurtenance(s)	710.1	266.6	7,067.4	0.0	0.0	2,664.2	0.0	116.7	7,777.5	3,047.4	0.0	0.0
145.00		381.3	252.7					0.0	86.3	381.3	338.9	0.0	0.0
145.50	Appurtenance(s)	33.9	24.5	10,240.3	0.0	30,612.3	3,404.0	0.0	8.6	10,274.2	3,437.1	0.0	0.0
Totals:										69,660.3	51,908.1	0.00	0.00

Site Number: 412252

Code: ANSI/TIA-222-H

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Site Name: Thomasson Drive, FL

Engineering Number:13331356_C3_03

12/8/2020 7:51:32 PM

Customer: T-MOBILE

Load Case: 0.9D + 1.0W

166 mph with No Ice (Reduced DL)

20 Iterations

Gust Response Factor :1.10

Dead Load Factor :0.90

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-51.81	-69.19	0.00	-7,548.73	0.00	7,548.73	7,356.54	1,921.76	11,977.0	10,450.8	0.00	0.00	0.731
5.00	-49.71	-68.24	0.00	-7,202.80	0.00	7,202.80	7,254.92	1,879.29	11,453.5	10,077.1	0.09	-0.16	0.723
10.00	-47.65	-67.31	0.00	-6,861.60	0.00	6,861.60	7,150.54	1,836.82	10,941.7	9,706.00	0.34	-0.32	0.715
15.00	-45.62	-66.40	0.00	-6,525.05	0.00	6,525.05	7,043.40	1,794.35	10,441.6	9,337.84	0.77	-0.49	0.707
20.00	-43.64	-65.50	0.00	-6,193.07	0.00	6,193.07	6,933.51	1,751.88	9,953.27	8,972.90	1.37	-0.66	0.698
25.00	-41.69	-64.62	0.00	-5,865.58	0.00	5,865.58	6,820.86	1,709.40	9,476.57	8,611.43	2.15	-0.83	0.689
30.00	-39.79	-63.74	0.00	-5,542.51	0.00	5,542.51	6,705.46	1,666.93	9,011.56	8,253.70	3.11	-1.00	0.679
35.00	-37.92	-62.85	0.00	-5,223.82	0.00	5,223.82	6,587.31	1,624.46	8,558.26	7,899.95	4.26	-1.18	0.669
40.00	-36.10	-61.93	0.00	-4,909.60	0.00	4,909.60	6,466.39	1,581.99	8,116.65	7,550.47	5.60	-1.36	0.657
45.00	-34.39	-61.39	0.00	-4,599.94	0.00	4,599.94	6,342.73	1,539.52	7,686.73	7,205.50	7.12	-1.55	0.645
45.67	-34.09	-60.93	0.00	-4,559.01	0.00	4,559.01	6,326.03	1,533.85	7,630.30	7,159.86	7.34	-1.57	0.644
50.00	-31.58	-60.18	0.00	-4,294.98	0.00	4,294.98	6,216.30	1,497.04	7,268.52	6,865.31	8.84	-1.73	0.632
53.00	-29.88	-59.66	0.00	-4,114.44	0.00	4,114.44	5,226.78	1,310.46	6,365.06	5,781.58	9.97	-1.85	0.719
55.00	-29.20	-58.98	0.00	-3,995.12	0.00	3,995.12	5,186.71	1,295.60	6,221.49	5,671.64	10.76	-1.93	0.712
60.00	-27.66	-57.97	0.00	-3,700.22	0.00	3,700.22	5,084.58	1,258.43	5,869.74	5,399.19	12.90	-2.14	0.693
65.00	-26.16	-56.93	0.00	-3,410.38	0.00	3,410.38	4,979.70	1,221.27	5,528.22	5,130.35	15.25	-2.35	0.672
70.00	-24.70	-55.86	0.00	-3,125.73	0.00	3,125.73	4,872.06	1,184.11	5,196.93	4,865.39	17.82	-2.56	0.650
75.00	-23.28	-54.75	0.00	-2,846.45	0.00	2,846.45	4,761.67	1,146.94	4,875.88	4,604.58	20.61	-2.77	0.625
80.00	-21.91	-53.61	0.00	-2,572.70	0.00	2,572.70	4,648.53	1,109.78	4,565.07	4,348.18	23.62	-2.98	0.599
85.00	-20.58	-52.43	0.00	-2,304.67	0.00	2,304.67	4,532.63	1,072.62	4,264.50	4,096.44	26.85	-3.19	0.570
90.00	-19.32	-51.43	0.00	-2,042.54	0.00	2,042.54	4,383.43	1,035.45	3,974.15	3,822.99	30.30	-3.39	0.541
93.17	-18.54	-50.80	0.00	-1,879.69	0.00	1,879.69	4,283.79	1,011.92	3,795.56	3,650.30	32.59	-3.52	0.522
95.00	-17.84	-50.10	0.00	-1,786.56	0.00	1,786.56	4,226.10	998.29	3,694.05	3,552.15	33.96	-3.60	0.510
98.67	-16.52	-49.41	0.00	-1,602.87	0.00	1,602.87	2,765.92	706.65	2,591.14	2,310.74	36.79	-3.75	0.705
100.00	-16.21	-48.63	0.00	-1,536.99	0.00	1,536.99	2,747.90	699.58	2,539.49	2,272.51	37.84	-3.80	0.687
105.00	-15.27	-47.60	0.00	-1,293.84	0.00	1,293.84	2,678.56	673.03	2,350.45	2,130.47	41.96	-4.05	0.618
108.00	-14.60	-46.44	0.00	-1,151.06	0.00	1,151.06	2,635.64	657.10	2,240.53	2,046.32	44.55	-4.19	0.573
110.00	-14.22	-45.53	0.00	-1,058.17	0.00	1,058.17	2,606.47	646.49	2,168.72	1,990.71	46.32	-4.29	0.542
115.00	-13.38	-44.44	0.00	-830.52	0.00	830.52	2,531.62	619.94	1,994.30	1,853.49	50.93	-4.50	0.459
118.00	-10.00	-37.30	0.00	-697.21	0.00	697.21	2,485.39	604.01	1,893.16	1,772.48	53.79	-4.61	0.401
118.58	-9.92	-37.02	0.00	-675.46	0.00	675.46	2,476.28	600.92	1,873.80	1,756.85	54.35	-4.63	0.392
120.00	-9.62	-36.39	0.00	-623.01	0.00	623.01	2,454.01	593.40	1,827.19	1,719.07	55.73	-4.68	0.370
123.17	-9.00	-35.46	0.00	-507.78	0.00	507.78	1,189.95	351.17	1,066.44	825.12	58.87	-4.79	0.633
125.00	-8.82	-34.58	0.00	-442.76	0.00	442.76	1,181.12	345.33	1,031.27	805.30	60.72	-4.84	0.567
129.00	-5.56	-20.19	0.00	-304.46	0.00	304.46	1,160.55	332.59	956.58	761.92	64.85	-5.00	0.408
130.00	-5.48	-19.74	0.00	-284.27	0.00	284.27	1,155.14	329.41	938.35	751.06	65.90	-5.03	0.387
135.00	-5.11	-18.98	0.00	-185.57	0.00	185.57	1,126.40	313.48	849.81	696.75	71.24	-5.17	0.275
140.00	-2.78	-10.96	0.00	-90.68	0.00	90.68	1,094.91	297.55	765.66	642.65	76.71	-5.27	0.145
145.00	-2.47	-10.55	0.00	-35.89	0.00	35.89	1,060.66	281.62	685.89	589.01	82.25	-5.32	0.065
145.50	0.00	-10.27	0.00	-30.61	0.00	30.61	1,057.09	280.03	678.16	583.68	82.81	-5.32	0.054

Site Number: 412252

Code: ANSI/TIA-222-H

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Site Name: Thomasson Drive, FL

Engineering Number:13331356_C3_03

12/8/2020 7:51:32 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.0Di + 1.0Wi

0 mph with 0.00 in Radial Ice

6 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor 1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
Seg			Dead	Torsion		Moment	Dead		Dead	Torsion		Moment	
Elev		Wind FX	Load	Wind FX	MY	MZ	Load	Wind FX	Load	Wind FX	Load	MY	MZ
(ft)	Description	(lb)	(lb)	(lb)	(lb-ft)	(lb-ft)	(lb)	(lb)	(lb)	(lb)	(lb)	(lb-ft)	(lb)
0.00		0.0	0.0					0.0	0.0	0.0	0.0	0.0	0.0
5.00		0.0	2,211.0					0.0	336.6	0.0	2,547.6	0.0	0.0
10.00		0.0	2,161.6					0.0	336.6	0.0	2,498.2	0.0	0.0
15.00		0.0	2,112.1					0.0	336.6	0.0	2,448.7	0.0	0.0
20.00		0.0	2,062.7					0.0	336.6	0.0	2,399.3	0.0	0.0
25.00		0.0	2,013.3					0.0	336.6	0.0	2,349.9	0.0	0.0
30.00		0.0	1,963.9					0.0	336.6	0.0	2,300.5	0.0	0.0
35.00		0.0	1,914.5					0.0	336.6	0.0	2,251.1	0.0	0.0
40.00		0.0	1,865.1					0.0	336.6	0.0	2,201.7	0.0	0.0
45.00		0.0	1,815.7					0.0	336.6	0.0	2,152.3	0.0	0.0
45.67	Bot - Section 2	0.0	238.4					0.0	44.9	0.0	283.2	0.0	0.0
50.00		0.0	2,887.9					0.0	291.7	0.0	3,179.6	0.0	0.0
53.00	Top - Section 1	0.0	1,958.5					0.0	202.0	0.0	2,160.5	0.0	0.0
55.00		0.0	606.3					0.0	134.6	0.0	741.0	0.0	0.0
60.00		0.0	1,485.6					0.0	336.6	0.0	1,822.2	0.0	0.0
65.00		0.0	1,442.4					0.0	336.6	0.0	1,779.0	0.0	0.0
70.00		0.0	1,399.1					0.0	336.6	0.0	1,735.7	0.0	0.0
75.00		0.0	1,355.9					0.0	336.6	0.0	1,692.5	0.0	0.0
80.00		0.0	1,312.7					0.0	336.6	0.0	1,649.3	0.0	0.0
85.00		0.0	1,269.4					0.0	336.6	0.0	1,606.0	0.0	0.0
90.00		0.0	1,226.2					0.0	336.6	0.0	1,562.8	0.0	0.0
93.17	Bot - Section 3	0.0	754.2					0.0	213.2	0.0	967.4	0.0	0.0
95.00		0.0	740.5					0.0	123.4	0.0	864.0	0.0	0.0
98.67	Top - Section 2	0.0	1,451.2					0.0	246.8	0.0	1,698.0	0.0	0.0
100.00		0.0	218.1					0.0	89.8	0.0	307.9	0.0	0.0
105.00		0.0	798.4					0.0	336.6	0.0	1,135.0	0.0	0.0
108.00	Appurtenance(s)	0.0	464.2	0.0	0.0	0.0	181.7	0.0	202.0	0.0	847.8	0.0	0.0
110.00		0.0	303.3					0.0	134.4	0.0	437.7	0.0	0.0
115.00		0.0	736.6					0.0	335.9	0.0	1,072.6	0.0	0.0
118.00	Appurtenance(s)	0.0	427.2	0.0	0.0	0.0	3,964.2	0.0	201.6	0.0	4,593.0	0.0	0.0
118.58	Bot - Section 4	0.0	81.8					0.0	32.6	0.0	114.4	0.0	0.0
120.00		0.0	316.7					0.0	79.2	0.0	395.8	0.0	0.0
123.17	Top - Section 3	0.0	693.5					0.0	177.0	0.0	870.4	0.0	0.0
125.00		0.0	148.6					0.0	102.5	0.0	251.0	0.0	0.0
129.00	Appurtenance(s)	0.0	315.5	0.0	0.0	0.0	4,552.5	0.0	223.5	0.0	5,091.5	0.0	0.0
130.00		0.0	77.0					0.0	31.1	0.0	108.1	0.0	0.0
135.00		0.0	373.9					0.0	155.6	0.0	529.5	0.0	0.0
140.00	Appurtenance(s)	0.0	355.4	0.0	0.0	0.0	3,075.3	0.0	155.6	0.0	3,586.3	0.0	0.0
145.00		0.0	336.9					0.0	115.0	0.0	451.9	0.0	0.0
145.50	Appurtenance(s)	0.0	32.7	0.0	0.0	0.0	3,860.8	0.0	11.5	0.0	3,905.0	0.0	0.0
Totals:										0.00	66,588.5	0.00	0.00

Site Number: 412252

Code: ANSI/TIA-222-H

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Site Name: Thomasson Drive, FL

Engineering Number:13331356_C3_03

12/8/2020 7:51:37 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.0Di + 1.0Wi

0 mph with 0.00 in Radial Ice

6 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor 1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-66.59	0.00	0.00	0.00	0.00	0.00	7,356.54	1,921.76	11,977.0	10,450.8	0.00	0.00	0.009
5.00	-64.04	0.00	0.00	0.00	0.00	0.00	7,254.92	1,879.29	11,453.5	10,077.1	0.00	0.00	0.009
10.00	-61.54	0.00	0.00	0.00	0.00	0.00	7,150.54	1,836.82	10,941.7	9,706.00	0.00	0.00	0.009
15.00	-59.09	0.00	0.00	0.00	0.00	0.00	7,043.40	1,794.35	10,441.6	9,337.84	0.00	0.00	0.008
20.00	-56.69	0.00	0.00	0.00	0.00	0.00	6,933.51	1,751.88	9,953.27	8,972.90	0.00	0.00	0.008
25.00	-54.34	0.00	0.00	0.00	0.00	0.00	6,820.86	1,709.40	9,476.57	8,611.43	0.00	0.00	0.008
30.00	-52.04	0.00	0.00	0.00	0.00	0.00	6,705.46	1,666.93	9,011.56	8,253.70	0.00	0.00	0.008
35.00	-49.79	0.00	0.00	0.00	0.00	0.00	6,587.31	1,624.46	8,558.26	7,899.95	0.00	0.00	0.008
40.00	-47.59	0.00	0.00	0.00	0.00	0.00	6,466.39	1,581.99	8,116.65	7,550.47	0.00	0.00	0.007
45.00	-45.44	0.00	0.00	0.00	0.00	0.00	6,342.73	1,539.52	7,686.73	7,205.50	0.00	0.00	0.007
45.67	-45.16	0.00	0.00	0.00	0.00	0.00	6,326.03	1,533.85	7,630.30	7,159.86	0.00	0.00	0.007
50.00	-41.98	0.00	0.00	0.00	0.00	0.00	6,216.30	1,497.04	7,268.52	6,865.31	0.00	0.00	0.007
53.00	-39.82	0.00	0.00	0.00	0.00	0.00	5,226.78	1,310.46	6,365.06	5,781.58	0.00	0.00	0.008
55.00	-39.07	0.00	0.00	0.00	0.00	0.00	5,186.71	1,295.60	6,221.49	5,671.64	0.00	0.00	0.008
60.00	-37.25	0.00	0.00	0.00	0.00	0.00	5,084.58	1,258.43	5,869.74	5,399.19	0.00	0.00	0.007
65.00	-35.47	0.00	0.00	0.00	0.00	0.00	4,979.70	1,221.27	5,528.22	5,130.35	0.00	0.00	0.007
70.00	-33.74	0.00	0.00	0.00	0.00	0.00	4,872.06	1,184.11	5,196.93	4,865.39	0.00	0.00	0.007
75.00	-32.05	0.00	0.00	0.00	0.00	0.00	4,761.67	1,146.94	4,875.88	4,604.58	0.00	0.00	0.007
80.00	-30.40	0.00	0.00	0.00	0.00	0.00	4,648.53	1,109.78	4,565.07	4,348.18	0.00	0.00	0.007
85.00	-28.79	0.00	0.00	0.00	0.00	0.00	4,532.63	1,072.62	4,264.50	4,096.44	0.00	0.00	0.006
90.00	-27.23	0.00	0.00	0.00	0.00	0.00	4,383.43	1,035.45	3,974.15	3,822.99	0.00	0.00	0.006
93.17	-26.26	0.00	0.00	0.00	0.00	0.00	4,283.79	1,011.92	3,795.56	3,650.30	0.00	0.00	0.006
95.00	-25.40	0.00	0.00	0.00	0.00	0.00	4,226.10	998.29	3,694.05	3,552.15	0.00	0.00	0.006
98.67	-23.70	0.00	0.00	0.00	0.00	0.00	2,765.92	706.65	2,591.14	2,310.74	0.00	0.00	0.009
100.00	-23.39	0.00	0.00	0.00	0.00	0.00	2,747.90	699.58	2,539.49	2,272.51	0.00	0.00	0.009
105.00	-22.25	0.00	0.00	0.00	0.00	0.00	2,678.56	673.03	2,350.45	2,130.47	0.00	0.00	0.008
108.00	-21.41	0.00	0.00	0.00	0.00	0.00	2,635.64	657.10	2,240.53	2,046.32	0.00	0.00	0.008
110.00	-20.97	0.00	0.00	0.00	0.00	0.00	2,606.47	646.49	2,168.72	1,990.71	0.00	0.00	0.008
115.00	-19.90	0.00	0.00	0.00	0.00	0.00	2,531.62	619.94	1,994.30	1,853.49	0.00	0.00	0.008
118.00	-15.30	0.00	0.00	0.00	0.00	0.00	2,485.39	604.01	1,893.16	1,772.48	0.00	0.00	0.006
118.58	-15.19	0.00	0.00	0.00	0.00	0.00	2,476.28	600.92	1,873.80	1,756.85	0.00	0.00	0.006
120.00	-14.79	0.00	0.00	0.00	0.00	0.00	2,454.01	593.40	1,827.19	1,719.07	0.00	0.00	0.006
123.17	-13.92	0.00	0.00	0.00	0.00	0.00	1,189.95	351.17	1,066.44	825.12	0.00	0.00	0.012
125.00	-13.67	0.00	0.00	0.00	0.00	0.00	1,181.12	345.33	1,031.27	805.30	0.00	0.00	0.012
129.00	-8.58	0.00	0.00	0.00	0.00	0.00	1,160.55	332.59	956.58	761.92	0.00	0.00	0.007
130.00	-8.47	0.00	0.00	0.00	0.00	0.00	1,155.14	329.41	938.35	751.06	0.00	0.00	0.007
135.00	-7.94	0.00	0.00	0.00	0.00	0.00	1,126.40	313.48	849.81	696.75	0.00	0.00	0.007
140.00	-4.36	0.00	0.00	0.00	0.00	0.00	1,094.91	297.55	765.66	642.65	0.00	0.00	0.004
145.00	-3.90	0.00	0.00	0.00	0.00	0.00	1,060.66	281.62	685.89	589.01	0.00	0.00	0.004
145.50	0.00	0.00	0.00	0.00	0.00	0.00	1,057.09	280.03	678.16	583.68	0.00	0.00	0.000

Site Number: 412252

Code: ANSI/TIA-222-H

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Site Name: Thomasson Drive, FL

Engineering Number:13331356_C3_03

12/8/2020 7:51:37 PM

Customer: T-MOBILE

Load Case: 1.0D + 1.0W

Serviceability 60 mph

18 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.00

Wind Load Factor :1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
Seg			Dead		Torsion	Moment	Dead		Dead		Torsion	Moment	
Elev		Wind FX	Load	Wind FX	MY	MZ	Load	Wind FX	Load	Wind FX	Load	MY	MZ
(ft)	Description	(lb)	(lb)	(lb)	(lb-ft)	(lb-ft)	(lb)	(lb)	(lb)	(lb)	(lb)	(lb-ft)	(lb)
0.00		64.0	0.0					0.0	0.0	64.0	0.0	0.0	0.0
5.00		126.6	1,842.5					0.0	280.5	126.6	2,123.0	0.0	0.0
10.00		123.8	1,801.3					0.0	280.5	123.8	2,081.8	0.0	0.0
15.00		120.9	1,760.1					0.0	280.5	120.9	2,040.6	0.0	0.0
20.00		118.1	1,718.9					0.0	280.5	118.1	1,999.4	0.0	0.0
25.00		115.3	1,677.8					0.0	280.5	115.3	1,958.3	0.0	0.0
30.00		113.7	1,636.6					0.0	280.5	113.7	1,917.1	0.0	0.0
35.00		114.5	1,595.4					0.0	280.5	114.5	1,875.9	0.0	0.0
40.00		115.9	1,554.2					0.0	280.5	115.9	1,834.7	0.0	0.0
45.00		66.0	1,513.1					0.0	280.5	66.0	1,793.6	0.0	0.0
45.67	Bot - Section 2	59.7	198.6					0.0	37.4	59.7	236.0	0.0	0.0
50.00		88.5	2,406.6					0.0	243.1	88.5	2,649.7	0.0	0.0
53.00	Top - Section 1	60.9	1,632.1					0.0	168.3	60.9	1,800.4	0.0	0.0
55.00		86.0	505.3					0.0	112.2	86.0	617.5	0.0	0.0
60.00		124.4	1,238.0					0.0	280.5	124.4	1,518.5	0.0	0.0
65.00		126.8	1,202.0					0.0	280.5	126.8	1,482.5	0.0	0.0
70.00		129.6	1,165.9					0.0	280.5	129.6	1,446.4	0.0	0.0
75.00		132.8	1,129.9					0.0	280.5	132.8	1,410.4	0.0	0.0
80.00		136.0	1,093.9					0.0	280.5	136.0	1,374.4	0.0	0.0
85.00		139.2	1,057.9					0.0	280.5	139.2	1,338.4	0.0	0.0
90.00		115.9	1,021.8					0.0	280.5	115.9	1,302.3	0.0	0.0
93.17	Bot - Section 3	72.4	628.5					0.0	177.6	72.4	806.2	0.0	0.0
95.00		81.6	617.1					0.0	102.9	81.6	720.0	0.0	0.0
98.67	Top - Section 2	74.3	1,209.3					0.0	205.7	74.3	1,415.0	0.0	0.0
100.00		94.6	181.8					0.0	74.8	94.6	256.6	0.0	0.0
105.00		120.5	665.3					0.0	280.5	120.5	945.8	0.0	0.0
108.00	Appurtenance(s)	76.4	386.9	56.7	0.0	0.0	175.5	0.0	168.3	133.1	730.7	0.0	0.0
110.00		108.7	252.8					0.0	112.0	108.7	364.7	0.0	0.0
115.00		125.5	613.9					0.0	280.0	125.5	893.8	0.0	0.0
118.00	Appurtenance(s)	56.9	356.0	745.5	0.0	0.0	3,796.1	0.0	168.0	802.3	4,320.0	0.0	0.0
118.58	Bot - Section 4	32.3	68.1					0.0	27.2	32.3	95.3	0.0	0.0
120.00		72.6	263.9					0.0	66.0	72.6	329.9	0.0	0.0
123.17	Top - Section 3	77.9	577.9					26.1	147.5	104.1	725.4	0.0	0.0
125.00		88.7	123.8					15.3	85.4	104.0	209.2	0.0	0.0
129.00	Appurtenance(s)	69.5	262.9	1,547.8	0.0	0.0	4,500.0	26.7	186.3	1,643.9	4,949.2	0.0	0.0
130.00		53.1	64.2					0.0	25.9	53.1	90.1	0.0	0.0
135.00		86.5	311.6					0.0	129.6	86.5	441.3	0.0	0.0
140.00	Appurtenance(s)	83.0	296.2	826.1	0.0	0.0	2,960.2	0.0	129.6	909.1	3,386.0	0.0	0.0
145.00		44.6	280.7					0.0	95.9	44.6	376.6	0.0	0.0
145.50	Appurtenance(s)	4.0	27.2	1,197.0	0.0	3,578.3	3,782.2	0.0	9.6	1,201.0	3,819.0	0.0	0.0
Totals:										8,142.68	57,675.7	0.00	0.00

Site Number: 412252

Code: ANSI/TIA-222-H

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Site Name: Thomasson Drive, FL

Engineering Number:13331356_C3_03

12/8/2020 7:51:41 PM

Customer: T-MOBILE

Load Case: 1.0D + 1.0W

Serviceability 60 mph

18 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-57.67	-8.09	0.00	-885.05	0.00	885.05	7,356.54	1,921.76	11,977.0	10,450.8	0.00	0.00	0.093
5.00	-55.55	-7.98	0.00	-844.62	0.00	844.62	7,254.92	1,879.29	11,453.5	10,077.1	0.01	-0.02	0.091
10.00	-53.46	-7.87	0.00	-804.73	0.00	804.73	7,150.54	1,836.82	10,941.7	9,706.00	0.04	-0.04	0.090
15.00	-51.42	-7.77	0.00	-765.37	0.00	765.37	7,043.40	1,794.35	10,441.6	9,337.84	0.09	-0.06	0.089
20.00	-49.42	-7.66	0.00	-726.54	0.00	726.54	6,933.51	1,751.88	9,953.27	8,972.90	0.16	-0.08	0.088
25.00	-47.46	-7.56	0.00	-688.22	0.00	688.22	6,820.86	1,709.40	9,476.57	8,611.43	0.25	-0.10	0.087
30.00	-45.54	-7.46	0.00	-650.41	0.00	650.41	6,705.46	1,666.93	9,011.56	8,253.70	0.37	-0.12	0.086
35.00	-43.66	-7.36	0.00	-613.11	0.00	613.11	6,587.31	1,624.46	8,558.26	7,899.95	0.50	-0.14	0.084
40.00	-41.82	-7.25	0.00	-576.32	0.00	576.32	6,466.39	1,581.99	8,116.65	7,550.47	0.66	-0.16	0.083
45.00	-40.03	-7.19	0.00	-540.05	0.00	540.05	6,342.73	1,539.52	7,686.73	7,205.50	0.84	-0.18	0.081
45.67	-39.79	-7.14	0.00	-535.26	0.00	535.26	6,326.03	1,533.85	7,630.30	7,159.86	0.86	-0.18	0.081
50.00	-37.14	-7.05	0.00	-504.33	0.00	504.33	6,216.30	1,497.04	7,268.52	6,865.31	1.04	-0.20	0.079
53.00	-35.34	-6.99	0.00	-483.18	0.00	483.18	5,226.78	1,310.46	6,365.06	5,781.58	1.17	-0.22	0.090
55.00	-34.72	-6.91	0.00	-469.20	0.00	469.20	5,186.71	1,295.60	6,221.49	5,671.64	1.26	-0.23	0.089
60.00	-33.20	-6.80	0.00	-434.63	0.00	434.63	5,084.58	1,258.43	5,869.74	5,399.19	1.51	-0.25	0.087
65.00	-31.71	-6.68	0.00	-400.66	0.00	400.66	4,979.70	1,221.27	5,528.22	5,130.35	1.79	-0.28	0.084
70.00	-30.26	-6.55	0.00	-367.28	0.00	367.28	4,872.06	1,184.11	5,196.93	4,865.39	2.09	-0.30	0.082
75.00	-28.85	-6.42	0.00	-334.52	0.00	334.52	4,761.67	1,146.94	4,875.88	4,604.58	2.42	-0.32	0.079
80.00	-27.48	-6.29	0.00	-302.40	0.00	302.40	4,648.53	1,109.78	4,565.07	4,348.18	2.77	-0.35	0.075
85.00	-26.14	-6.16	0.00	-270.94	0.00	270.94	4,532.63	1,072.62	4,264.50	4,096.44	3.15	-0.37	0.072
90.00	-24.83	-6.04	0.00	-240.16	0.00	240.16	4,383.43	1,035.45	3,974.15	3,822.99	3.56	-0.40	0.069
93.17	-24.03	-5.97	0.00	-221.04	0.00	221.04	4,283.79	1,011.92	3,795.56	3,650.30	3.83	-0.41	0.066
95.00	-23.30	-5.88	0.00	-210.10	0.00	210.10	4,226.10	998.29	3,694.05	3,552.15	3.99	-0.42	0.065
98.67	-21.89	-5.80	0.00	-188.52	0.00	188.52	2,765.92	706.65	2,591.14	2,310.74	4.32	-0.44	0.090
100.00	-21.63	-5.71	0.00	-180.78	0.00	180.78	2,747.90	699.58	2,539.49	2,272.51	4.44	-0.45	0.087
105.00	-20.68	-5.59	0.00	-152.21	0.00	152.21	2,678.56	673.03	2,350.45	2,130.47	4.93	-0.48	0.079
108.00	-19.95	-5.46	0.00	-135.42	0.00	135.42	2,635.64	657.10	2,240.53	2,046.32	5.23	-0.49	0.074
110.00	-19.59	-5.36	0.00	-124.50	0.00	124.50	2,606.47	646.49	2,168.72	1,990.71	5.44	-0.50	0.070
115.00	-18.69	-5.23	0.00	-97.73	0.00	97.73	2,531.62	619.94	1,994.30	1,853.49	5.98	-0.53	0.060
118.00	-14.38	-4.39	0.00	-82.05	0.00	82.05	2,485.39	604.01	1,893.16	1,772.48	6.32	-0.54	0.052
118.58	-14.29	-4.35	0.00	-79.49	0.00	79.49	2,476.28	600.92	1,873.80	1,756.85	6.38	-0.54	0.051
120.00	-13.96	-4.28	0.00	-73.32	0.00	73.32	2,454.01	593.40	1,827.19	1,719.07	6.55	-0.55	0.048
123.17	-13.23	-4.17	0.00	-59.76	0.00	59.76	1,189.95	351.17	1,066.44	825.12	6.92	-0.56	0.084
125.00	-13.02	-4.07	0.00	-52.11	0.00	52.11	1,181.12	345.33	1,031.27	805.30	7.13	-0.57	0.076
129.00	-8.09	-2.38	0.00	-35.83	0.00	35.83	1,160.55	332.59	956.58	761.92	7.62	-0.59	0.054
130.00	-8.00	-2.32	0.00	-33.46	0.00	33.46	1,155.14	329.41	938.35	751.06	7.74	-0.59	0.052
135.00	-7.56	-2.24	0.00	-21.83	0.00	21.83	1,126.40	313.48	849.81	696.75	8.37	-0.61	0.038
140.00	-4.18	-1.29	0.00	-10.65	0.00	10.65	1,094.91	297.55	765.66	642.65	9.01	-0.62	0.020
145.00	-3.81	-1.24	0.00	-4.20	0.00	4.20	1,060.66	281.62	685.89	589.01	9.67	-0.63	0.011
145.50	0.00	-1.20	0.00	-3.58	0.00	3.58	1,057.09	280.03	678.16	583.68	9.73	-0.63	0.006

Site Number: 412252

Code: ANSI/TIA-222-H

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Site Name: Thomasson Drive, FL

Engineering Number:13331356_C3_03

12/8/2020 7:51:41 PM

Customer: T-MOBILE

Equivalent Lateral Forces Method Analysis

Spectral Response Acceleration for Short Period (S_s):	0.04
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.02
Long-Period Transition Period (T_L):	8
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}):	0.05
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.04
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):	1.71
Redundancy Factor (p):	1.00
Seismic Force Distribution Exponent (k):	1.60
Total Unfactored Dead Load:	57.68 k
Seismic Base Shear (E):	1.73 k

Load Case 1.2D + 1.0Ev + 1.0Eh**Seismic**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
39	145.25	37	108	0.001	3	45
38	142.50	377	1,076	0.015	26	455
37	137.50	426	1,149	0.016	27	515
36	132.50	441	1,122	0.015	27	534
35	129.50	90	221	0.003	5	109
34	127.00	449	1,067	0.015	25	543
33	124.08	209	479	0.007	11	253
32	121.58	725	1,606	0.022	38	877
31	119.29	330	708	0.010	17	399
30	118.29	95	202	0.003	5	115
29	116.50	524	1,083	0.015	26	634
28	112.50	894	1,747	0.024	42	1,081
27	109.00	365	678	0.009	16	441
26	106.50	555	994	0.014	24	671
25	102.50	946	1,593	0.022	38	1,144
24	99.33	257	411	0.006	10	310
23	96.83	1,415	2,175	0.030	52	1,711
22	94.08	720	1,057	0.015	25	871
21	91.58	806	1,133	0.016	27	975
20	87.50	1,302	1,701	0.023	41	1,575
19	82.50	1,338	1,591	0.022	38	1,618
18	77.50	1,374	1,478	0.020	35	1,662
17	72.50	1,410	1,362	0.019	33	1,705
16	67.50	1,446	1,246	0.017	30	1,749
15	62.50	1,482	1,129	0.016	27	1,793

Site Number: 412252

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Site Name: Thomasson Drive, FL

Engineering Number:13331356_C3_03

12/8/2020 7:51:41 PM

Customer: T-MOBILE

14	57.50	1,519	1,011	0.014	24	1,836
13	54.00	617	372	0.005	9	747
12	51.50	1,800	1,005	0.014	24	2,177
11	47.83	2,650	1,313	0.018	31	3,204
10	45.33	236	107	0.001	3	285
9	42.50	1,794	735	0.010	18	2,169
8	37.50	1,835	615	0.008	15	2,219
7	32.50	1,876	500	0.007	12	2,268
6	27.50	1,917	391	0.005	9	2,318
5	22.50	1,958	289	0.004	7	2,368
4	17.50	1,999	197	0.003	5	2,418
3	12.50	2,041	117	0.002	3	2,467
2	7.50	2,082	53	0.001	1	2,517
1	2.50	2,123	9	0.000	0	2,567
Andrew CBC819-DF	145.50	26	76	0.001	2	31
Andrew E15Z01P08	145.50	19	55	0.001	1	22
Raycap DC6-48-60-18-	145.50	64	188	0.003	4	77
Andrew E15Z01P04	145.50	165	489	0.007	12	200
Ericsson RRUS 4478 B	145.50	178	526	0.007	13	215
Raycap DC6-48-60-18-	145.50	16	47	0.001	1	19
Ericsson RRUS A2 Mod	145.50	66	195	0.003	5	80
Ericsson RRUS-11 (50	145.50	150	443	0.006	11	181
Ericsson RRUS 32 B30	145.50	180	532	0.007	13	218
Ericsson RRUS 32 B66	145.50	159	470	0.006	11	192
Ericsson RRUS 32 B2	145.50	159	470	0.006	11	192
EMS MB72RR8001VDPALQ	145.50	106	315	0.004	8	129
Andrew SBNHH-1D65B	145.50	304	899	0.012	21	368
Commscope JAHH-65B-R	145.50	190	561	0.008	13	230
Flat Platform w/ Han	145.50	2,000	5,908	0.081	141	2,418
RFS ACU-A20-N	140.00	9	25	0.000	1	11
Ericsson 800MHz SMR	140.00	30	83	0.001	2	36
Ceragon IP-20C	140.00	26	72	0.001	2	31
RFS IBC1900HG-1	140.00	66	183	0.003	4	80
Ericsson RRUS A2 Mod	140.00	64	177	0.002	4	77
Ericsson RRUS 11 (Ba	140.00	165	458	0.006	11	200
Ericsson RRUS 11 (Ba	140.00	396	1,100	0.015	26	479
RFS SC2-190BB	140.00	20	56	0.001	1	24
Ericsson AIR 6468 B4	140.00	400	1,110	0.015	26	483
RFS APXVERR18-C	140.00	150	417	0.006	10	181
Generic 72" x 12" Pa	140.00	135	375	0.005	9	163
Flat Low Profile Pla	140.00	1,500	4,165	0.057	99	1,814
Commscope ATSBT-TOP-	129.00	5	13	0.000	0	7
Raycap RxxDC-3315-PF	129.00	43	104	0.001	2	52
Ericsson RRUS 32 (50	129.00	305	742	0.010	18	369
CSS X7CAP-680	129.00	264	643	0.009	15	319
CSS X7CQAP-86-865-V	129.00	322	783	0.011	19	389
Round Platform w/ Ha	129.00	2,000	4,870	0.067	116	2,418
VZW Unused Reserve (	129.00	1,561	3,802	0.052	91	1,888
Commscope TMTAT1921B6	118.00	47	99	0.001	2	57
Commscope HELIAX Fib	118.00	20	42	0.001	1	24
Nokia AirScale Dual	118.00	251	531	0.007	13	304
Nokia ASU9338TYP01	118.00	15	31	0.000	1	18
Nokia AHFIG 70.55 lb	118.00	212	447	0.006	11	256
CellMax CMA-B/6519/E	118.00	63	133	0.002	3	76
Nokia AEHC	118.00	311	656	0.009	16	376
Commscope FFHH-65C-R	118.00	377	796	0.011	19	456
Generic Round Platfo	118.00	2,500	5,277	0.073	126	3,023
MTI Wireless Edge MT	108.00	10	19	0.000	0	12
Delta ESOM012-ECU01	108.00	165	303	0.004	7	200
		57,676	72,515	1.000	1,730	69,740

Site Number: 412252

Code: ANSI/TIA-222-H

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Site Name: Thomasson Drive, FL

Engineering Number:13331356_C3_03

12/8/2020 7:51:41 PM

Customer: T-MOBILE

Load Case 0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
39	145.25	37	108	0.001	3	33
38	142.50	377	1,076	0.015	26	335
37	137.50	426	1,149	0.016	27	379
36	132.50	441	1,122	0.015	27	393
35	129.50	90	221	0.003	5	80
34	127.00	449	1,067	0.015	25	400
33	124.08	209	479	0.007	11	186
32	121.58	725	1,606	0.022	38	646
31	119.29	330	708	0.010	17	294
30	118.29	95	202	0.003	5	85
29	116.50	524	1,083	0.015	26	467
28	112.50	894	1,747	0.024	42	796
27	109.00	365	678	0.009	16	325
26	106.50	555	994	0.014	24	495
25	102.50	946	1,593	0.022	38	843
24	99.33	257	411	0.006	10	229
23	96.83	1,415	2,175	0.030	52	1,261
22	94.08	720	1,057	0.015	25	641
21	91.58	806	1,133	0.016	27	718
20	87.50	1,302	1,701	0.023	41	1,160
19	82.50	1,338	1,591	0.022	38	1,192
18	77.50	1,374	1,478	0.020	35	1,224
17	72.50	1,410	1,362	0.019	33	1,256
16	67.50	1,446	1,246	0.017	30	1,289
15	62.50	1,482	1,129	0.016	27	1,321
14	57.50	1,519	1,011	0.014	24	1,353
13	54.00	617	372	0.005	9	550
12	51.50	1,800	1,005	0.014	24	1,604
11	47.83	2,650	1,313	0.018	31	2,360
10	45.33	236	107	0.001	3	210
9	42.50	1,794	735	0.010	18	1,598
8	37.50	1,835	615	0.008	15	1,634
7	32.50	1,876	500	0.007	12	1,671
6	27.50	1,917	391	0.005	9	1,708
5	22.50	1,958	289	0.004	7	1,744
4	17.50	1,999	197	0.003	5	1,781
3	12.50	2,041	117	0.002	3	1,818
2	7.50	2,082	53	0.001	1	1,855
1	2.50	2,123	9	0.000	0	1,891
Andrew CBC819-DF	145.50	26	76	0.001	2	23
Andrew E15Z01P08	145.50	19	55	0.001	1	16
Raycap DC6-48-60-18-	145.50	64	188	0.003	4	57
Andrew E15Z01P04	145.50	165	489	0.007	12	147
Ericsson RRUS 4478 B	145.50	178	526	0.007	13	159
Raycap DC6-48-60-18-	145.50	16	47	0.001	1	14
Ericsson RRUS A2 Mod	145.50	66	195	0.003	5	59
Ericsson RRUS-11 (50	145.50	150	443	0.006	11	134
Ericsson RRUS 32 B30	145.50	180	532	0.007	13	160
Ericsson RRUS 32 B66	145.50	159	470	0.006	11	142
Ericsson RRUS 32 B2	145.50	159	470	0.006	11	142
EMS MB72RR8001VDPALQ	145.50	106	315	0.004	8	95
Andrew SBNHH-1D65B	145.50	304	899	0.012	21	271
Commscope JAHH-65B-R	145.50	190	561	0.008	13	169
Flat Platform w/ Han	145.50	2,000	5,908	0.081	141	1,782
RFS ACU-A20-N	140.00	9	25	0.000	1	8
Ericsson 800MHz SMR	140.00	30	83	0.001	2	27
Ceragon IP-20C	140.00	26	72	0.001	2	23

Site Number: 412252

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Site Name: Thomasson Drive, FL

Engineering Number:13331356_C3_03

12/8/2020 7:51:41 PM

Customer: T-MOBILE

RFS IBC1900HG-1	140.00	66	183	0.003	4	59
Ericsson RRUS A2 Mod	140.00	64	177	0.002	4	57
Ericsson RRUS 11 (Ba	140.00	165	458	0.006	11	147
Ericsson RRUS 11 (Ba	140.00	396	1,100	0.015	26	353
RFS SC2-190BB	140.00	20	56	0.001	1	18
Ericsson AIR 6468 B4	140.00	400	1,110	0.015	26	356
RFS APXVERR18-C	140.00	150	417	0.006	10	134
Generic 72" x 12" Pa	140.00	135	375	0.005	9	120
Flat Low Profile Pla	140.00	1,500	4,165	0.057	99	1,336
Commscope ATSBT-TOP-	129.00	5	13	0.000	0	5
Raycap RxxDC-3315-PF	129.00	43	104	0.001	2	38
Ericsson RRUS 32 (50	129.00	305	742	0.010	18	272
CSS X7CAP-680	129.00	264	643	0.009	15	235
CSS X7CQAP-86-865-V	129.00	322	783	0.011	19	286
Round Platform w/ Ha	129.00	2,000	4,870	0.067	116	1,782
VZW Unused Reserve (	129.00	1,561	3,802	0.052	91	1,391
Commscope TMA1921B6	118.00	47	99	0.001	2	42
Commscope HELIAX Fib	118.00	20	42	0.001	1	18
Nokia AirScale Dual	118.00	251	531	0.007	13	224
Nokia ASU9338TYP01	118.00	15	31	0.000	1	13
Nokia AHFIG 70.55 lb	118.00	212	447	0.006	11	189
CellMax CMA-B/6519/E	118.00	63	133	0.002	3	56
Nokia AEHC	118.00	311	656	0.009	16	277
Commscope FFHH-65C-R	118.00	377	796	0.011	19	336
Generic Round Platfo	118.00	2,500	5,277	0.073	126	2,227
MTI Wireless Edge MT	108.00	10	19	0.000	0	9
Delta ESOM012-ECU01	108.00	165	303	0.004	7	147
		57,676	72,515	1.000	1,730	51,379

Site Number: 412252

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Site Name: Thomasson Drive, FL

Engineering Number:13331356_C3_03

12/8/2020 7:51:41 PM

Customer: T-MOBILE

Load Case 1.2D + 1.0Ev + 1.0Eh

Seismic

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	-67.17	-1.73	0.00	-199.10	0.00	199.10	7,356.54	1,921.76	11,977.0	10,450.8	0.00	0.00	0.028
5.00	-64.66	-1.73	0.00	-190.45	0.00	190.45	7,254.92	1,879.29	11,453.5	10,077.1	0.00	0.00	0.028
10.00	-62.19	-1.74	0.00	-181.77	0.00	181.77	7,150.54	1,836.82	10,941.7	9,706.00	0.01	-0.01	0.027
15.00	-59.77	-1.74	0.00	-173.09	0.00	173.09	7,043.40	1,794.35	10,441.6	9,337.84	0.02	-0.01	0.027
20.00	-57.40	-1.73	0.00	-164.41	0.00	164.41	6,933.51	1,751.88	9,953.27	8,972.90	0.04	-0.02	0.027
25.00	-55.08	-1.73	0.00	-155.75	0.00	155.75	6,820.86	1,709.40	9,476.57	8,611.43	0.06	-0.02	0.026
30.00	-52.82	-1.72	0.00	-147.11	0.00	147.11	6,705.46	1,666.93	9,011.56	8,253.70	0.08	-0.03	0.026
35.00	-50.60	-1.71	0.00	-138.52	0.00	138.52	6,587.31	1,624.46	8,558.26	7,899.95	0.11	-0.03	0.025
40.00	-48.43	-1.69	0.00	-129.99	0.00	129.99	6,466.39	1,581.99	8,116.65	7,550.47	0.15	-0.04	0.025
45.00	-48.14	-1.69	0.00	-121.52	0.00	121.52	6,342.73	1,539.52	7,686.73	7,205.50	0.19	-0.04	0.024
45.67	-44.94	-1.66	0.00	-120.40	0.00	120.40	6,326.03	1,533.85	7,630.30	7,159.86	0.19	-0.04	0.024
50.00	-42.76	-1.64	0.00	-113.20	0.00	113.20	6,216.30	1,497.04	7,268.52	6,865.31	0.23	-0.05	0.023
53.00	-42.01	-1.63	0.00	-108.29	0.00	108.29	5,226.78	1,310.46	6,365.06	5,781.58	0.26	-0.05	0.027
55.00	-40.18	-1.61	0.00	-105.03	0.00	105.03	5,186.71	1,295.60	6,221.49	5,671.64	0.29	-0.05	0.026
60.00	-38.39	-1.58	0.00	-97.00	0.00	97.00	5,084.58	1,258.43	5,869.74	5,399.19	0.34	-0.06	0.026
65.00	-36.64	-1.55	0.00	-89.09	0.00	89.09	4,979.70	1,221.27	5,528.22	5,130.35	0.40	-0.06	0.025
70.00	-34.93	-1.52	0.00	-81.32	0.00	81.32	4,872.06	1,184.11	5,196.93	4,865.39	0.47	-0.07	0.024
75.00	-33.27	-1.49	0.00	-73.71	0.00	73.71	4,761.67	1,146.94	4,875.88	4,604.58	0.55	-0.07	0.023
80.00	-31.65	-1.45	0.00	-66.27	0.00	66.27	4,648.53	1,109.78	4,565.07	4,348.18	0.62	-0.08	0.022
85.00	-30.08	-1.41	0.00	-59.01	0.00	59.01	4,532.63	1,072.62	4,264.50	4,096.44	0.71	-0.08	0.021
90.00	-29.10	-1.39	0.00	-51.95	0.00	51.95	4,383.43	1,035.45	3,974.15	3,822.99	0.80	-0.09	0.020
93.17	-28.23	-1.36	0.00	-47.57	0.00	47.57	4,283.79	1,011.92	3,795.56	3,650.30	0.86	-0.09	0.020
95.00	-26.52	-1.31	0.00	-45.08	0.00	45.08	4,226.10	998.29	3,694.05	3,552.15	0.90	-0.09	0.019
98.67	-26.21	-1.30	0.00	-40.29	0.00	40.29	2,765.92	706.65	2,591.14	2,310.74	0.97	-0.10	0.027
100.00	-25.07	-1.26	0.00	-38.56	0.00	38.56	2,747.90	699.58	2,539.49	2,272.51	1.00	-0.10	0.026
105.00	-24.39	-1.24	0.00	-32.26	0.00	32.26	2,678.56	673.03	2,350.45	2,130.47	1.11	-0.11	0.024
108.00	-23.74	-1.21	0.00	-28.55	0.00	28.55	2,635.64	657.10	2,240.53	2,046.32	1.17	-0.11	0.023
110.00	-22.66	-1.17	0.00	-26.13	0.00	26.13	2,606.47	646.49	2,168.72	1,990.71	1.22	-0.11	0.022
115.00	-22.03	-1.14	0.00	-20.28	0.00	20.28	2,531.62	619.94	1,994.30	1,853.49	1.34	-0.12	0.020
118.00	-17.32	-0.94	0.00	-16.84	0.00	16.84	2,485.39	604.01	1,893.16	1,772.48	1.41	-0.12	0.016
118.58	-16.92	-0.92	0.00	-16.29	0.00	16.29	2,476.28	600.92	1,873.80	1,756.85	1.43	-0.12	0.016
120.00	-16.05	-0.88	0.00	-14.99	0.00	14.99	2,454.01	593.40	1,827.19	1,719.07	1.46	-0.12	0.015
123.17	-15.79	-0.87	0.00	-12.19	0.00	12.19	1,189.95	351.17	1,066.44	825.12	1.54	-0.12	0.028
125.00	-15.25	-0.85	0.00	-10.60	0.00	10.60	1,181.12	345.33	1,031.27	805.30	1.59	-0.12	0.026
129.00	-9.70	-0.57	0.00	-7.22	0.00	7.22	1,160.55	332.59	956.58	761.92	1.70	-0.13	0.018
130.00	-9.17	-0.54	0.00	-6.65	0.00	6.65	1,155.14	329.41	938.35	751.06	1.73	-0.13	0.017
135.00	-8.65	-0.51	0.00	-3.95	0.00	3.95	1,126.40	313.48	849.81	696.75	1.86	-0.13	0.013
140.00	-4.62	-0.28	0.00	-1.40	0.00	1.40	1,094.91	297.55	765.66	642.65	2.00	-0.13	0.006
145.00	0.00	0.00	0.00	0.00	0.00	0.00	1,060.66	281.62	685.89	589.01	2.14	-0.14	0.000
145.50	0.00	0.00	0.00	0.00	0.00	0.00	1,057.09	280.03	678.16	583.68	2.16	-0.14	0.000

Site Number: 412252

Code: ANSI/TIA-222-H

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Site Name: Thomasson Drive, FL

Engineering Number:13331356_C3_03

12/8/2020 7:51:41 PM

Customer: T-MOBILE

Load Case 0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-49.49	-1.73	0.00	-197.87	0.00	197.87	7,356.54	1,921.76	11,977.0	10,450.8	0.00	0.00	0.026
5.00	-47.63	-1.73	0.00	-189.22	0.00	189.22	7,254.92	1,879.29	11,453.5	10,077.1	0.00	0.00	0.025
10.00	-45.82	-1.73	0.00	-180.55	0.00	180.55	7,150.54	1,836.82	10,941.7	9,706.00	0.01	-0.01	0.025
15.00	-44.03	-1.73	0.00	-171.89	0.00	171.89	7,043.40	1,794.35	10,441.6	9,337.84	0.02	-0.01	0.025
20.00	-42.29	-1.73	0.00	-163.23	0.00	163.23	6,933.51	1,751.88	9,953.27	8,972.90	0.04	-0.02	0.024
25.00	-40.58	-1.72	0.00	-154.59	0.00	154.59	6,820.86	1,709.40	9,476.57	8,611.43	0.06	-0.02	0.024
30.00	-38.91	-1.71	0.00	-145.98	0.00	145.98	6,705.46	1,666.93	9,011.56	8,253.70	0.08	-0.03	0.023
35.00	-37.28	-1.70	0.00	-137.43	0.00	137.43	6,587.31	1,624.46	8,558.26	7,899.95	0.11	-0.03	0.023
40.00	-35.68	-1.68	0.00	-128.93	0.00	128.93	6,466.39	1,581.99	8,116.65	7,550.47	0.15	-0.04	0.023
45.00	-35.47	-1.68	0.00	-120.51	0.00	120.51	6,342.73	1,539.52	7,686.73	7,205.50	0.19	-0.04	0.022
45.67	-33.11	-1.65	0.00	-119.39	0.00	119.39	6,326.03	1,533.85	7,630.30	7,159.86	0.19	-0.04	0.022
50.00	-31.50	-1.63	0.00	-112.24	0.00	112.24	6,216.30	1,497.04	7,268.52	6,865.31	0.23	-0.05	0.021
53.00	-30.95	-1.62	0.00	-107.36	0.00	107.36	5,226.78	1,310.46	6,365.06	5,781.58	0.26	-0.05	0.024
55.00	-29.60	-1.60	0.00	-104.12	0.00	104.12	5,186.71	1,295.60	6,221.49	5,671.64	0.28	-0.05	0.024
60.00	-28.28	-1.57	0.00	-96.13	0.00	96.13	5,084.58	1,258.43	5,869.74	5,399.19	0.34	-0.06	0.023
65.00	-26.99	-1.54	0.00	-88.28	0.00	88.28	4,979.70	1,221.27	5,528.22	5,130.35	0.40	-0.06	0.023
70.00	-25.73	-1.51	0.00	-80.57	0.00	80.57	4,872.06	1,184.11	5,196.93	4,865.39	0.47	-0.07	0.022
75.00	-24.51	-1.48	0.00	-73.01	0.00	73.01	4,761.67	1,146.94	4,875.88	4,604.58	0.54	-0.07	0.021
80.00	-23.32	-1.44	0.00	-65.63	0.00	65.63	4,648.53	1,109.78	4,565.07	4,348.18	0.62	-0.08	0.020
85.00	-22.16	-1.40	0.00	-58.43	0.00	58.43	4,532.63	1,072.62	4,264.50	4,096.44	0.70	-0.08	0.019
90.00	-21.44	-1.37	0.00	-51.44	0.00	51.44	4,383.43	1,035.45	3,974.15	3,822.99	0.79	-0.09	0.018
93.17	-20.80	-1.35	0.00	-47.09	0.00	47.09	4,283.79	1,011.92	3,795.56	3,650.30	0.85	-0.09	0.018
95.00	-19.54	-1.29	0.00	-44.62	0.00	44.62	4,226.10	998.29	3,694.05	3,552.15	0.89	-0.09	0.017
98.67	-19.31	-1.29	0.00	-39.87	0.00	39.87	2,765.92	706.65	2,591.14	2,310.74	0.96	-0.10	0.024
100.00	-18.47	-1.25	0.00	-38.16	0.00	38.16	2,747.90	699.58	2,539.49	2,272.51	0.99	-0.10	0.024
105.00	-17.97	-1.22	0.00	-31.92	0.00	31.92	2,678.56	673.03	2,350.45	2,130.47	1.10	-0.10	0.022
108.00	-17.49	-1.20	0.00	-28.25	0.00	28.25	2,635.64	657.10	2,240.53	2,046.32	1.16	-0.11	0.020
110.00	-16.69	-1.16	0.00	-25.85	0.00	25.85	2,606.47	646.49	2,168.72	1,990.71	1.21	-0.11	0.019
115.00	-16.23	-1.13	0.00	-20.06	0.00	20.06	2,531.62	619.94	1,994.30	1,853.49	1.33	-0.12	0.017
118.00	-12.76	-0.93	0.00	-16.66	0.00	16.66	2,485.39	604.01	1,893.16	1,772.48	1.40	-0.12	0.015
118.58	-12.47	-0.91	0.00	-16.12	0.00	16.12	2,476.28	600.92	1,873.80	1,756.85	1.42	-0.12	0.014
120.00	-11.82	-0.87	0.00	-14.83	0.00	14.83	2,454.01	593.40	1,827.19	1,719.07	1.45	-0.12	0.013
123.17	-11.63	-0.86	0.00	-12.06	0.00	12.06	1,189.95	351.17	1,066.44	825.12	1.53	-0.12	0.024
125.00	-11.23	-0.84	0.00	-10.48	0.00	10.48	1,181.12	345.33	1,031.27	805.30	1.58	-0.12	0.023
129.00	-7.15	-0.56	0.00	-7.14	0.00	7.14	1,160.55	332.59	956.58	761.92	1.68	-0.13	0.016
130.00	-6.75	-0.53	0.00	-6.58	0.00	6.58	1,155.14	329.41	938.35	751.06	1.71	-0.13	0.015
135.00	-6.37	-0.51	0.00	-3.91	0.00	3.91	1,126.40	313.48	849.81	696.75	1.85	-0.13	0.011
140.00	-3.40	-0.28	0.00	-1.38	0.00	1.38	1,094.91	297.55	765.66	642.65	1.99	-0.13	0.005
145.00	0.00	0.00	0.00	0.00	0.00	0.00	1,060.66	281.62	685.89	589.01	2.13	-0.13	0.000
145.50	0.00	0.00	0.00	0.00	0.00	0.00	1,057.09	280.03	678.16	583.68	2.14	-0.13	0.000

Site Number: 412252

Code: ANSI/TIA-222-H

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Site Name: Thomasson Drive, FL

Engineering Number:13331356_C3_03

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Customer: T-MOBILE

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 + 1.0W	69.21	0.00	69.11	0.00	0.00	7595.63	0.00	0.74
0.9D + 1.0W	69.19	0.00	51.81	0.00	0.00	7548.73	0.00	0.73
1.2D + 1.0Di + 1.0Wi	0.00	0.00	66.59	0.00	0.00	0.00	123.17	0.01
1.2D + 1.0Ev + 1.0Eh	1.73	0.00	67.17	0.00	0.00	199.10	0.00	0.03
0.9D - 1.0Ev + 1.0Eh	1.73	0.00	49.49	0.00	0.00	197.87	0.00	0.03
1.0D + 1.0W	8.09	0.00	57.67	0.00	0.00	885.05	0.00	0.09

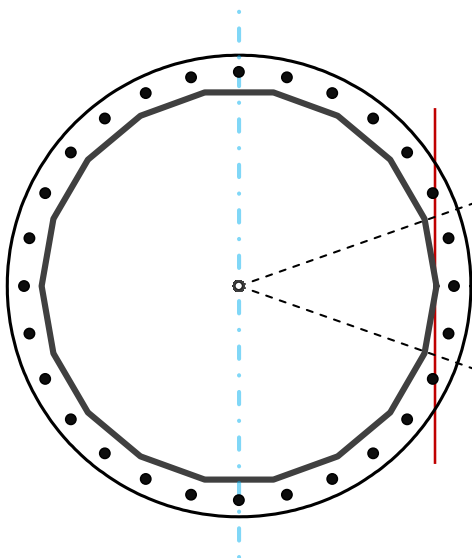
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	18	-
Diameter	69.5	in
Thickness	1/2	in
Orientation Offset		°

Base Reactions		
Moment, Mu	7,595.6	k-ft
Axial, Pu	69.1	k
Shear, Vu	69.2	k
Neutral Axis	270	°

Report Capacities		
Component	Capacity	Result
Base Plate	24%	Pass
Anchor Rods	73%	Pass
Dwyidag	-	-

Base Plate		
Shape	Round	-
Diameter, ϕ	83	in
Thickness	3 1/4	in
Grade	A572-60	
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Clip	N/A	in
Orientation Offset	0	°
Anchor Rod Detail	d	$\eta=0.5$
Clear Distance	3	in
Applied Moment, Mu	982.0	k
Bending Stress, ϕMn	4171.2	k



Original Anchor Rods		
Arrangement	Radial	-
Quantity	28	-
Diameter, ϕ	2 1/4	in
Bolt Circle	77	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	8.6	in
Orientation Offset		°
Applied Force, Pu	176.9	k
Anchor Rods, ϕPn	243.6	k

Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	69.2	7595.6	1.00
Anchor Rod Forces	69.2	7595.6	1.00
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	0.0	0.00
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in ²	in ²	in ⁴	#	in ⁴
Pole	107.8355	5.9909	0.5010		64184.63
Bolt	3.9761	3.2477	0.8393	4.5	63324.60
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	0.0000	0.0000	0.0000		0.00
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate		
Shape	Round	-
Diameter, D	83	in
Thickness, t	3.25	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Base Plate Chord	45.373	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

Anchor Rods		
Anchor Rod Quantity, N	28	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	77	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	176.9	k
Applied Shear, Vu	0.9	k
Compressive Capacity, ϕP_n	243.6	k
Tensile Capacity, ϕR_n	0.726	OK
Interaction Capacity	0.733	OK

External Base Plate		
Chord Length AA	38.375	in
Additional AA	6.000	in
Section Modulus, Z	117.177	in ³
Applied Moment, Mu	982.0	k-ft
Bending Capacity, ϕM_n	6327.5	k-ft
Capacity, Mu/ ϕM_n	0.155	OK
Chord Length AB	36.358	in
Additional AB	6.000	in
Section Modulus, Z	111.851	in ³
Applied Moment, Mu	701.7	k-ft
Bending Capacity, ϕM_n	6040.0	k-ft
Capacity, Mu/ ϕM_n	0.116	OK
Bend Line Length	29.253	in
Additional Bend Line	0.000	in
Section Modulus, Z	77.245	in ³
Applied Moment, Mu	982.0	k-ft
Bending Capacity, ϕM_n	4171.2	k-ft
Capacity, Mu/ ϕM_n	0.235	OK

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, ϕM_n	0.0	k-ft
Capacity, Mu/ ϕM_n		