Tower Engineering Solutions
Phone (972) 483-0607, Fax (972) 975-9615
8445 Freeport Parkway, Suite 375, Irving, Texas 75063

Structural Analysis Report

Existing 168 ft. SUMMIT Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT01364-S

Customer Site Name: Pomfret

Carrier Name: AT&T

Carrier Site ID / Name: CT11524A

Site Location: 62 Babbitt Hill Road

Pomfret, Connecticut

Windham County

Latitude: 41.870258

Longitude: -71.988241

Analysis Result:

Max Structural Usage: 56.5% [Pass]

Max Foundation Usage: 71% [Pass]

Report Prepared By : Stacey Hesselbein

STATE OF CONNECTICUT
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PROFESSIONAL ENGINEER

11/3/16

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Introduction

The purpose of this report is to summarize the analysis results on the 168 ft. SUMMIT Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Tower Drawings prepared by Paul J. Ford and Company, Job # 4728 Dated 04/30/1999
Foundation Drawing	Dispersive Wave Propagation Testing and Rebar Investigation prepared by FDH Engineering, Project #1207133EN1 Dated 08/17/2012
Geotechnical Report	Geotechnical Report by Jaworski Geotech Inc., Project # 99261G Dated 05/21/1999
Modification Drawings	N/A

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-G**.** In accordance with this standard, the structure was analyzed using **TESPoles,** a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed V_{ult} = 130 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 101.0 mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1” radial ice concurrent
Operational Wind Speed:	60 mph + 0” Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / 2012 IBC / 2016 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft.
Seismic Parameters:	S_S = 0.172, S_1 = 0.063

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	167.0	-	Vacant	(1)Low Profile Platform	-	-
2	157.0	6	Decibel - DB980H90E-M - Panel	(1)Low Profile Platform	(6) 1 5/8"	Sprint
-	147.0	6	Powerwave - 7770.00 - Panel	(1)Low Profile Platform	(12) 1 5/8" (2) 3/4" DC (1) 7/16" Fiber	AT&T
-		3	KMW - AM-X-CD-17-65-00T-RET - Panel			
-		6	Powerwave - LGP21401 - TMA			
-		6	ADC Cleargain - 1900W800 - TMA			
-		6	Ericsson - RRUS 11 - RRU			
-		6	Powerwave - LGP21903 - Diplexer			
-		1	Raycap - DC2-48-60-18-8F - SP			
-		3	CSS - Dual Combiner			
12	137.5	3	Kathrein - 782 11056 - Bias T's	(1)Low Profile Platform w/Site Pro P/N PRK-1245	(12) 1 5/8"	T-Mobile
13	137.0	3	RFS - APXV18-206516S-C-A20 - Panel			
14		3	Commscope - LNX-6515DS-VTM - Panel			
15		3	Allen Telecom - FE15501P77/75 - TMA			
16		3	Ericsson - KRY 112 144/1 - TMA			

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
3	147.0	6	Powerwave Technologies- 7770 - Panel	(1)Low Profile Platform (1) Ring Mount (Balmount LWRM)	(12) 1 5/8" (2) 3/4" DC (1) 7/16" Fiber	AT&T
4		3	KMW Communications - AM-X-CD-17-65-00T-RET - Panel			
5		6	Powerwave Allgon - LGP 21401 - TMA			
6		6	ADC Cleargain - 1900W800 - TMA			
7		6	Ericsson - RRUS 11 - RRU			
8		3	Ericsson - RRUS 12 - RRU			
9		6	Powerwave - LGP21903 - Diplexer			
10		1	Raycap - DC6-48-60-18-8F - SP			
11		3	CSS - Dual Band Combiner			

All transmission lines are considered running inside of the pole shafts.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	**56.5%**	**52.0%**	**45.8%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	3415.5	30.5	50.0

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.9786 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA/EIA 222-G Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC.** Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.

2. The analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.

3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.

4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.

5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.

6. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.

7. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.

8. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.

9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 56.45% at 0.0ft

Structure:	CT01364-S-SBA	**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret	**Exposure:**	C	
Height:	168.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

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Dead Load Factor:	1.20	**Iterations:**	25
Wind Load Factor:	1.60		

Load Case : 1.2D + 1.6W 101 mph Wind

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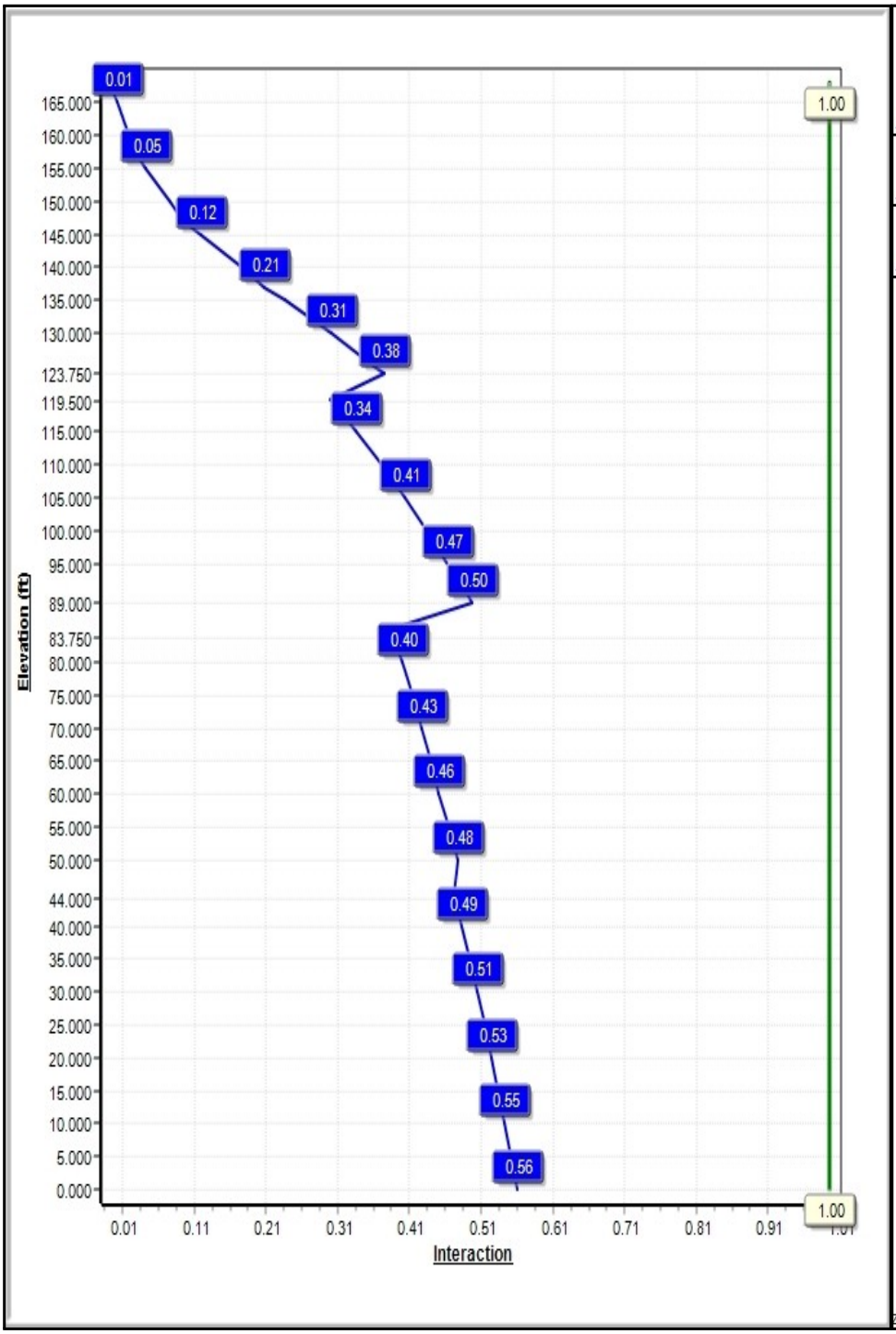

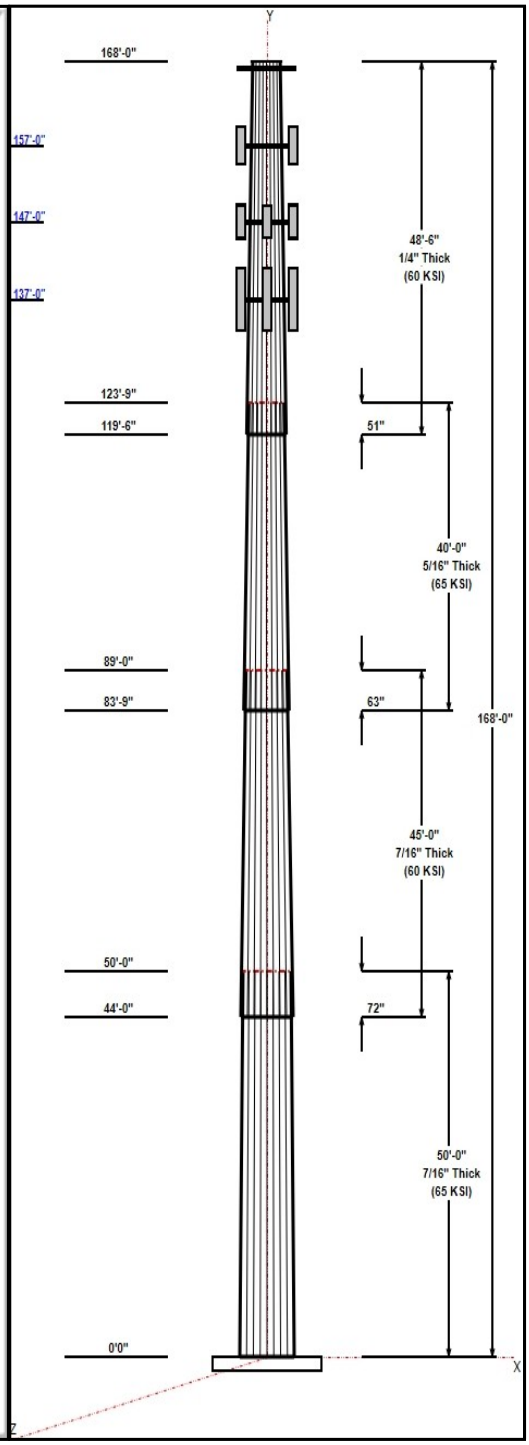

Structure: CT01364-S-SBA

Type:	Tapered	**Base Shape:**	18 Sided	11/3/2016
Site Name:	Pomfret	**Taper:**	0.20500	
Height:	168.00 (ft)			
Base Elev:	0.00 (ft)			Page: 2

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Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	50.00	46.19	56.44	0.438		0.20500	65
2	45.00	39.07	48.30	0.438	Slip	0.20500	60
3	40.00	32.57	40.77	0.313	Slip	0.20500	65
4	48.50	24.00	33.94	0.250	Slip	0.20500	60

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
168.00	168.00	1	6' Lightning rod	T-Mobile
167.00	167.00	1	Low Profile Platform-flat	Vacant
157.00	157.00	6	DB980H90E-M	Sprint
157.00	157.00	1	Low Profile Platform-flat	Sprint
147.00	147.00	6	RRUS 11	AT&T
147.00	147.00	1	DC6-48-60-18-8F	AT&T
147.00	147.00	6	7770.00	AT&T
147.00	147.00	3	AM-X-CD-17-65-00T-RET	AT&T
147.00	147.00	6	LGP21401	AT&T
147.00	147.00	6	LGP21903	AT&T
147.00	147.00	6	1900W800	AT&T
147.00	147.00	3	Dual Combiner	AT&T
147.00	147.00	1	Low Profile	AT&T
147.00	147.00	3	RRUS 12	AT&T
137.50	137.50	3	782 11056	T-Mobile
137.00	137.00	1	Low Profile Platform w/	T-Mobile
137.00	137.00	3	APXV18-206516S-C-A20	T-Mobile
137.00	137.00	3	LNX-6515DS-VTM	T-Mobile
137.00	137.00	3	KRY 112 144/1	T-Mobile
137.00	137.00	3	FE15501P77/75	T-Mobile

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	157.00	Inside	1 5/8" Coax	Sprint
0.00	147.00	Inside	1 5/8" Coax	AT&T
0.00	147.00	Inside	3/4" DC	AT&T
0.00	147.00	Inside	7/16" Fiber	AT&T
0.00	137.00	Inside	1 5/8" Coax	T-Mobile

Anchor Bolts

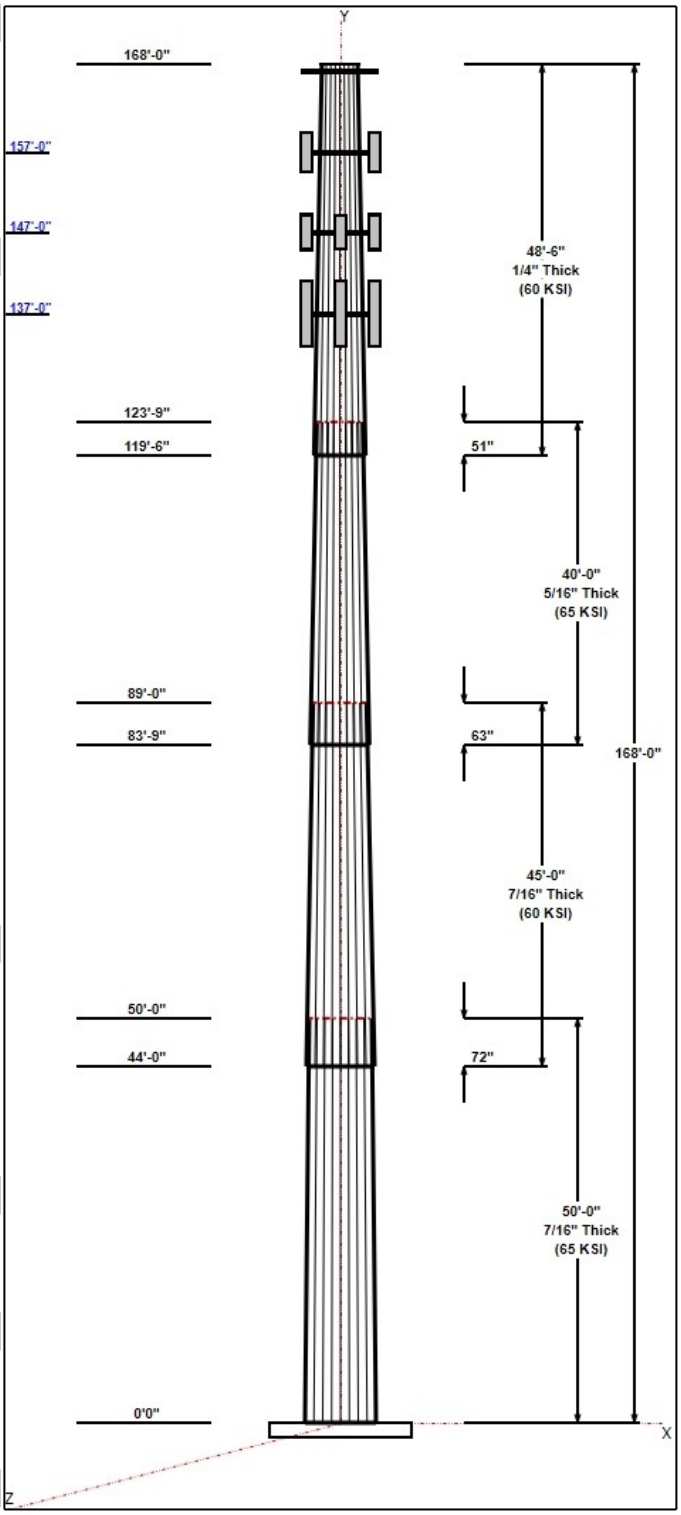
Qty	Specifications	Grade (ksi)	Arrangement
20	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.2500	64.0	50.0	Clipped

Reactions

Load Case	Moment	Shear	Axial
1.2D + 1.6W 101 mph Wind	3415.5	30.5	50.0
0.9D + 1.6W 101 mph Wind	3382.6	30.5	37.5
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1045.9	9.1	79.1



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1.2D + 1.0E	113.1	1.0	50.1
0.9D + 1.0E	112.0	1.0	37.5
1.0D + 1.0W 60 mph Wind	749.1	6.7	41.7

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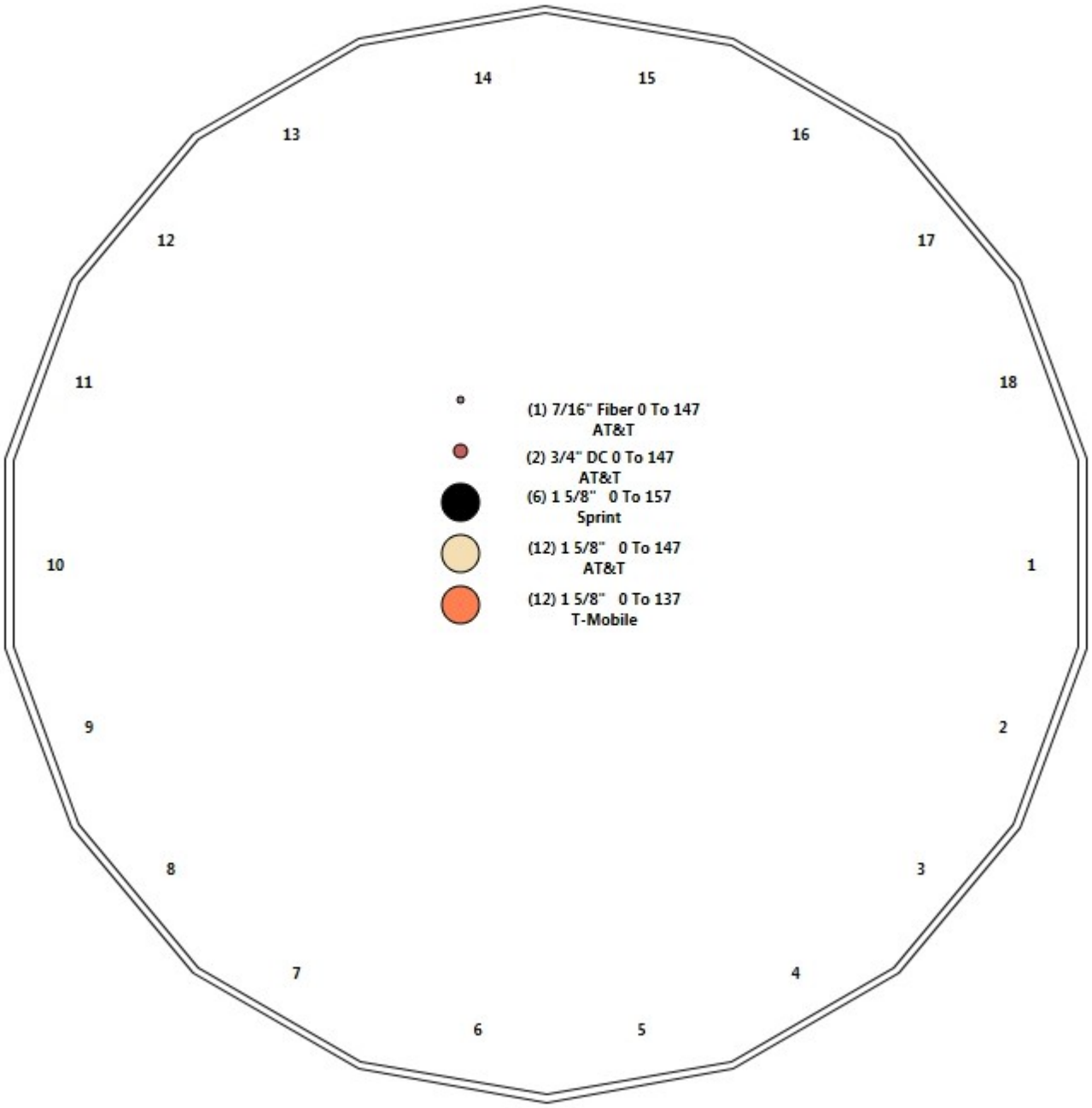
Structure: CT01364-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Pomfret
Height: 168.00 (ft)

11/3/2016



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Shaft Properties

Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	50.000	0.4375	65		0.00	12,020
2	18	45.000	0.4375	60	Slip	72.00	9,195
3	18	40.000	0.3125	65	Slip	63.00	4,908
4	18	48.500	0.2500	60	Slip	51.00	3,761
					Total Shaft Weight:		**29,884**

	Bottom						Top						
Sec. No.	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Taper**
1	56.44	0.00	77.76	30813.76	21.34	129.01	46.19	50.00	63.53	16802.2	17.21	105.5	0.205000
2	48.30	44.00	66.45	19229.70	18.05	110.39	39.07	89.00	53.64	10115.3	14.34	89.30	0.205000
3	40.77	83.75	40.13	8299.11	21.59	130.47	32.57	123.75	32.00	4206.66	16.97	104.2	0.205000
4	33.94	119.5	26.73	3834.28	22.53	135.77	24.00	168.00	18.84	1343.00	15.52	96.00	0.205000

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Load Summary

Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 6

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Discrete Appurtenances

				No Ice			Ice				
No.	**Elev (ft)**	**Description**	**Qty**	**Weight (lb)**	**CaAa (sf)**	**CaAa Factor**	**Weight (lb)**	**CaAa (sf)**	**CaAa Factor**	**Hor. Ecc. (ft)**	**Vert Ecc (ft)**
1	168.00	6' Lightning rod	1	6.50	0.38	0.00	55.45	1.847	0.00	0.00	0.00
2	167.00	Low Profile Platform-flat	1	1200.00	25.00	1.00	2611.24	53.225	1.00	0.00	0.00
3	157.00	DB980H90E-M	6	8.50	3.89	0.79	148.31	5.333	0.80	0.00	0.00
4	157.00	Low Profile Platform-flat	1	1200.00	25.00	1.00	2602.55	53.051	1.00	0.00	0.00
5	147.00	RRUS 11	6	50.70	2.52	0.76	178.44	3.412	0.77	0.00	0.00
6	147.00	DC6-48-60-18-8F	1	31.80	1.47	1.00	114.07	2.401	1.00	0.00	0.00
7	147.00	7770.00	6	35.00	5.50	0.75	228.61	6.948	0.75	0.00	0.00
8	147.00	AM-X-CD-17-65-00T-RET	3	30.80	5.00	0.76	179.83	7.494	0.77	0.00	0.00
9	147.00	LGP21401	6	14.10	1.29	0.64	47.37	2.402	0.66	0.00	0.00
10	147.00	LGP21903	6	5.50	0.27	0.74	16.71	0.799	0.76	0.00	0.00
11	147.00	1900W800	6	28.70	1.54	0.76	79.94	2.727	0.77	0.00	0.00
12	147.00	Dual Combiner	3	4.80	0.51	0.59	17.66	1.214	0.63	0.00	0.00
13	147.00	Low Profile Platform-Round	1	1500.00	22.00	1.00	3241.69	45.501	1.00	0.00	0.00
14	147.00	RRUS 12	3	60.00	2.70	0.67	149.17	3.578	0.69	0.00	0.00
15	137.50	782 11056	3	1.80	0.13	0.78	5.08	0.516	0.82	0.00	0.00
16	137.00	Low Profile Platform w/ Kicker	1	1800.00	22.00	1.00	3875.36	45.336	1.00	0.00	0.00
17	137.00	APXV18-206516S-C-A20	3	18.70	3.61	0.78	111.29	6.064	0.79	0.00	0.00
18	137.00	LNX-6515DS-VTM	3	51.30	11.46	0.84	354.80	15.762	0.84	0.00	0.00
19	137.00	KRY 112 144/1	3	11.00	0.41	0.72	25.25	1.038	0.75	0.00	0.00
20	137.00	FE15501P77/75	3	17.50	0.52	0.99	47.46	1.291	0.99	0.00	0.00
		Totals:	**66**	**7,181.00**			**19,368.29**				

Linear Appurtenances

Bottom Elev. (ft)	**Top Elev. (ft)**	**Description**	**Exposed Width**	**Exposed**
0.00	157.00	(6) 1 5/8" Coax	0.00	Inside
0.00	147.00	(12) 1 5/8" Coax	0.00	Inside
0.00	147.00	(2) 3/4" DC	0.00	Inside
0.00	147.00	(1) 7/16" Fiber	0.00	Inside
0.00	137.00	(12) 1 5/8" Coax	0.00	Inside

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Shaft Section Properties

Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 7

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Increment Length: **5 (ft)**

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.4375	56.440	77.764	30813.8	21.34	129.01	76.3	1075.	0.0
5.00		0.4375	55.415	76.340	29152.6	20.92	126.66	76.8	1036.	1311.0
10.00		0.4375	54.390	74.917	27552.3	20.51	124.32	77.3	997.7	1286.7
15.00		0.4375	53.365	73.494	26011.6	20.10	121.98	77.8	960.0	1262.5
20.00		0.4375	52.340	72.071	24529.4	19.68	119.63	78.2	923.1	1238.3
25.00		0.4375	51.315	70.647	23104.7	19.27	117.29	78.7	886.8	1214.1
30.00		0.4375	50.290	69.224	21736.2	18.86	114.95	79.2	851.3	1189.9
35.00		0.4375	49.265	67.801	20422.8	18.44	112.61	79.7	816.5	1165.7
40.00		0.4375	48.240	66.377	19163.5	18.03	110.26	80.2	782.4	1141.4
44.00	Bot - Section 2	0.4375	47.420	65.239	18194.1	17.70	108.39	80.6	755.7	895.7
45.00		0.4375	47.215	64.954	17957.0	17.62	107.92	80.7	749.1	447.2
50.00	Top - Section 1	0.4375	47.065	64.746	17784.8	17.56	107.58	0.0	0.0	2206.7
55.00		0.4375	46.040	63.322	16637.5	17.15	105.23	75.7	711.8	1089.5
60.00		0.4375	45.015	61.899	15540.7	16.73	102.89	76.1	680.0	1065.3
65.00		0.4375	43.990	60.476	14493.1	16.32	100.55	76.2	648.9	1041.0
70.00		0.4375	42.965	59.053	13493.7	15.91	98.21	76.2	618.6	1016.8
75.00		0.4375	41.940	57.629	12541.4	15.49	95.86	76.2	589.0	992.6
80.00		0.4375	40.915	56.206	11634.9	15.08	93.52	76.2	560.1	968.4
83.75	Bot - Section 3	0.4375	40.146	55.139	10984.5	14.77	91.76	76.2	538.9	710.4
85.00		0.4375	39.890	54.783	10773.2	14.67	91.18	76.2	531.9	403.9
89.00	Top - Section 2	0.3125	39.695	39.061	7654.3	20.99	127.02	0.0	0.0	1275.1
90.00		0.3125	39.490	38.858	7535.4	20.87	126.37	76.9	375.8	132.6
95.00		0.3125	38.465	37.841	6959.3	20.29	123.09	77.5	356.4	652.5
100.00		0.3125	37.440	36.825	6413.3	19.71	119.81	78.2	337.4	635.2
105.00		0.3125	36.415	35.808	5896.7	19.14	116.53	78.9	318.9	617.9
110.00		0.3125	35.390	34.791	5408.5	18.56	113.25	79.6	301.0	600.6
115.00		0.3125	34.365	33.775	4948.1	17.98	109.97	80.3	283.6	583.3
119.50	Bot - Section 4	0.3125	33.443	32.860	4556.8	17.46	107.02	80.9	268.4	510.2
120.00		0.3125	33.340	32.758	4514.6	17.40	106.69	80.9	266.7	101.2
123.75	Top - Section 3	0.2500	33.071	26.043	3544.5	21.91	132.28	0.0	0.0	749.3
125.00		0.2500	32.815	25.839	3462.1	21.73	131.26	70.9	207.8	110.3
130.00		0.2500	31.790	25.026	3145.4	21.01	127.16	71.7	194.9	432.7
135.00		0.2500	30.765	24.213	2848.6	20.29	123.06	72.4	182.4	418.9
137.00		0.2500	30.355	23.887	2735.3	20.00	121.42	72.7	177.5	163.7
137.50		0.2500	30.253	23.806	2707.4	19.93	121.01	72.8	176.3	40.6
140.00		0.2500	29.740	23.399	2571.0	19.57	118.96	73.2	170.3	200.8
145.00		0.2500	28.715	22.586	2312.2	18.84	114.86	73.9	158.6	391.2
147.00		0.2500	28.305	22.261	2213.7	18.55	113.22	74.2	154.0	152.6
150.00		0.2500	27.690	21.773	2071.3	18.12	110.76	74.7	147.3	224.8
155.00		0.2500	26.665	20.960	1847.7	17.40	106.66	75.5	136.5	363.5
157.00		0.2500	26.255	20.634	1763.0	17.11	105.02	75.8	132.3	141.5
160.00		0.2500	25.640	20.146	1640.9	16.67	102.56	76.2	126.0	208.2
165.00		0.2500	24.615	19.333	1450.1	15.95	98.46	76.2	116.0	335.8
167.00		0.2500	24.205	19.008	1378.1	15.66	96.82	76.2	112.1	130.5
168.00		0.2500	24.000	18.845	1343.0	15.52	96.00	76.2	110.2	64.4
										29884.3

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Wind Loading - Shaft

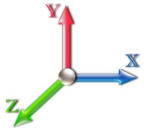
Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 8

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	21.088	23.20	444.72	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	21.088	23.20	436.64	0.650	0.000	5.00	23.663	15.38	570.8	0.0	1573.1
10.00		1.00	0.85	21.088	23.20	428.57	0.650	0.000	5.00	23.229	15.10	560.4	0.0	1544.1
15.00		1.00	0.85	21.088	23.20	420.49	0.650	0.000	5.00	22.795	14.82	549.9	0.0	1515.0
20.00		1.00	0.90	22.375	24.61	424.81	0.650	0.000	5.00	22.362	14.54	572.4	0.0	1486.0
25.00		1.00	0.95	23.451	25.80	426.39	0.650	0.000	5.00	21.928	14.25	588.3	0.0	1456.9
30.00		1.00	0.98	24.369	26.81	425.97	0.650	0.000	5.00	21.494	13.97	599.2	0.0	1427.9
35.00		1.00	1.01	25.172	27.69	424.12	0.650	0.000	5.00	21.061	13.69	606.5	0.0	1398.8
40.00		1.00	1.04	25.890	28.48	421.17	0.650	0.000	5.00	20.627	13.41	610.9	0.0	1369.7
44.00	Bot - Section 2	1.00	1.06	26.415	29.06	418.19	0.650	0.000	4.00	16.189	10.52	489.2	0.0	1074.9
45.00		1.00	1.07	26.540	29.19	417.37	0.650	0.000	1.00	4.078	2.65	123.8	0.0	536.6
50.00	Top - Section 1	1.00	1.09	27.135	29.85	412.86	0.650	0.000	5.00	20.130	13.08	624.9	0.0	2648.0
55.00		1.00	1.12	27.685	30.45	415.67	0.650	0.000	5.00	19.696	12.80	623.8	0.0	1307.4
60.00		1.00	1.14	28.197	31.02	410.15	0.650	0.000	5.00	19.262	12.52	621.4	0.0	1278.3
65.00		1.00	1.16	28.676	31.54	404.20	0.650	0.000	5.00	18.829	12.24	617.7	0.0	1249.2
70.00		1.00	1.17	29.127	32.04	397.88	0.650	0.000	5.00	18.395	11.96	613.0	0.0	1220.2
75.00		1.00	1.19	29.553	32.51	391.22	0.650	0.000	5.00	17.961	11.67	607.3	0.0	1191.1
80.00		1.00	1.21	29.958	32.95	384.26	0.650	0.000	5.00	17.528	11.39	600.7	0.0	1162.1
83.75	Bot - Section 3	1.00	1.22	30.248	33.27	378.86	0.650	0.000	3.75	12.861	8.36	445.0	0.0	852.5
85.00		1.00	1.22	30.342	33.38	377.03	0.650	0.000	1.25	4.299	2.79	149.2	0.0	484.7
89.00	Top - Section 2	1.00	1.23	30.638	33.70	371.07	0.650	0.000	4.00	13.575	8.82	475.8	0.0	1530.1
90.00		1.00	1.24	30.710	33.78	375.50	0.650	0.000	1.00	3.350	2.18	117.7	0.0	159.1
95.00		1.00	1.25	31.061	34.17	367.84	0.650	0.000	5.00	16.491	10.72	586.0	0.0	783.0
100.00		1.00	1.27	31.399	34.54	359.98	0.650	0.000	5.00	16.057	10.44	576.8	0.0	762.2
105.00		1.00	1.28	31.723	34.89	351.93	0.650	0.000	5.00	15.624	10.16	567.0	0.0	741.5
110.00		1.00	1.29	32.035	35.24	343.70	0.650	0.000	5.00	15.190	9.87	556.7	0.0	720.7
115.00		1.00	1.30	32.336	35.57	335.31	0.650	0.000	5.00	14.756	9.59	545.9	0.0	699.9
119.50	Bot - Section 4	1.00	1.31	32.598	35.86	327.63	0.650	0.000	4.50	12.910	8.39	481.4	0.0	612.2
120.00		1.00	1.32	32.627	35.89	326.77	0.650	0.000	0.50	1.434	0.93	53.5	0.0	121.5
123.75	Top - Section 3	1.00	1.32	32.839	36.12	320.27	0.650	0.000	3.75	10.616	6.90	398.8	0.0	899.2
125.00		1.00	1.33	32.909	36.20	323.01	0.650	0.000	1.25	3.485	2.26	131.2	0.0	132.4
130.00		1.00	1.34	33.182	36.50	314.21	0.650	0.000	5.00	13.667	8.88	518.8	0.0	519.3
135.00		1.00	1.35	33.446	36.79	305.29	0.650	0.000	5.00	13.233	8.60	506.3	0.0	502.6
137.00	Appurtenance(s)	1.00	1.35	33.550	36.90	301.69	0.650	0.000	2.00	5.172	3.36	198.5	0.0	196.4
137.50	Appurtenance(s)	1.00	1.35	33.576	36.93	300.79	0.650	0.000	0.50	1.282	0.83	49.2	0.0	48.7
140.00		1.00	1.36	33.703	37.07	296.25	0.650	0.000	2.50	6.346	4.12	244.7	0.0	240.9
145.00		1.00	1.37	33.953	37.35	287.10	0.650	0.000	5.00	12.366	8.04	480.3	0.0	469.4
147.00	Appurtenance(s)	1.00	1.37	34.051	37.46	283.41	0.650	0.000	2.00	4.825	3.14	188.0	0.0	183.1
150.00		1.00	1.38	34.196	37.62	277.84	0.650	0.000	3.00	7.107	4.62	278.0	0.0	269.7
155.00		1.00	1.39	34.433	37.88	268.48	0.650	0.000	5.00	11.499	7.47	453.0	0.0	436.2
157.00	Appurtenance(s)	1.00	1.39	34.526	37.98	264.71	0.650	0.000	2.00	4.478	2.91	176.9	0.0	169.8
160.00		1.00	1.40	34.664	38.13	259.03	0.650	0.000	3.00	6.587	4.28	261.2	0.0	249.8
165.00		1.00	1.41	34.890	38.38	249.48	0.650	0.000	5.00	10.631	6.91	424.3	0.0	403.0
167.00	Appurtenance(s)	1.00	1.41	34.978	38.48	245.63	0.650	0.000	2.00	4.131	2.69	165.3	0.0	156.6
168.00	Appurtenance(s)	1.00	1.41	35.022	38.52	243.71	0.650	0.000	1.00	2.040	1.33	81.7	0.0	77.3
								Totals:	**168.00**			**18,691.5**		**35,861.2**

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Discrete Appurtenance Forces

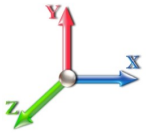
Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 9

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	168.00	6' Lightning rod	1	35.022	38.524	0.00	1.00	0.38	7.80	0.000	0.000	23.42	0.00	0.00
2	167.00	Low Profile Platform-flat	1	34.978	38.476	1.00	1.00	25.00	1440.00	0.000	0.000	1539.04	0.00	0.00
3	157.00	Low Profile Platform-flat	1	34.526	37.979	1.00	1.00	25.00	1440.00	0.000	0.000	1519.16	0.00	0.00
4	157.00	DB980H90E-M	6	34.526	37.979	0.63	0.80	14.75	61.20	0.000	0.000	896.36	0.00	0.00
5	147.00	RRUS 12	3	34.051	37.456	0.54	0.80	4.34	216.00	0.000	0.000	260.19	0.00	0.00
6	147.00	Low Profile	1	34.051	37.456	1.00	1.00	22.00	1800.00	0.000	0.000	1318.47	0.00	0.00
7	147.00	Dual Combiner	3	34.051	37.456	0.47	0.80	0.72	17.28	0.000	0.000	43.28	0.00	0.00
8	147.00	1900W800	6	34.051	37.456	0.61	0.80	5.62	206.64	0.000	0.000	336.68	0.00	0.00
9	147.00	LGP21903	6	34.051	37.456	0.59	0.80	0.96	39.60	0.000	0.000	57.48	0.00	0.00
10	147.00	LGP21401	6	34.051	37.456	0.51	0.80	3.96	101.52	0.000	0.000	237.50	0.00	0.00
11	147.00	AM-X-CD-17-65-00T-RET	3	34.051	37.456	0.61	0.80	9.12	110.88	0.000	0.000	546.56	0.00	0.00
12	147.00	7770.00	6	34.051	37.456	0.60	0.80	19.80	252.00	0.000	0.000	1186.62	0.00	0.00
13	147.00	DC6-48-60-18-8F	1	34.051	37.456	0.80	0.80	1.18	38.16	0.000	0.000	70.48	0.00	0.00
14	147.00	RRUS 11	6	34.051	37.456	0.61	0.80	9.19	365.04	0.000	0.000	550.94	0.00	0.00
15	137.50	782 11056	3	33.576	36.933	0.62	0.80	0.24	6.48	0.000	0.000	14.38	0.00	0.00
16	137.00	FE15501P77/75	3	33.550	36.905	0.79	0.80	1.24	63.00	0.000	0.000	72.95	0.00	0.00
17	137.00	KRY 112 144/1	3	33.550	36.905	0.58	0.80	0.71	39.60	0.000	0.000	41.83	0.00	0.00
18	137.00	LNX-6515DS-VTM	3	33.550	36.905	0.67	0.80	23.10	184.68	0.000	0.000	1364.21	0.00	0.00
19	137.00	APXV18-206516S-C-A20	3	33.550	36.905	0.62	0.80	6.76	67.32	0.000	0.000	399.04	0.00	0.00
20	137.00	Low Profile Platform w/	1	33.550	36.905	1.00	1.00	22.00	2160.00	0.000	0.000	1299.06	0.00	0.00
							Totals:		**8,617.20**			**11,777.65**		

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Total Applied Force Summary

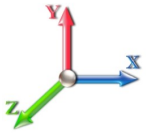
Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 10

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		570.84	1765.51	0.00	0.00
10.00		560.38	1736.45	0.00	0.00
15.00		549.92	1707.39	0.00	0.00
20.00		572.38	1678.33	0.00	0.00
25.00		588.28	1649.27	0.00	0.00
30.00		599.21	1620.21	0.00	0.00
35.00		606.48	1591.15	0.00	0.00
40.00		610.93	1562.09	0.00	0.00
44.00		489.22	1228.75	0.00	0.00
45.00		123.82	575.05	0.00	0.00
50.00		624.88	2840.40	0.00	0.00
55.00		623.81	1499.72	0.00	0.00
60.00		621.36	1470.66	0.00	0.00
65.00		617.69	1441.61	0.00	0.00
70.00		612.95	1412.55	0.00	0.00
75.00		607.26	1383.49	0.00	0.00
80.00		600.70	1354.43	0.00	0.00
83.75		445.04	996.75	0.00	0.00
85.00		149.22	532.79	0.00	0.00
89.00		475.78	1684.01	0.00	0.00
90.00		117.70	197.56	0.00	0.00
95.00		586.00	975.33	0.00	0.00
100.00		576.78	954.57	0.00	0.00
105.00		567.00	933.82	0.00	0.00
110.00		556.69	913.06	0.00	0.00
115.00		545.88	892.30	0.00	0.00
119.50		481.45	785.33	0.00	0.00
120.00		53.52	140.72	0.00	0.00
123.75		398.83	1043.49	0.00	0.00
125.00		131.18	180.50	0.00	0.00
130.00		518.80	711.61	0.00	0.00
135.00		506.34	695.01	0.00	0.00
137.00	(13) attachments	3375.60	2787.95	0.00	0.00
137.50	(3) attachments	63.63	66.92	0.00	0.00
140.00		244.67	299.69	0.00	0.00
145.00		480.33	586.92	0.00	0.00
147.00	(41) attachments	4796.15	3377.24	0.00	0.00
150.00		278.04	292.17	0.00	0.00
155.00		452.95	473.67	0.00	0.00
157.00	(7) attachments	2592.39	1686.02	0.00	0.00
160.00		261.21	249.78	0.00	0.00
165.00		424.33	403.02	0.00	0.00
167.00	(1) attachments	1704.34	1596.56	0.00	0.00
168.00	(1) attachments	105.14	85.08	0.00	0.00
	Totals:	**30,469.11**	**50,058.90**	**0.00**	**0.00**

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Calculated Forces

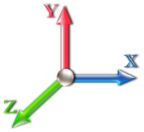
Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 11

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-50.02	-30.54	0.00	-3415.5	0.00	3415.52	5340.38	2670.19	12289.6	6153.95	0.00	0.000	0.000	0.565
5.00	-48.17	-30.09	0.00	-3262.8	0.00	3262.84	5276.02	2638.01	11917.5	5967.64	0.08	-0.154	0.000	0.556
10.00	-46.36	-29.65	0.00	-3112.3	0.00	3112.37	5210.42	2605.21	11548.2	5782.69	0.33	-0.310	0.000	0.547
15.00	-44.57	-29.21	0.00	-2964.1	0.00	2964.11	5143.57	2571.78	11181.7	5599.17	0.74	-0.467	0.000	0.538
20.00	-42.82	-28.74	0.00	-2818.0	0.00	2818.04	5075.47	2537.74	10818.2	5417.17	1.31	-0.625	0.000	0.529
25.00	-41.10	-28.25	0.00	-2674.3	0.00	2674.32	5006.13	2503.07	10457.9	5236.76	2.05	-0.784	0.000	0.519
30.00	-39.41	-27.74	0.00	-2533.0	0.00	2533.07	4935.55	2467.77	10101.0	5058.02	2.96	-0.944	0.000	0.509
35.00	-37.75	-27.21	0.00	-2394.3	0.00	2394.39	4863.72	2431.86	9747.59	4881.04	4.03	-1.105	0.000	0.498
40.00	-36.14	-26.66	0.00	-2258.3	0.00	2258.34	4790.64	2395.32	9397.80	4705.88	5.28	-1.268	0.000	0.488
44.00	-34.88	-26.19	0.00	-2151.7	0.00	2151.71	4731.29	2365.64	9120.70	4567.13	6.40	-1.398	0.000	0.479
45.00	-34.27	-26.11	0.00	-2125.5	0.00	2125.52	4716.32	2358.16	9051.82	4532.64	6.69	-1.432	0.000	0.476
50.00	-31.37	-25.50	0.00	-1994.9	0.00	1994.96	4386.97	2193.49	8392.46	4202.47	8.28	-1.595	0.000	0.482
55.00	-29.82	-24.92	0.00	-1867.4	0.00	1867.46	4315.09	2157.55	8071.80	4041.90	10.04	-1.759	0.000	0.469
60.00	-28.31	-24.33	0.00	-1742.8	0.00	1742.87	4242.11	2121.05	7755.22	3883.37	11.96	-1.913	0.000	0.456
65.00	-26.82	-23.73	0.00	-1621.2	0.00	1621.25	4147.44	2073.72	7406.11	3708.56	14.05	-2.067	0.000	0.444
70.00	-25.37	-23.13	0.00	-1502.6	0.00	1502.60	4049.83	2024.91	7059.92	3535.21	16.30	-2.220	0.000	0.431
75.00	-23.95	-22.53	0.00	-1386.9	0.00	1386.95	3952.22	1976.11	6722.01	3366.00	18.70	-2.373	0.000	0.418
80.00	-22.58	-21.93	0.00	-1274.2	0.00	1274.28	3854.61	1927.31	6392.39	3200.95	21.27	-2.523	0.000	0.404
83.75	-21.57	-21.47	0.00	-1192.0	0.00	1192.06	3781.40	1890.70	6150.62	3079.88	23.30	-2.637	0.000	0.393
85.00	-21.02	-21.32	0.00	-1165.2	0.00	1165.22	3757.00	1878.50	6071.06	3040.04	23.99	-2.675	0.000	0.389
89.00	-19.33	-20.79	0.00	-1079.9	0.00	1079.94	2696.95	1348.48	4363.97	2185.23	26.28	-2.793	0.000	0.502
90.00	-19.10	-20.70	0.00	-1059.1	0.00	1059.15	2687.67	1343.84	4326.14	2166.29	26.87	-2.823	0.000	0.496
95.00	-18.09	-20.13	0.00	-955.65	0.00	955.65	2640.52	1320.26	4138.17	2072.16	29.93	-3.014	0.000	0.468
100.00	-17.11	-19.55	0.00	-855.02	0.00	855.02	2592.12	1296.06	3952.30	1979.09	33.18	-3.199	0.000	0.439
105.00	-16.15	-18.98	0.00	-757.27	0.00	757.27	2542.48	1271.24	3768.69	1887.15	36.63	-3.377	0.000	0.408
110.00	-15.22	-18.42	0.00	-662.36	0.00	662.36	2491.60	1245.80	3587.51	1796.42	40.26	-3.549	0.000	0.375
115.00	-14.32	-17.85	0.00	-570.28	0.00	570.28	2439.47	1219.73	3408.91	1706.99	44.06	-3.711	0.000	0.340
119.50	-13.54	-17.34	0.00	-489.96	0.00	489.96	2391.49	1195.74	3250.50	1627.67	47.62	-3.848	0.000	0.307
120.00	-13.39	-17.29	0.00	-481.29	0.00	481.29	2386.09	1193.05	3233.04	1618.92	48.03	-3.863	0.000	0.303
123.75	-12.35	-16.83	0.00	-416.46	0.00	416.46	1658.06	829.03	2236.65	1119.99	51.10	-3.969	0.000	0.380
125.00	-12.15	-16.71	0.00	-395.41	0.00	395.41	1649.50	824.75	2207.60	1105.44	52.15	-4.003	0.000	0.365
130.00	-11.44	-16.17	0.00	-311.86	0.00	311.86	1614.57	807.28	2092.31	1047.71	56.42	-4.149	0.000	0.305
135.00	-10.76	-15.63	0.00	-231.02	0.00	231.02	1578.53	789.26	1978.61	990.78	60.83	-4.272	0.000	0.240
137.00	-8.23	-12.06	0.00	-199.76	0.00	199.76	1563.80	781.90	1933.60	968.24	62.63	-4.315	0.000	0.212
137.50	-8.16	-11.99	0.00	-193.73	0.00	193.73	1560.09	780.05	1922.40	962.63	63.08	-4.325	0.000	0.207
140.00	-7.87	-11.73	0.00	-163.75	0.00	163.75	1541.39	770.69	1866.63	934.70	65.35	-4.372	0.000	0.181
145.00	-7.31	-11.22	0.00	-105.08	0.00	105.08	1503.14	751.57	1756.51	879.56	69.97	-4.446	0.000	0.125
147.00	-4.32	-6.17	0.00	-82.65	0.00	82.65	1487.53	743.77	1713.02	857.78	71.84	-4.469	0.000	0.099
150.00	-4.04	-5.88	0.00	-64.12	0.00	64.12	1463.79	731.89	1648.40	825.42	74.65	-4.497	0.000	0.081
155.00	-3.61	-5.39	0.00	-34.74	0.00	34.74	1423.34	711.67	1542.43	772.36	79.38	-4.531	0.000	0.048
157.00	-2.13	-2.67	0.00	-23.96	0.00	23.96	1406.84	703.42	1500.67	751.45	81.28	-4.540	0.000	0.033
160.00	-1.90	-2.39	0.00	-15.95	0.00	15.95	1381.63	690.81	1438.59	720.36	84.13	-4.550	0.000	0.024
165.00	-1.53	-1.94	0.00	-3.99	0.00	3.99	1325.85	662.93	1324.24	663.10	88.90	-4.559	0.000	0.007
167.00	-0.08	-0.11	0.00	-0.11	0.00	0.11	1303.54	651.77	1279.82	640.86	90.80	-4.560	0.000	0.000
168.00	0.00	-0.11	0.00	0.00	0.00	0.00	1292.39	646.19	1257.90	629.89	91.76	-4.560	0.000	0.000

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Wind Loading - Shaft

Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 12

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Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60

Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	21.088	23.20	444.72	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	21.088	23.20	436.64	0.650	0.000	5.00	23.663	15.38	570.8	0.0	1179.9
10.00		1.00	0.85	21.088	23.20	428.57	0.650	0.000	5.00	23.229	15.10	560.4	0.0	1158.1
15.00		1.00	0.85	21.088	23.20	420.49	0.650	0.000	5.00	22.795	14.82	549.9	0.0	1136.3
20.00		1.00	0.90	22.375	24.61	424.81	0.650	0.000	5.00	22.362	14.54	572.4	0.0	1114.5
25.00		1.00	0.95	23.451	25.80	426.39	0.650	0.000	5.00	21.928	14.25	588.3	0.0	1092.7
30.00		1.00	0.98	24.369	26.81	425.97	0.650	0.000	5.00	21.494	13.97	599.2	0.0	1070.9
35.00		1.00	1.01	25.172	27.69	424.12	0.650	0.000	5.00	21.061	13.69	606.5	0.0	1049.1
40.00		1.00	1.04	25.890	28.48	421.17	0.650	0.000	5.00	20.627	13.41	610.9	0.0	1027.3
44.00	Bot - Section 2	1.00	1.06	26.415	29.06	418.19	0.650	0.000	4.00	16.189	10.52	489.2	0.0	806.1
45.00		1.00	1.07	26.540	29.19	417.37	0.650	0.000	1.00	4.078	2.65	123.8	0.0	402.4
50.00	Top - Section 1	1.00	1.09	27.135	29.85	412.86	0.650	0.000	5.00	20.130	13.08	624.9	0.0	1986.0
55.00		1.00	1.12	27.685	30.45	415.67	0.650	0.000	5.00	19.696	12.80	623.8	0.0	980.5
60.00		1.00	1.14	28.197	31.02	410.15	0.650	0.000	5.00	19.262	12.52	621.4	0.0	958.7
65.00		1.00	1.16	28.676	31.54	404.20	0.650	0.000	5.00	18.829	12.24	617.7	0.0	936.9
70.00		1.00	1.17	29.127	32.04	397.88	0.650	0.000	5.00	18.395	11.96	613.0	0.0	915.1
75.00		1.00	1.19	29.553	32.51	391.22	0.650	0.000	5.00	17.961	11.67	607.3	0.0	893.3
80.00		1.00	1.21	29.958	32.95	384.26	0.650	0.000	5.00	17.528	11.39	600.7	0.0	871.6
83.75	Bot - Section 3	1.00	1.22	30.248	33.27	378.86	0.650	0.000	3.75	12.861	8.36	445.0	0.0	639.4
85.00		1.00	1.22	30.342	33.38	377.03	0.650	0.000	1.25	4.299	2.79	149.2	0.0	363.5
89.00	Top - Section 2	1.00	1.23	30.638	33.70	371.07	0.650	0.000	4.00	13.575	8.82	475.8	0.0	1147.6
90.00		1.00	1.24	30.710	33.78	375.50	0.650	0.000	1.00	3.350	2.18	117.7	0.0	119.3
95.00		1.00	1.25	31.061	34.17	367.84	0.650	0.000	5.00	16.491	10.72	586.0	0.0	587.2
100.00		1.00	1.27	31.399	34.54	359.98	0.650	0.000	5.00	16.057	10.44	576.8	0.0	571.7
105.00		1.00	1.28	31.723	34.89	351.93	0.650	0.000	5.00	15.624	10.16	567.0	0.0	556.1
110.00		1.00	1.29	32.035	35.24	343.70	0.650	0.000	5.00	15.190	9.87	556.7	0.0	540.5
115.00		1.00	1.30	32.336	35.57	335.31	0.650	0.000	5.00	14.756	9.59	545.9	0.0	525.0
119.50	Bot - Section 4	1.00	1.31	32.598	35.86	327.63	0.650	0.000	4.50	12.910	8.39	481.4	0.0	459.2
120.00		1.00	1.32	32.627	35.89	326.77	0.650	0.000	0.50	1.434	0.93	53.5	0.0	91.1
123.75	Top - Section 3	1.00	1.32	32.839	36.12	320.27	0.650	0.000	3.75	10.616	6.90	398.8	0.0	674.4
125.00		1.00	1.33	32.909	36.20	323.01	0.650	0.000	1.25	3.485	2.26	131.2	0.0	99.3
130.00		1.00	1.34	33.182	36.50	314.21	0.650	0.000	5.00	13.667	8.88	518.8	0.0	389.4
135.00		1.00	1.35	33.446	36.79	305.29	0.650	0.000	5.00	13.233	8.60	506.3	0.0	377.0
137.00	Appurtenance(s)	1.00	1.35	33.550	36.90	301.69	0.650	0.000	2.00	5.172	3.36	198.5	0.0	147.3
137.50	Appurtenance(s)	1.00	1.35	33.576	36.93	300.79	0.650	0.000	0.50	1.282	0.83	49.2	0.0	36.5
140.00		1.00	1.36	33.703	37.07	296.25	0.650	0.000	2.50	6.346	4.12	244.7	0.0	180.7
145.00		1.00	1.37	33.953	37.35	287.10	0.650	0.000	5.00	12.366	8.04	480.3	0.0	352.1
147.00	Appurtenance(s)	1.00	1.37	34.051	37.46	283.41	0.650	0.000	2.00	4.825	3.14	188.0	0.0	137.3
150.00		1.00	1.38	34.196	37.62	277.84	0.650	0.000	3.00	7.107	4.62	278.0	0.0	202.3
155.00		1.00	1.39	34.433	37.88	268.48	0.650	0.000	5.00	11.499	7.47	453.0	0.0	327.2
157.00	Appurtenance(s)	1.00	1.39	34.526	37.98	264.71	0.650	0.000	2.00	4.478	2.91	176.9	0.0	127.4
160.00		1.00	1.40	34.664	38.13	259.03	0.650	0.000	3.00	6.587	4.28	261.2	0.0	187.3
165.00		1.00	1.41	34.890	38.38	249.48	0.650	0.000	5.00	10.631	6.91	424.3	0.0	302.3
167.00	Appurtenance(s)	1.00	1.41	34.978	38.48	245.63	0.650	0.000	2.00	4.131	2.69	165.3	0.0	117.4
168.00	Appurtenance(s)	1.00	1.41	35.022	38.52	243.71	0.650	0.000	1.00	2.040	1.33	81.7	0.0	58.0
								Totals:	**168.00**			**18,691.5**		**26,895.9**

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Discrete Appurtenance Forces

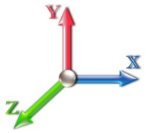
Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 13

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	168.00	6' Lightning rod	1	35.022	38.524	0.00	1.00	0.38	5.85	0.000	0.000	23.42	0.00	0.00
2	167.00	Low Profile Platform-flat	1	34.978	38.476	1.00	1.00	25.00	1080.00	0.000	0.000	1539.04	0.00	0.00
3	157.00	Low Profile Platform-flat	1	34.526	37.979	1.00	1.00	25.00	1080.00	0.000	0.000	1519.16	0.00	0.00
4	157.00	DB980H90E-M	6	34.526	37.979	0.63	0.80	14.75	45.90	0.000	0.000	896.36	0.00	0.00
5	147.00	RRUS 12	3	34.051	37.456	0.54	0.80	4.34	162.00	0.000	0.000	260.19	0.00	0.00
6	147.00	Low Profile	1	34.051	37.456	1.00	1.00	22.00	1350.00	0.000	0.000	1318.47	0.00	0.00
7	147.00	Dual Combiner	3	34.051	37.456	0.47	0.80	0.72	12.96	0.000	0.000	43.28	0.00	0.00
8	147.00	1900W800	6	34.051	37.456	0.61	0.80	5.62	154.98	0.000	0.000	336.68	0.00	0.00
9	147.00	LGP21903	6	34.051	37.456	0.59	0.80	0.96	29.70	0.000	0.000	57.48	0.00	0.00
10	147.00	LGP21401	6	34.051	37.456	0.51	0.80	3.96	76.14	0.000	0.000	237.50	0.00	0.00
11	147.00	AM-X-CD-17-65-00T-RET	3	34.051	37.456	0.61	0.80	9.12	83.16	0.000	0.000	546.56	0.00	0.00
12	147.00	7770.00	6	34.051	37.456	0.60	0.80	19.80	189.00	0.000	0.000	1186.62	0.00	0.00
13	147.00	DC6-48-60-18-8F	1	34.051	37.456	0.80	0.80	1.18	28.62	0.000	0.000	70.48	0.00	0.00
14	147.00	RRUS 11	6	34.051	37.456	0.61	0.80	9.19	273.78	0.000	0.000	550.94	0.00	0.00
15	137.50	782 11056	3	33.576	36.933	0.62	0.80	0.24	4.86	0.000	0.000	14.38	0.00	0.00
16	137.00	FE15501P77/75	3	33.550	36.905	0.79	0.80	1.24	47.25	0.000	0.000	72.95	0.00	0.00
17	137.00	KRY 112 144/1	3	33.550	36.905	0.58	0.80	0.71	29.70	0.000	0.000	41.83	0.00	0.00
18	137.00	LNX-6515DS-VTM	3	33.550	36.905	0.67	0.80	23.10	138.51	0.000	0.000	1364.21	0.00	0.00
19	137.00	APXV18-206516S-C-A20	3	33.550	36.905	0.62	0.80	6.76	50.49	0.000	0.000	399.04	0.00	0.00
20	137.00	Low Profile Platform w/	1	33.550	36.905	1.00	1.00	22.00	1620.00	0.000	0.000	1299.06	0.00	0.00
							Totals:		**6,462.90**			**11,777.65**		

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Total Applied Force Summary

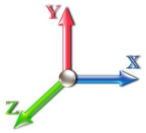
Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 14

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		570.84	1324.13	0.00	0.00
10.00		560.38	1302.34	0.00	0.00
15.00		549.92	1280.54	0.00	0.00
20.00		572.38	1258.75	0.00	0.00
25.00		588.28	1236.95	0.00	0.00
30.00		599.21	1215.16	0.00	0.00
35.00		606.48	1193.36	0.00	0.00
40.00		610.93	1171.57	0.00	0.00
44.00		489.22	921.56	0.00	0.00
45.00		123.82	431.29	0.00	0.00
50.00		624.88	2130.30	0.00	0.00
55.00		623.81	1124.79	0.00	0.00
60.00		621.36	1103.00	0.00	0.00
65.00		617.69	1081.20	0.00	0.00
70.00		612.95	1059.41	0.00	0.00
75.00		607.26	1037.62	0.00	0.00
80.00		600.70	1015.82	0.00	0.00
83.75		445.04	747.56	0.00	0.00
85.00		149.22	399.59	0.00	0.00
89.00		475.78	1263.01	0.00	0.00
90.00		117.70	148.17	0.00	0.00
95.00		586.00	731.50	0.00	0.00
100.00		576.78	715.93	0.00	0.00
105.00		567.00	700.36	0.00	0.00
110.00		556.69	684.79	0.00	0.00
115.00		545.88	669.23	0.00	0.00
119.50		481.45	588.99	0.00	0.00
120.00		53.52	105.54	0.00	0.00
123.75		398.83	782.62	0.00	0.00
125.00		131.18	135.37	0.00	0.00
130.00		518.80	533.71	0.00	0.00
135.00		506.34	521.26	0.00	0.00
137.00	(13) attachments	3375.60	2090.96	0.00	0.00
137.50	(3) attachments	63.63	50.19	0.00	0.00
140.00		244.67	224.76	0.00	0.00
145.00		480.33	440.19	0.00	0.00
147.00	(41) attachments	4796.15	2532.93	0.00	0.00
150.00		278.04	219.13	0.00	0.00
155.00		452.95	355.25	0.00	0.00
157.00	(7) attachments	2592.39	1264.51	0.00	0.00
160.00		261.21	187.34	0.00	0.00
165.00		424.33	302.26	0.00	0.00
167.00	(1) attachments	1704.34	1197.42	0.00	0.00
168.00	(1) attachments	105.14	63.81	0.00	0.00
	Totals:	**30,469.11**	**37,544.18**	**0.00**	**0.00**

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Calculated Forces

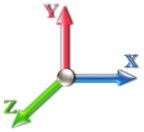
Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 15

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-37.50	-30.52	0.00	-3382.6	0.00	3382.65	5340.38	2670.19	12289.6	6153.95	0.00	0.000	0.000	0.557
5.00	-36.10	-30.04	0.00	-3230.0	0.00	3230.05	5276.02	2638.01	11917.5	5967.64	0.08	-0.153	0.000	0.548
10.00	-34.72	-29.57	0.00	-3079.8	0.00	3079.84	5210.42	2605.21	11548.2	5782.69	0.32	-0.307	0.000	0.539
15.00	-33.36	-29.10	0.00	-2931.9	0.00	2931.99	5143.57	2571.78	11181.7	5599.17	0.73	-0.462	0.000	0.530
20.00	-32.03	-28.61	0.00	-2786.4	0.00	2786.47	5075.47	2537.74	10818.2	5417.17	1.30	-0.618	0.000	0.521
25.00	-30.72	-28.09	0.00	-2643.4	0.00	2643.43	5006.13	2503.07	10457.9	5236.76	2.03	-0.776	0.000	0.511
30.00	-29.44	-27.55	0.00	-2502.9	0.00	2502.99	4935.55	2467.77	10101.0	5058.02	2.93	-0.934	0.000	0.501
35.00	-28.18	-27.00	0.00	-2365.2	0.00	2365.23	4863.72	2431.86	9747.59	4881.04	3.99	-1.093	0.000	0.490
40.00	-26.96	-26.44	0.00	-2230.2	0.00	2230.21	4790.64	2395.32	9397.80	4705.88	5.22	-1.253	0.000	0.480
44.00	-26.01	-25.96	0.00	-2124.4	0.00	2124.46	4731.29	2365.64	9120.70	4567.13	6.33	-1.383	0.000	0.471
45.00	-25.54	-25.87	0.00	-2098.5	0.00	2098.50	4716.32	2358.16	9051.82	4532.64	6.62	-1.416	0.000	0.469
50.00	-23.36	-25.26	0.00	-1969.1	0.00	1969.13	4386.97	2193.49	8392.46	4202.47	8.19	-1.577	0.000	0.474
55.00	-22.18	-24.66	0.00	-1842.8	0.00	1842.84	4315.09	2157.55	8071.80	4041.90	9.93	-1.738	0.000	0.461
60.00	-21.04	-24.06	0.00	-1719.5	0.00	1719.53	4242.11	2121.05	7755.22	3883.37	11.83	-1.890	0.000	0.448
65.00	-19.91	-23.46	0.00	-1599.2	0.00	1599.21	4147.44	2073.72	7406.11	3708.56	13.89	-2.042	0.000	0.436
70.00	-18.82	-22.86	0.00	-1481.9	0.00	1481.90	4049.83	2024.91	7059.92	3535.21	16.11	-2.194	0.000	0.424
75.00	-17.75	-22.26	0.00	-1367.6	0.00	1367.61	3952.22	1976.11	6722.01	3366.00	18.49	-2.344	0.000	0.411
80.00	-16.71	-21.65	0.00	-1256.3	0.00	1256.32	3854.61	1927.31	6392.39	3200.95	21.02	-2.493	0.000	0.397
83.75	-15.96	-21.20	0.00	-1175.1	0.00	1175.12	3781.40	1890.70	6150.62	3079.88	23.03	-2.604	0.000	0.386
85.00	-15.53	-21.05	0.00	-1148.6	0.00	1148.63	3757.00	1878.50	6071.06	3040.04	23.71	-2.642	0.000	0.382
89.00	-14.27	-20.53	0.00	-1064.4	0.00	1064.43	2696.95	1348.48	4363.97	2185.23	25.98	-2.759	0.000	0.493
90.00	-14.09	-20.44	0.00	-1043.9	0.00	1043.90	2687.67	1343.84	4326.14	2166.29	26.56	-2.788	0.000	0.487
95.00	-13.32	-19.86	0.00	-941.72	0.00	941.72	2640.52	1320.26	4138.17	2072.16	29.58	-2.976	0.000	0.460
100.00	-12.58	-19.28	0.00	-842.44	0.00	842.44	2592.12	1296.06	3952.30	1979.09	32.79	-3.158	0.000	0.431
105.00	-11.85	-18.71	0.00	-746.04	0.00	746.04	2542.48	1271.24	3768.69	1887.15	36.19	-3.334	0.000	0.400
110.00	-11.15	-18.15	0.00	-652.48	0.00	652.48	2491.60	1245.80	3587.51	1796.42	39.77	-3.503	0.000	0.368
115.00	-10.47	-17.59	0.00	-561.75	0.00	561.75	2439.47	1219.73	3408.91	1706.99	43.53	-3.662	0.000	0.334
119.50	-9.89	-17.08	0.00	-482.60	0.00	482.60	2391.49	1195.74	3250.50	1627.67	47.04	-3.798	0.000	0.301
120.00	-9.78	-17.03	0.00	-474.06	0.00	474.06	2386.09	1193.05	3233.04	1618.92	47.44	-3.813	0.000	0.297
123.75	-9.00	-16.59	0.00	-410.20	0.00	410.20	1658.06	829.03	2236.65	1119.99	50.48	-3.917	0.000	0.372
125.00	-8.85	-16.47	0.00	-389.46	0.00	389.46	1649.50	824.75	2207.60	1105.44	51.51	-3.951	0.000	0.358
130.00	-8.32	-15.93	0.00	-307.13	0.00	307.13	1614.57	807.28	2092.31	1047.71	55.72	-4.094	0.000	0.299
135.00	-7.81	-15.40	0.00	-227.48	0.00	227.48	1578.53	789.26	1978.61	990.78	60.07	-4.215	0.000	0.235
137.00	-5.97	-11.88	0.00	-196.69	0.00	196.69	1563.80	781.90	1933.60	968.24	61.85	-4.257	0.000	0.207
137.50	-5.92	-11.82	0.00	-190.75	0.00	190.75	1560.09	780.05	1922.40	962.63	62.29	-4.267	0.000	0.202
140.00	-5.70	-11.56	0.00	-161.21	0.00	161.21	1541.39	770.69	1866.63	934.70	64.54	-4.313	0.000	0.176
145.00	-5.29	-11.05	0.00	-103.41	0.00	103.41	1503.14	751.57	1756.51	879.56	69.10	-4.387	0.000	0.121
147.00	-3.13	-6.08	0.00	-81.31	0.00	81.31	1487.53	743.77	1713.02	857.78	70.94	-4.409	0.000	0.097
150.00	-2.93	-5.79	0.00	-63.07	0.00	63.07	1463.79	731.89	1648.40	825.42	73.72	-4.437	0.000	0.078
155.00	-2.61	-5.31	0.00	-34.15	0.00	34.15	1423.34	711.67	1542.43	772.36	78.38	-4.471	0.000	0.046
157.00	-1.55	-2.62	0.00	-23.53	0.00	23.53	1406.84	703.42	1500.67	751.45	80.25	-4.480	0.000	0.032
160.00	-1.38	-2.35	0.00	-15.66	0.00	15.66	1381.63	690.81	1438.59	720.36	83.07	-4.489	0.000	0.023
165.00	-1.12	-1.90	0.00	-3.92	0.00	3.92	1325.85	662.93	1324.24	663.10	87.77	-4.497	0.000	0.007
167.00	-0.06	-0.11	0.00	-0.11	0.00	0.11	1303.54	651.77	1279.82	640.86	89.65	-4.498	0.000	0.000
168.00	0.00	-0.11	0.00	0.00	0.00	0.00	1292.39	646.19	1257.90	629.89	90.59	-4.498	0.000	0.000

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Wind Loading - Shaft

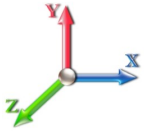
Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 16

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.656	5.00	25.043	30.05	170.8	592.0	2165.2
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.775	5.00	24.708	29.65	168.6	624.4	2168.5
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.848	5.00	24.336	29.20	166.0	639.2	2154.2
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.902	5.00	23.947	28.74	173.3	646.3	2132.3
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.945	5.00	23.549	28.26	178.6	648.9	2105.8
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.981	5.00	23.145	27.77	182.5	648.5	2076.4
35.00		1.00	1.01	6.169	6.79	0.00	1.200	2.012	5.00	22.737	27.28	185.2	646.1	2044.9
40.00		1.00	1.04	6.345	6.98	0.00	1.200	2.039	5.00	22.326	26.79	187.0	642.0	2011.7
44.00	Bot - Section 2	1.00	1.06	6.474	7.12	0.00	1.200	2.058	4.00	17.562	21.07	150.1	510.3	1585.1
45.00		1.00	1.07	6.504	7.15	0.00	1.200	2.063	1.00	4.422	5.31	38.0	129.6	666.2
50.00	Top - Section 1	1.00	1.09	6.650	7.32	0.00	1.200	2.085	5.00	21.867	26.24	192.0	641.7	3289.8
55.00		1.00	1.12	6.785	7.46	0.00	1.200	2.105	5.00	21.450	25.74	192.1	634.6	1942.0
60.00		1.00	1.14	6.910	7.60	0.00	1.200	2.123	5.00	21.032	25.24	191.8	626.8	1905.1
65.00		1.00	1.16	7.028	7.73	0.00	1.200	2.140	5.00	20.612	24.73	191.2	618.3	1867.5
70.00		1.00	1.17	7.138	7.85	0.00	1.200	2.156	5.00	20.192	24.23	190.3	609.2	1829.4
75.00		1.00	1.19	7.243	7.97	0.00	1.200	2.171	5.00	19.771	23.72	189.0	599.7	1790.8
80.00		1.00	1.21	7.342	8.08	0.00	1.200	2.185	5.00	19.349	23.22	187.5	589.7	1751.8
83.75	Bot - Section 3	1.00	1.22	7.413	8.15	0.00	1.200	2.195	3.75	14.233	17.08	139.3	436.5	1289.0
85.00		1.00	1.22	7.436	8.18	0.00	1.200	2.198	1.25	4.757	5.71	46.7	147.0	631.7
89.00	Top - Section 2	1.00	1.23	7.508	8.26	0.00	1.200	2.209	4.00	15.047	18.06	149.1	463.6	1993.7
90.00		1.00	1.24	7.526	8.28	0.00	1.200	2.211	1.00	3.719	4.46	36.9	115.5	274.6
95.00		1.00	1.25	7.612	8.37	0.00	1.200	2.223	5.00	18.344	22.01	184.3	566.4	1349.3
100.00		1.00	1.27	7.695	8.46	0.00	1.200	2.234	5.00	17.920	21.50	182.0	555.1	1317.3
105.00		1.00	1.28	7.774	8.55	0.00	1.200	2.245	5.00	17.495	20.99	179.5	543.5	1285.0
110.00		1.00	1.29	7.851	8.64	0.00	1.200	2.256	5.00	17.070	20.48	176.9	531.7	1252.4
115.00		1.00	1.30	7.925	8.72	0.00	1.200	2.266	5.00	16.645	19.97	174.1	519.7	1219.6
119.50	Bot - Section 4	1.00	1.31	7.989	8.79	0.00	1.200	2.275	4.50	14.616	17.54	154.1	457.8	1070.0
120.00		1.00	1.32	7.996	8.80	0.00	1.200	2.276	0.50	1.624	1.95	17.1	51.5	172.9
123.75	Top - Section 3	1.00	1.32	8.048	8.85	0.00	1.200	2.283	3.75	12.043	14.45	127.9	378.9	1278.1
125.00		1.00	1.33	8.065	8.87	0.00	1.200	2.285	1.25	3.961	4.75	42.2	125.5	257.9
130.00		1.00	1.34	8.132	8.95	0.00	1.200	2.294	5.00	15.579	18.69	167.2	489.5	1008.7
135.00		1.00	1.35	8.197	9.02	0.00	1.200	2.303	5.00	15.152	18.18	163.9	476.6	979.3
137.00	Appurtenance(s)	1.00	1.35	8.222	9.04	0.00	1.200	2.306	2.00	5.941	7.13	64.5	188.6	385.0
137.50	Appurtenance(s)	1.00	1.35	8.229	9.05	0.00	1.200	2.307	0.50	1.474	1.77	16.0	47.0	95.7
140.00		1.00	1.36	8.260	9.09	0.00	1.200	2.311	2.50	7.309	8.77	79.7	231.8	472.8
145.00		1.00	1.37	8.321	9.15	0.00	1.200	2.319	5.00	14.299	17.16	157.1	450.5	919.9
147.00	Appurtenance(s)	1.00	1.37	8.345	9.18	0.00	1.200	2.322	2.00	5.599	6.72	61.7	178.1	361.2
150.00		1.00	1.38	8.381	9.22	0.00	1.200	2.327	3.00	8.271	9.92	91.5	262.3	532.0
155.00		1.00	1.39	8.439	9.28	0.00	1.200	2.335	5.00	13.444	16.13	149.8	423.7	860.0
157.00	Appurtenance(s)	1.00	1.39	8.462	9.31	0.00	1.200	2.338	2.00	5.257	6.31	58.7	167.3	337.2
160.00		1.00	1.40	8.495	9.34	0.00	1.200	2.342	3.00	7.758	9.31	87.0	246.1	495.9
165.00		1.00	1.41	8.551	9.41	0.00	1.200	2.349	5.00	12.589	15.11	142.1	396.4	799.5
167.00	Appurtenance(s)	1.00	1.41	8.572	9.43	0.00	1.200	2.352	2.00	4.915	5.90	55.6	156.4	312.9
168.00	Appurtenance(s)	1.00	1.41	8.583	9.44	0.00	1.200	2.353	1.00	2.432	2.92	27.6	77.6	154.9
								Totals:	**168.00**			**5,866.5**		**54,593.2**

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Discrete Appurtenance Forces

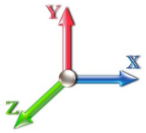
Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 17

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	168.00	6' Lightning rod	1	8.583	9.441	0.00	1.00	1.85	51.45	0.000	0.000	17.44	0.00	0.00
2	167.00	Low Profile Platform-flat	1	8.572	9.429	1.00	1.00	53.22	2551.24	0.000	0.000	501.88	0.00	0.00
3	157.00	Low Profile Platform-flat	1	8.462	9.308	1.00	1.00	53.05	2542.55	0.000	0.000	493.78	0.00	0.00
4	157.00	DB980H90E-M	6	8.462	9.308	0.64	0.80	20.48	900.04	0.000	0.000	190.59	0.00	0.00
5	147.00	RRUS 12	3	8.345	9.180	0.55	0.80	5.92	436.42	0.000	0.000	54.39	0.00	0.00
6	147.00	Low Profile	1	8.345	9.180	1.00	1.00	45.50	3241.69	0.000	0.000	417.68	0.00	0.00
7	147.00	Dual Combiner	3	8.345	9.180	0.50	0.80	1.84	47.17	0.000	0.000	16.86	0.00	0.00
8	147.00	1900W800	6	8.345	9.180	0.62	0.80	10.08	448.68	0.000	0.000	92.53	0.00	0.00
9	147.00	LGP21903	6	8.345	9.180	0.61	0.80	2.92	92.49	0.000	0.000	26.76	0.00	0.00
10	147.00	LGP21401	6	8.345	9.180	0.53	0.80	7.61	258.53	0.000	0.000	69.85	0.00	0.00
11	147.00	AM-X-CD-17-65-00T-RET	3	8.345	9.180	0.62	0.80	13.85	461.37	0.000	0.000	127.13	0.00	0.00
12	147.00	7770.00	6	8.345	9.180	0.60	0.80	25.01	1413.69	0.000	0.000	229.61	0.00	0.00
13	147.00	DC6-48-60-18-8F	1	8.345	9.180	0.80	0.80	1.92	102.73	0.000	0.000	17.63	0.00	0.00
14	147.00	RRUS 11	6	8.345	9.180	0.62	0.80	12.61	1131.49	0.000	0.000	115.77	0.00	0.00
15	137.50	782 11056	3	8.229	9.051	0.66	0.80	1.02	9.71	0.000	0.000	9.19	0.00	0.00
16	137.00	FE15501P77/75	3	8.222	9.044	0.79	0.80	3.07	155.88	0.000	0.000	27.74	0.00	0.00
17	137.00	KRY 112 144/1	3	8.222	9.044	0.60	0.80	1.87	73.04	0.000	0.000	16.89	0.00	0.00
18	137.00	LNX-6515DS-VTM	3	8.222	9.044	0.67	0.80	31.78	897.78	0.000	0.000	287.40	0.00	0.00
19	137.00	APXV18-206516S-C-A20	3	8.222	9.044	0.63	0.80	11.50	285.09	0.000	0.000	103.99	0.00	0.00
20	137.00	Low Profile Platform w/	1	8.222	9.044	1.00	1.00	45.34	3835.36	0.000	0.000	410.04	0.00	0.00
							Totals:		**18,936.39**			**3,227.17**		

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Total Applied Force Summary

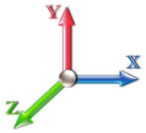
Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 18

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		170.84	2357.52	0.00	0.00
10.00		168.55	2360.86	0.00	0.00
15.00		166.01	2346.60	0.00	0.00
20.00		173.33	2324.61	0.00	0.00
25.00		178.65	2298.16	0.00	0.00
30.00		182.46	2268.75	0.00	0.00
35.00		185.15	2237.23	0.00	0.00
40.00		186.99	2204.10	0.00	0.00
44.00		150.07	1739.01	0.00	0.00
45.00		37.96	704.65	0.00	0.00
50.00		191.95	3482.13	0.00	0.00
55.00		192.11	2134.34	0.00	0.00
60.00		191.85	2097.43	0.00	0.00
65.00		191.21	2059.89	0.00	0.00
70.00		190.26	2021.79	0.00	0.00
75.00		189.02	1983.20	0.00	0.00
80.00		187.51	1944.18	0.00	0.00
83.75		139.27	1433.27	0.00	0.00
85.00		46.69	679.79	0.00	0.00
89.00		149.13	2147.62	0.00	0.00
90.00		36.94	313.03	0.00	0.00
95.00		184.32	1541.69	0.00	0.00
100.00		182.02	1509.65	0.00	0.00
105.00		179.54	1477.34	0.00	0.00
110.00		176.90	1444.77	0.00	0.00
115.00		174.12	1411.97	0.00	0.00
119.50		154.13	1243.10	0.00	0.00
120.00		17.14	192.17	0.00	0.00
123.75		127.94	1422.40	0.00	0.00
125.00		42.16	306.02	0.00	0.00
130.00		167.22	1201.07	0.00	0.00
135.00		163.94	1171.65	0.00	0.00
137.00	(13) attachments	910.54	5709.08	0.00	0.00
137.50	(3) attachments	25.20	117.16	0.00	0.00
140.00		79.68	531.51	0.00	0.00
145.00		157.05	1037.42	0.00	0.00
147.00	(41) attachments	1229.90	8042.45	0.00	0.00
150.00		91.50	554.49	0.00	0.00
155.00		149.76	897.41	0.00	0.00
157.00	(7) attachments	743.10	3794.74	0.00	0.00
160.00		87.00	495.88	0.00	0.00
165.00		142.09	799.45	0.00	0.00
167.00	(1) attachments	557.50	2864.16	0.00	0.00
168.00	(1) attachments	44.99	206.36	0.00	0.00
	Totals:	**9,093.69**	**79,110.09**	**0.00**	**0.00**

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Calculated Forces

Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 19

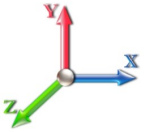
Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00

Iterations 25



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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-79.11	-9.13	0.00	-1045.8	0.00	1045.85	5340.38	2670.19	12289.6	6153.95	0.00	0.000	0.000	0.185
5.00	-76.74	-9.02	0.00	-1000.2	0.00	1000.22	5276.02	2638.01	11917.5	5967.64	0.03	-0.047	0.000	0.182
10.00	-74.37	-8.91	0.00	-955.13	0.00	955.13	5210.42	2605.21	11548.2	5782.69	0.10	-0.095	0.000	0.179
15.00	-72.02	-8.80	0.00	-910.58	0.00	910.58	5143.57	2571.78	11181.7	5599.17	0.23	-0.143	0.000	0.177
20.00	-69.69	-8.68	0.00	-866.59	0.00	866.59	5075.47	2537.74	10818.2	5417.17	0.40	-0.192	0.000	0.174
25.00	-67.38	-8.55	0.00	-823.20	0.00	823.20	5006.13	2503.07	10457.9	5236.76	0.63	-0.241	0.000	0.171
30.00	-65.11	-8.41	0.00	-780.46	0.00	780.46	4935.55	2467.77	10101.0	5058.02	0.91	-0.290	0.000	0.168
35.00	-62.86	-8.27	0.00	-738.40	0.00	738.40	4863.72	2431.86	9747.59	4881.04	1.24	-0.340	0.000	0.164
40.00	-60.66	-8.12	0.00	-697.05	0.00	697.05	4790.64	2395.32	9397.80	4705.88	1.62	-0.390	0.000	0.161
44.00	-58.91	-7.98	0.00	-664.59	0.00	664.59	4731.29	2365.64	9120.70	4567.13	1.96	-0.430	0.000	0.158
45.00	-58.21	-7.97	0.00	-656.61	0.00	656.61	4716.32	2358.16	9051.82	4532.64	2.06	-0.441	0.000	0.157
50.00	-54.72	-7.80	0.00	-616.78	0.00	616.78	4386.97	2193.49	8392.46	4202.47	2.54	-0.491	0.000	0.159
55.00	-52.58	-7.63	0.00	-577.80	0.00	577.80	4315.09	2157.55	8071.80	4041.90	3.09	-0.542	0.000	0.155
60.00	-50.48	-7.46	0.00	-539.66	0.00	539.66	4242.11	2121.05	7755.22	3883.37	3.68	-0.589	0.000	0.151
65.00	-48.41	-7.29	0.00	-502.37	0.00	502.37	4147.44	2073.72	7406.11	3708.56	4.32	-0.637	0.000	0.147
70.00	-46.39	-7.11	0.00	-465.94	0.00	465.94	4049.83	2024.91	7059.92	3535.21	5.01	-0.684	0.000	0.143
75.00	-44.40	-6.93	0.00	-430.39	0.00	430.39	3952.22	1976.11	6722.01	3366.00	5.76	-0.732	0.000	0.139
80.00	-42.46	-6.75	0.00	-395.72	0.00	395.72	3854.61	1927.31	6392.39	3200.95	6.55	-0.779	0.000	0.135
83.75	-41.02	-6.61	0.00	-370.41	0.00	370.41	3781.40	1890.70	6150.62	3079.88	7.17	-0.814	0.000	0.131
85.00	-40.34	-6.57	0.00	-362.15	0.00	362.15	3757.00	1878.50	6071.06	3040.04	7.39	-0.826	0.000	0.130
89.00	-38.19	-6.40	0.00	-335.88	0.00	335.88	2696.95	1348.48	4363.97	2185.23	8.10	-0.862	0.000	0.168
90.00	-37.88	-6.38	0.00	-329.47	0.00	329.47	2687.67	1343.84	4326.14	2166.29	8.28	-0.872	0.000	0.166
95.00	-36.33	-6.21	0.00	-297.55	0.00	297.55	2640.52	1320.26	4138.17	2072.16	9.22	-0.931	0.000	0.157
100.00	-34.82	-6.04	0.00	-266.49	0.00	266.49	2592.12	1296.06	3952.30	1979.09	10.23	-0.989	0.000	0.148
105.00	-33.34	-5.87	0.00	-236.29	0.00	236.29	2542.48	1271.24	3768.69	1887.15	11.30	-1.044	0.000	0.138
110.00	-31.89	-5.69	0.00	-206.95	0.00	206.95	2491.60	1245.80	3587.51	1796.42	12.42	-1.098	0.000	0.128
115.00	-30.48	-5.51	0.00	-178.50	0.00	178.50	2439.47	1219.73	3408.91	1706.99	13.60	-1.149	0.000	0.117
119.50	-29.24	-5.35	0.00	-153.68	0.00	153.68	2391.49	1195.74	3250.50	1627.67	14.70	-1.192	0.000	0.107
120.00	-29.04	-5.34	0.00	-151.01	0.00	151.01	2386.09	1193.05	3233.04	1618.92	14.82	-1.196	0.000	0.105
123.75	-27.62	-5.19	0.00	-131.00	0.00	131.00	1658.06	829.03	2236.65	1119.99	15.78	-1.230	0.000	0.134
125.00	-27.32	-5.15	0.00	-124.52	0.00	124.52	1649.50	824.75	2207.60	1105.44	16.10	-1.240	0.000	0.129
130.00	-26.11	-4.98	0.00	-98.75	0.00	98.75	1614.57	807.28	2092.31	1047.71	17.43	-1.286	0.000	0.110
135.00	-24.95	-4.80	0.00	-73.86	0.00	73.86	1578.53	789.26	1978.61	990.78	18.79	-1.325	0.000	0.090
137.00	-19.26	-3.76	0.00	-64.26	0.00	64.26	1563.80	781.90	1933.60	968.24	19.35	-1.339	0.000	0.079
137.50	-19.14	-3.73	0.00	-62.38	0.00	62.38	1560.09	780.05	1922.40	962.63	19.49	-1.342	0.000	0.077
140.00	-18.61	-3.65	0.00	-53.04	0.00	53.04	1541.39	770.69	1866.63	934.70	20.20	-1.358	0.000	0.069
145.00	-17.58	-3.47	0.00	-34.80	0.00	34.80	1503.14	751.57	1756.51	879.56	21.64	-1.382	0.000	0.051
147.00	-9.57	-2.05	0.00	-27.85	0.00	27.85	1487.53	743.77	1713.02	857.78	22.22	-1.390	0.000	0.039
150.00	-9.01	-1.95	0.00	-21.70	0.00	21.70	1463.79	731.89	1648.40	825.42	23.09	-1.399	0.000	0.032
155.00	-8.12	-1.78	0.00	-11.97	0.00	11.97	1423.34	711.67	1542.43	772.36	24.57	-1.411	0.000	0.021
157.00	-4.34	-0.94	0.00	-8.42	0.00	8.42	1406.84	703.42	1500.67	751.45	25.16	-1.414	0.000	0.014
160.00	-3.85	-0.84	0.00	-5.61	0.00	5.61	1381.63	690.81	1438.59	720.36	26.05	-1.417	0.000	0.011
165.00	-3.05	-0.68	0.00	-1.41	0.00	1.41	1325.85	662.93	1324.24	663.10	27.53	-1.420	0.000	0.004
167.00	-0.21	-0.05	0.00	-0.05	0.00	0.05	1303.54	651.77	1279.82	640.86	28.13	-1.421	0.000	0.000
168.00	0.00	-0.04	0.00	0.00	0.00	0.00	1292.39	646.19	1257.90	629.89	28.42	-1.421	0.000	0.000

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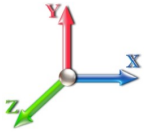
Seismic Segment Forces (Factored)

Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 20

Tower Engineering Solutions

Load Case: 1.2D + 1.0E						**Iterations**	22
Gust Response Factor	1.10			**Sds**	0.11	**Ss**	0.17
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.04	**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency**	0.34	**SA**	0.01	**Seismic Importance Factor**	1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1310.9	0.00	0.03	0.02	16.70	
10.00		1286.7	0.01	0.05	0.03	23.11	
15.00		1262.5	0.02	0.06	0.04	25.94	
20.00		1238.3	0.03	0.07	0.04	27.13	
25.00		1214.0	0.04	0.07	0.04	27.54	
30.00		1189.8	0.06	0.07	0.04	27.64	
35.00		1165.6	0.08	0.07	0.04	27.66	
40.00		1141.4	0.11	0.07	0.04	27.71	
44.00	Bot - Section 2	895.72	0.13	0.07	0.03	22.16	
45.00		447.15	0.14	0.07	0.03	11.11	
50.00	Top - Section 1	2206.7	0.17	0.07	0.03	55.93	
55.00		1089.4	0.20	0.06	0.02	27.85	
60.00		1065.2	0.24	0.06	0.02	26.85	
65.00		1041.0	0.28	0.05	0.01	24.79	
70.00		1016.8	0.33	0.04	0.01	21.18	
75.00		992.61	0.38	0.03	0.01	15.56	
80.00		968.39	0.43	0.01	0.01	7.83	
83.75	Bot - Section 3	710.40	0.47	-0.01	0.01	0.77	
85.00		403.92	0.48	-0.01	0.01	-0.56	
89.00	Top - Section 2	1275.1	0.53	-0.03	0.01	-11.90	
90.00		132.57	0.54	-0.03	0.01	-1.49	
95.00		652.47	0.60	-0.05	0.02	-12.83	
100.00		635.18	0.67	-0.08	0.02	-16.21	
105.00		617.88	0.74	-0.10	0.04	-17.61	
110.00		600.58	0.81	-0.11	0.06	-17.24	
115.00		583.29	0.89	-0.12	0.08	-15.37	
119.50	Bot - Section 4	510.17	0.96	-0.12	0.11	-11.32	
120.00		101.24	0.96	-0.12	0.11	-2.19	
123.75	Top - Section 3	749.35	1.03	-0.10	0.14	-12.40	
125.00		110.34	1.05	-0.10	0.16	-1.61	
130.00		432.71	1.13	-0.05	0.21	-2.29	
135.00		418.87	1.22	0.02	0.27	2.63	
137.00	Appurtenance(s)	2259.1	1.26	0.07	0.30	26.08	
137.50	Appurtenance(s)	45.97	1.27	0.08	0.31	0.59	
140.00		200.79	1.31	0.14	0.35	4.04	
145.00		391.20	1.41	0.30	0.44	14.22	
147.00	Appurtenance(s)	2775.2	1.45	0.38	0.48	120.76	
150.00		224.76	1.51	0.52	0.55	12.36	
155.00		363.52	1.61	0.81	0.68	27.65	
157.00	Appurtenance(s)	1392.5	1.65	0.94	0.74	118.66	
160.00		208.15	1.71	1.18	0.84	20.75	
165.00		335.85	1.82	1.65	1.02	42.28	
167.00	Appurtenance(s)	1330.4	1.87	1.86	1.10	182.45	
168.00	Appurtenance(s)	70.90	1.89	1.98	1.14	10.13	
	Totals:	**37,065.3**				**877.1**	**Total Wind:** **30,469.1**

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Seismic Segment Forces (Factored)

Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 21

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Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

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Calculated Forces

Structure:	CT01364-S-SBA	**Code:**	EIA/TIA-222-G	11/3/2016	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 22

Tower Engineering Solutions

Load Case: 1.2D + 1.0E

Gust Response Factor	1.10			**Sds**	0.11	**Iterations**	22
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.04	**Ss**	0.17
Wind Load Factor	0.00	**Structure Frequency**	0.34	**SA**	0.01	**S1**	0.06
						Seismic Importance Factor	1.00

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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-50.06	-1.00	0.00	-113.12	0.00	113.12	5340.38	2670.19	12289.6	6153.95		0.00	0.00	0.028
5.00	-48.29	-0.99	0.00	-108.12	0.00	108.12	5276.02	2638.01	11917.5	5967.64		0.00	-0.01	0.027
10.00	-46.56	-0.97	0.00	-103.17	0.00	103.17	5210.42	2605.21	11548.2	5782.69		0.01	-0.01	0.027
15.00	-44.85	-0.95	0.00	-98.33	0.00	98.33	5143.57	2571.78	11181.7	5599.17		0.02	-0.02	0.026
20.00	-43.17	-0.92	0.00	-93.59	0.00	93.59	5075.47	2537.74	10818.2	5417.17		0.04	-0.02	0.026
25.00	-41.52	-0.90	0.00	-88.97	0.00	88.97	5006.13	2503.07	10457.9	5236.76		0.07	-0.03	0.025
30.00	-39.90	-0.87	0.00	-84.48	0.00	84.48	4935.55	2467.77	10101.0	5058.02		0.10	-0.03	0.025
35.00	-38.31	-0.85	0.00	-80.11	0.00	80.11	4863.72	2431.86	9747.59	4881.04		0.13	-0.04	0.024
40.00	-36.75	-0.82	0.00	-75.86	0.00	75.86	4790.64	2395.32	9397.80	4705.88		0.18	-0.04	0.024
44.00	-35.52	-0.80	0.00	-72.56	0.00	72.56	4731.29	2365.64	9120.70	4567.13		0.21	-0.05	0.023
45.00	-34.94	-0.79	0.00	-71.76	0.00	71.76	4716.32	2358.16	9051.82	4532.64		0.22	-0.05	0.023
50.00	-32.10	-0.74	0.00	-67.80	0.00	67.80	4386.97	2193.49	8392.46	4202.47		0.28	-0.05	0.023
55.00	-30.60	-0.71	0.00	-64.11	0.00	64.11	4315.09	2157.55	8071.80	4041.90		0.33	-0.06	0.023
60.00	-29.13	-0.69	0.00	-60.55	0.00	60.55	4242.11	2121.05	7755.22	3883.37		0.40	-0.06	0.022
65.00	-27.69	-0.66	0.00	-57.12	0.00	57.12	4147.44	2073.72	7406.11	3708.56		0.47	-0.07	0.022
70.00	-26.28	-0.64	0.00	-53.82	0.00	53.82	4049.83	2024.91	7059.92	3535.21		0.54	-0.07	0.022
75.00	-24.90	-0.63	0.00	-50.61	0.00	50.61	3952.22	1976.11	6722.01	3366.00		0.63	-0.08	0.021
80.00	-23.54	-0.62	0.00	-47.48	0.00	47.48	3854.61	1927.31	6392.39	3200.95		0.71	-0.09	0.021
83.75	-22.54	-0.62	0.00	-45.16	0.00	45.16	3781.40	1890.70	6150.62	3079.88		0.78	-0.09	0.021
85.00	-22.01	-0.62	0.00	-44.39	0.00	44.39	3757.00	1878.50	6071.06	3040.04		0.81	-0.09	0.020
89.00	-20.33	-0.62	0.00	-41.92	0.00	41.92	2696.95	1348.48	4363.97	2185.23		0.88	-0.10	0.027
90.00	-20.13	-0.62	0.00	-41.30	0.00	41.30	2687.67	1343.84	4326.14	2166.29		0.91	-0.10	0.027
95.00	-19.15	-0.62	0.00	-38.22	0.00	38.22	2640.52	1320.26	4138.17	2072.16		1.01	-0.10	0.026
100.00	-18.20	-0.62	0.00	-35.13	0.00	35.13	2592.12	1296.06	3952.30	1979.09		1.13	-0.11	0.025
105.00	-17.27	-0.62	0.00	-32.04	0.00	32.04	2542.48	1271.24	3768.69	1887.15		1.25	-0.12	0.024
110.00	-16.35	-0.62	0.00	-28.94	0.00	28.94	2491.60	1245.80	3587.51	1796.42		1.38	-0.13	0.023
115.00	-15.46	-0.62	0.00	-25.85	0.00	25.85	2439.47	1219.73	3408.91	1706.99		1.51	-0.13	0.021
119.50	-14.67	-0.62	0.00	-23.06	0.00	23.06	2391.49	1195.74	3250.50	1627.67		1.64	-0.14	0.020
120.00	-14.53	-0.62	0.00	-22.75	0.00	22.75	2386.09	1193.05	3233.04	1618.92		1.66	-0.14	0.020
123.75	-13.49	-0.62	0.00	-20.44	0.00	20.44	1658.06	829.03	2236.65	1119.99		1.77	-0.15	0.026
125.00	-13.31	-0.62	0.00	-19.66	0.00	19.66	1649.50	824.75	2207.60	1105.44		1.81	-0.15	0.026
130.00	-12.60	-0.62	0.00	-16.58	0.00	16.58	1614.57	807.28	2092.31	1047.71		1.97	-0.16	0.024
135.00	-11.90	-0.61	0.00	-13.49	0.00	13.49	1578.53	789.26	1978.61	990.78		2.14	-0.16	0.021
137.00	-9.12	-0.58	0.00	-12.27	0.00	12.27	1563.80	781.90	1933.60	968.24		2.21	-0.17	0.019
137.50	-9.05	-0.58	0.00	-11.98	0.00	11.98	1560.09	780.05	1922.40	962.63		2.22	-0.17	0.018
140.00	-8.75	-0.57	0.00	-10.53	0.00	10.53	1541.39	770.69	1866.63	934.70		2.31	-0.17	0.017
145.00	-8.16	-0.56	0.00	-7.66	0.00	7.66	1503.14	751.57	1756.51	879.56		2.49	-0.17	0.014
147.00	-4.78	-0.43	0.00	-6.54	0.00	6.54	1487.53	743.77	1713.02	857.78		2.56	-0.18	0.011
150.00	-4.49	-0.42	0.00	-5.25	0.00	5.25	1463.79	731.89	1648.40	825.42		2.67	-0.18	0.009
155.00	-4.02	-0.39	0.00	-3.17	0.00	3.17	1423.34	711.67	1542.43	772.36		2.86	-0.18	0.007
157.00	-2.33	-0.26	0.00	-2.40	0.00	2.40	1406.84	703.42	1500.67	751.45		2.94	-0.18	0.005
160.00	-2.08	-0.24	0.00	-1.61	0.00	1.61	1381.63	690.81	1438.59	720.36		3.05	-0.18	0.004
165.00	-1.68	-0.20	0.00	-0.41	0.00	0.41	1325.85	662.93	1324.24	663.10		3.24	-0.18	0.002
167.00	-0.09	-0.01	0.00	-0.01	0.00	0.01	1303.54	651.77	1279.82	640.86		3.32	-0.18	0.000
168.00	0.00	-0.01	0.00	0.00	0.00	0.00	1292.39	646.19	1257.90	629.89		3.36	-0.18	0.000

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Seismic Segment Forces (Factored)

Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 23

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Load Case:	0.9D + 1.0E					**Iterations**	22
Gust Response Factor	1.10			**Sds**	0.11	**Ss**	0.17
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.04	**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency**	0.34	**SA**	0.01	**Seismic Importance Factor**	1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1310.9	0.00	0.03	0.02	16.70	
10.00		1286.7	0.01	0.05	0.03	23.11	
15.00		1262.5	0.02	0.06	0.04	25.94	
20.00		1238.3	0.03	0.07	0.04	27.13	
25.00		1214.0	0.04	0.07	0.04	27.54	
30.00		1189.8	0.06	0.07	0.04	27.64	
35.00		1165.6	0.08	0.07	0.04	27.66	
40.00		1141.4	0.11	0.07	0.04	27.71	
44.00	Bot - Section 2	895.72	0.13	0.07	0.03	22.16	
45.00		447.15	0.14	0.07	0.03	11.11	
50.00	Top - Section 1	2206.7	0.17	0.07	0.03	55.93	
55.00		1089.4	0.20	0.06	0.02	27.85	
60.00		1065.2	0.24	0.06	0.02	26.85	
65.00		1041.0	0.28	0.05	0.01	24.79	
70.00		1016.8	0.33	0.04	0.01	21.18	
75.00		992.61	0.38	0.03	0.01	15.56	
80.00		968.39	0.43	0.01	0.01	7.83	
83.75	Bot - Section 3	710.40	0.47	-0.01	0.01	0.77	
85.00		403.92	0.48	-0.01	0.01	-0.56	
89.00	Top - Section 2	1275.1	0.53	-0.03	0.01	-11.90	
90.00		132.57	0.54	-0.03	0.01	-1.49	
95.00		652.47	0.60	-0.05	0.02	-12.83	
100.00		635.18	0.67	-0.08	0.02	-16.21	
105.00		617.88	0.74	-0.10	0.04	-17.61	
110.00		600.58	0.81	-0.11	0.06	-17.24	
115.00		583.29	0.89	-0.12	0.08	-15.37	
119.50	Bot - Section 4	510.17	0.96	-0.12	0.11	-11.32	
120.00		101.24	0.96	-0.12	0.11	-2.19	
123.75	Top - Section 3	749.35	1.03	-0.10	0.14	-12.40	
125.00		110.34	1.05	-0.10	0.16	-1.61	
130.00		432.71	1.13	-0.05	0.21	-2.29	
135.00		418.87	1.22	0.02	0.27	2.63	
137.00	Appurtenance(s)	2259.1	1.26	0.07	0.30	26.08	
137.50	Appurtenance(s)	45.97	1.27	0.08	0.31	0.59	
140.00		200.79	1.31	0.14	0.35	4.04	
145.00		391.20	1.41	0.30	0.44	14.22	
147.00	Appurtenance(s)	2775.2	1.45	0.38	0.48	120.76	
150.00		224.76	1.51	0.52	0.55	12.36	
155.00		363.52	1.61	0.81	0.68	27.65	
157.00	Appurtenance(s)	1392.5	1.65	0.94	0.74	118.66	
160.00		208.15	1.71	1.18	0.84	20.75	
165.00		335.85	1.82	1.65	1.02	42.28	
167.00	Appurtenance(s)	1330.4	1.87	1.86	1.10	182.45	
168.00	Appurtenance(s)	70.90	1.89	1.98	1.14	10.13	
	Totals:	**37,065.3**				**877.1**	**Total Wind:** **30,469.1**

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Seismic Segment Forces (Factored)

Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 24

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Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

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Calculated Forces

Structure:	CT01364-S-SBA	**Code:**	EIA/TIA-222-G	11/3/2016	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 25

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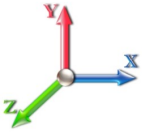
Load Case: 0.9D + 1.0E



Gust Response Factor	1.10			**Sds**	0.11	**Iterations**	22
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.04	**Ss**	0.17
Wind Load Factor	0.00	**Structure Frequency**	0.34	**SA**	0.01	**S1**	0.06
						Seismic Importance Factor	1.00

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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-37.54	-1.00	0.00	-111.98	0.00	111.98	5340.38	2670.19	12289.6	6153.95		0.00	0.00	0.025
5.00	-36.22	-0.99	0.00	-106.97	0.00	106.97	5276.02	2638.01	11917.5	5967.64		0.00	-0.01	0.025
10.00	-34.92	-0.97	0.00	-102.04	0.00	102.04	5210.42	2605.21	11548.2	5782.69		0.01	-0.01	0.024
15.00	-33.64	-0.94	0.00	-97.20	0.00	97.20	5143.57	2571.78	11181.7	5599.17		0.02	-0.02	0.024
20.00	-32.38	-0.92	0.00	-92.49	0.00	92.49	5075.47	2537.74	10818.2	5417.17		0.04	-0.02	0.023
25.00	-31.14	-0.89	0.00	-87.89	0.00	87.89	5006.13	2503.07	10457.9	5236.76		0.07	-0.03	0.023
30.00	-29.93	-0.87	0.00	-83.42	0.00	83.42	4935.55	2467.77	10101.0	5058.02		0.10	-0.03	0.023
35.00	-28.73	-0.84	0.00	-79.08	0.00	79.08	4863.72	2431.86	9747.59	4881.04		0.13	-0.04	0.022
40.00	-27.56	-0.82	0.00	-74.87	0.00	74.87	4790.64	2395.32	9397.80	4705.88		0.17	-0.04	0.022
44.00	-26.64	-0.79	0.00	-71.60	0.00	71.60	4731.29	2365.64	9120.70	4567.13		0.21	-0.05	0.021
45.00	-26.21	-0.79	0.00	-70.80	0.00	70.80	4716.32	2358.16	9051.82	4532.64		0.22	-0.05	0.021
50.00	-24.08	-0.73	0.00	-66.88	0.00	66.88	4386.97	2193.49	8392.46	4202.47		0.27	-0.05	0.021
55.00	-22.95	-0.70	0.00	-63.23	0.00	63.23	4315.09	2157.55	8071.80	4041.90		0.33	-0.06	0.021
60.00	-21.85	-0.68	0.00	-59.72	0.00	59.72	4242.11	2121.05	7755.22	3883.37		0.39	-0.06	0.021
65.00	-20.77	-0.65	0.00	-56.34	0.00	56.34	4147.44	2073.72	7406.11	3708.56		0.46	-0.07	0.020
70.00	-19.71	-0.63	0.00	-53.07	0.00	53.07	4049.83	2024.91	7059.92	3535.21		0.54	-0.07	0.020
75.00	-18.67	-0.62	0.00	-49.91	0.00	49.91	3952.22	1976.11	6722.01	3366.00		0.62	-0.08	0.020
80.00	-17.66	-0.61	0.00	-46.83	0.00	46.83	3854.61	1927.31	6392.39	3200.95		0.70	-0.08	0.019
83.75	-16.91	-0.61	0.00	-44.54	0.00	44.54	3781.40	1890.70	6150.62	3079.88		0.77	-0.09	0.019
85.00	-16.51	-0.61	0.00	-43.78	0.00	43.78	3757.00	1878.50	6071.06	3040.04		0.80	-0.09	0.019
89.00	-15.25	-0.61	0.00	-41.35	0.00	41.35	2696.95	1348.48	4363.97	2185.23		0.87	-0.10	0.025
90.00	-15.10	-0.61	0.00	-40.74	0.00	40.74	2687.67	1343.84	4326.14	2166.29		0.89	-0.10	0.024
95.00	-14.37	-0.61	0.00	-37.70	0.00	37.70	2640.52	1320.26	4138.17	2072.16		1.00	-0.10	0.024
100.00	-13.65	-0.61	0.00	-34.66	0.00	34.66	2592.12	1296.06	3952.30	1979.09		1.11	-0.11	0.023
105.00	-12.95	-0.61	0.00	-31.62	0.00	31.62	2542.48	1271.24	3768.69	1887.15		1.23	-0.12	0.022
110.00	-12.26	-0.61	0.00	-28.57	0.00	28.57	2491.60	1245.80	3587.51	1796.42		1.36	-0.13	0.021
115.00	-11.59	-0.61	0.00	-25.52	0.00	25.52	2439.47	1219.73	3408.91	1706.99		1.49	-0.13	0.020
119.50	-11.01	-0.61	0.00	-22.78	0.00	22.78	2391.49	1195.74	3250.50	1627.67		1.62	-0.14	0.019
120.00	-10.90	-0.61	0.00	-22.48	0.00	22.48	2386.09	1193.05	3233.04	1618.92		1.64	-0.14	0.018
123.75	-10.12	-0.61	0.00	-20.20	0.00	20.20	1658.06	829.03	2236.65	1119.99		1.75	-0.14	0.024
125.00	-9.98	-0.61	0.00	-19.44	0.00	19.44	1649.50	824.75	2207.60	1105.44		1.79	-0.15	0.024
130.00	-9.45	-0.61	0.00	-16.40	0.00	16.40	1614.57	807.28	2092.31	1047.71		1.94	-0.15	0.022
135.00	-8.93	-0.60	0.00	-13.36	0.00	13.36	1578.53	789.26	1978.61	990.78		2.11	-0.16	0.019
137.00	-6.84	-0.57	0.00	-12.15	0.00	12.15	1563.80	781.90	1933.60	968.24		2.18	-0.16	0.017
137.50	-6.79	-0.57	0.00	-11.86	0.00	11.86	1560.09	780.05	1922.40	962.63		2.19	-0.16	0.017
140.00	-6.56	-0.57	0.00	-10.43	0.00	10.43	1541.39	770.69	1866.63	934.70		2.28	-0.17	0.015
145.00	-6.12	-0.55	0.00	-7.59	0.00	7.59	1503.14	751.57	1756.51	879.56		2.46	-0.17	0.013
147.00	-3.59	-0.42	0.00	-6.48	0.00	6.48	1487.53	743.77	1713.02	857.78		2.53	-0.17	0.010
150.00	-3.37	-0.41	0.00	-5.21	0.00	5.21	1463.79	731.89	1648.40	825.42		2.64	-0.18	0.009
155.00	-3.01	-0.38	0.00	-3.15	0.00	3.15	1423.34	711.67	1542.43	772.36		2.83	-0.18	0.006
157.00	-1.75	-0.26	0.00	-2.38	0.00	2.38	1406.84	703.42	1500.67	751.45		2.90	-0.18	0.004
160.00	-1.56	-0.24	0.00	-1.60	0.00	1.60	1381.63	690.81	1438.59	720.36		3.01	-0.18	0.003
165.00	-1.26	-0.20	0.00	-0.40	0.00	0.40	1325.85	662.93	1324.24	663.10		3.20	-0.18	0.002
167.00	-0.06	-0.01	0.00	-0.01	0.00	0.01	1303.54	651.77	1279.82	640.86		3.28	-0.18	0.000
168.00	0.00	-0.01	0.00	0.00	0.00	0.00	1292.39	646.19	1257.90	629.89		3.32	-0.18	0.000

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Wind Loading - Shaft

Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 26

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	264.19	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	259.39	0.650	0.000	5.00	23.663	15.38	125.9	0.0	1311.0
10.00		1.00	0.85	7.442	8.19	254.59	0.650	0.000	5.00	23.229	15.10	123.6	0.0	1286.7
15.00		1.00	0.85	7.442	8.19	249.80	0.650	0.000	5.00	22.795	14.82	121.3	0.0	1262.5
20.00		1.00	0.90	7.896	8.69	252.36	0.650	0.000	5.00	22.362	14.54	126.2	0.0	1238.3
25.00		1.00	0.95	8.276	9.10	253.30	0.650	0.000	5.00	21.928	14.25	129.8	0.0	1214.1
30.00		1.00	0.98	8.600	9.46	253.05	0.650	0.000	5.00	21.494	13.97	132.2	0.0	1189.9
35.00		1.00	1.01	8.883	9.77	251.95	0.650	0.000	5.00	21.061	13.69	133.8	0.0	1165.7
40.00		1.00	1.04	9.137	10.05	250.20	0.650	0.000	5.00	20.627	13.41	134.8	0.0	1141.4
44.00	Bot - Section 2	1.00	1.06	9.322	10.25	248.43	0.650	0.000	4.00	16.189	10.52	107.9	0.0	895.7
45.00		1.00	1.07	9.366	10.30	247.94	0.650	0.000	1.00	4.078	2.65	27.3	0.0	447.2
50.00	Top - Section 1	1.00	1.09	9.576	10.53	245.26	0.650	0.000	5.00	20.130	13.08	137.8	0.0	2206.7
55.00		1.00	1.12	9.770	10.75	246.93	0.650	0.000	5.00	19.696	12.80	137.6	0.0	1089.5
60.00		1.00	1.14	9.951	10.95	243.65	0.650	0.000	5.00	19.262	12.52	137.1	0.0	1065.3
65.00		1.00	1.16	10.120	11.13	240.12	0.650	0.000	5.00	18.829	12.24	136.2	0.0	1041.0
70.00		1.00	1.17	10.279	11.31	236.36	0.650	0.000	5.00	18.395	11.96	135.2	0.0	1016.8
75.00		1.00	1.19	10.430	11.47	232.41	0.650	0.000	5.00	17.961	11.67	133.9	0.0	992.6
80.00		1.00	1.21	10.572	11.63	228.27	0.650	0.000	5.00	17.528	11.39	132.5	0.0	968.4
83.75	Bot - Section 3	1.00	1.22	10.675	11.74	225.07	0.650	0.000	3.75	12.861	8.36	98.2	0.0	710.4
85.00		1.00	1.22	10.708	11.78	223.98	0.650	0.000	1.25	4.299	2.79	32.9	0.0	403.9
89.00	Top - Section 2	1.00	1.23	10.812	11.89	220.44	0.650	0.000	4.00	13.575	8.82	104.9	0.0	1275.1
90.00		1.00	1.24	10.838	11.92	223.07	0.650	0.000	1.00	3.350	2.18	26.0	0.0	132.6
95.00		1.00	1.25	10.962	12.06	218.52	0.650	0.000	5.00	16.491	10.72	129.3	0.0	652.5
100.00		1.00	1.27	11.081	12.19	213.85	0.650	0.000	5.00	16.057	10.44	127.2	0.0	635.2
105.00		1.00	1.28	11.195	12.31	209.06	0.650	0.000	5.00	15.624	10.16	125.1	0.0	617.9
110.00		1.00	1.29	11.305	12.44	204.18	0.650	0.000	5.00	15.190	9.87	122.8	0.0	600.6
115.00		1.00	1.30	11.412	12.55	199.19	0.650	0.000	5.00	14.756	9.59	120.4	0.0	583.3
119.50	Bot - Section 4	1.00	1.31	11.504	12.65	194.63	0.650	0.000	4.50	12.910	8.39	106.2	0.0	510.2
120.00		1.00	1.32	11.514	12.67	194.12	0.650	0.000	0.50	1.434	0.93	11.8	0.0	101.2
123.75	Top - Section 3	1.00	1.32	11.589	12.75	190.26	0.650	0.000	3.75	10.616	6.90	88.0	0.0	749.3
125.00		1.00	1.33	11.614	12.78	191.89	0.650	0.000	1.25	3.485	2.26	28.9	0.0	110.3
130.00		1.00	1.34	11.710	12.88	186.66	0.650	0.000	5.00	13.667	8.88	114.4	0.0	432.7
135.00		1.00	1.35	11.803	12.98	181.36	0.650	0.000	5.00	13.233	8.60	111.7	0.0	418.9
137.00	Appurtenance(s)	1.00	1.35	11.840	13.02	179.22	0.650	0.000	2.00	5.172	3.36	43.8	0.0	163.7
137.50	Appurtenance(s)	1.00	1.35	11.849	13.03	178.69	0.650	0.000	0.50	1.282	0.83	10.9	0.0	40.6
140.00		1.00	1.36	11.894	13.08	175.99	0.650	0.000	2.50	6.346	4.12	54.0	0.0	200.8
145.00		1.00	1.37	11.982	13.18	170.56	0.650	0.000	5.00	12.366	8.04	105.9	0.0	391.2
147.00	Appurtenance(s)	1.00	1.37	12.017	13.22	168.36	0.650	0.000	2.00	4.825	3.14	41.5	0.0	152.6
150.00		1.00	1.38	12.068	13.27	165.06	0.650	0.000	3.00	7.107	4.62	61.3	0.0	224.8
155.00		1.00	1.39	12.152	13.37	159.49	0.650	0.000	5.00	11.499	7.47	99.9	0.0	363.5
157.00	Appurtenance(s)	1.00	1.39	12.185	13.40	157.25	0.650	0.000	2.00	4.478	2.91	39.0	0.0	141.5
160.00		1.00	1.40	12.233	13.46	153.88	0.650	0.000	3.00	6.587	4.28	57.6	0.0	208.2
165.00		1.00	1.41	12.313	13.54	148.21	0.650	0.000	5.00	10.631	6.91	93.6	0.0	335.8
167.00	Appurtenance(s)	1.00	1.41	12.344	13.58	145.92	0.650	0.000	2.00	4.131	2.69	36.5	0.0	130.5
168.00	Appurtenance(s)	1.00	1.41	12.360	13.60	144.78	0.650	0.000	1.00	2.040	1.33	18.0	0.0	64.4
								Totals:	**168.00**			**4,122.7**		**29,884.3**

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Discrete Appurtenance Forces

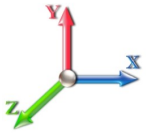
Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 27

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	168.00	6' Lightning rod	1	12.360	13.596	0.00	1.00	0.38	6.50	0.000	0.000	5.17	0.00	0.00
2	167.00	Low Profile Platform-flat	1	12.344	13.578	1.00	1.00	25.00	1200.00	0.000	0.000	339.46	0.00	0.00
3	157.00	Low Profile Platform-flat	1	12.185	13.403	1.00	1.00	25.00	1200.00	0.000	0.000	335.08	0.00	0.00
4	157.00	DB980H90E-M	6	12.185	13.403	0.63	0.80	14.75	51.00	0.000	0.000	197.71	0.00	0.00
5	147.00	RRUS 12	3	12.017	13.219	0.54	0.80	4.34	180.00	0.000	0.000	57.39	0.00	0.00
6	147.00	Low Profile	1	12.017	13.219	1.00	1.00	22.00	1500.00	0.000	0.000	290.81	0.00	0.00
7	147.00	Dual Combiner	3	12.017	13.219	0.47	0.80	0.72	14.40	0.000	0.000	9.55	0.00	0.00
8	147.00	1900W800	6	12.017	13.219	0.61	0.80	5.62	172.20	0.000	0.000	74.26	0.00	0.00
9	147.00	LGP21903	6	12.017	13.219	0.59	0.80	0.96	33.00	0.000	0.000	12.68	0.00	0.00
10	147.00	LGP21401	6	12.017	13.219	0.51	0.80	3.96	84.60	0.000	0.000	52.38	0.00	0.00
11	147.00	AM-X-CD-17-65-00T-RET	3	12.017	13.219	0.61	0.80	9.12	92.40	0.000	0.000	120.55	0.00	0.00
12	147.00	7770.00	6	12.017	13.219	0.60	0.80	19.80	210.00	0.000	0.000	261.73	0.00	0.00
13	147.00	DC6-48-60-18-8F	1	12.017	13.219	0.80	0.80	1.18	31.80	0.000	0.000	15.55	0.00	0.00
14	147.00	RRUS 11	6	12.017	13.219	0.61	0.80	9.19	304.20	0.000	0.000	121.52	0.00	0.00
15	137.50	782 11056	3	11.849	13.034	0.62	0.80	0.24	5.40	0.000	0.000	3.17	0.00	0.00
16	137.00	FE15501P77/75	3	11.840	13.024	0.79	0.80	1.24	52.50	0.000	0.000	16.09	0.00	0.00
17	137.00	KRY 112 144/1	3	11.840	13.024	0.58	0.80	0.71	33.00	0.000	0.000	9.23	0.00	0.00
18	137.00	LNX-6515DS-VTM	3	11.840	13.024	0.67	0.80	23.10	153.90	0.000	0.000	300.90	0.00	0.00
19	137.00	APXV18-206516S-C-A20	3	11.840	13.024	0.62	0.80	6.76	56.10	0.000	0.000	88.02	0.00	0.00
20	137.00	Low Profile Platform w/	1	11.840	13.024	1.00	1.00	22.00	1800.00	0.000	0.000	286.53	0.00	0.00
							Totals:		**7,181.00**			**2,597.76**		

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Total Applied Force Summary

Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 28

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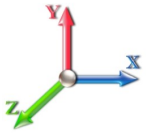
Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		125.91	1471.25	0.00	0.00
10.00		123.60	1447.04	0.00	0.00
15.00		121.29	1422.82	0.00	0.00
20.00		126.25	1398.61	0.00	0.00
25.00		129.75	1374.39	0.00	0.00
30.00		132.17	1350.18	0.00	0.00
35.00		133.77	1325.96	0.00	0.00
40.00		134.75	1301.74	0.00	0.00
44.00		107.90	1023.96	0.00	0.00
45.00		27.31	479.21	0.00	0.00
50.00		137.83	2367.00	0.00	0.00
55.00		137.59	1249.77	0.00	0.00
60.00		137.05	1225.55	0.00	0.00
65.00		136.24	1201.34	0.00	0.00
70.00		135.20	1177.12	0.00	0.00
75.00		133.94	1152.91	0.00	0.00
80.00		132.49	1128.69	0.00	0.00
83.75		98.16	830.63	0.00	0.00
85.00		32.91	443.99	0.00	0.00
89.00		104.94	1403.35	0.00	0.00
90.00		25.96	164.63	0.00	0.00
95.00		129.25	812.77	0.00	0.00
100.00		127.22	795.48	0.00	0.00
105.00		125.06	778.18	0.00	0.00
110.00		122.79	760.88	0.00	0.00
115.00		120.40	743.59	0.00	0.00
119.50		106.19	654.44	0.00	0.00
120.00		11.81	117.27	0.00	0.00
123.75		87.97	869.57	0.00	0.00
125.00		28.93	150.41	0.00	0.00
130.00		114.43	593.01	0.00	0.00
135.00		111.68	579.17	0.00	0.00
137.00	(13) attachments	744.54	2323.29	0.00	0.00
137.50	(3) attachments	14.03	55.76	0.00	0.00
140.00		53.97	249.74	0.00	0.00
145.00		105.94	489.10	0.00	0.00
147.00	(41) attachments	1057.87	2814.36	0.00	0.00
150.00		61.33	243.48	0.00	0.00
155.00		99.91	394.72	0.00	0.00
157.00	(7) attachments	571.80	1405.01	0.00	0.00
160.00		57.61	208.15	0.00	0.00
165.00		93.59	335.85	0.00	0.00
167.00	(1) attachments	375.92	1330.46	0.00	0.00
168.00	(1) attachments	23.19	70.90	0.00	0.00
	Totals:	**6,720.47**	**41,715.75**	**0.00**	**0.00**

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Calculated Forces

Structure:	CT01364-S-SBA		**Code:**	EIA/TIA-222-G	11/3/2016
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 29

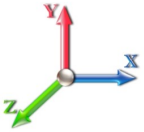
Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations 24



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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-41.71	-6.73	0.00	-749.08	0.00	749.08	5340.38	2670.19	12289.6	6153.95	0.00	0.000	0.000	0.130
5.00	-40.24	-6.63	0.00	-715.42	0.00	715.42	5276.02	2638.01	11917.5	5967.64	0.02	-0.034	0.000	0.128
10.00	-38.79	-6.53	0.00	-682.27	0.00	682.27	5210.42	2605.21	11548.2	5782.69	0.07	-0.068	0.000	0.125
15.00	-37.36	-6.43	0.00	-649.63	0.00	649.63	5143.57	2571.78	11181.7	5599.17	0.16	-0.102	0.000	0.123
20.00	-35.96	-6.32	0.00	-617.49	0.00	617.49	5075.47	2537.74	10818.2	5417.17	0.29	-0.137	0.000	0.121
25.00	-34.58	-6.21	0.00	-585.90	0.00	585.90	5006.13	2503.07	10457.9	5236.76	0.45	-0.172	0.000	0.119
30.00	-33.23	-6.09	0.00	-554.86	0.00	554.86	4935.55	2467.77	10101.0	5058.02	0.65	-0.207	0.000	0.116
35.00	-31.90	-5.97	0.00	-524.41	0.00	524.41	4863.72	2431.86	9747.59	4881.04	0.88	-0.242	0.000	0.114
40.00	-30.59	-5.85	0.00	-494.55	0.00	494.55	4790.64	2395.32	9397.80	4705.88	1.16	-0.278	0.000	0.111
44.00	-29.57	-5.74	0.00	-471.15	0.00	471.15	4731.29	2365.64	9120.70	4567.13	1.40	-0.306	0.000	0.109
45.00	-29.09	-5.73	0.00	-465.41	0.00	465.41	4716.32	2358.16	9051.82	4532.64	1.47	-0.314	0.000	0.109
50.00	-26.72	-5.59	0.00	-436.78	0.00	436.78	4386.97	2193.49	8392.46	4202.47	1.81	-0.349	0.000	0.110
55.00	-25.47	-5.46	0.00	-408.83	0.00	408.83	4315.09	2157.55	8071.80	4041.90	2.20	-0.385	0.000	0.107
60.00	-24.24	-5.33	0.00	-381.53	0.00	381.53	4242.11	2121.05	7755.22	3883.37	2.62	-0.419	0.000	0.104
65.00	-23.04	-5.20	0.00	-354.88	0.00	354.88	4147.44	2073.72	7406.11	3708.56	3.08	-0.453	0.000	0.101
70.00	-21.86	-5.07	0.00	-328.89	0.00	328.89	4049.83	2024.91	7059.92	3535.21	3.57	-0.486	0.000	0.098
75.00	-20.70	-4.93	0.00	-303.57	0.00	303.57	3952.22	1976.11	6722.01	3366.00	4.10	-0.520	0.000	0.095
80.00	-19.57	-4.80	0.00	-278.90	0.00	278.90	3854.61	1927.31	6392.39	3200.95	4.66	-0.553	0.000	0.092
83.75	-18.74	-4.70	0.00	-260.90	0.00	260.90	3781.40	1890.70	6150.62	3079.88	5.10	-0.577	0.000	0.090
85.00	-18.30	-4.67	0.00	-255.03	0.00	255.03	3757.00	1878.50	6071.06	3040.04	5.26	-0.586	0.000	0.089
89.00	-16.89	-4.55	0.00	-236.36	0.00	236.36	2696.95	1348.48	4363.97	2185.23	5.76	-0.612	0.000	0.114
90.00	-16.73	-4.53	0.00	-231.81	0.00	231.81	2687.67	1343.84	4326.14	2166.29	5.89	-0.618	0.000	0.113
95.00	-15.91	-4.40	0.00	-209.15	0.00	209.15	2640.52	1320.26	4138.17	2072.16	6.56	-0.660	0.000	0.107
100.00	-15.11	-4.28	0.00	-187.13	0.00	187.13	2592.12	1296.06	3952.30	1979.09	7.27	-0.700	0.000	0.100
105.00	-14.34	-4.15	0.00	-165.73	0.00	165.73	2542.48	1271.24	3768.69	1887.15	8.03	-0.740	0.000	0.093
110.00	-13.57	-4.03	0.00	-144.97	0.00	144.97	2491.60	1245.80	3587.51	1796.42	8.82	-0.777	0.000	0.086
115.00	-12.83	-3.91	0.00	-124.82	0.00	124.82	2439.47	1219.73	3408.91	1706.99	9.65	-0.813	0.000	0.078
119.50	-12.18	-3.79	0.00	-107.24	0.00	107.24	2391.49	1195.74	3250.50	1627.67	10.44	-0.843	0.000	0.071
120.00	-12.06	-3.78	0.00	-105.35	0.00	105.35	2386.09	1193.05	3233.04	1618.92	10.52	-0.846	0.000	0.070
123.75	-11.19	-3.69	0.00	-91.16	0.00	91.16	1658.06	829.03	2236.65	1119.99	11.20	-0.869	0.000	0.088
125.00	-11.04	-3.66	0.00	-86.55	0.00	86.55	1649.50	824.75	2207.60	1105.44	11.43	-0.877	0.000	0.085
130.00	-10.44	-3.54	0.00	-68.26	0.00	68.26	1614.57	807.28	2092.31	1047.71	12.36	-0.908	0.000	0.072
135.00	-9.87	-3.42	0.00	-50.57	0.00	50.57	1578.53	789.26	1978.61	990.78	13.33	-0.935	0.000	0.057
137.00	-7.55	-2.64	0.00	-43.72	0.00	43.72	1563.80	781.90	1933.60	968.24	13.72	-0.945	0.000	0.050
137.50	-7.50	-2.63	0.00	-42.40	0.00	42.40	1560.09	780.05	1922.40	962.63	13.82	-0.947	0.000	0.049
140.00	-7.25	-2.57	0.00	-35.84	0.00	35.84	1541.39	770.69	1866.63	934.70	14.32	-0.957	0.000	0.043
145.00	-6.76	-2.46	0.00	-22.99	0.00	22.99	1503.14	751.57	1756.51	879.56	15.33	-0.974	0.000	0.031
147.00	-3.97	-1.35	0.00	-18.08	0.00	18.08	1487.53	743.77	1713.02	857.78	15.74	-0.979	0.000	0.024
150.00	-3.72	-1.29	0.00	-14.03	0.00	14.03	1463.79	731.89	1648.40	825.42	16.36	-0.985	0.000	0.020
155.00	-3.33	-1.18	0.00	-7.60	0.00	7.60	1423.34	711.67	1542.43	772.36	17.39	-0.992	0.000	0.012
157.00	-1.94	-0.58	0.00	-5.24	0.00	5.24	1406.84	703.42	1500.67	751.45	17.81	-0.994	0.000	0.008
160.00	-1.73	-0.52	0.00	-3.48	0.00	3.48	1381.63	690.81	1438.59	720.36	18.44	-0.996	0.000	0.006
165.00	-1.39	-0.42	0.00	-0.87	0.00	0.87	1325.85	662.93	1324.24	663.10	19.48	-0.998	0.000	0.002
167.00	-0.07	-0.02	0.00	-0.02	0.00	0.02	1303.54	651.77	1279.82	640.86	19.90	-0.998	0.000	0.000
168.00	0.00	-0.02	0.00	0.00	0.00	0.00	1292.39	646.19	1257.90	629.89	20.11	-0.998	0.000	0.000

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Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 101 mph Wind	30.5	0.00	50.02	0.00	0.00	3415.52
0.9D + 1.6W 101 mph Wind	30.5	0.00	37.50	0.00	0.00	3382.65
1.2D + 1.0Di + 1.0Wi 50 mph Wind	9.1	0.00	79.11	0.00	0.00	1045.85
1.2D + 1.0E	1.0	0.00	50.06	0.00	0.00	113.12
0.9D + 1.0E	1.0	0.00	37.54	0.00	0.00	111.98
1.0D + 1.0W 60 mph Wind	6.7	0.00	41.71	0.00	0.00	749.08

Max Stresses

Load Case	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)	Elev (ft)	Stress Ratio
1.2D + 1.6W 101 mph Wind	-50.02	-30.54	0.00	-3415.5	0.00	-3415.5	5340.38	2670.1	12289.6	6153.95	0.00	0.565
0.9D + 1.6W 101 mph Wind	-37.50	-30.52	0.00	-3382.6	0.00	-3382.6	5340.38	2670.1	12289.6	6153.95	0.00	0.557
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-79.11	-9.13	0.00	-1045.8	0.00	-1045.8	5340.38	2670.1	12289.6	6153.95	0.00	0.185
1.2D + 1.0E	-50.06	-1.00	0.00	-113.12	0.00	-113.12	5340.38	2670.1	12289.6	6153.95	0.00	0.028
0.9D + 1.0E	-37.54	-1.00	0.00	-111.98	0.00	-111.98	5340.38	2670.1	12289.6	6153.95	0.00	0.025
1.0D + 1.0W 60 mph Wind	-41.71	-6.73	0.00	-749.08	0.00	-749.08	5340.38	2670.1	12289.6	6153.95	0.00	0.130

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Monopole Mat Foundation Design

			Date
			11/3/2016
Customer Name:	AT&T	**EIA/TIA Standard:**	EIA-222-G
Site Name:	Pomfret	**Structure Height (Ft.):**	168
Site Number:	CT01364-S-SBA	**Engineer Name:**	S. Hesselbein
Engr. Number:	27413	**Engineer Login ID:**	

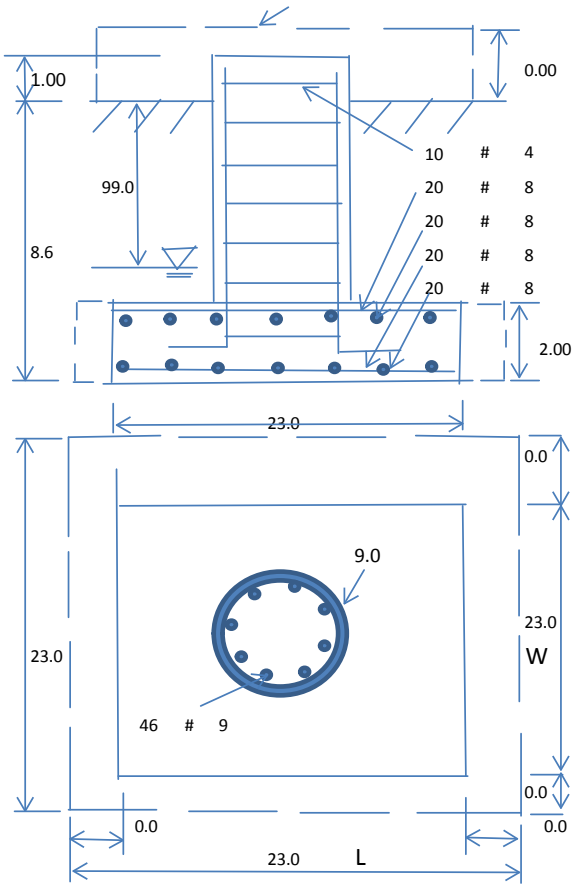
Foundation Info Obtained from:	Mapping Operation
Structure Type:	Monopole
Analysis or Design?	Analysis

Base Reactions (Factored):

Axial Load (Kips):	50.0	Shear Force (Kips):	30.5
Uplift Force (Kips):	0.0	Moment (Kips-ft):	3415.5
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	9.0	Depth of Base BG (ft.):	8.6
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	2.00
Length of Pad (ft.):	23	Width of Pad (ft.):	23
Final Length of pad (ft)	23.0	Final width of pad (ft):	23.0
Control Value for Cell D18:	0	Control Value for Cell F18:	0



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	46	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

Qty. of Rebar in Pad (L):	20	Qty. of Rebar in Pad (W):	20

Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	20	Qty. of Rebar in Pad (W):	20

Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

Soil Unit Weight (pcf):	125.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	9000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hori. force for O.T.M.:	No	Reduction factor on the maximum soil bearing pressure:				1.00

Foundation Analysis and Design: Uplift Strength Reduction Factor: 0.75 Compression Strength Reduction Factor: 0.75

Total Dry Soil Volume (cu. Ft.):	3071.53	Total Dry Soil Weight (Kips):	383.94
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	383.94	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1541.49	Total Dry Concrete Weight (Kips):	231.22
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	231.22	Total Vertical Load on Base (Kips):	665.18

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	3262	<	Allowable Factored Soil Bearing (psf):	6750	0.48	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	6942.2	>	Design Factored Momont (kips-ft):	3708	0.53	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.87	OK!				

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):		0.75		
Strength reduction factor (Axial compresion):	0.65	Wind Load Factor on Concrete Design:		1.00		
					Load/ Capacity Ratio	
(1) Concrete Pier:						
Vertical Steel Rebar Area (sq. in./each):	1.00		Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	9927.8	>	Design Factored Moment (Mu, Kips-Ft	3647.3	0.37	OK!
Calculated Shear Capacity (Kips):	925.4	>	Design Factored Shear (Kips):	30.5	0.03	OK!
Calculated Tension Capacity (Tn, Kips):	2484.0	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	12086.3	>	Design Factored Axial Load (Pu Kips):	50.0	0.00	OK!
Moment & Axial Strength Combination:	0.37	OK!	Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.005	Reinforcement Ratio is satisfied per ACI				
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	464.9	>	One-Way Factored Shear (L-D. Kips):	225.4	0.48	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	464.9	>	One-Way Factored Shear (W-D., Kips):	225.4	0.48	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	475.5	>	One-Way Factored Shear (C-C, Kips):	338.3	0.71	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0028	OK!	Lower Steel Pad Reinf. Ratio (W-Direct	0.0028		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	1409.7	>	Moment at Bottom (L-Direct. K-Ft):	596.4	0.42	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	1409.7	>	Moment at Bottom (W-Direct. K-Ft):	596.4	0.42	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	1967.7	>	Moment at Bottom (C-C Dir. K-Ft):	843.5	0.43	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0028	OK!	Upper Steel Reinf. Ratio (W-Direct.):	0.0028		
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	1409.7	>	Moment at the top (L-Dir Kips-Ft):	306.4	0.22	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	1409.7	>	Moment at the top (W-Dir Kips-Ft):	306.4	0.22	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	1967.7	>	Moment at the top (C-C Direc. K-Ft):	326.1	0.17	OK!