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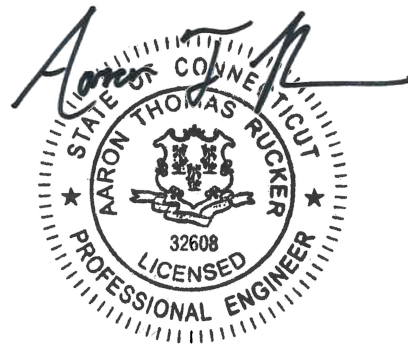
**TOWER
ENGINEERING
PROFESSIONALS**

Structural Analysis Report

Structure : 150 ft Monopole
ATC Site Name : Branford CT 6, CT
ATC Asset Number : 302484
Engineering Number : 13701211_C3_03
Proposed Carrier : DISH WIRELESS L.L.C.
Carrier Site Name : BOHVN00142A
Carrier Site Number : BOHVN00142A
Site Location : 405 Brushy Plain Rd
Branford, CT 06405-2308
41.316800,-72.819700
County : New Haven
Date : August 3, 2021
Max Usage : 97%
Result : Pass

Prepared By:
Andy Schaffner
TEP

Reviewed By:



08/04/2021

COA: PEC.0001553



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Introduction

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

Supporting Documents

Tower Drawings	PJF Job # 29297-629, dated October 2, 1997 SpectraSite Drawing #CT-0020/15, dated December 13, 2000
Foundation Drawing	Mapped by ATC Tower ID #302484, dated February 13, 2009
Geotechnical Report	Clarence Welti Geotechnical Engineering ID #CT-0020, dated October 8, 1996
Modifications	SpectraSite Drawing CT-0020 M1, dated March 26, 2004 ATC Job # 26487334, dated September 15, 2006 ATC Job # 53055832, dated June 2, 2013

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:	117.94 mph (3-Second Gust)**
Basic Wind Speed w/ Ice:	48.73 mph (3-Second Gust) w/ 0.85" radial ice concurrent**
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Spectral Response:	$S_s = 0.20, S_1 = 0.05$
Site Class:	D - Stiff Soil

**Wind load and Ice thickness have been reduced by applicable existing structure load modification factors in accordance with TIA-222-H, Annex S.

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	Equipment	Mount Type	Lines	Carrier
160.0	1	11' Dipole		(3) 7/8" Coax (1) 1 5/8" Coax	OTHER
159.0	1	4' Omni			
153.0	6	Powerwave Allgon LGP21401	Platform with Handrails	(2) 0.39" (10mm) Fiber Trunk (4) 0.78" (19.7mm) 8 AWG 6 (6) 1 5/8" Coax (3) 3" conduit (1) 3/8" (0.38"-9.5mm) RET Control Cable	AT&T MOBILITY
	1	Raycap DC6-48-60-18-8F ("Squid")			
	3	Ericsson RRUS 8843 B2, B66A			
	3	Kathrein Scala 782-10250			
	6	Powerwave Allgon 7020.00 Dual Band RET			
	3	Ericsson RRUS 4449 B5, B12			
	1	Raycap DC6-48-60-18-8C			
	3	Ericsson RRUS 32 B30 (53 lbs)			
	1	Raycap DC6-48-60-18-8C-EV			
	3	Powerwave Allgon 7770.00			
	3	CCI HPA65R-BU6A			
	3	Commscope SBNHH-1D65B			
3	Kathrein Scala 80010965				
150.0	1	GPS	Flush	(1) 1/2" Coax	VERIZON WIRELESS
140.0	3	Ericsson AIR 21, 1.3 M, B2A B4P	PerfectVision PV-RP14M-9-96 Platform with Handrails	(1) 1 1/4" (1.25"-31.8mm) Fiber (3) 1 5/8" (1.63"-41.3mm) Fiber (6) 1 5/8" Coax	T-MOBILE
	3	Ericsson Radio 4449 B12,B71			
	3	Ericsson KRY 112 144/1			
	3	Ericsson AIR 21, 1.3M, B4A B2P			
	3	RFS APXVAARR24_43-U-NA20			
132.0	1	12" x 12" Junction Box	Side Arm	(4) 1/2" Coax (2) 2" conduit (6) 5/16" (0.31"-7.9mm) Coax	CLEARWIRE CORPORATION
130.0	2	DragonWave Horizon Compact			
	1	DragonWave A-ANT-23G-1-C			
	3	NextNet BTS-2500			
	3	Argus LLPX310R			
	1	DragonWave A-ANT-18G-2.5-C			
122.0	1	SWR FMEC/1	Flush	(3) 1/2" Coax	ALMA RADIO INC.
113.0	3	Commscope CBC78-DS-43	T-Arm	(6) 1 1/4" Coax (2) 1 5/8" Hybriflex	VERIZON WIRELESS
	3	Samsung Outdoor CBRS 20W RRH –Clip-on Antenna			
	3	Samsung RT4401-48A			
	3	Samsung B2/B66A RRH-BR049			
	3	Samsung B5/B13 RRH-BR04C			
	4	RFS APL868013-12T0			
	2	RFS APL866513-12T0-00			
	3	Samsung MT6407-77A			
	2	RFS DB-T1-6Z-8AB-0Z			
	6	Commscope JAHH-65B-R3B			
70.0	1	4' Std. Dish	Flush	(1) 0.28" (7mm) RG-6	OTHER

Equipment to be Removed

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
No loading was considered as removed as part of this analysis.					



Proposed Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
103.0	1	Commscope RDIDC-9181-PF-48	Platform with Handrails	(1) 1.60" (40.6mm) Hybrid	DISH WIRELESS L.L.C.
	3	Fujitsu TA08025-B604			
	3	Fujitsu TA08025-B605			
	3	JMA Wireless MX08FRO665-21			

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

Install proposed lines inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	84%	Pass
Shaft	94%	Pass
Base Plate	56%	Pass
Reinforcement	97%	Pass
Flange	22%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	3,127.7	55%
Shear (Kips)	29.3	7%

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

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
130.0	DragonWave A-ANT-23G-1-C	CLEARWIRE CORPORATION	1.722	1.649
	DragonWave A-ANT-18G-2.5-C			
103.0	Commscope RDIDC-9181-PF-48	DISH WIRELESS L.L.C.	1.068	1.231
	Fujitsu TA08025-B604			
	Fujitsu TA08025-B605			
70.0	JMA Wireless MX08FRO665-21	OTHER	0.473	0.810

*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 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

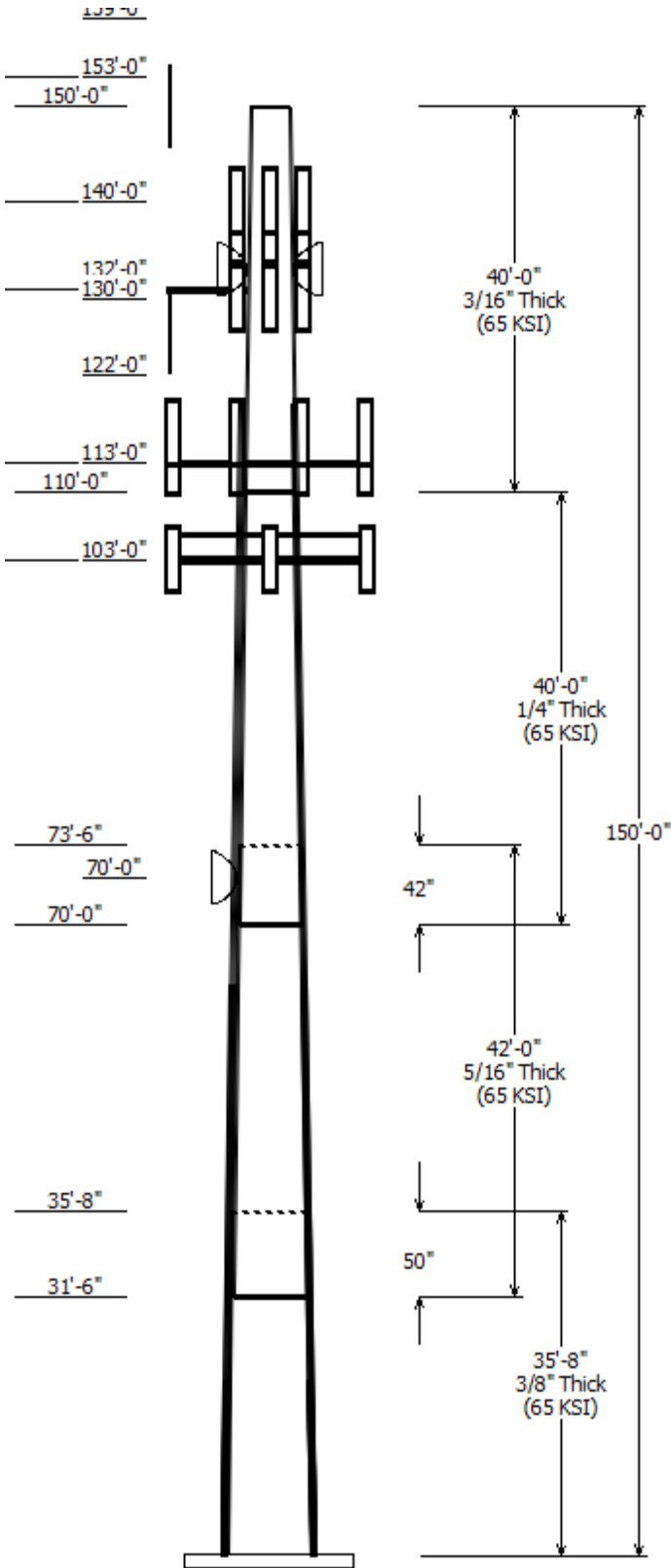
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

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	
Client : DISH WIRELESS L.L.C.	
Pole : 302484	Code: ANSI/TIA-222-H
Location : Branford CT 6, CT	
Description : 150 ft. ITT Meyer - Model Vented 1025/41	Risk Category: #1
Shape : 12 Sides	Exposure : B
Height : 150.00 (ft)	Topo Method : Method 1
Base Elev (ft): 0.00	Topographic Category : 1
Taper: 0.15670@in/ft)	

Sections Properties							
Shaft Section	Length (ft)	Diameter (in)		Thick (in)	Joint Type	Overlap Length (in)	Steel Grade
		Across Flats Top	Across Flats Bottom				
1	35.667	31.79	37.38	0.375		0.000	12 Sides 65
2	42.000	26.48	33.07	0.313	Slip Joint	50.000	12 Sides 65
3	40.000	21.26	27.53	0.250	Slip Joint	42.000	12 Sides 65
4	40.000	15.00	21.26	0.188	Butt Joint	0.000	12 Sides 65

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
160.000	160.000	1	Generic 11' Dipole
159.000	159.000	1	Generic 4' Omni
153.000	153.000	1	Generic Round Platform with
153.000	153.000	3	Kathrein Scala 80010965
153.000	153.000	3	Commscope SBNHH-1D65B
153.000	153.000	3	CCI HPA65R-BU6A
153.000	151.000	3	Powerwave Allgon 7770.00
153.000	153.000	1	Raycap DC6-48-60-18-8C-EV
153.000	153.000	3	Ericsson RRUS 32 B30 (53 lbs)
153.000	153.000	1	Raycap DC6-48-60-18-8C
153.000	153.000	3	Ericsson RRUS 4449 B5, B12
153.000	153.000	3	Ericsson RRUS 8843 B2, B66A
153.000	151.000	1	Raycap DC6-48-60-18-8F
153.000	151.000	6	Powerwave Allgon LGP21401
153.000	153.000	3	Kathrein Scala 782-10250
153.000	151.000	6	Powerwave Allgon 7020.00
150.000	150.000	1	Generic GPS
140.000	140.000	1	PerfectVision PV-RP14M-9-96
140.000	140.000	3	RFS APXVAARR24_43-U-NA20
140.000	136.000	3	Ericsson AIR 21, 1.3M, B4A B2P
140.000	136.000	3	Ericsson AIR 21, 1.3 M, B2A B4
140.000	140.000	3	Ericsson Radio 4449 B12,B71
140.000	136.000	3	Ericsson KRY 112 144/1
132.000	132.000	1	Generic 12" x 12" Junction Box
131.000	131.000	1	Side Arms
130.000	132.000	1	DragonWave A-ANT-18G-2.5-C
130.000	130.000	3	Argus LLPX310R
130.000	130.000	3	NextNet BTS-2500
130.000	132.000	1	DragonWave A-ANT-23G-1-C
130.000	132.000	2	DragonWave Horizon Compact
122.000	123.000	1	SWR FMEC/1
113.000	113.000	3	Round T-Arm
113.000	115.000	6	Commscope JAHH-65B-R3B
113.000	115.000	2	RFS DB-T1-6Z-8AB-0Z
113.000	113.000	3	Samsung MT6407-77A
113.000	115.000	2	RFS APL866513-12T0-00
113.000	115.000	4	RFS APL868013-12T0
113.000	113.000	3	Samsung B5/B13 RRH-BR04C
113.000	113.000	3	Samsung B2/B66A RRH-BR049
113.000	113.000	3	Samsung RT4401-48A
113.000	113.000	3	Samsung Outdoor CBRS 20W
113.000	113.000	3	Commscope CBC78-DS-43
103.000	103.000	3	JMA Wireless MX08FRO665-21
103.000	103.000	3	Fujitsu TA08025-B605

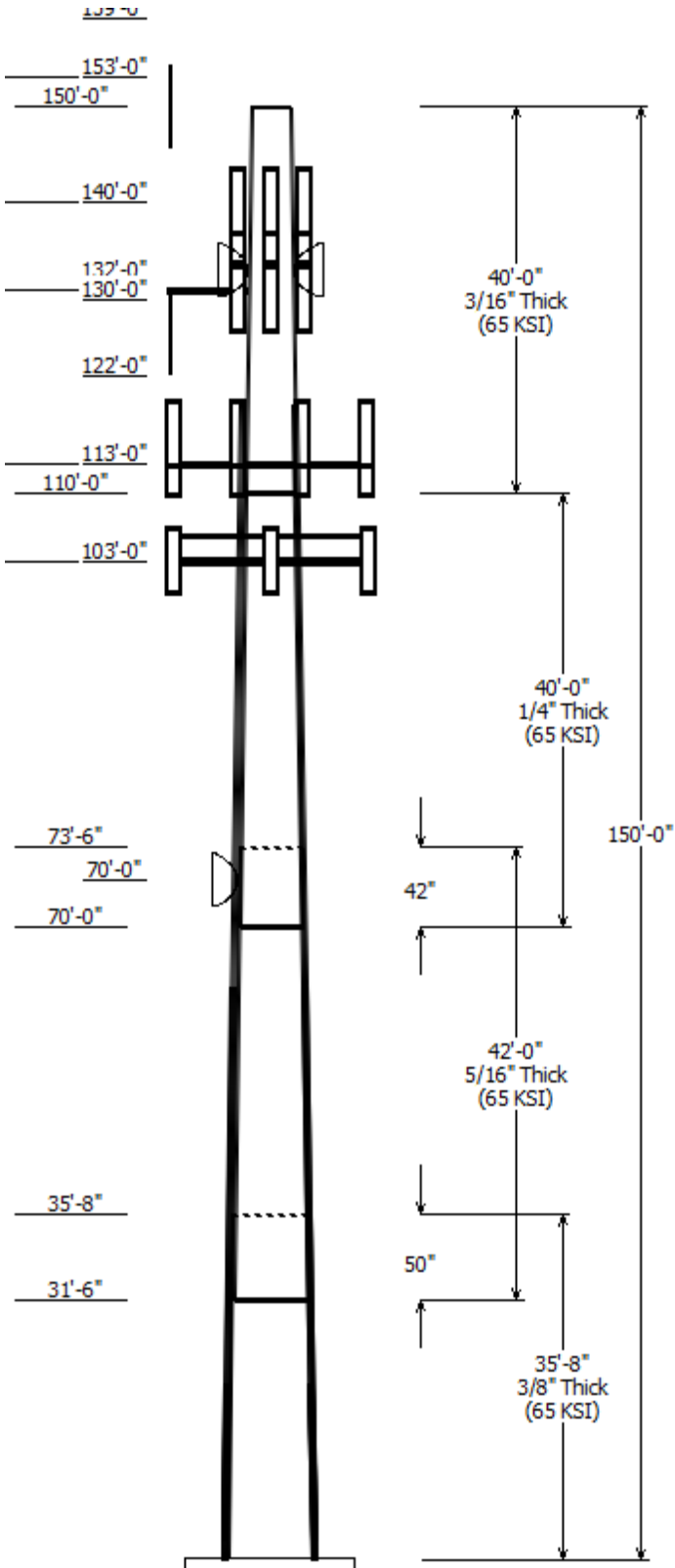
103.000	103.000	3	Fujitsu TA08025-B604
103.000	103.000	1	Commscope RDIDC-9181-PF-48
103.000	103.000	1	Generic Flat Platform with Han
70.000	70.000	1	Generic 4' Std. Dish

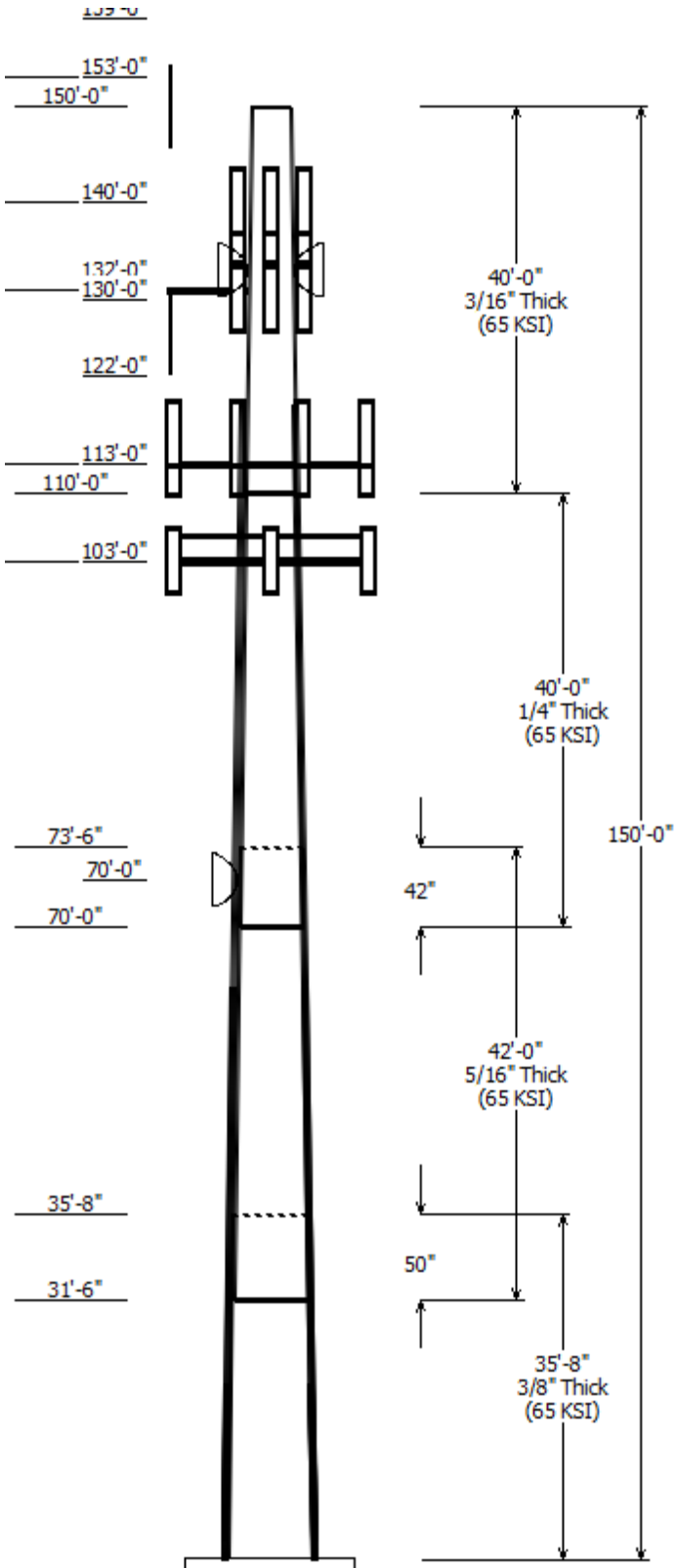
Linear Appurtenance

Elev (ft)		Description	Exposed To Wind
From	To		
128.0	143.0	#18 w/ Angle	Yes
128.0	143.0	#18 w/ Angle	Yes
128.0	143.0	#18 w/ Angle	Yes
115.5	133.0	#18 w/ Angle	Yes
115.5	133.0	#18 w/ Angle	Yes
115.5	133.0	#18 w/ Angle	Yes
0.000	140.0	1 1/4" (1.25"-	No
0.000	140.0	1 5/8" (1.63"-	No
0.000	140.0	1 5/8" Coax	Yes
0.000	150.0	1/2" Coax	No
0.000	153.0	0.39" (10mm)	No
0.000	153.0	0.78" (19.7mm) 8	No
0.000	153.0	1 5/8" Coax	No
0.000	153.0	3" conduit	No
0.000	153.0	3/8" (0.38"-	No
0.000	159.0	1 5/8" Coax	No
0.000	160.0	7/8" Coax	No
0.000	20.000	1" Thick Flat Plate	Yes
0.000	20.000	1" Thick Flat Plate	Yes
0.000	20.000	1" Thick Flat Plate	Yes
0.000	20.000	1" Thick Flat Plate	Yes
0.000	65.500	#18 w/ Angle	Yes
0.000	65.500	#18 w/ Angle	Yes
0.000	65.500	#18 w/ Angle	Yes
0.000	65.500	#18 w/ Angle	Yes
0.000	70.000	0.28" (7mm) RG-6	No
0.000	103.0	1.60" (40.6mm)	No
0.000	113.0	1 1/4" Coax	No
0.000	113.0	1 5/8" Hybriflex	No
0.000	122.0	1/2" Coax	No
0.000	123.2	#18 w/ W Bracket	Yes
0.000	123.2	#18 w/ W Bracket	Yes
0.000	123.2	#18 w/ W Bracket	Yes
0.000	123.2	#18 w/ W Bracket	Yes
0.000	123.2	W5 Brackets for	Yes
0.000	123.2	W5 Brackets for	Yes
0.000	123.2	W5 Brackets for	Yes
0.000	123.2	W5 Brackets for	Yes
0.000	130.0	1/2" Coax	Yes
0.000	130.0	5/16" (0.31"-	Yes
0.000	132.0	1/2" Coax	Yes
0.000	132.0	2" conduit	Yes

Load Cases

1.2D + 1.0W	118 mph with No Ice
0.9D + 1.0W	118 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	49 mph with 0.85 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

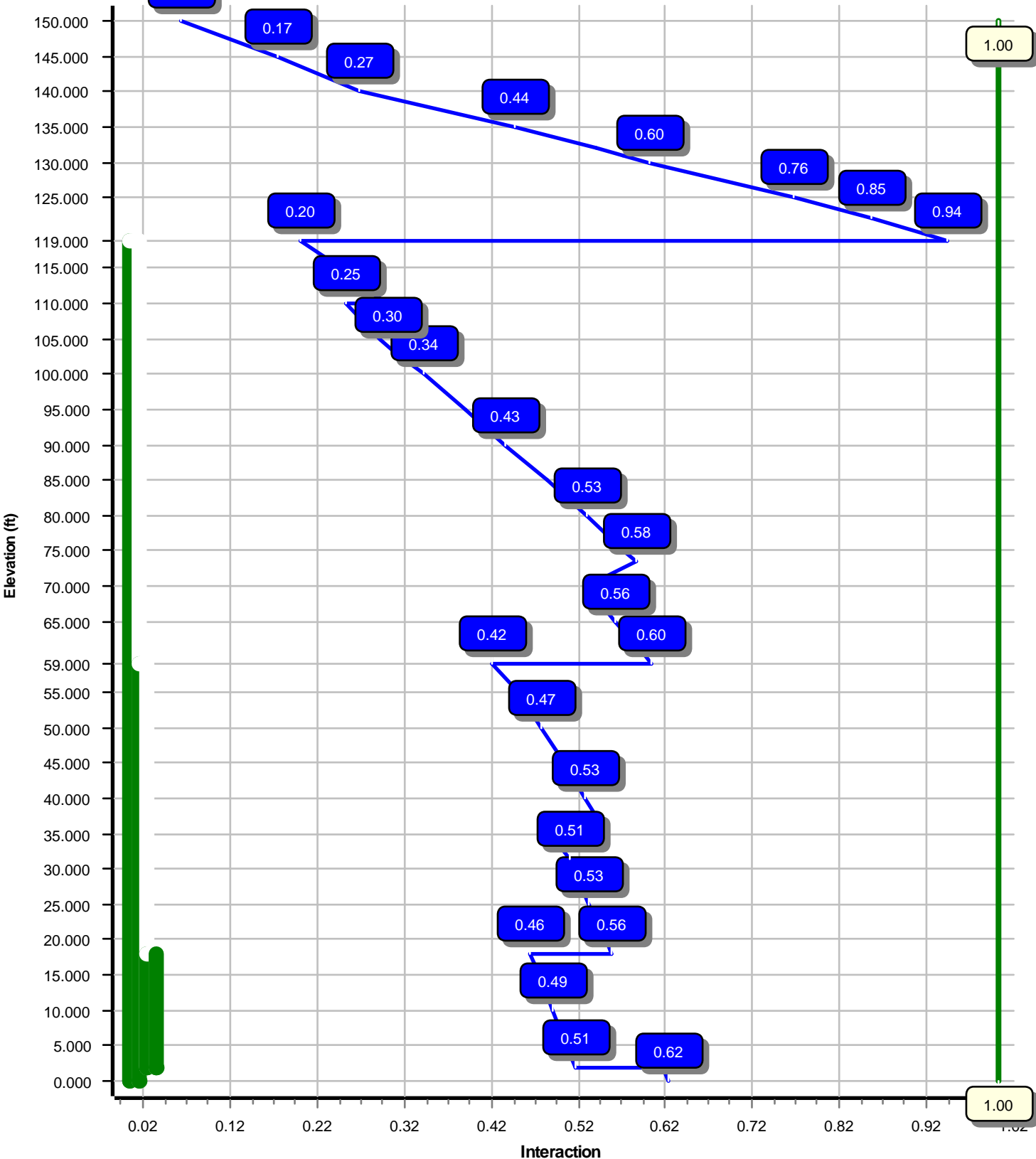




Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.0W	3127.68	29.34	62.09
0.9D + 1.0W	3065.47	29.33	46.56
1.2D + 1.0Di + 1.0Wi	772.51	6.82	79.79
1.2D + 1.0Ev + 1.0Eh	200.71	1.56	63.46
0.9D - 1.0Ev + 1.0Eh	195.52	1.55	43.72
1.0D + 1.0W	718.58	6.81	51.76

Dish Deflections			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	70.00	5.676	0.810
1.0D + 1.0W	130.00	20.659	1.649
1.0D + 1.0W	130.00	20.659	1.649

Load Case : 1.2D + 1.0W
Max Ratio 94.04% at 119.0 ft



Site Number: 302484

Code: ANSI/TIA-222-H

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

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Customer: DISH WIRELESS L.L.C.

Analysis Parameters

Location :	New Haven County, CT	Height (ft) :	150
Code :	ANSI/TIA-222-H	Base Diameter (in) :	37.38
Shape :	12 Sides	Top Diameter (in) :	15.00
Pole Type :	Taper	Taper (in/ft) :	0.157
Pole Manufacturer :	ITT Meyer	Rotation (deg) :	0.00
Kd (non-service) :	0.95	Ke :	0.99

Ice & Wind Parameters

Exposure Category:	B	Design Wind Speed Without Ice:	118 mph
Risk Category:	II	Design Wind Speed With Ice:	49 mph
Topographic Factor Procedure:	Method 1	Operational Wind Speed:	60 mph
Topographic Category:	1	Design Ice Thickness:	0.85 in
Crest Height:	0 ft	HMSL:	240.00 ft

Seismic Parameters

Analysis Method:	Equivalent Lateral Force Method		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	3.06		
T _L (sec):	6	p:	1
S _s :	0.203	S ₁ :	0.054
F _a :	1.600	F _v :	2.400
S _{ds} :	0.217	S _{d1} :	0.086
		C _s :	0.030
		C _s Max:	0.030
		C _s Min:	0.030

Load Cases

1.2D + 1.0W	118 mph with No Ice
0.9D + 1.0W	118 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	49 mph with 0.85 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: 302484

Code: ANSI/TIA-222-H

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

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Customer: DISH WIRELESS L.L.C.

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)
1-12	35.667	0.3750	65		0.00	5,014	37.38	0.00	44.68	7810.1	24.03	99.68	31.79	35.67	37.93	4778.9	20.04	84.78	0.156700
2-12	42.000	0.3130	65	Slip	50.00	4,244	33.07	31.50	33.01	4521.6	25.63	105.65	26.48	73.50	26.38	2307.1	20.00	84.63	0.156700
3-12	40.000	0.2500	65	Slip	42.00	2,646	27.53	70.00	21.97	2087.6	26.83	110.15	21.26	110.00	16.92	954.2	20.12	85.08	0.156700
4-12	40.000	0.1880	65	Butt	0.00	1,479	21.26	110.00	12.76	723.9	27.63	113.13	15.00	150.00	8.97	251.1	18.70	79.79	0.156700
Shaft Weight						13,383													

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
160.00	Generic 11' Dipole	1	0.75	0.000	40.00	3.580	1.00	110.33	8.410	1.00
159.00	Generic 4' Omni	1	0.75	0.000	10.00	1.000	1.00	27.69	1.489	1.00
153.00	Powerwave Allgon 7020.00 Dual	6	0.75	-2.000	2.20	0.339	0.50	7.99	0.571	0.50
153.00	Kathrein Scala 782-10250	3	0.75	0.000	6.40	0.449	0.50	13.63	0.727	0.50
153.00	Powerwave Allgon LGP21401	6	0.75	-2.000	14.10	1.104	0.50	28.24	1.509	0.50
153.00	Raycap DC6-48-60-18-8F	1	0.75	-2.000	31.80	1.470	0.50	66.78	1.866	0.50
153.00	Ericsson RRUS 8843 B2, B66A	3	0.75	0.000	72.00	1.639	0.50	106.75	2.118	0.50
153.00	Ericsson RRUS 4449 B5, B12	3	0.75	0.000	71.00	1.969	0.50	107.54	2.498	0.50
153.00	Raycap DC6-48-60-18-8C	1	0.75	0.000	16.00	2.030	0.50	49.00	2.461	0.50
153.00	Ericsson RRUS 32 B30 (53 lbs)	3	0.75	0.000	53.00	2.743	0.50	94.69	3.406	0.50
153.00	Raycap DC6-48-60-18-8C-EV	1	0.75	0.000	16.00	4.788	0.50	89.20	5.622	0.50
153.00	Powerwave Allgon 7770.00	3	0.75	-2.000	35.00	5.508	0.65	104.05	6.086	0.65
153.00	CCI HPA65R-BU6A	3	0.75	0.000	41.90	7.864	0.70	141.25	9.429	0.70
153.00	Commscope SBNHH-1D65B	3	0.75	0.000	50.70	8.173	0.69	150.19	9.777	0.69
153.00	Kathrein Scala 80010965	3	0.75	0.000	97.60	13.814	0.62	248.73	15.543	0.62
153.00	Generic Round Platform with	1	1.00	0.000	2,500.00	27.200	1.00	3,418.18	41.057	1.00
150.00	Generic GPS	1	1.00	0.000	10.00	0.900	1.00	26.59	1.263	1.00
140.00	Ericsson KRY 112 144/1	3	0.75	-4.000	11.00	0.351	0.50	17.06	0.579	0.50
140.00	Ericsson Radio 4449 B12,B71	3	0.75	0.000	74.00	1.639	0.50	105.52	2.114	0.50
140.00	Ericsson AIR 21, 1.3 M, B2A B4P	3	0.75	-4.000	83.00	6.049	0.71	165.15	7.266	0.71
140.00	Ericsson AIR 21, 1.3M, B4A B2P	3	0.75	-4.000	81.50	6.092	0.70	163.35	7.310	0.70
140.00	RFS APXVAARR24_43-U-NA20	3	0.75	0.000	127.90	20.243	0.63	348.89	22.331	0.63
140.00	PerfectVision PV-RP14M-9-96	1	1.00	0.000	2,972.00	36.600	1.00	4,137.48	50.953	1.00
132.00	Generic 12" x 12" Junction Box	1	0.80	0.000	10.00	1.200	1.00	33.34	1.607	1.00
131.00	Side Arms	1	1.00	0.000	560.00	8.500	1.00	822.15	12.479	1.00
130.00	DragonWave Horizon Compact	2	0.80	2.000	10.60	0.721	0.50	23.16	1.039	0.50
130.00	DragonWave A-ANT-23G-1-C	1	1.00	2.000	15.00	1.610	1.00	34.74	2.033	1.00
130.00	NextNet BTS-2500	3	0.80	0.000	35.00	1.817	0.50	60.91	2.329	0.50
130.00	Argus LLPX310R	3	0.80	0.000	28.60	4.292	0.63	78.95	5.216	0.63
130.00	DragonWave A-ANT-18G-2.5-C	1	1.00	2.000	47.60	8.430	1.00	143.84	9.381	1.00
122.00	SWR FMEC/1	1	1.00	1.000	15.00	2.500	1.00	60.51	4.707	1.00
113.00	Commscope CBC78-DS-43	3	0.80	0.000	6.00	0.368	0.50	12.22	0.597	0.50
113.00	Samsung Outdoor CBR5 20W	3	0.80	0.000	4.40	0.892	0.50	14.32	1.244	0.50
113.00	Samsung RT4401-48A	3	0.80	0.000	18.60	0.996	0.50	33.49	1.373	0.50
113.00	Samsung B2/B66A RRH-BR049	3	0.80	0.000	84.40	1.875	0.50	119.57	2.373	0.50
113.00	Samsung B5/B13 RRH-BR04C	3	0.80	0.000	70.30	1.875	0.50	101.83	2.373	0.50
113.00	RFS APL868013-12T0	4	0.80	2.000	6.30	3.615	0.50	54.87	4.645	0.50
113.00	RFS APL866513-12T0-00	2	0.80	2.000	15.70	4.050	0.82	75.77	5.075	0.82
113.00	Samsung MT6407-77A	3	0.80	0.000	81.60	4.709	0.61	137.79	5.546	0.61
113.00	RFS DB-T1-6Z-8AB-OZ	2	0.80	2.000	44.00	4.800	0.50	113.38	5.583	0.50
113.00	Commscope JAHH-65B-R3B	6	0.80	2.000	60.60	9.113	0.69	172.12	10.642	0.69
113.00	Round T-Arm	3	0.75	0.000	250.00	9.700	0.67	365.21	14.245	0.67
103.00	Commscope RDIDC-9181-PF-48	1	0.75	0.000	21.90	1.867	0.50	52.98	2.359	0.50
103.00	Fujitsu TA08025-B604	3	0.75	0.000	63.90	1.962	0.50	95.75	2.464	0.50
103.00	Fujitsu TA08025-B605	3	0.75	0.000	75.00	1.962	0.50	109.21	2.464	0.50
103.00	JMA Wireless MX08FRO665-21	3	0.75	0.000	64.50	12.489	0.64	204.86	14.024	0.64
103.00	Generic Flat Platform with	1	1.00	0.000	2,500.00	42.400	1.00	3,470.10	53.852	1.00

Site Number: 302484

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

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Customer: DISH WIRELESS L.L.C.

70.00	Generic 4' Std. Dish	1	1.00	0.000	188.00	20.910	1.00	299.58	22.521	1.00
Totals	Num Loadings:48	119			14,342.40			24,039.36		

Linear Appurtenance Properties Load Case Azimuth (deg) : 0

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Max Coax / Flat	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	160.00	3	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	N	OTHER
0.00	159.00	1	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	N	OTHER
0.00	153.00	2	0.39" (10mm) Fiber	0.39	0.06	N	0	0.00	0.00	0	N	AT&T MOBILITY
0.00	153.00	4	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0.00	0.00	0	N	AT&T MOBILITY
0.00	153.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	N	AT&T MOBILITY
0.00	153.00	3	3" conduit	3.50	7.58	N	0	0.00	0.00	0	N	AT&T MOBILITY
0.00	153.00	1	3/8" (0.38"- 9.5mm)	0.38	0.23	N	0	0.00	0.00	0	N	AT&T MOBILITY
0.00	150.00	1	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	N	VERIZON WIRELESS
128.00	143.00	1	#18 w/ Angle Bracket	4.55	7.88	N	1	0.00	0.00	0	Y	
128.00	143.00	1	#18 w/ Angle Bracket	4.55	7.88	N	1	0.00	0.00	120	Y	
128.00	143.00	1	#18 w/ Angle Bracket	4.55	7.88	N	1	0.00	0.00	240	Y	
0.00	140.00	1	1 1/4" (1.25"- 31.8mm)	1.25	1.05	N	0	0.00	0.00	0	N	T-MOBILE
0.00	140.00	3	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0.00	0.00	0	N	T-MOBILE
0.00	140.00	6	1 5/8" Coax	1.98	0.82	N	6	0.00	0.00	90	Y	T-MOBILE
115.50	133.00	1	#18 w/ Angle Bracket	4.55	7.88	N	1	0.00	0.00	90	Y	
115.50	133.00	1	#18 w/ Angle Bracket	4.55	7.88	N	1	0.00	0.00	335	Y	
115.50	133.00	1	#18 w/ Angle Bracket	4.55	7.88	N	1	0.00	0.00	210	Y	
0.00	132.00	2	1/2" Coax	0.63	0.15	N	2	0.00	0.00	200	Y	CLEARWIRE
0.00	132.00	2	2" conduit	2.38	3.65	N	2	0.00	0.00	190	Y	CLEARWIRE
0.00	130.00	2	1/2" Coax	0.63	0.15	N	2	0.00	0.00	200	Y	CLEARWIRE
0.00	130.00	6	5/16" (0.31"-7.9mm)	0.31	0.05	N	6	0.00	0.00	205	Y	CLEARWIRE
0.00	123.20	1	#18 w/ W Bracket	2.25	0.00	N	1	0.00	0.00	45	Y	
0.00	123.20	1	#18 w/ W Bracket	2.25	0.00	N	1	0.00	0.00	135	Y	
0.00	123.20	1	#18 w/ W Bracket	2.25	0.00	N	1	0.00	0.00	225	Y	
0.00	123.20	1	#18 w/ W Bracket	2.25	0.00	N	1	0.00	0.00	315	Y	
0.00	123.20	1	W5 Brackets for #18	1.55	5.70	Y	1	0.00	0.00	315	Y	
0.00	123.20	1	W5 Brackets for #18	1.55	5.70	Y	1	0.00	0.00	135	Y	
0.00	123.20	1	W5 Brackets for #18	1.55	5.70	Y	1	0.00	0.00	225	Y	
0.00	123.20	1	W5 Brackets for #18	1.55	5.70	Y	1	0.00	0.00	45	Y	
0.00	122.00	3	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	N	ALMA RADIO INC.
0.00	113.00	6	1 1/4" Coax	1.55	0.63	N	0	0.00	0.00	0	N	VERIZON WIRELESS
0.00	113.00	2	1 5/8" Hybriflex	1.98	1.30	N	0	0.00	0.00	0	N	VERIZON WIRELESS
0.00	103.00	1	1.60" (40.6mm) Hybrid	1.60	2.34	N	0	0.00	0.00	0	N	DISH WIRELESS
0.00	70.00	1	0.28" (7mm) RG-6	0.28	0.03	N	0	0.00	0.00	0	N	OTHER
0.00	65.50	1	#18 w/ Angle Brackets	3.75	4.68	N	1	0.00	0.00	270	Y	
0.00	65.50	1	#18 w/ Angle Brackets	3.75	4.68	N	1	0.00	0.00	0	Y	
0.00	65.50	1	#18 w/ Angle Brackets	3.75	4.68	N	1	0.00	0.00	180	Y	
0.00	65.50	1	#18 w/ Angle Brackets	3.75	4.68	N	1	0.00	0.00	90	Y	
0.00	20.00	1	1" Thick Flat Plate	1.00	0.00	Y	1	0.00	0.00	15	Y	
0.00	20.00	1	1" Thick Flat Plate	1.00	0.00	Y	1	0.00	0.00	285	Y	
0.00	20.00	1	1" Thick Flat Plate	1.00	0.00	Y	1	0.00	0.00	195	Y	

Site Number: 302484

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

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Customer: DISH WIRELESS L.L.C.

0.00 20.00 1 1" Thick Flat Plate 1.00 0.00 Y 1 0.00 0.00 105 0.00 Y

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	— Intermediate Connections —			Connectors	Continuation?
						Description	Spacing (in)	Len (in)		
0.00	119.0	4	SOL #18 All Thread	75	5.15	6" T Bracket	30.0	3.50	5/8" A36 U-Bolt	No
0.00	59.00	4	SOL #18 All Thread	75	2.22	6" Angle Bracket	30.0	3.50	5/8" A36 U-Bolt	No
2.00	18.00	2	PL PL 4" x 1"	50	0.00	5/8" Hollo Bolt	12.0	3.00	5/8" Hollo Bolt	No
2.00	18.00	2	PL PL 5" x 1"	50	0.00	5/8" Hollo Bolt	12.0	3.00	5/8" Hollo Bolt	No

Site Number: 302484

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

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Customer: DISH WIRELESS L.L.C.

Segment Properties (Max Len : 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in ³)	Z (in ³)	Weight (lb)	Additional Reinforcing		
												Area (in ²)	Ix (in ⁴)	Weight (lb)
0.00		0.3750	37.380	44.684	7,810.1	24.03	99.68	78.5	403.6	0.0	0.0	32.00	9,070	0.0
2.00	Reinf Bottom Reinf	0.3750	37.067	44.305	7,613.3	23.81	98.84	78.8	396.8	0.0	302.8	32.00	8,950	217.6
5.00		0.3750	36.597	43.737	7,324.4	23.47	97.59	79.1	386.6	0.0	449.4	50.00	11,96	510.1
10.00		0.3750	35.813	42.791	6,859.3	22.91	95.50	79.7	370.0	0.0	736.1	50.00	11,54	850.2
15.00		0.3750	35.030	41.845	6,414.3	22.35	93.41	80.3	353.7	0.0	720.0	50.00	11,12	850.2
18.00	Reinf. Top Reinf.	0.3750	34.559	41.278	6,156.8	22.01	92.16	80.7	344.2	0.0	424.3	50.00	10,87	510.1
20.00		0.3750	34.246	40.899	5,989.0	21.79	91.32	80.9	337.8	0.0	279.6	32.00	7,900	217.6
25.00		0.3750	33.463	39.953	5,583.0	21.23	89.23	81.6	322.3	0.0	687.8	32.00	7,620	544.0
30.00		0.3750	32.679	39.007	5,195.7	20.67	87.14	81.9	307.1	0.0	671.7	32.00	7,345	544.0
31.50	Bot - Section 2	0.3750	32.444	38.723	5,083.1	20.50	86.52	81.9	302.7	0.0	198.4	32.00	7,263	163.2
35.00		0.3750	31.896	38.061	4,826.7	20.11	85.05	81.9	292.3	0.0	847.1	32.00	7,290	380.8
35.67	Top - Section 1	0.3130	32.417	32.356	4,256.6	25.07	103.57	77.4	253.7	0.0	159.7	32.00	7,254	72.5
40.00		0.3130	31.738	31.672	3,992.2	24.49	101.40	78.0	243.0	0.0	472.1	32.00	7,022	471.5
45.00		0.3130	30.954	30.882	3,701.0	23.82	98.90	78.7	231.0	0.0	532.1	32.00	6,758	544.0
50.00		0.3130	30.171	30.093	3,424.3	23.15	96.39	79.5	219.3	0.0	518.7	32.00	6,499	544.0
55.00		0.3130	29.387	29.303	3,161.7	22.48	93.89	80.2	207.8	0.0	505.3	32.00	6,246	544.0
59.00	Reinf. Top	0.3130	28.761	28.671	2,961.6	21.94	91.89	80.8	198.9	0.0	394.5	32.00	6,261	489.6
60.00		0.3130	28.604	28.513	2,912.9	21.81	91.39	80.9	196.7	0.0	97.3	16.00	3,423	54.4
65.00		0.3130	27.820	27.724	2,677.6	21.14	88.88	81.7	185.9	0.0	478.4	16.00	3,295	272.0
70.00	Bot - Section 3	0.3130	27.037	26.934	2,455.2	20.47	86.38	81.9	175.4	0.0	465.0	16.00	3,169	272.0
73.50	Top - Section 2	0.2500	26.989	21.525	1,964.2	26.25	107.95	76.1	140.6	0.0	576.5	16.00	3,161	190.4
75.00		0.2500	26.753	21.335	1,912.9	25.99	107.01	76.4	138.1	0.0	109.4	16.00	3,124	81.6
80.00		0.2500	25.970	20.705	1,748.2	25.16	103.88	77.3	130.0	0.0	357.6	16.00	3,001	272.0
85.00		0.2500	25.186	20.074	1,593.3	24.32	100.75	78.2	122.2	0.0	346.9	16.00	2,881	272.0
90.00		0.2500	24.403	19.443	1,447.8	23.48	97.61	79.1	114.6	0.0	336.2	16.00	2,763	272.0
95.00		0.2500	23.619	18.812	1,311.4	22.64	94.48	80.0	107.3	0.0	325.4	16.00	2,648	272.0
100.0		0.2500	22.836	18.182	1,183.9	21.80	91.34	80.9	100.2	0.0	314.7	16.00	2,536	272.0
103.0		0.2500	22.366	17.803	1,111.5	21.29	89.46	81.5	96.0	0.0	183.7	16.00	2,469	163.2
105.0		0.2500	22.052	17.551	1,064.9	20.96	88.21	81.9	93.3	0.0	120.3	16.00	2,425	108.8
110.0	Top - Section 3	0.2500	21.269	16.920	954.2	20.12	85.08	81.9	86.7	0.0	293.2	16.00	2,318	272.0
110.0	Bot - Section 4	0.1880	21.269	12.762	723.9	27.63	113.13	74.6	65.8	0.0		16.00	2,318	
113.0		0.1880	20.799	12.477	676.5	26.96	110.63	75.3	62.8	0.0	128.8	16.00	2,254	163.2
115.0		0.1880	20.486	12.287	646.1	26.52	108.97	75.8	60.9	0.0	84.3	16.00	2,212	108.8
119.0	Reinf. Top	0.1880	19.859	11.908	588.1	25.62	105.63	76.8	57.2	0.0	164.7	16.00	2,318	272.0
120.0		0.1880	19.702	11.813	574.2	25.40	104.80	77.0	56.3	0.0	40.4			
122.0		0.1880	19.389	11.623	546.9	24.95	103.13	77.5	54.5	0.0	79.7			
125.0		0.1880	18.919	11.339	507.7	24.28	100.63	78.2	51.8	0.0	117.2			
130.0		0.1880	18.135	10.864	446.7	23.17	96.46	79.4	47.6	0.0	188.9			
131.0		0.1880	17.978	10.770	435.1	22.94	95.63	79.7	46.7	0.0	36.8			
132.0		0.1880	17.822	10.675	423.7	22.72	94.80	79.9	45.9	0.0	36.5			
135.0		0.1880	17.352	10.390	390.7	22.05	92.30	80.7	43.5	0.0	107.5			
140.0		0.1880	16.568	9.916	339.6	20.93	88.13	81.9	39.6	0.0	172.7			
145.0		0.1880	15.785	9.441	293.1	19.82	83.96	81.9	35.9	0.0	164.7			
150.0		0.1880	15.001	8.967	251.1	18.70	79.79	81.9	32.3	0.0	156.6			
											13,383.0			
												10,771.		

Site Number: 302484

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

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Customer: DISH WIRELESS L.L.C.

Load Case: 1.2D + 1.0W	118 mph with No Ice	26 Iterations
Gust Response Factor :1.10		
Dead Load Factor :1.20		
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		127.8	0.0					0.0	0.0	127.8	0.0	0.0	0.0
2.00	Reinf Bottom	318.3	363.4					0.0	506.0	318.3	869.4	0.0	0.0
5.00		505.1	539.3					0.0	979.5	505.1	1,518.8	0.0	0.0
10.00		551.3	883.3					99.2	1,632.6	650.5	2,515.9	0.0	0.0
15.00		376.2	864.0					98.3	1,632.6	474.5	2,496.6	0.0	0.0
18.00	Reinf. Top Reinf.	231.5	509.1					58.5	979.5	290.0	1,488.7	0.0	0.0
20.00		318.2	335.6					38.8	506.0	357.0	841.6	0.0	0.0
25.00		447.3	825.4					96.8	1,265.1	544.1	2,090.5	0.0	0.0
30.00		286.8	806.1					96.8	1,265.1	383.6	2,071.2	0.0	0.0
31.50	Bot - Section 2	223.9	238.0					29.3	379.5	253.2	617.6	0.0	0.0
35.00		188.5	1,016.6					69.9	885.6	258.3	1,902.1	0.0	0.0
35.67	Top - Section 1	229.0	191.7					13.5	168.7	242.6	360.3	0.0	0.0
40.00		430.3	566.5					89.7	1,096.4	520.0	1,662.9	0.0	0.0
45.00		464.7	638.6					107.1	1,265.1	571.8	1,903.7	0.0	0.0
50.00		466.8	622.5					110.5	1,265.1	577.3	1,887.6	0.0	0.0
55.00		420.6	606.3					113.7	1,265.1	534.3	1,871.4	0.0	0.0
59.00	Reinf. Top	233.5	473.5					93.1	1,077.4	326.7	1,550.8	0.0	0.0
60.00		279.4	116.8					23.6	187.7	303.0	304.5	0.0	0.0
65.00		464.0	574.1					119.5	938.7	583.5	1,512.8	0.0	0.0
70.00	Bot - Section 3	360.9	558.0					122.2	837.6	483.1	1,395.6	0.0	0.0
73.50	Top - Section 2	184.9	691.8					8.7	578.3	193.6	1,270.1	0.0	0.0
75.00		238.4	131.3					3.8	247.9	242.1	379.1	0.0	0.0
80.00		363.9	429.2					12.7	826.2	376.6	1,255.4	0.0	0.0
85.00		359.1	416.3					12.9	826.2	372.0	1,242.5	0.0	0.0
90.00		353.7	403.4					13.2	826.2	366.8	1,229.6	0.0	0.0
95.00		347.6	390.5					13.4	826.2	361.0	1,216.7	0.0	0.0
100.00		274.0	377.6					13.6	826.2	287.5	1,203.8	0.0	0.0
103.00	Appurtenance(s)	168.8	220.4	2,407.9	0.0	0.0	3,758.5	8.2	495.7	2,584.9	4,474.6	0.0	0.0
105.00		232.3	144.4					5.5	324.9	237.8	469.2	0.0	0.0
110.00	Top - Section 3	262.7	351.9					14.0	812.2	276.7	1,164.1	0.0	0.0
113.00	Appurtenance(s)	162.5	154.6	2,796.1	0.0	3,423.5	2,464.9	8.5	487.3	2,967.0	3,106.8	0.0	0.0
115.00		272.0	101.1					5.7	309.6	277.7	410.7	0.0	0.0
119.00	Reinf. Top	258.1	197.6					64.4	783.7	322.5	981.3	0.0	0.0
120.00		152.3	48.4					16.2	117.9	168.5	166.3	0.0	0.0
122.00	Appurtenance(s)	251.0	95.7	96.7	0.0	96.7	18.0	32.4	235.7	380.1	349.4	0.0	0.0
125.00		337.1	140.6					48.9	302.7	385.9	443.4	0.0	0.0
130.00	Appurtenance(s)	224.1	226.7	759.6	0.0	837.9	329.5	131.2	506.6	1,115.0	1,062.7	0.0	0.0
131.00	Appurtenance(s)	73.3	44.2	334.7	0.0	0.0	672.0	26.5	117.6	434.5	833.8	0.0	0.0
132.00	Appurtenance(s)	144.6	43.8	37.9	0.0	0.0	12.0	26.5	117.6	209.1	173.4	0.0	0.0
135.00		283.4	129.0					80.1	268.7	363.5	397.8	0.0	0.0
140.00	Appurtenance(s)	344.1	207.3	3,476.6	0.0	-3,128.8	4,925.0	110.0	400.6	3,930.7	5,532.9	0.0	0.0
145.00		297.3	197.6					105.5	279.1	402.9	476.7	0.0	0.0
150.00	Appurtenance(s)	128.5	187.9	36.8	0.0	0.0	12.0	0.0	194.0	165.3	393.9	0.0	0.0
Totals:										24,726.6	57,095.9	0.00	0.00

Site Number: 302484

Code: ANSI/TIA-222-H

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

8/3/2021 4:57:52 PM

Customer: DISH WIRELESS L.L.C.

Load Case: 1.2D + 1.0W

118 mph with No Ice

26 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	-62.09	-29.34	0.00	-3,127.68	0.00	3,127.68	3,157.17	784.20	2,737.77	2,376.61	0.00	0.00	0.622
2.00	-61.15	-29.16	0.00	-3,069.00	0.00	3,069.00	3,140.17	777.55	2,691.61	2,343.59	0.02	-0.10	0.615
5.00	-59.54	-28.84	0.00	-2,981.52	0.00	2,981.52	3,114.35	767.59	2,623.11	2,294.24	0.14	-0.26	0.504
10.00	-56.92	-28.39	0.00	-2,837.31	0.00	2,837.31	3,070.50	750.99	2,510.89	2,212.51	0.53	-0.47	0.488
15.00	-54.35	-28.05	0.00	-2,695.36	0.00	2,695.36	3,025.61	734.39	2,401.13	2,131.46	1.14	-0.69	0.472
18.00	-52.81	-27.84	0.00	-2,611.20	0.00	2,611.20	2,998.18	724.42	2,336.45	2,083.18	1.62	-0.82	0.463
18.00	-52.81	-27.84	0.00	-2,611.20	0.00	2,611.20	2,998.18	724.42	2,336.45	2,083.18	1.62	-0.82	0.556
20.00	-51.89	-27.63	0.00	-2,555.52	0.00	2,555.52	2,979.68	717.78	2,293.82	2,051.14	1.98	-0.90	0.548
25.00	-49.69	-27.27	0.00	-2,417.38	0.00	2,417.38	2,932.71	701.18	2,188.97	1,971.59	3.06	-1.16	0.529
30.00	-47.55	-26.97	0.00	-2,281.05	0.00	2,281.05	2,875.21	684.57	2,086.57	1,886.65	4.41	-1.41	0.512
31.50	-46.88	-26.81	0.00	-2,240.59	0.00	2,240.59	2,854.29	679.59	2,056.33	1,859.14	4.87	-1.49	0.507
35.00	-44.94	-26.58	0.00	-2,146.77	0.00	2,146.77	2,805.48	667.97	1,986.62	1,795.73	6.03	-1.67	0.486
35.67	-44.53	-26.42	0.00	-2,129.05	0.00	2,129.05	2,253.08	567.85	1,719.88	1,471.98	6.26	-1.70	0.547
40.00	-42.78	-26.02	0.00	-2,014.55	0.00	2,014.55	2,223.50	555.84	1,647.92	1,421.63	7.90	-1.91	0.525
45.00	-40.79	-25.56	0.00	-1,884.43	0.00	1,884.43	2,188.39	541.99	1,566.79	1,363.95	10.04	-2.16	0.500
50.00	-38.82	-25.08	0.00	-1,756.62	0.00	1,756.62	2,152.25	528.13	1,487.72	1,306.78	12.44	-2.41	0.475
55.00	-36.88	-24.60	0.00	-1,631.23	0.00	1,631.23	2,115.06	514.27	1,410.69	1,250.16	15.10	-2.65	0.449
59.00	-35.29	-24.27	0.00	-1,532.83	0.00	1,532.83	2,084.57	503.18	1,350.55	1,205.28	17.40	-2.85	0.419
59.00	-35.29	-24.27	0.00	-1,532.83	0.00	1,532.83	2,084.57	503.18	1,350.55	1,205.28	17.40	-2.85	0.601
60.00	-34.93	-24.07	0.00	-1,508.56	0.00	1,508.56	2,076.84	500.41	1,335.71	1,194.13	18.00	-2.89	0.594
65.00	-33.32	-23.59	0.00	-1,388.21	0.00	1,388.21	2,037.58	486.55	1,262.78	1,138.75	21.21	-3.22	0.559
70.00	-31.66	-22.48	0.00	-1,270.25	0.00	1,270.25	1,985.31	472.69	1,191.90	1,077.58	24.75	-3.53	0.527
73.50	-30.35	-22.28	0.00	-1,191.59	0.00	1,191.59	1,474.00	377.76	952.88	802.36	27.42	-3.75	0.584
75.00	-29.91	-22.12	0.00	-1,158.17	0.00	1,158.17	1,466.32	374.43	936.20	791.10	28.61	-3.84	0.571
80.00	-28.56	-21.81	0.00	-1,047.55	0.00	1,047.55	1,440.03	363.37	881.69	753.74	32.80	-4.15	0.526
85.00	-27.25	-21.49	0.00	-938.50	0.00	938.50	1,412.71	352.30	828.81	716.70	37.31	-4.45	0.481
90.00	-25.95	-21.14	0.00	-831.07	0.00	831.07	1,384.35	341.23	777.56	680.02	42.12	-4.73	0.434
95.00	-24.68	-20.79	0.00	-725.35	0.00	725.35	1,354.95	330.16	727.95	643.77	47.22	-5.00	0.387
100.00	-23.44	-20.47	0.00	-621.40	0.00	621.40	1,324.51	319.09	679.97	607.99	52.58	-5.24	0.339
103.00	-19.19	-17.52	0.00	-559.98	0.00	559.98	1,305.75	312.45	651.97	586.76	55.91	-5.37	0.307
105.00	-18.70	-17.29	0.00	-524.93	0.00	524.93	1,293.03	308.02	633.63	572.72	58.18	-5.46	0.290
110.00	-17.52	-16.95	0.00	-438.50	0.00	438.50	1,247.19	296.95	588.93	532.34	64.00	-5.66	0.251
110.00	-17.52	-16.95	0.00	-438.50	0.00	438.50	856.53	223.97	445.40	367.75	64.00	-5.66	0.299
113.00	-14.70	-13.71	0.00	-384.24	0.00	384.24	845.63	218.97	425.76	354.91	67.58	-5.76	0.261
115.00	-14.30	-13.42	0.00	-356.82	0.00	356.82	838.16	215.64	412.92	346.37	70.01	-5.84	0.244
119.00	-13.34	-13.01	0.00	-303.16	0.00	303.16	822.72	208.98	387.82	329.40	74.95	-5.97	0.197
119.00	-13.34	-13.01	0.00	-303.16	0.00	303.16	822.72	208.98	387.82	329.40	74.95	-5.97	0.940
120.00	-13.16	-12.86	0.00	-290.15	0.00	290.15	818.76	207.32	381.66	325.17	76.20	-6.00	0.912
122.00	-12.78	-12.52	0.00	-264.33	0.00	264.33	810.71	203.99	369.51	316.76	78.77	-6.27	0.854
125.00	-12.28	-12.19	0.00	-226.77	0.00	226.77	798.31	198.99	351.64	304.20	82.82	-6.65	0.765
130.00	-11.30	-11.02	0.00	-164.98	0.00	164.98	776.83	190.67	322.85	283.51	90.08	-7.20	0.600
131.00	-10.51	-10.50	0.00	-153.97	0.00	153.97	772.41	189.01	317.24	279.41	91.60	-7.31	0.568
132.00	-10.33	-10.30	0.00	-143.47	0.00	143.47	767.94	187.34	311.67	275.32	93.14	-7.40	0.538

Site Number: 302484

Code: ANSI/TIA-222-H

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

8/3/2021 4:57:53 PM

Customer: DISH WIRELESS L.L.C.

Load Case: 1.2D + 1.0W

118 mph with No Ice

26 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.20

Wind Load Factor :1.00

135.00	-9.93	-9.94	0.00	-112.57	0.00	112.57	754.30	182.35	295.28	263.15	97.86	-7.66	0.444
140.00	-4.96	-5.31	0.00	-62.86	0.00	62.86	730.89	174.02	268.95	243.21	106.04	-7.98	0.266
145.00	-4.54	-4.86	0.00	-36.29	0.00	36.29	695.93	165.70	243.85	220.38	114.49	-8.19	0.172
150.00	0.00	-4.16	0.00	-11.98	0.00	11.98	660.97	157.37	219.97	198.67	123.11	-8.31	0.061

Site Number: 302484

Code: ANSI/TIA-222-H

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

8/3/2021 4:57:53 PM

Customer: DISH WIRELESS L.L.C.

Load Case: 0.9D + 1.0W	118 mph with No Ice (Reduced DL)	26 Iterations
Gust Response Factor :1.10		
Dead Load Factor :0.90		
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		127.8	0.0					0.0	0.0	127.8	0.0	0.0	0.0
2.00	Reinf Bottom	318.3	272.5					0.0	379.5	318.3	652.1	0.0	0.0
5.00		505.1	404.4					0.0	734.6	505.1	1,139.1	0.0	0.0
10.00		551.3	662.5					99.2	1,224.4	650.5	1,886.9	0.0	0.0
15.00		376.2	648.0					98.3	1,224.4	474.5	1,872.4	0.0	0.0
18.00	Reinf. Top Reinf.	231.5	381.8					58.5	734.6	290.0	1,116.5	0.0	0.0
20.00		318.2	251.7					38.8	379.5	357.0	631.2	0.0	0.0
25.00		447.3	619.0					96.8	948.8	544.1	1,567.9	0.0	0.0
30.00		286.8	604.5					96.8	948.8	383.6	1,553.4	0.0	0.0
31.50	Bot - Section 2	223.9	178.5					29.3	284.6	253.2	463.2	0.0	0.0
35.00		188.5	762.4					69.9	664.2	258.3	1,426.6	0.0	0.0
35.67	Top - Section 1	229.0	143.7					13.5	126.5	242.6	270.3	0.0	0.0
40.00		430.3	424.9					89.7	822.3	520.0	1,247.2	0.0	0.0
45.00		464.7	478.9					107.1	948.8	571.8	1,427.8	0.0	0.0
50.00		466.8	466.8					110.5	948.8	577.3	1,415.7	0.0	0.0
55.00		420.6	454.7					113.7	948.8	534.3	1,403.6	0.0	0.0
59.00	Reinf. Top	233.5	355.1					93.1	808.0	326.7	1,163.1	0.0	0.0
60.00		279.4	87.6					23.6	140.8	303.0	228.4	0.0	0.0
65.00		464.0	430.6					119.5	704.0	583.5	1,134.6	0.0	0.0
70.00	Bot - Section 3	360.9	418.5					122.2	628.2	483.1	1,046.7	0.0	0.0
73.50	Top - Section 2	184.9	518.8					8.7	433.8	193.6	952.6	0.0	0.0
75.00		238.4	98.4					3.8	185.9	242.1	284.3	0.0	0.0
80.00		363.9	321.9					12.7	619.6	376.6	941.5	0.0	0.0
85.00		359.1	312.2					12.9	619.6	372.0	931.9	0.0	0.0
90.00		353.7	302.6					13.2	619.6	366.8	922.2	0.0	0.0
95.00		347.6	292.9					13.4	619.6	361.0	912.5	0.0	0.0
100.00		274.0	283.2					13.6	619.6	287.5	902.9	0.0	0.0
103.00	Appurtenance(s)	168.8	165.3	2,407.9	0.0	0.0	2,818.9	8.2	371.8	2,584.9	3,356.0	0.0	0.0
105.00		232.3	108.3					5.5	243.6	237.8	351.9	0.0	0.0
110.00	Top - Section 3	262.7	263.9					14.0	609.1	276.7	873.0	0.0	0.0
113.00	Appurtenance(s)	162.5	115.9	2,796.1	0.0	3,423.5	1,848.7	8.5	365.5	2,967.0	2,330.1	0.0	0.0
115.00		272.0	75.8					5.7	232.2	277.7	308.0	0.0	0.0
119.00	Reinf. Top	258.1	148.2					64.4	587.8	322.5	735.9	0.0	0.0
120.00		152.3	36.3					16.2	88.4	168.5	124.7	0.0	0.0
122.00	Appurtenance(s)	251.0	71.8	96.7	0.0	96.7	13.5	32.4	176.8	380.1	262.1	0.0	0.0
125.00		337.1	105.5					48.9	227.0	385.9	332.5	0.0	0.0
130.00	Appurtenance(s)	224.1	170.0	759.6	0.0	837.9	247.1	131.2	379.9	1,115.0	797.0	0.0	0.0
131.00	Appurtenance(s)	73.3	33.1	334.7	0.0	0.0	504.0	26.5	88.2	434.5	625.3	0.0	0.0
132.00	Appurtenance(s)	144.6	32.8	37.9	0.0	0.0	9.0	26.5	88.2	209.1	130.0	0.0	0.0
135.00		283.4	96.8					80.1	201.6	363.5	298.3	0.0	0.0
140.00	Appurtenance(s)	344.1	155.5	3,476.6	0.0	-3,128.8	3,693.8	110.0	300.5	3,930.7	4,149.7	0.0	0.0
145.00		297.3	148.2					105.5	209.3	402.9	357.5	0.0	0.0
150.00	Appurtenance(s)	128.5	140.9	36.8	0.0	0.0	9.0	0.0	145.5	165.3	295.4	0.0	0.0
Totals:										24,726.6	42,821.9	0.00	0.00

Site Number: 302484

Code: ANSI/TIA-222-H

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

8/3/2021 4:58:06 PM

Customer: DISH WIRELESS L.L.C.

Load Case: 0.9D + 1.0W

118 mph with No Ice (Reduced DL)

26 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	-46.56	-29.33	0.00	-3,065.47	0.00	3,065.47	3,157.17	784.20	2,737.77	2,376.61	0.00	0.00	0.607
2.00	-45.84	-29.11	0.00	-3,006.82	0.00	3,006.82	3,140.17	777.55	2,691.61	2,343.59	0.02	-0.10	0.600
5.00	-44.61	-28.74	0.00	-2,919.50	0.00	2,919.50	3,114.35	767.59	2,623.11	2,294.24	0.14	-0.26	0.491
10.00	-42.63	-28.24	0.00	-2,775.79	0.00	2,775.79	3,070.50	750.99	2,510.89	2,212.51	0.52	-0.47	0.476
15.00	-40.68	-27.86	0.00	-2,634.62	0.00	2,634.62	3,025.61	734.39	2,401.13	2,131.46	1.12	-0.67	0.460
18.00	-39.52	-27.63	0.00	-2,551.04	0.00	2,551.04	2,998.18	724.42	2,336.45	2,083.18	1.58	-0.80	0.450
18.00	-39.52	-27.63	0.00	-2,551.04	0.00	2,551.04	2,998.18	724.42	2,336.45	2,083.18	1.58	-0.80	0.541
20.00	-38.81	-27.38	0.00	-2,495.78	0.00	2,495.78	2,979.68	717.78	2,293.82	2,051.14	1.94	-0.88	0.533
25.00	-37.14	-26.97	0.00	-2,358.90	0.00	2,358.90	2,932.71	701.18	2,188.97	1,971.59	3.00	-1.13	0.514
30.00	-35.52	-26.65	0.00	-2,224.08	0.00	2,224.08	2,875.21	684.57	2,086.57	1,886.65	4.32	-1.38	0.497
31.50	-35.00	-26.46	0.00	-2,184.11	0.00	2,184.11	2,854.29	679.59	2,056.33	1,859.14	4.76	-1.46	0.492
35.00	-33.54	-26.22	0.00	-2,091.51	0.00	2,091.51	2,805.48	667.97	1,986.62	1,795.73	5.90	-1.63	0.472
35.67	-33.22	-26.04	0.00	-2,074.03	0.00	2,074.03	2,253.08	567.85	1,719.88	1,471.98	6.13	-1.66	0.531
40.00	-31.89	-25.61	0.00	-1,961.18	0.00	1,961.18	2,223.50	555.84	1,647.92	1,421.63	7.73	-1.87	0.509
45.00	-30.37	-25.12	0.00	-1,833.14	0.00	1,833.14	2,188.39	541.99	1,566.79	1,363.95	9.82	-2.11	0.485
50.00	-28.88	-24.61	0.00	-1,707.56	0.00	1,707.56	2,152.25	528.13	1,487.72	1,306.78	12.16	-2.35	0.460
55.00	-27.41	-24.11	0.00	-1,584.54	0.00	1,584.54	2,115.06	514.27	1,410.69	1,250.16	14.75	-2.59	0.434
59.00	-26.22	-23.78	0.00	-1,488.09	0.00	1,488.09	2,084.57	503.18	1,350.55	1,205.28	17.00	-2.77	0.405
59.00	-26.22	-23.78	0.00	-1,488.09	0.00	1,488.09	2,084.57	503.18	1,350.55	1,205.28	17.00	-2.77	0.581
60.00	-25.93	-23.55	0.00	-1,464.31	0.00	1,464.31	2,076.84	500.41	1,335.71	1,194.13	17.58	-2.82	0.574
65.00	-24.70	-23.05	0.00	-1,346.55	0.00	1,346.55	2,037.58	486.55	1,262.78	1,138.75	20.71	-3.14	0.540
70.00	-23.46	-21.91	0.00	-1,231.33	0.00	1,231.33	1,985.31	472.69	1,191.90	1,077.58	24.16	-3.44	0.508
73.50	-22.46	-21.72	0.00	-1,154.64	0.00	1,154.64	1,474.00	377.76	952.88	802.36	26.76	-3.65	0.564
75.00	-22.12	-21.53	0.00	-1,122.06	0.00	1,122.06	1,466.32	374.43	936.20	791.10	27.92	-3.74	0.551
80.00	-21.10	-21.20	0.00	-1,014.39	0.00	1,014.39	1,440.03	363.37	881.69	753.74	32.00	-4.04	0.507
85.00	-20.09	-20.86	0.00	-908.38	0.00	908.38	1,412.71	352.30	828.81	716.70	36.39	-4.33	0.463
90.00	-19.11	-20.51	0.00	-804.06	0.00	804.06	1,384.35	341.23	777.56	680.02	41.07	-4.60	0.418
95.00	-18.14	-20.16	0.00	-701.50	0.00	701.50	1,354.95	330.16	727.95	643.77	46.03	-4.86	0.372
100.00	-17.21	-19.85	0.00	-600.72	0.00	600.72	1,324.51	319.09	679.97	607.99	51.24	-5.09	0.325
103.00	-14.07	-16.99	0.00	-541.19	0.00	541.19	1,305.75	312.45	651.97	586.76	54.48	-5.22	0.295
105.00	-13.70	-16.76	0.00	-507.20	0.00	507.20	1,293.03	308.02	633.63	572.72	56.68	-5.31	0.279
110.00	-12.81	-16.43	0.00	-423.41	0.00	423.41	1,247.19	296.95	588.93	532.34	62.34	-5.50	0.240
110.00	-12.81	-16.43	0.00	-423.41	0.00	423.41	856.53	223.97	445.40	367.75	62.34	-5.50	0.286
113.00	-10.76	-13.27	0.00	-370.68	0.00	370.68	845.63	218.97	425.76	354.91	65.82	-5.60	0.250
115.00	-10.46	-12.98	0.00	-344.14	0.00	344.14	838.16	215.64	412.92	346.37	68.18	-5.67	0.234
119.00	-9.74	-12.60	0.00	-292.21	0.00	292.21	822.72	208.98	387.82	329.40	72.98	-5.80	0.188
119.00	-9.74	-12.60	0.00	-292.21	0.00	292.21	822.72	208.98	387.82	329.40	72.98	-5.80	0.903
120.00	-9.60	-12.45	0.00	-279.61	0.00	279.61	818.76	207.32	381.66	325.17	74.20	-5.82	0.875
122.00	-9.31	-12.09	0.00	-254.62	0.00	254.62	810.71	203.99	369.51	316.76	76.69	-6.09	0.819
125.00	-8.93	-11.74	0.00	-218.34	0.00	218.34	798.31	198.99	351.64	304.20	80.63	-6.46	0.732
130.00	-8.22	-10.59	0.00	-158.78	0.00	158.78	776.83	190.67	322.85	283.51	87.67	-6.99	0.574
131.00	-7.63	-10.09	0.00	-148.19	0.00	148.19	772.41	189.01	317.24	279.41	89.14	-7.09	0.543
132.00	-7.50	-9.89	0.00	-138.10	0.00	138.10	767.94	187.34	311.67	275.32	90.63	-7.18	0.514

Site Number: 302484

Code: ANSI/TIA-222-H

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

8/3/2021 4:58:06 PM

Customer: DISH WIRELESS L.L.C.

Load Case: 0.9D + 1.0W

118 mph with No Ice (Reduced DL)

26 Iterations

Gust Response Factor :1.10

Dead Load Factor :0.90

Wind Load Factor :1.00

135.00	-7.20	-9.53	0.00	-108.43	0.00	108.43	754.30	182.35	295.28	263.15	95.21	-7.43	0.424
140.00	-3.59	-5.10	0.00	-60.78	0.00	60.78	730.89	174.02	268.95	243.21	103.15	-7.74	0.256
145.00	-3.27	-4.66	0.00	-35.29	0.00	35.29	695.93	165.70	243.85	220.38	111.34	-7.94	0.166
150.00	0.00	-4.16	0.00	-11.98	0.00	11.98	660.97	157.37	219.97	198.67	119.70	-8.05	0.061

Site Number: 302484

Code: ANSI/TIA-222-H

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

8/3/2021 4:58:06 PM

Customer: DISH WIRELESS L.L.C.

Load Case: 1.2D + 1.0Di + 1.0Wi	49 mph with 0.85 in Radial Ice	25 Iterations
Gust Response Factor :1.10	Ice Dead Load Factor :1.00	Ice Importance Factor :1.00
Dead Load Factor :1.20		
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		17.5	0.0					0.0	0.0	17.5	0.0	0.0	0.0
2.00	Reinf Bottom	43.6	421.9					4.9	575.3	48.6	997.1	0.0	0.0
5.00		69.1	637.7					9.2	1,098.6	78.2	1,736.3	0.0	0.0
10.00		85.2	1,056.8					17.9	1,848.7	103.1	2,905.5	0.0	0.0
15.00		67.4	1,042.9					20.0	1,861.6	87.4	2,904.5	0.0	0.0
18.00	Reinf. Top Reinf.	41.7	618.1					12.8	1,121.4	54.4	1,739.5	0.0	0.0
20.00		57.6	408.6					8.8	602.2	66.4	1,010.8	0.0	0.0
25.00		81.3	1,007.0					22.8	1,496.1	104.1	2,503.1	0.0	0.0
30.00		52.4	987.2					23.6	1,501.5	76.0	2,488.7	0.0	0.0
31.50	Bot - Section 2	41.1	292.6					7.3	451.4	48.4	744.0	0.0	0.0
35.00		34.7	1,145.3					17.6	1,054.7	52.2	2,200.0	0.0	0.0
35.67	Top - Section 1	42.2	216.3					3.4	201.1	45.6	417.4	0.0	0.0
40.00		79.6	724.1					22.7	1,309.0	102.3	2,033.1	0.0	0.0
45.00		86.5	818.3					27.5	1,513.7	114.0	2,332.0	0.0	0.0
50.00		87.6	799.7					28.6	1,517.0	116.2	2,316.7	0.0	0.0
55.00		79.5	780.9					41.7	1,519.9	121.3	2,300.8	0.0	0.0
59.00	Reinf. Top	44.4	611.4					34.3	1,283.2	78.7	1,894.6	0.0	0.0
60.00		53.5	151.2					8.7	233.1	62.2	384.3	0.0	0.0
65.00		89.3	742.6					44.2	1,166.6	133.5	1,909.2	0.0	0.0
70.00	Bot - Section 3	74.5	723.2					45.4	1,025.3	119.9	1,748.5	0.0	0.0
73.50	Top - Section 2	42.5	808.0					32.4	707.3	74.9	1,515.3	0.0	0.0
75.00		54.9	180.8					14.0	303.4	68.9	484.2	0.0	0.0
80.00		83.9	590.4					47.5	1,012.1	131.4	1,602.5	0.0	0.0
85.00		83.0	573.8					48.5	1,013.4	131.5	1,587.2	0.0	0.0
90.00		82.0	557.1					49.4	1,014.7	131.4	1,571.8	0.0	0.0
95.00		80.8	540.3					50.3	1,015.9	131.1	1,556.3	0.0	0.0
100.00		63.8	523.5					51.2	1,017.1	115.0	1,540.6	0.0	0.0
103.00	Appurtenance(s)	39.4	306.5	505.2	0.0	0.0	4,953.0	31.1	610.8	575.7	5,870.3	0.0	0.0
105.00		54.3	201.2					20.9	401.8	75.3	602.9	0.0	0.0
110.00	Top - Section 3	61.5	489.5					52.9	1,005.2	114.4	1,494.7	0.0	0.0
113.00	Appurtenance(s)	37.9	235.7	600.9	0.0	697.1	3,892.1	32.1	603.6	670.9	4,731.4	0.0	0.0
115.00		44.8	154.5					24.4	387.3	69.1	541.8	0.0	0.0
119.00	Reinf. Top	37.0	301.6					76.7	970.8	113.8	1,272.4	0.0	0.0
120.00		21.9	74.3					20.9	165.9	42.8	240.2	0.0	0.0
122.00	Appurtenance(s)	36.2	146.7	31.1	0.0	31.1	51.8	42.8	331.9	110.0	530.3	0.0	0.0
125.00		62.0	215.5					38.9	411.1	100.9	626.7	0.0	0.0
130.00	Appurtenance(s)	48.4	347.0	154.2	0.0	165.0	604.4	51.7	665.5	254.2	1,616.8	0.0	0.0
131.00	Appurtenance(s)	15.9	68.1	83.9	0.0	0.0	867.0	15.5	151.4	115.3	1,086.4	0.0	0.0
132.00	Appurtenance(s)	31.5	67.5	8.7	0.0	0.0	29.4	15.6	151.4	55.7	248.3	0.0	0.0
135.00		60.5	198.6					32.6	331.0	93.1	529.6	0.0	0.0
140.00	Appurtenance(s)	73.0	318.6	743.9	0.0	-646.3	6,737.8	42.9	489.6	859.8	7,546.0	0.0	0.0
145.00		67.2	304.3					26.4	306.4	93.6	610.7	0.0	0.0
150.00	Appurtenance(s)	31.1	290.0	8.8	0.0	0.0	24.4	0.0	194.0	40.0	508.4	0.0	0.0
Totals:										5,799.04	72,480.8	0.00	0.00

Site Number: 302484

Code: ANSI/TIA-222-H

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

8/3/2021 4:58:21 PM

Customer: DISH WIRELESS L.L.C.

Load Case: 1.2D + 1.0Di + 1.0Wi

49 mph with 0.85 in Radial Ice

25 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	-79.79	-6.82	0.00	-772.51	0.00	772.51	3,157.17	784.20	2,737.77	2,376.61	0.00	0.00	0.165
2.00	-78.78	-6.82	0.00	-758.86	0.00	758.86	3,140.17	777.55	2,691.61	2,343.59	0.01	-0.03	0.163
5.00	-77.04	-6.80	0.00	-738.41	0.00	738.41	3,114.35	767.59	2,623.11	2,294.24	0.03	-0.06	0.134
10.00	-74.13	-6.76	0.00	-704.41	0.00	704.41	3,070.50	750.99	2,510.89	2,212.51	0.13	-0.12	0.130
15.00	-71.22	-6.72	0.00	-670.61	0.00	670.61	3,025.61	734.39	2,401.13	2,131.46	0.28	-0.17	0.126
18.00	-69.48	-6.69	0.00	-650.45	0.00	650.45	2,998.18	724.42	2,336.45	2,083.18	0.40	-0.20	0.123
18.00	-69.48	-6.69	0.00	-650.45	0.00	650.45	2,998.18	724.42	2,336.45	2,083.18	0.40	-0.20	0.149
20.00	-68.46	-6.67	0.00	-637.07	0.00	637.07	2,979.68	717.78	2,293.82	2,051.14	0.49	-0.22	0.147
25.00	-65.95	-6.63	0.00	-603.71	0.00	603.71	2,932.71	701.18	2,188.97	1,971.59	0.76	-0.29	0.142
30.00	-63.46	-6.59	0.00	-570.56	0.00	570.56	2,875.21	684.57	2,086.57	1,886.65	1.09	-0.35	0.138
31.50	-62.71	-6.57	0.00	-560.69	0.00	560.69	2,854.29	679.59	2,056.33	1,859.14	1.21	-0.37	0.136
35.00	-60.51	-6.53	0.00	-537.70	0.00	537.70	2,805.48	667.97	1,986.62	1,795.73	1.50	-0.41	0.131
35.67	-60.09	-6.51	0.00	-533.35	0.00	533.35	2,253.08	567.85	1,719.88	1,471.98	1.56	-0.42	0.148
40.00	-58.05	-6.45	0.00	-505.14	0.00	505.14	2,223.50	555.84	1,647.92	1,421.63	1.96	-0.48	0.142
45.00	-55.71	-6.38	0.00	-472.88	0.00	472.88	2,188.39	541.99	1,566.79	1,363.95	2.50	-0.54	0.135
50.00	-53.39	-6.30	0.00	-440.99	0.00	440.99	2,152.25	528.13	1,487.72	1,306.78	3.10	-0.60	0.129
55.00	-51.09	-6.20	0.00	-409.50	0.00	409.50	2,115.06	514.27	1,410.69	1,250.16	3.76	-0.66	0.122
59.00	-49.19	-6.12	0.00	-384.71	0.00	384.71	2,084.57	503.18	1,350.55	1,205.28	4.34	-0.71	0.114
59.00	-49.19	-6.12	0.00	-384.71	0.00	384.71	2,084.57	503.18	1,350.55	1,205.28	4.34	-0.71	0.163
60.00	-48.80	-6.10	0.00	-378.59	0.00	378.59	2,076.84	500.41	1,335.71	1,194.13	4.49	-0.72	0.161
65.00	-46.89	-6.00	0.00	-348.11	0.00	348.11	2,037.58	486.55	1,262.78	1,138.75	5.29	-0.80	0.152
70.00	-44.83	-5.78	0.00	-318.10	0.00	318.10	1,985.31	472.69	1,191.90	1,077.58	6.17	-0.88	0.143
73.50	-43.31	-5.71	0.00	-297.88	0.00	297.88	1,474.00	377.76	952.88	802.36	6.84	-0.94	0.159
75.00	-42.82	-5.67	0.00	-289.32	0.00	289.32	1,466.32	374.43	936.20	791.10	7.14	-0.96	0.156
80.00	-41.22	-5.56	0.00	-260.97	0.00	260.97	1,440.03	363.37	881.69	753.74	8.19	-1.04	0.144
85.00	-39.62	-5.45	0.00	-233.15	0.00	233.15	1,412.71	352.30	828.81	716.70	9.31	-1.11	0.132
90.00	-38.05	-5.33	0.00	-205.89	0.00	205.89	1,384.35	341.23	777.56	680.02	10.52	-1.18	0.119
95.00	-36.49	-5.21	0.00	-179.21	0.00	179.21	1,354.95	330.16	727.95	643.77	11.79	-1.25	0.107
100.00	-34.95	-5.09	0.00	-153.16	0.00	153.16	1,324.51	319.09	679.97	607.99	13.13	-1.31	0.094
103.00	-29.09	-4.39	0.00	-137.90	0.00	137.90	1,305.75	312.45	651.97	586.76	13.96	-1.34	0.085
105.00	-28.49	-4.32	0.00	-129.11	0.00	129.11	1,293.03	308.02	633.63	572.72	14.53	-1.36	0.080
110.00	-26.99	-4.19	0.00	-107.51	0.00	107.51	1,247.19	296.95	588.93	532.34	15.98	-1.41	0.070
110.00	-26.99	-4.19	0.00	-107.51	0.00	107.51	856.53	223.97	445.40	367.75	15.98	-1.41	0.084
113.00	-22.28	-3.41	0.00	-94.26	0.00	94.26	845.63	218.97	425.76	354.91	16.88	-1.44	0.073
115.00	-21.74	-3.33	0.00	-87.44	0.00	87.44	838.16	215.64	412.92	346.37	17.48	-1.45	0.069
119.00	-20.47	-3.19	0.00	-74.11	0.00	74.11	822.72	208.98	387.82	329.40	18.71	-1.49	0.056
119.00	-20.47	-3.19	0.00	-74.11	0.00	74.11	822.72	208.98	387.82	329.40	18.71	-1.49	0.250
120.00	-20.23	-3.16	0.00	-70.92	0.00	70.92	818.76	207.32	381.66	325.17	19.03	-1.49	0.243
122.00	-19.69	-3.06	0.00	-64.57	0.00	64.57	810.71	203.99	369.51	316.76	19.67	-1.56	0.228
125.00	-19.07	-2.98	0.00	-55.38	0.00	55.38	798.31	198.99	351.64	304.20	20.68	-1.65	0.206
130.00	-17.45	-2.70	0.00	-40.31	0.00	40.31	776.83	190.67	322.85	283.51	22.48	-1.79	0.165
131.00	-16.37	-2.56	0.00	-37.60	0.00	37.60	772.41	189.01	317.24	279.41	22.86	-1.81	0.156
132.00	-16.12	-2.51	0.00	-35.04	0.00	35.04	767.94	187.34	311.67	275.32	23.24	-1.84	0.148

Site Number: 302484

Code: ANSI/TIA-222-H

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

8/3/2021 4:58:21 PM

Customer: DISH WIRELESS L.L.C.

Load Case: 1.2D + 1.0Di + 1.0Wi

49 mph with 0.85 in Radial Ice

25 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

135.00	-15.59	-2.42	0.00	-27.52	0.00	27.52	754.30	182.35	295.28	263.15	24.42	-1.90	0.125
140.00	-8.08	-1.31	0.00	-15.42	0.00	15.42	730.89	174.02	268.95	243.21	26.45	-1.98	0.075
145.00	-7.47	-1.20	0.00	-8.86	0.00	8.86	695.93	165.70	243.85	220.38	28.55	-2.03	0.051
150.00	0.00	-0.94	0.00	-2.85	0.00	2.85	660.97	157.37	219.97	198.67	30.70	-2.06	0.014

Site Number: 302484

Code: ANSI/TIA-222-H

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

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Customer: DISH WIRELESS L.L.C.

Load Case: 1.0D + 1.0W	Serviceability 60 mph	24 Iterations
Gust Response Factor :1.10		
Dead Load Factor :1.00		
Wind Load Factor :1.00		

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		29.6	0.0					0.0	0.0	29.6	0.0	0.0	0.0
2.00	Reinf Bottom	73.7	302.8					0.0	421.7	73.7	724.5	0.0	0.0
5.00		117.0	449.4					0.0	816.3	117.0	1,265.7	0.0	0.0
10.00		127.7	736.1					23.0	1,360.5	150.6	2,096.6	0.0	0.0
15.00		87.1	720.0					22.8	1,360.5	109.9	2,080.5	0.0	0.0
18.00	Reinf. Top Reinf.	53.6	424.3					13.6	816.3	67.2	1,240.6	0.0	0.0
20.00		73.7	279.6					9.0	421.7	82.7	701.3	0.0	0.0
25.00		103.6	687.8					22.4	1,054.2	126.0	1,742.1	0.0	0.0
30.00		66.4	671.7					22.4	1,054.2	88.8	1,726.0	0.0	0.0
31.50	Bot - Section 2	51.9	198.4					6.8	316.3	58.6	514.6	0.0	0.0
35.00		43.6	847.1					16.2	738.0	59.8	1,585.1	0.0	0.0
35.67	Top - Section 1	53.0	159.7					3.1	140.6	56.2	300.3	0.0	0.0
40.00		99.6	472.1					20.8	913.7	120.4	1,385.7	0.0	0.0
45.00		107.6	532.1					24.8	1,054.2	132.4	1,586.4	0.0	0.0
50.00		108.1	518.7					25.6	1,054.2	133.7	1,573.0	0.0	0.0
55.00		97.4	505.3					26.3	1,054.2	123.7	1,559.5	0.0	0.0
59.00	Reinf. Top	54.1	394.5					21.6	897.8	75.7	1,292.3	0.0	0.0
60.00		64.7	97.3					5.5	156.4	70.2	253.7	0.0	0.0
65.00		107.5	478.4					27.7	782.2	135.1	1,260.7	0.0	0.0
70.00	Bot - Section 3	83.6	465.0					28.3	698.0	111.9	1,163.0	0.0	0.0
73.50	Top - Section 2	42.8	576.5					2.0	481.9	44.8	1,058.4	0.0	0.0
75.00		55.2	109.4					0.9	206.6	56.1	315.9	0.0	0.0
80.00		84.3	357.6					2.9	688.5	87.2	1,046.1	0.0	0.0
85.00		83.2	346.9					3.0	688.5	86.2	1,035.4	0.0	0.0
90.00		81.9	336.2					3.0	688.5	84.9	1,024.7	0.0	0.0
95.00		80.5	325.4					3.1	688.5	83.6	1,013.9	0.0	0.0
100.00		63.4	314.7					3.1	688.5	66.6	1,003.2	0.0	0.0
103.00	Appurtenance(s)	39.1	183.7	557.6	0.0	0.0	3,132.1	1.9	413.1	598.6	3,728.9	0.0	0.0
105.00		53.8	120.3					1.3	270.7	55.1	391.0	0.0	0.0
110.00	Top - Section 3	60.8	293.2					3.2	676.8	64.1	970.0	0.0	0.0
113.00	Appurtenance(s)	37.6	128.8	647.5	0.0	792.8	2,054.1	2.0	406.1	687.1	2,589.0	0.0	0.0
115.00		63.0	84.3					1.3	258.0	64.3	342.2	0.0	0.0
119.00	Reinf. Top	59.8	164.7					16.1	653.1	75.8	817.7	0.0	0.0
120.00		35.3	40.4					4.0	98.2	39.3	138.6	0.0	0.0
122.00	Appurtenance(s)	58.1	79.7	22.4	0.0	22.4	15.0	8.1	196.4	88.6	291.2	0.0	0.0
125.00		78.1	117.2					12.2	252.3	90.3	369.5	0.0	0.0
130.00	Appurtenance(s)	51.9	188.9	175.9	0.0	194.0	274.6	34.0	422.1	261.8	885.6	0.0	0.0
131.00	Appurtenance(s)	17.0	36.8	77.5	0.0	0.0	560.0	6.9	98.0	101.4	694.8	0.0	0.0
132.00	Appurtenance(s)	33.5	36.5	8.8	0.0	0.0	10.0	6.9	98.0	49.2	144.5	0.0	0.0
135.00		65.6	107.5					20.8	223.9	86.5	331.5	0.0	0.0
140.00	Appurtenance(s)	79.7	172.7	805.1	0.0	-724.6	4,104.2	28.4	333.9	913.2	4,610.8	0.0	0.0
145.00		68.9	164.7					29.2	232.6	98.0	397.2	0.0	0.0
150.00	Appurtenance(s)	29.8	156.6	8.5	0.0	0.0	10.0	0.0	161.6	38.3	328.3	0.0	0.0
Totals:										5,744.20	47,579.9	0.00	0.00

Site Number: 302484

Code: ANSI/TIA-222-H

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

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Customer: DISH WIRELESS L.L.C.

Load Case: 1.0D + 1.0W

Serviceability 60 mph

24 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.00

Wind Load Factor :1.00

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	-51.76	-6.81	0.00	-718.58	0.00	718.58	3,157.17	784.20	2,737.77	2,376.61	0.00	0.00	0.150
2.00	-51.03	-6.76	0.00	-704.96	0.00	704.96	3,140.17	777.55	2,691.61	2,343.59	0.01	-0.02	0.148
5.00	-49.76	-6.68	0.00	-684.68	0.00	684.68	3,114.35	767.59	2,623.11	2,294.24	0.03	-0.06	0.121
10.00	-47.66	-6.57	0.00	-651.27	0.00	651.27	3,070.50	750.99	2,510.89	2,212.51	0.12	-0.11	0.117
15.00	-45.58	-6.48	0.00	-618.43	0.00	618.43	3,025.61	734.39	2,401.13	2,131.46	0.26	-0.16	0.113
18.00	-44.33	-6.43	0.00	-598.97	0.00	598.97	2,998.18	724.42	2,336.45	2,083.18	0.37	-0.19	0.111
18.00	-44.33	-6.43	0.00	-598.97	0.00	598.97	2,998.18	724.42	2,336.45	2,083.18	0.37	-0.19	0.133
20.00	-43.63	-6.38	0.00	-586.11	0.00	586.11	2,979.68	717.78	2,293.82	2,051.14	0.45	-0.21	0.132
25.00	-41.88	-6.29	0.00	-554.22	0.00	554.22	2,932.71	701.18	2,188.97	1,971.59	0.70	-0.27	0.127
30.00	-40.15	-6.22	0.00	-522.78	0.00	522.78	2,875.21	684.57	2,086.57	1,886.65	1.01	-0.32	0.123
31.50	-39.63	-6.17	0.00	-513.46	0.00	513.46	2,854.29	679.59	2,056.33	1,859.14	1.12	-0.34	0.121
35.00	-38.05	-6.12	0.00	-491.85	0.00	491.85	2,805.48	667.97	1,986.62	1,795.73	1.38	-0.38	0.117
35.67	-37.74	-6.08	0.00	-487.77	0.00	487.77	2,253.08	567.85	1,719.88	1,471.98	1.44	-0.39	0.131
40.00	-36.35	-5.98	0.00	-461.42	0.00	461.42	2,223.50	555.84	1,647.92	1,421.63	1.81	-0.44	0.126
45.00	-34.76	-5.87	0.00	-431.50	0.00	431.50	2,188.39	541.99	1,566.79	1,363.95	2.30	-0.50	0.120
50.00	-33.18	-5.76	0.00	-402.13	0.00	402.13	2,152.25	528.13	1,487.72	1,306.78	2.85	-0.55	0.114
55.00	-31.62	-5.65	0.00	-373.34	0.00	373.34	2,115.06	514.27	1,410.69	1,250.16	3.46	-0.61	0.108
59.00	-30.33	-5.57	0.00	-350.75	0.00	350.75	2,084.57	503.18	1,350.55	1,205.28	3.99	-0.65	0.100
59.00	-30.33	-5.57	0.00	-350.75	0.00	350.75	2,084.57	503.18	1,350.55	1,205.28	3.99	-0.65	0.144
60.00	-30.07	-5.52	0.00	-345.18	0.00	345.18	2,076.84	500.41	1,335.71	1,194.13	4.13	-0.66	0.142
65.00	-28.80	-5.41	0.00	-317.59	0.00	317.59	2,037.58	486.55	1,262.78	1,138.75	4.86	-0.74	0.134
70.00	-27.45	-5.15	0.00	-290.55	0.00	290.55	1,985.31	472.69	1,191.90	1,077.58	5.68	-0.81	0.126
73.50	-26.39	-5.10	0.00	-272.54	0.00	272.54	1,474.00	377.76	952.88	802.36	6.29	-0.86	0.141
75.00	-26.07	-5.06	0.00	-264.89	0.00	264.89	1,466.32	374.43	936.20	791.10	6.56	-0.88	0.138
80.00	-25.02	-4.99	0.00	-239.58	0.00	239.58	1,440.03	363.37	881.69	753.74	7.52	-0.95	0.127
85.00	-23.98	-4.91	0.00	-214.64	0.00	214.64	1,412.71	352.30	828.81	716.70	8.56	-1.02	0.116
90.00	-22.95	-4.83	0.00	-190.07	0.00	190.07	1,384.35	341.23	777.56	680.02	9.66	-1.08	0.105
95.00	-21.94	-4.75	0.00	-165.91	0.00	165.91	1,354.95	330.16	727.95	643.77	10.83	-1.14	0.094
100.00	-20.93	-4.68	0.00	-142.14	0.00	142.14	1,324.51	319.09	679.97	607.99	12.06	-1.20	0.083
103.00	-17.21	-4.01	0.00	-128.10	0.00	128.10	1,305.75	312.45	651.97	586.76	12.82	-1.23	0.075
105.00	-16.82	-3.96	0.00	-120.08	0.00	120.08	1,293.03	308.02	633.63	572.72	13.34	-1.25	0.071
110.00	-15.85	-3.88	0.00	-100.29	0.00	100.29	1,247.19	296.95	588.93	532.34	14.68	-1.30	0.062
110.00	-15.85	-3.88	0.00	-100.29	0.00	100.29	856.53	223.97	445.40	367.75	14.68	-1.30	0.073
113.00	-13.28	-3.14	0.00	-87.86	0.00	87.86	845.63	218.97	425.76	354.91	15.50	-1.32	0.064
115.00	-12.94	-3.07	0.00	-81.58	0.00	81.58	838.16	215.64	412.92	346.37	16.05	-1.34	0.060
119.00	-12.12	-2.98	0.00	-69.29	0.00	69.29	822.72	208.98	387.82	329.40	17.19	-1.37	0.049
119.00	-12.12	-2.98	0.00	-69.29	0.00	69.29	822.72	208.98	387.82	329.40	17.19	-1.37	0.225
120.00	-11.98	-2.95	0.00	-66.30	0.00	66.30	818.76	207.32	381.66	325.17	17.47	-1.37	0.219
122.00	-11.69	-2.87	0.00	-60.39	0.00	60.39	810.71	203.99	369.51	316.76	18.06	-1.44	0.205
125.00	-11.31	-2.79	0.00	-51.79	0.00	51.79	798.31	198.99	351.64	304.20	18.99	-1.52	0.185
130.00	-10.43	-2.51	0.00	-37.66	0.00	37.66	776.83	190.67	322.85	283.51	20.66	-1.65	0.146
131.00	-9.74	-2.40	0.00	-35.14	0.00	35.14	772.41	189.01	317.24	279.41	21.01	-1.67	0.139
132.00	-9.60	-2.35	0.00	-32.75	0.00	32.75	767.94	187.34	311.67	275.32	21.36	-1.69	0.132

Site Number: 302484

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

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Customer: DISH WIRELESS L.L.C.

Load Case: 1.0D + 1.0W

Serviceability 60 mph

24 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.00

Wind Load Factor :1.00

135.00	-9.26	-2.27	0.00	-25.69	0.00	25.69	754.30	182.35	295.28	263.15	22.44	-1.75	0.110
140.00	-4.68	-1.21	0.00	-14.37	0.00	14.37	730.89	174.02	268.95	243.21	24.32	-1.83	0.066
145.00	-4.29	-1.11	0.00	-8.30	0.00	8.30	695.93	165.70	243.85	220.38	26.26	-1.87	0.044
150.00	0.00	-0.96	0.00	-2.77	0.00	2.77	660.97	157.37	219.97	198.67	28.24	-1.90	0.014

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

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Customer: DISH WIRELESS L.L.C.

Equivalent Lateral Forces Method Analysis

Spectral Response Acceleration for Short Period (S_s):	0.20
Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.05
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}):	0.22
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):	3.06
Redundancy Factor (p):	1.00
Seismic Force Distribution Exponent (k):	2.00
Total Unfactored Dead Load:	51.76 k
Seismic Base Shear (E):	1.55 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)
42	147.50	318	6,924	0.016	25	396
41	142.50	397	8,066	0.019	29	494
40	137.50	507	9,578	0.022	35	630
39	133.50	331	5,908	0.014	22	412
38	131.50	134	2,326	0.005	8	167
37	130.50	135	2,296	0.005	8	168
36	127.50	611	9,933	0.023	36	760
35	123.50	369	5,635	0.013	21	459
34	121.00	276	4,044	0.009	15	343
33	119.50	139	1,979	0.005	7	172
32	117.00	818	11,194	0.026	41	1,017
31	114.00	342	4,448	0.010	16	425
30	111.50	535	6,650	0.016	24	665
29	107.50	970	11,210	0.026	41	1,206
28	104.00	391	4,229	0.010	15	486
27	101.50	597	6,148	0.014	22	742
26	97.50	1,003	9,537	0.022	35	1,247
25	92.50	1,014	8,676	0.020	32	1,261
24	87.50	1,025	7,845	0.018	29	1,274
23	82.50	1,035	7,047	0.017	26	1,287
22	77.50	1,046	6,283	0.015	23	1,301
21	74.25	316	1,742	0.004	6	393
20	71.75	1,058	5,449	0.013	20	1,316
19	67.50	1,163	5,299	0.012	19	1,446
18	62.50	1,261	4,924	0.012	18	1,567

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

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Customer: DISH WIRELESS L.L.C.

17	59.50	254	898	0.002	3	315
16	57.00	1,292	4,199	0.010	15	1,607
15	52.50	1,560	4,298	0.010	16	1,939
14	47.50	1,573	3,549	0.008	13	1,956
13	42.50	1,586	2,865	0.007	10	1,972
12	37.83	1,386	1,984	0.005	7	1,723
11	35.33	300	375	0.001	1	373
10	33.25	1,585	1,752	0.004	6	1,971
9	30.75	515	487	0.001	2	640
8	27.50	1,726	1,305	0.003	5	2,146
7	22.50	1,742	882	0.002	3	2,166
6	19.00	701	253	0.001	1	872
5	16.50	1,241	338	0.001	1	1,542
4	12.50	2,080	325	0.001	1	2,587
3	7.50	2,097	118	0.000	0	2,607
2	3.50	1,266	16	0.000	0	1,574
1	1.00	725	1	0.000	0	901
Generic 11' Dipole	150.00	40	900	0.002	3	50
Generic 4' Omni	150.00	10	225	0.001	1	12
Powerwave Allgon 702	150.00	13	297	0.001	1	16
Kathrein Scala 782-1	150.00	19	432	0.001	2	24
Powerwave Allgon LGP	150.00	85	1,904	0.004	7	105
Raycap DC6-48-60-18-	150.00	32	715	0.002	3	40
Ericsson RRUS 8843 B	150.00	216	4,860	0.011	18	269
Ericsson RRUS 4449 B	150.00	213	4,793	0.011	17	265
Raycap DC6-48-60-18-	150.00	16	360	0.001	1	20
Ericsson RRUS 32 B30	150.00	159	3,577	0.008	13	198
Raycap DC6-48-60-18-	150.00	16	360	0.001	1	20
Powerwave Allgon 777	150.00	105	2,363	0.006	9	131
CCI HPA65R-BU6A	150.00	126	2,828	0.007	10	156
Commscope SBNHH-1D65	150.00	152	3,422	0.008	12	189
Kathrein Scala 80010	150.00	293	6,588	0.015	24	364
Generic Round Platfo	150.00	2,500	56,250	0.132	205	3,108
Generic GPS	150.00	10	225	0.001	1	12
Ericsson KRY 112 144	140.00	33	647	0.002	2	41
Ericsson Radio 4449	140.00	222	4,351	0.010	16	276
Ericsson AIR 21, 1.3	140.00	249	4,880	0.011	18	310
Ericsson AIR 21, 1.3	140.00	244	4,792	0.011	17	304
RFS APXVAARR24_43-U-	140.00	384	7,521	0.018	27	477
PerfectVision PV-RP1	140.00	2,972	58,251	0.137	212	3,695
Generic 12" x 12" Ju	132.00	10	174	0.000	1	12
Side Arms	131.00	560	9,610	0.023	35	696
DragonWave Horizon C	130.00	21	358	0.001	1	26
DragonWave A-ANT-23G	130.00	15	254	0.001	1	19
NextNet BTS-2500	130.00	105	1,775	0.004	6	131
Argus LLPX310R	130.00	86	1,450	0.003	5	107
DragonWave A-ANT-18G	130.00	48	804	0.002	3	59
SWR FMEC/1	122.00	15	223	0.001	1	19
Commscope CBC78-DS-4	113.00	18	230	0.001	1	22
Samsung Outdoor CBRS	113.00	13	169	0.000	1	16
Samsung RT4401-48A	113.00	56	713	0.002	3	69
Samsung B2/B66A RRH-	113.00	253	3,233	0.008	12	315
Samsung B5/B13 RRH-B	113.00	211	2,693	0.006	10	262
RFS APL868013-12T0	113.00	25	322	0.001	1	31
RFS APL866513-12T0-0	113.00	31	401	0.001	1	39
Samsung MT6407-77A	113.00	245	3,126	0.007	11	304
RFS DB-T1-6Z-8AB-0Z	113.00	88	1,124	0.003	4	109
Commscope JAHH-65B-R	113.00	364	4,643	0.011	17	452
Round T-Arm	113.00	750	9,577	0.022	35	932
Commscope RDIDC-9181	103.00	22	232	0.001	1	27
Fujitsu TA08025-B604	103.00	192	2,034	0.005	7	238
Fujitsu TA08025-B605	103.00	225	2,387	0.006	9	280
JMA Wireless MX08FRO	103.00	193	2,053	0.005	7	241
Generic Flat Platfor	103.00	2,500	26,523	0.062	97	3,108

Site Number: 302484

Code: ANSI/TIA-222-H

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

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Customer: DISH WIRELESS L.L.C.

Generic 4' Std. Dish	70.00	188	921	0.002	3	234
		51,762	426,582	1.000	1,553	64,357

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)
42	147.50	318	6,924	0.016	25	273
41	142.50	397	8,066	0.019	29	340
40	137.50	507	9,578	0.022	35	434
39	133.50	331	5,908	0.014	22	284
38	131.50	134	2,326	0.005	8	115
37	130.50	135	2,296	0.005	8	115
36	127.50	611	9,933	0.023	36	523
35	123.50	369	5,635	0.013	21	317
34	121.00	276	4,044	0.009	15	237
33	119.50	139	1,979	0.005	7	119
32	117.00	818	11,194	0.026	41	701
31	114.00	342	4,448	0.010	16	293
30	111.50	535	6,650	0.016	24	458
29	107.50	970	11,210	0.026	41	831
28	104.00	391	4,229	0.010	15	335
27	101.50	597	6,148	0.014	22	511
26	97.50	1,003	9,537	0.022	35	859
25	92.50	1,014	8,676	0.020	32	869
24	87.50	1,025	7,845	0.018	29	878
23	82.50	1,035	7,047	0.017	26	887
22	77.50	1,046	6,283	0.015	23	896
21	74.25	316	1,742	0.004	6	271
20	71.75	1,058	5,449	0.013	20	907
19	67.50	1,163	5,299	0.012	19	996
18	62.50	1,261	4,924	0.012	18	1,080
17	59.50	254	898	0.002	3	217
16	57.00	1,292	4,199	0.010	15	1,107
15	52.50	1,560	4,298	0.010	16	1,336
14	47.50	1,573	3,549	0.008	13	1,348
13	42.50	1,586	2,865	0.007	10	1,359
12	37.83	1,386	1,984	0.005	7	1,187
11	35.33	300	375	0.001	1	257
10	33.25	1,585	1,752	0.004	6	1,358
9	30.75	515	487	0.001	2	441
8	27.50	1,726	1,305	0.003	5	1,479
7	22.50	1,742	882	0.002	3	1,492
6	19.00	701	253	0.001	1	601
5	16.50	1,241	338	0.001	1	1,063
4	12.50	2,080	325	0.001	1	1,782
3	7.50	2,097	118	0.000	0	1,796
2	3.50	1,266	16	0.000	0	1,084
1	1.00	725	1	0.000	0	621
Generic 11' Dipole	150.00	40	900	0.002	3	34
Generic 4' Omni	150.00	10	225	0.001	1	9
Powerwave Allgon 702	150.00	13	297	0.001	1	11
Kathrein Scala 782-1	150.00	19	432	0.001	2	16
Powerwave Allgon LGP	150.00	85	1,904	0.004	7	72
Raycap DC6-48-60-18-	150.00	32	715	0.002	3	27
Ericsson RRUS 8843 B	150.00	216	4,860	0.011	18	185
Ericsson RRUS 4449 B	150.00	213	4,793	0.011	17	182
Raycap DC6-48-60-18-	150.00	16	360	0.001	1	14
Ericsson RRUS 32 B30	150.00	159	3,577	0.008	13	136
Raycap DC6-48-60-18-	150.00	16	360	0.001	1	14
Powerwave Allgon 777	150.00	105	2,363	0.006	9	90

Site Number: 302484

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

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Customer: DISH WIRELESS L.L.C.

CCI HPA65R-BU6A	150.00	126	2,828	0.007	10	108
Commscope SBNHH-1D65	150.00	152	3,422	0.008	12	130
Kathrein Scala 80010	150.00	293	6,588	0.015	24	251
Generic Round Platfo	150.00	2,500	56,250	0.132	205	2,142
Generic GPS	150.00	10	225	0.001	1	9
Ericsson KRY 112 144	140.00	33	647	0.002	2	28
Ericsson Radio 4449	140.00	222	4,351	0.010	16	190
Ericsson AIR 21, 1.3	140.00	249	4,880	0.011	18	213
Ericsson AIR 21, 1.3	140.00	244	4,792	0.011	17	209
RFS APXVAARR24_43-U-	140.00	384	7,521	0.018	27	329
PerfectVision PV-RP1	140.00	2,972	58,251	0.137	212	2,546
Generic 12" x 12" Ju	132.00	10	174	0.000	1	9
Side Arms	131.00	560	9,610	0.023	35	480
DragonWave Horizon C	130.00	21	358	0.001	1	18
DragonWave A-ANT-23G	130.00	15	254	0.001	1	13
NextNet BTS-2500	130.00	105	1,775	0.004	6	90
Argus LLPX310R	130.00	86	1,450	0.003	5	74
DragonWave A-ANT-18G	130.00	48	804	0.002	3	41
SWR FMEC/1	122.00	15	223	0.001	1	13
Commscope CBC78-DS-4	113.00	18	230	0.001	1	15
Samsung Outdoor CBRS	113.00	13	169	0.000	1	11
Samsung RT4401-48A	113.00	56	713	0.002	3	48
Samsung B2/B66A RRH-	113.00	253	3,233	0.008	12	217
Samsung B5/B13 RRH-B	113.00	211	2,693	0.006	10	181
RFS APL868013-12T0	113.00	25	322	0.001	1	22
RFS APL866513-12T0-0	113.00	31	401	0.001	1	27
Samsung MT6407-77A	113.00	245	3,126	0.007	11	210
RFS DB-T1-6Z-8AB-0Z	113.00	88	1,124	0.003	4	75
Commscope JAHH-65B-R	113.00	364	4,643	0.011	17	311
Round T-Arm	113.00	750	9,577	0.022	35	643
Commscope RDIDC-9181	103.00	22	232	0.001	1	19
Fujitsu TA08025-B604	103.00	192	2,034	0.005	7	164
Fujitsu TA08025-B605	103.00	225	2,387	0.006	9	193
JMA Wireless MX08FRO	103.00	193	2,053	0.005	7	166
Generic Flat Platfor	103.00	2,500	26,523	0.062	97	2,142
Generic 4' Std. Dish	70.00	188	921	0.002	3	161
		51,762	426,582	1.000	1,553	44,344

Site Number: 302484

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

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Customer: DISH WIRELESS L.L.C.

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	-63.46	-1.56	0.00	-200.71	0.00	200.71	3,157.17	784.20	2,737.77	2,376.61	0.00	0.00	0.051
2.00	-61.88	-1.56	0.00	-197.60	0.00	197.60	3,140.17	777.55	2,691.61	2,343.59	0.00	-0.01	0.050
5.00	-59.27	-1.58	0.00	-192.90	0.00	192.90	3,114.35	767.59	2,623.11	2,294.24	0.01	-0.02	0.041
10.00	-56.69	-1.59	0.00	-185.02	0.00	185.02	3,070.50	750.99	2,510.89	2,212.51	0.03	-0.03	0.040
15.00	-55.15	-1.60	0.00	-177.08	0.00	177.08	3,025.61	734.39	2,401.13	2,131.46	0.07	-0.04	0.039
18.00	-54.27	-1.60	0.00	-172.30	0.00	172.30	2,998.18	724.42	2,336.45	2,083.18	0.10	-0.05	0.038
18.00	-54.27	-1.60	0.00	-172.30	0.00	172.30	2,998.18	724.42	2,336.45	2,083.18	0.10	-0.05	0.046
20.00	-52.11	-1.61	0.00	-169.09	0.00	169.09	2,979.68	717.78	2,293.82	2,051.14	0.13	-0.06	0.045
25.00	-49.96	-1.61	0.00	-161.06	0.00	161.06	2,932.71	701.18	2,188.97	1,971.59	0.20	-0.08	0.044
30.00	-49.32	-1.62	0.00	-152.99	0.00	152.99	2,875.21	684.57	2,086.57	1,886.65	0.29	-0.09	0.043
31.50	-47.35	-1.62	0.00	-150.56	0.00	150.56	2,854.29	679.59	2,056.33	1,859.14	0.32	-0.10	0.042
35.00	-46.98	-1.62	0.00	-144.90	0.00	144.90	2,805.48	667.97	1,986.62	1,795.73	0.39	-0.11	0.041
35.67	-45.25	-1.62	0.00	-143.82	0.00	143.82	2,253.08	567.85	1,719.88	1,471.98	0.41	-0.11	0.046
40.00	-43.28	-1.62	0.00	-136.81	0.00	136.81	2,223.50	555.84	1,647.92	1,421.63	0.52	-0.13	0.045
45.00	-41.32	-1.61	0.00	-128.73	0.00	128.73	2,188.39	541.99	1,566.79	1,363.95	0.66	-0.14	0.043
50.00	-39.38	-1.60	0.00	-120.68	0.00	120.68	2,152.25	528.13	1,487.72	1,306.78	0.82	-0.16	0.041
55.00	-37.78	-1.59	0.00	-112.68	0.00	112.68	2,115.06	514.27	1,410.69	1,250.16	1.00	-0.18	0.039
59.00	-37.46	-1.59	0.00	-106.32	0.00	106.32	2,084.57	503.18	1,350.55	1,205.28	1.15	-0.19	0.037
59.00	-37.46	-1.59	0.00	-106.32	0.00	106.32	2,084.57	503.18	1,350.55	1,205.28	1.15	-0.19	0.052
60.00	-35.89	-1.58	0.00	-104.73	0.00	104.73	2,076.84	500.41	1,335.71	1,194.13	1.19	-0.19	0.051
65.00	-34.45	-1.57	0.00	-96.84	0.00	96.84	2,037.58	486.55	1,262.78	1,138.75	1.41	-0.22	0.049
70.00	-32.90	-1.55	0.00	-89.01	0.00	89.01	1,985.31	472.69	1,191.90	1,077.58	1.64	-0.24	0.046
73.50	-32.50	-1.55	0.00	-83.60	0.00	83.60	1,474.00	377.76	952.88	802.36	1.83	-0.25	0.053
75.00	-31.20	-1.52	0.00	-81.28	0.00	81.28	1,466.32	374.43	936.20	791.10	1.91	-0.26	0.051
80.00	-29.92	-1.50	0.00	-73.66	0.00	73.66	1,440.03	363.37	881.69	753.74	2.19	-0.28	0.048
85.00	-28.64	-1.48	0.00	-66.14	0.00	66.14	1,412.71	352.30	828.81	716.70	2.50	-0.30	0.044
90.00	-27.38	-1.45	0.00	-58.75	0.00	58.75	1,384.35	341.23	777.56	680.02	2.83	-0.32	0.041
95.00	-26.13	-1.42	0.00	-51.50	0.00	51.50	1,354.95	330.16	727.95	643.77	3.17	-0.34	0.037
100.00	-25.39	-1.39	0.00	-44.42	0.00	44.42	1,324.51	319.09	679.97	607.99	3.54	-0.36	0.033
103.00	-21.01	-1.23	0.00	-40.24	0.00	40.24	1,305.75	312.45	651.97	586.76	3.77	-0.37	0.030
105.00	-19.80	-1.19	0.00	-37.77	0.00	37.77	1,293.03	308.02	633.63	572.72	3.93	-0.37	0.028
110.00	-19.14	-1.16	0.00	-31.83	0.00	31.83	1,247.19	296.95	588.93	532.34	4.33	-0.39	0.025
110.00	-19.14	-1.16	0.00	-31.83	0.00	31.83	856.53	223.97	445.40	367.75	4.33	-0.39	0.031
113.00	-16.16	-1.03	0.00	-28.34	0.00	28.34	845.63	218.97	425.76	354.91	4.57	-0.40	0.027
115.00	-15.14	-0.99	0.00	-26.27	0.00	26.27	838.16	215.64	412.92	346.37	4.74	-0.40	0.025
119.00	-14.97	-0.98	0.00	-22.32	0.00	22.32	822.72	208.98	387.82	329.40	5.08	-0.41	0.021
119.00	-14.97	-0.98	0.00	-22.32	0.00	22.32	822.72	208.98	387.82	329.40	5.08	-0.41	0.086
120.00	-14.63	-0.97	0.00	-21.34	0.00	21.34	818.76	207.32	381.66	325.17	5.17	-0.41	0.084
122.00	-14.15	-0.95	0.00	-19.41	0.00	19.41	810.71	203.99	369.51	316.76	5.35	-0.43	0.079
125.00	-13.39	-0.91	0.00	-16.56	0.00	16.56	798.31	198.99	351.64	304.20	5.63	-0.46	0.071
130.00	-12.88	-0.89	0.00	-11.99	0.00	11.99	776.83	190.67	322.85	283.51	6.13	-0.50	0.059
131.00	-12.02	-0.84	0.00	-11.11	0.00	11.11	772.41	189.01	317.24	279.41	6.24	-0.51	0.055
132.00	-11.59	-0.82	0.00	-10.27	0.00	10.27	767.94	187.34	311.67	275.32	6.35	-0.52	0.052
135.00	-10.96	-0.78	0.00	-7.82	0.00	7.82	754.30	182.35	295.28	263.15	6.68	-0.53	0.044
140.00	-5.37	-0.41	0.00	-3.92	0.00	3.92	730.89	174.02	268.95	243.21	7.25	-0.56	0.023
145.00	-4.98	-0.38	0.00	-1.89	0.00	1.89	695.93	165.70	243.85	220.38	7.84	-0.57	0.016
150.00	0.00	-0.33	0.00	0.00	0.00	0.00	660.97	157.37	219.97	198.67	8.44	-0.57	0.000

Site Number: 302484

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

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Customer: DISH WIRELESS L.L.C.

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	-43.72	-1.55	0.00	-195.52	0.00	195.52	3,157.17	784.20	2,737.77	2,376.61	0.00	0.00	0.046
2.00	-42.64	-1.56	0.00	-192.41	0.00	192.41	3,140.17	777.55	2,691.61	2,343.59	0.00	-0.01	0.046
5.00	-40.84	-1.57	0.00	-187.73	0.00	187.73	3,114.35	767.59	2,623.11	2,294.24	0.01	-0.02	0.037
10.00	-39.06	-1.58	0.00	-179.89	0.00	179.89	3,070.50	750.99	2,510.89	2,212.51	0.03	-0.03	0.036
15.00	-38.00	-1.58	0.00	-172.01	0.00	172.01	3,025.61	734.39	2,401.13	2,131.46	0.07	-0.04	0.035
18.00	-37.40	-1.58	0.00	-167.27	0.00	167.27	2,998.18	724.42	2,336.45	2,083.18	0.10	-0.05	0.035
18.00	-37.40	-1.58	0.00	-167.27	0.00	167.27	2,998.18	724.42	2,336.45	2,083.18	0.10	-0.05	0.042
20.00	-35.90	-1.59	0.00	-164.10	0.00	164.10	2,979.68	717.78	2,293.82	2,051.14	0.12	-0.06	0.041
25.00	-34.42	-1.59	0.00	-156.17	0.00	156.17	2,932.71	701.18	2,188.97	1,971.59	0.19	-0.07	0.040
30.00	-33.98	-1.59	0.00	-148.22	0.00	148.22	2,875.21	684.57	2,086.57	1,886.65	0.28	-0.09	0.039
31.50	-32.62	-1.59	0.00	-145.83	0.00	145.83	2,854.29	679.59	2,056.33	1,859.14	0.31	-0.10	0.039
35.00	-32.37	-1.59	0.00	-140.27	0.00	140.27	2,805.48	667.97	1,986.62	1,795.73	0.38	-0.11	0.037
35.67	-31.18	-1.59	0.00	-139.20	0.00	139.20	2,253.08	567.85	1,719.88	1,471.98	0.40	-0.11	0.042
40.00	-29.82	-1.58	0.00	-132.33	0.00	132.33	2,223.50	555.84	1,647.92	1,421.63	0.50	-0.12	0.040
45.00	-28.47	-1.57	0.00	-124.42	0.00	124.42	2,188.39	541.99	1,566.79	1,363.95	0.64	-0.14	0.039
50.00	-27.14	-1.56	0.00	-116.55	0.00	116.55	2,152.25	528.13	1,487.72	1,306.78	0.80	-0.16	0.037
55.00	-26.03	-1.55	0.00	-108.74	0.00	108.74	2,115.06	514.27	1,410.69	1,250.16	0.97	-0.17	0.035
59.00	-25.81	-1.55	0.00	-102.54	0.00	102.54	2,084.57	503.18	1,350.55	1,205.28	1.12	-0.18	0.033
59.00	-25.81	-1.55	0.00	-102.54	0.00	102.54	2,084.57	503.18	1,350.55	1,205.28	1.12	-0.18	0.047
60.00	-24.73	-1.53	0.00	-100.99	0.00	100.99	2,076.84	500.41	1,335.71	1,194.13	1.16	-0.19	0.047
65.00	-23.73	-1.52	0.00	-93.32	0.00	93.32	2,037.58	486.55	1,262.78	1,138.75	1.36	-0.21	0.044
70.00	-22.67	-1.50	0.00	-85.72	0.00	85.72	1,985.31	472.69	1,191.90	1,077.58	1.59	-0.23	0.042
73.50	-22.39	-1.50	0.00	-80.47	0.00	80.47	1,474.00	377.76	952.88	802.36	1.77	-0.25	0.047
75.00	-21.50	-1.48	0.00	-78.23	0.00	78.23	1,466.32	374.43	936.20	791.10	1.85	-0.25	0.046
80.00	-20.61	-1.45	0.00	-70.85	0.00	70.85	1,440.03	363.37	881.69	753.74	2.12	-0.27	0.043
85.00	-19.73	-1.43	0.00	-63.59	0.00	63.59	1,412.71	352.30	828.81	716.70	2.42	-0.29	0.039
90.00	-18.86	-1.40	0.00	-56.45	0.00	56.45	1,384.35	341.23	777.56	680.02	2.74	-0.31	0.036
95.00	-18.00	-1.36	0.00	-49.47	0.00	49.47	1,354.95	330.16	727.95	643.77	3.07	-0.33	0.033
100.00	-17.49	-1.34	0.00	-42.66	0.00	42.66	1,324.51	319.09	679.97	607.99	3.43	-0.35	0.029
103.00	-14.48	-1.19	0.00	-38.64	0.00	38.64	1,305.75	312.45	651.97	586.76	3.65	-0.36	0.026
105.00	-13.64	-1.14	0.00	-36.26	0.00	36.26	1,293.03	308.02	633.63	572.72	3.80	-0.36	0.025
110.00	-13.19	-1.12	0.00	-30.54	0.00	30.54	1,247.19	296.95	588.93	532.34	4.19	-0.38	0.022
110.00	-13.19	-1.12	0.00	-30.54	0.00	30.54	856.53	223.97	445.40	367.75	4.19	-0.38	0.027
113.00	-11.13	-1.00	0.00	-27.18	0.00	27.18	845.63	218.97	425.76	354.91	4.42	-0.38	0.023
115.00	-10.43	-0.95	0.00	-25.19	0.00	25.19	838.16	215.64	412.92	346.37	4.59	-0.39	0.022
119.00	-10.31	-0.94	0.00	-21.38	0.00	21.38	822.72	208.98	387.82	329.40	4.92	-0.40	0.019
119.00	-10.31	-0.94	0.00	-21.38	0.00	21.38	822.72	208.98	387.82	329.40	4.92	-0.40	0.077
120.00	-10.08	-0.93	0.00	-20.44	0.00	20.44	818.76	207.32	381.66	325.17	5.00	-0.40	0.075
122.00	-9.75	-0.91	0.00	-18.58	0.00	18.58	810.71	203.99	369.51	316.76	5.17	-0.42	0.071
125.00	-9.22	-0.88	0.00	-15.84	0.00	15.84	798.31	198.99	351.64	304.20	5.44	-0.45	0.064
130.00	-8.87	-0.85	0.00	-11.46	0.00	11.46	776.83	190.67	322.85	283.51	5.93	-0.48	0.052
131.00	-8.28	-0.80	0.00	-10.61	0.00	10.61	772.41	189.01	317.24	279.41	6.03	-0.49	0.049
132.00	-7.99	-0.78	0.00	-9.81	0.00	9.81	767.94	187.34	311.67	275.32	6.14	-0.50	0.046
135.00	-7.55	-0.74	0.00	-7.47	0.00	7.47	754.30	182.35	295.28	263.15	6.45	-0.51	0.038
140.00	-3.70	-0.39	0.00	-3.74	0.00	3.74	730.89	174.02	268.95	243.21	7.01	-0.54	0.020
145.00	-3.43	-0.36	0.00	-1.80	0.00	1.80	695.93	165.70	243.85	220.38	7.57	-0.55	0.013
150.00	0.00	-0.33	0.00	0.00	0.00	0.00	660.97	157.37	219.97	198.67	8.15	-0.55	0.000

Site Number: 302484

Code: ANSI/TIA-222-H

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

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Customer: DISH WIRELESS L.L.C.

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	29.34	0.00	62.09	0.00	0.00	3127.68	119.00	0.94
0.9D + 1.0W	29.33	0.00	46.56	0.00	0.00	3065.47	119.00	0.90
1.2D + 1.0Di + 1.0Wi	6.82	0.00	79.79	0.00	0.00	772.51	119.00	0.25
1.2D + 1.0Ev + 1.0Eh	1.56	0.00	63.46	0.00	0.00	200.71	119.00	0.09
0.9D - 1.0Ev + 1.0Eh	1.55	0.00	43.72	0.00	0.00	195.52	119.00	0.08
1.0D + 1.0W	6.81	0.00	51.76	0.00	0.00	718.58	119.00	0.23

Site Number: 302484

Code: ANSI/TIA-222-H

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Site Name: Branford CT 6, CT

Engineering Number:13701211_C3_03

8/3/2021 4:58:38 PM

Customer: DISH WIRELESS L.L.C.

Additional Steel Summary

			Intermediate Connectors				Max Member		
Elev From (ft)	Elev To (ft)	Member	VQ/I (lb/in)	Shear Applied (kips)	Shear phiVn (kips)	Ratio	Pu (kip)	phiPn (kip)	Ratio
0.00	119.00	(4) SOL-#18 All Thread Bar	391.6	11.7	16.8	0.699	241.3	249.8	0.966
0.00	59.00	(4) SOL-#18 All Thread Bar	197.2	5.9	16.8	0.352	203.0	249.8	0.813
2.00	18.00	(2) PL-PL 4" x 1"	116.3	1.4	25.3	0.055	143.9	174.4	0.825
2.00	18.00	(2) PL-PL 5" x 1"	145.3	1.7	25.3	0.069	179.9	218.0	0.825

			Upper Termination Connectors				Lower Termination Connectors					
Elev From (ft)	Elev To (ft)	Member	MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Ratio	MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Ratio
0.00	119.00	(4) SOL-#18 All Thread Bar	85.1	12.0	8	10	0.710	0.0	12.0	0	0	0.000
0.00	59.00	(4) SOL-#18 All Thread Bar	149.4	12.0	13	18	0.692	0.0	12.0	0	0	0.000
2.00	18.00	(2) PL-PL 4" x 1"	130.8	25.3	6	8	0.647	141.3	25.3	6	8	0.699
2.00	18.00	(2) PL-PL 5" x 1"	163.5	25.3	7	8	0.809	176.6	25.3	7	8	0.874

Flange Plate Analysis

Flange Plate	Plate Type	Flange	@ 110 ft
	Pole Diameter	21.25	in
	Pole Thickness	0.1875	in
	Plate Diameter	28.5	in
	Plate Thickness	1	in
	Plate Fy	60	ksi
	Weld Length	0.1875	in
	f _s Resistance	125.73	k-in
	Applied	17.32	k-in

Code Rev.	H
Moment	438.5 k-ft
Axial	17.5 k

Date	8/3/2021
Engineer	JAS
Site #	302484
Carrier	DISH WIRELESS

Stiffeners	#	12	Show
	Thickness	0.5	in
	Length	3	in
	Height	3	in
	Chamfer	0.5	in
	Offset Angle	0	°
	Fy	36	ksi

Bolts	#	12	
	Bolt Circle (R)adial / (S)quare	25.75	in
		R	
	Diameter	1	in
	Hole Diameter	1.125	in
	Type	A325	
	Fy	92	ksi
	Fu	120	ksi
	f _s Resistance	54.52	k
	Applied	11.54	k

Reinforcement	#	4	
	DYW. Circle	34.41	in
	Offset Angle	45	°
	Type	#18	
	Diameter	2.5	in
	Fu	100	ksi
	f _s Resistance	392.70	k
Applied	87.24	k	

Extra Bolts	#		
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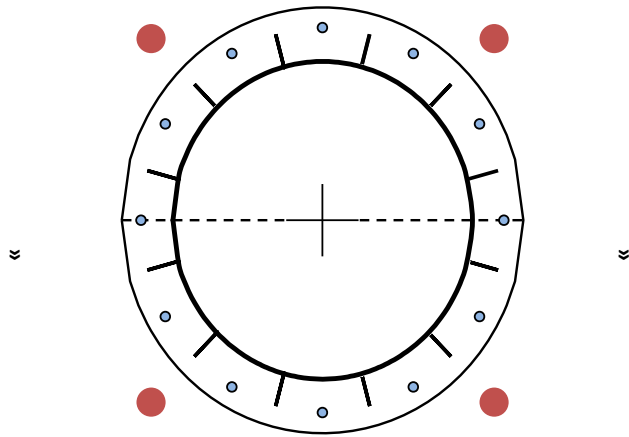


Plate Stress Ratio:

14% Pass

Bolt Stress Ratio:

21% Pass

Reinforcement Stress Ratio:

22% Pass



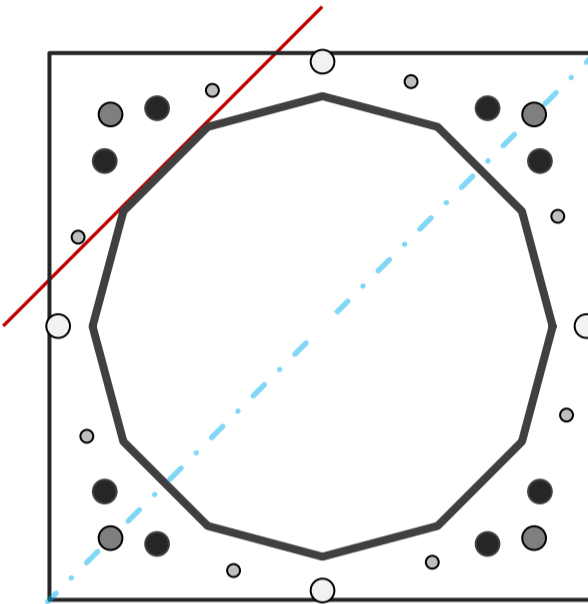
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	12	-
Diameter	35.67	in
Thickness	3/8	in
Orientation Offset		°

Base Reactions		
Moment, Mu	3,127.7	k-ft
Axial, Pu	62.1	k
Shear, Vu	29.3	k
Neutral Axis	45	°

Report Capacities		
Component	Capacity	Result
Base Plate	56%	Pass
Anchor Rods	84%	Pass
Dwyidag	53%	Pass

Base Plate		
Shape	Square	-
Width	44	in
Thickness	2 1/2	in
Grade	A633 Gr. E	
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	80	ksi
Clip	0	in
Orientation Offset		°
Anchor Rod Detail	c	$\eta=0.55$
Clear Distance	N/A	in
Applied Moment, Mu	1255.4	k
Bending Stress, ϕMn	2230.1	k



Dwyidag Reinforcement		
Quantity	4	-
Bar Size	#18	in
Diameter, ϕ	2.25	in
Bracket Type	Angle	-
Circle	42.55	in
Orientation Offset	0	°
Applied Force, Pu	157.2	k
Dwyidag Bar, ϕPn	298.2	k

Original Anchor Rods		
Arrangement	Cluster	-
Quantity	8	-
Diameter, ϕ	2 1/4	in
Bolt Circle	44	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	6.0	in
Orientation Offset	0	°
Applied Force, Pu	146.7	k
Anchor Rods, ϕPn	243.6	k

Additional Anchor Rods		
Quantity	8	-
Diameter, ϕ	1 1/4	in
Bolt Circle	41.875	in
Grade	A325	
Yield Strength, Fy	92	ksi
Tensile Strength, Fu	120	ksi
Bypass Base?	No	
Orientation Offset	25	°
Applied Force, Pu	39.5	k
Additional Rod, ϕPn	87.2	k

Additional Dwyidag Reinforcement		
Quantity	4	-
Diameter, ϕ	2 1/4	in
Bolt Circle	48.22	in
Grade	Other	
Yield Strength, Fy	70	ksi
Tensile Strength, Fu	100	ksi
Bypass Base?	Yes (Dwyidag)	
Orientation Offset	45	°
Applied Force, Pu	250.8	k
Additional Rod, ϕPn	298.2	k

Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	29.3	1368.4	0.44
Anchor Rod Forces	25.9	1077.4	0.34
Additional Bolt (Grp1) Forces	3.5	291.0	0.09
Additional Bolt (Grp2) Forces	0.0	989.0	0.32
Dywidag Forces	0.0	770.3	0.25
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	41.1076	3.4256	0.1614		6403.09
Bolt	3.9761	3.2477	0.8393	4.5	6294.24
Bolt1	1.2272	0.9691	0.0747	7	1699.95
Bolt2	3.9761	3.9761	1.2581	4.5	4627.56
Dywidag	3.9761	3.9761	1.2581		3604.38
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate		
Shape	Square	-
Width, W	44	in
Thickness, t	2.5	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	80	ksi
Base Plate Chord	25.761	in
Detail Type	c	-
Detail Factor	0.55	-
Clear Distance	N/A	-

Anchor Rods		
Anchor Rod Quantity, N	8	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	44	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	146.7	k
Applied Shear, Vu	0.8	k
Compressive Capacity, φPn	243.6	k
Tensile Capacity, φRnt	0.602	OK
Interaction Capacity	0.608	OK

External Base Plate		
Chord Length AA	26.430	in
Additional AA	0.000	in
Section Modulus, Z	41.297	in ³
Applied Moment, Mu	1255.4	k-ft
Bending Capacity, φMn	2230.1	k-ft
Capacity, Mu/φMn	0.563	OK
Chord Length AB	25.168	in
Additional AB	0.000	in
Section Modulus, Z	39.325	in ³
Applied Moment, Mu	1021.1	k-ft
Bending Capacity, φMn	2123.5	k-ft
Capacity, Mu/φMn	0.481	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		

Additional Bolt Group 1		
Bolt Quantity, N	8	-
Bolt Diameter, d	1.25	in
Bolt Circle, BC	41.875	in
Yield Strength, Fy	92	ksi
Tensile Strength, Fu	120	ksi
Applied Axial, Pu	39.5	k
Applied Shear, Vu	0.5	k
Compressive Capacity, φPn	87.2	k
Compressive Capacity, φPn	0.453	OK
Interaction Capacity	0.464	OK

Additional Bolt Group 2		
Bolt Quantity, N	4	-
Bolt Diameter, d	2.25	in
Bolt Circle, BC	48.22	in
Yield Strength, Fy	70	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	250.8	k
Applied Shear, Vu	0.0	k
Compressive Capacity, φPn	298.2	k
Compressive Capacity, φPn	0.841	OK
Interaction Capacity	0.841	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, φMn	0.0	k-ft
Capacity, Mu/φMn		

Dywidag Reinforcement		
Dywidag Quantity, N	4	-
Dywidag Diameter, d	2.25	in
Bolt Circle, BC	42.55	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	157.2	k
Compressive Capacity, φPn	298.2	k
Capacity, Pu/φPn	0.527	OK

Pier Foundation Analysis (ANSI/TIA-222-H)

Foundation Analysis Parameters

Pier Diameter	<i>D</i>	5.00	ft
Pier Embedment	<i>L-h</i>	22.2	ft
Pier Height above Ground	<i>H</i>	0.50	ft
Water Table Depth [BGL]	<i>GW</i>	5	ft
Pullout Angle	Θ	30	°
Unit Weight of Concrete		150	pcf
Uplift Skin Friction Factor		0.890	

Reactions

Moment, M_u	3,127.7	k-ft
Shear, V_u	29.3	k
Axial, P_u	62.1	k
Uplift, T_u	0.0	k

Soil Properties

Layer Depth (ft)		Unit Weight	Cohesion	Friction Angle	Ultimate Skin Friction	Ultimate Bearing Pressure
TOP	BTM	pcf	psf	°	psf	psf
0.0	1.0	116	0	0	0	0
1.0	3.0	115	0	30	0	0
3.0	4.5	106	0	29	0	0
4.5	7.0	117	0	31	731	0
7.0	8.0	126	0	34	788	0
8.0	10.0	126	0	34	892	0
10.0	23.3	135	5,112	0	2,300	46,007

Soil Strength Capacities

Volume of Concrete	446.7	ft ³
Weight of Concrete [Buoyancy Considered]	45.9	k
Average Soil Unit Weight	78.8	pcf
Skin Friction Resistance	511.7	k
Compressive Bearing Resistance	903.4	k
Pullout Weight [Minus Concrete Weight]	479.8	k
Compressive Force, P_u	74.1	k
Nominal Compressive Capacity, $\phi_s P_n$	1,061.3	k
$P_u / \phi_s P_n$	7.0%	
Total Lateral Resistance	2,496.9	k
Inflection Point [BGL]	15.6	ft
Moment at Inflection Point, M_D	3,598.6	k-ft
Nominal Moment Capacity, $\phi_s M_n$	6,566.4	k-ft
$M_D / \phi_s M_n$	54.8%	

