



TES

A **CONGRUEX**® COMPANY

Tower Engineering Solutions, LLC
1320 Greenway Drive, Suite 600, Irving, Texas 75038
Phone: (972) 483-0607, Fax: (972) 975-9615

Structural Analysis Report

Structure Information Tower Type Existing 250 ft World Tower Guyed Tower

Customer Information Name SBA Communications Corp
Site Number FL15359-A
Site Name I-10 & I-75

Carrier Information Name AT&T
Site ID / Name 10143832 / I-10 AND I-75
App # 278700-1

Site Information Address: 255 Nw Serene Court
Lake City, Florida 32055, Columbia County
Latitude: 30.263444°
Longitude: -82.756167°

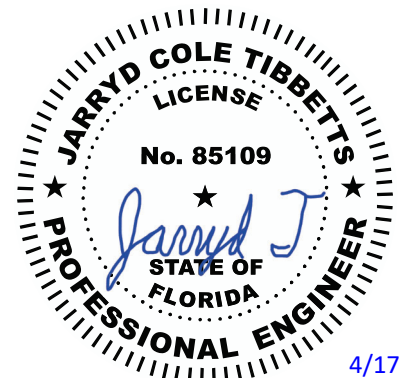
Analysis Result:

Max Structural Usage: **90.2% [Pass]**

Max Foundation Usage: **69.0% [Pass]**

Additional Usage Caused by New Mount/Mount Modification : +1.3%

Report Prepared By: Ali Saidi



4/17/2025

TOWER ENGINEERING
SOLUTIONS, LLC
1320 Greenway Drive Ste 600
Irving, TX 75038
CA# 30690

This item has been digitally signed and sealed by Jarryd Tibbetts on the date adjacent to the seal.

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Introduction

The purpose of this report is to summarize the analysis results on the 250 ft World Tower Guyed Tower 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

Document Type	Remarks
Tower Drawings	World Tower Job No. Q10-321 dated 09/02/2010.
Foundation Drawing	World Tower Job No. Q10-321 dated 09/02/2010.
Geotechnical Report	SEA Project No. 10-3124 dated 02/18/2010.
Modification Drawings	N/A
Mount Analysis	GEN3 Engineering, Inc. dated February 12, 2025

Analysis Criteria

The comprehensive analysis was performed in accordance with the requirements and stipulations of the TIA-222-H. In accordance with this standard, the structure was analyzed using TESTowers, 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.

Codes and Standards	ANSI/TIA-222-H / 2021 IBC / Florida Building Code, 8th Edition (2023)	
Wind Parameters	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT} :	117.0 mph
	Ice Wind Speed (3-sec. Gust):	30.0
	Design Ice Thickness:	0.25"
	Service Load Wind Speed:	60 mph + 0" Radial ice
	Exposure Category:	C
	Risk Category:	II
	Ground Elevation Factor (K_e):	0.996
Topographic Parameters	Method:	Method 1
	Feature Type:	Flat
	Crest Height (H):	0 ft
	Length of Feature (L):	0.0 ft
	Distance to crest (x):	0.0 ft
Seismic Parameters:	S_s	0.086 g
	S_1	0.051 g

This structural analysis is based upon the tower being classified as a Risk Category II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

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
-	246.0	6	Andrew - DBXNH-8585B-R2M - Panel	(3) Sabre C10857001C (Sector Frame)	(24) 1-5/8" Coax (3) 3/8" Fiber (3) 7/16" RET (6) 7/8" Power Cable	AT&T
-		6	Andrew - SBNHH-1D85B - Panel			
-		9	Powerwave TT08-19DB111-001 TMA			
-		9	Ericsson RRU 11 RRU			
-		3	Ericsson RRU 32 RRU			
-		3	Ericsson RRU 32 B66 RRU			
-		2	Ericsson B14 4478 RRU			
-		3	Ericsson RRU A2 RRU			
-		3	Raycap DC6-48-60-18-8F			
9	225.0	4	JMA Wireless X7CQAP-86-865-VR0- Panel	(3) V-Frame (Valmont VFA14-HD)	(12) 1-5/8" Coax (1) 1-5/8" Hybrid	Verizon
10		3	Ericsson AIR6449- Panel			
11		2	JMA Wireless X7CQAP-FRO-845-VR0- Panel			
12		6	Commscope TMAT7UC8-11V			
13		3	Ericsson 8843 B2 B66A- RRH			
14		2	Raycap RHSDC-6627-PF-48- OVP			

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
1	246.0	3	Ericsson AIR 6472 B77G + B77M - Panel	(3) Sabre C10857001C (Sector Frame)	(24) 1-5/8" (3) 7/16" RET Line (3) 3/8" Fiber (6) 7/8" DC Power	AT&T
2		6	Commscope NNH4-85B-R6 - Panel			
3		3	Ericsson RRUS 32 - RRU/RRH			
4		3	Ericsson 4890 B25/B66 - RRU/RRH			
5		3	Ericsson 4490 B25/B66 - RRU/RRH			
6		2	Ericsson B14 4478 - RRU/RRH			
7		1	Ericsson 4494 B14/B29 - RRU/RRH			
8		3	Raycap DC6-48-60-18-8F (24x11" 32.8 lbs) - OVP			

See the attached coax layout for the line placement considered in the analysis.

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:

Tower Component	Utilization %	Pass / Fail
Max Leg	90.2%	Pass
Max Diagonal	60.6%	Pass
Max Horizontal	31.7%	Pass
Max Cable	67.2%	Pass
Structure Rating – (Controlling Utilization of all Components)		90.2%

Foundations

	Base Reactions		Anchors	
Reactions (kips)	Axial	Shear	Uplift	Shear
Analysis Reactions	111.6	2.6	42.5	46.2

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.

Service Load Condition (Rigidity)

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.0887 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 TIA-222 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 structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. 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 ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. 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.
5. 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.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a comprehensive structural analysis.

Structure: FL15359-A-SBA

Site Name: I-10 & I-75

Code: TIA-222-H

4/17/2025

Type: Guyed

Base Shape: Triangle

Basic WS: 117.00

Height: 250.00 (ft)

Base Width: 0.00

Basic Ice WS: 30.00

Base Elev: 0.00 (ft)

Top Width: 4.00

Operational WS: 60.00

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Section Properties

Sect	Leg Members	Diagonal Members	Horizontal Members
1-4	SOL 2" SOLID	SOL 1" SOLID	SOL 1" SOLID
5-7	SOL 1 3/4" SOLID	SOL 1" SOLID	SOL 1" SOLID
8	SOL 2" SOLID	SOL 1" SOLID	SOL 1" SOLID
9-10	SOL 2" SOLID	SOL 1 1/8" SOLID	SOL 1" SOLID
11	SOL 1 3/4" SOLID	SOL 1 1/8" SOLID	SOL 1" SOLID
12	SOL 1 3/4" SOLID	SOL 1 1/4" SOLID	SOL 1" SOLID
13	SOL 1 3/4" SOLID	SOL 1" SOLID	SOL 1" SOLID
14	SOL 1 3/4" SOLID	SOL 1 1/8" SOLID	SOL 1" SOLID
15	SOL 1 1/2" SOLID	SOL 1" SOLID	SOL 1" SOLID

Discrete Appurtenances

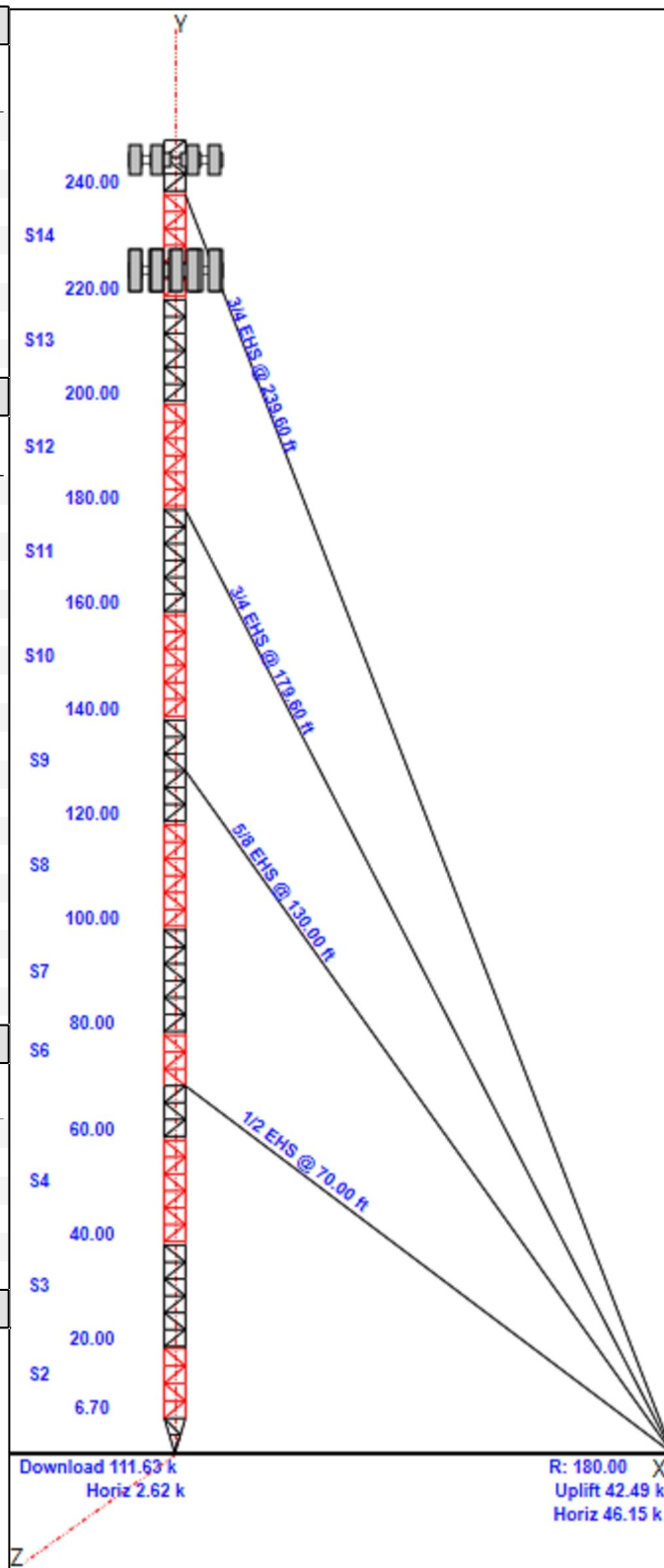
Attach Elev (ft)	Force Elev (ft)	Qty	Description
250.00	250.00	1	Lightning rod
246.00	246.00	3	Ericsson RRU 32
246.00	246.00	3	Raycap DC6-48-60-18-8F
246.00	246.00	3	Sabre 3 C10857001C Sector
246.00	246.00	2	Ericsson B14 4478
246.00	246.00	3	AIR 6472 B77G + B77M
246.00	246.00	6	NNH4-85B-R6
246.00	246.00	3	4890 B25/B66
246.00	246.00	3	4490 B25/B66
246.00	246.00	1	4494 B14/B29
246.00	246.00	3	RU Pipes
240.00	240.00	1	20' x 2.9" Pipe Mount
225.00	225.00	4	JMA Wireless X7CQAP-86-865-VR0
225.00	225.00	3	V-Frame (Valmont VFA14-HD)
225.00	225.00	3	AIR 6449
225.00	225.00	2	X7CQAP-FRO-845-VR0
225.00	225.00	6	TMAT7UC8-11V
225.00	225.00	3	B2 B66A 8843
225.00	225.00	1	RHSDC-6627-PF-48

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Qty	Description
0.00	246.00	24	1-5/8" Coax
0.00	246.00	3	3/8" Fiber
0.00	246.00	3	7/16" RET
0.00	246.00	6	7/8" DC Power
0.00	225.00	12	1-5/8" Coax
0.00	225.00	1	1-5/8" Hybrid

Max Guy Wire

67.22% @ 239.625 ft - 3/4 EHS



Structure: FL15359-A-SBA

Site Name: I-10 & I-75

Type: Guyed

Height: 250.00 (ft)

Base Elev: 0.00 (ft)

Base Shape: Triangle

Base Width: 0.00

Top Width: 4.00

Code: TIA-222-H

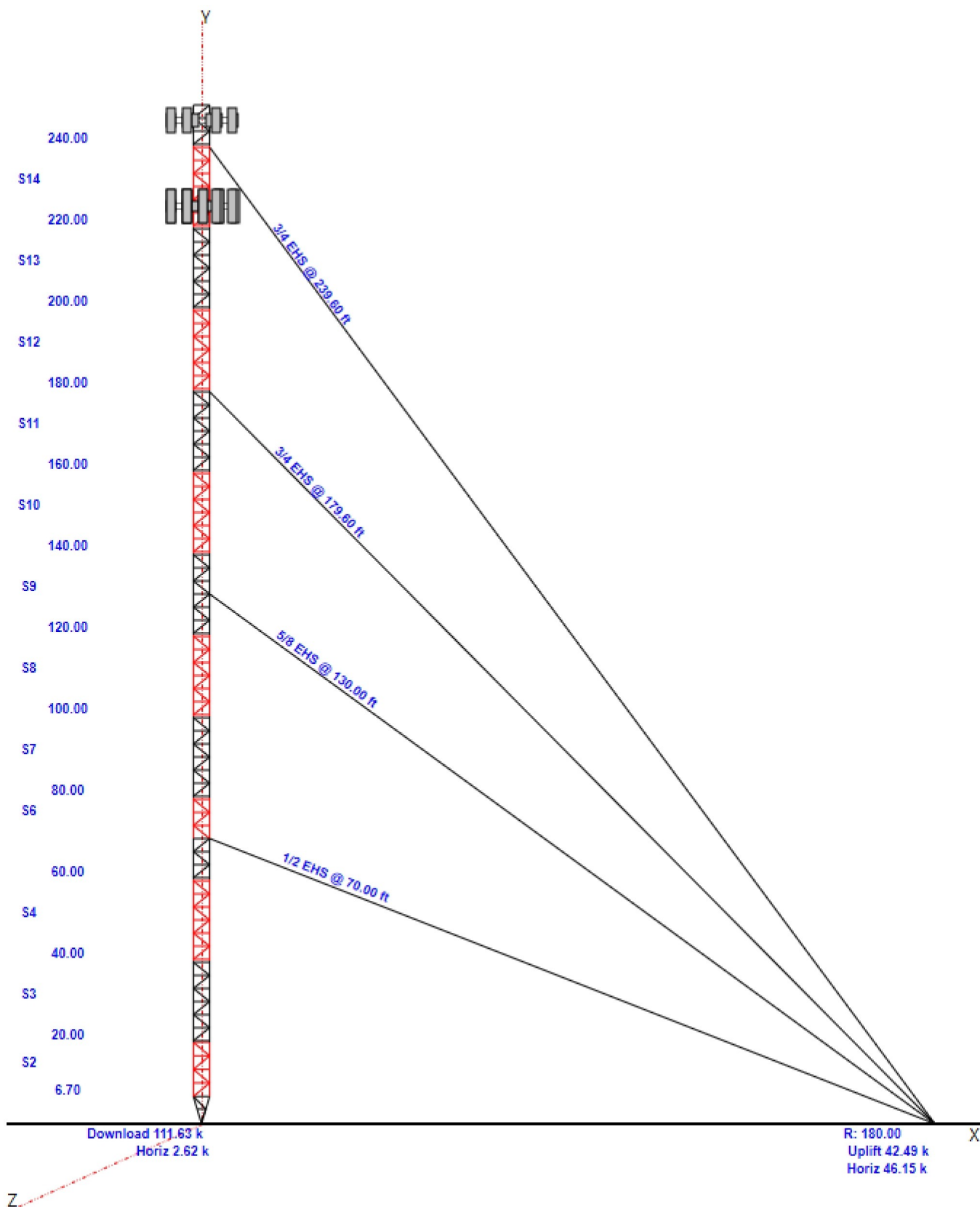
Basic WS: 117.00

Basic Ice WS: 30.00

Operational WS: 60.00

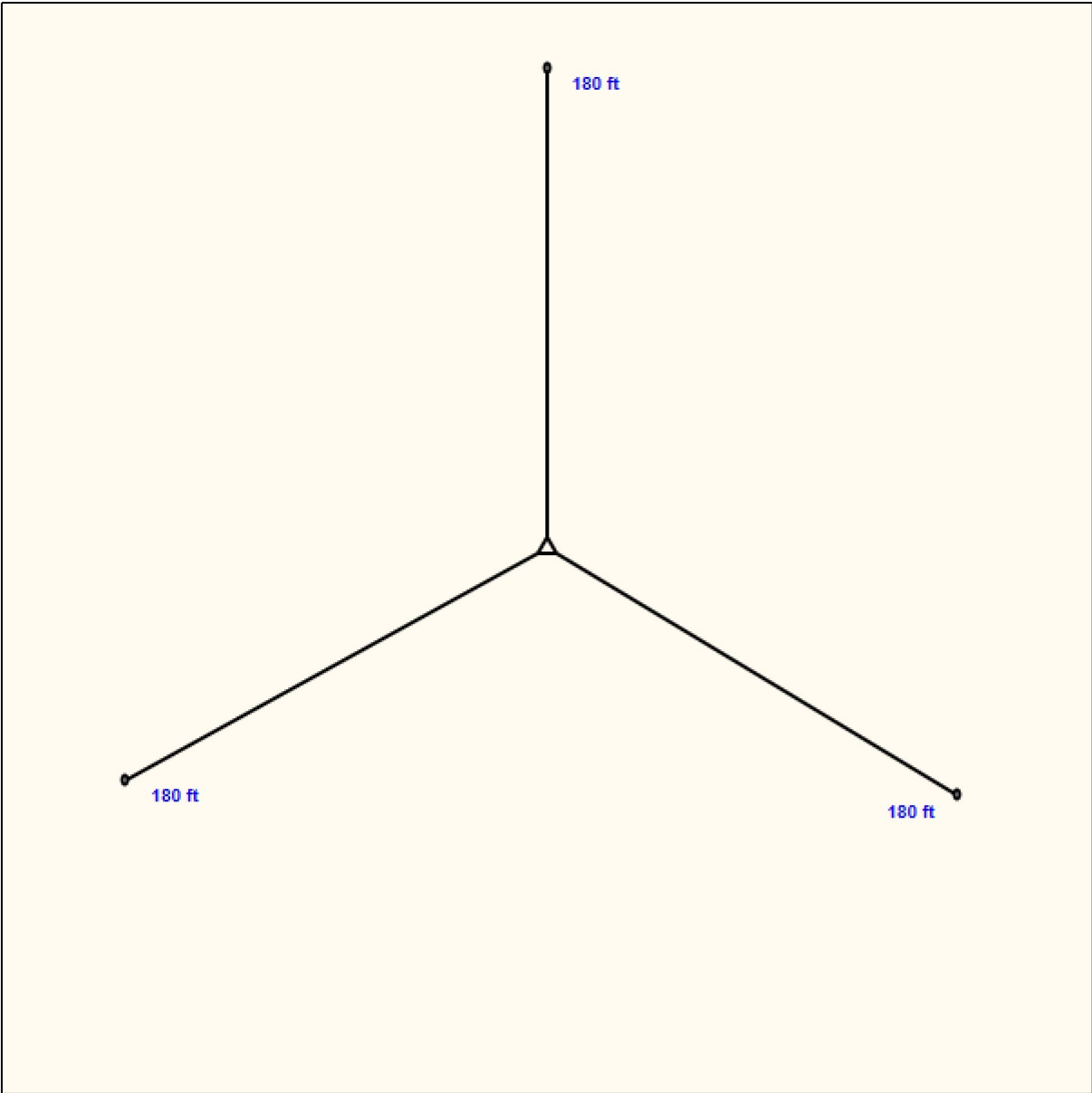
4/17/2025

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Anchor Drops with Guy Radius - Structure: FL15359-A-SBA

Site Name:	I-10 & I-75	Code:	EIA_H	4/17/2025
Type:	Guyed	Base Shape:	Triangle	Basic WS: 117.00
Height:	250.00 (ft)	Base Width:	0.00	Basic Ice WS: 30.00
Base Elev:	0.00 (ft)	Top Width:	4.00	Operational WS: 60.00

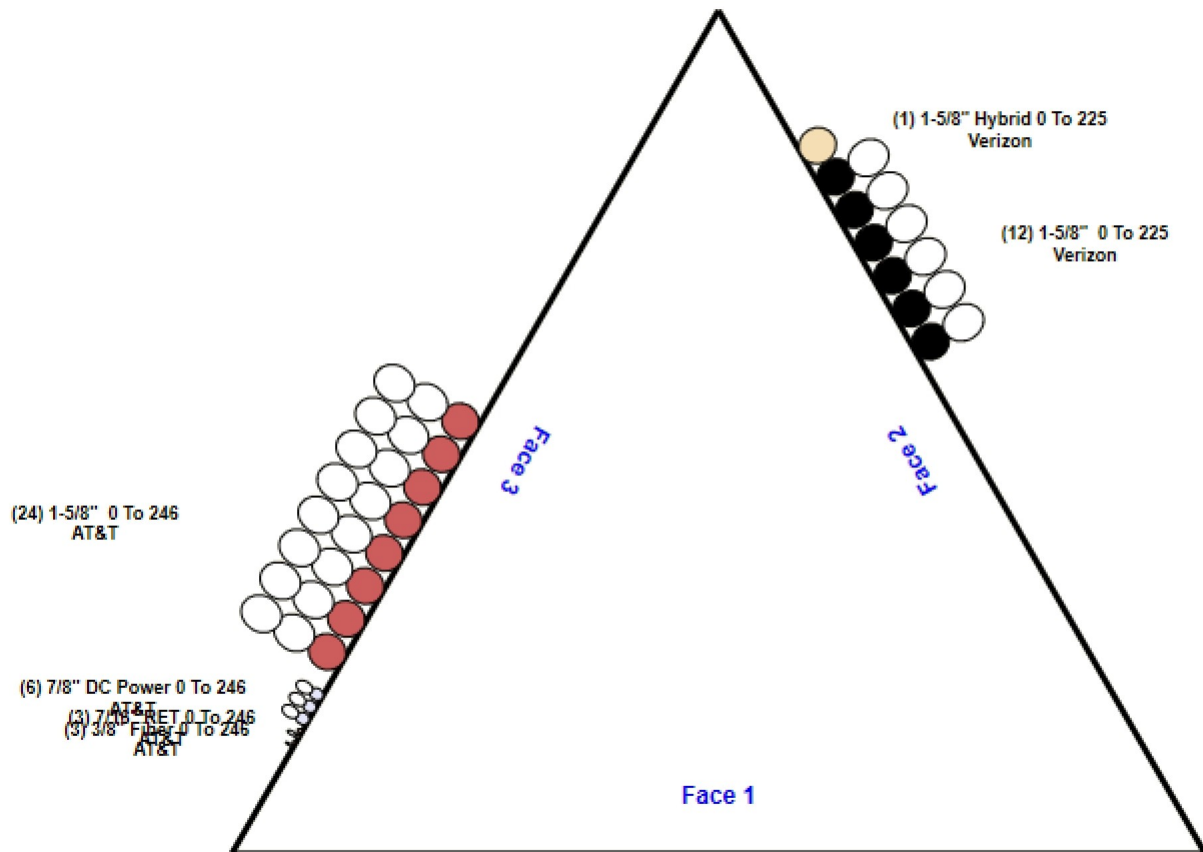


Structure: FL15359-A-SBA - Coax Line Placement

Type: Guyed
Site Name: I-10 & I-75
Height: 250.00 (ft)

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Loading Summary

Structure: FL15359-A-SBA	Code: TIA-222-H	4/17/2025
Site Name: I-10 & I-75	Exposure: C	
Height: 250.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 0.85	Topography: 1	Struct Class: II
		Page: 5



Discrete Appurtenances Properties

Attach Elev (ft)	Description	Qty	No Ice		Ice					Ka	Orientation Factor	Vert Ecc (ft)
			Weight (lb)	CaAa (sf)	Weight (lb)	CaAa (sf)	Len (in)	Width (in)	Depth (in)			
250.00	Lightning rod	1	12.00	1.250	16.40	2.014	120.000	1.000	1.000	1.00	1.00	0.000
246.00	Ericsson RRU 32	3	53.00	2.740	65.53	2.861	27.200	12.100	7.000	0.80	0.67	0.000
246.00	Raycap DC6-48-60-18-8F	3	32.80	0.920	43.96	0.997	24.000	11.000	18.500	0.80	1.00	0.000
246.00	Sabre 3 C10857001C Sector	3	500.00	20.000	591.65	22.933	0.000	0.000	0.000	0.75	0.75	0.000
246.00	Ericsson B14 4478	2	59.40	1.650	66.66	1.741	15.000	13.200	7.300	0.80	0.67	0.000
246.00	AIR 6472 B77G + B77M	3	83.00	6.130	108.46	6.304	35.200	20.900	7.000	0.80	0.69	0.000
246.00	NNH4-85B-R6	6	82.00	12.240	127.69	12.494	72.000	19.600	7.800	0.80	0.74	0.000
246.00	4890 B25/B66	3	69.50	2.700	81.61	2.805	20.600	15.700	7.200	0.80	0.67	0.000
246.00	4490 B25/B66	3	69.50	2.700	81.61	2.805	20.600	15.700	7.200	0.80	0.67	0.000
246.00	4494 B14/B29	1	69.50	2.700	81.61	2.805	20.600	15.700	7.200	0.80	0.67	0.000
246.00	RU Pipes	3	29.20	2.000	39.87	2.455	0.000	0.000	0.000	0.75	0.75	0.000
240.00	20' x 2.9" Pipe Mount	1	87.00	4.310	110.24	5.247	0.000	0.000	0.000	1.00	1.00	0.000
225.00	JMA Wireless X7CQAP-86-865-VR0	4	53.60	13.440	98.48	13.715	96.000	14.600	7.300	0.80	0.80	0.000
225.00	V-Frame (Valmont VFA14-HD)	3	645.31	22.000	776.17	25.740	0.000	0.000	0.000	0.75	0.75	0.000
225.00	AIR 6449	3	81.60	4.130	102.02	4.272	30.800	16.100	10.800	0.80	0.85	0.000
225.00	X7CQAP-FRO-845-VR0	2	67.00	16.490	125.92	16.788	96.000	18.800	9.700	0.80	0.80	0.000
225.00	TMAT7UC8-11V	6	27.56	0.890	32.71	0.958	11.000	9.700	6.220	0.80	0.67	0.000
225.00	B2 B66A 8843	3	72.00	1.640	80.23	1.730	15.000	13.200	9.300	0.80	0.67	0.000
225.00	RHSDC-6627-PF-48	1	32.00	4.060	51.82	4.203	29.500	16.500	12.600	0.80	1.00	0.000
Totals:		54	6,232.79		7,914.91		Number of Appurtenances :					19

Loading Summary

Structure: FL15359-A-SBA	Code: TIA-222-H	4/17/2025
Site Name: I-10 & I-75	Exposure: C	
Height: 250.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 0.85	Topography: 1	Struct Class: II



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Linear Appurtenances Properties

Elev. From (ft)	Elev. To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	246.00	1-5/8" Coax	24	1.98	1.04	33.30	3	Block		N	0.25	1.00	
0.00	246.00	3/8" Fiber	3	0.38	0.06	50.00	3	Block		N	1.00	1.00	
0.00	246.00	7/16" RET	3	0.44	0.08	50.00	3	Block		N	1.00	1.00	
0.00	246.00	7/8" DC Power	6	0.88	0.65	50.00	3	Block		N	0.50	1.00	
0.00	225.00	1-5/8" Coax	12	1.98	1.04	50.00	2	Block		N	0.25	0.48	
0.00	225.00	1-5/8" Hybrid	1	2.00	1.10	100.00	2	Individual NR		N	1.00	1.00	

Section Forces

Structure: FL15359-A-SBA

Code: EIA_H

4/17/2025

Site Name: I-10 & I-75

Exposure: C

Height: 250.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 0.85

Topography: 1

Struct Class: II

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Wind Loads

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 0.00

Wind Importance Factor: 1.00

Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	3.4	25.23	0.000	3.48	0.00	0.24	2.47	1.00	1.00	0.00	2.07	21.67	0.00	754.2	0.0	109.41	408.69	518.10
								0.85	1.00	0.00	2.07	21.67	0.00	754.2	0.0	109.41	408.69	518.10
								0.80	1.00	0.00	2.07	21.67	0.00	754.2	0.0	109.41	408.69	518.10
2	13.4	25.23	0.000	7.39	0.00	0.13	2.83	1.00	1.00	0.00	4.25	43.03	0.00	1,550.1	0.0	257.99	811.28	1,069.28
								0.85	1.00	0.00	4.25	43.03	0.00	1,550.1	0.0	257.99	811.28	1,069.28
								0.80	1.00	0.00	4.25	43.03	0.00	1,550.1	0.0	257.99	811.28	1,069.28
3	30.0	29.15	0.000	11.38	0.00	0.14	2.82	1.00	1.00	0.00	6.55	64.70	0.00	2,363.8	0.0	457.86	1409.79	1,867.65
								0.85	1.00	0.00	6.55	64.70	0.00	2,363.8	0.0	457.86	1409.79	1,867.65
								0.80	1.00	0.00	6.55	64.70	0.00	2,363.8	0.0	457.86	1409.79	1,867.65
4	50.0	32.46	0.000	11.38	0.00	0.14	2.82	1.00	1.00	0.00	6.55	64.70	0.00	2,363.8	0.0	509.84	1569.86	2,079.70
								0.85	1.00	0.00	6.55	64.70	0.00	2,363.8	0.0	509.84	1569.86	2,079.70
								0.80	1.00	0.00	6.55	64.70	0.00	2,363.8	0.0	509.84	1569.86	2,079.70
5	65.0	34.31	1.333	5.13	0.00	0.16	2.75	1.00	1.00	0.00	4.29	32.35	0.00	1,145.9	0.0	343.81	829.50	1,173.32
								0.85	1.00	0.00	4.09	32.35	0.00	1,145.9	0.0	327.77	829.50	1,157.28
								0.80	1.00	0.00	4.02	32.35	0.00	1,145.9	0.0	322.43	829.50	1,151.93
6	75.0	35.36	0.000	5.13	0.00	0.12	2.87	1.00	1.00	0.00	2.94	32.35	0.00	1,072.5	0.0	253.59	854.87	1,108.46
								0.85	1.00	0.00	2.94	32.35	0.00	1,072.5	0.0	253.59	854.87	1,108.46
								0.80	1.00	0.00	2.94	32.35	0.00	1,072.5	0.0	253.59	854.87	1,108.46
7	90.0	36.74	0.000	10.57	0.00	0.13	2.86	1.00	1.00	0.00	6.07	64.70	0.00	2,183.5	0.0	541.33	1776.65	2,317.98
								0.85	1.00	0.00	6.07	64.70	0.00	2,183.5	0.0	541.33	1776.65	2,317.98
								0.80	1.00	0.00	6.07	64.70	0.00	2,183.5	0.0	541.33	1776.65	2,317.98
8	110.0	38.32	0.000	11.38	0.00	0.14	2.82	1.00	1.00	0.00	6.55	64.70	0.00	2,363.8	0.0	601.90	1853.32	2,455.22
								0.85	1.00	0.00	6.55	64.70	0.00	2,363.8	0.0	601.90	1853.32	2,455.22
								0.80	1.00	0.00	6.55	64.70	0.00	2,363.8	0.0	601.90	1853.32	2,455.22
9	130.0	39.70	1.333	11.37	0.00	0.15	2.76	1.00	1.00	0.00	7.89	64.70	0.00	2,477.3	0.0	735.60	1919.66	2,655.25
								0.85	1.00	0.00	7.69	64.70	0.00	2,477.3	0.0	716.95	1919.66	2,636.61
								0.80	1.00	0.00	7.63	64.70	0.00	2,477.3	0.0	710.74	1919.66	2,630.40
10	150.0	40.91	0.000	11.69	0.00	0.14	2.81	1.00	1.00	0.00	6.73	64.70	0.00	2,442.3	0.0	657.41	1978.37	2,635.78
								0.85	1.00	0.00	6.73	64.70	0.00	2,442.3	0.0	657.41	1978.37	2,635.78
								0.80	1.00	0.00	6.73	64.70	0.00	2,442.3	0.0	657.41	1978.37	2,635.78
11	170.0	42.00	1.333	10.56	0.00	0.14	2.80	1.00	1.00	0.00	7.41	64.70	0.00	2,296.9	0.0	739.54	2031.19	2,770.73
								0.85	1.00	0.00	7.21	64.70	0.00	2,296.9	0.0	719.58	2031.19	2,750.77
								0.80	1.00	0.00	7.14	64.70	0.00	2,296.9	0.0	712.92	2031.19	2,744.11
12	190.0	43.00	0.000	11.20	0.00	0.14	2.83	1.00	1.00	0.00	6.44	64.70	0.00	2,349.9	0.0	665.32	2079.31	2,744.64
								0.85	1.00	0.00	6.44	64.70	0.00	2,349.9	0.0	665.32	2079.31	2,744.64
								0.80	1.00	0.00	6.44	64.70	0.00	2,349.9	0.0	665.32	2079.31	2,744.64
13	210.0	43.91	0.000	10.57	0.00	0.13	2.86	1.00	1.00	0.00	6.07	64.70	0.00	2,183.5	0.0	647.04	2123.59	2,770.63
								0.85	1.00	0.00	6.07	64.70	0.00	2,183.5	0.0	647.04	2123.59	2,770.63
								0.80	1.00	0.00	6.07	64.70	0.00	2,183.5	0.0	647.04	2123.59	2,770.63
14	230.0	44.76	1.333	10.56	0.00	0.14	2.80	1.00	1.00	0.00	7.41	45.79	0.00	2,052.5	0.0	788.13	1534.14	2,322.27
								0.85	1.00	0.00	7.21	45.79	0.00	2,052.5	0.0	766.86	1534.14	2,301.00
								0.80	1.00	0.00	7.14	45.79	0.00	2,052.5	0.0	759.77	1534.14	2,293.91
15	245.0	45.36	0.000	5.04	0.00	0.12	2.88	1.00	1.00	0.00	2.89	11.85	0.00	729.3	0.0	320.69	402.51	723.20
								0.85	1.00	0.00	2.89	11.85	0.00	729.3	0.0	320.69	402.51	723.20
								0.80	1.00	0.00	2.89	11.85	0.00	729.3	0.0	320.69	402.51	723.20

Section Forces

Structure: FL15359-A-SBA

Code: EIA_H

4/17/2025

Site Name: I-10 & I-75

Exposure: C

Height: 250.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 0.85

Topography: 1

Struct Class: II

Page: 8



Wind Loads with Ice

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 1.00

Wind Importance Factor: 1.00

Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	3.4	1.66	0.000	4.42	0.94	0.30	2.30	1.00	1.00	0.20	2.69	23.44	0.22	959.9	205.7	8.70	24.93	33.64
								0.85	1.00	0.20	2.69	23.44	0.22	959.9	205.7	8.70	24.93	33.64
								0.80	1.00	0.20	2.69	23.44	0.22	959.9	205.7	8.70	24.93	33.64
2	13.4	1.66	0.000	9.80	2.41	0.18	2.68	1.00	1.00	0.23	5.66	46.86	0.51	1,994.0	443.9	21.38	50.52	71.89
								0.85	1.00	0.23	5.66	46.86	0.51	1,994.0	443.9	21.38	50.52	71.89
								0.80	1.00	0.23	5.66	46.86	0.51	1,994.0	443.9	21.38	50.52	71.89
3	30.0	1.92	0.000	15.46	4.08	0.18	2.65	1.00	1.00	0.25	8.94	70.79	0.83	3,064.8	701.0	38.63	88.24	126.87
								0.85	1.00	0.25	8.94	70.79	0.83	3,064.8	701.0	38.63	88.24	126.87
								0.80	1.00	0.25	8.94	70.79	0.83	3,064.8	701.0	38.63	88.24	126.87
4	50.0	2.13	0.000	15.67	4.29	0.19	2.64	1.00	1.00	0.26	9.07	71.01	0.87	3,087.0	723.2	43.50	98.63	142.12
								0.85	1.00	0.26	9.07	71.01	0.87	3,087.0	723.2	43.50	98.63	142.12
								0.80	1.00	0.26	9.07	71.01	0.87	3,087.0	723.2	43.50	98.63	142.12
5	65.0	2.26	1.333	7.42	2.29	0.21	2.57	1.00	1.00	0.27	5.65	35.56	0.45	1,524.5	378.6	27.79	52.12	79.91
								0.85	1.00	0.27	5.45	35.56	0.45	1,524.5	378.6	26.81	52.12	78.93
								0.80	1.00	0.27	5.38	35.56	0.45	1,524.5	378.6	26.48	52.12	78.60
6	75.0	2.32	0.000	7.27	2.14	0.17	2.69	1.00	1.00	0.27	4.19	35.59	0.45	1,437.1	364.6	22.23	53.95	76.18
								0.85	1.00	0.27	4.19	35.59	0.45	1,437.1	364.6	22.23	53.95	76.18
								0.80	1.00	0.27	4.19	35.59	0.45	1,437.1	364.6	22.23	53.95	76.18
7	90.0	2.42	0.000	15.12	4.55	0.18	2.66	1.00	1.00	0.28	8.73	71.27	0.92	2,925.0	741.6	47.73	112.22	159.95
								0.85	1.00	0.28	8.73	71.27	0.92	2,925.0	741.6	47.73	112.22	159.95
								0.80	1.00	0.28	8.73	71.27	0.92	2,925.0	741.6	47.73	112.22	159.95
8	110.0	2.52	0.000	16.03	4.64	0.19	2.63	1.00	1.00	0.28	9.28	71.37	0.94	3,118.8	755.0	52.27	117.16	169.43
								0.85	1.00	0.28	9.28	71.37	0.94	3,118.8	755.0	52.27	117.16	169.43
								0.80	1.00	0.28	9.28	71.37	0.94	3,118.8	755.0	52.27	117.16	169.43
9	130.0	2.61	1.333	16.09	4.72	0.21	2.57	1.00	1.00	0.29	10.70	71.45	0.96	3,256.2	778.9	61.09	121.34	182.43
								0.85	1.00	0.29	10.50	71.45	0.96	3,256.2	778.9	59.95	121.34	181.29
								0.80	1.00	0.29	10.43	71.45	0.96	3,256.2	778.9	59.57	121.34	180.91
10	150.0	2.69	0.000	16.48	4.79	0.20	2.61	1.00	1.00	0.29	9.57	71.51	0.97	3,214.8	772.5	57.10	125.34	182.44
								0.85	1.00	0.29	9.57	71.51	0.97	3,214.8	772.5	57.10	125.34	182.44
								0.80	1.00	0.29	9.57	71.51	0.97	3,214.8	772.5	57.10	125.34	182.44
11	170.0	2.76	1.333	15.41	4.85	0.20	2.60	1.00	1.00	0.29	10.27	71.58	0.98	3,082.6	785.7	62.64	128.78	191.42
								0.85	1.00	0.29	10.07	71.58	0.98	3,082.6	785.7	61.42	128.78	190.20
								0.80	1.00	0.29	10.01	71.58	0.98	3,082.6	785.7	61.02	128.78	189.79
12	190.0	2.83	0.000	16.10	4.90	0.19	2.62	1.00	1.00	0.30	9.33	71.63	0.99	3,131.8	781.8	58.79	132.06	190.85
								0.85	1.00	0.30	9.33	71.63	0.99	3,131.8	781.8	58.79	132.06	190.85
								0.80	1.00	0.30	9.33	71.63	0.99	3,131.8	781.8	58.79	132.06	190.85
13	210.0	2.89	0.000	15.52	4.95	0.18	2.65	1.00	1.00	0.30	8.97	71.68	1.00	2,961.4	777.9	58.27	135.08	193.35
								0.85	1.00	0.30	8.97	71.68	1.00	2,961.4	777.9	58.27	135.08	193.35
								0.80	1.00	0.30	8.97	71.68	1.00	2,961.4	777.9	58.27	135.08	193.35
14	230.0	2.94	1.333	15.56	5.00	0.20	2.59	1.00	1.00	0.30	10.36	52.05	0.25	2,689.0	636.5	67.20	111.22	178.42
								0.85	1.00	0.30	10.16	52.05	0.25	2,689.0	636.5	65.90	111.22	177.12
								0.80	1.00	0.30	10.10	52.05	0.25	2,689.0	636.5	65.47	111.22	176.69
15	245.0	2.98	0.000	7.66	2.62	0.18	2.65	1.00	1.00	0.31	4.42	13.66	0.00	925.8	196.5	29.72	31.16	60.88
								0.85	1.00	0.31	4.42	13.66	0.00	925.8	196.5	29.72	31.16	60.88
								0.80	1.00	0.31	4.42	13.66	0.00	925.8	196.5	29.72	31.16	60.88

Section Forces

Structure: FL15359-A-SBA

Code: EIA_H

4/17/2025

Site Name: I-10 & I-75

Exposure: C

Height: 250.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 0.85

Topography: 1

Struct Class: II

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Service Loads

Wind Load Factor: 1.00
Dead Load Factor: 1.00
Ice Dead Load Factor: 0.00

Wind Importance Factor: 1.00

Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	3.4	6.63	0.000	3.48	0.00	0.24	2.47	1.00	1.00	0.00	2.07	21.67	0.00	628.5	0.0	28.77	107.48	136.25
								0.85	1.00	0.00	2.07	21.67	0.00	628.5	0.0	28.77	107.48	136.25
								0.80	1.00	0.00	2.07	21.67	0.00	628.5	0.0	28.77	107.48	136.25
2	13.4	6.63	0.000	7.39	0.00	0.13	2.83	1.00	1.00	0.00	4.25	43.03	0.00	1,291.7	0.0	67.85	213.36	281.20
								0.85	1.00	0.00	4.25	43.03	0.00	1,291.7	0.0	67.85	213.36	281.20
								0.80	1.00	0.00	4.25	43.03	0.00	1,291.7	0.0	67.85	213.36	281.20
3	30.0	7.67	0.000	11.38	0.00	0.14	2.82	1.00	1.00	0.00	6.55	64.70	0.00	1,969.8	0.0	120.41	370.75	491.16
								0.85	1.00	0.00	6.55	64.70	0.00	1,969.8	0.0	120.41	370.75	491.16
								0.80	1.00	0.00	6.55	64.70	0.00	1,969.8	0.0	120.41	370.75	491.16
4	50.0	8.54	0.000	11.38	0.00	0.14	2.82	1.00	1.00	0.00	6.55	64.70	0.00	1,969.8	0.0	134.08	412.85	546.93
								0.85	1.00	0.00	6.55	64.70	0.00	1,969.8	0.0	134.08	412.85	546.93
								0.80	1.00	0.00	6.55	64.70	0.00	1,969.8	0.0	134.08	412.85	546.93
5	65.0	9.02	1.333	5.13	0.00	0.16	2.75	1.00	1.00	0.00	4.29	32.35	0.00	954.9	0.0	90.42	218.15	308.56
								0.85	1.00	0.00	4.09	32.35	0.00	954.9	0.0	86.20	218.15	304.35
								0.80	1.00	0.00	4.02	32.35	0.00	954.9	0.0	84.79	218.15	302.94
6	75.0	9.30	0.000	5.13	0.00	0.12	2.87	1.00	1.00	0.00	2.94	32.35	0.00	893.7	0.0	66.69	224.82	291.51
								0.85	1.00	0.00	2.94	32.35	0.00	893.7	0.0	66.69	224.82	291.51
								0.80	1.00	0.00	2.94	32.35	0.00	893.7	0.0	66.69	224.82	291.51
7	90.0	9.66	0.000	10.57	0.00	0.13	2.86	1.00	1.00	0.00	6.07	64.70	0.00	1,819.5	0.0	142.36	467.23	609.59
								0.85	1.00	0.00	6.07	64.70	0.00	1,819.5	0.0	142.36	467.23	609.59
								0.80	1.00	0.00	6.07	64.70	0.00	1,819.5	0.0	142.36	467.23	609.59
8	110.0	10.08	0.000	11.38	0.00	0.14	2.82	1.00	1.00	0.00	6.55	64.70	0.00	1,969.8	0.0	158.29	487.39	645.68
								0.85	1.00	0.00	6.55	64.70	0.00	1,969.8	0.0	158.29	487.39	645.68
								0.80	1.00	0.00	6.55	64.70	0.00	1,969.8	0.0	158.29	487.39	645.68
9	130.0	10.44	1.333	11.37	0.00	0.15	2.76	1.00	1.00	0.00	7.89	64.70	0.00	2,064.4	0.0	193.45	504.84	698.29
								0.85	1.00	0.00	7.69	64.70	0.00	2,064.4	0.0	188.55	504.84	693.39
								0.80	1.00	0.00	7.63	64.70	0.00	2,064.4	0.0	186.91	504.84	691.75
10	150.0	10.76	0.000	11.69	0.00	0.14	2.81	1.00	1.00	0.00	6.73	64.70	0.00	2,035.3	0.0	172.89	520.28	693.17
								0.85	1.00	0.00	6.73	64.70	0.00	2,035.3	0.0	172.89	520.28	693.17
								0.80	1.00	0.00	6.73	64.70	0.00	2,035.3	0.0	172.89	520.28	693.17
11	170.0	11.05	1.333	10.56	0.00	0.14	2.80	1.00	1.00	0.00	7.41	64.70	0.00	1,914.1	0.0	194.49	534.17	728.66
								0.85	1.00	0.00	7.21	64.70	0.00	1,914.1	0.0	189.24	534.17	723.41
								0.80	1.00	0.00	7.14	64.70	0.00	1,914.1	0.0	187.49	534.17	721.66
12	190.0	11.31	0.000	11.20	0.00	0.14	2.83	1.00	1.00	0.00	6.44	64.70	0.00	1,958.3	0.0	174.97	546.83	721.80
								0.85	1.00	0.00	6.44	64.70	0.00	1,958.3	0.0	174.97	546.83	721.80
								0.80	1.00	0.00	6.44	64.70	0.00	1,958.3	0.0	174.97	546.83	721.80
13	210.0	11.55	0.000	10.57	0.00	0.13	2.86	1.00	1.00	0.00	6.07	64.70	0.00	1,819.5	0.0	170.16	558.47	728.63
								0.85	1.00	0.00	6.07	64.70	0.00	1,819.5	0.0	170.16	558.47	728.63
								0.80	1.00	0.00	6.07	64.70	0.00	1,819.5	0.0	170.16	558.47	728.63
14	230.0	11.77	1.333	10.56	0.00	0.14	2.80	1.00	1.00	0.00	7.41	45.79	0.00	1,710.4	0.0	207.27	403.46	610.72
								0.85	1.00	0.00	7.21	45.79	0.00	1,710.4	0.0	201.67	403.46	605.13
								0.80	1.00	0.00	7.14	45.79	0.00	1,710.4	0.0	199.81	403.46	603.26
15	245.0	11.93	0.000	5.04	0.00	0.12	2.88	1.00	1.00	0.00	2.89	11.85	0.00	607.7	0.0	84.34	105.85	190.19
								0.85	1.00	0.00	2.89	11.85	0.00	607.7	0.0	84.34	105.85	190.19
								0.80	1.00	0.00	2.89	11.85	0.00	607.7	0.0	84.34	105.85	190.19

Force/Stress Compression Summary

Structure: FL15359-A-SBA

Code: EIA/TIA-222-H

4/17/2025

Site Name: I-10 & I-75

Exposure: C

Height: 250.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 0.85

Topography: 1

Struct Class: II



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LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing %			KL/R	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
						X	Y	Z					
1	6.7	SOL - 2" SOLID	-42.72	1.2D + 1.0W 90° Wind	3.28	100	100	100	78.70	50.00	89.89	47.5	Member X
2	20	SOL - 2" SOLID	-46.65	1.2D + 1.0W 90° Wind	3.32	100	100	100	79.80	50.00	88.75	52.6	Member X
3	40	SOL - 2" SOLID	-50.63	1.2D + 1.0W 90° Wind	3.21	100	100	100	77.00	50.00	91.64	55.2	Member X
4	60	SOL - 2" SOLID	-49.89	1.2D + 1.0W 90° Wind	3.21	100	100	100	77.00	50.00	91.64	54.4	Member X
5	70	SOL - 1 3/4" SOLID	-40.49	1.2D + 1.0W 90° Wind	3.21	100	100	100	88.00	50.00	61.44	65.9	Member X
6	80	SOL - 1 3/4" SOLID	-34.86	1.2D + 1.0W Normal Wind	3.21	100	100	100	88.00	50.00	61.44	56.7	Member X
7	100	SOL - 1 3/4" SOLID	-36.01	1.2D + 1.0W 90° Wind	3.21	100	100	100	88.00	50.00	61.44	58.6	Member X
8	120	SOL - 2" SOLID	-42.80	1.2D + 1.0W Normal Wind	3.21	100	100	100	77.00	50.00	91.64	46.7	Member X
9	140	SOL - 2" SOLID	-56.47	1.2D + 1.0W Normal Wind	3.21	100	100	100	77.00	50.00	91.64	61.6	Member X
10	160	SOL - 2" SOLID	-49.28	1.2D + 1.0W Normal Wind	3.21	100	100	100	77.00	50.00	91.64	53.8	Member X
11	180	SOL - 1 3/4" SOLID	-55.43	1.2D + 1.0W Normal Wind	3.21	100	100	100	88.00	50.00	61.44	90.2	Member X
12	200	SOL - 1 3/4" SOLID	-51.76	1.2D + 1.0W Normal Wind	3.21	100	100	100	88.00	50.00	61.44	84.2	Member X
13	220	SOL - 1 3/4" SOLID	-28.38	1.2D + 1.0W 60° Wind	3.21	100	100	100	88.00	50.00	61.44	46.2	Member X
14	240	SOL - 1 3/4" SOLID	-29.82	1.2D + 1.0W 60° Wind	3.21	100	100	100	88.00	50.00	61.44	48.5	Member X
15	250	SOL - 1 1/2" SOLID	-8.39	1.2D + 1.0W Normal Wind	3.21	100	100	100	102.67	50.00	36.79	22.8	Member X

Splices

Top Splice						Bottom Splice					
Sect	Top Elev	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts	Load Case	Force (kips)	Cap (kips)	Use %
1	6.7	1.2D + 1.0W 90° Wind	38.72	0.00	0.0				0.00	0.00	
2	20	1.2D + 1.0W 90° Wind	47.87	0.00	0.0			1.2D + 1.0W 90° Wind	38.72	0.00	
3	40	1.2D + 1.0W 90° Wind	50.62	0.00	0.0			1.2D + 1.0W 90° Wind	47.87	0.00	
4	60	1.2D + 1.0W 90° Wind	42.55	0.00	0.0			1.2D + 1.0W 90° Wind	50.62	0.00	
5	70	1.2D + 1.0W Normal Wind	35.61	0.00	0.0			1.2D + 1.0W 90° Wind	42.55	0.00	
6	80	1.2D + 1.0W 90° Wind	35.32	0.00	0.0			1.2D + 1.0W Normal Wind	35.61	0.00	
7	100	1.2D + 1.0W 90° Wind	34.60	0.00	0.0			1.2D + 1.0W 90° Wind	35.32	0.00	
8	120	1.2D + 1.0W Normal Wind	44.73	0.00	0.0			1.2D + 1.0W 90° Wind	34.60	0.00	
9	140	1.2D + 1.0W Normal Wind	50.29	0.00	0.0			1.2D + 1.0W Normal Wind	44.73	0.00	
10	160	1.2D + 1.0W Normal Wind	46.49	0.00	0.0			1.2D + 1.0W Normal Wind	50.29	0.00	
11	180	1.2D + 1.0W Normal Wind	55.70	0.00	0.0			1.2D + 1.0W Normal Wind	46.49	0.00	
12	200	1.2D + 1.0W Normal Wind	19.46	0.00	0.0			1.2D + 1.0W Normal Wind	55.70	0.00	
13	220	1.2D + 1.0W 60° Wind	29.42	0.00	0.0			1.2D + 1.0W Normal Wind	19.46	0.00	
14	240	1.2D + 1.0W Normal Wind	11.06	0.00	0.0			1.2D + 1.0W 60° Wind	29.42	0.00	
15	250	1.2D + 1.0Ev + 1.0Eh	0.39	0.00	0.0			1.2D + 1.0W Normal Wind	11.06	0.00	

HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing %			KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
						X	Y	Z									
1	6.7										0.00	0	0				
2	20	SOL - 1" SOLID	-0.49	1.2D + 1.0W Normal Wind	4.00	100	100	100	134.40	36.00	9.82	0	0			5.0	Member X
3	40	SOL - 1" SOLID	-0.27	0.9D + 1.0W 60° Wind	4.00	100	100	100	134.40	36.00	9.82	0	0			2.8	Member X
4	60	SOL - 1" SOLID	-0.85	1.2D + 1.0W 60° Wind	4.00	100	100	100	134.40	36.00	9.82	0	0			8.7	Member X
5	70	SOL - 1" SOLID	-1.10	1.2D + 1.0W Normal Wind	4.00	100	100	100	134.40	36.00	9.82	0	0			11.2	Member X
6	80	SOL - 1" SOLID	-0.47	0.9D + 1.0W Normal Wind	4.00	100	100	100	134.40	36.00	9.82	0	0			4.8	Member X
7	100	SOL - 1" SOLID	-0.34	0.9D + 1.0W 60° Wind	4.00	100	100	100	134.40	36.00	9.82	0	0			3.4	Member X
8	120	SOL - 1" SOLID	-1.15	1.2D + 1.0W 60° Wind	4.00	100	100	100	134.40	36.00	9.82	0	0			11.7	Member X
9	140	SOL - 1" SOLID	-1.70	1.2D + 1.0W Normal Wind	4.00	100	100	100	134.40	36.00	9.82	0	0			17.3	Member X
10	160	SOL - 1" SOLID	-0.43	0.9D + 1.0W 60° Wind	4.00	100	100	100	134.40	36.00	9.82	0	0			4.4	Member X
11	180	SOL - 1" SOLID	-0.45	0.9D + 1.0W Normal Wind	4.00	100	100	100	134.40	36.00	9.82	0	0			4.6	Member X

Force/Stress Compression Summary

Structure: FL15359-A-SBA

Code: EIA/TIA-222-H

4/17/2025

Site Name: I-10 & I-75

Exposure: C

Height: 250.00 (ft)

Crest Height: 0.00

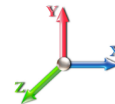
Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 0.85

Topography: 1

Struct Class: II



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HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing %	X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
12	200	SOL - 1" SOLID	-2.51	1.2D + 1.0W 60° Wind	4.00	100	100	100	134.40	36.00	9.82	0	0				25.5	Member X
13	220	SOL - 1" SOLID	-1.58	1.2D + 1.0W 60° Wind	4.00	100	100	100	134.40	36.00	9.82	0	0				16.0	Member X
14	240	SOL - 1" SOLID	-1.83	1.2D + 1.0W Normal Wind	4.00	100	100	100	134.40	36.00	9.82	0	0				18.7	Member X
15	250	SOL - 1" SOLID	-1.88	1.2D + 1.0W 60° Wind	4.00	100	100	100	134.40	36.00	9.82	0	0				19.1	Member X

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing %	X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
1	6.7	SOL - 1" SOLID	-4.63	1.2D + 1.0W Normal Wind	3.38	95	95	95	107.74	36.00	13.81	0	0				33.5	Member X
2	20	SOL - 1" SOLID	-2.28	1.2D + 1.0W 90° Wind	5.20	95	95	95	166.03	36.00	6.44	0	0				35.4	Member X
3	40	SOL - 1" SOLID	-1.36	1.2D + 1.0W Normal Wind	5.13	95	95	95	163.68	36.00	6.62	0	0				20.5	Member X
4	60	SOL - 1" SOLID	-2.10	1.2D + 1.0W Normal Wind	5.13	95	95	95	163.68	36.00	6.62	0	0				31.7	Member X
5	70	SOL - 1" SOLID	-3.23	1.2D + 1.0W 90° Wind	5.13	95	95	95	163.68	36.00	6.62	0	0				48.8	Member X
6	80	SOL - 1" SOLID	-1.90	1.2D + 1.0W 90° Wind	5.13	95	95	95	163.68	36.00	6.62	0	0				28.7	Member X
7	100	SOL - 1" SOLID	-1.10	1.2D + 1.0W Normal Wind	5.13	95	95	95	163.68	36.00	6.62	0	0				16.6	Member X
8	120	SOL - 1" SOLID	-3.26	1.2D + 1.0W Normal Wind	5.13	95	95	95	163.68	36.00	6.62	0	0				49.2	Member X
9	140	SOL - 1 1/8" SOLID	-4.27	1.2D + 1.0W 90° Wind	5.13	95	95	95	145.46	36.00	10.61	0	0				40.3	Member X
10	160	SOL - 1 1/8" SOLID	-1.30	1.2D + 1.0W Normal Wind	5.13	95	95	95	145.46	36.00	10.61	0	0				12.2	Member X
11	180	SOL - 1 1/8" SOLID	-2.49	0.9D + 1.0W 90° Wind	5.13	95	95	95	145.46	36.00	10.61	0	0				23.5	Member X
12	200	SOL - 1 1/4" SOLID	-6.04	1.2D + 1.0W Normal Wind	5.13	95	95	95	130.94	36.00	16.12	0	0				37.4	Member X
13	220	SOL - 1" SOLID	-3.78	1.2D + 1.0W Normal Wind	5.13	95	95	95	163.68	36.00	6.62	0	0				57.0	Member X
14	240	SOL - 1 1/8" SOLID	-3.75	1.2D + 1.0W 90° Wind	5.13	95	95	95	145.46	36.00	10.61	0	0				35.4	Member X
15	250	SOL - 1" SOLID	-4.01	1.2D + 1.0W Normal Wind	5.13	95	95	95	163.68	36.00	6.62	0	0				60.6	Member X

Force/Stress Tension Summary

Structure: FL15359-A-SBA

Code: EIA/TIA-222-H

4/17/2025

Site Name: I-10 & I-75

Exposure: C

Height: 250.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

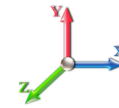
Site Class: D - Stiff Soil

Gh: 0.85

Topography: 1

Struct Class: II

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LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	6.7				0	0.00		
2	20				0	0.00		
3	40				0	0.00		
4	60				0	0.00		
5	70				0	0.00		
6	80				0	0.00		
7	100				0	0.00		
8	120				0	0.00		
9	140	SOL - 2" SOLID	2.41	0.9D + 1.0W 60° Wind	50	141.37	1.7	Member
10	160				0	0.00		
11	180	SOL - 1 3/4" SOLID	20.92	0.9D + 1.0W 60° Wind	50	108.24	19.3	Member
12	200	SOL - 1 3/4" SOLID	20.99	0.9D + 1.0W 60° Wind	50	108.24	19.4	Member
13	220	SOL - 1 3/4" SOLID	1.70	0.9D + 1.0W Normal Wind	50	108.24	1.6	Member
14	240	SOL - 1 3/4" SOLID	8.18	0.9D + 1.0W 60° Wind	50	108.24	7.6	Member
15	250	SOL - 1 1/2" SOLID	8.27	0.9D + 1.0W 60° Wind	50	79.52	10.4	Member

Splices

Sect	Top Elev	Top Splice					Bottom Splice				
		Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts	Load Case	Force (kips)	Cap (kips)	Use %
1	6.7		0.00	0.00	0.0				0.00	0.00	
2	20		0.00	0.00	0.0				0.00	0.00	
3	40		0.00	0.00	0.0				0.00	0.00	
4	60		0.00	0.00	0.0				0.00	0.00	
5	70		0.00	0.00	0.0				0.00	0.00	
6	80		0.00	0.00	0.0				0.00	0.00	
7	100		0.00	0.00	0.0				0.00	0.00	
8	120		0.00	0.00	0.0				0.00	0.00	
9	140		0.00	0.00	0.0				0.00	0.00	
10	160		0.00	0.00	0.0				0.00	0.00	
11	180	0.9D + 1.0W 60° Wind	20.92	0.00	0.0				0.00	0.00	
12	200		0.00	0.00	0.0			0.9D + 1.0W 60° Wind	20.92	0.00	
13	220	0.9D + 1.0W Normal Wind	1.70	0.00	0.0				0.00	0.00	
14	240	0.9D + 1.0W 60° Wind	8.18	0.00	0.0			0.9D + 1.0W Normal Wind	1.70	0.00	
15	250		0.00	0.00	0.0			0.9D + 1.0W 60° Wind	8.18	0.00	

HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	6.7	SOL - 1" SOLID	8.06	1.2D + 1.0W 90° Wind	36	25.45	0	0				31.7	Member
2	20	SOL - 1" SOLID	0.61	1.2D + 1.0W 60° Wind	36	25.45	0	0				2.4	Member
3	40	SOL - 1" SOLID	0.42	1.2D + 1.0W Normal Wi	36	25.45	0	0				1.6	Member
4	60	SOL - 1" SOLID	0.93	1.2D + 1.0W Normal Wi	36	25.45	0	0				3.7	Member
5	70	SOL - 1" SOLID	1.21	1.2D + 1.0W 60° Wind	36	25.45	0	0				4.8	Member
6	80	SOL - 1" SOLID	0.74	1.2D + 1.0W 60° Wind	36	25.45	0	0				2.9	Member
7	100	SOL - 1" SOLID	0.48	1.2D + 1.0W Normal Wi	36	25.45	0	0				1.9	Member
8	120	SOL - 1" SOLID	1.47	1.2D + 1.0W Normal Wi	36	25.45	0	0				5.8	Member
9	140	SOL - 1" SOLID	1.61	1.2D + 1.0W 60° Wind	36	25.45	0	0				6.3	Member
10	160	SOL - 1" SOLID	0.58	1.2D + 1.0W Normal Wi	36	25.45	0	0				2.3	Member
11	180	SOL - 1" SOLID	0.54	1.2D + 1.0W 60° Wind	36	25.45	0	0				2.1	Member
12	200	SOL - 1" SOLID	3.21	1.2D + 1.0W Normal Wi	36	25.45	0	0				12.6	Member

Force/Stress Tension Summary

Structure: FL15359-A-SBA

Code: EIA/TIA-222-H

4/17/2025

Site Name: I-10 & I-75

Exposure: C

Height: 250.00 (ft)

Crest Height: 0.00

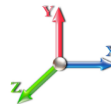
Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 0.85

Topography: 1

Struct Class: II



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HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
13	220	SOL - 1" SOLID	1.80	1.2D + 1.0W Normal Wi	36	25.45	0	0				7.1	Member
14	240	SOL - 1" SOLID	1.86	1.2D + 1.0W 60° Wind	36	25.45	0	0				7.3	Member
15	250	SOL - 1" SOLID	2.07	1.2D + 1.0W Normal Wi	36	25.45	0	0				8.1	Member

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	6.7	SOL - 1" SOLID	0.02	0.9D + 1.0W 90° Wind	36	25.45	0	0				0.1	Member
2	20	SOL - 1" SOLID	2.37	1.2D + 1.0W 90° Wind	36	25.45	0	0				9.3	Member
3	40	SOL - 1" SOLID	1.08	1.2D + 1.0W 90° Wind	36	25.45	0	0				4.2	Member
4	60	SOL - 1" SOLID	2.17	1.2D + 1.0W 90° Wind	36	25.45	0	0				8.5	Member
5	70	SOL - 1" SOLID	2.66	1.2D + 1.0W 90° Wind	36	25.45	0	0				10.4	Member
6	80	SOL - 1" SOLID	1.56	0.9D + 1.0W 60° Wind	36	25.45	0	0				6.1	Member
7	100	SOL - 1" SOLID	0.87	1.2D + 1.0W Normal Wi	36	25.45	0	0				3.4	Member
8	120	SOL - 1" SOLID	3.17	1.2D + 1.0W 90° Wind	36	25.45	0	0				12.5	Member
9	140	SOL - 1 1/8" SOLID	3.63	1.2D + 1.0W Normal Wi	36	32.21	0	0				11.3	Member
10	160	SOL - 1 1/8" SOLID	1.24	0.9D + 1.0W 90° Wind	36	32.21	0	0				3.8	Member
11	180	SOL - 1 1/8" SOLID	2.10	0.9D + 1.0W 60° Wind	36	32.21	0	0				6.5	Member
12	200	SOL - 1 1/4" SOLID	6.72	1.2D + 1.0W 90° Wind	36	39.76	0	0				16.9	Member
13	220	SOL - 1" SOLID	4.09	1.2D + 1.0W 90° Wind	36	25.45	0	0				16.1	Member
14	240	SOL - 1 1/8" SOLID	3.31	1.2D + 1.0W 60° Wind	36	32.21	0	0				10.3	Member
15	250	SOL - 1" SOLID	4.61	1.2D + 1.0W 90° Wind	36	25.45	0	0				18.1	Member

Seismic Section Forces

Structure: FL15359-A-SBA

Code: TIA-222-H

4/17/2025

Site Name: I-10 & I-75

Exposure: C

Height: 250.00 (ft)

Crest Height: 0.00

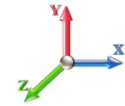
Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 0.85

Topography: 1

Struct Class: II



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Load Case: 1.2D + 1.0Ev + 1.0Eh

Dead Load Factor	1.20	Sds	0.091	Ss	0.0860	Fa	1.6000	Ke	1.0077	TL	8.0000
Seismic Load Factor	1.00	Sd1	0.081	S1	0.0510	Fv	2.4000	Kg	0.0059	Cs	0.0306
Seismic Importance Factor	1.00	W1	0.000	R	3.0000	Vs	0.9964	T	0.5153	f1	1.9405

Sect #	Elev (ft)	Wz (lb)	Lateral Fsz (lbs)	Vertical Ev (lbs)
1	3.35	628.48	0.44	11.54
2	13.35	1291.7	3.64	23.71
3	30.00	1969.8	12.59	36.16
4	50.00	1969.8	21.06	36.16
5	65.00	1098.5	15.23	20.17
6	75.00	893.74	14.29	16.41
7	90.00	1819.5	35.16	33.40
8	110.00	1969.8	46.62	36.16
9	130.00	2332.7	65.42	42.82
10	150.00	2035.2	65.86	37.36
11	170.00	2350.7	86.39	43.15
12	190.00	1958.2	80.39	35.95
13	210.00	1819.5	82.58	33.40
14	230.00	5256.1	263.57	96.48
15	245.00	3811.0	203.17	69.95

Load Case: 0.9D + 1.0Ev + 1.0Eh

Dead Load Factor	0.90	Sds	0.091	Ss	0.0860	Fa	1.6000	Ke	1.0077	TL	8.0000
Seismic Load Factor	1.00	Sd1	0.081	S1	0.0510	Fv	2.4000	Kg	0.0059	Cs	0.0306
Seismic Importance Factor	1.00	W1	0.000	R	3.0000	Vs	0.9964	T	0.5153	f1	1.9405

Sect #	Elev (ft)	Wz (lb)	Lateral Fsz (lbs)	Vertical Ev (lbs)
1	3.35	628.48	0.44	11.54
2	13.35	1291.7	3.64	23.71
3	30.00	1969.8	12.59	36.16
4	50.00	1969.8	21.06	36.16
5	65.00	1098.5	15.23	20.17
6	75.00	893.74	14.29	16.41
7	90.00	1819.5	35.16	33.40
8	110.00	1969.8	46.62	36.16
9	130.00	2332.7	65.42	42.82
10	150.00	2035.2	65.86	37.36
11	170.00	2350.7	86.39	43.15
12	190.00	1958.2	80.39	35.95
13	210.00	1819.5	82.58	33.40
14	230.00	5256.1	263.57	96.48
15	245.00	3811.0	203.17	69.95

Support Forces Summary

Structure: FL15359-A-SBA

Code: TIA-222-H

4/17/2025

Site Name: I-10 & I-75

Exposure: C

Height: 250.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

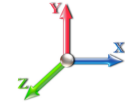
Site Class: D - Stiff Soil

Gh: 0.85

Topography: 1

Struct Class: II

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Load Case	Node	FX (kips)	FY (kips)	FZ (kips)	(-) = Uplift (+) = Down
1.2D + 1.0W Normal Wind	1	0.00	111.63	-2.31	
	A1	0.00	-1.23	0.90	
	A1b	32.97	-35.84	-20.29	
	A1a	-32.97	-35.84	-20.29	
1.2D + 1.0W 60° Wind	1	-2.23	95.64	-1.29	
	A1	-0.89	-7.66	8.27	
	A1b	6.71	-7.66	-4.91	
	A1a	-39.88	-42.10	-23.02	
1.2D + 1.0W 90° Wind	1	-2.38	106.23	-0.13	
	A1	-1.21	-22.61	24.28	
	A1b	1.95	-2.66	-1.60	
	A1a	-40.27	-42.49	-22.56	
0.9D + 1.0W Normal Wind	1	0.00	102.62	-2.37	
	A1	0.00	-1.24	0.91	
	A1b	32.93	-35.79	-20.26	
	A1a	-32.94	-35.79	-20.27	
0.9D + 1.0W 60° Wind	1	-2.26	86.85	-1.31	
	A1	-0.89	-7.72	8.33	
	A1b	6.76	-7.72	-4.93	
	A1a	-39.89	-42.12	-23.03	
0.9D + 1.0W 90° Wind	1	-2.43	97.27	-0.12	
	A1	-1.21	-22.59	24.26	
	A1b	1.97	-2.68	-1.61	
	A1a	-40.23	-42.46	-22.54	
1.2D + 1.0Di + 1.0Wi Normal Wind	1	0.00	84.91	-0.18	
	A1	0.00	-10.33	12.37	
	A1b	13.01	-12.78	-7.63	
	A1a	-13.01	-12.78	-7.63	
1.2D + 1.0Di + 1.0Wi 60° Wind	1	-0.16	84.73	-0.09	
	A1	-0.10	-11.11	13.21	
	A1b	11.39	-11.11	-6.70	
	A1a	-13.78	-13.55	-7.96	
1.2D + 1.0Di + 1.0Wi 90° Wind	1	-0.18	84.82	0.00	
	A1	-0.13	-11.95	14.15	
	A1b	10.84	-10.50	-6.32	
	A1a	-13.66	-13.39	-7.83	
1.2D + 1.0Ev + 1.0Eh	1	0.00	80.56	-0.01	
	A1	0.00	-12.64	15.08	
	A1b	13.85	-13.62	-8.00	
	A1a	-13.85	-13.62	-8.00	
0.9D + 1.0Ev + 1.0Eh	1	0.00	71.75	-0.01	
	A1	0.00	-12.82	15.25	
	A1b	14.00	-13.80	-8.09	
	A1a	-14.00	-13.80	-8.09	

1.0D + 1.0W Normal Wind	1	0.00	64.84	-0.74
	A1	0.00	-4.71	5.89
	A1b	13.55	-13.78	-8.10
	A1a	-13.55	-13.78	-8.10

1.0D + 1.0W 60° Wind	1	-0.63	65.32	-0.36
	A1	-0.23	-7.94	9.29
	A1b	7.93	-7.94	-4.85
	A1a	-16.61	-16.99	-9.59

1.0D + 1.0W 90° Wind	1	-0.73	65.09	0.00
	A1	-0.29	-10.86	12.53
	A1b	5.86	-5.64	-3.51
	A1a	-15.86	-16.08	-9.02

Max Reactions (kips)	Base	Anchor 1
Vertical	111.63	42.49
Horizontal	2.62	46.15

Cable Forces Summary

Structure: FL15359-A-SBA	Code: TIA-222-H	4/17/2025
Site Name: I-10 & I-75	Exposure: C	
Height: 250.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 0.85	Topography: 1	Struct Class: II
		Page: 17



Load Case	Elevation (ft)	Cable	Node 1	Node 2	Allow Tension (kips)	Applied Tension (kips)	Use %
1.2D + 1.0W Normal Wind	70.00	1/2 EHS	A1	28	16.14	0.28	2
			A1b	28a	16.14	6.59	41
			A1a	28b	16.14	6.60	41
	130.00	5/8 EHS	A1	52	25.44	0.12	0
			A1b	52a	25.44	10.76	42
			A1a	52b	25.44	10.76	42
	179.63	3/4 EHS	A1	71	34.98	0.59	2
			A1b	71a	34.98	16.96	49
			A1a	71b	34.98	16.96	48
	239.63		A1	95	34.98	1.23	4
			A1b	95a	34.98	19.91	57
			A1a	95b	34.98	19.92	57
1.2D + 1.0W 60° Wind	70.00	1/2 EHS	A1	28	16.14	1.68	10
			A1b	28a	16.14	1.67	10
			A1a	28b	16.14	8.42	52
	130.00	5/8 EHS	A1	52	25.44	2.67	11
			A1b	52a	25.44	2.67	11
			A1a	52b	25.44	12.80	50
	179.63	3/4 EHS	A1	71	34.98	3.66	10
			A1b	71a	34.98	3.67	10
			A1a	71b	34.98	19.69	56
	239.63		A1	95	34.98	4.13	12
			A1b	95a	34.98	4.14	12
			A1a	95b	34.98	23.12	66
1.2D + 1.0W 90° Wind	70.00	1/2 EHS	A1	28	16.14	4.09	25
			A1b	28a	16.14	0.50	3
			A1a	28b	16.14	8.09	50
	130.00	5/8 EHS	A1	52	25.44	7.01	28
			A1b	52a	25.44	0.82	3
			A1a	52b	25.44	12.77	50
	179.63	3/4 EHS	A1	71	34.98	10.84	31
			A1b	71a	34.98	1.29	4
			A1a	71b	34.98	20.00	57
	239.63		A1	95	34.98	12.42	36
			A1b	95a	34.98	1.78	5
			A1a	95b	34.98	23.51	67
0.9D + 1.0W Normal Wind	70.00	1/2 EHS	A1	28	16.14	0.28	2
			A1b	28a	16.14	6.58	41
			A1a	28b	16.14	6.59	41
	130.00	5/8 EHS	A1	52	25.44	0.12	0
			A1b	52a	25.44	10.76	42
			A1a	52b	25.44	10.76	42
	179.63	3/4 EHS	A1	71	34.98	0.59	2
			A1b	71a	34.98	16.95	48
			A1a	71b	34.98	16.95	48
	239.63		A1	95	34.98	1.24	4
			A1b	95a	34.98	19.87	57
			A1a	95b	34.98	19.88	57
0.9D + 1.0W 60° Wind	70.00	1/2 EHS	A1	28	16.14	1.68	10
			A1b	28a	16.14	1.68	10
			A1a	28b	16.14	8.41	52
	130.00	5/8 EHS	A1	52	25.44	2.69	11
			A1b	52a	25.44	2.69	11

0.9D + 1.0W 60° Wind	130.00	5/8 EHS	A1a	52b	25.44	12.82	50
	179.63	3/4 EHS	A1	71	34.98	3.69	11
			A1b	71a	34.98	3.69	11
			A1a	71b	34.98	19.72	56
	239.63		A1	95	34.98	4.16	12
			A1b	95a	34.98	4.16	12
			A1a	95b	34.98	23.13	66
		1/2 EHS	A1	28	16.14	4.09	25
			A1b	28a	16.14	0.50	3
			A1a	28b	16.14	8.08	50
0.9D + 1.0W 90° Wind	70.00						
	130.00	5/8 EHS	A1	52	25.44	7.02	28
			A1b	52a	25.44	0.82	3
			A1a	52b	25.44	12.77	50
	179.63	3/4 EHS	A1	71	34.98	10.83	31
			A1b	71a	34.98	1.30	4
			A1a	71b	34.98	19.99	57
	239.63		A1	95	34.98	12.40	35
			A1b	95a	34.98	1.80	5
			A1a	95b	34.98	23.48	67
1.2D + 1.0Di + 1.0Wi Normal Wind	70.00	1/2 EHS	A1	28	16.14	2.94	18
			A1b	28a	16.14	3.41	21
			A1a	28b	16.14	3.41	21
	130.00	5/8 EHS	A1	52	25.44	4.17	16
			A1b	52a	25.44	4.87	19
			A1a	52b	25.44	4.87	19
	179.63	3/4 EHS	A1	71	34.98	5.27	15
			A1b	71a	34.98	6.37	18
			A1a	71b	34.98	6.37	18
	239.63		A1	95	34.98	4.86	14
1.2D + 1.0Di + 1.0Wi 60° Wind			A1b	95a	34.98	6.30	18
			A1a	95b	34.98	6.30	18
	70.00	1/2 EHS	A1	28	16.14	3.08	19
			A1b	28a	16.14	3.08	19
			A1a	28b	16.14	3.55	22
	130.00	5/8 EHS	A1	52	25.44	4.39	17
			A1b	52a	25.44	4.39	17
			A1a	52b	25.44	5.08	20
	179.63	3/4 EHS	A1	71	34.98	5.61	16
			A1b	71a	34.98	5.61	16
1.2D + 1.0Di + 1.0Wi 90° Wind			A1a	71b	34.98	6.72	19
	239.63		A1	95	34.98	5.33	15
			A1b	95a	34.98	5.33	15
			A1a	95b	34.98	6.75	19
	70.00	1/2 EHS	A1	28	16.14	3.25	20
			A1b	28a	16.14	2.97	18
			A1a	28b	16.14	3.52	22
	130.00	5/8 EHS	A1	52	25.44	4.63	18
			A1b	52a	25.44	4.22	17
			A1a	52b	25.44	5.04	20
1.2D + 1.0Ev + 1.0Eh	179.63	3/4 EHS	A1	71	34.98	5.99	17
			A1b	71a	34.98	5.34	15
			A1a	71b	34.98	6.65	19
	239.63		A1	95	34.98	5.81	17
			A1b	95a	34.98	4.97	14
			A1a	95b	34.98	6.65	19
	70.00	1/2 EHS	A1	28	16.14	3.71	23
			A1b	28a	16.14	3.78	23
			A1a	28b	16.14	3.78	23
	130.00	5/8 EHS	A1	52	25.44	5.07	20
1.2D + 1.0Ev + 1.0Eh			A1b	52a	25.44	5.25	21
			A1a	52b	25.44	5.25	21
	179.63	3/4 EHS	A1	71	34.98	6.25	18
			A1b	71a	34.98	6.68	19
			A1a	71b	34.98	6.68	19
	239.63		A1	95	34.98	5.64	16
			A1b	95a	34.98	6.31	18

1.2D + 1.0Ev + 1.0Eh	239.63	3/4 EHS	A1a	95b	34.98	6.31	18
0.9D + 1.0Ev + 1.0Eh	70.00	1/2 EHS	A1	28	16.14	3.72	23
			A1b	28a	16.14	3.79	24
			A1a	28b	16.14	3.79	24
	130.00	5/8 EHS	A1	52	25.44	5.11	20
			A1b	52a	25.44	5.30	21
			A1a	52b	25.44	5.30	21
	179.63	3/4 EHS	A1	71	34.98	6.34	18
			A1b	71a	34.98	6.77	19
			A1a	71b	34.98	6.77	19
	239.63		A1	95	34.98	5.74	16
			A1b	95a	34.98	6.41	18
			A1a	95b	34.98	6.41	18
1.0D + 1.0W Normal Wind	70.00	1/2 EHS	A1	28	16.14	1.50	9
			A1b	28a	16.14	3.29	20
			A1a	28b	16.14	3.30	20
	130.00	5/8 EHS	A1	52	25.44	2.24	9
			A1b	52a	25.44	4.91	19
			A1a	52b	25.44	4.91	19
	179.63	3/4 EHS	A1	71	34.98	2.64	8
			A1b	71a	34.98	6.74	19
			A1a	71b	34.98	6.73	19
	239.63		A1	95	34.98	1.93	6
			A1b	95a	34.98	7.01	20
			A1a	95b	34.98	7.01	20
1.0D + 1.0W 60° Wind	70.00	1/2 EHS	A1	28	16.14	2.07	13
			A1b	28a	16.14	2.07	13
			A1a	28b	16.14	3.87	24
	130.00	5/8 EHS	A1	52	25.44	3.13	12
			A1b	52a	25.44	3.13	12
			A1a	52b	25.44	5.77	23
	179.63	3/4 EHS	A1	71	34.98	4.02	12
			A1b	71a	34.98	4.03	12
			A1a	71b	34.98	8.18	23
	239.63		A1	95	34.98	3.85	11
			A1b	95a	34.98	3.85	11
			A1a	95b	34.98	8.87	25
1.0D + 1.0W 90° Wind	70.00	1/2 EHS	A1	28	16.14	2.68	17
			A1b	28a	16.14	1.64	10
			A1a	28b	16.14	3.71	23
	130.00	5/8 EHS	A1	52	25.44	4.01	16
			A1b	52a	25.44	2.48	10
			A1a	52b	25.44	5.53	22
	179.63	3/4 EHS	A1	71	34.98	5.37	15
			A1b	71a	34.98	3.00	9
			A1a	71b	34.98	7.78	22
	239.63		A1	95	34.98	5.44	16
			A1b	95a	34.98	2.52	7
			A1a	95b	34.98	8.34	24

Analysis Summary

Structure: FL15359-A-SBA	Code: TIA-222-H	4/17/2025
Site Name: I-10 & I-75	Exposure: C	
Height: 250.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 0.85	Topography: 1	Struct Class: II
		Page: 20



Max Reactions

Base:	111.63 (Vertical)	2.62 (Horizontal)
Anchor 1:	42.49 (Vertical)	46.15 (Horizontal)

Max Usages

Max Leg: 90.2% (1.2D + 1.0W Normal Wind - Sect 11)
 Max Diag: 60.6% (1.2D + 1.0W Normal Wind - Sect 15)
 Max Horiz: 31.7% (1.2D + 1.0W 90° Wind - Sect 1)
 Max Cable: 67.2% (1.2D + 1.0W 90° Wind) - Elev: 240 ft

Max Deflection, Twist and Sway

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
0.9D + 1.0Ev + 1.0Eh - Normal To Face	223.58	0.0288	-0.0035	0.0159
	240.00	0.0329	-0.0117	0.0448
	246.79	0.0350	-0.0081	0.0180
	250.00	0.0358	-0.0073	0.0157
0.9D + 1.0W 117 mph Wind at 60° From Face	223.58	1.0748	0.0042	0.3844
	240.00	1.1832	0.0026	0.9748
	246.79	1.2338	-0.0028	0.4280
	250.00	1.2548	-0.0028	0.3539
0.9D + 1.0W 117 mph Wind at 90° From Face	223.58	1.5369	0.1440	0.6136
	240.00	1.7128	0.1373	1.1887
	246.79	1.7913	0.1388	0.6604
	250.00	1.8254	0.1389	0.5937
0.9D + 1.0W 117 mph Wind at Normal To Face	223.58	1.7427	0.0051	0.7135
	240.00	1.9474	-0.0056	1.2864
	246.79	2.0385	-0.0052	0.7658
	250.00	2.0784	-0.0052	0.6943
1.0D + 1.0W 60 mph Wind at 60° From Face	223.58	0.2198	-0.0075	0.0708
	240.00	0.2390	-0.0076	0.2285
	246.79	0.2486	-0.0082	0.0812
	250.00	0.2523	-0.0083	0.0608
1.0D + 1.0W 60 mph Wind at 90° From Face	223.58	0.2105	0.0875	0.0628
	240.00	0.2280	0.0893	0.2175
	246.79	0.2366	0.0887	0.0733
	250.00	0.2399	0.0886	0.0540
1.0D + 1.0W 60 mph Wind at Normal To Face	223.58	0.1916	-0.0074	0.0483
	240.00	0.2041	-0.0075	0.1926
	246.79	0.2108	-0.0079	0.0582
	250.00	0.2133	-0.0080	0.0388
1.2D + 1.0Di + 1.0Wi 30 mph Wind at 60° From Face	223.58	0.0533	-0.0060	0.0168
	240.00	0.0576	-0.0151	0.0656
	246.79	0.0599	-0.0125	0.0209
	250.00	0.0608	-0.0120	0.0149

1.2D + 1.0Di + 1.0Wi 30 mph Wind at 90° From Face	223.58	0.0524	0.0012	0.0154
	240.00	0.0563	0.0040	0.0627
	246.79	0.0585	0.0020	0.0199
	250.00	0.0593	0.0017	0.0132

1.2D + 1.0Di + 1.0Wi 30 mph Wind at Normal From Face	223.58	0.0494	-0.0061	0.0136
	240.00	0.0527	-0.0152	0.0581
	246.79	0.0546	-0.0127	0.0182
	250.00	0.0553	-0.0121	0.0119

1.2D + 1.0Ev + 1.0Eh - Normal To Face	223.58	0.0290	-0.0036	0.0161
	240.00	0.0331	-0.0125	0.0451
	246.79	0.0352	-0.0085	0.0184
	250.00	0.0361	-0.0077	0.0162

1.2D + 1.0W 117 mph Wind at 60° From Face	223.58	1.0808	0.0050	0.3878
	240.00	1.1901	0.0032	0.9802
	246.79	1.2411	0.0030	0.4315
	250.00	1.2623	0.0029	0.3569

1.2D + 1.0W 117 mph Wind at 90° From Face	223.58	1.5520	0.1436	0.6213
	240.00	1.7302	0.1366	1.1991
	246.79	1.8097	0.1381	0.6693
	250.00	1.8443	0.1383	0.6021

1.2D + 1.0W 117 mph Wind at Normal To Face	223.58	1.7598	0.0058	0.7220
	240.00	1.9671	-0.0052	1.2985
	246.79	2.0593	-0.0047	0.7756
	250.00	2.0997	-0.0047	0.7036

	Guyed Tower Base Design			Date
				4/17/2025
	Customer Name:	SBA Communications Corp	TIA Standard:	TIA-222-H
	Site Name:		Structure Height (Ft.):	250
	Site Number:	FL15359-A-SBA	Engineer Name:	J. Tibbetts
	Engr. Number:	158350	Engineer Login ID:	

Foundation Info Obtained from:

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	111.6	Shear Force (Kips):	2.6
Uplift Force (Kips):	0.0	Moment (Kips-ft):	
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	3.0	Depth of Base BG (ft.):	4.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	1.50
Length of Pad (ft.):	9	Width of Pad (ft.):	9

Final Length of pad (ft)	9.0	Final width of pad (ft):	9.0
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Material Properties and Rebar Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	6	Tie / Stirrup Size #:	3	
Qty. of Vertical Rebars:	12	Tie Spacing (in):	6.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	6	
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):	10	Qty. of Rebar in Pad (W):	10	

Soil Design Parameters:

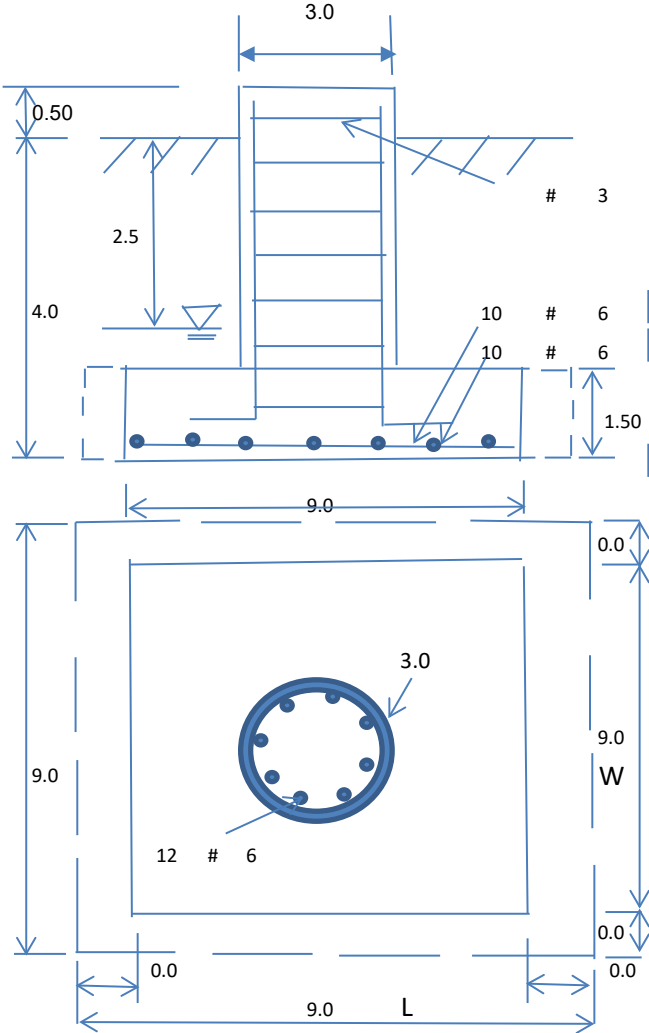
Soil Unit Weight (pcf):	109.0	Soil Buoyant Weight:	55.0	Pcf	
Water Table B.G.S. (ft):	2.5	Unit Weight of Water:	62.4	pcf	
Ultimate Bearing Pressure (psf):	4000	Ultimate Skin Friction:	0	Psf	
		Angle from Top of Pad:	30		
		Angle from Bottom of Pad:	25		
		Angle from Bottom of Pad:	25		

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.6
Total Dry Soil Volume (cu. Ft.):	184.83	Total Dry Soil Weight (Kips):	20.15
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	20.15	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	21.21	Total Dry Concrete Weight (Kips):	3.18
Total Buoyant Concrete Volume (cu. Ft.):	121.50	Total Buoyant Concrete Weight (Kips):	10.64
Total Effective Concrete Weight (Kips):	13.82	Total Vertical Load on Base (Kips):	145.60

Check Soil Capacities:

Calculated Maximum Net Soil Pressure under the base (psf):	1660.2	<	Allowable Factored Soil Bearing (psf):	2400	0.69	OK!
Calculated Foundation Allowable Axial Capacity (Kips):	194.4	>	Design Factored Axial Load (Kips):	132	0.68	OK!



Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00

Load/
Capacity
Ratio**(1) Concrete Pier:**

Vertical Steel Rebar Area (sq. in./each):	0.44	Tie / Stirrup Area (sq. in./each):	0.11		
Calculated Moment Capacity (Mn,Kips-Ft):	340.6	>	Design Factored Moment (Mu, Kips-Ft)	7.8	0.02 OK!
Calculated Shear Capacity (Kips):	147.0	>	Design Factored Shear (Kips):	2.6	0.02 OK!
Calculated Tension Capacity (Tn, Kips):	285.1	>	Design Factored Tension (Tu Kips):	0.0	0.00 OK!
Calculated Compression Capacity (Pn, Kips):	1342.7	>	Design Factored Axial Load (Pu Kips):	111.6	0.08 OK!
Moment & Axial Strength Combination(Pu/Pn+Mu/Mn):	0.11	OK!			
Pier Reinforcement Ratio:	0.005				

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Dir. Kips):	129.8	>	One-Way Factored Shear (L-Dir Kips):	23.1	0.18 OK!
One-Way Design Shear Capacity (W-Dir. Kips):	129.8	>	One-Way Factored Shear (W-Dir Kips)	23.1	0.18 OK!
Two-Way Design Shear Capacity (Kips):	382.2	>	Two-Way Factored Shear (Kips):	92.7	0.24 OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0028	OK!	Lower Steel Pad Reinf. Ratio (W-Direct	0.0028	OK!
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	280.1	>	Moment at Bottom (L-Direct. K-Ft):	58.4	0.21 OK!
Lower Steel Pad Moment Capacity (W-Dir. Kips-ft):	280.1	>	Moment at Bottom (W-Dir. Kips-Ft):	58.4	0.21 OK!

	Guy Anchor Analysis and Design			Date
				4/17/2025
	Customer Name:	SBA Communications Corp	TIA Standard:	EIA-222-H
	Site Name:	0	Structure Height (Ft.):	250
	Site Number:	FL15359-A-SBA	Engineer Name:	J. Tibbetts
	Engr. Number:	158350	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations

Number of Anchors: 1 Set

Failure model: New

Soil Design Parameters:

Soil Unit Weight (pcf):	109.0	Soil Buoyant Weight:	47.0	Pcf	Cohesion of Soils (psf):	0
		Unit Weight of Water:	62.4	pcf	Internal Angle of Friction (°)	30
Ultimate lateral pressure (psf):	0	Ultimate Skin Friction:	0	Psf	Coefficient of Shear Friction:	0.41
Conical Failure Angle from Top:	30	Failure Angle from Bottom:	20			

Material Properties:

Concrete Strength (psi):	3000	Unit Weight of Concrete:	150.0	psf	Horizontal Rebar Yield (psi):	60000
Shear Strength Reduction Factor:	0.75				Flexure Strength Reduction Factor:	0.9

A. Inner Anchors:

Radius (ft.): 180

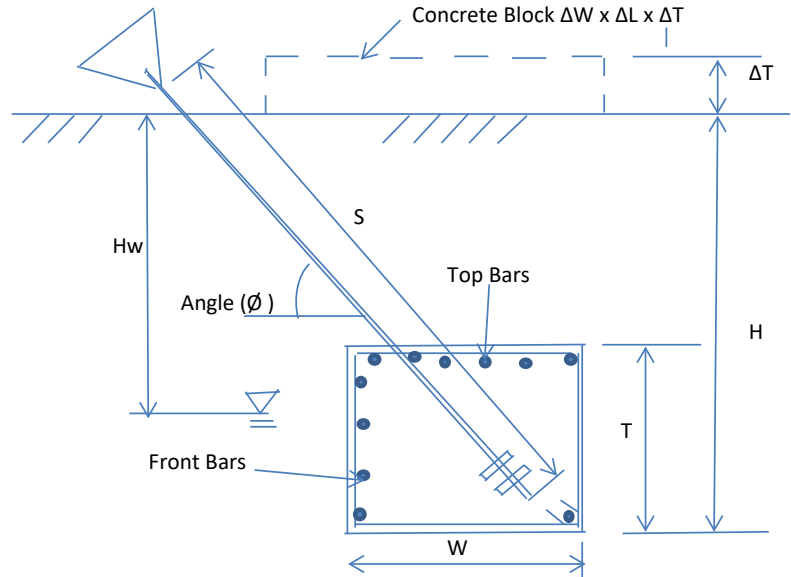
1. Design Reactions (Factored):

Uplift (Kips): 42.5 Shear (Kips): 46.2 Angle of force resultant (°): 42.6

2. Foundation Geometries:

Block Base Depth B.G.S. (ft):	6.0	Block with/without toe?	No	Water Table below grade (ft):	2.50
Length of Anchor Block (L, ft.):	22.0	Width of Anchor Block:	6.5 ft.	Thickness of Anchor Block (ft.):	3.5
Concrete Block @ top of Anchor?	No				

<u>(1). Inner Anchors:</u>		Radius (ft.):	180
H (ft.):	6.0	Hw(ft.):	2.5
L (ft.):	22.0	W (ft.):	6.5
T (ft.):	3.5	Angle (Ø):	42.6
S (ft.):	9.60		
Top bars:	6	#	7
Front bars:	4	#	7
Concrete Volume (Cu. Yd.)/Each:			18.54



3. Foundation Analysis and Design:

Total Dry Soil Volume (cu. Ft.):	465.79	Total Dry Soil Weight (Kips):	68.44
Total Buoyant Soil Volume (cu. Ft.):	133.02	Total Buoyant Soil Weight (Kips):	6.25
Total Effective Soil Weight (Kips):	50.77	Weight of the Concrete Block at Top (Kips):	0.00
Total Dry Concrete Volume (cu. Ft.):	0.00	Total Dry Concrete Weight (Kip):	0.00
Total Buoyant Concrete Volume (cu. Ft.):	500.50	Total Buoyant Concrete Weight (Kips):	43.84
Total Effective Concrete Weight (Kips):	43.84	Weight Reduction Factor:	0.9
Soil Uplift Strength Reduction Factor A:	0.75	Shear Strength Reduction Factor:	0.75
Soil Uplift Strength Reduction Factor B:	0.9		

4. Check Soil and Foundation Capacities:

Nominal Factored Uplift Resistance:	83.38	Kips > Design Uplift Force (Kips):	42.5	OK!
Ultimate Shear Friction Resistance at base:	23.28	Kips Ultimate Resistance Pressure:	1064.3	Psf
Factored Shear Resistance:	78.92	Kips > Design Shear Force (Kips):	46.2	OK!

5. Design Concrete Block:

Rebar Size (#):	7	Wind Load Factor on Concrete Design:	1.00	
Qty. of the Rebar at top of the block:	6	Qty. of the Rebar in the front of the block:	4	
Area of Single Rebar (sq. in.):	0.60	Factor for concrete compression zone:	0.85	
One Way Shear due to Shear Force (Kips):	23.1	One Way Shear Capacity for shear (kips):	255.3	OK!
One Way Shear due to Uplift (Kips):	21.2	One Way Shear Capacity for uplift (kips):	243.5	OK!
Moment due to Shear Load (Kips-ft):	126.9	Flexural Capacity for Shear Load (Kips-ft):	799.1	OK!
Moment due to uplift Load (Kips-ft):	116.8	Flexural Capacity for uplift Load (Kips-ft):	615.4	OK!
Ratio of Design Moment/Moment capacity:	0.19	Minimum ratio of rebar (top & front) :	0.11	OK!
Max. Ratio of Shear Force/Shear capacity:	0.09	OK!		

0.0

0.0