

brownrudnick

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April 18, 2023

VIA E-MAIL & 1st CLASS MAIL

Attorney Melanie Bachman
Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: SUBPETITION NO. 1133-CING-20221107 – New Cingular Wireless PCS, LLC d/b/a AT&T eligible facility request for modifications to an existing telecommunications facility located at 160 Wampus Lane, Milford, Connecticut – Revised Structural Analysis, Report and Drawings

Dear Attorney Bachman:

In response to your letter dated November 17, 2022 and the extensions granted in your letters dated December 7, 2022, January 27, 2023 and March 21, 2023, on behalf of New Cingular Wireless PCS, LLC d/b/a AT&T we enclose an original and three copies of the Revised Structural Analysis (Attachment 1), Revised Tower Design (Attachment 2), Revised Mount Analysis (Attachment 3) and Revised Site Plan (Attachment 4) referencing the updated Connecticut State Building Code.

Thank you.

Sincerely,

/s/ Thomas J. Regan
Thomas J. Regan

cc: via 1st Class Mail:

Mayor Benjamin G. Blake
City of Milford
110 River Street
Milford, CT 06460

David B. Sulkis, City Planner
City of Milford
Parsons Government Center
70 West River Street
Milford, CT 06460

Karen Fortunati, City Clerk
City of Milford
Parsons Government Center
70 West River Street
Milford, CT 06460

65011633 v2-WorkSiteUS-024519/1671

ATTACHMENT 1



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Post-Mod Structural Analysis Report

Existing 120-ft Rohn Monopole Plus a Proposed 20-ft Extension

Customer Name: SBA Communications Corp

Customer Site Number: CT46128-A

Customer Site Name: Milford - West

Carrier Name: AT&T (App#: 165974-6)

Carrier Site ID / Name: CT1231 / Milford Wampus

Site Location: 160 Wampus Lane

Milford, Connecticut

New Haven County

Latitude: 41.225166

Longitude: -73.042361

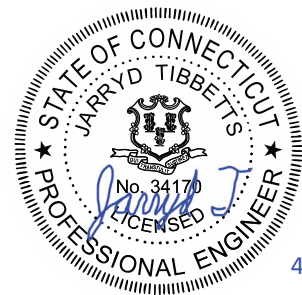
Analysis Result:

Max Structural Usage: 94.9% [Pass]

Max Foundation Usage: 92.0% [Pass]

Pre-Mod Installation: Not Approved

Report Prepared By : Tawfeeq Alajaj



4/5/2023



Tower Engineering Solutions

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Max Foundation Usage: 92.0% [Pass]

Pre-Mod Installation: Not Approved

Report Prepared By : Tawfeeq Alajaj

Introduction

The purpose of this report is to summarize the analysis results on the 140 ft Rohn Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any existing modification listed under Sources of Information was assumed completed and was included in this analysis.

The proposed modification by **TES** listed under Sources of Information was considered completed and was included in this analysis.

Sources of Information

Tower Drawings	Rohn Project #51361AE, dated April 3, 2002
Foundation Drawing	Rohn Project #51361AE, dated April 3, 2002
Geotechnical Report	Clarence wolti Associates Inc. Site #CT-0638, dated June 19 ,2001
Mount Analysis	Hudson Design Group, Project No. CT1231, dated 06/24/2021
Existing Modification	TES, Project # 18033, dated 11/04/2015
Proposed Modification	TES Job # 137809

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-H. 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.

Basic Wind Speed Used in the Analysis:	120.0 mph (3-Sec. Gust)
Basic Wind Speed with Ice:	0 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-H / 2021 IBC / 2022 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft

This structural analysis is based upon the tower being classified as a Structure Class 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
-	*116.5	-	-	-	-	Sprint
11	105.0	3	Ericsson AIR 21 B2A/ B4P - Panel	Platform w/ Handrails w/ MS-K122-5 Kicker Support Kit & MS-1436 Collar Mount Plate Assy.	(9) 1 5/8" (4) 1 5/8" Fiber	T-Mobile
12		3	Ericsson AIR32 KRD901146-1_B66A_B2A - Panel			
13		3	RFS APXVAARR24_43-U-NA20 - Panel			
14		3	Ericsson AIR6449 B41 - Panel			
15		3	Ericsson KRY 112 144/1 TTA			
16		3	Ericsson Radio 4449 B71 + B85 RRU			
17		3	Ericsson Radio 4415 B25 RRU			
18	78.0	2	GPS - Whip	(2) Side Arm		Unknown

* Sprint is terminating from 116.5 ft RAD and not included in this analysis.

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	136.0	2	Cci TPA65R-BU8D - Panel	Sector Frames [(3) SitePro VFA12-WLL-30120 w/ (2) SitePro LWRM Collar Mount & (2) SitePro MM01 8" Standoff & (4) SitePro MM02 2' Standoff]	(2) 0.4" Fiber (6) 1" DC Power	AT&T
2		2	Cci TPA45R-KU8A - Panel			
3		2	Cci DMP65R-BU8DA-K - Panel			
4		3	Ericsson AIR6449 N77 - Panel			
5		3	Ericsson AIR6419 N77G - Panel			
6		5	Ericsson 4415 B30 - RRU			
7		5	Ericsson 4478 B14 - RRU			
8		4	Ericsson 4449 B71 + B85 - RRU			
9		4	Ericsson RRUS 8843 B2 B66A - RRU			
10		4	Raycap DC9-48-60-24-8C-EV - 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:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	94.9%	86.0%	63.0%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	2339.1	22.6	27.4

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 TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.9531 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the structure and its foundation will be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222-H Standard after the following proposed modification is successfully completed.

- Proposed modification design drawing by **TES** Job # 137809

Pre-Mod Installation Determination

We have also checked this tower to determine if the proposed AT&T equipment loading can be installed prior to the completion of the required modifications.

Since the proposed equipment will be installed on the proposed extension, the Carrier cannot install their proposed loading prior to the mods completion.

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 EIA/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 rigorous structural analysis.

Usage Diagram - Max Ratio 89.18% at 70.0ft

Structure: CT46128-A-SBA
Site Name: Milford - West
Height: 140.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-H
Exposure: C
Gh: 1.1

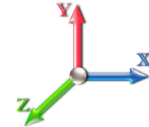
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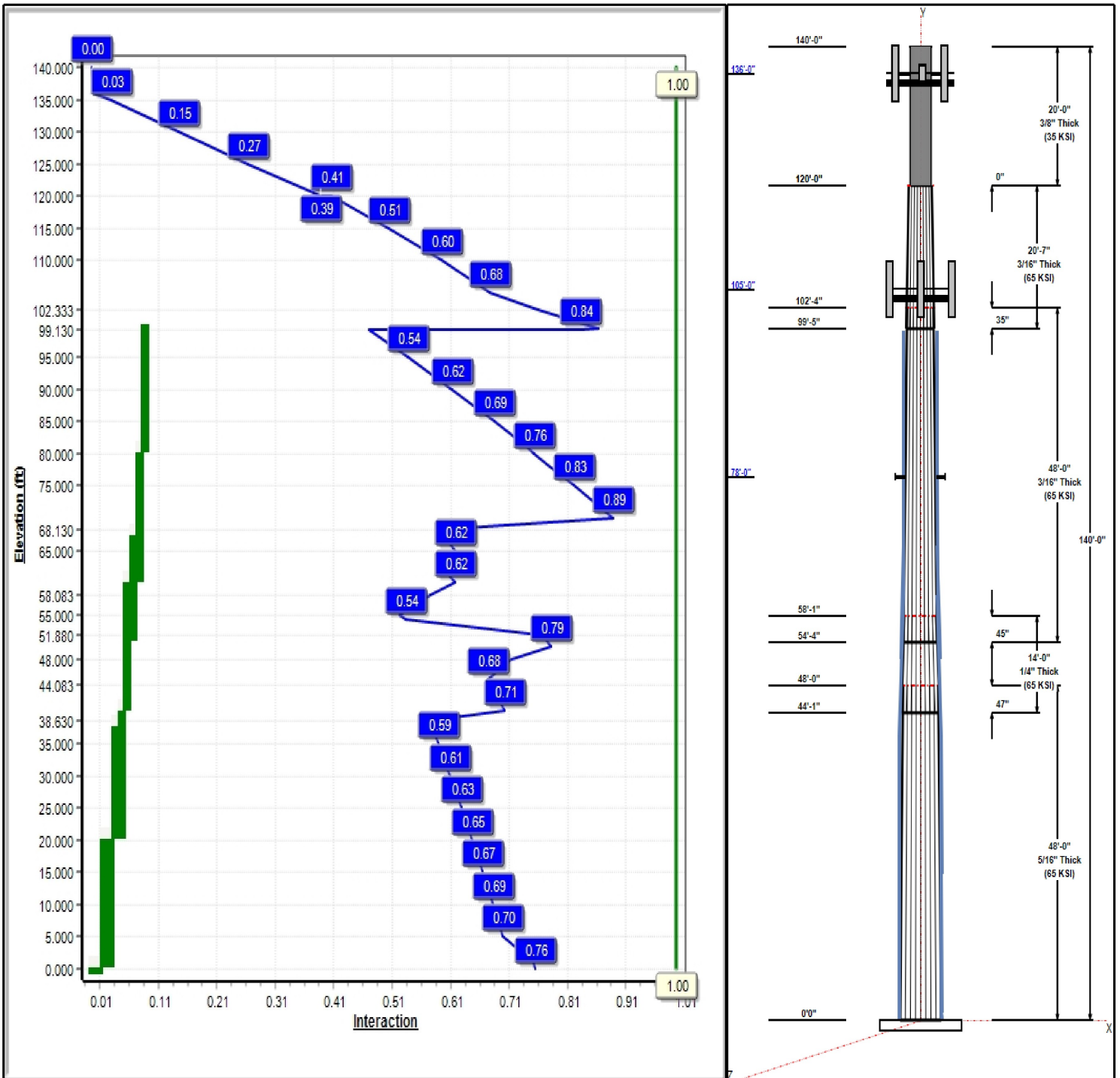
Dead Load Factor: 1.20
Wind Load Factor: 1.00

Load Case : 1.2D + 1.0W 120 mph Wind



Iterations: 27

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Structure: CT46128-A-SBA

Type: Custom
Site Name: Milford - West
Height: 140.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.15625

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Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	48.00	30.00	37.50	0.313		0.15625	65
2	14.00	28.92	31.11	0.250	Slip	0.15625	65
3	48.00	22.39	29.89	0.188	Slip	0.15625	65
4	20.58	20.00	23.22	0.188	Slip	0.15625	65
5	20.00	18.00	18.00	0.375	Butt	0.00000	42

Discrete Appurtenances

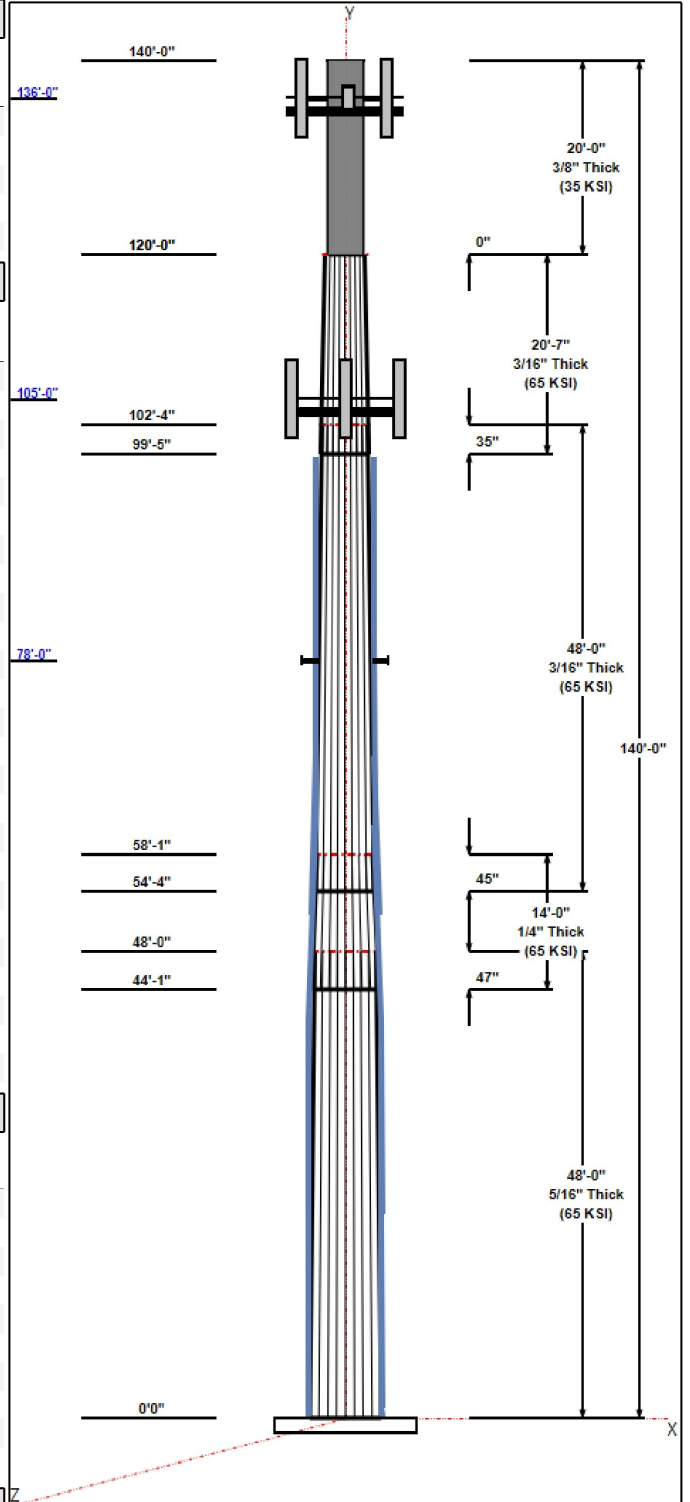
Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
136.00	136.00	2	TPA65R-BU8D	AT&T
136.00	136.00	2	TPA-45R-KU8AA-K	AT&T
136.00	136.00	2	DMP65R-BU8D	AT&T
136.00	136.00	3	AIR 6449 N77	AT&T
136.00	136.00	3	Ericsson AIR6419 N77G	AT&T
136.00	136.00	5	4415 B30	AT&T
136.00	136.00	5	4478 B14	AT&T
136.00	136.00	4	4449 B71 + B85	AT&T
136.00	136.00	4	RRUS 8843 B2 B66A	AT&T
136.00	136.00	4	DC9-48-60-24-8C-EV	AT&T
136.00	136.00	3	VFA12-WLL-30120	AT&T
136.00	136.00	2	Collar Mount	AT&T
136.00	136.00	6	Standoff	AT&T
105.00	105.00	1	Platform w/ Hand Rail	T-Mobile
105.00	105.00	3	AIR B2A/ B4P	T-Mobile
105.00	105.00	3	KRY 112 144/1	T-Mobile
105.00	105.00	3	4449 B71 + B95	T-Mobile
105.00	105.00	3	AIR32	T-Mobile
105.00	105.00	3	AIR6449 B41	T-Mobile
105.00	105.00	3	APXVAARR24_43-U-NA20	T-Mobile
105.00	105.00	3	RRUS 4415 B25	T-Mobile
105.00	105.00	1	MS-1436 (Collar Mount)	T-Mobile
105.00	105.00	1	MS-KI22-5 (Kickers w/o	T-Mobile
78.00	78.00	2	Side Arm (L. Heavy)	Unknown
78.00	78.00	2	GPS	Unknown

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	136.00	Inside	0.4" Fiber	AT&T
0.00	136.00	Inside	1" DC Power	AT&T
0.00	105.00	Inside	1 5/8" Coax	T-Mobile
0.00	105.00	Inside	1 5/8" fiber	T-Mobile
61.00	101.00	Outside	1" Reinforcing plate	
0.00	88.00	Inside	1 5/8" Coax	Metro PCS
50.00	70.00	Outside	1" Reinforcing plate	
41.00	61.00	Outside	1.25" Reinforcing plate	
1.00	41.00	Outside	1" Reinforcing plate	
1.00	41.00	Outside	1.25" Reinforcing plate	

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
8	2.25" 18J	75.0	Radial



Structure: CT46128-A-SBA

Type: Custom
Site Name: Milford - West
Height: 140.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.00000

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Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.0000	49.5	60.0	Round

Reactions

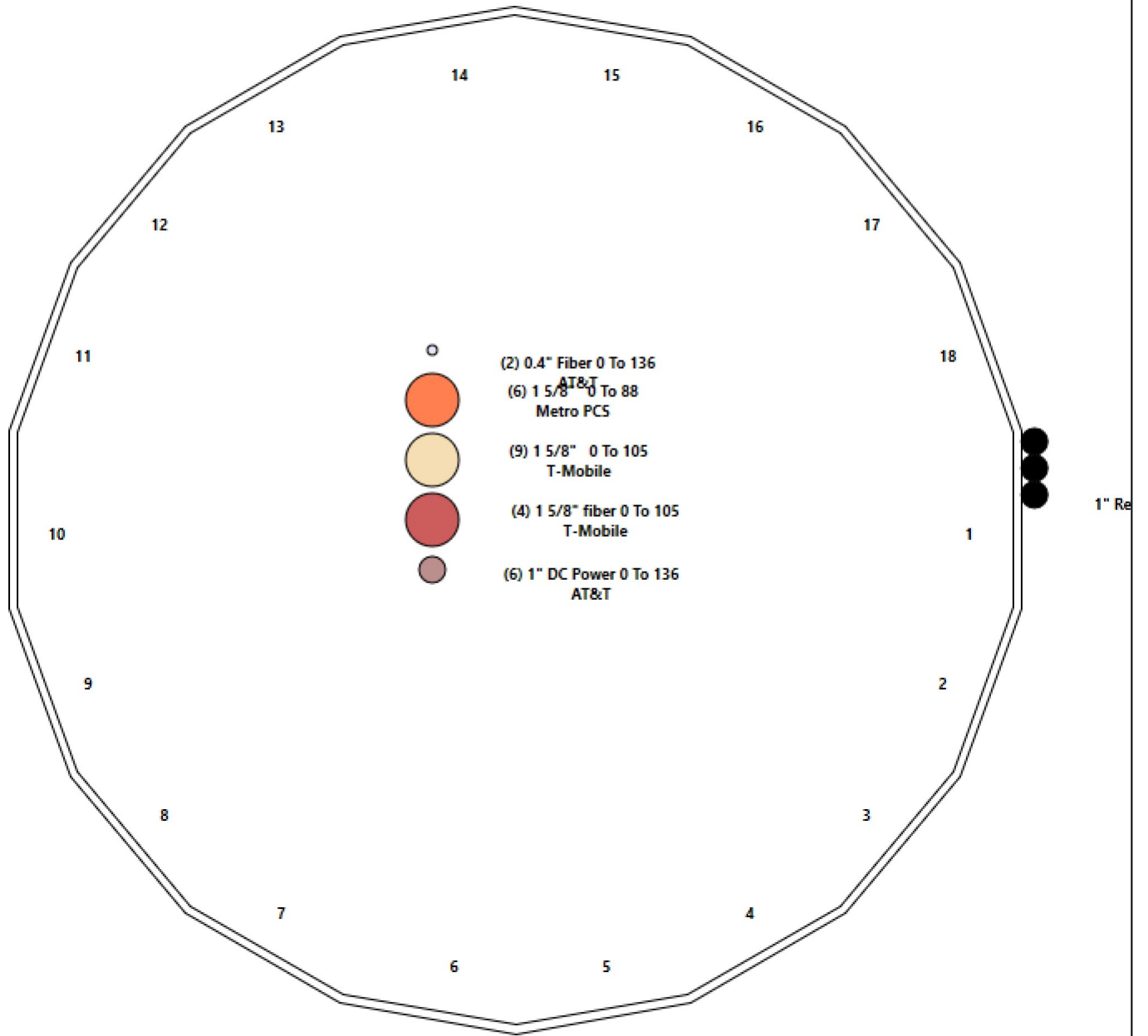
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 120 mph Wind	2339.1	22.6	27.4
0.9D + 1.0W 120 mph Wind	2302.4	22.6	20.6
1.2D + 1.0Di + 1.0Wi 0 mph Wind	0.0	0.0	40.1
1.2D + 1.0Ev + 1.0Eh	38.0	0.3	28.4
0.9D + 1.0Ev + 1.0Eh	37.3	0.3	21.5
1.0D + 1.0W 60 mph Wind	519.1	5.1	22.9

Structure: CT46128-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Milford - West
Height: 140.00 (ft)

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Shaft Properties

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	48.000	0.3125	65		0.00	5,417
2	18	14.000	0.2500	65	Slip	47.00	1,125
3	18	48.000	0.1875	65	Slip	45.00	2,522
4	18	20.583	0.1875	65	Slip	35.00	893
5	R	20.000	0.3750	42	Flange	0.00	1,413
Total Shaft Weight:							11,370

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	37.50	0.00	36.88	6444.44	19.75	120.00	30.00	48.00	29.45	3278.80	15.52	96.00	0.156250
2	31.11	44.08	24.49	2946.83	20.53	124.45	28.92	58.08	22.75	2363.58	18.99	115.7	0.156250
3	29.89	54.33	17.67	1969.35	26.69	159.39	22.39	102.33	13.21	822.40	19.64	119.3	0.156250
4	23.22	99.42	13.70	918.23	20.42	123.82	20.00	120.00	11.79	584.74	17.40	106.6	0.156250
5	18.00	120.0	20.76	806.88	0.00	48.00	18.00	140.00	20.76	806.88	0.00	48.00	0.000000

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Fu (ksi)	Offset (in)	Intermediate Connectors		Termination Connectors			
							Description	Spacing (in)	Description	Spacing (in)	Lower Qty	Upper Qty
0.00	1.00	3	SOL 2 1/4" William R71	128	150	5.63	5/8" Hollo Bolt	12.00	5/8" Hollo Bolt	3.00		
0.00	1.00	1	SOL 1 3/4" William R71	128	150	5.63	5/8" Hollo Bolt	12.00	5/8" Hollo Bolt	3.00		
1.00	21.00	3	LNP LP6X125-B-20B	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		
1.00	21.00	1	LNP LP6X100-B-20C	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		
21.00	38.63	1	LNP LP6X100-G-20CT	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		10
21.00	41.00	3	LNP LP6X125-G-20BB	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		
41.00	61.00	3	LNP LP6X125-G-20BB	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		
51.88	68.13	2	LNP LP6X100-G-20TT	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00	10	10
61.00	81.00	3	LNP LP6X100-G-20BC	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		
81.00	99.13	3	LNP LP6X100-G-20CT	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		8

Load Summary

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	136.00	TPA65R-BU8D	2	87.10	17.87	0.72	363.51	19.056	0.72	0.00	0.00
2	136.00	TPA-45R-KU8AA-K	2	80.00	14.50	0.81	297.49	15.609	0.81	0.00	0.00
3	136.00	DMP65R-BU8D	2	96.00	17.87	0.73	359.02	19.056	0.73	0.00	0.00
4	136.00	AIR 6449 N77	3	82.00	4.13	0.85	156.64	4.630	0.85	0.00	0.00
5	136.00	Ericsson AIR6419 N77G	3	66.00	4.13	0.85	129.76	4.179	0.85	0.00	0.00
6	136.00	4415 B30	5	46.00	1.86	0.50	82.43	2.218	0.50	0.00	0.00
7	136.00	4478 B14	5	60.00	1.84	0.50	91.08	2.188	0.50	0.00	0.00
8	136.00	4449 B71 + B85	4	71.00	1.97	0.50	107.97	2.346	0.50	0.00	0.00
9	136.00	RRUS 8843 B2 B66A	4	72.00	1.64	0.50	103.22	1.981	0.50	0.00	0.00
10	136.00	DC9-48-60-24-8C-EV	4	26.20	1.14	0.50	96.17	2.188	0.50	0.00	0.00
11	136.00	VFA12-WLL-30120	3	850.00	17.80	0.75	1398.42	32.566	0.75	0.00	0.00
12	136.00	Collar Mount	2	220.00	2.25	0.75	422.78	3.805	0.75	0.00	0.00
13	136.00	Standoff	6	45.00	2.50	0.75	104.62	6.245	0.75	0.00	0.00
14	105.00	Platform w/ Hand Rail	1	1400.00	32.00	1.00	2581.99	49.963	1.00	0.00	0.00
15	105.00	AIR B2A/ B4P	3	91.50	6.09	0.86	192.74	6.779	0.86	0.00	0.00
16	105.00	KRY 112 144/1	3	11.00	0.41	0.50	17.94	0.716	0.50	0.00	0.00
17	105.00	4449 B71 + B95	3	74.00	1.65	0.50	113.59	1.970	0.50	0.00	0.00
18	105.00	AIR32 KRD901146-1_B66A_B2A	3	132.20	6.51	0.87	242.47	7.214	0.87	0.00	0.00
19	105.00	AIR6449 B41	3	103.00	5.65	0.71	191.21	6.261	0.71	0.00	0.00
20	105.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	384.77	21.446	0.70	0.00	0.00
21	105.00	RRUS 4415 B25	3	46.00	1.64	0.50	72.44	1.971	0.50	0.00	0.00
22	105.00	MS-1436 (Collar Mount)	1	150.60	2.25	1.00	285.86	3.766	1.00	0.00	0.00
23	105.00	MS-KI22-5 (Kickers w/o Collar)	1	146.00	5.00	1.00	277.13	8.368	1.00	0.00	0.00
24	78.00	Side Arm (L. Heavy)	2	120.00	4.50	1.00	185.39	7.776	1.00	0.00	0.00
25	78.00	GPS	2	10.00	1.00	1.00	28.31	1.445	1.00	0.00	0.00
Totals:			73	9,150.70			17,882.63				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	136.00	(2) 0.4" Fiber	0.00	Inside
0.00	136.00	(6) 1" DC Power	0.00	Inside
0.00	105.00	(9) 1 5/8" Coax	0.00	Inside
0.00	105.00	(4) 1 5/8" fiber	0.00	Inside
61.00	101.00	(3) 1" Reinforcing plate	1.00	Outside
0.00	88.00	(6) 1 5/8" Coax	0.00	Inside
50.00	70.00	(3) 1" Reinforcing plate	1.00	Outside
41.00	61.00	(3) 1.25" Reinforcing plate	1.25	Outside
1.00	41.00	(3) 1" Reinforcing plate	0.00	Outside
1.00	41.00	(3) 1.25" Reinforcing plate	2.50	Outside

Shaft Section Properties

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing			
											Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
0.00	RB1 RB2	0.3125	37.500	36.884	6444.4	19.75	120.00	65	78	0.0	14.84	5824.9	3601.6	
1.00	RT1 RT2 RB3 RB4	0.3125	37.344	36.729	6363.6	19.66	119.50	65	78	125.2	43.34	12001.5	7480.2	148.3
5.00		0.3125	36.719	36.109	6046.8	19.31	117.50	65	79	495.7	28.50	6034.8	3921.8	387.9
10.00		0.3125	35.938	35.334	5665.8	18.87	115.00	65	79	607.8	28.50	5790.3	3760.8	484.9
15.00		0.3125	35.156	34.559	5301.1	18.43	112.50	65	80	594.6	28.50	5550.9	3603.2	484.9
20.00		0.3125	34.375	33.785	4952.5	17.99	110.00	65	80	581.4	28.50	5316.6	3449.2	484.9
21.00	RT3 RT4 RB5 RB6	0.3125	34.219	33.630	4884.7	17.90	109.50	65	80	114.7	57.00	10534.4	6696.0	194.0
25.00		0.3125	33.594	33.010	4619.5	17.54	107.50	65	81	453.5	28.50	5087.3	3298.7	387.9
30.00		0.3125	32.813	32.235	4301.7	17.10	105.00	65	81	555.0	28.50	4863.2	3151.7	484.9
35.00		0.3125	32.031	31.460	3998.9	16.66	102.50	65	82	541.8	28.50	4644.2	3008.1	484.9
38.63	RT5	0.3125	31.464	30.897	3788.2	16.34	100.69	65	82	385.1	28.50	4488.3	2906.1	352.0
40.00		0.3125	31.250	30.685	3710.7	16.22	100.00	65	82	143.5	22.50	4206.9	1680.3	104.9
41.00	RT6 RB7	0.3125	31.094	30.530	3654.7	16.13	99.50	65	82	104.2	45.00	8270.8	3329.1	153.1
44.08	Bot - Section 2	0.3125	30.612	30.052	3485.8	15.86	97.96	65	83	317.8	22.50	4043.3	1616.6	236.1
45.00		0.3125	30.469	29.910	3436.6	15.78	97.50	65	83	169.7	22.50	4133.5	1652.1	70.2
48.00	Top - Section 1	0.2500	30.500	24.003	2775.0	20.10	122.00	65	78	549.9	22.50	4014.1	1605.6	229.7
50.00		0.2500	30.188	23.755	2689.9	19.88	120.75	65	78	162.5	22.50	3925.9	1575.0	153.1
51.88	RB8	0.2500	29.894	23.521	2611.5	19.67	119.58	65	78	151.2	34.50	5131.9	3210.5	220.7
54.33	Bot - Section 3	0.2500	29.510	23.217	2511.5	19.40	118.04	65	79	195.1	34.50	5007.1	3133.0	288.0
55.00		0.2500	29.406	23.135	2484.7	19.33	117.63	65	79	92.6	34.50	5094.9	3187.6	78.3
58.08	Top - Section 2	0.1875	29.299	17.325	1855.1	26.14	156.26	65	71	424.0	34.50	4938.9	3090.8	362.0
60.00		0.1875	29.000	17.146	1798.4	25.86	154.67	65	71	112.4	34.50	4839.6	3030.6	225.0
61.00	RT7 RB9	0.1875	28.844	17.053	1769.3	25.71	153.83	65	71	58.2	52.50	7782.9	4146.4	178.6
65.00		0.1875	28.219	16.681	1656.0	25.13	150.50	65	72	229.6	30.00	3787.6	2576.4	408.3
68.13	RT8	0.1875	27.730	16.390	1570.9	24.67	147.89	65	72	176.1	30.00	3662.9	2492.5	319.5
70.00		0.1875	27.438	16.217	1521.4	24.39	146.33	65	73	103.7	18.00	2568.8	1037.0	114.5
75.00		0.1875	26.656	15.752	1394.3	23.66	142.17	65	74	272.0	18.00	2430.0	982.7	306.2
78.00		0.1875	26.188	15.473	1321.5	23.22	139.67	65	74	159.4	18.00	2348.6	950.9	183.7
80.00		0.1875	25.875	15.287	1274.4	22.92	138.00	65	74	104.7	18.00	2295.1	929.9	122.5
81.00	RT9 RB10	0.1875	25.719	15.194	1251.3	22.78	137.17	65	75	51.9	36.00	4512.6	1839.1	122.5
85.00		0.1875	25.094	14.822	1161.6	22.19	133.83	65	75	204.3	18.00	2164.1	878.6	245.0
90.00		0.1875	24.313	14.357	1055.7	21.45	129.67	65	76	248.2	18.00	2037.1	828.8	306.2
95.00		0.1875	23.531	13.892	956.4	20.72	125.50	65	77	240.3	18.00	1913.9	780.6	306.2
99.13	RT10	0.1875	22.886	13.508	879.3	20.11	122.06	65	78	192.5	18.00	1815.2	741.8	253.0
99.42	Bot - Section 4	0.1875	22.841	13.481	874.1	20.07	121.82	65	78	13.2				
100.00		0.1875	22.750	13.427	863.6	19.98	121.33	65	78	53.9				
102.33	Top - Section 3	0.1875	22.760	13.433	864.8	19.99	121.39	65	78	213.3				
105.00		0.1875	22.344	13.185	817.8	19.60	119.17	65	78	120.8				
110.00		0.1875	21.563	12.720	734.3	18.87	115.00	65	79	220.4				
115.00		0.1875	20.781	12.255	656.7	18.13	110.83	65	80	212.5				
120.00	Top - Section 4	0.1875	20.000	11.790	584.7	17.40	106.67	65	81	204.6				
120.00	Bot - Section 5	0.3750	18.000	20.764	806.9	8.70	53.33	42	42					
125.00		0.3750	18.000	20.764	806.9	0.00	48.00	42	42	353.3				
130.00		0.3750	18.000	20.764	806.9	0.00	48.00	42	42	353.3				
135.00		0.3750	18.000	20.764	806.9	0.00	48.00	42	42	353.3				
136.00		0.3750	18.000	20.764	806.9	0.00	48.00	42	42	70.7				
140.00		0.3750	18.000	20.764	806.9	0.00	48.00	42	42	282.6				
Total Weight										11370.2	8882.2			

Wind Loading - Shaft

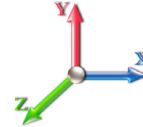
Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 8
	Struct Class: II	



Load Case: 1.2D + 1.0W 120 mph Wind

Iterations 27

Dead Load Factor 1.20
Wind Load Factor 1.00



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	RB1 RB2	1.00	0.85	29.755	32.73	350.99	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00	RT1 RT2 RB3 RB4	1.00	0.85	29.755	32.73	349.53	0.730	0.000	1.00	3.167	2.31	75.7	0.0	150.3
5.00		1.00	0.85	29.755	32.73	343.68	0.730	0.000	4.00	12.534	9.15	299.5	0.0	594.8
10.00		1.00	0.85	29.755	32.73	336.37	0.730	0.000	5.00	15.370	11.22	367.2	0.0	729.3
15.00		1.00	0.85	29.755	32.73	329.05	0.730	0.000	5.00	15.040	10.98	359.3	0.0	713.5
20.00		1.00	0.90	31.571	34.73	331.42	0.730	0.000	5.00	14.709	10.74	372.9	0.0	697.7
21.00	RT3 RT4 RB5 RB6	1.00	0.91	31.897	35.09	331.61	0.730	0.000	1.00	2.902	2.12	74.3	0.0	137.6
25.00		1.00	0.95	33.090	36.40	331.58	0.730	0.000	4.00	11.476	8.38	304.9	0.0	544.2
30.00		1.00	0.98	34.384	37.82	330.15	0.730	0.000	5.00	14.048	10.26	387.9	0.0	666.0
35.00		1.00	1.01	35.519	39.07	327.56	0.730	0.000	5.00	13.718	10.01	391.2	0.0	650.2
38.63	RT5	1.00	1.04	36.264	39.89	325.12	0.730	0.000	3.63	9.752	7.12	284.0	0.0	462.1
40.00		1.00	1.04	36.531	40.18	324.09	0.730	0.000	1.37	3.635	2.65	106.6	0.0	172.3
41.00	RT6 RB7	1.00	1.05	36.722	40.39	323.31	0.730	0.000	1.00	2.638	1.93	77.8	0.0	125.0
44.08	Bot - Section 2	1.00	1.07	37.287	41.02	320.74	0.730	0.000	3.08	8.050	5.88	241.0	0.0	381.4
45.00		1.00	1.07	37.449	41.19	319.93	0.730	0.000	0.92	2.408	1.76	72.4	0.0	203.7
48.00	Top - Section 1	1.00	1.08	37.961	41.76	317.16	0.730	0.000	3.00	7.802	5.70	237.8	0.0	659.9
50.00		1.00	1.09	38.288	42.12	320.51	0.730	0.000	2.00	5.135	3.75	157.9	0.0	195.0
51.88	RB8	1.00	1.10	38.587	42.45	318.63	0.730	0.000	1.88	4.779	3.49	148.1	0.0	181.5
54.33	Bot - Section 3	1.00	1.11	38.964	42.86	316.08	0.730	0.000	2.45	6.166	4.50	192.9	0.0	234.1
55.00		1.00	1.12	39.064	42.97	315.37	0.730	0.000	0.67	1.683	1.23	52.8	0.0	111.1
58.08	Top - Section 2	1.00	1.13	39.516	43.47	311.99	0.730	0.000	3.08	7.707	5.63	244.6	0.0	508.8
60.00		1.00	1.14	39.787	43.77	313.87	0.730	0.000	1.92	4.728	3.45	151.0	0.0	134.9
61.00	RT7 RB9	1.00	1.14	39.925	43.92	312.72	0.730	0.000	1.00	2.447	1.79	78.5	0.0	69.8
65.00		1.00	1.16	40.463	44.51	308.00	0.730	0.000	4.00	9.657	7.05	313.8	0.0	275.5
68.13	RT8	1.00	1.17	40.865	44.95	304.16	0.730	0.000	3.13	7.409	5.41	243.1	0.0	211.3
70.00		1.00	1.17	41.099	45.21	301.82	0.730	0.000	1.87	4.365	3.19	144.0	0.0	124.5
75.00		1.00	1.19	41.700	45.87	295.36	0.730	0.000	5.00	11.443	8.35	383.2	0.0	326.3
78.00	Appurtenance(s)	1.00	1.20	42.046	46.25	291.37	0.730	0.000	3.00	6.707	4.90	226.5	0.0	191.2
80.00		1.00	1.21	42.271	46.50	288.66	0.730	0.000	2.00	4.405	3.22	149.5	0.0	125.6
81.00	RT9 RB10	1.00	1.21	42.381	46.62	287.29	0.730	0.000	1.00	2.183	1.59	74.3	0.0	62.2
85.00		1.00	1.22	42.814	47.10	281.74	0.730	0.000	4.00	8.599	6.28	295.6	0.0	245.1
90.00		1.00	1.24	43.332	47.67	274.61	0.730	0.000	5.00	10.452	7.63	363.7	0.0	297.9
95.00		1.00	1.25	43.828	48.21	267.30	0.730	0.000	5.00	10.121	7.39	356.2	0.0	288.4
99.13	RT10	1.00	1.26	44.223	48.64	261.14	0.730	0.000	4.13	8.111	5.92	288.0	0.0	231.0
99.42	Bot - Section 4	1.00	1.26	44.249	48.67	260.71	0.730	0.000	0.29	0.555	0.40	19.7	0.0	15.8
100.00		1.00	1.27	44.304	48.73	259.83	0.730	0.000	0.58	1.144	0.83	40.7	0.0	64.6
102.33	Top - Section 3	1.00	1.27	44.520	48.97	256.29	0.730	0.000	2.33	4.530	3.31	161.9	0.0	255.9
105.00	Appurtenance(s)	1.00	1.28	44.761	49.24	256.50	0.730	0.000	2.67	5.089	3.71	182.9	0.0	144.9
110.00		1.00	1.29	45.202	49.72	248.75	0.730	0.000	5.00	9.288	6.78	337.1	0.0	264.5
115.00		1.00	1.30	45.627	50.19	240.86	0.730	0.000	5.00	8.958	6.54	328.2	0.0	255.0
120.00	Top - Section 4	1.00	1.32	46.038	50.64	232.85	0.730	0.000	5.00	8.627	6.30	318.9	0.0	245.5
125.00		1.00	1.33	46.435	51.08	207.27	0.600	0.000	5.00	7.500	4.50	229.9	0.0	423.9
130.00		1.00	1.34	46.820	51.50	208.13	0.600	0.000	5.00	7.500	4.50	231.8	0.0	423.9
135.00		1.00	1.35	47.193	51.91	208.95	0.600	0.000	5.00	7.500	4.50	233.6	0.0	423.9
136.00	Appurtenance(s)	1.00	1.35	47.267	51.99	209.12	0.600	0.000	1.00	1.500	0.90	46.8	0.0	84.8
140.00		1.00	1.36	47.556	52.31	209.76	0.600	0.000	4.00	6.000	3.60	188.3	0.0	339.1

Wind Loading - Shaft

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 9



Totals:	140.00	9,836.2	13,644.3
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Discrete Appurtenance Forces

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

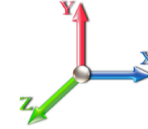


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Load Case: 1.2D + 1.0W 120 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 27

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor 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	136.00	4478 B14	5	47.267	51.993	0.40	0.80	3.68	360.00	0.000	0.000	191.34	0.00	0.00
2	136.00	TPA-45R-KU8AA-K	2	47.267	51.993	0.65	0.80	18.79	192.00	0.000	0.000	977.06	0.00	0.00
3	136.00	DMP65R-BU8D	2	47.267	51.993	0.58	0.80	20.87	230.40	0.000	0.000	1085.22	0.00	0.00
4	136.00	AIR 6449 N77	3	47.267	51.993	0.68	0.80	8.43	295.20	0.000	0.000	438.06	0.00	0.00
5	136.00	Ericsson AIR6419 N77G	3	47.267	51.993	0.68	0.80	8.43	237.60	0.000	0.000	438.06	0.00	0.00
6	136.00	4415 B30	5	47.267	51.993	0.40	0.80	3.72	276.00	0.000	0.000	193.42	0.00	0.00
7	136.00	TPA65R-BU8D	2	47.267	51.993	0.58	0.80	20.59	209.04	0.000	0.000	1070.35	0.00	0.00
8	136.00	4449 B71 + B85	4	47.267	51.993	0.40	0.80	3.15	340.80	0.000	0.000	163.88	0.00	0.00
9	136.00	RRUS 8843 B2 B66A	4	47.267	51.993	0.40	0.80	2.62	345.60	0.000	0.000	136.43	0.00	0.00
10	136.00	DC9-48-60-24-8C-EV	4	47.267	51.993	0.40	0.80	1.82	125.76	0.000	0.000	94.84	0.00	0.00
11	136.00	VFA12-WLL-30120	3	47.267	51.993	0.56	0.75	30.04	3060.00	0.000	0.000	1561.75	0.00	0.00
12	136.00	Collar Mount	2	47.267	51.993	0.56	0.75	2.53	528.00	0.000	0.000	131.61	0.00	0.00
13	136.00	Standoff	6	47.267	51.993	0.56	0.75	8.44	324.00	0.000	0.000	438.69	0.00	0.00
14	105.00	AIR B2A/ B4P	3	44.761	49.237	0.65	0.75	11.78	329.40	0.000	0.000	580.22	0.00	0.00
15	105.00	4449 B71 + B95	3	44.761	49.237	0.38	0.75	1.86	266.40	0.000	0.000	91.40	0.00	0.00
16	105.00	AIR32	3	44.761	49.237	0.65	0.75	12.74	475.92	0.000	0.000	627.45	0.00	0.00
17	105.00	AIR6449 B41	3	44.761	49.237	0.53	0.75	9.03	370.80	0.000	0.000	444.41	0.00	0.00
18	105.00	Platform w/ Hand Rail	1	44.761	49.237	1.00	1.00	32.00	1680.00	0.000	0.000	1575.60	0.00	0.00
19	105.00	MS-KI22-5 (Kickers w/o	1	44.761	49.237	1.00	1.00	5.00	175.20	0.000	0.000	246.19	0.00	0.00
20	105.00	KRY 112 144/1	3	44.761	49.237	0.38	0.75	0.46	39.60	0.000	0.000	22.71	0.00	0.00
21	105.00	APXVAARR24_43-U-NA2	3	44.761	49.237	0.52	0.75	31.88	460.80	0.000	0.000	1569.59	0.00	0.00
22	105.00	RRUS 4415 B25	3	44.761	49.237	0.38	0.75	1.84	165.60	0.000	0.000	90.84	0.00	0.00
23	105.00	MS-1436 (Collar Mount)	1	44.761	49.237	1.00	1.00	2.25	180.72	0.000	0.000	110.78	0.00	0.00
24	78.00	GPS	2	42.046	46.251	1.00	1.00	2.00	24.00	0.000	0.000	92.50	0.00	0.00
25	78.00	Side Arm (L. Heavy)	2	42.046	46.251	1.00	1.00	9.00	288.00	0.000	0.000	416.26	0.00	0.00

Totals: 10,980.84

12,788.65

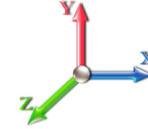
Total Applied Force Summary

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 11



Load Case: 1.2D + 1.0W 120 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 27

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
1.00		75.66	177.29	0.00	0.00
5.00		299.48	702.85	0.00	0.00
10.00		367.24	864.32	0.00	0.00
15.00		359.35	848.50	0.00	0.00
20.00		372.90	832.68	0.00	0.00
21.00		74.33	164.64	0.00	0.00
25.00		304.94	652.22	0.00	0.00
30.00		387.88	801.04	0.00	0.00
35.00		391.24	785.22	0.00	0.00
38.63		283.98	560.16	0.00	0.00
40.00		106.64	209.24	0.00	0.00
41.00		77.78	151.98	0.00	0.00
44.08		241.02	464.62	0.00	0.00
45.00		72.40	228.42	0.00	0.00
48.00		237.83	740.86	0.00	0.00
50.00		157.89	249.01	0.00	0.00
51.88		148.08	232.22	0.00	0.00
54.33		192.93	300.35	0.00	0.00
55.00		52.79	129.12	0.00	0.00
58.08		244.56	592.04	0.00	0.00
60.00		151.04	186.64	0.00	0.00
61.00		78.46	96.82	0.00	0.00
65.00		313.78	383.50	0.00	0.00
68.13		243.13	295.85	0.00	0.00
70.00		144.05	174.98	0.00	0.00
75.00		383.19	461.34	0.00	0.00
78.00	(4) attachments	735.22	584.25	0.00	0.00
80.00		149.54	179.60	0.00	0.00
81.00		74.29	89.23	0.00	0.00
85.00		295.64	353.13	0.00	0.00
90.00		363.68	417.89	0.00	0.00
95.00		356.21	385.93	0.00	0.00
99.13		288.02	311.62	0.00	0.00
99.42		19.71	21.39	0.00	0.00
100.00		40.69	76.01	0.00	0.00
102.33		161.94	301.45	0.00	0.00
105.00	(24) attachments	5542.11	4341.39	0.00	0.00
110.00		337.14	279.45	0.00	0.00
115.00		328.20	269.96	0.00	0.00
120.00		318.93	260.47	0.00	0.00
125.00		229.85	438.93	0.00	0.00
130.00		231.76	438.93	0.00	0.00
135.00		233.61	438.93	0.00	0.00
136.00	(45) attachments	6967.49	6612.19	0.00	0.00
140.00		188.32	339.14	0.00	0.00

Total Applied Force Summary

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 12



Totals:	22,624.89	27,425.80	0.00	0.00
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Linear Appurtenance Segment Forces (Factored)

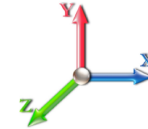
Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0W 120 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1" Reinforcing plate	Yes	4.00	0.000	0.00	0.00	0.00	0.066	0.000	29.755	0.00	0.00
5.00	1.25" Reinforcing	Yes	4.00	0.000	2.50	0.83	0.00	0.066	0.000	29.755	0.00	0.00
10.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.068	0.000	29.755	0.00	0.00
10.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.068	0.000	29.755	0.00	0.00
15.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.069	0.000	29.755	0.00	0.00
15.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.069	0.000	29.755	0.00	0.00
20.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.071	0.000	31.571	0.00	0.00
20.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.071	0.000	31.571	0.00	0.00
21.00	1" Reinforcing plate	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	31.897	0.00	0.00
21.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.072	0.000	31.897	0.00	0.00
25.00	1" Reinforcing plate	Yes	4.00	0.000	0.00	0.00	0.00	0.073	0.000	33.090	0.00	0.00
25.00	1.25" Reinforcing	Yes	4.00	0.000	2.50	0.83	0.00	0.073	0.000	33.090	0.00	0.00
30.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.074	0.000	34.384	0.00	0.00
30.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.074	0.000	34.384	0.00	0.00
35.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.076	0.000	35.519	0.00	0.00
35.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.076	0.000	35.519	0.00	0.00
38.63	1" Reinforcing plate	Yes	3.63	0.000	0.00	0.00	0.00	0.078	0.000	36.264	0.00	0.00
38.63	1.25" Reinforcing	Yes	3.63	0.000	2.50	0.76	0.00	0.078	0.000	36.264	0.00	0.00
40.00	1" Reinforcing plate	Yes	1.37	0.000	0.00	0.00	0.00	0.079	0.000	36.531	0.00	0.00
40.00	1.25" Reinforcing	Yes	1.37	0.000	2.50	0.29	0.00	0.079	0.000	36.531	0.00	0.00
41.00	1" Reinforcing plate	Yes	1.00	0.000	0.00	0.00	0.00	0.079	0.000	36.722	0.00	0.00
41.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.079	0.000	36.722	0.00	0.00
44.08	1.25" Reinforcing	Yes	3.08	0.000	1.25	0.32	0.00	0.040	0.000	37.287	0.00	0.00
45.00	1.25" Reinforcing	Yes	0.92	0.000	1.25	0.10	0.00	0.040	0.000	37.449	0.00	0.00
48.00	1.25" Reinforcing	Yes	3.00	0.000	1.25	0.31	0.00	0.041	0.000	37.961	0.00	0.00
50.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.041	0.000	38.288	0.00	0.00
51.88	1" Reinforcing plate	Yes	1.88	0.000	1.00	0.16	0.00	0.074	0.000	38.587	0.00	0.00
51.88	1.25" Reinforcing	Yes	1.88	0.000	1.25	0.20	0.00	0.074	0.000	38.587	0.00	0.00
54.33	1" Reinforcing plate	Yes	2.45	0.000	1.00	0.20	0.00	0.075	0.000	38.964	0.00	0.00
54.33	1.25" Reinforcing	Yes	2.45	0.000	1.25	0.26	0.00	0.075	0.000	38.964	0.00	0.00
55.00	1" Reinforcing plate	Yes	0.67	0.000	1.00	0.06	0.00	0.075	0.000	39.064	0.00	0.00
55.00	1.25" Reinforcing	Yes	0.67	0.000	1.25	0.07	0.00	0.075	0.000	39.064	0.00	0.00
58.08	1" Reinforcing plate	Yes	3.08	0.000	1.00	0.26	0.00	0.076	0.000	39.516	0.00	0.00
58.08	1.25" Reinforcing	Yes	3.08	0.000	1.25	0.32	0.00	0.076	0.000	39.516	0.00	0.00
60.00	1" Reinforcing plate	Yes	1.92	0.000	1.00	0.16	0.00	0.076	0.000	39.787	0.00	0.00
60.00	1.25" Reinforcing	Yes	1.92	0.000	1.25	0.20	0.00	0.076	0.000	39.787	0.00	0.00
61.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.077	0.000	39.925	0.00	0.00
61.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.077	0.000	39.925	0.00	0.00
65.00	1" Reinforcing plate	Yes	4.00	0.000	1.00	0.33	0.00	0.069	0.000	40.463	0.00	0.00
65.00	1" Reinforcing plate	Yes	4.00	0.000	1.00	0.33	0.00	0.069	0.000	40.463	0.00	0.00
68.13	1" Reinforcing plate	Yes	3.13	0.000	1.00	0.26	0.00	0.070	0.000	40.865	0.00	0.00
68.13	1" Reinforcing plate	Yes	3.13	0.000	1.00	0.26	0.00	0.070	0.000	40.865	0.00	0.00
70.00	1" Reinforcing plate	Yes	1.87	0.000	1.00	0.16	0.00	0.071	0.000	41.099	0.00	0.00
70.00	1" Reinforcing plate	Yes	1.87	0.000	1.00	0.16	0.00	0.071	0.000	41.099	0.00	0.00
75.00	1" Reinforcing plate	Yes	5.00	0.000	1.00	0.42	0.00	0.036	0.000	41.700	0.00	0.00
78.00	1" Reinforcing plate	Yes	3.00	0.000	1.00	0.25	0.00	0.037	0.000	42.046	0.00	0.00
80.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.038	0.000	42.271	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

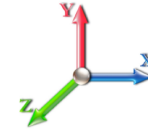
Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0W 120 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
81.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.038	0.000	42.381	0.00	0.00
85.00	1" Reinforcing plate	Yes	4.00	0.000	1.00	0.33	0.00	0.039	0.000	42.814	0.00	0.00
90.00	1" Reinforcing plate	Yes	5.00	0.000	1.00	0.42	0.00	0.040	0.000	43.332	0.00	0.00
95.00	1" Reinforcing plate	Yes	5.00	0.000	1.00	0.42	0.00	0.041	0.000	43.828	0.00	0.00
99.13	1" Reinforcing plate	Yes	4.13	0.000	1.00	0.34	0.00	0.042	0.000	44.223	0.00	0.00
99.42	1" Reinforcing plate	Yes	0.29	0.000	1.00	0.02	0.00	0.043	0.000	44.249	0.00	0.00
100.00	1" Reinforcing plate	Yes	0.58	0.000	1.00	0.05	0.00	0.043	0.000	44.304	0.00	0.00
102.33	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.019	0.000	44.520	0.00	0.00
Totals:											0.0	0.0

Calculated Forces

Structure: CT46128-A-SBA
Site Name: Milford - West
Height: 140.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: TIA-222-H
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

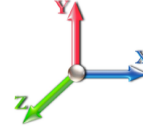
4/4/2023
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Load Case: 1.2D + 1.0W 120 mph Wind

Iterations 27

Dead Load Factor 1.20
Wind Load 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	-27.41	-22.64	0.00	-2339.1	0.00	2339.11	2594.99	647.31	1997.22	1984.50	0.00	0.000	0.000	0.760
1.00	-27.19	-22.62	0.00	-2316.4	0.00	2316.47	2587.52	644.59	1980.48	1970.40	0.01	-0.065	0.000	0.756
5.00	-26.39	-22.44	0.00	-2225.9	0.00	2225.97	2557.32	633.72	1914.19	1914.27	0.14	-0.249	0.000	0.703
10.00	-25.41	-22.20	0.00	-2113.7	0.00	2113.79	2518.93	620.12	1832.92	1844.73	0.56	-0.555	0.000	0.687
15.00	-24.45	-21.96	0.00	-2002.8	0.00	2002.80	2479.82	606.52	1753.41	1775.91	1.31	-0.862	0.000	0.669
20.00	-23.55	-21.65	0.00	-1893.0	0.00	1893.00	2439.98	592.92	1675.66	1707.85	2.38	-1.169	0.000	0.651
21.00	-23.34	-21.62	0.00	-1871.3	0.00	1871.35	2431.93	590.20	1660.32	1694.34	2.63	-1.232	0.000	0.648
25.00	-22.61	-21.40	0.00	-1784.8	0.00	1784.87	2399.42	579.32	1599.68	1640.59	3.73	-1.408	0.000	0.633
30.00	-21.70	-21.10	0.00	-1677.8	0.00	1677.89	2358.14	565.72	1525.46	1574.17	5.37	-1.715	0.000	0.613
35.00	-20.84	-20.78	0.00	-1572.3	0.00	1572.38	2316.13	552.12	1453.00	1508.60	7.33	-2.021	0.000	0.593
38.63	-20.23	-20.53	0.00	-1496.9	0.00	1496.94	2285.18	542.25	1401.50	1461.57	8.95	-2.244	0.000	0.577
40.00	-20.00	-20.45	0.00	-1468.8	0.00	1468.82	2273.40	538.52	1382.30	1443.94	9.61	-2.329	0.000	0.707
41.00	-19.81	-20.41	0.00	-1448.3	0.00	1448.37	2264.77	535.80	1368.38	1431.12	10.11	-2.406	0.000	0.702
44.08	-19.31	-20.19	0.00	-1385.4	0.00	1385.46	2232.73	527.42	1325.88	1388.57	11.72	-2.584	0.000	0.688
45.00	-19.03	-20.15	0.00	-1366.9	0.00	1366.95	2222.17	524.92	1313.37	1375.41	12.22	-2.654	0.000	0.678
48.00	-18.24	-19.94	0.00	-1306.5	0.00	1306.50	1679.75	421.24	1057.24	1045.08	13.96	-2.878	0.000	0.718
50.00	-17.94	-19.82	0.00	-1266.6	0.00	1266.62	1667.94	416.89	1035.51	1026.92	15.20	-3.028	0.000	0.786
51.88	-17.67	-19.70	0.00	-1229.3	0.00	1229.37	1656.73	412.80	1015.29	1009.93	16.42	-3.185	0.000	0.772
54.33	-17.35	-19.52	0.00	-1181.0	0.00	1181.03	1641.95	407.46	989.20	987.87	18.09	-3.329	0.000	0.538
55.00	-17.19	-19.49	0.00	-1168.0	0.00	1168.02	1637.90	406.01	982.17	981.90	18.56	-3.369	0.000	0.527
58.08	-16.56	-19.25	0.00	-1107.9	0.00	1107.92	1101.62	304.05	734.39	660.80	20.79	-3.545	0.000	0.578
60.00	-16.36	-19.12	0.00	-1071.0	0.00	1071.01	1095.40	300.92	719.36	650.26	22.24	-3.653	0.000	0.622
61.00	-16.22	-19.07	0.00	-1051.9	0.00	1051.90	1092.11	299.29	711.58	644.77	23.01	-3.716	0.000	0.614
65.00	-15.80	-18.78	0.00	-975.63	0.00	975.63	1078.67	292.76	680.88	622.86	26.20	-3.911	0.000	0.622
68.13	-15.47	-18.56	0.00	-916.83	0.00	916.83	1067.83	287.65	657.33	605.77	28.83	-4.110	0.000	0.594
70.00	-15.21	-18.49	0.00	-882.12	0.00	882.12	1061.22	284.60	643.45	595.59	30.46	-4.227	0.000	0.892
75.00	-14.66	-18.16	0.00	-789.69	0.00	789.69	1043.04	276.44	607.09	568.49	35.14	-4.692	0.000	0.826
78.00	-14.07	-17.44	0.00	-735.21	0.00	735.21	1031.79	271.55	585.78	552.33	38.17	-4.966	0.000	0.785
80.00	-13.87	-17.30	0.00	-700.34	0.00	700.34	1024.15	268.28	571.78	541.60	40.28	-5.146	0.000	0.758
81.00	-13.74	-17.26	0.00	-683.04	0.00	683.04	1020.28	266.65	564.84	536.25	41.37	-5.235	0.000	0.745
85.00	-13.32	-17.01	0.00	-613.99	0.00	613.99	1004.52	260.12	537.53	514.95	45.85	-5.474	0.000	0.689
90.00	-12.82	-16.69	0.00	-528.95	0.00	528.95	984.18	251.96	504.33	488.58	51.79	-5.872	0.000	0.617
95.00	-12.39	-16.37	0.00	-445.49	0.00	445.49	963.11	243.80	472.20	462.52	58.13	-6.240	0.000	0.540
99.13	-12.07	-16.08	0.00	-377.90	0.00	377.90	945.17	237.06	446.45	441.25	63.64	-6.518	0.000	0.475
99.13	-12.07	-16.08	0.00	-377.90	0.00	377.90	945.17	237.06	446.45	441.25	63.64	-6.518	0.000	0.837
99.42	-12.04	-16.06	0.00	-373.29	0.00	373.29	943.90	236.60	444.69	439.78	64.03	-6.537	0.000	0.866
100.00	-11.92	-16.05	0.00	-363.92	0.00	363.92	941.32	235.64	441.12	436.80	64.83	-6.607	0.000	0.850
102.33	-11.56	-15.91	0.00	-326.47	0.00	326.47	941.62	235.75	441.53	437.14	68.12	-6.873	0.000	0.764
105.00	-7.87	-9.93	0.00	-284.05	0.00	284.05	929.71	231.40	425.38	423.58	72.03	-7.154	0.000	0.681
110.00	-7.56	-9.62	0.00	-234.40	0.00	234.40	906.82	223.24	395.91	398.46	79.75	-7.605	0.000	0.598
115.00	-7.28	-9.30	0.00	-186.32	0.00	186.32	883.20	215.08	367.50	373.78	87.91	-8.013	0.000	0.509
120.00	-7.01	-8.99	0.00	-139.81	0.00	139.81	858.87	206.92	340.14	349.57	96.47	-8.366	0.000	0.410
120.00	-7.01	-8.99	0.00	-139.81	0.00	139.81	784.88	235.46	25322.4	367.00	96.47	-8.366	0.000	0.391
125.00	-6.58	-8.72	0.00	-94.86	0.00	94.86	784.88	235.46	25322.4	367.00	105.36	-8.651	0.000	0.268
130.00	-6.17	-8.43	0.00	-51.26	0.00	51.26	784.88	235.46	25322.4	367.00	114.46	-8.780	0.000	0.149
135.00	-5.77	-8.14	0.00	-9.09	0.00	9.09	784.88	235.46	25322.4	367.00	123.66	-8.833	0.000	0.033
136.00	-0.31	-0.24	0.00	-0.95	0.00	0.95	784.88	235.46	25322.4	367.00	125.50	-8.835	0.000	0.003
140.00	0.00	-0.19	0.00	0.00	0.00	0.00	784.88	235.46	25322.4	367.00	132.87	-8.836	0.000	0.000

Calculated Forces

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 16



Wind Loading - Shaft

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

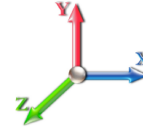


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Load Case: 0.9D + 1.0W 120 mph Wind

Iterations 27

Dead Load Factor 0.90
Wind Load Factor 1.00



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	RB1 RB2	1.00	0.85	29.755	32.73	350.99	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00	RT1 RT2 RB3 RB4	1.00	0.85	29.755	32.73	349.53	0.730	0.000	1.00	3.167	2.31	75.7	0.0	112.7
5.00		1.00	0.85	29.755	32.73	343.68	0.730	0.000	4.00	12.534	9.15	299.5	0.0	446.1
10.00		1.00	0.85	29.755	32.73	336.37	0.730	0.000	5.00	15.370	11.22	367.2	0.0	547.0
15.00		1.00	0.85	29.755	32.73	329.05	0.730	0.000	5.00	15.040	10.98	359.3	0.0	535.1
20.00		1.00	0.90	31.571	34.73	331.42	0.730	0.000	5.00	14.709	10.74	372.9	0.0	523.3
21.00	RT3 RT4 RB5 RB6	1.00	0.91	31.897	35.09	331.61	0.730	0.000	1.00	2.902	2.12	74.3	0.0	103.2
25.00		1.00	0.95	33.090	36.40	331.58	0.730	0.000	4.00	11.476	8.38	304.9	0.0	408.2
30.00		1.00	0.98	34.384	37.82	330.15	0.730	0.000	5.00	14.048	10.26	387.9	0.0	499.5
35.00		1.00	1.01	35.519	39.07	327.56	0.730	0.000	5.00	13.718	10.01	391.2	0.0	487.7
38.63	RT5	1.00	1.04	36.264	39.89	325.12	0.730	0.000	3.63	9.752	7.12	284.0	0.0	346.6
40.00		1.00	1.04	36.531	40.18	324.09	0.730	0.000	1.37	3.635	2.65	106.6	0.0	129.2
41.00	RT6 RB7	1.00	1.05	36.722	40.39	323.31	0.730	0.000	1.00	2.638	1.93	77.8	0.0	93.7
44.08	Bot - Section 2	1.00	1.07	37.287	41.02	320.74	0.730	0.000	3.08	8.050	5.88	241.0	0.0	286.0
45.00		1.00	1.07	37.449	41.19	319.93	0.730	0.000	0.92	2.408	1.76	72.4	0.0	152.8
48.00	Top - Section 1	1.00	1.08	37.961	41.76	317.16	0.730	0.000	3.00	7.802	5.70	237.8	0.0	494.9
50.00		1.00	1.09	38.288	42.12	320.51	0.730	0.000	2.00	5.135	3.75	157.9	0.0	146.3
51.88	RB8	1.00	1.10	38.587	42.45	318.63	0.730	0.000	1.88	4.779	3.49	148.1	0.0	136.1
54.33	Bot - Section 3	1.00	1.11	38.964	42.86	316.08	0.730	0.000	2.45	6.166	4.50	192.9	0.0	175.6
55.00		1.00	1.12	39.064	42.97	315.37	0.730	0.000	0.67	1.683	1.23	52.8	0.0	83.3
58.08	Top - Section 2	1.00	1.13	39.516	43.47	311.99	0.730	0.000	3.08	7.707	5.63	244.6	0.0	381.6
60.00		1.00	1.14	39.787	43.77	313.87	0.730	0.000	1.92	4.728	3.45	151.0	0.0	101.2
61.00	RT7 RB9	1.00	1.14	39.925	43.92	312.72	0.730	0.000	1.00	2.447	1.79	78.5	0.0	52.4
65.00		1.00	1.16	40.463	44.51	308.00	0.730	0.000	4.00	9.657	7.05	313.8	0.0	206.6
68.13	RT8	1.00	1.17	40.865	44.95	304.16	0.730	0.000	3.13	7.409	5.41	243.1	0.0	158.5
70.00		1.00	1.17	41.099	45.21	301.82	0.730	0.000	1.87	4.365	3.19	144.0	0.0	93.4
75.00		1.00	1.19	41.700	45.87	295.36	0.730	0.000	5.00	11.443	8.35	383.2	0.0	244.8
78.00	Appurtenance(s)	1.00	1.20	42.046	46.25	291.37	0.730	0.000	3.00	6.707	4.90	226.5	0.0	143.4
80.00		1.00	1.21	42.271	46.50	288.66	0.730	0.000	2.00	4.405	3.22	149.5	0.0	94.2
81.00	RT9 RB10	1.00	1.21	42.381	46.62	287.29	0.730	0.000	1.00	2.183	1.59	74.3	0.0	46.7
85.00		1.00	1.22	42.814	47.10	281.74	0.730	0.000	4.00	8.599	6.28	295.6	0.0	183.8
90.00		1.00	1.24	43.332	47.67	274.61	0.730	0.000	5.00	10.452	7.63	363.7	0.0	223.4
95.00		1.00	1.25	43.828	48.21	267.30	0.730	0.000	5.00	10.121	7.39	356.2	0.0	216.3
99.13	RT10	1.00	1.26	44.223	48.64	261.14	0.730	0.000	4.13	8.111	5.92	288.0	0.0	173.3
99.42	Bot - Section 4	1.00	1.26	44.249	48.67	260.71	0.730	0.000	0.29	0.555	0.40	19.7	0.0	11.8
100.00		1.00	1.27	44.304	48.73	259.83	0.730	0.000	0.58	1.144	0.83	40.7	0.0	48.5
102.33	Top - Section 3	1.00	1.27	44.520	48.97	256.29	0.730	0.000	2.33	4.530	3.31	161.9	0.0	191.9
105.00	Appurtenance(s)	1.00	1.28	44.761	49.24	256.50	0.730	0.000	2.67	5.089	3.71	182.9	0.0	108.7
110.00		1.00	1.29	45.202	49.72	248.75	0.730	0.000	5.00	9.288	6.78	337.1	0.0	198.3
115.00		1.00	1.30	45.627	50.19	240.86	0.730	0.000	5.00	8.958	6.54	328.2	0.0	191.2
120.00	Top - Section 4	1.00	1.32	46.038	50.64	232.85	0.730	0.000	5.00	8.627	6.30	318.9	0.0	184.1
125.00		1.00	1.33	46.435	51.08	207.27	0.600	0.000	5.00	7.500	4.50	229.9	0.0	317.9
130.00		1.00	1.34	46.820	51.50	208.13	0.600	0.000	5.00	7.500	4.50	231.8	0.0	317.9
135.00		1.00	1.35	47.193	51.91	208.95	0.600	0.000	5.00	7.500	4.50	233.6	0.0	317.9
136.00	Appurtenance(s)	1.00	1.35	47.267	51.99	209.12	0.600	0.000	1.00	1.500	0.90	46.8	0.0	63.6
140.00		1.00	1.36	47.556	52.31	209.76	0.600	0.000	4.00	6.000	3.60	188.3	0.0	254.4

Wind Loading - Shaft

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 18



Totals:	140.00	9,836.2	10,233.2
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Discrete Appurtenance Forces

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

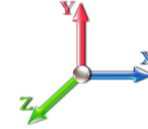


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Load Case: 0.9D + 1.0W 120 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 27

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor	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	136.00	4478 B14	5	47.267	51.993	0.40	0.80	3.68	270.00	0.000	0.000	191.34	0.00	0.00	
2	136.00	TPA-45R-KU8AA-K	2	47.267	51.993	0.65	0.80	18.79	144.00	0.000	0.000	977.06	0.00	0.00	
3	136.00	DMP65R-BU8D	2	47.267	51.993	0.58	0.80	20.87	172.80	0.000	0.000	1085.22	0.00	0.00	
4	136.00	AIR 6449 N77	3	47.267	51.993	0.68	0.80	8.43	221.40	0.000	0.000	438.06	0.00	0.00	
5	136.00	Ericsson AIR6419 N77G	3	47.267	51.993	0.68	0.80	8.43	178.20	0.000	0.000	438.06	0.00	0.00	
6	136.00	4415 B30	5	47.267	51.993	0.40	0.80	3.72	207.00	0.000	0.000	193.42	0.00	0.00	
7	136.00	TPA65R-BU8D	2	47.267	51.993	0.58	0.80	20.59	156.78	0.000	0.000	1070.35	0.00	0.00	
8	136.00	4449 B71 + B85	4	47.267	51.993	0.40	0.80	3.15	255.60	0.000	0.000	163.88	0.00	0.00	
9	136.00	RRUS 8843 B2 B66A	4	47.267	51.993	0.40	0.80	2.62	259.20	0.000	0.000	136.43	0.00	0.00	
10	136.00	DC9-48-60-24-8C-EV	4	47.267	51.993	0.40	0.80	1.82	94.32	0.000	0.000	94.84	0.00	0.00	
11	136.00	VFA12-WLL-30120	3	47.267	51.993	0.56	0.75	30.04	2295.00	0.000	0.000	1561.75	0.00	0.00	
12	136.00	Collar Mount	2	47.267	51.993	0.56	0.75	2.53	396.00	0.000	0.000	131.61	0.00	0.00	
13	136.00	Standoff	6	47.267	51.993	0.56	0.75	8.44	243.00	0.000	0.000	438.69	0.00	0.00	
14	105.00	AIR B2A/ B4P	3	44.761	49.237	0.65	0.75	11.78	247.05	0.000	0.000	580.22	0.00	0.00	
15	105.00	4449 B71 + B95	3	44.761	49.237	0.38	0.75	1.86	199.80	0.000	0.000	91.40	0.00	0.00	
16	105.00	AIR32	3	44.761	49.237	0.65	0.75	12.74	356.94	0.000	0.000	627.45	0.00	0.00	
17	105.00	AIR6449 B41	3	44.761	49.237	0.53	0.75	9.03	278.10	0.000	0.000	444.41	0.00	0.00	
18	105.00	Platform w/ Hand Rail	1	44.761	49.237	1.00	1.00	32.00	1260.00	0.000	0.000	1575.60	0.00	0.00	
19	105.00	MS-KI22-5 (Kickers w/o	1	44.761	49.237	1.00	1.00	5.00	131.40	0.000	0.000	246.19	0.00	0.00	
20	105.00	KRY 112 144/1	3	44.761	49.237	0.38	0.75	0.46	29.70	0.000	0.000	22.71	0.00	0.00	
21	105.00	APXVAARR24_43-U-NA2	3	44.761	49.237	0.52	0.75	31.88	345.60	0.000	0.000	1569.59	0.00	0.00	
22	105.00	RRUS 4415 B25	3	44.761	49.237	0.38	0.75	1.84	124.20	0.000	0.000	90.84	0.00	0.00	
23	105.00	MS-1436 (Collar Mount)	1	44.761	49.237	1.00	1.00	2.25	135.54	0.000	0.000	110.78	0.00	0.00	
24	78.00	GPS	2	42.046	46.251	1.00	1.00	2.00	18.00	0.000	0.000	92.50	0.00	0.00	
25	78.00	Side Arm (L. Heavy)	2	42.046	46.251	1.00	1.00	9.00	216.00	0.000	0.000	416.26	0.00	0.00	

Totals: 8,235.63

12,788.65

Total Applied Force Summary

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

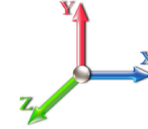


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Load Case: 0.9D + 1.0W 120 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 27

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
1.00		75.66	132.97	0.00	0.00
5.00		299.48	527.13	0.00	0.00
10.00		367.24	648.24	0.00	0.00
15.00		359.35	636.37	0.00	0.00
20.00		372.90	624.51	0.00	0.00
21.00		74.33	123.48	0.00	0.00
25.00		304.94	489.17	0.00	0.00
30.00		387.88	600.78	0.00	0.00
35.00		391.24	588.91	0.00	0.00
38.63		283.98	420.12	0.00	0.00
40.00		106.64	156.93	0.00	0.00
41.00		77.78	113.99	0.00	0.00
44.08		241.02	348.47	0.00	0.00
45.00		72.40	171.31	0.00	0.00
48.00		237.83	555.65	0.00	0.00
50.00		157.89	186.76	0.00	0.00
51.88		148.08	174.17	0.00	0.00
54.33		192.93	225.26	0.00	0.00
55.00		52.79	96.84	0.00	0.00
58.08		244.56	444.03	0.00	0.00
60.00		151.04	139.98	0.00	0.00
61.00		78.46	72.62	0.00	0.00
65.00		313.78	287.63	0.00	0.00
68.13		243.13	221.89	0.00	0.00
70.00		144.05	131.24	0.00	0.00
75.00		383.19	346.01	0.00	0.00
78.00	(4) attachments	735.22	438.19	0.00	0.00
80.00		149.54	134.70	0.00	0.00
81.00		74.29	66.92	0.00	0.00
85.00		295.64	264.85	0.00	0.00
90.00		363.68	313.42	0.00	0.00
95.00		356.21	289.45	0.00	0.00
99.13		288.02	233.72	0.00	0.00
99.42		19.71	16.04	0.00	0.00
100.00		40.69	57.01	0.00	0.00
102.33		161.94	226.08	0.00	0.00
105.00	(24) attachments	5542.11	3256.05	0.00	0.00
110.00		337.14	209.59	0.00	0.00
115.00		328.20	202.47	0.00	0.00
120.00		318.93	195.35	0.00	0.00
125.00		229.85	329.20	0.00	0.00
130.00		231.76	329.20	0.00	0.00
135.00		233.61	329.20	0.00	0.00
136.00	(45) attachments	6967.49	4959.14	0.00	0.00
140.00		188.32	254.36	0.00	0.00

Total Applied Force Summary

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
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Totals:	22,624.89	20,569.35	0.00	0.00
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Linear Appurtenance Segment Forces (Factored)

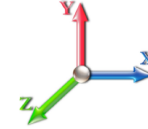
Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0W 120 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.00



Iterations 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1" Reinforcing plate	Yes	4.00	0.000	0.00	0.00	0.00	0.066	0.000	29.755	0.00	0.00
5.00	1.25" Reinforcing	Yes	4.00	0.000	2.50	0.83	0.00	0.066	0.000	29.755	0.00	0.00
10.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.068	0.000	29.755	0.00	0.00
10.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.068	0.000	29.755	0.00	0.00
15.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.069	0.000	29.755	0.00	0.00
15.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.069	0.000	29.755	0.00	0.00
20.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.071	0.000	31.571	0.00	0.00
20.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.071	0.000	31.571	0.00	0.00
21.00	1" Reinforcing plate	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	31.897	0.00	0.00
21.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.072	0.000	31.897	0.00	0.00
25.00	1" Reinforcing plate	Yes	4.00	0.000	0.00	0.00	0.00	0.073	0.000	33.090	0.00	0.00
25.00	1.25" Reinforcing	Yes	4.00	0.000	2.50	0.83	0.00	0.073	0.000	33.090	0.00	0.00
30.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.074	0.000	34.384	0.00	0.00
30.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.074	0.000	34.384	0.00	0.00
35.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.076	0.000	35.519	0.00	0.00
35.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.076	0.000	35.519	0.00	0.00
38.63	1" Reinforcing plate	Yes	3.63	0.000	0.00	0.00	0.00	0.078	0.000	36.264	0.00	0.00
38.63	1.25" Reinforcing	Yes	3.63	0.000	2.50	0.76	0.00	0.078	0.000	36.264	0.00	0.00
40.00	1" Reinforcing plate	Yes	1.37	0.000	0.00	0.00	0.00	0.079	0.000	36.531	0.00	0.00
40.00	1.25" Reinforcing	Yes	1.37	0.000	2.50	0.29	0.00	0.079	0.000	36.531	0.00	0.00
41.00	1" Reinforcing plate	Yes	1.00	0.000	0.00	0.00	0.00	0.079	0.000	36.722	0.00	0.00
41.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.079	0.000	36.722	0.00	0.00
44.08	1.25" Reinforcing	Yes	3.08	0.000	1.25	0.32	0.00	0.040	0.000	37.287	0.00	0.00
45.00	1.25" Reinforcing	Yes	0.92	0.000	1.25	0.10	0.00	0.040	0.000	37.449	0.00	0.00
48.00	1.25" Reinforcing	Yes	3.00	0.000	1.25	0.31	0.00	0.041	0.000	37.961	0.00	0.00
50.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.041	0.000	38.288	0.00	0.00
51.88	1" Reinforcing plate	Yes	1.88	0.000	1.00	0.16	0.00	0.074	0.000	38.587	0.00	0.00
51.88	1.25" Reinforcing	Yes	1.88	0.000	1.25	0.20	0.00	0.074	0.000	38.587	0.00	0.00
54.33	1" Reinforcing plate	Yes	2.45	0.000	1.00	0.20	0.00	0.075	0.000	38.964	0.00	0.00
54.33	1.25" Reinforcing	Yes	2.45	0.000	1.25	0.26	0.00	0.075	0.000	38.964	0.00	0.00
55.00	1" Reinforcing plate	Yes	0.67	0.000	1.00	0.06	0.00	0.075	0.000	39.064	0.00	0.00
55.00	1.25" Reinforcing	Yes	0.67	0.000	1.25	0.07	0.00	0.075	0.000	39.064	0.00	0.00
58.08	1" Reinforcing plate	Yes	3.08	0.000	1.00	0.26	0.00	0.076	0.000	39.516	0.00	0.00
58.08	1.25" Reinforcing	Yes	3.08	0.000	1.25	0.32	0.00	0.076	0.000	39.516	0.00	0.00
60.00	1" Reinforcing plate	Yes	1.92	0.000	1.00	0.16	0.00	0.076	0.000	39.787	0.00	0.00
60.00	1.25" Reinforcing	Yes	1.92	0.000	1.25	0.20	0.00	0.076	0.000	39.787	0.00	0.00
61.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.077	0.000	39.925	0.00	0.00
61.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.077	0.000	39.925	0.00	0.00
65.00	1" Reinforcing plate	Yes	4.00	0.000	1.00	0.33	0.00	0.069	0.000	40.463	0.00	0.00
65.00	1" Reinforcing plate	Yes	4.00	0.000	1.00	0.33	0.00	0.069	0.000	40.463	0.00	0.00
68.13	1" Reinforcing plate	Yes	3.13	0.000	1.00	0.26	0.00	0.070	0.000	40.865	0.00	0.00
68.13	1" Reinforcing plate	Yes	3.13	0.000	1.00	0.26	0.00	0.070	0.000	40.865	0.00	0.00
70.00	1" Reinforcing plate	Yes	1.87	0.000	1.00	0.16	0.00	0.071	0.000	41.099	0.00	0.00
70.00	1" Reinforcing plate	Yes	1.87	0.000	1.00	0.16	0.00	0.071	0.000	41.099	0.00	0.00
75.00	1" Reinforcing plate	Yes	5.00	0.000	1.00	0.42	0.00	0.036	0.000	41.700	0.00	0.00
78.00	1" Reinforcing plate	Yes	3.00	0.000	1.00	0.25	0.00	0.037	0.000	42.046	0.00	0.00
80.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.038	0.000	42.271	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

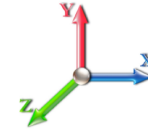
Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0W 120 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.00



Iterations 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
81.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.038	0.000	42.381	0.00	0.00
85.00	1" Reinforcing plate	Yes	4.00	0.000	1.00	0.33	0.00	0.039	0.000	42.814	0.00	0.00
90.00	1" Reinforcing plate	Yes	5.00	0.000	1.00	0.42	0.00	0.040	0.000	43.332	0.00	0.00
95.00	1" Reinforcing plate	Yes	5.00	0.000	1.00	0.42	0.00	0.041	0.000	43.828	0.00	0.00
99.13	1" Reinforcing plate	Yes	4.13	0.000	1.00	0.34	0.00	0.042	0.000	44.223	0.00	0.00
99.42	1" Reinforcing plate	Yes	0.29	0.000	1.00	0.02	0.00	0.043	0.000	44.249	0.00	0.00
100.00	1" Reinforcing plate	Yes	0.58	0.000	1.00	0.05	0.00	0.043	0.000	44.304	0.00	0.00
102.33	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.019	0.000	44.520	0.00	0.00
Totals:											0.0	0.0

Calculated Forces

Structure: CT46128-A-SBA
Site Name: Milford - West
Height: 140.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: TIA-222-H
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

4/4/2023
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Load Case: 0.9D + 1.0W 120 mph Wind

Iterations 27

Dead Load Factor 0.90
Wind Load 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	-20.56	-22.64	0.00	-2302.3	0.00	2302.36	2594.99	647.31	1997.22	1984.50	0.00	0.000	0.000	0.746
1.00	-20.37	-22.60	0.00	-2279.7	0.00	2279.72	2587.52	644.59	1980.48	1970.40	0.01	-0.064	0.000	0.742
5.00	-19.75	-22.39	0.00	-2189.3	0.00	2189.30	2557.32	633.72	1914.19	1914.27	0.14	-0.245	0.000	0.691
10.00	-18.99	-22.12	0.00	-2077.3	0.00	2077.37	2518.93	620.12	1832.92	1844.73	0.56	-0.546	0.000	0.674
15.00	-18.25	-21.84	0.00	-1966.7	0.00	1966.79	2479.82	606.52	1753.41	1775.91	1.29	-0.847	0.000	0.656
20.00	-17.56	-21.52	0.00	-1857.5	0.00	1857.57	2439.98	592.92	1675.66	1707.85	2.34	-1.149	0.000	0.638
21.00	-17.39	-21.48	0.00	-1836.0	0.00	1836.05	2431.93	590.20	1660.32	1694.34	2.58	-1.210	0.000	0.634
25.00	-16.82	-21.23	0.00	-1750.1	0.00	1750.15	2399.42	579.32	1599.68	1640.59	3.67	-1.383	0.000	0.619
30.00	-16.12	-20.91	0.00	-1644.0	0.00	1644.00	2358.14	565.72	1525.46	1574.17	5.28	-1.684	0.000	0.599
35.00	-15.46	-20.57	0.00	-1539.4	0.00	1539.45	2316.13	552.12	1453.00	1508.60	7.20	-1.984	0.000	0.579
38.63	-14.99	-20.31	0.00	-1464.7	0.00	1464.78	2285.18	542.25	1401.50	1461.57	8.79	-2.202	0.000	0.564
40.00	-14.81	-20.22	0.00	-1436.9	0.00	1436.96	2273.40	538.52	1382.30	1443.94	9.44	-2.285	0.000	0.690
41.00	-14.66	-20.17	0.00	-1416.7	0.00	1416.74	2264.77	535.80	1368.38	1431.12	9.93	-2.361	0.000	0.685
44.08	-14.28	-19.94	0.00	-1354.5	0.00	1354.56	2232.73	527.42	1325.88	1388.57	11.51	-2.535	0.000	0.672
45.00	-14.06	-19.90	0.00	-1336.2	0.00	1336.28	2222.17	524.92	1313.37	1375.41	12.00	-2.603	0.000	0.661
48.00	-13.45	-19.68	0.00	-1276.5	0.00	1276.58	1679.75	421.24	1057.24	1045.08	13.71	-2.823	0.000	0.700
50.00	-13.22	-19.54	0.00	-1237.2	0.00	1237.23	1667.94	416.89	1035.51	1026.92	14.92	-2.969	0.000	0.766
51.88	-13.01	-19.42	0.00	-1200.4	0.00	1200.48	1656.73	412.80	1015.29	1009.93	16.12	-3.122	0.000	0.753
54.33	-12.76	-19.24	0.00	-1152.8	0.00	1152.84	1641.95	407.46	989.20	987.87	17.76	-3.263	0.000	0.524
55.00	-12.64	-19.20	0.00	-1140.0	0.00	1140.02	1637.90	406.01	982.17	981.90	18.22	-3.301	0.000	0.514
58.08	-12.16	-18.96	0.00	-1080.8	0.00	1080.81	1101.62	304.05	734.39	660.80	20.40	-3.473	0.000	0.563
60.00	-12.00	-18.82	0.00	-1044.4	0.00	1044.47	1095.40	300.92	719.36	650.26	21.82	-3.579	0.000	0.605
61.00	-11.89	-18.76	0.00	-1025.6	0.00	1025.66	1092.11	299.29	711.58	644.77	22.57	-3.640	0.000	0.597
65.00	-11.57	-18.47	0.00	-950.61	0.00	950.61	1078.67	292.76	680.88	622.86	25.70	-3.830	0.000	0.604
68.13	-11.31	-18.24	0.00	-892.81	0.00	892.81	1067.83	287.65	657.33	605.77	28.28	-4.024	0.000	0.577
70.00	-11.10	-18.14	0.00	-858.70	0.00	858.70	1061.22	284.60	643.45	595.59	29.88	-4.138	0.000	0.866
75.00	-10.67	-17.80	0.00	-767.98	0.00	767.98	1043.04	276.44	607.09	568.49	34.45	-4.590	0.000	0.801
78.00	-10.23	-17.07	0.00	-714.57	0.00	714.57	1031.79	271.55	585.78	552.33	37.41	-4.857	0.000	0.761
80.00	-10.07	-16.94	0.00	-680.43	0.00	680.43	1024.15	268.28	571.78	541.60	39.48	-5.031	0.000	0.735
81.00	-9.97	-16.88	0.00	-663.49	0.00	663.49	1020.28	266.65	564.84	536.25	40.55	-5.118	0.000	0.722
85.00	-9.64	-16.62	0.00	-595.96	0.00	595.96	1004.52	260.12	537.53	514.95	44.93	-5.350	0.000	0.667
90.00	-9.26	-16.29	0.00	-512.87	0.00	512.87	984.18	251.96	504.33	488.58	50.73	-5.736	0.000	0.596
95.00	-8.92	-15.95	0.00	-431.44	0.00	431.44	963.11	243.80	472.20	462.52	56.92	-6.093	0.000	0.522
99.13	-8.68	-15.66	0.00	-365.57	0.00	365.57	945.17	237.06	446.45	441.25	62.30	-6.362	0.000	0.458
99.13	-8.68	-15.66	0.00	-365.57	0.00	365.57	945.17	237.06	446.45	441.25	62.30	-6.362	0.000	0.808
99.42	-8.65	-15.65	0.00	-361.08	0.00	361.08	943.90	236.60	444.69	439.78	62.68	-6.381	0.000	0.835
100.00	-8.56	-15.62	0.00	-351.96	0.00	351.96	941.32	235.64	441.12	436.80	63.47	-6.448	0.000	0.819
102.33	-8.28	-15.47	0.00	-315.50	0.00	315.50	941.62	235.75	441.53	437.14	66.68	-6.705	0.000	0.735
105.00	-5.65	-9.62	0.00	-274.24	0.00	274.24	929.71	231.40	425.38	423.58	70.49	-6.977	0.000	0.655
110.00	-5.41	-9.30	0.00	-226.14	0.00	226.14	906.82	223.24	395.91	398.46	78.02	-7.412	0.000	0.575
115.00	-5.20	-8.98	0.00	-179.65	0.00	179.65	883.20	215.08	367.50	373.78	85.97	-7.805	0.000	0.488
120.00	-5.00	-8.66	0.00	-134.76	0.00	134.76	858.87	206.92	340.14	349.57	94.31	-8.146	0.000	0.393
120.00	-5.00	-8.66	0.00	-134.76	0.00	134.76	784.88	235.46	25322.4	367.00	94.31	-8.146	0.000	0.375
125.00	-4.68	-8.40	0.00	-91.44	0.00	91.44	784.88	235.46	25322.4	367.00	102.96	-8.421	0.000	0.256
130.00	-4.38	-8.13	0.00	-49.42	0.00	49.42	784.88	235.46	25322.4	367.00	111.82	-8.545	0.000	0.141
135.00	-4.09	-7.85	0.00	-8.75	0.00	8.75	784.88	235.46	25322.4	367.00	120.77	-8.596	0.000	0.030
136.00	-0.22	-0.22	0.00	-0.90	0.00	0.90	784.88	235.46	25322.4	367.00	122.57	-8.598	0.000	0.003
140.00	0.00	-0.19	0.00	0.00	0.00	0.00	784.88	235.46	25322.4	367.00	129.74	-8.599	0.000	0.000

Calculated Forces

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 25



Wind Loading - Shaft

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

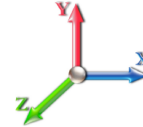


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Load Case: 1.2D + 1.0Di + 1.0Wi 0 mph Wind

Iterations 6

Dead Load Factor 1.20
Wind Load Factor 1.00



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	RB1 RB2	1.00	0.85	0.000	0.00	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00	RT1 RT2 RB3 RB4	1.00	0.85	0.000	0.00	0.00	1.200	0.705	1.00	3.284	3.94	0.0	33.3	183.6
5.00		1.00	0.85	0.000	0.00	0.00	1.200	0.828	4.00	13.086	15.70	0.0	154.2	749.1
10.00		1.00	0.85	0.000	0.00	0.00	1.200	0.887	5.00	16.110	19.33	0.0	202.6	932.0
15.00		1.00	0.85	0.000	0.00	0.00	1.200	0.924	5.00	15.810	18.97	0.0	206.8	920.3
20.00		1.00	0.90	0.000	0.00	0.00	1.200	0.951	5.00	15.502	18.60	0.0	208.3	906.0
21.00	RT3 RT4 RB5 RB6	1.00	0.91	0.000	0.00	0.00	1.200	0.956	1.00	3.061	3.67	0.0	41.7	179.3
25.00		1.00	0.95	0.000	0.00	0.00	1.200	0.973	4.00	12.125	14.55	0.0	166.8	711.0
30.00		1.00	0.98	0.000	0.00	0.00	1.200	0.991	5.00	14.873	17.85	0.0	207.6	873.6
35.00		1.00	1.01	0.000	0.00	0.00	1.200	1.006	5.00	14.556	17.47	0.0	206.0	856.3
38.63	RT5	1.00	1.04	0.000	0.00	0.00	1.200	1.016	3.63	10.366	12.44	0.0	148.5	610.7
40.00		1.00	1.04	0.000	0.00	0.00	1.200	1.019	1.37	3.868	4.64	0.0	55.9	228.1
41.00	RT6 RB7	1.00	1.05	0.000	0.00	0.00	1.200	1.022	1.00	2.808	3.37	0.0	40.7	165.7
44.08	Bot - Section 2	1.00	1.07	0.000	0.00	0.00	1.200	1.029	3.08	8.579	10.29	0.0	124.5	505.9
45.00		1.00	1.07	0.000	0.00	0.00	1.200	1.032	0.92	2.565	3.08	0.0	37.5	241.2
48.00	Top - Section 1	1.00	1.08	0.000	0.00	0.00	1.200	1.038	3.00	8.321	9.99	0.0	121.8	781.7
50.00		1.00	1.09	0.000	0.00	0.00	1.200	1.042	2.00	5.483	6.58	0.0	80.7	275.7
51.88	RB8	1.00	1.10	0.000	0.00	0.00	1.200	1.046	1.88	5.107	6.13	0.0	75.5	256.9
54.33	Bot - Section 3	1.00	1.11	0.000	0.00	0.00	1.200	1.051	2.45	6.596	7.92	0.0	97.7	331.8
55.00		1.00	1.12	0.000	0.00	0.00	1.200	1.052	0.67	1.800	2.16	0.0	26.8	137.9
58.08	Top - Section 2	1.00	1.13	0.000	0.00	0.00	1.200	1.058	3.08	8.251	9.90	0.0	122.8	631.6
60.00		1.00	1.14	0.000	0.00	0.00	1.200	1.062	1.92	5.067	6.08	0.0	75.8	210.7
61.00	RT7 RB9	1.00	1.14	0.000	0.00	0.00	1.200	1.063	1.00	2.625	3.15	0.0	39.4	109.3
65.00		1.00	1.16	0.000	0.00	0.00	1.200	1.070	4.00	10.371	12.44	0.0	155.4	431.0
68.13	RT8	1.00	1.17	0.000	0.00	0.00	1.200	1.075	3.13	7.970	9.56	0.0	120.2	331.5
70.00		1.00	1.17	0.000	0.00	0.00	1.200	1.078	1.87	4.701	5.64	0.0	71.3	195.8
75.00		1.00	1.19	0.000	0.00	0.00	1.200	1.086	5.00	12.348	14.82	0.0	186.7	513.0
78.00	Appurtenance(s)	1.00	1.20	0.000	0.00	0.00	1.200	1.090	3.00	7.252	8.70	0.0	110.6	301.8
80.00		1.00	1.21	0.000	0.00	0.00	1.200	1.093	2.00	4.770	5.72	0.0	73.1	198.7
81.00	RT9 RB10	1.00	1.21	0.000	0.00	0.00	1.200	1.094	1.00	2.365	2.84	0.0	36.4	98.6
85.00		1.00	1.22	0.000	0.00	0.00	1.200	1.099	4.00	9.332	11.20	0.0	142.8	387.9
90.00		1.00	1.24	0.000	0.00	0.00	1.200	1.106	5.00	11.373	13.65	0.0	174.2	472.1
95.00		1.00	1.25	0.000	0.00	0.00	1.200	1.112	5.00	11.047	13.26	0.0	169.8	458.2
99.13	RT10	1.00	1.26	0.000	0.00	0.00	1.200	1.116	4.13	8.879	10.66	0.0	137.2	368.2
99.42	Bot - Section 4	1.00	1.26	0.000	0.00	0.00	1.200	1.117	0.29	0.608	0.73	0.0	9.5	25.3
100.00		1.00	1.27	0.000	0.00	0.00	1.200	1.117	0.58	1.252	1.50	0.0	19.6	84.2
102.33	Top - Section 3	1.00	1.27	0.000	0.00	0.00	1.200	1.120	2.33	4.965	5.96	0.0	77.4	333.3
105.00	Appurtenance(s)	1.00	1.28	0.000	0.00	0.00	1.200	1.123	2.67	5.588	6.71	0.0	87.1	232.0
110.00		1.00	1.29	0.000	0.00	0.00	1.200	1.128	5.00	10.228	12.27	0.0	158.6	423.1
115.00		1.00	1.30	0.000	0.00	0.00	1.200	1.133	5.00	9.902	11.88	0.0	153.9	408.8
120.00	Top - Section 4	1.00	1.32	0.000	0.00	0.00	1.200	1.138	5.00	9.575	11.49	0.0	149.1	394.5
125.00		1.00	1.33	0.000	0.00	0.00	1.200	1.142	5.00	8.452	10.14	0.0	133.6	557.5
130.00		1.00	1.34	0.000	0.00	0.00	1.200	1.147	5.00	8.456	10.15	0.0	134.1	558.1
135.00		1.00	1.35	0.000	0.00	0.00	1.200	1.151	5.00	8.459	10.15	0.0	134.7	558.6
136.00	Appurtenance(s)	1.00	1.35	0.000	0.00	0.00	1.200	1.152	1.00	1.692	2.03	0.0	27.0	111.7
140.00		1.00	1.36	0.000	0.00	0.00	1.200	1.155	4.00	6.770	8.12	0.0	108.2	447.3

Wind Loading - Shaft

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 27



Totals:	140.00	0.0	18,689.6
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Discrete Appurtenance Forces

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

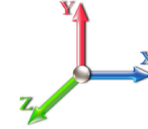


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Load Case: 1.2D + 1.0Di + 1.0Wi 0 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 6

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor	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	136.00	4478 B14	5	0.000	0.000	0.40	0.80	4.38	457.40	0.000	0.000	0.00	0.00	0.00	0.00
2	136.00	TPA-45R-KU8AA-K	2	0.000	0.000	0.65	0.80	20.23	472.17	0.000	0.000	0.00	0.00	0.00	0.00
3	136.00	DMP65R-BU8D	2	0.000	0.000	0.58	0.80	22.26	948.44	0.000	0.000	0.00	0.00	0.00	0.00
4	136.00	AIR 6449 N77	3	0.000	0.000	0.68	0.80	9.45	519.13	0.000	0.000	0.00	0.00	0.00	0.00
5	136.00	Ericsson AIR6419 N77G	3	0.000	0.000	0.68	0.80	8.52	428.88	0.000	0.000	0.00	0.00	0.00	0.00
6	136.00	4415 B30	5	0.000	0.000	0.40	0.80	4.44	458.13	0.000	0.000	0.00	0.00	0.00	0.00
7	136.00	TPA65R-BU8D	2	0.000	0.000	0.58	0.80	21.95	589.45	0.000	0.000	0.00	0.00	0.00	0.00
8	136.00	4449 B71 + B85	4	0.000	0.000	0.40	0.80	3.75	246.30	0.000	0.000	0.00	0.00	0.00	0.00
9	136.00	RRUS 8843 B2 B66A	4	0.000	0.000	0.40	0.80	3.17	433.29	0.000	0.000	0.00	0.00	0.00	0.00
10	136.00	DC9-48-60-24-8C-EV	4	0.000	0.000	0.40	0.80	3.50	337.24	0.000	0.000	0.00	0.00	0.00	0.00
11	136.00	VFA12-WLL-30120	3	0.000	0.000	0.56	0.75	54.95	4555.25	0.000	0.000	0.00	0.00	0.00	0.00
12	136.00	Collar Mount	2	0.000	0.000	0.56	0.75	4.28	739.55	0.000	0.000	0.00	0.00	0.00	0.00
13	136.00	Standoff	6	0.000	0.000	0.56	0.75	21.08	573.74	0.000	0.000	0.00	0.00	0.00	0.00
14	105.00	AIR B2A/ B4P	3	0.000	0.000	0.65	0.75	13.12	633.12	0.000	0.000	0.00	0.00	0.00	0.00
15	105.00	4449 B71 + B95	3	0.000	0.000	0.38	0.75	2.22	385.16	0.000	0.000	0.00	0.00	0.00	0.00
16	105.00	AIR32	3	0.000	0.000	0.65	0.75	14.12	806.74	0.000	0.000	0.00	0.00	0.00	0.00
17	105.00	AIR6449 B41	3	0.000	0.000	0.53	0.75	10.00	540.33	0.000	0.000	0.00	0.00	0.00	0.00
18	105.00	Platform w/ Hand Rail	1	0.000	0.000	1.00	1.00	49.96	2461.99	0.000	0.000	0.00	0.00	0.00	0.00
19	105.00	MS-KI22-5 (Kickers w/o	1	0.000	0.000	1.00	1.00	8.37	242.33	0.000	0.000	0.00	0.00	0.00	0.00
20	105.00	KRY 112 144/1	3	0.000	0.000	0.38	0.75	0.81	51.11	0.000	0.000	0.00	0.00	0.00	0.00
21	105.00	APXVAARR24_43-U-NA2	3	0.000	0.000	0.52	0.75	33.78	1231.11	0.000	0.000	0.00	0.00	0.00	0.00
22	105.00	RRUS 4415 B25	3	0.000	0.000	0.38	0.75	2.22	216.73	0.000	0.000	0.00	0.00	0.00	0.00
23	105.00	MS-1436 (Collar Mount)	1	0.000	0.000	1.00	1.00	3.77	249.68	0.000	0.000	0.00	0.00	0.00	0.00
24	78.00	GPS	2	0.000	0.000	1.00	1.00	2.89	44.62	0.000	0.000	0.00	0.00	0.00	0.00
25	78.00	Side Arm (L. Heavy)	2	0.000	0.000	1.00	1.00	15.55	358.78	0.000	0.000	0.00	0.00	0.00	0.00
Totals:									17,980.67						
												0.00			

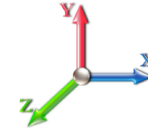
Total Applied Force Summary

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 29



Load Case: 1.2D + 1.0Di + 1.0Wi 0 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 6

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
1.00		0.00	210.56	0.00	0.00
5.00		0.00	883.73	0.00	0.00
10.00		0.00	1103.08	0.00	0.00
15.00		0.00	1093.15	0.00	0.00
20.00		0.00	1080.24	0.00	0.00
21.00		0.00	214.22	0.00	0.00
25.00		0.00	851.22	0.00	0.00
30.00		0.00	1049.83	0.00	0.00
35.00		0.00	1033.23	0.00	0.00
38.63		0.00	739.52	0.00	0.00
40.00		0.00	276.81	0.00	0.00
41.00		0.00	201.24	0.00	0.00
44.08		0.00	603.61	0.00	0.00
45.00		0.00	270.25	0.00	0.00
48.00		0.00	876.87	0.00	0.00
50.00		0.00	339.26	0.00	0.00
51.88		0.00	324.24	0.00	0.00
54.33		0.00	419.81	0.00	0.00
55.00		0.00	161.86	0.00	0.00
58.08		0.00	742.40	0.00	0.00
60.00		0.00	279.67	0.00	0.00
61.00		0.00	145.24	0.00	0.00
65.00		0.00	572.12	0.00	0.00
68.13		0.00	442.16	0.00	0.00
70.00		0.00	261.91	0.00	0.00
75.00		0.00	669.15	0.00	0.00
78.00	(4) attachments	0.00	798.95	0.00	0.00
80.00		0.00	261.18	0.00	0.00
81.00		0.00	129.86	0.00	0.00
85.00		0.00	513.08	0.00	0.00
90.00		0.00	613.69	0.00	0.00
95.00		0.00	577.49	0.00	0.00
99.13		0.00	466.88	0.00	0.00
99.42		0.00	32.15	0.00	0.00
100.00		0.00	98.15	0.00	0.00
102.33		0.00	383.20	0.00	0.00
105.00	(24) attachments	0.00	7102.35	0.00	0.00
110.00		0.00	438.09	0.00	0.00
115.00		0.00	423.85	0.00	0.00
120.00		0.00	409.53	0.00	0.00
125.00		0.00	572.52	0.00	0.00
130.00		0.00	573.08	0.00	0.00
135.00		0.00	573.62	0.00	0.00
136.00	(45) attachments	0.00	10873.71	0.00	0.00
140.00		0.00	447.31	0.00	0.00

Total Applied Force Summary

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Totals:	0.00	40,134.06	0.00	0.00
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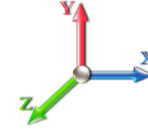
Linear Appurtenance Segment Forces (Factored)

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.0Di + 1.0Wi 0 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 6

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1" Reinforcing plate	Yes	4.00	0.000	0.00	0.00	0.00	0.066	0.000	0.000	0.00	12.08
5.00	1.25" Reinforcing	Yes	4.00	0.000	2.50	1.39	0.00	0.066	0.000	0.000	0.00	14.58
10.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.068	0.000	0.000	0.00	16.42
10.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.78	0.00	0.068	0.000	0.000	0.00	19.71
15.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.069	0.000	0.000	0.00	17.25
15.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.81	0.00	0.069	0.000	0.000	0.00	20.65
20.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.071	0.000	0.000	0.00	17.88
20.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.83	0.00	0.071	0.000	0.000	0.00	21.35
21.00	1" Reinforcing plate	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	0.000	0.00	3.60
21.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.37	0.00	0.072	0.000	0.000	0.00	4.30
25.00	1" Reinforcing plate	Yes	4.00	0.000	0.00	0.00	0.00	0.073	0.000	0.000	0.00	14.70
25.00	1.25" Reinforcing	Yes	4.00	0.000	2.50	1.48	0.00	0.073	0.000	0.000	0.00	17.53
30.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.074	0.000	0.000	0.00	18.80
30.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.87	0.00	0.074	0.000	0.000	0.00	22.39
35.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.076	0.000	0.000	0.00	19.17
35.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.88	0.00	0.076	0.000	0.000	0.00	22.81
38.63	1" Reinforcing plate	Yes	3.63	0.000	0.00	0.00	0.00	0.078	0.000	0.000	0.00	14.09
38.63	1.25" Reinforcing	Yes	3.63	0.000	2.50	1.37	0.00	0.078	0.000	0.000	0.00	16.75
40.00	1" Reinforcing plate	Yes	1.37	0.000	0.00	0.00	0.00	0.079	0.000	0.000	0.00	5.34
40.00	1.25" Reinforcing	Yes	1.37	0.000	2.50	0.52	0.00	0.079	0.000	0.000	0.00	6.35
41.00	1" Reinforcing plate	Yes	1.00	0.000	0.00	0.00	0.00	0.079	0.000	0.000	0.00	3.91
41.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.38	0.00	0.079	0.000	0.000	0.00	4.65
44.08	1.25" Reinforcing	Yes	3.08	0.000	1.25	0.85	0.00	0.040	0.000	0.000	0.00	14.46
45.00	1.25" Reinforcing	Yes	0.92	0.000	1.25	0.25	0.00	0.040	0.000	0.000	0.00	4.31
48.00	1.25" Reinforcing	Yes	3.00	0.000	1.25	0.83	0.00	0.041	0.000	0.000	0.00	14.21
50.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.041	0.000	0.000	0.00	9.52
51.88	1" Reinforcing plate	Yes	1.88	0.000	1.00	0.48	0.00	0.074	0.000	0.000	0.00	7.57
51.88	1.25" Reinforcing	Yes	1.88	0.000	1.25	0.52	0.00	0.074	0.000	0.000	0.00	8.99
54.33	1" Reinforcing plate	Yes	2.45	0.000	1.00	0.63	0.00	0.075	0.000	0.000	0.00	9.94
54.33	1.25" Reinforcing	Yes	2.45	0.000	1.25	0.69	0.00	0.075	0.000	0.000	0.00	11.79
55.00	1" Reinforcing plate	Yes	0.67	0.000	1.00	0.17	0.00	0.075	0.000	0.000	0.00	2.71
55.00	1.25" Reinforcing	Yes	0.67	0.000	1.25	0.19	0.00	0.075	0.000	0.000	0.00	3.21
58.08	1" Reinforcing plate	Yes	3.08	0.000	1.00	0.80	0.00	0.076	0.000	0.000	0.00	12.60
58.08	1.25" Reinforcing	Yes	3.08	0.000	1.25	0.86	0.00	0.076	0.000	0.000	0.00	14.94
60.00	1" Reinforcing plate	Yes	1.92	0.000	1.00	0.50	0.00	0.076	0.000	0.000	0.00	7.87
60.00	1.25" Reinforcing	Yes	1.92	0.000	1.25	0.54	0.00	0.076	0.000	0.000	0.00	9.32
61.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.26	0.00	0.077	0.000	0.000	0.00	4.11
61.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.28	0.00	0.077	0.000	0.000	0.00	4.87
65.00	1" Reinforcing plate	Yes	4.00	0.000	1.00	1.05	0.00	0.069	0.000	0.000	0.00	16.59
65.00	1" Reinforcing plate	Yes	4.00	0.000	1.00	1.05	0.00	0.069	0.000	0.000	0.00	16.59
68.13	1" Reinforcing plate	Yes	3.13	0.000	1.00	0.82	0.00	0.070	0.000	0.000	0.00	13.06
68.13	1" Reinforcing plate	Yes	3.13	0.000	1.00	0.82	0.00	0.070	0.000	0.000	0.00	13.06
70.00	1" Reinforcing plate	Yes	1.87	0.000	1.00	0.49	0.00	0.071	0.000	0.000	0.00	7.83
70.00	1" Reinforcing plate	Yes	1.87	0.000	1.00	0.49	0.00	0.071	0.000	0.000	0.00	7.83
75.00	1" Reinforcing plate	Yes	5.00	0.000	1.00	1.32	0.00	0.036	0.000	0.000	0.00	21.12
78.00	1" Reinforcing plate	Yes	3.00	0.000	1.00	0.79	0.00	0.037	0.000	0.000	0.00	12.73
80.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.53	0.00	0.038	0.000	0.000	0.00	8.52

Linear Appurtenance Segment Forces (Factored)

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

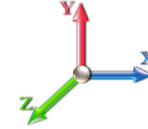


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Load Case: 1.2D + 1.0Di + 1.0Wi 0 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 6

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
81.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.27	0.00	0.038	0.000	0.000	0.00	4.26
85.00	1" Reinforcing plate	Yes	4.00	0.000	1.00	1.07	0.00	0.039	0.000	0.000	0.00	17.17
90.00	1" Reinforcing plate	Yes	5.00	0.000	1.00	1.34	0.00	0.040	0.000	0.000	0.00	21.62
95.00	1" Reinforcing plate	Yes	5.00	0.000	1.00	1.34	0.00	0.041	0.000	0.000	0.00	21.77
99.13	1" Reinforcing plate	Yes	4.13	0.000	1.00	1.11	0.00	0.042	0.000	0.000	0.00	18.08
99.42	1" Reinforcing plate	Yes	0.29	0.000	1.00	0.08	0.00	0.043	0.000	0.000	0.00	1.26
100.00	1" Reinforcing plate	Yes	0.58	0.000	1.00	0.16	0.00	0.043	0.000	0.000	0.00	2.56
102.33	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.27	0.00	0.019	0.000	0.000	0.00	4.40
Totals:											0.0	663.1

Calculated Forces

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

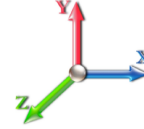


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Load Case: 1.2D + 1.0Di + 1.0Wi 0 mph Wind

Iterations 6

Dead Load Factor 1.20
Wind Load 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	-40.13	0.00	0.00	0.00	0.00	0.00	2594.99	647.31	1997.22	1984.50	0.00	0.000	0.000	0.011
1.00	-39.92	0.00	0.00	0.00	0.00	0.00	2587.52	644.59	1980.48	1970.40	0.00	0.000	0.000	0.011
5.00	-39.04	0.00	0.00	0.00	0.00	0.00	2557.32	633.72	1914.19	1914.27	0.00	0.000	0.000	0.009
10.00	-37.94	0.00	0.00	0.00	0.00	0.00	2518.93	620.12	1832.92	1844.73	0.00	0.000	0.000	0.008
15.00	-36.84	0.00	0.00	0.00	0.00	0.00	2479.82	606.52	1753.41	1775.91	0.00	0.000	0.000	0.008
20.00	-35.76	0.00	0.00	0.00	0.00	0.00	2439.98	592.92	1675.66	1707.85	0.00	0.000	0.000	0.008
21.00	-35.55	0.00	0.00	0.00	0.00	0.00	2431.93	590.20	1660.32	1694.34	0.00	0.000	0.000	0.008
25.00	-34.70	0.00	0.00	0.00	0.00	0.00	2399.42	579.32	1599.68	1640.59	0.00	0.000	0.000	0.008
30.00	-33.65	0.00	0.00	0.00	0.00	0.00	2358.14	565.72	1525.46	1574.17	0.00	0.000	0.000	0.008
35.00	-32.61	0.00	0.00	0.00	0.00	0.00	2316.13	552.12	1453.00	1508.60	0.00	0.000	0.000	0.007
38.63	-31.88	0.00	0.00	0.00	0.00	0.00	2285.18	542.25	1401.50	1461.57	0.00	0.000	0.000	0.007
40.00	-31.60	0.00	0.00	0.00	0.00	0.00	2273.40	538.52	1382.30	1443.94	0.00	0.000	0.000	0.008
41.00	-31.40	0.00	0.00	0.00	0.00	0.00	2264.77	535.80	1368.38	1431.12	0.00	0.000	0.000	0.008
44.08	-30.79	0.00	0.00	0.00	0.00	0.00	2232.73	527.42	1325.88	1388.57	0.00	0.000	0.000	0.008
45.00	-30.52	0.00	0.00	0.00	0.00	0.00	2222.17	524.92	1313.37	1375.41	0.00	0.000	0.000	0.008
48.00	-29.65	0.00	0.00	0.00	0.00	0.00	1679.75	421.24	1057.24	1045.08	0.00	0.000	0.000	0.008
50.00	-29.31	0.00	0.00	0.00	0.00	0.00	1667.94	416.89	1035.51	1026.92	0.00	0.000	0.000	0.009
51.88	-28.98	0.00	0.00	0.00	0.00	0.00	1656.73	412.80	1015.29	1009.93	0.00	0.000	0.000	0.009
54.33	-28.56	0.00	0.00	0.00	0.00	0.00	1641.95	407.46	989.20	987.87	0.00	0.000	0.000	0.007
55.00	-28.40	0.00	0.00	0.00	0.00	0.00	1637.90	406.01	982.17	981.90	0.00	0.000	0.000	0.007
58.08	-27.66	0.00	0.00	0.00	0.00	0.00	1101.62	304.05	734.39	660.80	0.00	0.000	0.000	0.008
60.00	-27.38	0.00	0.00	0.00	0.00	0.00	1095.40	300.92	719.36	650.26	0.00	0.000	0.000	0.008
61.00	-27.23	0.00	0.00	0.00	0.00	0.00	1092.11	299.29	711.58	644.77	0.00	0.000	0.000	0.008
65.00	-26.66	0.00	0.00	0.00	0.00	0.00	1078.67	292.76	680.88	622.86	0.00	0.000	0.000	0.009
68.13	-26.22	0.00	0.00	0.00	0.00	0.00	1067.83	287.65	657.33	605.77	0.00	0.000	0.000	0.009
70.00	-25.96	0.00	0.00	0.00	0.00	0.00	1061.22	284.60	643.45	595.59	0.00	0.000	0.000	0.012
75.00	-25.29	0.00	0.00	0.00	0.00	0.00	1043.04	276.44	607.09	568.49	0.00	0.000	0.000	0.011
78.00	-24.49	0.00	0.00	0.00	0.00	0.00	1031.79	271.55	585.78	552.33	0.00	0.000	0.000	0.011
80.00	-24.23	0.00	0.00	0.00	0.00	0.00	1024.15	268.28	571.78	541.60	0.00	0.000	0.000	0.011
81.00	-24.10	0.00	0.00	0.00	0.00	0.00	1020.28	266.65	564.84	536.25	0.00	0.000	0.000	0.011
85.00	-23.59	0.00	0.00	0.00	0.00	0.00	1004.52	260.12	537.53	514.95	0.00	0.000	0.000	0.011
90.00	-22.97	0.00	0.00	0.00	0.00	0.00	984.18	251.96	504.33	488.58	0.00	0.000	0.000	0.010
95.00	-22.39	0.00	0.00	0.00	0.00	0.00	963.11	243.80	472.20	462.52	0.00	0.000	0.000	0.010
99.13	-21.93	0.00	0.00	0.00	0.00	0.00	945.17	237.06	446.45	441.25	0.00	0.000	0.000	0.010
99.13	-21.93	0.00	0.00	0.00	0.00	0.00	945.17	237.06	446.45	441.25	0.00	0.000	0.000	0.010
99.42	-21.90	0.00	0.00	0.00	0.00	0.00	943.90	236.60	444.69	439.78	0.00	0.000	0.000	0.023
100.00	-21.80	0.00	0.00	0.00	0.00	0.00	941.32	235.64	441.12	436.80	0.00	0.000	0.000	0.023
102.33	-21.41	0.00	0.00	0.00	0.00	0.00	941.62	235.75	441.53	437.14	0.00	0.000	0.000	0.023
105.00	-14.31	0.00	0.00	0.00	0.00	0.00	929.71	231.40	425.38	423.58	0.00	0.000	0.000	0.015
110.00	-13.87	0.00	0.00	0.00	0.00	0.00	906.82	223.24	395.91	398.46	0.00	0.000	0.000	0.015
115.00	-13.45	0.00	0.00	0.00	0.00	0.00	883.20	215.08	367.50	373.78	0.00	0.000	0.000	0.015
120.00	-13.04	0.00	0.00	0.00	0.00	0.00	858.87	206.92	340.14	349.57	0.00	0.000	0.000	0.015
120.00	-13.04	0.00	0.00	0.00	0.00	0.00	784.88	235.46	25322.4	367.00	0.00	0.000	0.000	0.017
125.00	-12.47	0.00	0.00	0.00	0.00	0.00	784.88	235.46	25322.4	367.00	0.00	0.000	0.000	0.016
130.00	-11.89	0.00	0.00	0.00	0.00	0.00	784.88	235.46	25322.4	367.00	0.00	0.000	0.000	0.015
135.00	-11.32	0.00	0.00	0.00	0.00	0.00	784.88	235.46	25322.4	367.00	0.00	0.000	0.000	0.014
136.00	-0.45	0.00	0.00	0.00	0.00	0.00	784.88	235.46	25322.4	367.00	0.00	0.000	0.000	0.001
140.00	0.00	0.00	0.00	0.00	0.00	0.00	784.88	235.46	25322.4	367.00	0.00	0.000	0.000	0.000

Calculated Forces

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 34



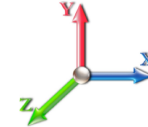
Seismic Segment Forces (Factored)

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0Ev + 1.0Eh						Iterations 23
Gust Response Factor	1.10			Sds	0.22	Ss 0.20
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.08	S1 0.05
Wind Load Factor	0.00	Structure Frequency (f1)	0.24	SA	0.02	Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)	R: 1.50
0.00	RB1 RB2	0.00	0.00	0.00	0.00	
1.00	RT1 RT2 RB3 RB4	152.24	0.50	6.56	0.00	
5.00		603.70	3.00	26.02	0.00	
10.00		742.77	7.50	32.01	0.01	
15.00		729.58	12.50	31.44	0.03	
20.00		716.40	17.50	30.87	0.06	
21.00	RT3 RT4 RB5 RB6	141.70	20.50	6.11	0.00	
25.00		561.52	23.00	24.20	0.06	
30.00		690.03	27.50	29.74	0.14	
35.00		676.85	32.50	29.17	0.18	
38.63	RT5	483.13	36.81	20.82	0.12	
40.00		180.53	39.31	7.78	0.02	
41.00	RT6 RB7	131.15	40.50	5.65	0.01	
44.08	Bot - Section 2	401.06	42.54	17.28	0.11	
45.00		194.47	44.54	8.38	0.03	
48.00	Top - Section 1	630.88	46.50	27.19	0.33	
50.00		216.51	49.00	9.33	0.04	
51.88	RB8	201.98	50.94	8.70	0.04	
54.33	Bot - Section 3	261.33	53.11	11.26	0.07	
55.00		110.60	54.67	4.77	0.01	
58.08	Top - Section 2	507.24	56.54	21.86	0.31	
60.00		164.16	59.04	7.07	0.04	
61.00	RT7 RB9	85.19	60.50	3.67	0.01	
65.00		337.58	63.00	14.55	0.17	
68.13	RT8	260.63	66.56	11.23	0.11	
70.00		154.23	69.06	6.65	0.04	
75.00		406.95	72.50	17.54	0.33	
78.00	Appurtenance(s)	500.37	76.50	21.56	0.56	
80.00		158.67	79.00	6.84	0.06	
81.00	RT9 RB10	78.86	80.50	3.40	0.02	
85.00		312.27	83.00	13.46	0.26	
90.00		368.25	87.50	15.87	0.40	
95.00		337.87	92.50	14.56	0.37	
99.13	RT10	273.12	97.06	11.77	0.27	
99.42	Bot - Section 4	18.76	99.27	0.81	0.00	
100.00		65.24	99.71	2.81	0.02	
102.33	Top - Section 3	258.79	101.17	11.15	0.26	
105.00	Appurtenance(s)	3626.5	103.67	156.28	53.79	
110.00		235.38	107.50	10.14	0.24	
115.00		227.47	112.50	9.80	0.25	
120.00	Top - Section 4	219.56	117.50	9.46	0.25	
125.00		368.28	122.50	15.87	0.77	
130.00		368.28	127.50	15.87	0.84	
135.00		368.28	132.50	15.87	0.91	
136.00	Appurtenance(s)	5510.6	135.50	237.47	212.19	
140.00		282.62	138.00	12.18	0.58	

Seismic Segment Forces (Factored)

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Struct Class: II	Page: 36



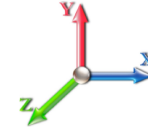
Totals:	23,321.6	1,005.0	274.3	Total Wind:	22,624.9
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Calculated Forces

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.0Ev + 1.0Eh										Iterations 23
Gust Response Factor 1.10					Sds 0.22					Ss 0.20
Dead Load Factor 1.20			Seismic Load Factor 1.00			Sd1 0.08		S1 0.05		
Wind Load Factor 0.00		Structure Frequency (f1) 0.24		SA 0.02		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	-28.43	-0.27	0.00	-37.98	0.00	37.98	2594.99	647.31	1997.22	1984.50	0.00	0.00	0.00	0.020
1.00	-28.25	-0.28	0.00	-37.70	0.00	37.70	2587.52	644.59	1980.48	1970.40	0.00	0.00	0.00	0.020
5.00	-27.52	-0.28	0.00	-36.60	0.00	36.60	2557.32	633.72	1914.19	1914.27	0.00	0.00	0.00	0.017
10.00	-26.62	-0.28	0.00	-35.22	0.00	35.22	2518.93	620.12	1832.92	1844.73	0.01	-0.01	0.00	0.017
15.00	-25.74	-0.28	0.00	-33.82	0.00	33.82	2479.82	606.52	1753.41	1775.91	0.02	-0.01	0.00	0.017
20.00	-24.88	-0.28	0.00	-32.42	0.00	32.42	2439.98	592.92	1675.66	1707.85	0.04	-0.02	0.00	0.017
21.00	-24.71	-0.28	0.00	-32.13	0.00	32.13	2431.93	590.20	1660.32	1694.34	0.04	-0.02	0.00	0.017
25.00	-24.03	-0.28	0.00	-31.00	0.00	31.00	2399.42	579.32	1599.68	1640.59	0.06	-0.02	0.00	0.016
30.00	-23.20	-0.29	0.00	-29.58	0.00	29.58	2358.14	565.72	1525.46	1574.17	0.09	-0.03	0.00	0.016
35.00	-22.39	-0.29	0.00	-28.15	0.00	28.15	2316.13	552.12	1453.00	1508.60	0.12	-0.03	0.00	0.016
38.63	-21.80	-0.29	0.00	-27.10	0.00	27.10	2285.18	542.25	1401.50	1461.57	0.15	-0.04	0.00	0.015
40.00	-21.59	-0.29	0.00	-26.71	0.00	26.71	2273.40	538.52	1382.30	1443.94	0.16	-0.04	0.00	0.018
41.00	-21.43	-0.29	0.00	-26.42	0.00	26.42	2264.77	535.80	1368.38	1431.12	0.17	-0.04	0.00	0.018
44.08	-20.95	-0.29	0.00	-25.53	0.00	25.53	2232.73	527.42	1325.88	1388.57	0.20	-0.04	0.00	0.018
45.00	-20.71	-0.29	0.00	-25.26	0.00	25.26	2222.17	524.92	1313.37	1375.41	0.21	-0.05	0.00	0.018
48.00	-19.94	-0.29	0.00	-24.39	0.00	24.39	1679.75	421.24	1057.24	1045.08	0.24	-0.05	0.00	0.019
50.00	-19.68	-0.29	0.00	-23.81	0.00	23.81	1667.94	416.89	1035.51	1026.92	0.26	-0.05	0.00	0.021
51.88	-19.44	-0.29	0.00	-23.26	0.00	23.26	1656.73	412.80	1015.29	1009.93	0.28	-0.06	0.00	0.020
54.33	-19.13	-0.29	0.00	-22.55	0.00	22.55	1641.95	407.46	989.20	987.87	0.31	-0.06	0.00	0.015
55.00	-19.00	-0.29	0.00	-22.35	0.00	22.35	1637.90	406.01	982.17	981.90	0.32	-0.06	0.00	0.015
58.08	-18.38	-0.29	0.00	-21.45	0.00	21.45	1101.62	304.05	734.39	660.80	0.36	-0.06	0.00	0.016
60.00	-18.19	-0.29	0.00	-20.89	0.00	20.89	1095.40	300.92	719.36	650.26	0.38	-0.06	0.00	0.017
61.00	-18.09	-0.29	0.00	-20.59	0.00	20.59	1092.11	299.29	711.58	644.77	0.40	-0.07	0.00	0.017
65.00	-17.69	-0.29	0.00	-19.42	0.00	19.42	1078.67	292.76	680.88	622.86	0.45	-0.07	0.00	0.018
68.13	-17.39	-0.29	0.00	-18.50	0.00	18.50	1067.83	287.65	657.33	605.77	0.50	-0.07	0.00	0.018
70.00	-17.20	-0.30	0.00	-17.95	0.00	17.95	1061.22	284.60	643.45	595.59	0.53	-0.08	0.00	0.026
75.00	-16.72	-0.30	0.00	-16.47	0.00	16.47	1043.04	276.44	607.09	568.49	0.62	-0.09	0.00	0.024
78.00	-16.12	-0.30	0.00	-15.57	0.00	15.57	1031.79	271.55	585.78	552.33	0.67	-0.09	0.00	0.024
80.00	-15.93	-0.30	0.00	-14.98	0.00	14.98	1024.15	268.28	571.78	541.60	0.71	-0.10	0.00	0.023
81.00	-15.84	-0.30	0.00	-14.68	0.00	14.68	1020.28	266.65	564.84	536.25	0.73	-0.10	0.00	0.023
85.00	-15.47	-0.30	0.00	-13.49	0.00	13.49	1004.52	260.12	537.53	514.95	0.81	-0.10	0.00	0.022
90.00	-15.04	-0.30	0.00	-11.99	0.00	11.99	984.18	251.96	504.33	488.58	0.93	-0.11	0.00	0.021
95.00	-14.64	-0.30	0.00	-10.49	0.00	10.49	963.11	243.80	472.20	462.52	1.05	-0.12	0.00	0.019
99.13	-14.32	-0.30	0.00	-9.24	0.00	9.24	945.17	237.06	446.45	441.25	1.15	-0.13	0.00	0.018
99.13	-14.32	-0.30	0.00	-9.24	0.00	9.24	945.17	237.06	446.45	441.25	1.15	-0.13	0.00	0.027
99.42	-14.29	-0.30	0.00	-9.15	0.00	9.15	943.90	236.60	444.69	439.78	1.16	-0.13	0.00	0.036
100.00	-14.21	-0.30	0.00	-8.98	0.00	8.98	941.32	235.64	441.12	436.80	1.18	-0.13	0.00	0.036
102.33	-13.90	-0.30	0.00	-8.27	0.00	8.27	941.62	235.75	441.53	437.14	1.24	-0.14	0.00	0.034
105.00	-9.40	-0.24	0.00	-7.46	0.00	7.46	929.71	231.40	425.38	423.58	1.32	-0.14	0.00	0.028
110.00	-9.11	-0.24	0.00	-6.26	0.00	6.26	906.82	223.24	395.91	398.46	1.48	-0.15	0.00	0.026
115.00	-8.83	-0.24	0.00	-5.06	0.00	5.06	883.20	215.08	367.50	373.78	1.64	-0.17	0.00	0.024
120.00	-8.56	-0.24	0.00	-3.85	0.00	3.85	858.87	206.92	340.14	349.57	1.82	-0.18	0.00	0.021
120.00	-8.56	-0.24	0.00	-3.85	0.00	3.85	784.88	235.46	25322.4	367.00	1.82	-0.18	0.00	0.021
125.00	-8.11	-0.24	0.00	-2.64	0.00	2.64	784.88	235.46	25322.4	367.00	2.01	-0.18	0.00	0.018
130.00	-7.66	-0.24	0.00	-1.44	0.00	1.44	784.88	235.46	25322.4	367.00	2.20	-0.19	0.00	0.014
135.00	-7.20	-0.24	0.00	-0.24	0.00	0.24	784.88	235.46	25322.4	367.00	2.40	-0.19	0.00	0.010
136.00	-0.35	0.00	0.00	-0.01	0.00	0.01	784.88	235.46	25322.4	367.00	2.44	-0.19	0.00	0.000

Calculated Forces

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 38
Struct Class: II		



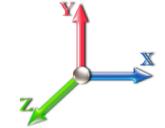
140.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	784.88	235.46	25322.4	367.00	2.60	-0.19	0.000
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Seismic Segment Forces (Factored)

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0Ev + 1.0Eh							Iterations 23
Gust Response Factor	1.10			Sds	0.22	Ss	0.20
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.08	S1	0.05
Wind Load Factor	0.00	Structure Frequency (f1)	0.24	SA	0.02	Seismic Importance Factor	1.00

Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)	R: 1.50
0.00	RB1 RB2	0.00	0.00	0.00	0.00	
1.00	RT1 RT2 RB3 RB4	145.49	0.50	6.27	0.00	
5.00		576.70	3.00	24.85	0.00	
10.00		709.02	7.50	30.55	0.01	
15.00		695.83	12.50	29.99	0.03	
20.00		682.65	17.50	29.42	0.05	
21.00	RT3 RT4 RB5 RB6	134.95	20.50	5.82	0.00	
25.00		534.52	23.00	23.03	0.06	
30.00		656.28	27.50	28.28	0.12	
35.00		643.10	32.50	27.71	0.17	
38.63	RT5	458.63	36.81	19.76	0.11	
40.00		171.29	39.31	7.38	0.02	
41.00	RT6 RB7	124.40	40.50	5.36	0.01	
44.08	Bot - Section 2	380.25	42.54	16.39	0.10	
45.00		188.29	44.54	8.11	0.03	
48.00	Top - Section 1	610.63	46.50	26.31	0.31	
50.00		203.01	49.00	8.75	0.04	
51.88	RB8	189.29	50.94	8.16	0.04	
54.33	Bot - Section 3	244.77	53.11	10.55	0.06	
55.00		106.10	54.67	4.57	0.01	
58.08	Top - Section 2	486.43	56.54	20.96	0.29	
60.00		151.22	59.04	6.52	0.03	
61.00	RT7 RB9	78.44	60.50	3.38	0.01	
65.00		310.58	63.00	13.38	0.15	
68.13	RT8	239.50	66.56	10.32	0.10	
70.00		141.61	69.06	6.10	0.04	
75.00		373.20	72.50	16.08	0.28	
78.00	Appurtenance(s)	480.12	76.50	20.69	0.52	
80.00		145.17	79.00	6.26	0.05	
81.00	RT9 RB10	72.11	80.50	3.11	0.01	
85.00		285.27	83.00	12.29	0.21	
90.00		338.24	87.50	14.58	0.33	
95.00		313.48	92.50	13.51	0.32	
99.13	RT10	252.97	97.06	10.90	0.23	
99.42	Bot - Section 4	17.36	99.27	0.75	0.00	
100.00		62.39	99.71	2.69	0.01	
102.33	Top - Section 3	247.41	101.17	10.66	0.24	
105.00	Appurtenance(s)	3613.4	103.67	155.72	53.61	
110.00		231.63	107.50	9.98	0.24	
115.00		223.72	112.50	9.64	0.24	
120.00	Top - Section 4	215.81	117.50	9.30	0.25	
125.00		364.53	122.50	15.71	0.76	
130.00		364.53	127.50	15.71	0.83	
135.00		364.53	132.50	15.71	0.89	
136.00	Appurtenance(s)	5509.9	135.50	237.44	212.94	
140.00		282.62	138.00	12.18	0.58	

Seismic Segment Forces (Factored)

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Struct Class: II	Page: 40



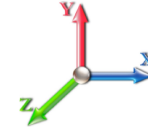
Totals:	22,621.4	974.8	274.3	Total Wind:	22,624.9
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Calculated Forces

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 0.9D + 1.0Ev + 1.0Eh										Iterations 23
Gust Response Factor 1.10					Sds 0.22					Ss 0.20
Dead Load Factor 0.90			Seismic Load Factor 1.00			Sd1 0.08			S1 0.05	
Wind Load Factor 0.00			Structure Frequency (f1) 0.24			SA 0.02			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	-21.54	-0.27	0.00	-37.32	0.00	37.32	2594.99	647.31	1997.22	1984.50	0.00	0.00	0.00	0.018
1.00	-21.40	-0.27	0.00	-37.04	0.00	37.04	2587.52	644.59	1980.48	1970.40	0.00	0.00	0.00	0.018
5.00	-20.85	-0.28	0.00	-35.95	0.00	35.95	2557.32	633.72	1914.19	1914.27	0.00	0.00	0.00	0.016
10.00	-20.17	-0.28	0.00	-34.57	0.00	34.57	2518.93	620.12	1832.92	1844.73	0.01	-0.01	0.00	0.016
15.00	-19.51	-0.28	0.00	-33.18	0.00	33.18	2479.82	606.52	1753.41	1775.91	0.02	-0.01	0.00	0.015
20.00	-18.85	-0.28	0.00	-31.78	0.00	31.78	2439.98	592.92	1675.66	1707.85	0.04	-0.02	0.00	0.015
21.00	-18.72	-0.28	0.00	-31.50	0.00	31.50	2431.93	590.20	1660.32	1694.34	0.04	-0.02	0.00	0.015
25.00	-18.21	-0.28	0.00	-30.38	0.00	30.38	2399.42	579.32	1599.68	1640.59	0.06	-0.02	0.00	0.015
30.00	-17.58	-0.28	0.00	-28.97	0.00	28.97	2358.14	565.72	1525.46	1574.17	0.09	-0.03	0.00	0.014
35.00	-16.97	-0.28	0.00	-27.55	0.00	27.55	2316.13	552.12	1453.00	1508.60	0.12	-0.03	0.00	0.014
38.63	-16.53	-0.28	0.00	-26.52	0.00	26.52	2285.18	542.25	1401.50	1461.57	0.15	-0.04	0.00	0.014
40.00	-16.36	-0.28	0.00	-26.13	0.00	26.13	2273.40	538.52	1382.30	1443.94	0.16	-0.04	0.00	0.017
41.00	-16.24	-0.29	0.00	-25.85	0.00	25.85	2264.77	535.80	1368.38	1431.12	0.17	-0.04	0.00	0.017
44.08	-15.88	-0.29	0.00	-24.97	0.00	24.97	2232.73	527.42	1325.88	1388.57	0.19	-0.04	0.00	0.016
45.00	-15.70	-0.29	0.00	-24.70	0.00	24.70	2222.17	524.92	1313.37	1375.41	0.20	-0.05	0.00	0.016
48.00	-15.12	-0.29	0.00	-23.85	0.00	23.85	1679.75	421.24	1057.24	1045.08	0.23	-0.05	0.00	0.017
50.00	-14.92	-0.29	0.00	-23.27	0.00	23.27	1667.94	416.89	1035.51	1026.92	0.25	-0.05	0.00	0.019
51.88	-14.74	-0.29	0.00	-22.74	0.00	22.74	1656.73	412.80	1015.29	1009.93	0.27	-0.05	0.00	0.019
54.33	-14.50	-0.29	0.00	-22.03	0.00	22.03	1641.95	407.46	989.20	987.87	0.30	-0.06	0.00	0.013
55.00	-14.40	-0.29	0.00	-21.84	0.00	21.84	1637.90	406.01	982.17	981.90	0.31	-0.06	0.00	0.013
58.08	-13.94	-0.29	0.00	-20.95	0.00	20.95	1101.62	304.05	734.39	660.80	0.35	-0.06	0.00	0.015
60.00	-13.79	-0.29	0.00	-20.40	0.00	20.40	1095.40	300.92	719.36	650.26	0.38	-0.06	0.00	0.016
61.00	-13.71	-0.29	0.00	-20.11	0.00	20.11	1092.11	299.29	711.58	644.77	0.39	-0.06	0.00	0.016
65.00	-13.41	-0.29	0.00	-18.96	0.00	18.96	1078.67	292.76	680.88	622.86	0.44	-0.07	0.00	0.016
68.13	-13.18	-0.29	0.00	-18.06	0.00	18.06	1067.83	287.65	657.33	605.77	0.49	-0.07	0.00	0.016
70.00	-13.04	-0.29	0.00	-17.52	0.00	17.52	1061.22	284.60	643.45	595.59	0.52	-0.07	0.00	0.023
75.00	-12.68	-0.29	0.00	-16.06	0.00	16.06	1043.04	276.44	607.09	568.49	0.60	-0.08	0.00	0.022
78.00	-12.22	-0.29	0.00	-15.19	0.00	15.19	1031.79	271.55	585.78	552.33	0.66	-0.09	0.00	0.021
80.00	-12.08	-0.29	0.00	-14.61	0.00	14.61	1024.15	268.28	571.78	541.60	0.70	-0.09	0.00	0.021
81.00	-12.01	-0.29	0.00	-14.32	0.00	14.32	1020.28	266.65	564.84	536.25	0.72	-0.10	0.00	0.021
85.00	-11.73	-0.29	0.00	-13.15	0.00	13.15	1004.52	260.12	537.53	514.95	0.80	-0.10	0.00	0.020
90.00	-11.41	-0.29	0.00	-11.69	0.00	11.69	984.18	251.96	504.33	488.58	0.91	-0.11	0.00	0.019
95.00	-11.10	-0.29	0.00	-10.22	0.00	10.22	963.11	243.80	472.20	462.52	1.03	-0.12	0.00	0.017
99.13	-10.86	-0.29	0.00	-9.01	0.00	9.01	945.17	237.06	446.45	441.25	1.13	-0.12	0.00	0.016
99.13	-10.86	-0.29	0.00	-9.01	0.00	9.01	945.17	237.06	446.45	441.25	1.13	-0.12	0.00	0.025
99.42	-10.84	-0.29	0.00	-8.92	0.00	8.92	943.90	236.60	444.69	439.78	1.14	-0.12	0.00	0.032
100.00	-10.78	-0.29	0.00	-8.75	0.00	8.75	941.32	235.64	441.12	436.80	1.15	-0.13	0.00	0.031
102.33	-10.55	-0.30	0.00	-8.07	0.00	8.07	941.62	235.75	441.53	437.14	1.22	-0.13	0.00	0.030
105.00	-7.13	-0.23	0.00	-7.28	0.00	7.28	929.71	231.40	425.38	423.58	1.29	-0.14	0.00	0.025
110.00	-6.91	-0.24	0.00	-6.11	0.00	6.11	906.82	223.24	395.91	398.46	1.44	-0.15	0.00	0.023
115.00	-6.70	-0.24	0.00	-4.93	0.00	4.93	883.20	215.08	367.50	373.78	1.61	-0.16	0.00	0.021
120.00	-6.50	-0.24	0.00	-3.75	0.00	3.75	858.87	206.92	340.14	349.57	1.78	-0.17	0.00	0.018
120.00	-6.50	-0.24	0.00	-3.75	0.00	3.75	784.88	235.46	25322.4	367.00	1.78	-0.17	0.00	0.019
125.00	-6.15	-0.23	0.00	-2.57	0.00	2.57	784.88	235.46	25322.4	367.00	1.97	-0.18	0.00	0.015
130.00	-5.81	-0.23	0.00	-1.40	0.00	1.40	784.88	235.46	25322.4	367.00	2.16	-0.18	0.00	0.011
135.00	-5.46	-0.23	0.00	-0.24	0.00	0.24	784.88	235.46	25322.4	367.00	2.35	-0.18	0.00	0.008
136.00	-0.27	0.00	0.00	-0.01	0.00	0.01	784.88	235.46	25322.4	367.00	2.39	-0.18	0.00	0.000

Calculated Forces

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 42



140.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	784.88	235.46	25322.4	367.00	2.54	-0.18	0.000
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Wind Loading - Shaft

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

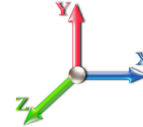


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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 25

Dead Load Factor 1.00
Wind Load Factor 1.00



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	RB1 RB2	1.00	0.85	6.656	7.32	175.50	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00	RT1 RT2 RB3 RB4	1.00	0.85	6.656	7.32	174.76	0.730	0.000	1.00	3.167	2.31	16.9	0.0	125.2
5.00		1.00	0.85	6.656	7.32	171.84	0.730	0.000	4.00	12.534	9.15	67.0	0.0	495.7
10.00		1.00	0.85	6.656	7.32	168.18	0.730	0.000	5.00	15.370	11.22	82.1	0.0	607.8
15.00		1.00	0.85	6.656	7.32	164.53	0.730	0.000	5.00	15.040	10.98	80.4	0.0	594.6
20.00		1.00	0.90	7.062	7.77	165.71	0.730	0.000	5.00	14.709	10.74	83.4	0.0	581.4
21.00	RT3 RT4 RB5 RB6	1.00	0.91	7.135	7.85	165.80	0.730	0.000	1.00	2.902	2.12	16.6	0.0	114.7
25.00		1.00	0.95	7.402	8.14	165.79	0.730	0.000	4.00	11.476	8.38	68.2	0.0	453.5
30.00		1.00	0.98	7.691	8.46	165.07	0.730	0.000	5.00	14.048	10.26	86.8	0.0	555.0
35.00		1.00	1.01	7.945	8.74	163.78	0.730	0.000	5.00	13.718	10.01	87.5	0.0	541.8
38.63	RT5	1.00	1.04	8.112	8.92	162.56	0.730	0.000	3.63	9.752	7.12	63.5	0.0	385.1
40.00		1.00	1.04	8.171	8.99	162.05	0.730	0.000	1.37	3.635	2.65	23.9	0.0	143.5
41.00	RT6 RB7	1.00	1.05	8.214	9.04	161.66	0.730	0.000	1.00	2.638	1.93	17.4	0.0	104.2
44.08	Bot - Section 2	1.00	1.07	8.340	9.17	160.37	0.730	0.000	3.08	8.050	5.88	53.9	0.0	317.8
45.00		1.00	1.07	8.377	9.21	159.97	0.730	0.000	0.92	2.408	1.76	16.2	0.0	169.7
48.00	Top - Section 1	1.00	1.08	8.491	9.34	158.58	0.730	0.000	3.00	7.802	5.70	53.2	0.0	549.9
50.00		1.00	1.09	8.565	9.42	160.26	0.730	0.000	2.00	5.135	3.75	35.3	0.0	162.5
51.88	RB8	1.00	1.10	8.631	9.49	159.32	0.730	0.000	1.88	4.779	3.49	33.1	0.0	151.2
54.33	Bot - Section 3	1.00	1.11	8.716	9.59	158.04	0.730	0.000	2.45	6.166	4.50	43.2	0.0	195.1
55.00		1.00	1.12	8.738	9.61	157.68	0.730	0.000	0.67	1.683	1.23	11.8	0.0	92.6
58.08	Top - Section 2	1.00	1.13	8.839	9.72	155.99	0.730	0.000	3.08	7.707	5.63	54.7	0.0	424.0
60.00		1.00	1.14	8.900	9.79	156.94	0.730	0.000	1.92	4.728	3.45	33.8	0.0	112.4
61.00	RT7 RB9	1.00	1.14	8.931	9.82	156.36	0.730	0.000	1.00	2.447	1.79	17.6	0.0	58.2
65.00		1.00	1.16	9.051	9.96	154.00	0.730	0.000	4.00	9.657	7.05	70.2	0.0	229.6
68.13	RT8	1.00	1.17	9.141	10.06	152.08	0.730	0.000	3.13	7.409	5.41	54.4	0.0	176.1
70.00		1.00	1.17	9.193	10.11	150.91	0.730	0.000	1.87	4.365	3.19	32.2	0.0	103.7
75.00		1.00	1.19	9.328	10.26	147.68	0.730	0.000	5.00	11.443	8.35	85.7	0.0	272.0
78.00	Appurtenance(s)	1.00	1.20	9.405	10.35	145.68	0.730	0.000	3.00	6.707	4.90	50.7	0.0	159.4
80.00		1.00	1.21	9.455	10.40	144.33	0.730	0.000	2.00	4.405	3.22	33.4	0.0	104.7
81.00	RT9 RB10	1.00	1.21	9.480	10.43	143.65	0.730	0.000	1.00	2.183	1.59	16.6	0.0	51.9
85.00		1.00	1.22	9.577	10.53	140.87	0.730	0.000	4.00	8.599	6.28	66.1	0.0	204.3
90.00		1.00	1.24	9.693	10.66	137.31	0.730	0.000	5.00	10.452	7.63	81.3	0.0	248.2
95.00		1.00	1.25	9.804	10.78	133.65	0.730	0.000	5.00	10.121	7.39	79.7	0.0	240.3
99.13	RT10	1.00	1.26	9.892	10.88	130.57	0.730	0.000	4.13	8.111	5.92	64.4	0.0	192.5
99.42	Bot - Section 4	1.00	1.26	9.898	10.89	130.35	0.730	0.000	0.29	0.555	0.40	4.4	0.0	13.2
100.00		1.00	1.27	9.910	10.90	129.91	0.730	0.000	0.58	1.144	0.83	9.1	0.0	53.9
102.33	Top - Section 3	1.00	1.27	9.958	10.95	128.14	0.730	0.000	2.33	4.530	3.31	36.2	0.0	213.3
105.00	Appurtenance(s)	1.00	1.28	10.012	11.01	128.25	0.730	0.000	2.67	5.089	3.71	40.9	0.0	120.8
110.00		1.00	1.29	10.111	11.12	124.37	0.730	0.000	5.00	9.288	6.78	75.4	0.0	220.4
115.00		1.00	1.30	10.206	11.23	120.43	0.730	0.000	5.00	8.958	6.54	73.4	0.0	212.5
120.00	Top - Section 4	1.00	1.32	10.298	11.33	116.42	0.730	0.000	5.00	8.627	6.30	71.3	0.0	204.6
125.00		1.00	1.33	10.387	11.43	103.63	0.600	0.000	5.00	7.500	4.50	51.4	0.0	353.3
130.00		1.00	1.34	10.473	11.52	104.06	0.600	0.000	5.00	7.500	4.50	51.8	0.0	353.3
135.00		1.00	1.35	10.556	11.61	104.48	0.600	0.000	5.00	7.500	4.50	52.3	0.0	353.3
136.00	Appurtenance(s)	1.00	1.35	10.573	11.63	104.56	0.600	0.000	1.00	1.500	0.90	10.5	0.0	70.7
140.00		1.00	1.36	10.638	11.70	104.88	0.600	0.000	4.00	6.000	3.60	42.1	0.0	282.6

Wind Loading - Shaft

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 44



Totals:	140.00	2,200.2	11,370.2
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Discrete Appurtenance Forces

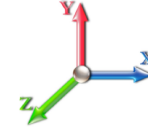
Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor 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	136.00	4478 B14	5	10.573	11.630	0.40	0.80	3.68	300.00	0.000	0.000	42.80	0.00	0.00
2	136.00	TPA-45R-KU8AA-K	2	10.573	11.630	0.65	0.80	18.79	160.00	0.000	0.000	218.55	0.00	0.00
3	136.00	DMP65R-BU8D	2	10.573	11.630	0.58	0.80	20.87	192.00	0.000	0.000	242.75	0.00	0.00
4	136.00	AIR 6449 N77	3	10.573	11.630	0.68	0.80	8.43	246.00	0.000	0.000	97.99	0.00	0.00
5	136.00	Ericsson AIR6419 N77G	3	10.573	11.630	0.68	0.80	8.43	198.00	0.000	0.000	97.99	0.00	0.00
6	136.00	4415 B30	5	10.573	11.630	0.40	0.80	3.72	230.00	0.000	0.000	43.26	0.00	0.00
7	136.00	TPA65R-BU8D	2	10.573	11.630	0.58	0.80	20.59	174.20	0.000	0.000	239.42	0.00	0.00
8	136.00	4449 B71 + B85	4	10.573	11.630	0.40	0.80	3.15	284.00	0.000	0.000	36.66	0.00	0.00
9	136.00	RRUS 8843 B2 B66A	4	10.573	11.630	0.40	0.80	2.62	288.00	0.000	0.000	30.52	0.00	0.00
10	136.00	DC9-48-60-24-8C-EV	4	10.573	11.630	0.40	0.80	1.82	104.80	0.000	0.000	21.21	0.00	0.00
11	136.00	VFA12-WLL-30120	3	10.573	11.630	0.56	0.75	30.04	2550.00	0.000	0.000	349.34	0.00	0.00
12	136.00	Collar Mount	2	10.573	11.630	0.56	0.75	2.53	440.00	0.000	0.000	29.44	0.00	0.00
13	136.00	Standoff	6	10.573	11.630	0.56	0.75	8.44	270.00	0.000	0.000	98.13	0.00	0.00
14	105.00	AIR B2A/ B4P	3	10.012	11.014	0.65	0.75	11.78	274.50	0.000	0.000	129.79	0.00	0.00
15	105.00	4449 B71 + B95	3	10.012	11.014	0.38	0.75	1.86	222.00	0.000	0.000	20.44	0.00	0.00
16	105.00	AIR32	3	10.012	11.014	0.65	0.75	12.74	396.60	0.000	0.000	140.35	0.00	0.00
17	105.00	AIR6449 B41	3	10.012	11.014	0.53	0.75	9.03	309.00	0.000	0.000	99.41	0.00	0.00
18	105.00	Platform w/ Hand Rail	1	10.012	11.014	1.00	1.00	32.00	1400.00	0.000	0.000	352.44	0.00	0.00
19	105.00	MS-KI22-5 (Kickers w/o	1	10.012	11.014	1.00	1.00	5.00	146.00	0.000	0.000	55.07	0.00	0.00
20	105.00	KRY 112 144/1	3	10.012	11.014	0.38	0.75	0.46	33.00	0.000	0.000	5.08	0.00	0.00
21	105.00	APXVAARR24_43-U-NA2	3	10.012	11.014	0.52	0.75	31.88	384.00	0.000	0.000	351.09	0.00	0.00
22	105.00	RRUS 4415 B25	3	10.012	11.014	0.38	0.75	1.84	138.00	0.000	0.000	20.32	0.00	0.00
23	105.00	MS-1436 (Collar Mount)	1	10.012	11.014	1.00	1.00	2.25	150.60	0.000	0.000	24.78	0.00	0.00
24	78.00	GPS	2	9.405	10.346	1.00	1.00	2.00	20.00	0.000	0.000	20.69	0.00	0.00
25	78.00	Side Arm (L. Heavy)	2	9.405	10.346	1.00	1.00	9.00	240.00	0.000	0.000	93.11	0.00	0.00

Totals: 9,150.70

2,860.62

Total Applied Force Summary

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

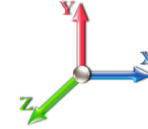


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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

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
1.00		16.92	147.74	0.00	0.00
5.00		66.99	585.70	0.00	0.00
10.00		82.15	720.27	0.00	0.00
15.00		80.38	707.08	0.00	0.00
20.00		83.41	693.90	0.00	0.00
21.00		16.63	137.20	0.00	0.00
25.00		68.21	543.52	0.00	0.00
30.00		86.76	667.53	0.00	0.00
35.00		87.52	654.35	0.00	0.00
38.63		63.52	466.80	0.00	0.00
40.00		23.85	174.37	0.00	0.00
41.00		17.40	126.65	0.00	0.00
44.08		53.91	387.19	0.00	0.00
45.00		16.20	190.35	0.00	0.00
48.00		53.20	617.38	0.00	0.00
50.00		35.32	207.51	0.00	0.00
51.88		33.12	193.52	0.00	0.00
54.33		43.15	250.29	0.00	0.00
55.00		11.81	107.60	0.00	0.00
58.08		54.70	493.37	0.00	0.00
60.00		33.79	155.53	0.00	0.00
61.00		17.55	80.69	0.00	0.00
65.00		70.19	319.58	0.00	0.00
68.13		54.38	246.54	0.00	0.00
70.00		32.22	145.82	0.00	0.00
75.00		85.71	384.45	0.00	0.00
78.00	(4) attachments	164.46	486.87	0.00	0.00
80.00		33.45	149.67	0.00	0.00
81.00		16.62	74.36	0.00	0.00
85.00		66.13	294.27	0.00	0.00
90.00		81.35	348.24	0.00	0.00
95.00		79.68	321.61	0.00	0.00
99.13		64.43	259.69	0.00	0.00
99.42		4.41	17.82	0.00	0.00
100.00		9.10	63.34	0.00	0.00
102.33		36.22	251.21	0.00	0.00
105.00	(24) attachments	1239.68	3617.83	0.00	0.00
110.00		75.41	232.88	0.00	0.00
115.00		73.41	224.97	0.00	0.00
120.00		71.34	217.06	0.00	0.00
125.00		51.41	365.78	0.00	0.00
130.00		51.84	365.78	0.00	0.00
135.00		52.25	365.78	0.00	0.00
136.00	(45) attachments	1558.52	5510.16	0.00	0.00
140.00		42.12	282.62	0.00	0.00

Total Applied Force Summary

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Totals:	5,060.83	22,854.84	0.00	0.00
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Linear Appurtenance Segment Forces (Factored)

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



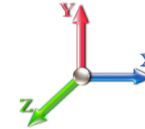
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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 25

Dead Load Factor 1.00

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1" Reinforcing plate	Yes	4.00	0.000	0.00	0.00	0.00	0.066	0.000	6.656	0.00	0.00
5.00	1.25" Reinforcing	Yes	4.00	0.000	2.50	0.83	0.00	0.066	0.000	6.656	0.00	0.00
10.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.068	0.000	6.656	0.00	0.00
10.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.068	0.000	6.656	0.00	0.00
15.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.069	0.000	6.656	0.00	0.00
15.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.069	0.000	6.656	0.00	0.00
20.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.071	0.000	7.062	0.00	0.00
20.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.071	0.000	7.062	0.00	0.00
21.00	1" Reinforcing plate	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	7.135	0.00	0.00
21.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.072	0.000	7.135	0.00	0.00
25.00	1" Reinforcing plate	Yes	4.00	0.000	0.00	0.00	0.00	0.073	0.000	7.402	0.00	0.00
25.00	1.25" Reinforcing	Yes	4.00	0.000	2.50	0.83	0.00	0.073	0.000	7.402	0.00	0.00
30.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.074	0.000	7.691	0.00	0.00
30.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.074	0.000	7.691	0.00	0.00
35.00	1" Reinforcing plate	Yes	5.00	0.000	0.00	0.00	0.00	0.076	0.000	7.945	0.00	0.00
35.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.076	0.000	7.945	0.00	0.00
38.63	1" Reinforcing plate	Yes	3.63	0.000	0.00	0.00	0.00	0.078	0.000	8.112	0.00	0.00
38.63	1.25" Reinforcing	Yes	3.63	0.000	2.50	0.76	0.00	0.078	0.000	8.112	0.00	0.00
40.00	1" Reinforcing plate	Yes	1.37	0.000	0.00	0.00	0.00	0.079	0.000	8.171	0.00	0.00
40.00	1.25" Reinforcing	Yes	1.37	0.000	2.50	0.29	0.00	0.079	0.000	8.171	0.00	0.00
41.00	1" Reinforcing plate	Yes	1.00	0.000	0.00	0.00	0.00	0.079	0.000	8.214	0.00	0.00
41.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.079	0.000	8.214	0.00	0.00
44.08	1.25" Reinforcing	Yes	3.08	0.000	1.25	0.32	0.00	0.040	0.000	8.340	0.00	0.00
45.00	1.25" Reinforcing	Yes	0.92	0.000	1.25	0.10	0.00	0.040	0.000	8.377	0.00	0.00
48.00	1.25" Reinforcing	Yes	3.00	0.000	1.25	0.31	0.00	0.041	0.000	8.491	0.00	0.00
50.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.041	0.000	8.565	0.00	0.00
51.88	1" Reinforcing plate	Yes	1.88	0.000	1.00	0.16	0.00	0.074	0.000	8.631	0.00	0.00
51.88	1.25" Reinforcing	Yes	1.88	0.000	1.25	0.20	0.00	0.074	0.000	8.631	0.00	0.00
54.33	1" Reinforcing plate	Yes	2.45	0.000	1.00	0.20	0.00	0.075	0.000	8.716	0.00	0.00
54.33	1.25" Reinforcing	Yes	2.45	0.000	1.25	0.26	0.00	0.075	0.000	8.716	0.00	0.00
55.00	1" Reinforcing plate	Yes	0.67	0.000	1.00	0.06	0.00	0.075	0.000	8.738	0.00	0.00
55.00	1.25" Reinforcing	Yes	0.67	0.000	1.25	0.07	0.00	0.075	0.000	8.738	0.00	0.00
58.08	1" Reinforcing plate	Yes	3.08	0.000	1.00	0.26	0.00	0.076	0.000	8.839	0.00	0.00
58.08	1.25" Reinforcing	Yes	3.08	0.000	1.25	0.32	0.00	0.076	0.000	8.839	0.00	0.00
60.00	1" Reinforcing plate	Yes	1.92	0.000	1.00	0.16	0.00	0.076	0.000	8.900	0.00	0.00
60.00	1.25" Reinforcing	Yes	1.92	0.000	1.25	0.20	0.00	0.076	0.000	8.900	0.00	0.00
61.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.077	0.000	8.931	0.00	0.00
61.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.077	0.000	8.931	0.00	0.00
65.00	1" Reinforcing plate	Yes	4.00	0.000	1.00	0.33	0.00	0.069	0.000	9.051	0.00	0.00
65.00	1" Reinforcing plate	Yes	4.00	0.000	1.00	0.33	0.00	0.069	0.000	9.051	0.00	0.00
68.13	1" Reinforcing plate	Yes	3.13	0.000	1.00	0.26	0.00	0.070	0.000	9.141	0.00	0.00
68.13	1" Reinforcing plate	Yes	3.13	0.000	1.00	0.26	0.00	0.070	0.000	9.141	0.00	0.00
70.00	1" Reinforcing plate	Yes	1.87	0.000	1.00	0.16	0.00	0.071	0.000	9.193	0.00	0.00
70.00	1" Reinforcing plate	Yes	1.87	0.000	1.00	0.16	0.00	0.071	0.000	9.193	0.00	0.00
75.00	1" Reinforcing plate	Yes	5.00	0.000	1.00	0.42	0.00	0.036	0.000	9.328	0.00	0.00
78.00	1" Reinforcing plate	Yes	3.00	0.000	1.00	0.25	0.00	0.037	0.000	9.405	0.00	0.00
80.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.038	0.000	9.455	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

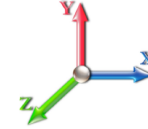
Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 49



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
81.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.038	0.000	9.480	0.00	0.00
85.00	1" Reinforcing plate	Yes	4.00	0.000	1.00	0.33	0.00	0.039	0.000	9.577	0.00	0.00
90.00	1" Reinforcing plate	Yes	5.00	0.000	1.00	0.42	0.00	0.040	0.000	9.693	0.00	0.00
95.00	1" Reinforcing plate	Yes	5.00	0.000	1.00	0.42	0.00	0.041	0.000	9.804	0.00	0.00
99.13	1" Reinforcing plate	Yes	4.13	0.000	1.00	0.34	0.00	0.042	0.000	9.892	0.00	0.00
99.42	1" Reinforcing plate	Yes	0.29	0.000	1.00	0.02	0.00	0.043	0.000	9.898	0.00	0.00
100.00	1" Reinforcing plate	Yes	0.58	0.000	1.00	0.05	0.00	0.043	0.000	9.910	0.00	0.00
102.33	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.019	0.000	9.958	0.00	0.00
Totals:											0.0	0.0

Calculated Forces

Structure: CT46128-A-SBA
Site Name: Milford - West
Height: 140.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: TIA-222-H
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

4/4/2023
 Page: 50



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
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	-22.85	-5.06	0.00	-519.11	0.00	519.11	2594.99	647.31	1997.22	1984.50	0.00	0.000	0.000	0.173
1.00	-22.70	-5.06	0.00	-514.05	0.00	514.05	2587.52	644.59	1980.48	1970.40	0.00	-0.015	0.000	0.172
5.00	-22.11	-5.01	0.00	-493.82	0.00	493.82	2557.32	633.72	1914.19	1914.27	0.03	-0.055	0.000	0.159
10.00	-21.39	-4.95	0.00	-468.77	0.00	468.77	2518.93	620.12	1832.92	1844.73	0.13	-0.123	0.000	0.156
15.00	-20.67	-4.90	0.00	-444.00	0.00	444.00	2479.82	606.52	1753.41	1775.91	0.29	-0.191	0.000	0.152
20.00	-19.98	-4.82	0.00	-419.53	0.00	419.53	2439.98	592.92	1675.66	1707.85	0.53	-0.259	0.000	0.147
21.00	-19.84	-4.82	0.00	-414.71	0.00	414.71	2431.93	590.20	1660.32	1694.34	0.58	-0.273	0.000	0.147
25.00	-19.29	-4.76	0.00	-395.45	0.00	395.45	2399.42	579.32	1599.68	1640.59	0.83	-0.312	0.000	0.143
30.00	-18.62	-4.69	0.00	-371.64	0.00	371.64	2358.14	565.72	1525.46	1574.17	1.19	-0.380	0.000	0.139
35.00	-17.96	-4.62	0.00	-348.17	0.00	348.17	2316.13	552.12	1453.00	1508.60	1.63	-0.448	0.000	0.134
38.63	-17.49	-4.56	0.00	-331.40	0.00	331.40	2285.18	542.25	1401.50	1461.57	1.99	-0.497	0.000	0.131
40.00	-17.32	-4.54	0.00	-325.15	0.00	325.15	2273.40	538.52	1382.30	1443.94	2.13	-0.516	0.000	0.159
41.00	-17.19	-4.53	0.00	-320.61	0.00	320.61	2264.77	535.80	1368.38	1431.12	2.24	-0.533	0.000	0.158
44.08	-16.80	-4.48	0.00	-306.63	0.00	306.63	2232.73	527.42	1325.88	1388.57	2.60	-0.573	0.000	0.155
45.00	-16.61	-4.47	0.00	-302.52	0.00	302.52	2222.17	524.92	1313.37	1375.41	2.71	-0.588	0.000	0.153
48.00	-15.99	-4.43	0.00	-289.10	0.00	289.10	1679.75	421.24	1057.24	1045.08	3.10	-0.638	0.000	0.162
50.00	-15.78	-4.40	0.00	-280.25	0.00	280.25	1667.94	416.89	1035.51	1026.92	3.37	-0.671	0.000	0.177
51.88	-15.58	-4.37	0.00	-271.98	0.00	271.98	1656.73	412.80	1015.29	1009.93	3.64	-0.706	0.000	0.174
54.33	-15.33	-4.33	0.00	-261.26	0.00	261.26	1641.95	407.46	989.20	987.87	4.01	-0.738	0.000	0.121
55.00	-15.22	-4.32	0.00	-258.37	0.00	258.37	1637.90	406.01	982.17	981.90	4.12	-0.746	0.000	0.119
58.08	-14.72	-4.27	0.00	-245.04	0.00	245.04	1101.62	304.05	734.39	660.80	4.61	-0.785	0.000	0.130
60.00	-14.57	-4.24	0.00	-236.85	0.00	236.85	1095.40	300.92	719.36	650.26	4.93	-0.809	0.000	0.140
61.00	-14.49	-4.23	0.00	-232.62	0.00	232.62	1092.11	299.29	711.58	644.77	5.10	-0.823	0.000	0.138
65.00	-14.16	-4.16	0.00	-215.70	0.00	215.70	1078.67	292.76	680.88	622.86	5.81	-0.866	0.000	0.140
68.13	-13.92	-4.11	0.00	-202.67	0.00	202.67	1067.83	287.65	657.33	605.77	6.39	-0.910	0.000	0.134
70.00	-13.77	-4.10	0.00	-194.98	0.00	194.98	1061.22	284.60	643.45	595.59	6.75	-0.936	0.000	0.201
75.00	-13.38	-4.02	0.00	-174.50	0.00	174.50	1043.04	276.44	607.09	568.49	7.79	-1.039	0.000	0.186
78.00	-12.89	-3.86	0.00	-162.44	0.00	162.44	1031.79	271.55	585.78	552.33	8.46	-1.099	0.000	0.177
80.00	-12.74	-3.83	0.00	-154.72	0.00	154.72	1024.15	268.28	571.78	541.60	8.93	-1.139	0.000	0.171
81.00	-12.66	-3.82	0.00	-150.89	0.00	150.89	1020.28	266.65	564.84	536.25	9.17	-1.159	0.000	0.168
85.00	-12.37	-3.76	0.00	-135.61	0.00	135.61	1004.52	260.12	537.53	514.95	10.16	-1.211	0.000	0.156
90.00	-12.01	-3.69	0.00	-116.80	0.00	116.80	984.18	251.96	504.33	488.58	11.48	-1.299	0.000	0.140
95.00	-11.69	-3.62	0.00	-98.34	0.00	98.34	963.11	243.80	472.20	462.52	12.88	-1.381	0.000	0.123
99.13	-11.43	-3.55	0.00	-83.40	0.00	83.40	945.17	237.06	446.45	441.25	14.11	-1.442	0.000	0.108
99.13	-11.43	-3.55	0.00	-83.40	0.00	83.40	945.17	237.06	446.45	441.25	14.11	-1.442	0.000	0.188
99.42	-11.41	-3.55	0.00	-82.38	0.00	82.38	943.90	236.60	444.69	439.78	14.19	-1.446	0.000	0.200
100.00	-11.35	-3.55	0.00	-80.31	0.00	80.31	941.32	235.64	441.12	436.80	14.37	-1.462	0.000	0.196
102.33	-11.09	-3.52	0.00	-72.03	0.00	72.03	941.62	235.75	441.53	437.14	15.10	-1.520	0.000	0.177
105.00	-7.51	-2.19	0.00	-62.65	0.00	62.65	929.71	231.40	425.38	423.58	15.97	-1.582	0.000	0.156
110.00	-7.27	-2.12	0.00	-51.69	0.00	51.69	906.82	223.24	395.91	398.46	17.68	-1.682	0.000	0.138
115.00	-7.05	-2.05	0.00	-41.09	0.00	41.09	883.20	215.08	367.50	373.78	19.49	-1.772	0.000	0.118
120.00	-6.83	-1.98	0.00	-30.83	0.00	30.83	858.87	206.92	340.14	349.57	21.39	-1.850	0.000	0.096
120.00	-6.83	-1.98	0.00	-30.83	0.00	30.83	784.88	235.46	25322.4	367.00	21.39	-1.850	0.000	0.093
125.00	-6.46	-1.92	0.00	-20.92	0.00	20.92	784.88	235.46	25322.4	367.00	23.36	-1.913	0.000	0.065
130.00	-6.10	-1.86	0.00	-11.31	0.00	11.31	784.88	235.46	25322.4	367.00	25.38	-1.941	0.000	0.039
135.00	-5.73	-1.80	0.00	-2.00	0.00	2.00	784.88	235.46	25322.4	367.00	27.42	-1.953	0.000	0.013
136.00	-0.28	-0.05	0.00	-0.21	0.00	0.21	784.88	235.46	25322.4	367.00	27.83	-1.953	0.000	0.001
140.00	0.00	-0.04	0.00	0.00	0.00	0.00	784.88	235.46	25322.4	367.00	29.46	-1.953	0.000	0.000

Calculated Forces

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 51



Final Analysis Summary

Structure: CT46128-A-SBA	Code: TIA-222-H	4/4/2023
Site Name: Milford - West	Exposure: C	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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 + 1.0W 120 mph Wind	22.6	0.00	27.41	0.00	0.00	2339.11
0.9D + 1.0W 120 mph Wind	22.6	0.00	20.56	0.00	0.00	2302.36
1.2D + 1.0Di + 1.0Wi 0 mph Wind	0.0	0.00	40.13	0.00	0.00	0.00
1.2D + 1.0Ev + 1.0Eh	0.3	0.00	28.43	0.00	0.00	37.98
0.9D + 1.0Ev + 1.0Eh	0.3	0.00	21.54	0.00	0.00	37.32
1.0D + 1.0W 60 mph Wind	5.1	0.00	22.85	0.00	0.00	519.11

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 + 1.0W 120 mph Wind	-15.21	-18.49	0.00	-882.12	0.00	-882.12	1061.22	284.60	643.45	595.59	70.00	0.892
0.9D + 1.0W 120 mph Wind	-11.10	-18.14	0.00	-858.70	0.00	-858.70	1061.22	284.60	643.45	595.59	70.00	0.866
1.2D + 1.0Di + 1.0Wi 0 mph Wind	-21.90	0.00	0.00	0.00	0.00	0.00	943.90	236.60	444.69	439.78	99.42	0.023
1.2D + 1.0Ev + 1.0Eh	-14.29	-0.30	0.00	-9.15	0.00	-9.15	943.90	236.60	444.69	439.78	99.42	0.036
0.9D + 1.0Ev + 1.0Eh	-10.84	-0.29	0.00	-8.92	0.00	-8.92	943.90	236.60	444.69	439.78	99.42	0.032
1.0D + 1.0W 60 mph Wind	-13.77	-4.10	0.00	-194.98	0.00	-194.98	1061.22	284.60	643.45	595.59	70.00	0.201

Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors			Lower Termination				Upper Termination				Max Member			
			VQ/I (lb/in)	Vu (kips)	phi Vn (kips)	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	Pu (kips)	phi Pn (kips)	phi Tn (kips)	Ratio
0.0	1.0	(3) SOL-2 1/4" William R71	-208.6	-2.50	25.3	257.0	25.3	11	0	256.3	25.3			257.00	459.1	468.91	0.560
0.0	1.0	(1) SOL-1 3/4" William R71	159.3	1.91	25.3	170.7	25.3	7	0	195.8	25.3			170.71	288.5	298.82	0.592
1.0	21.0	(3) LNP-LP6X125-B-20B	-309.5	-7.43	25.3	251.1	25.3			321.5	25.3			342.45	395.0	360.94	0.949
1.0	21.0	(1) LNP-LP6X100-B-20C	240.3	5.77	25.3	195.8	25.3			249.6	25.3			266.40	297.8	288.75	0.923
21.0	38.6	(1) LNP-LP6X100-G-20CT	259.1	6.22	25.3	169.0	25.3			226.7	22.7	10	10	244.82	297.8	288.75	0.848
21.0	41.0	(3) LNP-LP6X125-G-20BB	-370.1	-8.88	25.3	222.7	25.3			315.2	25.3			317.12	395.0	360.94	0.879
41.0	61.0	(3) LNP-LP6X125-G-20BB	-429.8	-10.31	25.3	315.2	25.3			274.4	25.3			326.59	395.0	360.94	0.905
51.9	68.1	(2) LNP-LP6X100-G-20TT	356.3	8.55	25.3	214.6	22.7	10	10	211.2	22.7	10	10	219.53	297.8	288.75	0.760
61.0	81.0	(3) LNP-LP6X100-G-20BC	-486.9	-11.69	25.3	198.9	25.3			231.2	25.3			271.08	297.8	288.75	0.939
81.0	99.1	(3) LNP-LP6X100-G-20CT	-538.2	-12.92	25.3	155.1	25.3			151.8	22.7	7	8	215.57	297.8	288.75	0.747



Pier Foundation Design For Monopole			Date
			4/4/2023
Customer Name:	AT&T	EIA/TIA Standard:	TIA-222-H
Site Name:		Structure Height (Ft.):	140
Site Number:	CT46128-A-SBA	Engineer Name:	H. You
Engr. Number:	137809	Engineer Login ID:	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	27.4	Shear Force (Kips):	22.6
Uplift Force (Kips):	0.0	Moment (Kips-ft):	2339.1

Foundation Geometries:

Diameter of Pier (ft.):	5.5	Depth of Base B. G. S. :	33.0 ft.
Pier Height A. G. (ft.):	0.50		

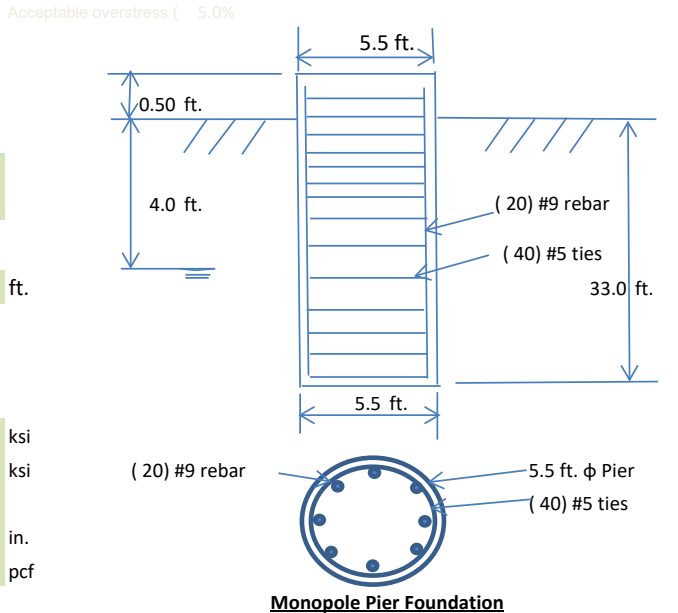
Material Properties and Rebar Info:

Concrete Strength (psi):	5000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield strength:	60	ksi
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	20	Tie Spacing:	12.0	in.
Concrete Cover (in.):	4	Concrete unit weight:	150.0	pcf

Soil Design Parameters:

Water Table B.G.S. (ft):	4.0	Unit weight of water:	62.4	psf
Ratio of Uplift/Axial Skin Friction:	1.0	Pullout failure Angle:	30	(°)

Skin Frictions are to be obtained from: Soil Report



Depth of Layers (ft)		γ_{soil} (pcf)	ϕ (°)	Cohesion (psf)	Ultimate Skin Friction (psf)	Ultimate Bearing (psf)	Soil Types						
Top	Bottom												
0.0	3.0	120	0	0	0	0	Sand						
3.0	15.0	120	30	0	200	16000	Sand						
15.0	34.0	120	30	0	500	16000	Sand						
34.0	39.0	120	33	0	500	16000	Sand						

Soil weight Increase Factor for bouyant soils (1.0 to 1.15): 1.1

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Soil Bearing Strength Reduction Factor:	0.75
Total Dry Soil Volume from Conical Failure (cu. Ft.):	5256	Dry Soil Weight from Conical Failure:	631 Kips
Total Buoyant Soil Volume from Conical Failure (cu. Ft.):	12708	Buoyant Soil Weight from Conical Failure (Kips):	961 Kips
Total Dry Concrete Volume (cu. Ft.):	107	Total Dry Concrete Weight:	16.0 Kips
Total Buoyant Concrete Volume (cu. Ft.):	689.0	Total Buoyant Concrete Weight:	60.36 Kips
Total Effective Concrete Weight (Kips):	76.4	Total Effective Soil Weight:	1591.5 Kips
Total Effective Vertical Load on Base (Kips):	40.3		

Check Soil Capacities:

Allowable Foundation Overturning Resistance (kips-ft.):	8115.0	>	Design Factored Moment (kips-ft):	2849	Usage	0.35	OK!
Factor of Safety of Passive Soil Resistance against Moment:	2.85	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

Reinforcing Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	1.00	Tie / Stirrup Area (sq. in./each):	0.31	Usage		
Calculated Moment Capacity (Mn,Kips-Ft):	2636.2	>	Design Factored Moment (Mu, K-Ft):	2436.8	0.92	OK!
Calculated Shear Capacity (Kips):	613.9	>	Design Factored Shear (Kips):	188.3	0.31	OK!
Calculated Tension Capacity (Tn, Kips):	1080.0	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	7517	>	Design Factored Axial Load (Pu Kips):	27.4	0.00	OK!
Moment & Axial Strength Combination:	0.92	OK!	Max. Allowable Tie/Stirrup Spacing:	12.00	in.	
Pier Reinforcement Ratio:	0.006	Reinforcement Ratio is satisfied per ACI				

ATTACHMENT 2

PER THE INTERNATIONAL BUILDING CODE THIS STRUCTURE IS CLASSIFIED AS:

1. CONSTRUCTION TYPE II-B (TABLE 601)
2. GROUP U OCCUPANCY (SECTION 312.1 UNOCCUPIED TOWER SITE)

MODIFICATION AND DESIGN DRAWINGS FOR AN EXISTING 120' ROHN MONOPOLE TOWER W/ PROPOSED 20' EXTENSION

PROPOSED CARRIER: AT&T

SITE: CT46128-A-SBA / MILFORD - WEST

COORDINATES (LATITUDE: 41.225166°, LONGITUDE: -73.042361°)

CONSTRUCTION CLASS

THE RIGGING PLAN FOR THIS SITE WOULD BE A MINIMUM OF A CLASS IV AND THE CONTRACTOR SHALL MAKE FINAL DETERMINATION

PLEASE NOTE THIS SET OF DRAWINGS IS FOR INSTALLATION AND ASSEMBLY ONLY. FABRICATION DETAIL DRAWINGS ARE NOT PROVIDED AND MUST BE COMPLETED BY THE STEEL FABRICATOR SELECTED. TES CAN PROVIDE THE FABRICATION DETAIL DRAWINGS FOR AN ADDITIONAL FEE.

NOTE:

1. THE MODIFICATION DRAWINGS ARE BASED ON THE TES PROJECT NO. 137715, DATED 01/13/2023.

SHEET	SHEET TITLE	REV
T-1	TITLE SHEET	0
BOM	BILL OF MATERIALS	0
GN-1	GENERAL NOTES	0
A-1	TOWER PROFILE	0
A-1A	ADDITIONAL DETAILS	0
A-2	INSTALLATION OF NEW ANCHOR ROD DETAILS	0
A-3	REINFORCEMENT ASSEMBLY	0
A-4	REINFORCEMENT ASSEMBLY	0
A-5	REINFORCEMENT ASSEMBLY	0
A-6	REINFORCEMENT ASSEMBLY	0
A-7	REINFORCEMENT ASSEMBLY	0
A-8	REINFORCEMENT ASSEMBLY	0
A-9	REINFORCEMENT ASSEMBLY	0
A-10	MONOPOLE EXTENSION INSTALLATION DETAILS	0
A-11	STEP BOLT INSTALLATION DETAILS	0
A-LP-BB	SPLICE CONNECTION PLATE INSTALLATION DETAILS (TYPE BB)	0
A-LP-BC	SPLICE CONNECTION PLATE INSTALLATION DETAILS (TYPE BC)	0
A-LP-CC	SPLICE CONNECTION PLATE INSTALLATION DETAILS (TYPE CC)	0
SPEC-1	NEXGEN2 BLIND BOLT ASSEMBLY INSTALLATION GUIDE	0
SPEC-2	NEXGEN2 BLIND BOLT ASSEMBLY INSTALLATION GUIDE	0
LP-AT-PH	INSTALLATION AT HANDHOLE LOCATION DETAILS	0



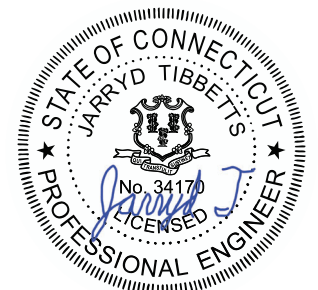
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4/4/2023

DRAWN BY: LC | CHECKED BY: TA/AD

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TITLE SHEET

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BILL OF MATERIALS

QUANTITY COUNTED	QUANTITY PROVIDED	PART NUMBER	DESCRIPTIONS	LENGTH	SHEET LIST (INSTALLATION)	SHEET LIST (FABRICATE)	PIECE WEIGHT (LBS)	WEIGHT (LB)	NOTES	
MATERIAL & HARDWARE										
1	1	LP6X125-BR4.75-20B	6" x 1.25" Flat Bar with Right Bolt Bracket, Base Section with 4.75" Offset, 20 ft. Long. Connection Type B	20'-0"	A-4	LP6X125-BR4.75-20B	650.5	650.5	Galvanized	
1	1	LP6X125-BR4.75S-20B	6" x 1.25" Flat Bar with Right Bolt Bracket and Step Bolt Brackets, Base Section with 4.75" Offset, 20 ft. Long. Connection Type B	20'-0"	A-4	LP6X125-BR4.75S-20B	656.6	656.6	Galvanized	
1	1	LP6X125-BL4.75-20B	6" x 1.25" Flat Bar with Left Bolt Bracket, Base Section with 4.75" Offset, 20 ft. Long. Connection Type B	20'-0"	A-4	LP6X125-BL4.75-20B	650.5	650.5	Galvanized	
3	3	LP6X100-G-20CT	6" x 1.00" Flat Bar, 20 ft. Long, Standard, Connection Type C with Termination at top	20'-0"	A-5, A-9	LP6X100-G-20CT	503.4	1510.2	Galvanized	
4	4	LP6X125-G-20BB	6" x 1.25" Flat Bar, 20 ft. Long, Standard, Connection Type BB	20'-0"	A-5, A-6	LP6X125-G-20BB	671.6	2686.4	Galvanized	
2	2	LP6X125-S-20BB	6" x 1.25" Flat Bar, 20 ft. Long with Step Bolt Brackets, Connection Type BB	20'-0"	A-5, A-6	LP6X125-S-20BB	681.2	1362.4	Galvanized	
2	2	LP6X100-G-20BC	6" x 1.00" Flat Bar, 20 ft. Long, Standard, Connection Type BC	20'-0"	A-8	LP6X100-G-20BC	531.1	1062.2	Galvanized	
1	1	LP6X100-S-20BC	6" x 1.00" Flat Bar, 20 ft. Long with Step Bolt Brackets, Connection Type BC	20'-0"	A-8	LP6X100-S-20BC	540.7	540.7	Galvanized	
1	1	LP6X100-S-20CT	6" x 1.00" Flat Bar, 20 ft. Long with Step Bolt Brackets, Connection Type C with Termination at top	20'-0"	A-9	LP6X100-S-20CT	513.0	513.0	Galvanized	
9	9	CPL-B	Link Plate Cover, PL 3/8" x 3 3/4" x 1'- 8 1/2", A572, Grade 50	---	A-5, A-6, A-8	F-C	8.3	74.7	Galvanized	
4	4	CPL-C	Link Plate Cover, PL 3/8" x 3 1/4" x 1'- 6 13/16", A572, Grade 50	---	A-5, A-9	F-C	6.6	26.4	Galvanized	
3	3	R71-18	Williams 2 1/4" Dia. All-thread Rod (150 ksi) X 12.5 Ft. Long	12.50	A-2	---	176.3	528.8	Galvanized	
6	6	R73-18	Williams 2 1/4" Dia. R73 Hex Nuts	---	A-2	---	---	---	Galvanized	
6	6	PLW-1	PL 1 1/4" X 4 1/2" FLAT WASHER, A572 Grade 65	---	A-2	F-A	3.7	22.2	Galvanized	
93	98	STEP BOLT	Step Bolt 5/8" Dia x 7 1/2" Long	---	A-4 TO A-10	F-A	0.75	73.5	Galvanized	
199	209	HB16-2	Lindapter 5/8" Type HB Hollo-Bolt (HCF, M16x100)	---	A-3 TO A-9	---	---	---	Galvanized	
26	29	HB20-3	Lindapter 3/4" Type HB Hollo-Bolt (HCF, M20x150)	---	A-5 TO A-9	---	---	---	Galvanized	
6	8	SHIM-M20-1	1/4" Thick Shim For HB20-3 Hollo-Bolt	---	A-1A, A-LP-BC	F-C	0.6	3.8	Galvanized	
9	11	SHIM-M16-2	3/16" Thick Shim For HB16-2 Hollo-Bolt	---	A-1A	F-C	0.2	2.3	Galvanized	
6	8	SHIM-M16-3	1/8" Thick Shim For HB16-2 Hollo-Bolt	---	A-1A	F-C	0.2	1.2	Galvanized	
6	8	SHIM-M20-3	1/8" Thick Shim For HB20-3 Hollo-Bolt	---	A-1A	SP1	0.3	2.6	Galvanized	
3	3	SH1875-11	3/16" (11) Holes Shim For Termination Bolts	---	A-1A, A-9	F-C	8.0	24.0	Galvanized	
7	9	SHIM-M16-1	1/4" Thick Shim For HB16-2 Hollo-Bolt	---	A-7	F-C	0.3	2.5	Galvanized	
24	26	2NG2048	M20x95 NEXGEN2 BLIND Bolt Assembly	---	---	F-C	---	---	Galvanized	
Following Items are Non-standard Parts										
1	1	LP6X100-B2-20C	6" x 1.00" Flat Bar, 20 ft. Long, Standard, Base Section with 5.5" offset, Connection Type C	20'-0"	A-3	LP6X100-B2-20C	508.7	508.7	Galvanized	
2	2	R73-14	Williams 1 3/4" Dia. R73 Hex Nuts	---	A-2	---	---	---	Galvanized	
2	2	PLW-2	PL 1 1/4" X 3 1/2" FLAT WASHER, A572 Grade 65	---	A-2	F-A	2.3	4.6	Galvanized	
1	1	MPE-18-20S	MONOPOLE EXTENSION WELDMENT PIPE HSS 18.000X0.375 X 20'-0" A500 GR. B (42KSI)	20'-0"	A-10	F-1	1883.7	1883.7	Galvanized	
1	1	TFP-20B	FLANGE PLATE PL 1 1/2" X 2'-7 1/2" DIA A572-50	---	A-10	FP-18	266.8	266.8	Galvanized	
1	1	CPL-18	TOP CAP PLATE PL 3/16" X 2'-0 1/2" DIA A36	---	A-10	FP-18	25	25	Galvanized	
12	14	---	BOLT 1" X 4 3/4" A325 W/ NUT-FW EA.	---	A-10	---	---	---	Galvanized	
2	3	---	BOLT 1" X 3 1/2" A325 W/ NUT-FW EA.	---	A-10	---	---	---	Galvanized	
1	1	115-303	SAFETY CABLE GUIDE L-STYLE W/ HARDWARE (TUF-TUG OR EQUIV.)	---	A-10	---	---	---	Galvanized	
1	1	115-300	TUF-TUG HEAD ASSEMBLY & STAINLESS STEEL SAFETY CABLE WITH FACTORY SWAGED FITTING (140 FT)	---	A-10	---	---	---	Galvanized	
1	1	C30-086-001	5/8" X 4'-0" COPPER-CLAD LIGHTNING ROD (SABRE OR EQUIV.)	---	A-1	---	---	---	---	
2	2	---	LANCO RC-300 OR HENRY 287 WHITE ACRYLIC ELASTOMERIC COATING AND SEALER OR EQUIV (GALLON)	---	A-1	---	---	---	Provided by Contractor	
1	1	115-309/310	TUF-TUG BASE ANCHOR ASSEMBLY FOR MONOPOLE	---	A-1	---	---	---	Galvanized	
1	1	AL-1	L 6" X 3 1/2" X 3/8" X 8" A36	---	A-1A	MPE-CL	7.9	7.9	Galvanized	
2	3	---	BOLT 5/8" X 2" A325	---	A-1A	---	---	---	(1) HHN & LKW-EA GALVANIZED	
4	6	---	FLAT WASHER FOR 5/8" BOLT	---	A-1A	---	---	---	Galvanized	
6	7	2NG2032	M20 X 75 NEXGEN2 BLIND BOLT ASSEMBLY	---	A-11	---	---	---	Galvanized	
6	7	2RCNGM20212A	ALLFASTENERS M20 X 3/4 X 2 1/2" STEP BOLT ADAPTER ASSEMBLY	---	A-11	---	---	---	Galvanized	
2	2	PL-1	PL 1/4" X 4" X 2'-0" A36	---	A-7	F-2	7	14	Galvanized	
11	13	HB16-1	Lindapter 5/8" Type HB Hollo-Bolt (HCF)	---	A-7	---	---	---	Galvanized	
<p>ALL APLXXXX, LPXXXX AND RLPXXXX ARE PATENTED PRODUCTS AND CANNOT BE FABRICATED BY THIRD PARTIES. THESE PARTS ARE AVAILABLE FROM:</p> <p>METROSITE, LLC. 180 IND PARK BLVD COMMERCE, GA 30529 OFFICE: (706) 335-7045 FAX: (706) 335-7056</p>										
NOTE: ALL MATERIALS, WHICH WEREN'T LISTED IN THIS SHEET, ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.										
TOTAL WEIGHT (LBS) =							13105.2			

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GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE ANSI/TIA-222-H, ANSI/ASSP A10.48, 2022 CONNECTICUT STATE BUILDING CODE, AND ANY OTHER GOVERNING BUILDING CODES AND OSHA SAFETY REGULATIONS.
2. ALL WORK INDICATED ON THE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TELECOMMUNICATIONS TOWER, POLE AND FOUNDATION CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND FABRICATION OF ALL MISCELLANEOUS PARTS (SUCH AS SHIMS), TEMPORARY SUPPORTS, AND GUYINGS, ETC., PER ANSI/ASSP A10.48, TO COMPLETE THE ASSEMBLY AS SHOWN IN THE DRAWINGS.
4. CONTRACTOR SHALL PROCEED WITH THE INSTALLATION WORK CAREFULLY SO THE WORK WILL NOT DAMAGE ANY EXISTING CABLE, EQUIPMENT OR THE STRUCTURE.
5. THE USE OF GAS TORCH OR WELDER, ARE NOT ALLOWED ON ANY TOWER STRUCTURE WITHOUT THE CONSENT OF THE TOWER OWNER.
6. GENERALLY THE CONTRACTOR IS RESPONSIBLE TO CONDUCT AN ONSITE VISIT SURVEY OF THE JOB SITE AFTER AWARD, AND REPORT ANY ISSUES WITH THE SITE TO **TES** BEFORE PROCEEDING CONSTRUCTION.

FABRICATION

1. ALL STEEL SHALL MEET OR EXCEED THE MINIMUM STRENGTH AS SPECIFIED IN THE DRAWINGS. IF YIELD STRENGTH WAS NOT NOTED IN THE DRAWINGS, CONTRACTORS SHALL CONTACT TES FOR DIRECTION.
2. ALL FIELD CUT EDGES SHALL BE GROUND SMOOTH. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

WELDING

1. ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNO. (E70XX UNLESS NOTED OTHERWISE).
2. PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING APPROX. 0.5" BEYOND THE PROPOSED FIELD WELD SURFACES.
3. ALL WELDS SHALL BE INSPECTED VISUALLY. A MINIMUM OF 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. 100% OF WELDS SHALL BE INSPECTED IF DEFECTS ARE FOUND.
4. WELD INSPECTIONS SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
5. AFTER INSPECTION, ALL FIELD WELDED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

BOLTED ASSEMBLIES AND TIGHTENING OF CONNECTIONS

1. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE PROVISIONS OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS AS APPROVED BY THE RCSC.
2. FLANGE BOLTS SHALL BE TIGHTENED BY THE AISC "TURN-OF-THE-NUT" METHOD. THE FOLLOWING TABLE SHOULD BE USED FOR THE "TURN-OF-THE-NUT" TIGHTENING.
3. SPLICE BOLTS AND ALL OTHER BOLTS IN BEARING TYPE CONNECTIONS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION.
4. THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS ATTAINED BY EITHER A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER WITH AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
5. HB HOLLO-BOLT SHALL BE INSTALLED PER ICC ESR-3330 INSTRUCTIONS.

VERIFICATION AND INSPECTION

1. IF APPLICABLE, VERIFICATION INSPECTION TO BE PERFORMED SHALL BE IN ACCORDANCE TO IBC-2021 SECTION 1705.2 FOR STEEL CONSTRUCTION & TABLE 1705.3 FOR CONCRETE CONSTRUCTION.

POST INSTALLED EPOXY INJECTED ANCHOR BOLTS:

1. CONCRETE MUST BE A MINIMUM OF 28 DAYS OLD.
2. FOLLOW MANUFACTURER'S REQUIREMENTS FOR CURE TIME VS. AMBIENT TEMPERATURE.
3. DRILL HOLE TO REQUIRED DIAMETER AND DEPTH. ALL WATER, DIRT, OIL, DEBRIS, GREASE OR DUST MUST BE REMOVED FROM EACH CORE HOLE. FOLLOW MANUFACTURER'S RECOMMENDATION FOR CORRECT TYPE OF CORE BIT. AVOID DAMAGING EXISTING REINFORCING STEEL OR OTHER EMBEDDED ITEMS. NOTIFY TES ENGINEERING IF VOIDS IN THE CONCRETE, REINFORCING STEEL OR OTHER EMBEDDED ITEMS ARE ENCOUNTERED. STOP CORING IMMEDIATELY IF THIS OCCURS.
4. A HOLE ROUGHENING DEVICE FROM EITHER HILTI OR ALLFASTENERS SHALL BE USED WITH ALL HOLES. FOLLOW ALL MANUFACTURER'S RECOMMENDED CORING AND INSTALLATION INSTRUCTIONS.
5. AFTER CORING AND ROUGHENING, FLUSH EACH HOLE WITH RUNNING WATER TO REMOVE ANY SLURRY OR DEBRIS. REMOVE ALL WATER FROM THE HOLE BY MECHANICAL PUMPING.
6. BRUSH EACH HOLE WITH AN APPROPRIATE SIZED NYLON BRUSH AND FLUSH WITH RUNNING WATER A SECOND TIME. REMOVE ALL WATER FROM THE HOLE.
7. AFTER THE SECOND WATER FLUSH BRUSH THE HOLE AGAIN WITH THE APPROPRIATE SIZED NYLON BRUSH.
8. BLOW EACH HOLE WITH COMPRESSED AIR TWO TIMES MINIMUM.
9. CONFIRM THAT EACH HOLE IS PROPERLY ROUGHED AND DRY.
10. NO EPOXY INJECTION SHALL TAKE PLACE IN RAINY CONDITIONS.
11. EPOXY SHOULD BE VISIBLE AT THE TOP OF THE CORE HOLE AFTER INSTALLATION.
12. CONTRACTOR TO SUPPLY ONE PHOTO OF EACH ROUGHED AND CLEANED HOLE IN CLOSEOUT PHOTO PACKAGE.

TABLE 8.2 NUT ROTATION FROM SNUG-TIGHT CONDITION FOR TURN-OF-NUT PRETENSIONING^{a,b}

BOLT LENGTH ^f	DISPOSITION OF OUTER FACE OF BOLTED PARTS		
	BOTH FACES NORMAL TO BOLT AXIS	ONE FACE NORMAL TO BOLT AXIS, OTHER SLOPED NOT MORE THAN 1:20 ^d	BOTH FACES SLOPED NOT MORE THAN 1:20 FROM NORMAL TO BOLT AXIS ^d
NOT MORE THAN 4d _b	1/3 TURN	1/2 TURN	2/3 TURN
MORE THAN 4d _b BUT NOT MORE THAN 8d _b	1/2 TURN	2/3 TURN	5/6 TURN
MORE THAN 8d _b BUT NOT MORE THAN 12d _b	2/3 TURN	5/6 TURN	1 TURN

^a NUT ROTATION IS RELATIVE TO BOLT REGARDLESS OF THE ELEMENT (NUT OR BOLT) BEING TURNED. FOR REQUIRED NUT ROTATIONS OF 1/2 TURN AND LESS, THE TOLERANCE IS PLUS OR MINUS 30 DEGREES; FOR REQUIRED NUT ROTATIONS OF 2/3 TURN AND MORE, THE TOLERANCE IS PLUS OR MINUS 45 DEGREES.

^b APPLICABLE ONLY TO JOINTS IN WHICH ALL MATERIAL WITHIN THE GRIP IS STEEL.

^c WHEN THE BOLT LENGTH EXCEEDS 12d_b, THE REQUIRED NUT ROTATION SHALL BE DETERMINED BY ACTUAL TESTING IN A SUITABLE TENSION CALIBRATOR THAT SIMULATES THE CONDITIONS OF SOLIDLY FITTING STEEL.

^d BEVELED WASHER NOT USED.

SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, JUNE 30, 2004 RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS

INSTALLATION TORQUE REQUIRED FOR HOLLO BOLTS AND AJAX BOLTS:

1. HB12 HOLLO BOLT: 59 FT-LBS
2. HB16 HOLLO BOLT: 140 FT-LBS
3. HB20 HOLLO BOLT: 221 FT-LBS
4. M20 AJAX BOLT: 280 FT-LBS.

FIELD HOT WORK PLAN NOTES:

FOLLOWING GUIDELINES SHALL BE COMPLIED WITH:

1. CONTRACTOR'S RESPONSIBILITY TO COMPLETE A HOT WORK PLAN IF AWARDED PER CUSTOMER SPECIFICATIONS GUIDELINES FOR WELDING, CUTTING & SPARK PRODUCING WORK.
2. HAVE A FIRE PLAN APPROVED BY THE CUSTOMER AND THEIR SAFETY MANAGEMENT DEPT.
3. CONTRACTOR MUST OBTAIN THE CONTACT INFO OF THE LOCAL FIRE DEPARTMENT AND THE 911 ADDRESS OF THE TOWER SITE BEFORE CONSTRUCTION.
4. CONTRACTOR SHALL MAKE SURE THAT CELL PHONE COVERAGE IS AVAILABLE IN THE TOWER SITE. IF CELL COVERAGE IS NOT AVAILABLE, AN IMMEDIATE AVAILABLE MEANS OF DIRECT COMMUNICATION WITH THE FIRE DEPARTMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION START.
5. ALL CONSTRUCTION SHALL BE PERFORMED UNDER WIND SPEED LESS THAN 10 MPH ON THE GROUND LEVEL. IF WIND SPEED INCREASE, CONTRACTOR MUST DETERMINE IF CONSTRUCTION SHALL BE DISCONTINUED.
6. FIRE SUPPRESSION EQUIPMENT MUST BE MADE AVAILABLE ON SITE AND READY TO USE.
7. CONTRACTOR SHALL ASSIGN A FIRE WATCHER TO PERFORM FIRE-FIGHTING DUTIES.
8. ALL WELDERS SHALL BE AWS OR STATE CERTIFIED. THEY MUST ALSO BE EXPERIENCED IN WELDING ON GALVANIZED MATERIALS.
9. IF IT IS POSSIBLE, ALL EXISTING COAX NEAR WELDING AREA SHALL BE TEMPORARILY MOVED AWAY FROM THE WELDING AREA BEFORE WELDING THE PLATES.
10. PLEASE REPORT ANY FIELD ISSUE TO TES @ 972-483-0607.



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NOTES:

1. TEMPORARILY RELOCATE ANY EXISTING COAX ATTACHED TO THE MONOPOLE AND ANY OTHER MEMBERS WHERE OBSTRUCTION WITH THE PROPOSED MODIFICATION MAY OCCUR.
2. TEMPORARY RELOCATION OF EXISTING EQUIPMENT AROUND THE FOUNDATION MAY BE REQUIRED DURING CONSTRUCTION.

SCOPE OF WORK

1. INSTALL NEW (3) ANCHOR ROD REINFORCEMENTS. SEE SHEET A-2 FOR DETAILS.
2. A. REMOVE (1) EXISTING ANCHOR REINFORCEMENT WELDMENT ON FLAT #4 PRIOR TO INSTALLATION OF NEW LINK PLATE REINFORCEMENT.
B. INSTALL NEW (1) LP6X100-B2-20C FLAT BAR REINFORCEMENT FROM ±1'-0" TO ±21'-0" ELEV. AT THE EXISTING ANCHOR ROD LOCATION. SEE SHEETS A-2 & A-3 FOR DETAILS.
C. INSTALL NEW (1) LP6X125-BR4.75-20B, (1) LP6X125-BR4.75S-20B & (1) LP6X125-BL4.75-20B FLAT BAR REINFORCEMENTS FROM ±1'-0" TO ±21'-0" ELEV. SEE SHEET A-4 FOR DETAILS.
3. INSTALL NEW (1) LP6X100-G-20CT, (2) LP6X125-G-20BB, & (1) LP6X125-S-20BB FLAT BAR REINFORCEMENTS FROM ±21'-0" TO ±41'-0" ELEV. SEE SHEET A-5 FOR DETAILS.
4. INSTALL NEW (2) LP6X125-G-20BB AND NEW (1) LP6X125-S-20BB FLAT BAR REINFORCEMENTS FROM ±41'-0" TO ±61'-0" ELEV. SEE SHEET A-6 FOR DETAILS.
NOTE:
EXISTING REINFORCEMENT PLATE ON FLAT #10 FROM 50' TO 70' ELEV. TO BE REMOVED TO ACCOMMODATE THE INSTALLATION OF NEW FLAT BAR REINFORCEMENTS. FILL THE EMPTY HOLES WITH PLATES, SHIMS, AND NEW BOLTS. SEE PHOTO 1 ON SHEET A-1A.
5. INSTALL ADDITIONAL NEW (2) HOLLO BOLTS AT THE UPPER AND LOWER TERMINATION OF EXISTING PLATE REINFORCEMENTS FROM ±50'-0" ELEV. TO ±70'-0" ELEV. (TYPICAL ON 2 PLATES). SEE SHEET A-7 FOR DETAILS.
6. INSTALL NEW (2) LP6X100-G-20BC AND (1) LP6X100-S-20BC FLAT BAR REINFORCEMENTS FROM ±61'-0" TO ±81'-0" ELEV. SEE SHEET A-8 FOR DETAILS.
NOTE:
TEMPORARILY LOOSEN EXISTING CHAIN LINK MOUNT AT ±77' ELEV. WILL BE REQUIRED. SEE PHOTO 2 ON SHEET A-1A.
7. INSTALL NEW (2) LP6X100-G-20CT AND (1) LP6X100-S-20CT FLAT BAR REINFORCEMENTS FROM ±81'-0" TO ±101'-0" ELEV. SEE SHEET A-9 FOR DETAILS.
8. REMOVE EXISTING SPRINT EQUIPMENT, MOUNT AND ALL ASSOCIATED HARDWARE AT APPROX. 117' ELEV. SEE PHOTO 3 ON SHEET A-1A.
9. A. INSTALL NEW FLANGE PLATE FOR NEW POLE EXTENSION AT ±120'-0" ELEV. SEE SHEET A-10 FOR DETAILS.
B. INSTALL NEW HSS 18.000X0.375 X 20'-0" PIPE EXTENSION FROM ±120'-0" TO ±140'-0" ELEV. SEE SHEET A-10 FOR DETAILS.
10. INSTALL NEW SAFETY CLIMB ASSEMBLY TO THE TOP OF NEW EXTENSION AND BOTTOM OF EXISTING TOWER. INSTALL PER MANUFACTURER'S INSTRUCTIONS AND SEE DETAIL 4 ON SHEET A-1A FOR DETAILS.
11. INSTALL NEW LIGHTNING ROD AT TOP OF THE NEW POLE SECTION AND FIELD CUT AS REQUIRED TO MEET FAA HEIGHT APPROVAL. SEE DETAIL 1 ON SHEET A-1A.
12. INSTALL ADDITIONAL WORKING STEP BOLTS BELOW THE NEW MONOPOLE EXTENSION FLANGE PLATE TO PROVIDE A WORKING ELEVATION. SEE A-11 FOR DETAILS.
13. APPLY FOUNDATION COATING.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN-UP, REMOVAL AND DISPOSAL OF EXCESS MATERIALS USED AND REMOVED FROM THE STRUCTURE AT THE COMPLETION OF THE PROJECT.

INSTALLATION NOTE:

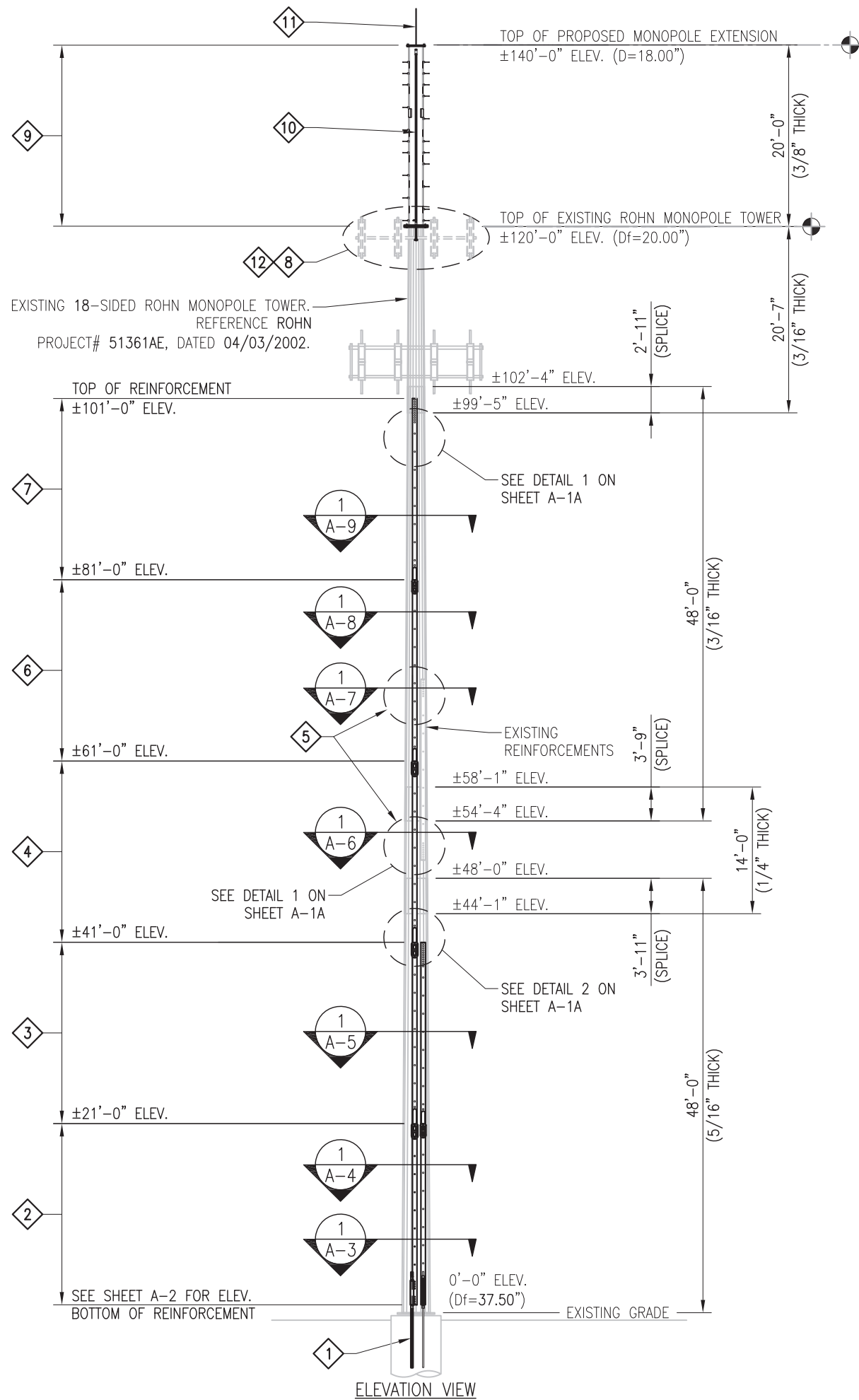
VERTICAL ALIGNMENT IS REQUIRED FOR ALL THE EXTENSION PROJECTS, TOWERS OR POLES

FOUNDATION COATING NOTES:

1. THE COATING MATERIALS SHALL BE LANCO WHITE ACRYLIC ELASTOMERIC COATING AND SEALER, OR HYDRO ARMOR COATING.
2. THE COATING CAN BE PLACED AT LEAST (2) DAYS AFTER THE PLACEMENT OF THE CONCRETE FOR FOUNDATION REINFORCEMENT, AND MINIMUM (4) DAYS FOR NEW FOUNDATION CONSTRUCTION.
3. THE CONCRETE SURFACE SHALL BE CLEAN AND DRY PRIOR TO THE APPLICATION OF THE COATING.
4. THE COATING SHALL BE APPLIED TO ALL THE SURFACES OF THE CONCRETE ABOVE THE GROUND AND 6" BELOW THE GRADE SURFACE IF APPLICABLE.
5. MINIMUM 30 MILS COATING IS REQUIRED.
6. APPLY COLD GALVANIZE AT LEAST 2'-3' ABOVE FOUNDATION.



FOUNDATION PHOTO



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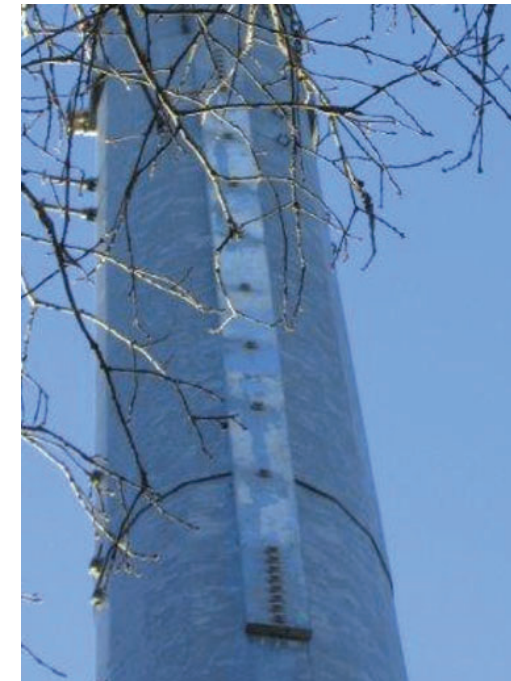


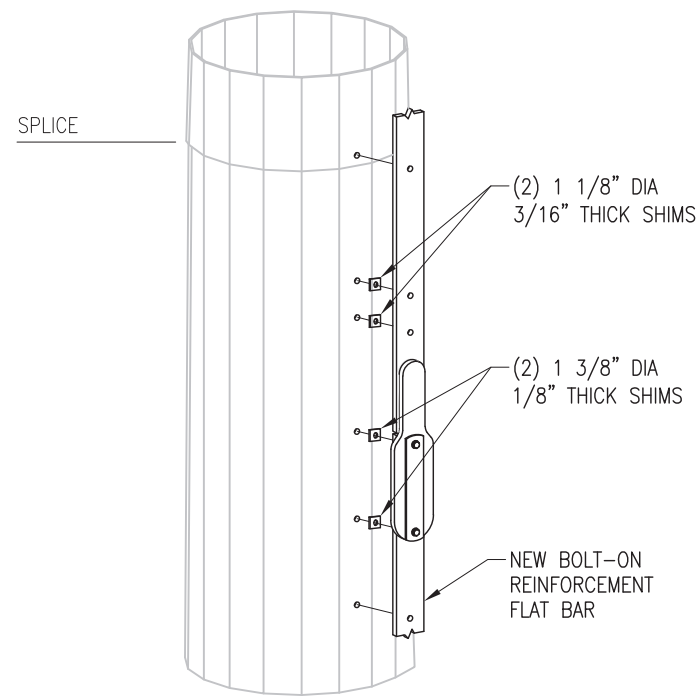
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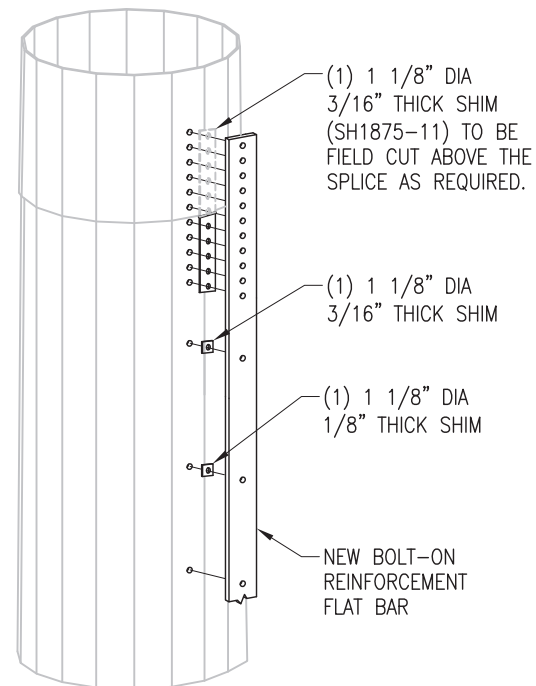
PHOTO 2



PHOTO 3



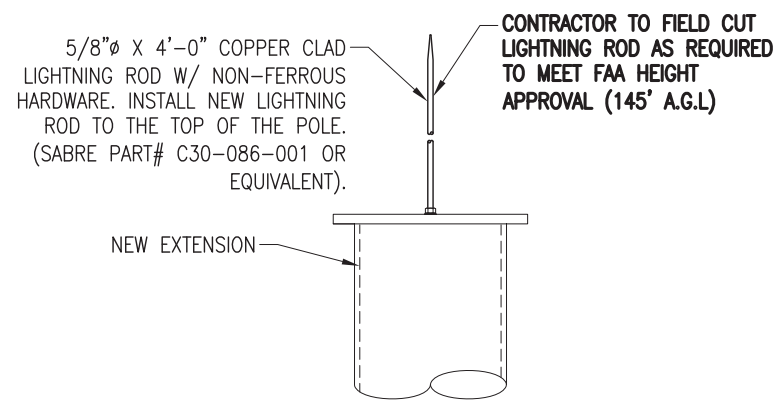
DETAIL 2
SHIMS INSTALLATION DETAIL



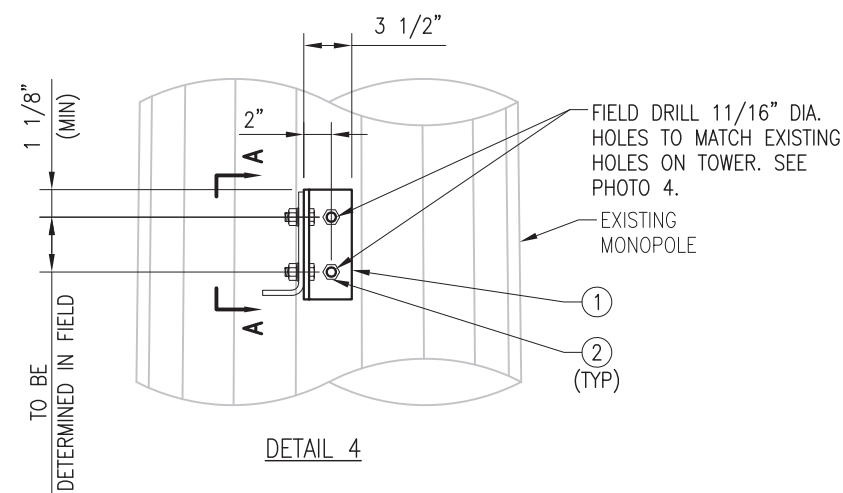
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SHIMS INSTALLATION DETAIL



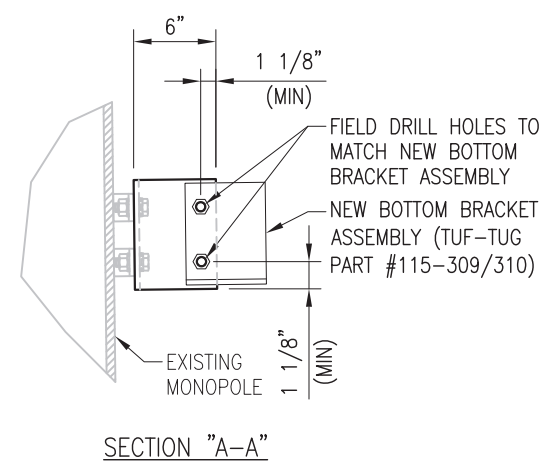
PHOTO 4



DETAIL 3



DETAIL 4



SECTION "A-A"

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	AL-1	L 6" X 3 1/2" X 3/8" X 8" A36
2	2	---	BOLT 5/8" X 2" A325

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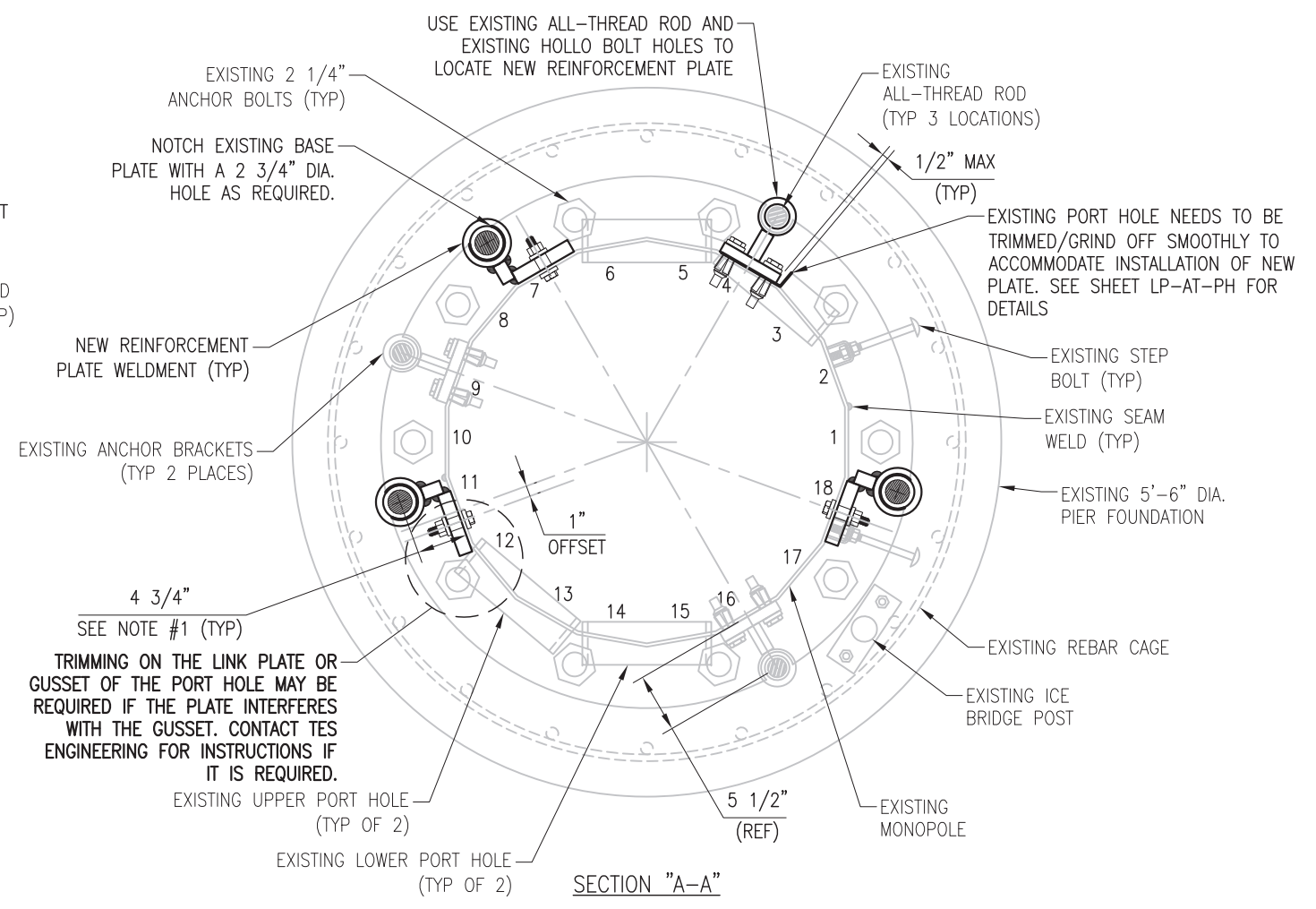
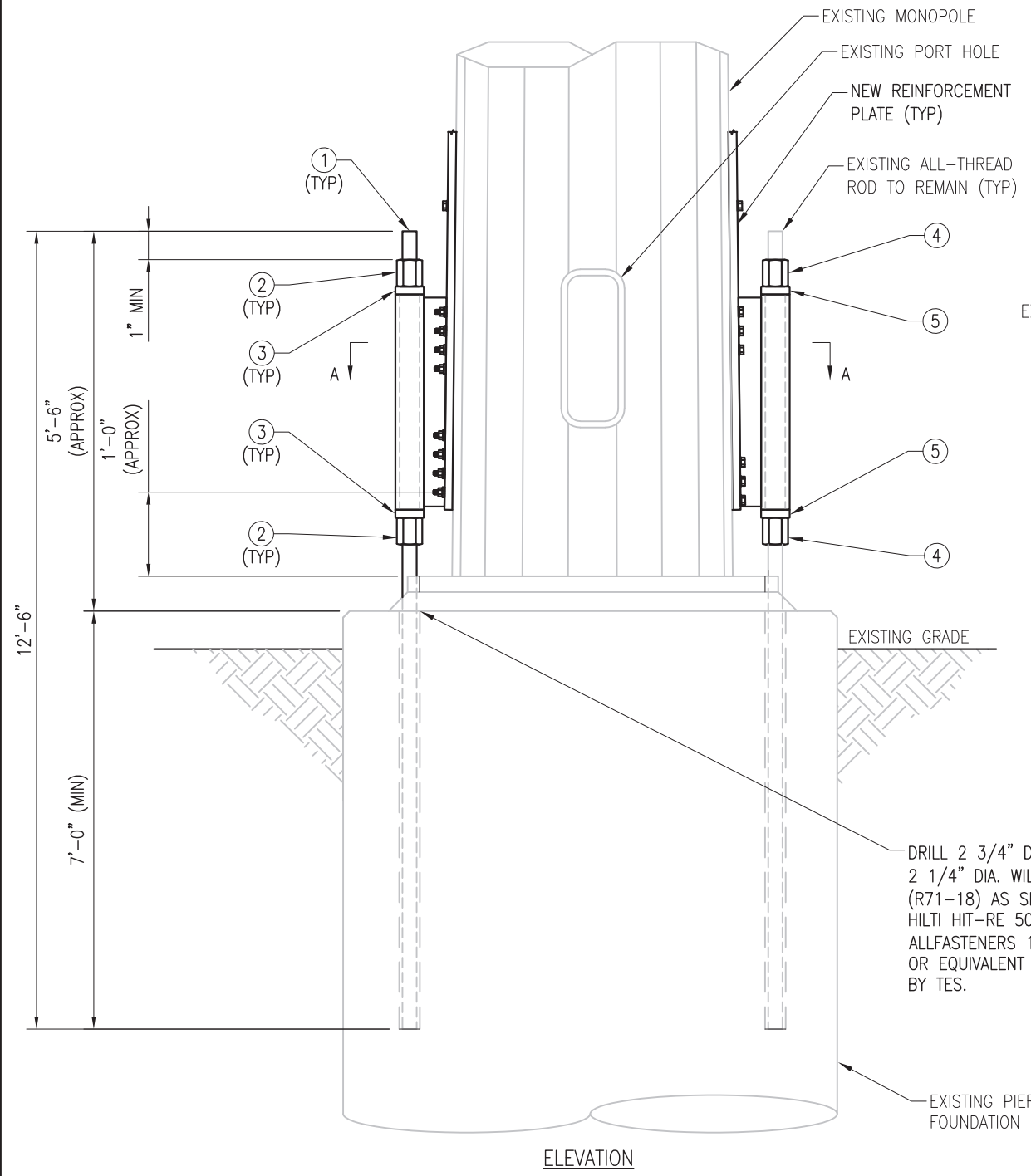
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A-1A 0

US PATENT 9,714,520 B1



- INSTALLATION NOTES:**
1. USE WELDED REINFORCEMENT BRACKET ASSEMBLY TO SET THE POSITION OF THE ALL-THREAD ROD.
 2. DRILL NEW 2 3/4" DIA. HOLES INTO EXISTING FOUNDATION FOR ALL-THREAD ROD. (TYP AT 3 LOCATIONS)
 3. REMOVE EXISTING ANCHOR REINFORCEMENT WELDMENT. (1 LOCATION)
 4. USE THE EXISTING ALL-THREAD ROD TO POSITION THE NEW REINFORCEMENT PLATES. (1 LOCATION)
 5. INSTALL REINFORCEMENT BRACKET AND CONFIRM FIT WITH MONOPOLE REINFORCEMENT PLATES.
 6. TIGHTEN NUTS ON THE ALL-THREAD ROD LOCKING IT INTO POSITION.
 7. APPLY (2) COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS TO ALL FIELD CUT AND EXPOSED AREAS.
 8. DRILLING CONTRACTOR TO EXERCISE EXTREME CARE TO AVOID DAMAGING THE EXISTING REINFORCING TIES IN THE CONCRETE PIER. IF REBAR IS ENCOUNTERED IN THE CONCRETE WHILE DRILLING, CONTRACTOR TO STOP DRILLING AND INFORM TES FOR SOLUTION.
 9. CONTRACTOR PLEASE NOTE--WHILE DRILLING PREPARE TO DRILL THROUGH ANCHOR BOLT TEMPLATE.
 10. INSTALLATION TORQUE FOR HOLLO BOLTS--SEE SHEET GN-1. IT IS REQUIRED THAT THE CONTRACTOR TAKE PHOTOS OF THE INSTALLED TORQUE FOR VERIFICATION OF PROPER INSTALLATION.
 11. SEE SHEETS SPEC-1 & 2 FOR NEXGEN2 BLIND BOLT INSTALLATION. IT IS REQUIRED THAT THE CONTRACTOR TAKE PHOTOS OF THE INSTALLED BOLT FOR VERIFICATION OF PROPER INSTALLATION.

DRILL 2 3/4" DIA. HOLE TO ACCOMMODATE 2 1/4" DIA. WILLIAMS ALL-THREAD ROD (R71-18) AS SHOWN. GROUT USING HILTI HIT-RE 500 V3 EPOXY OR ALLFASTENERS 12AF35LVE EPOXY (TYP) OR EQUIVALENT MATERIAL APPROVED BY TES.

NOTE:
SEE NOTES ON SHEET GN-1 FOR POST-INSTALLED EPOXY INJECTED ANCHOR BOLTS

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	3	R71-18	12'-6" WILLIAMS 2 1/4" DIA. ALL-THREAD ROD (150 KSI)
2	6	R73-18	2 1/4" NUT (WILLIAMS R73-18) (TYP)
3	6	PLW-1	PL 1 1/4" X 4 1/2" FLAT WASHER, A572-65
4	2	R73-14	1 3/4" NUT (WILLIAMS R73-14) (TYP)
5	2	PLW-2	PL 1 1/4" X 3 1/2" FLAT WASHER, A572-65



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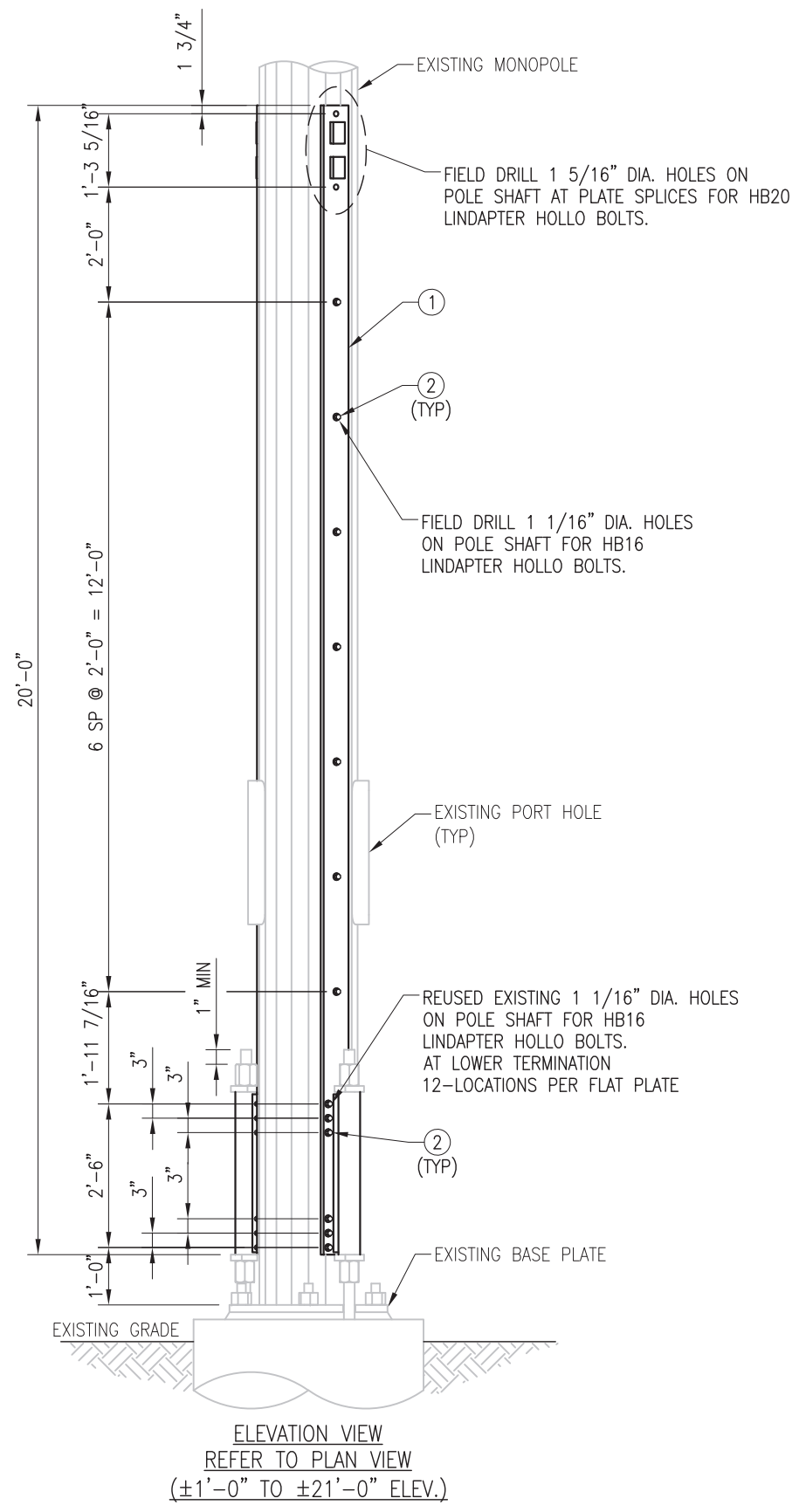
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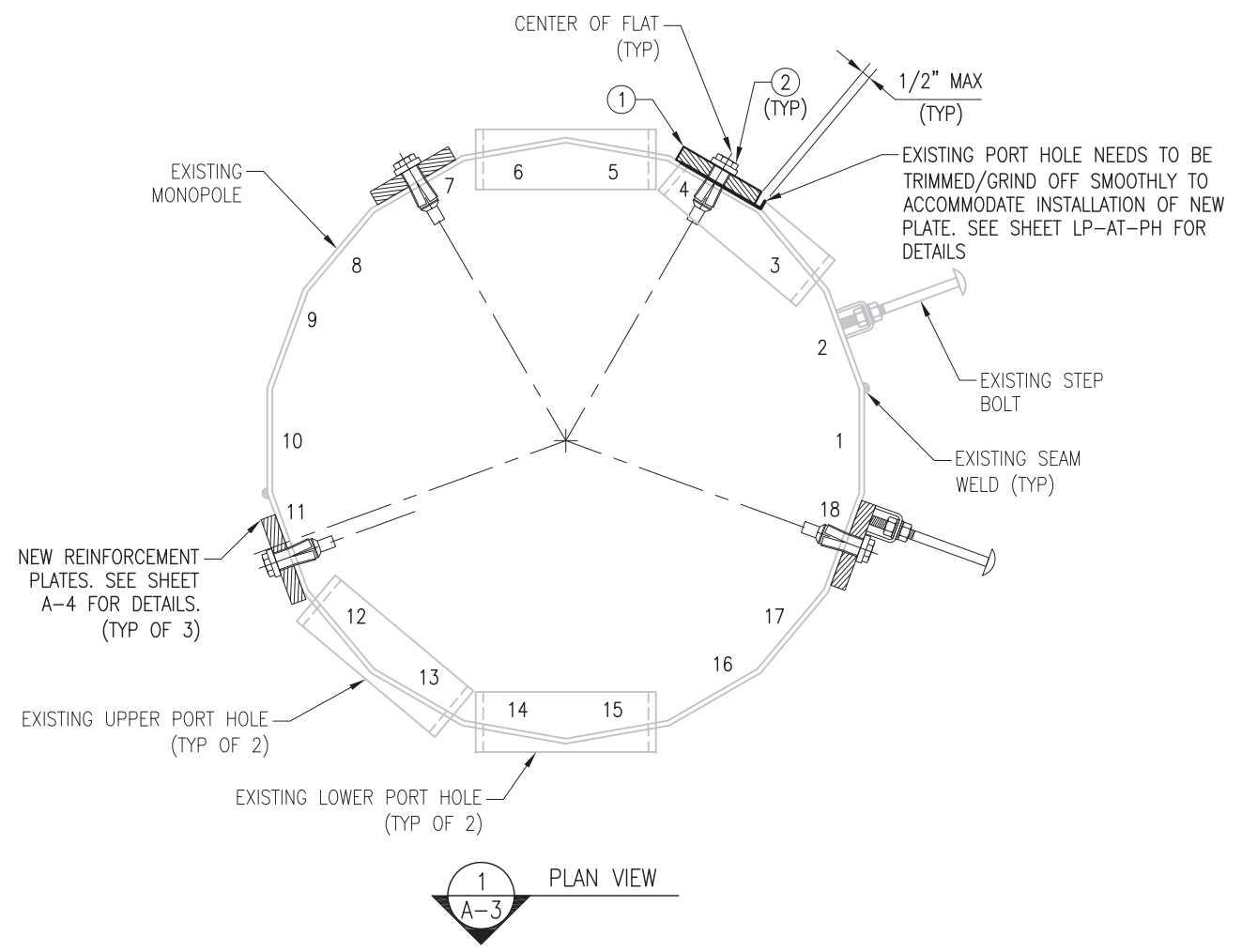
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SHEET NUMBER: A-2 | REV #: 0

US PATENT 9,546,497 B2



ELEVATION VIEW
REFER TO PLAN VIEW
(±1'-0" TO ±21'-0" ELEV.)



- NOTES:
- REFER TO SHEET A-2 FOR FLAT BAR ORIENTATION.
 - INSTALLATION TORQUE FOR HOLLO BOLTS: SEE SHEET GN-1
 - APPLY (2) COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS TO ALL FIELD DRILLED AND EXPOSED AREAS.

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	LP6X100-B2-20C	PL 1" X 6" X 20'-0" A572-65 WELDMENT
2	19	HB16-2	LINDAPTER 5/8" TYPE HB HOLLO-BOLT (HCF)



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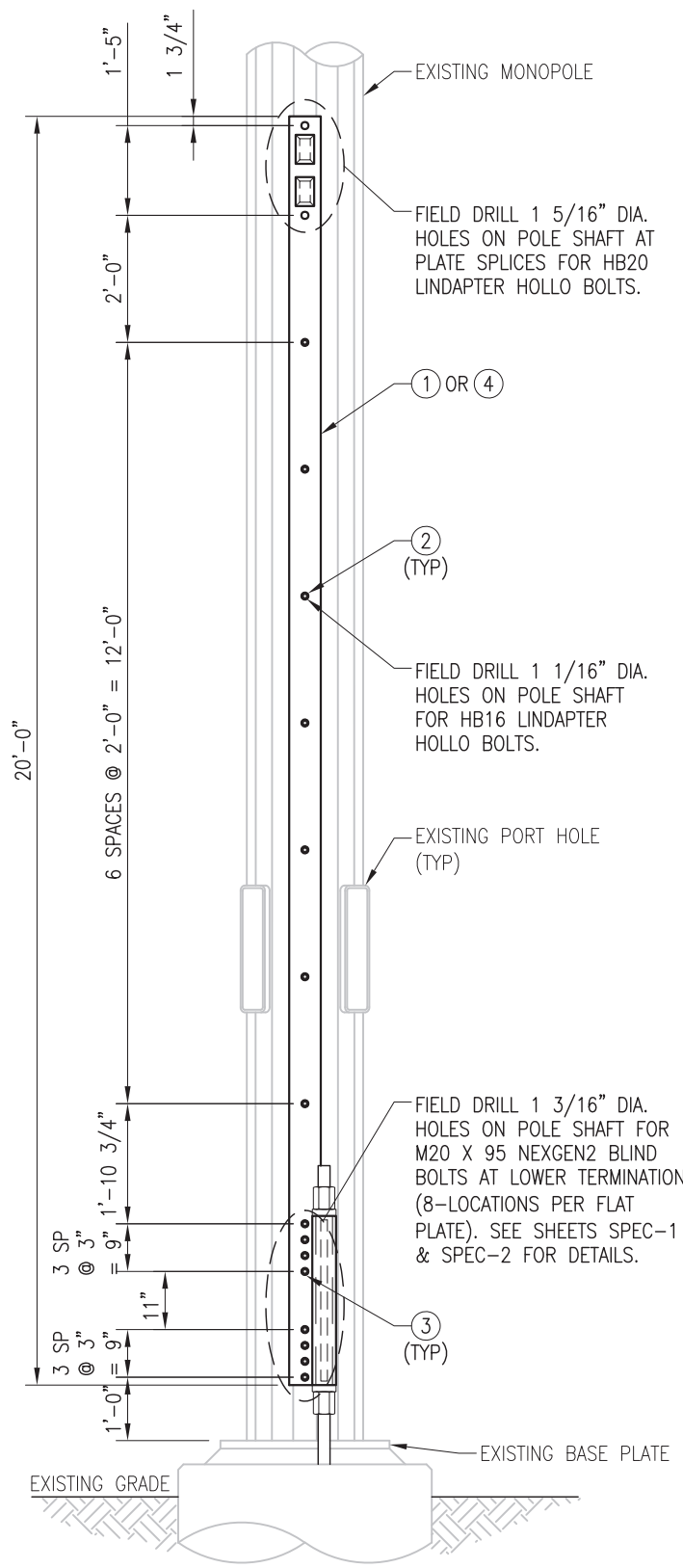
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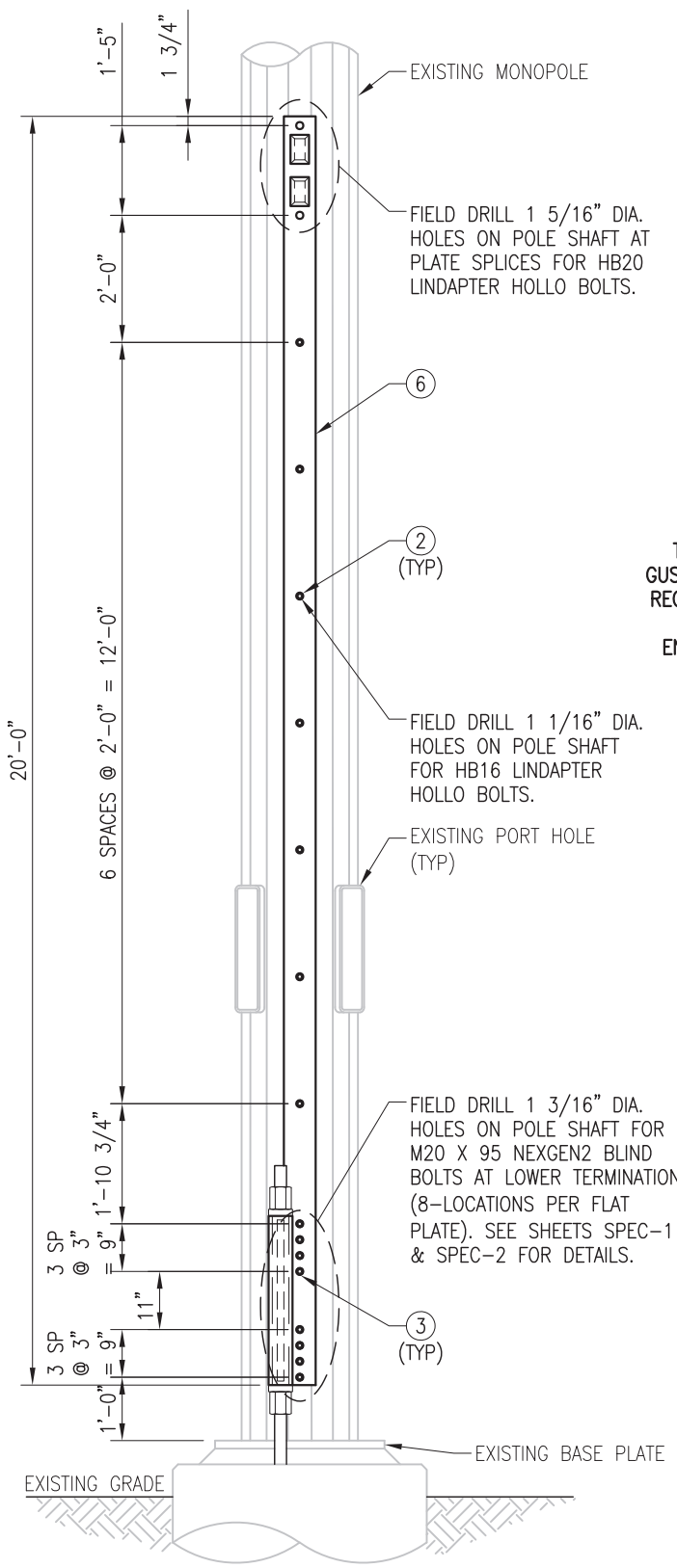
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SHEET NUMBER:
A-3
REV #:
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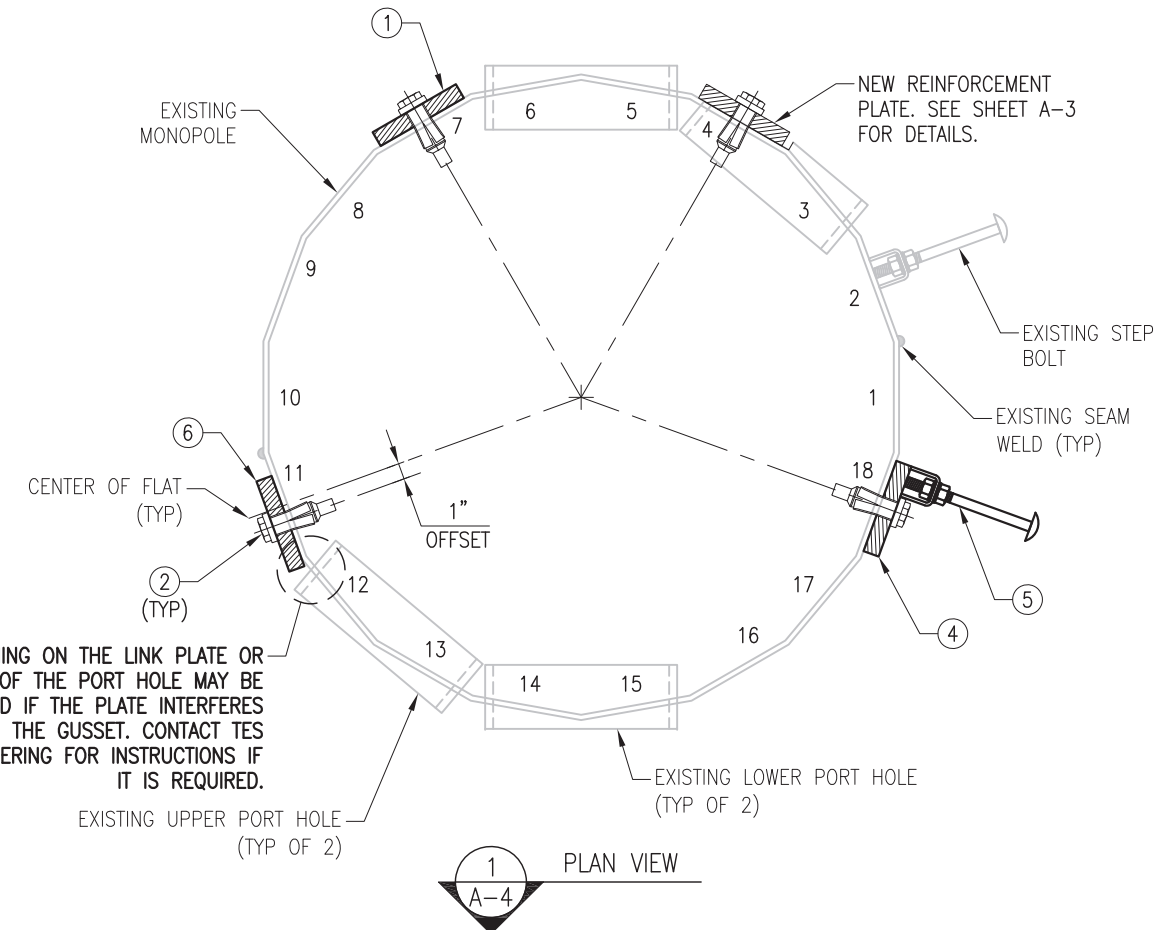
US PATENT 9,546,497 B2



ELEVATION VIEW
REFER TO PLAN VIEW
(±1'-0" TO ±21'-0" ELEV.)



ELEVATION VIEW
REFER TO PLAN VIEW
(±1'-0" TO ±21'-0" ELEV.)



1
A-4
PLAN VIEW

TRIMMING ON THE LINK PLATE OR GUSSET OF THE PORT HOLE MAY BE REQUIRED IF THE PLATE INTERFERES WITH THE GUSSET. CONTACT TES ENGINEERING FOR INSTRUCTIONS IF IT IS REQUIRED.

- NOTES:
1. REFER TO SHEET A-2 FOR FLAT BAR ORIENTATION.
 2. INSTALLATION TORQUE FOR HOLLO BOLTS: SEE SHEET GN-1.
 3. REMOVE EXISTING STEP BOLTS THAT INTERFERE WITH NEW REINFORCEMENT PLATES PRIOR TO INSTALLATION.
 4. APPLY (2) COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS TO ALL FIELD DRILLED AND EXPOSED AREAS.

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	LP6X125-BR4.75-20B	PL 6" X 1 1/4" X 20'-0" A572-65 WELDMENT
2	21	HB16-2	LINDAPTER 5/8" TYPE HB HOLLO-BOLT (HCF)
3	24	2NG2048	M20 X 95 NEXGEN2 BLIND BOLT ASSEMBLY
4	1	LP6X125-BR4.75S-20B	PL 6" X 1 1/4" X 20'-0" A572-65 WELDMENT WITH STEP BOLT
5	8	STEP BOLT	STEP BOLT 5/8" X 7 1/2" W/ (2) NUT-LKW EA.
6	1	LP6X125-BL4.75-20B	PL 6" X 1 1/4" X 20'-0" A572-65 WELDMENT



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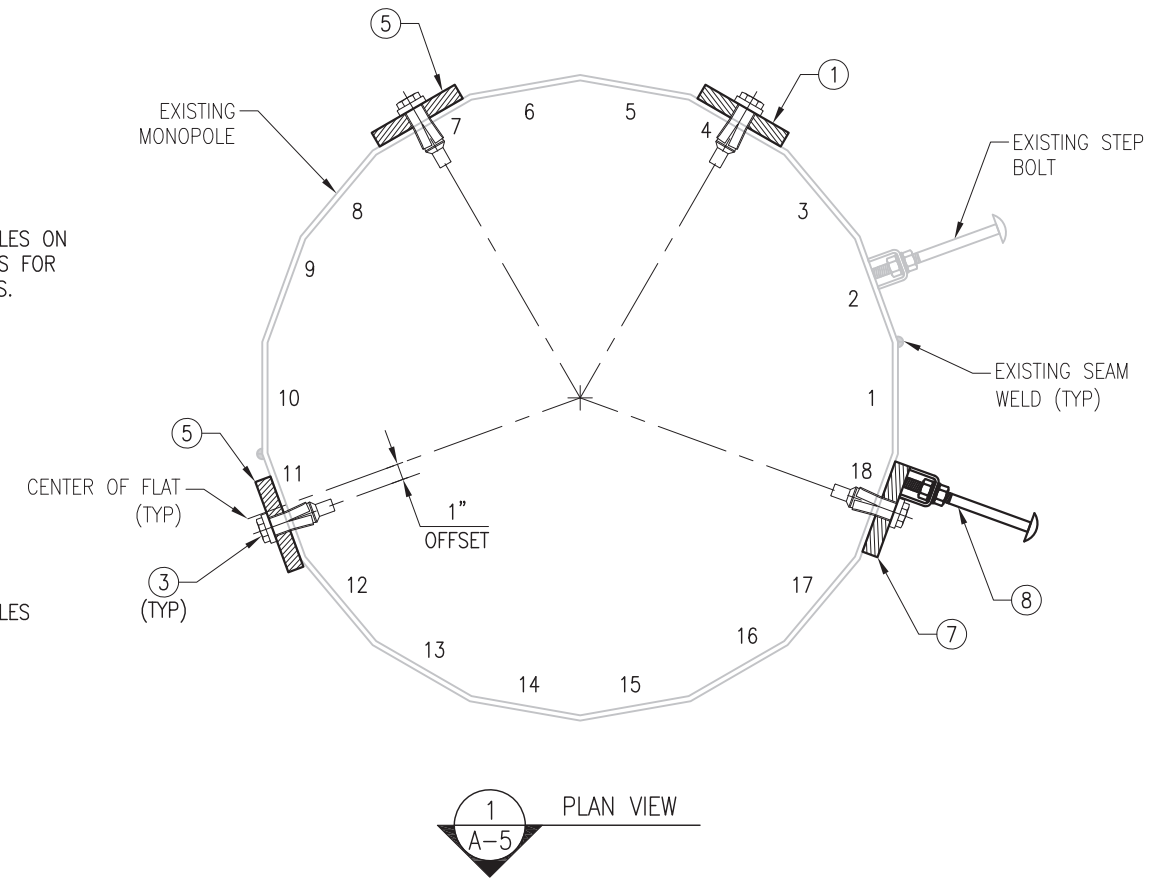
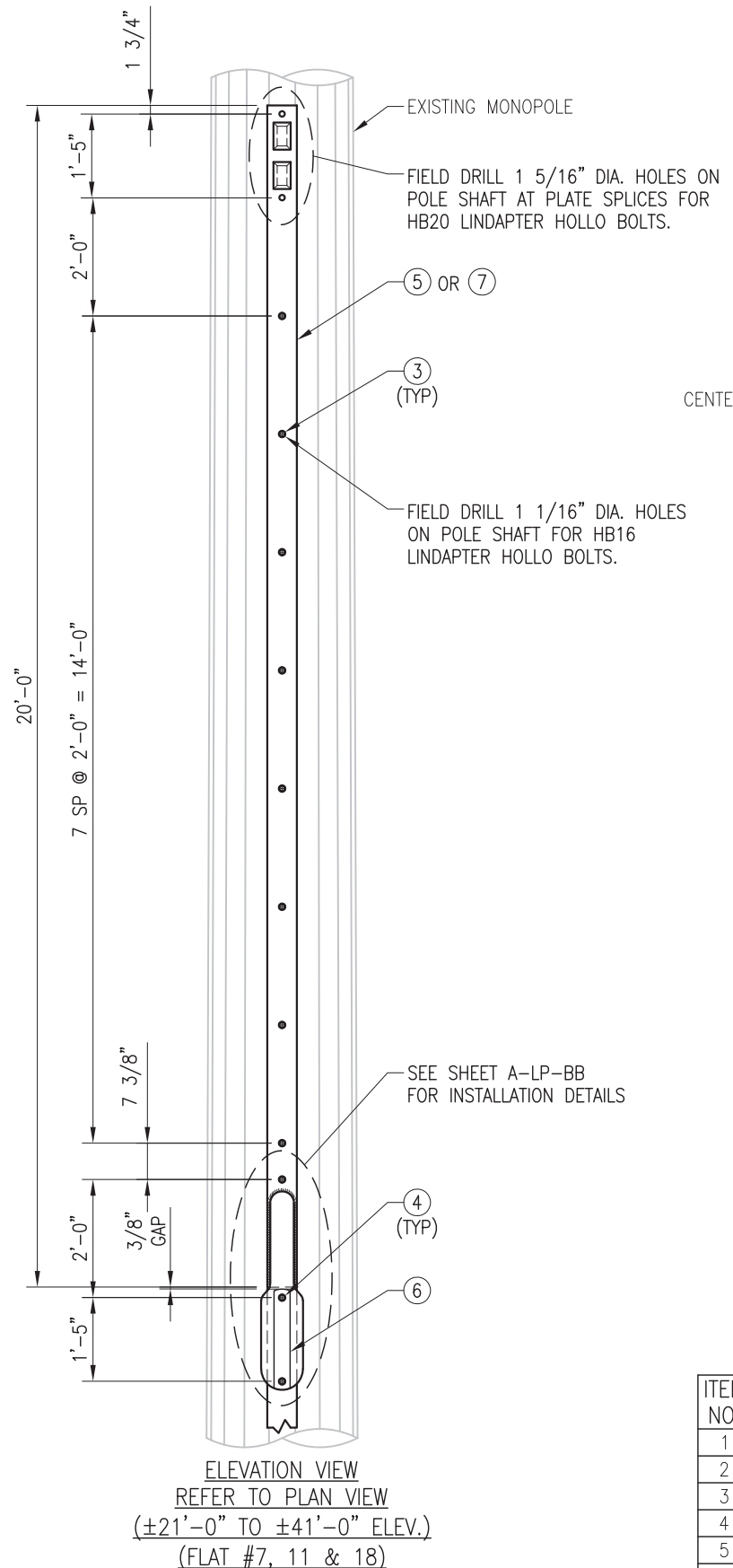
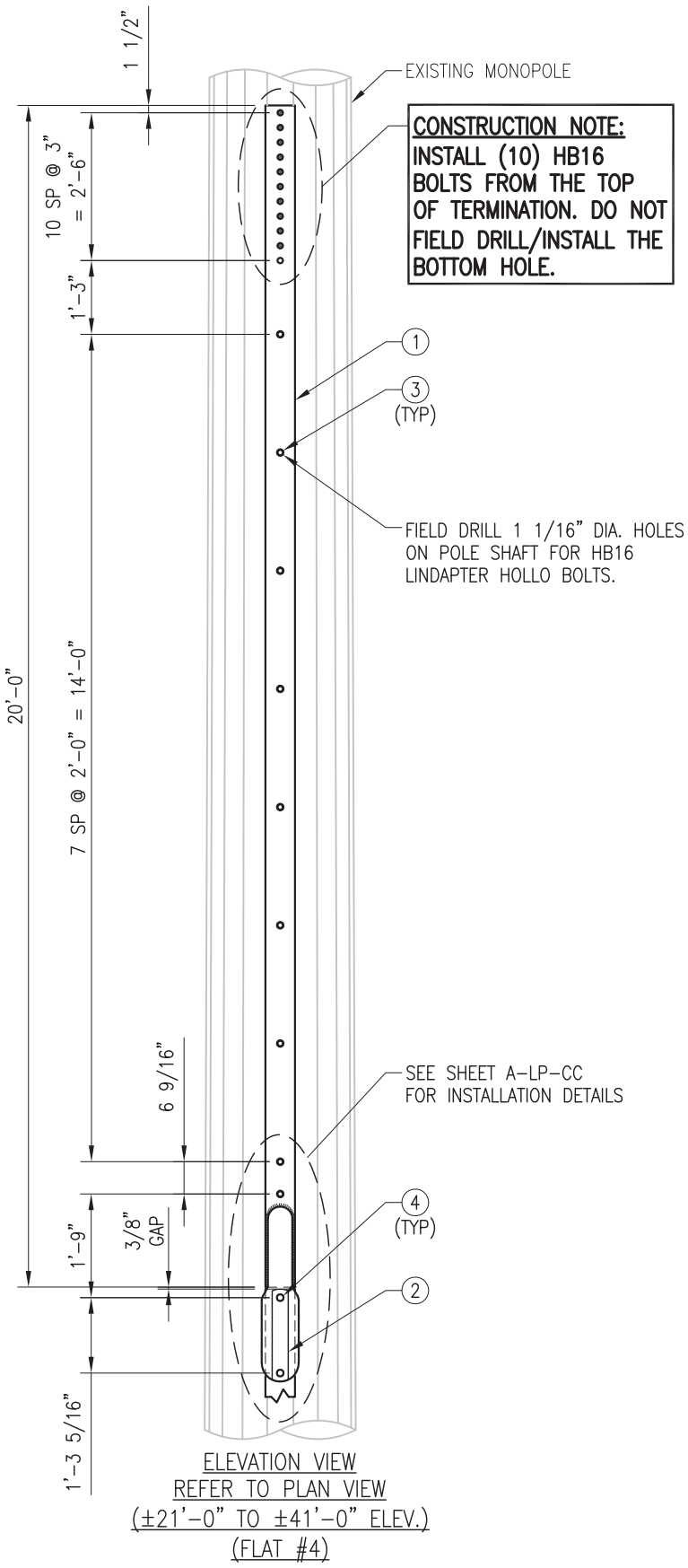
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- NOTES:**
- REFER TO SHEET A-2 FOR FLAT BAR ORIENTATION.
 - INSTALLATION TORQUE FOR HOLLO BOLTS: SEE SHEET GN-1.
 - REMOVE EXISTING STEP BOLTS THAT INTERFERE WITH NEW REINFORCEMENT PLATES PRIOR TO INSTALLATION.
 - APPLY (2) COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS TO ALL FIELD DRILLED AND EXPOSED AREAS.

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	LP6X100-G-20CT	PL 1" X 6" X 20'-0" A572-65 WELDMENT
2	1	CPL-C	SPLICE CONNECTION COVER PLATE
3	46	HB16-2	LINDAPTER 5/8" TYPE HB HOLLO-BOLT (HCF)
4	8	HB20-3	LINDAPTER 3/4" TYPE HB HOLLO-BOLT (HCF)
5	2	LP6X125-G-20BB	PL 1 1/4" X 6" X 20'-0" A572-65 WELDMENT
6	3	CPL-B	SPLICE CONNECTION COVER PLATE
7	1	LP6X125-S-20BB	PL 1 1/4" X 6" X 20'-0" A572-65 WELDMENT WITH STEP BOLT
8	16	STEP BOLT	STEP BOLT 5/8" X 7 1/2" W/ (2) NUT-LKW EA.



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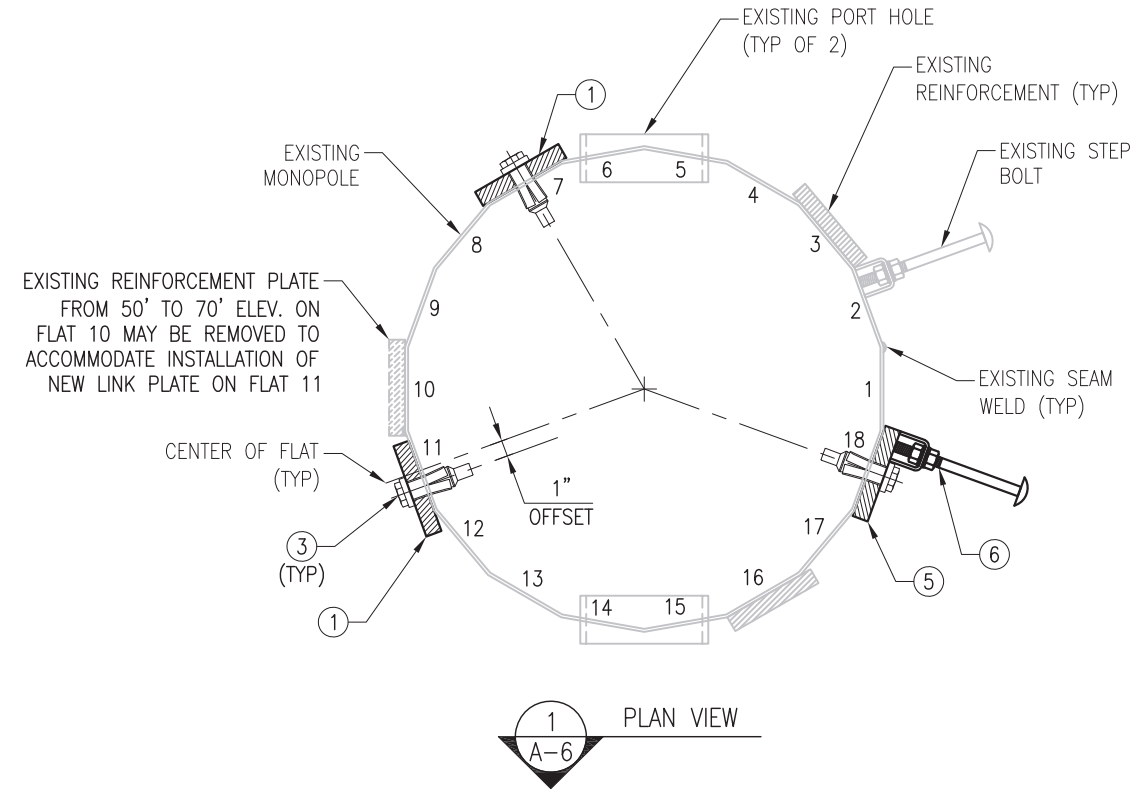
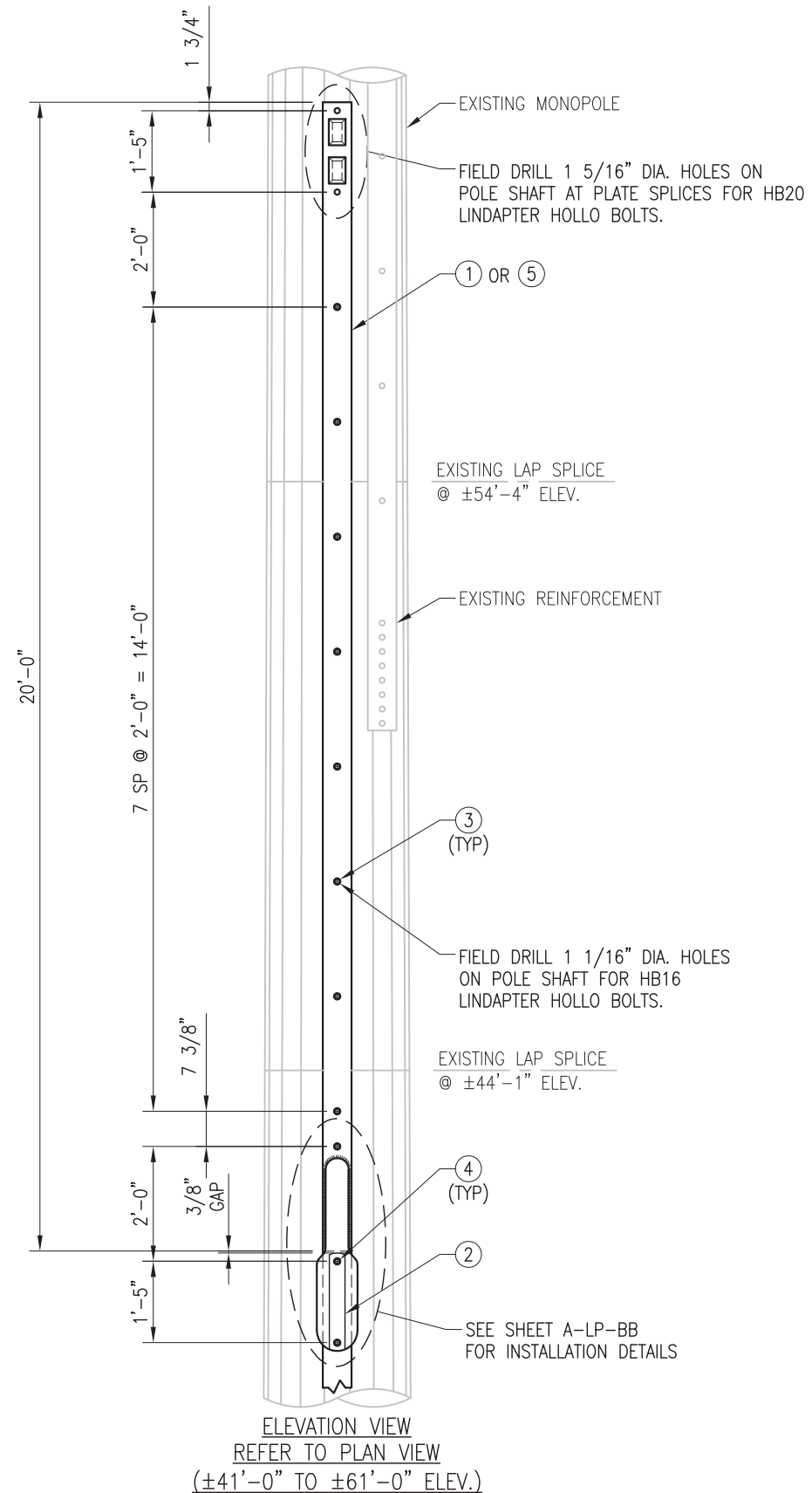
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- NOTES:**
1. REFER TO SHEET A-2 FOR FLAT BAR ORIENTATION.
 2. REFER TO SHEET A-1 FOR SHIM IF REQUIRED.
 3. INSTALLATION TORQUE FOR HOLLO BOLTS: SEE SHEET GN-1.
 4. REMOVE EXISTING STEP BOLTS THAT INTERFERE WITH NEW REINFORCEMENT PLATES PRIOR TO INSTALLATION.
 5. APPLY (2) COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS TO ALL FIELD DRILLED AND EXPOSED AREAS.

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	2	LP6X125-G-20BB	PL 1 1/4" X 6" X 20'-0" A572-65 WELDMENT
2	3	CPL-B	SPLICE CONNECTION COVER PLATE
3	27	HB16-2	LINDAPTER 5/8" TYPE HB HOLLO-BOLT (HCF)
4	6	HB20-3	LINDAPTER 3/4" TYPE HB HOLLO-BOLT (HCF)
5	1	LP6X125-S-20BB	PL 1 1/4" X 6" X 20'-0" A572-65 WELDMENT WITH STEP BOLT
6	16	STEP BOLT	STEP BOLT 5/8" X 7 1/2" W/ (2) NUT-LKW EA.



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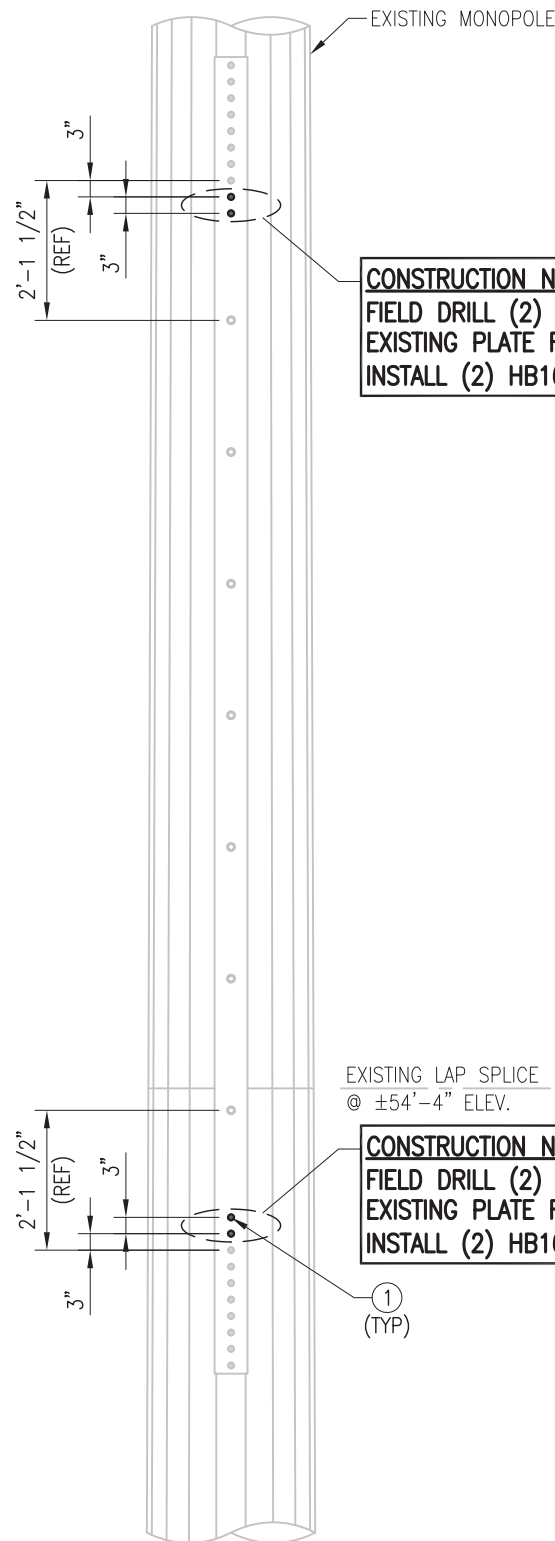
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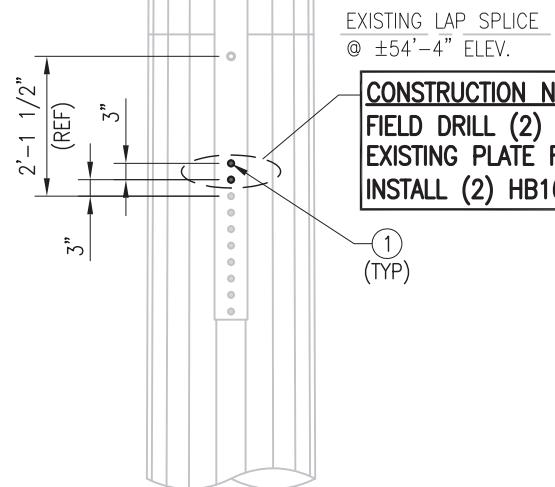
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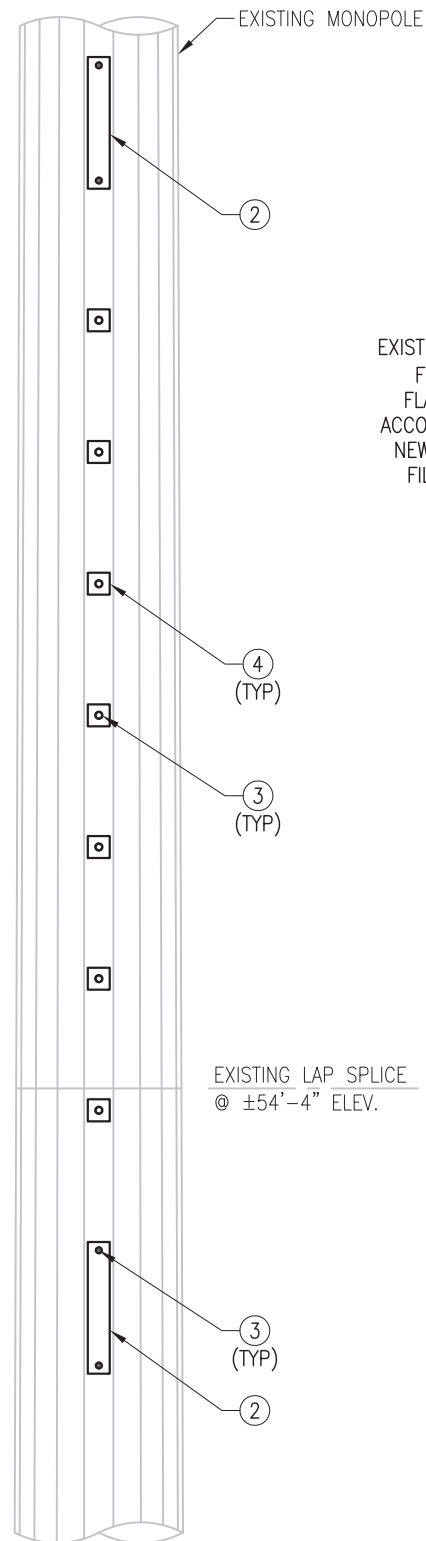


CONSTRUCTION NOTE:
FIELD DRILL (2) ADDITIONAL 1 1/16" DIA. HOLE ON EXISTING PLATE REINFORCEMENT & POLE SHAFT. INSTALL (2) HB16 BOLT. TYPICAL OF 2 PLATES.

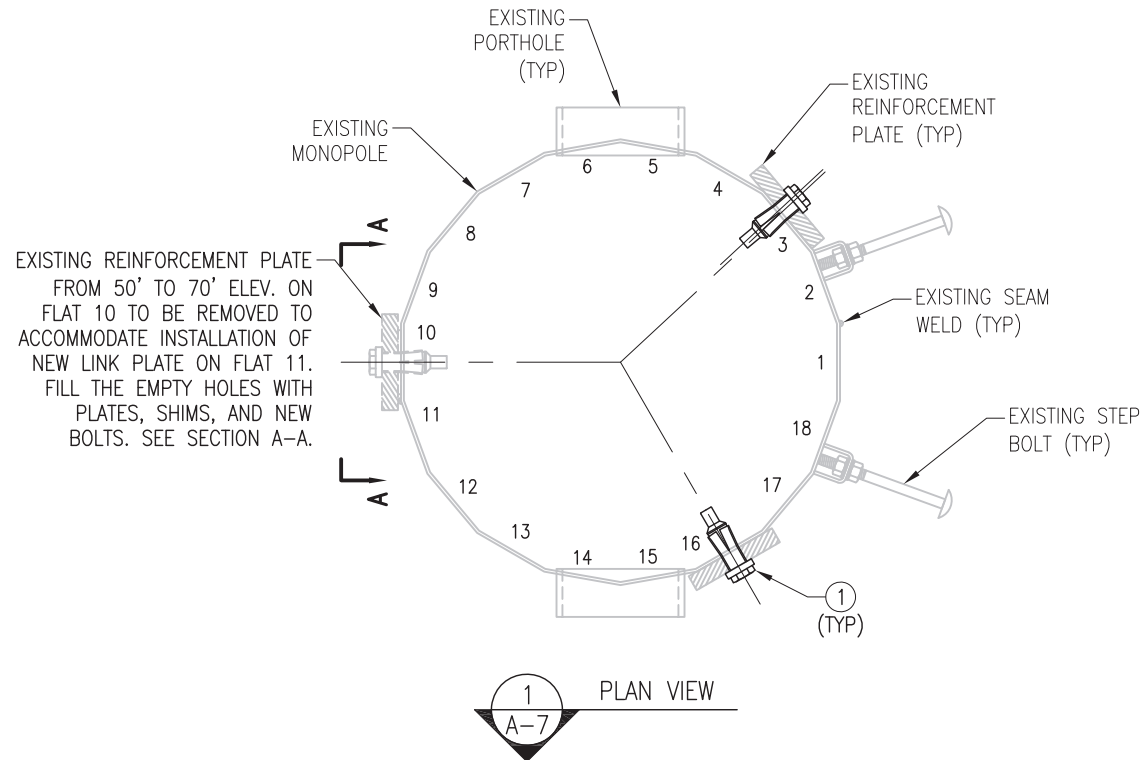


CONSTRUCTION NOTE:
FIELD DRILL (2) ADDITIONAL 1 1/16" DIA. HOLE ON EXISTING PLATE REINFORCEMENT & POLE SHAFT. INSTALL (2) HB16 BOLT. TYPICAL OF 2 PLATES.

ELEVATION VIEW
REFER TO PLAN VIEW
(±50'-0" TO ±70'-0" ELEV.)
(FLAT #3 & 16)

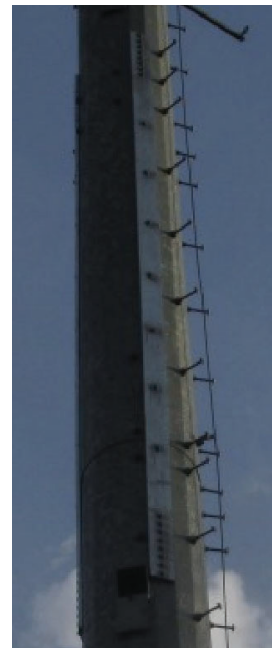


SECTION "A-A"
(±50'-0" TO ±70'-0" ELEV.)
(FLAT #10)



EXISTING REINFORCEMENT PLATE FROM 50' TO 70' ELEV. ON FLAT 10 TO BE REMOVED TO ACCOMMODATE INSTALLATION OF NEW LINK PLATE ON FLAT 11. FILL THE EMPTY HOLES WITH PLATES, SHIMS, AND NEW BOLTS. SEE SECTION A-A.

1
A-7
PLAN VIEW



EXISTING REINFORCEMENT PHOTO

- NOTES:**
- REFER TO SHEET A-1 FOR FLAT BAR ELEVATION.
 - INSTALLATION TORQUE FOR HOLLO BOLTS: SEE SHEET GN-1
 - APPLY (2) COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS TO ALL FIELD DRILLED AND EXPOSED AREAS.

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	8	HB16-2	LINDAPTER TYPE HB HOLLO-BOLT (HCF)
2	2	PL-1	PL 1/4" X 4" X 2'-0" A36
3	11	HB16-1	LINDAPTER TYPE HB HOLLO-BOLT (HCF)
4	7	SHIM-M16-1	1/4" THICK SHIM FOR HB16-2 HOLLO-BOLT



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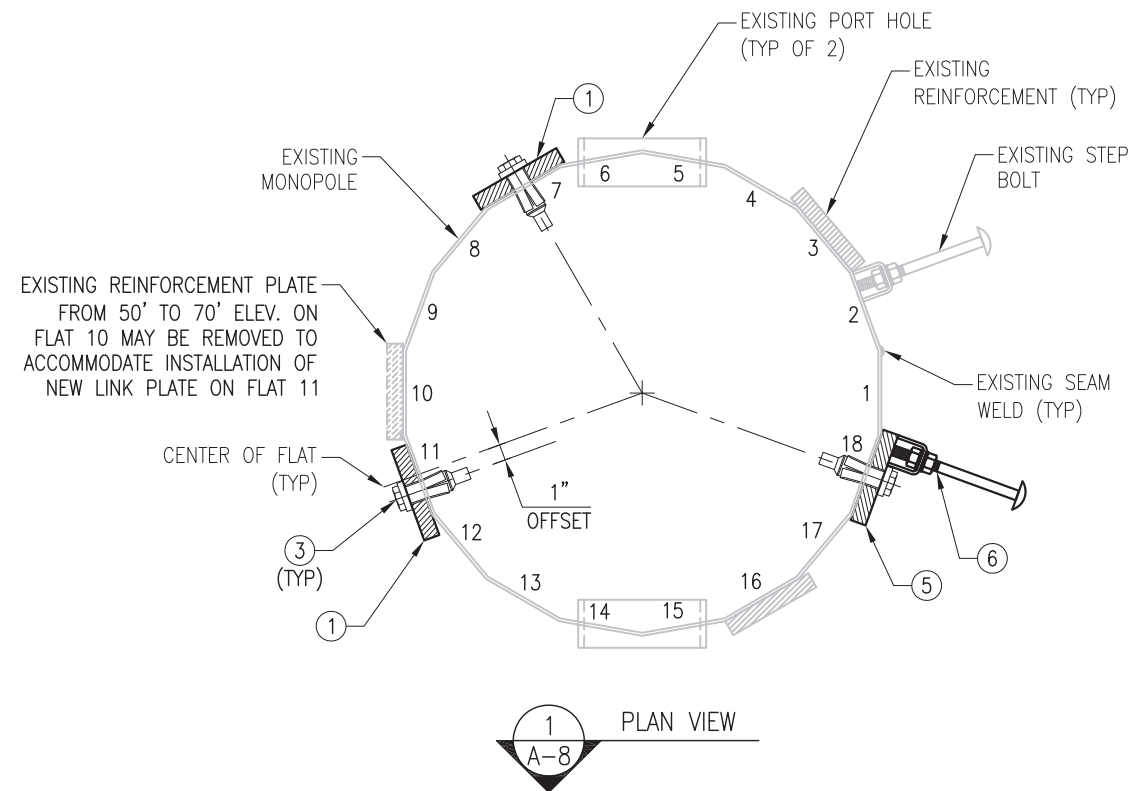
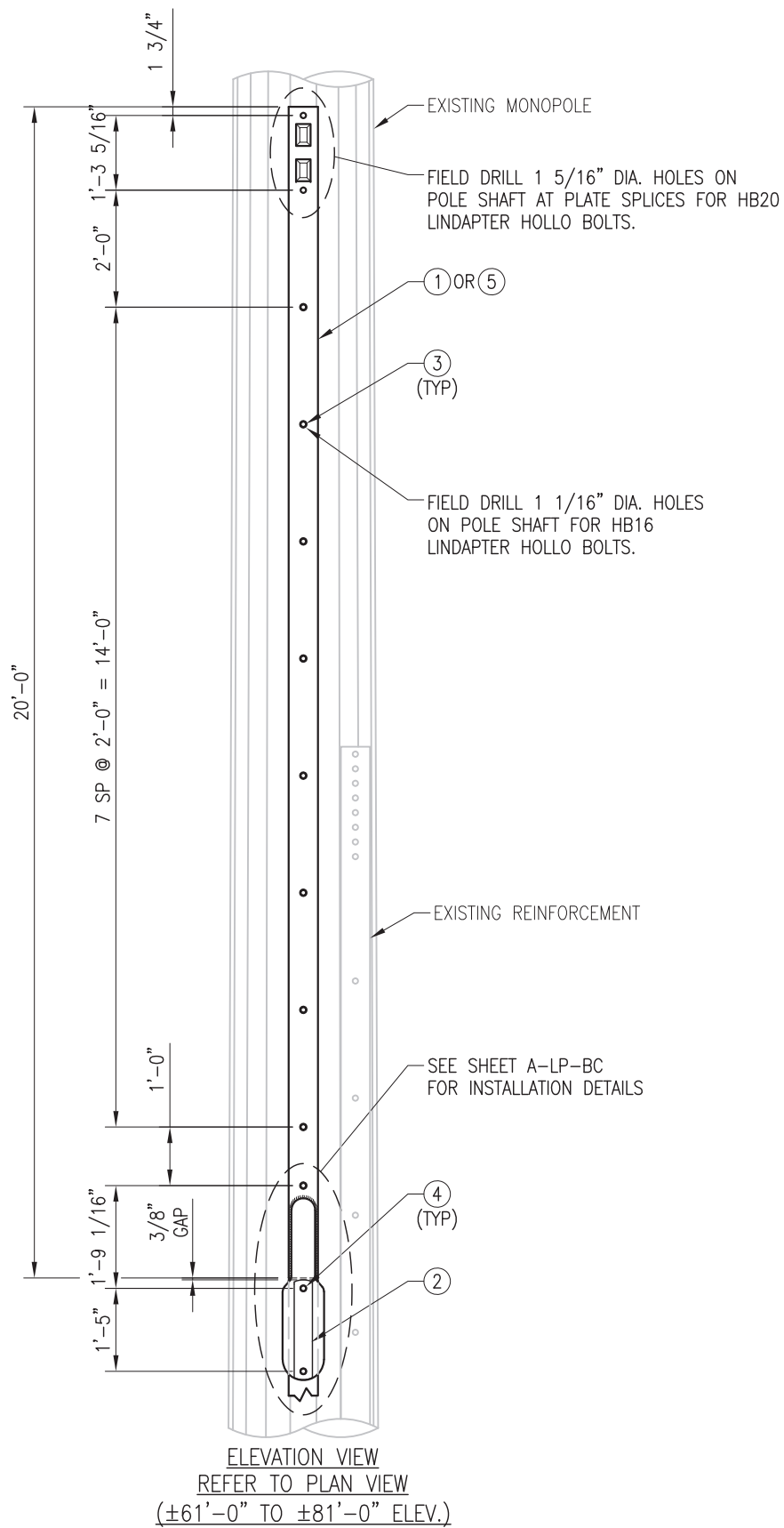
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A-7 0

US PATENT 9,546,497 B2



NOTES:

- REFER TO SHEET A-2 FOR FLAT BAR ORIENTATION.
- INSTALLATION TORQUE FOR HOLLO BOLTS: SEE SHEET GN-1.
- REMOVE EXISTING STEP BOLTS THAT INTERFERE WITH NEW REINFORCEMENT PLATES PRIOR TO INSTALLATION.
- APPLY (2) COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS TO ALL FIELD DRILLED AND EXPOSED AREAS.

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	2	LP6X100-G-20BC	PL 1" X 6" X 20'-0" A572-65 WELDMENT
2	3	CPL-B	SPLICE CONNECTION COVER PLATE
3	27	HB16-2	LINDAPTER 5/8" TYPE HB HOLLO-BOLT (HCF)
4	6	HB20-3	LINDAPTER 3/4" TYPE HB HOLLO-BOLT (HCF)
5	1	LP6X100-S-20BC	PL 1" X 6" X 20'-0" A572-65 WELDMENT WITH STEP BOLT
6	16	STEP BOLTS	STEP BOLT 5/8" X 7 1/2" W/ (2) NUT-LKW EA.



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TES JOB NO:
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CUSTOMER SITE NAME:
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SHEET TITLE:

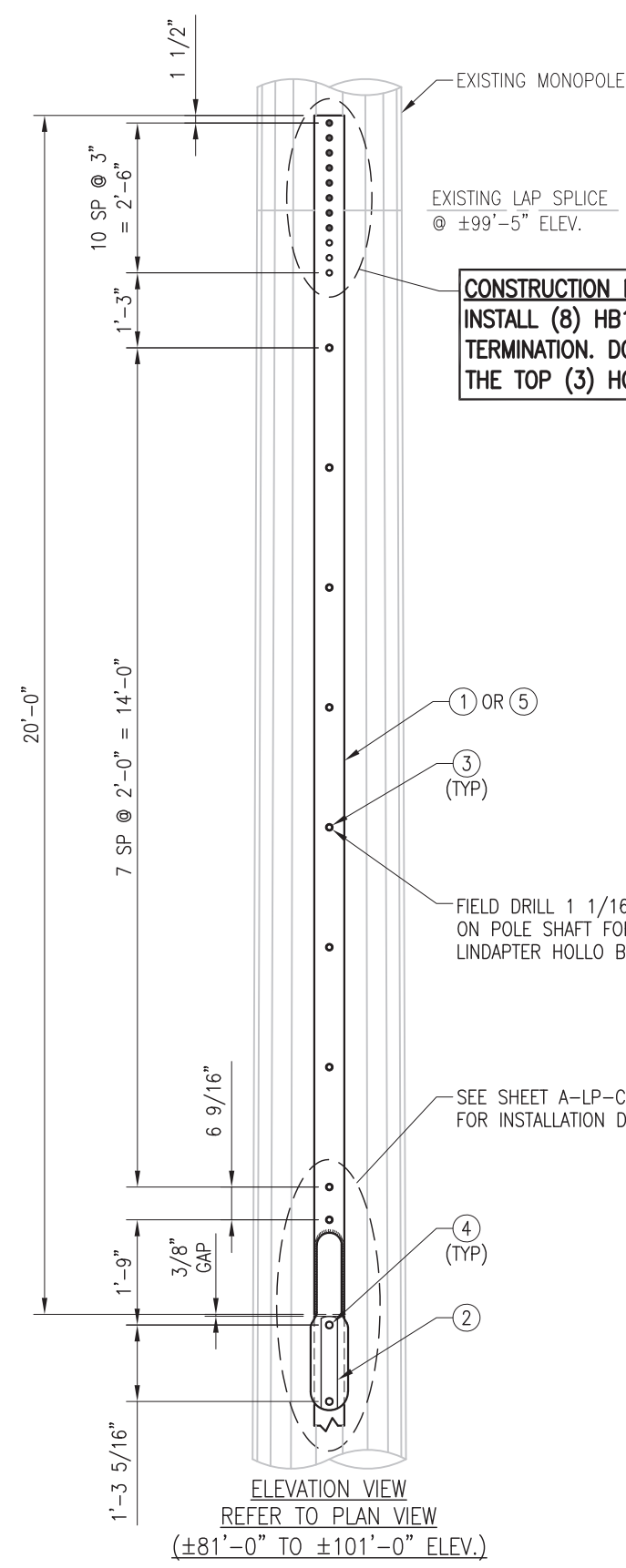
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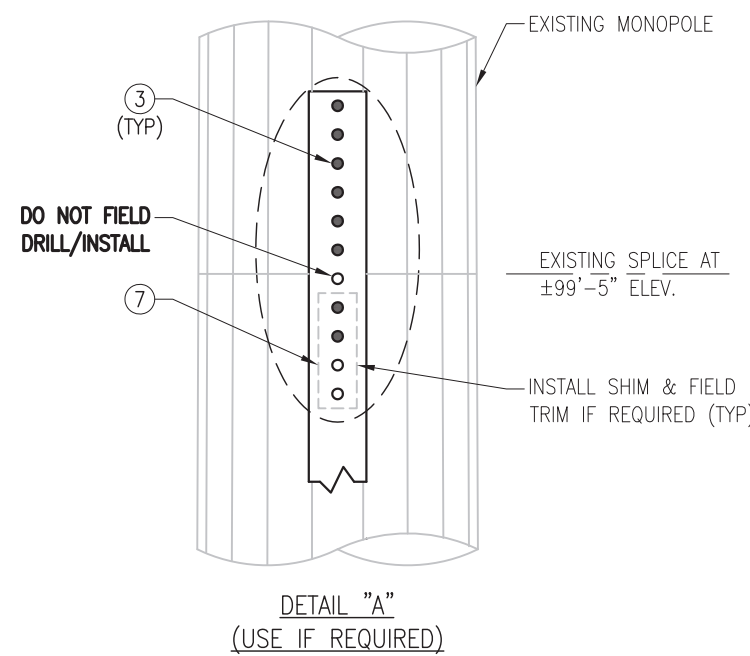


CONSTRUCTION NOTE:
 INSTALL (8) HB16 BOLTS FROM THE BOTTOM TERMINATION. DO NOT FIELD DRILL/INSTALL THE TOP (3) HOLES.

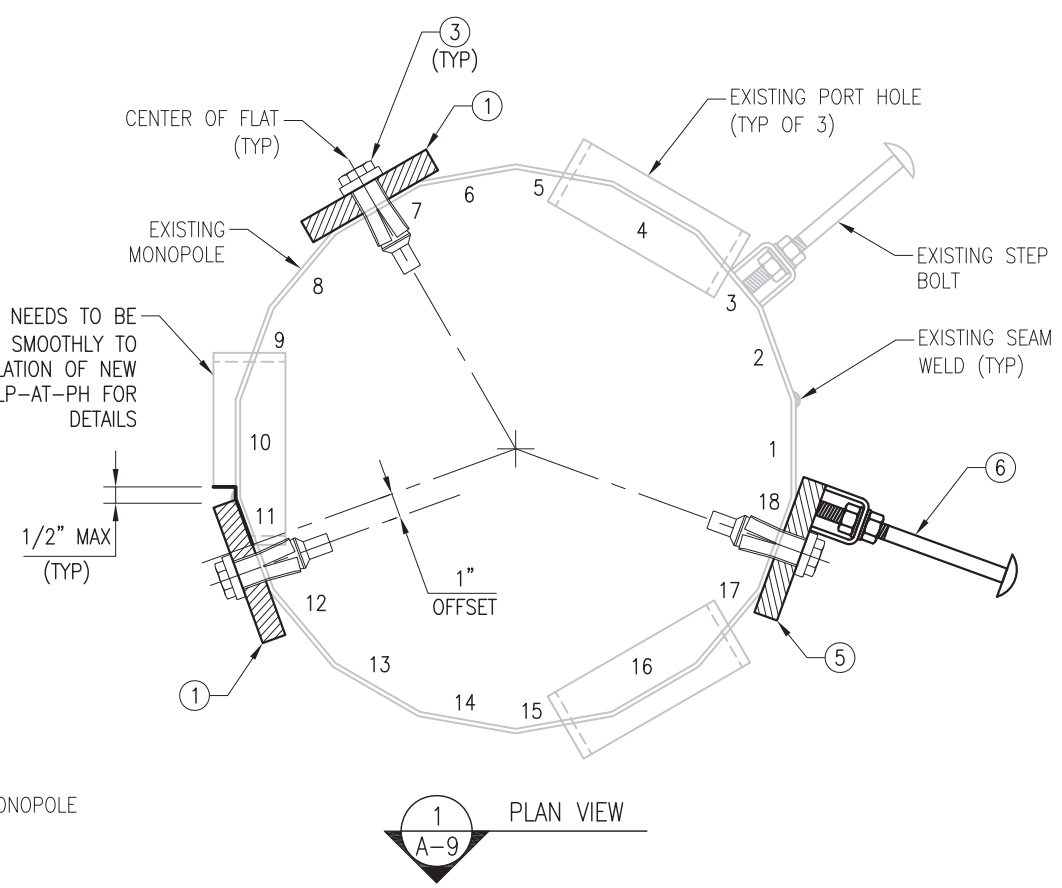
FIELD DRILL 1 1/16" DIA. HOLES ON POLE SHAFT FOR HB16 LINDAPTER HOLLO BOLTS.

SEE SHEET A-LP-CC FOR INSTALLATION DETAILS

ELEVATION VIEW
 REFER TO PLAN VIEW
 (±81'-0" TO ±101'-0" ELEV.)



FIELD NOTE:
 CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF THE EXISTING SPLICE AT ±147'-1" ELEV. AND INSTALL THE TERMINATION BOLTS AS SHOWN IN DETAIL "A" IF THE EXISTING SPLICE INTERFERES WITH THE TERMINATION BOLTS.



1
 A-9
 PLAN VIEW

- NOTES:**
- REFER TO SHEET A-2 FOR FLAT BAR ORIENTATION.
 - REFER TO SHEET A-1 FOR SHIM IF REQUIRED.
 - INSTALLATION TORQUE FOR HOLLO BOLTS: SEE SHEET GN-1.
 - REMOVE EXISTING STEP BOLTS THAT INTERFERE WITH NEW REINFORCEMENT PLATES PRIOR TO INSTALLATION.
 - APPLY (2) COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS TO ALL FIELD DRILLED AND EXPOSED AREAS.

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	2	LP6X100-G-20CT	PL 1" X 6" X 20'-0" A572-65 WELDMENT
2	3	CPL-C	SPLICE CONNECTION COVER PLATE
3	51	HB16-2	LINDAPTER 5/8" TYPE HB HOLLO-BOLT (HCF)
4	6	HB20-3	LINDAPTER 3/4" TYPE HB HOLLO-BOLT (HCF)
5	1	LP6X100-S-20CT	PL 1" X 6" X 20'-0" A572-65 WELDMENT WITH STEP BOLT
6	16	STEP BOLTS	STEP BOLT 5/8" X 7 1/2" W/ (2) NUT-LKW EA.
7	3	SH1875-11	3/16" 11 HOLES SHIM FOR TERMINATION BOLTS



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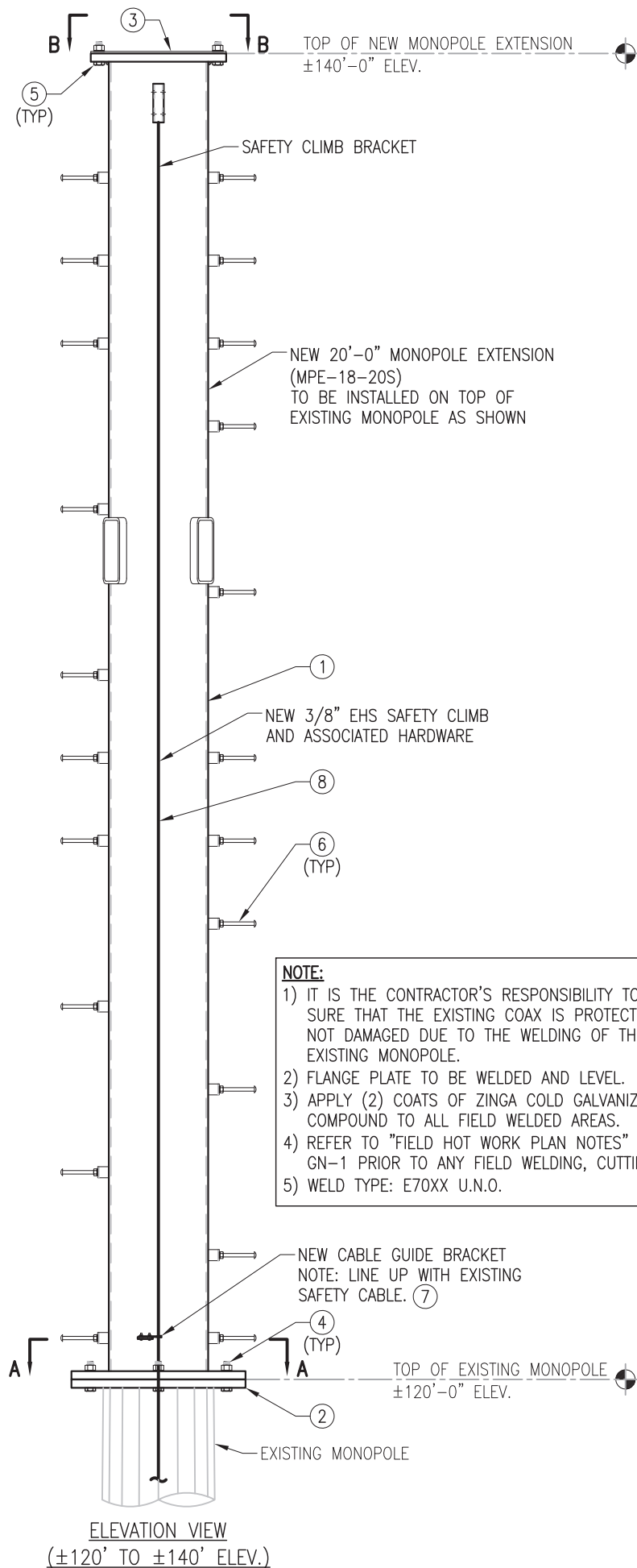
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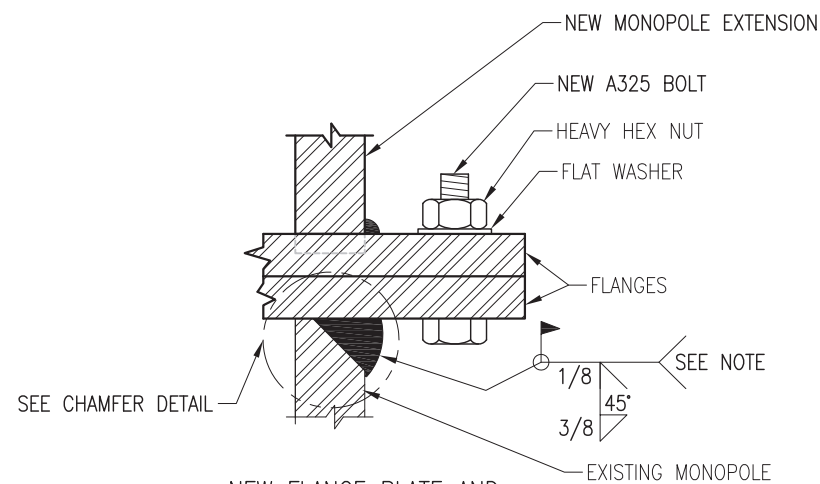
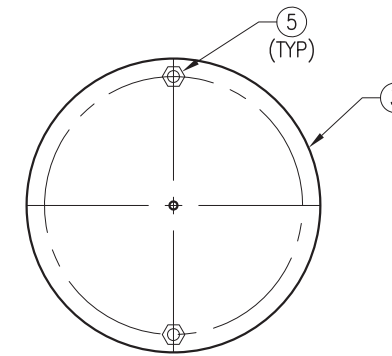
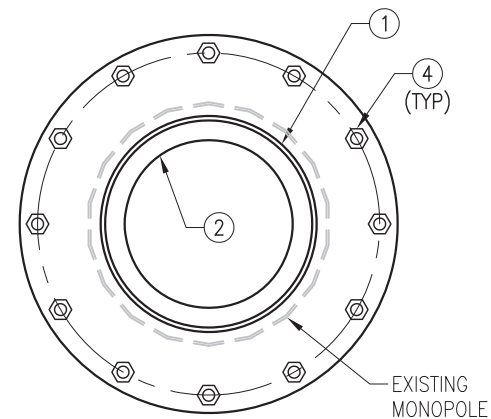
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REV #:
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NOTE:

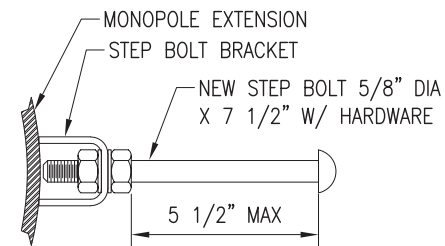
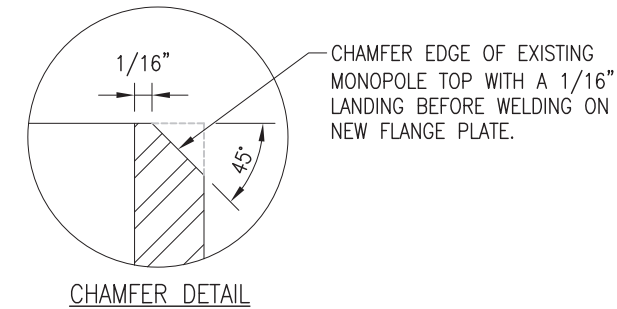
- 1) IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE SURE THAT THE EXISTING COAX IS PROTECTED AND NOT DAMAGED DUE TO THE WELDING OF THE EXISTING MONOPOLE.
- 2) FLANGE PLATE TO BE WELDED AND LEVEL.
- 3) APPLY (2) COATS OF ZINGA COLD GALVANIZE COMPOUND TO ALL FIELD WELDED AREAS.
- 4) REFER TO "FIELD HOT WORK PLAN NOTES" ON SHEET GN-1 PRIOR TO ANY FIELD WELDING, CUTTING, ETC.
- 5) WELD TYPE: E70XX U.N.O.



NEW FLANGE PLATE AND BOLT INSTALLATION DETAIL

NOTE:
TIGHTEN FLANGE BOLTS PER NOTES ON SHEET GN-1. TABLE 8.2.

FIELD NOTE:
DO NOT USE A LOCKWASHER WITH THIS CONNECTION.



STEP BOLT INSTALLATION DETAIL

ITEM NO.	QTY.	PART NO.	DESCRIPTION
8	1	115-300	TUF-TUG HEAD ASSEMBLY & SAFETY CABLE WITH FACTORY SWAGED FITTING (140 FT)
7	1	115-303	SAFETY CLIMB CABLE GUIDE L- STYLE (TUF-TUG OR EQUIV W/ HARDWARE)
6	21	STEP BOLT	STEP BOLT 5/8" X 7 1/2" W/ (2) NUT-LKW EA.
5	2	---	BOLT 1" X 3 1/2" A325 W/ NUT-FW EA.
4	12	---	BOLT 1" X 4 3/4" A325 W/ NUT-FW EA.
3	1	CPL-18	TOP CAP PLATE PL 3/16" X 2'-0 1/2" DIA A36
2	1	TFP-20B	FLANGE PLATE PL 1 1/2" X 2'-7 1/2" DIA A570-50
1	1	MPE-18-20S	MONOPOLE EXTENSION WELDMENT (PIPE HSS18.000X0.375 X 20'-0") (42 KSI) A500 GR-B



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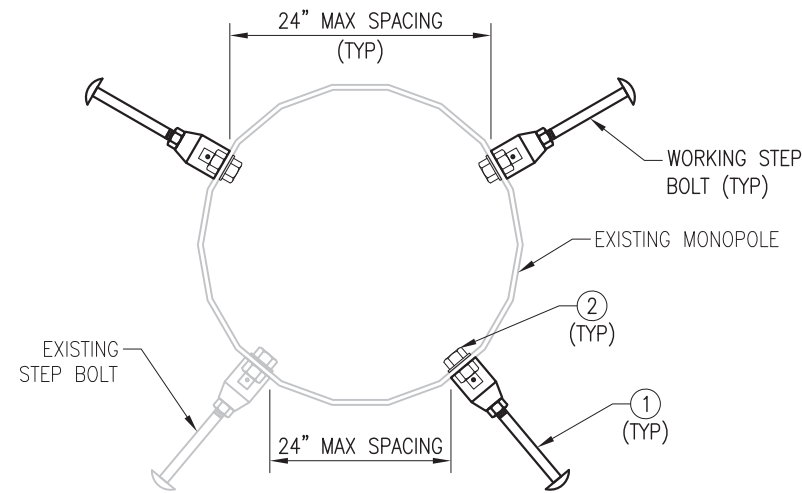
SHEET TITLE:

**MONOPOLE EXTENSION
INSTALLATION DETAILS**

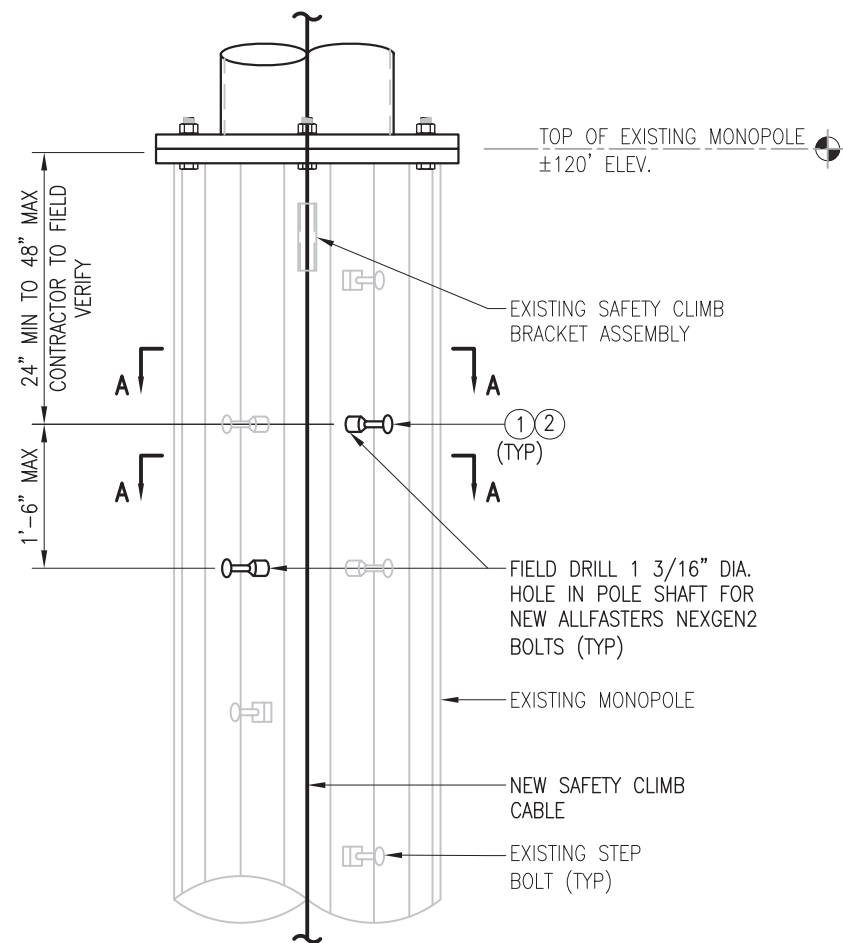
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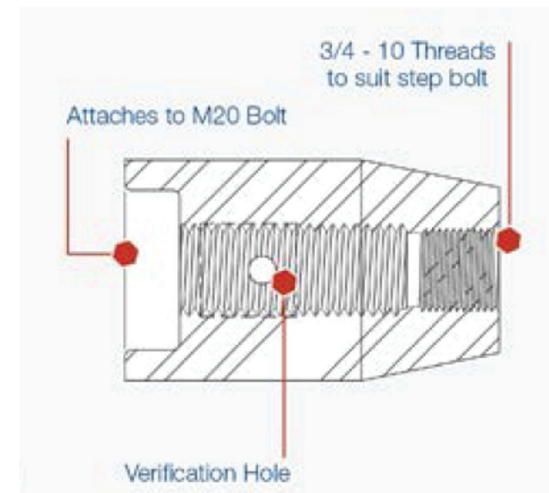
SECTION "A-A"



ELEVATION VIEW



PHOTO 1



STEP COLLAR SECTION

NOTES:

1. INSTALLATION DETAILS FOR NEXGEN2 BOLTS – SEE SHEETS SPEC-1 & SPEC-2. IT IS REQUIRED THAT THE CONTRACTOR TAKE PHOTOS OF THE INSTALLED TORQUE FOR VERIFICATION OF PROPER INSTALLATION.
2. APPLY (2) COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS TO ALL FIELD DRILLED AND EXPOSED AREAS.

ITEM NO.	QTY.	PART NO.	DESCRIPTION
2	6	2NG2032	M20 X 75 NEXGEN2 BLIND BOLT ASSEMBLY
1	6	2RCNGM20212A	ALLFASTENERS M20 X 3/4 X 2 1/2" STEP BOLT ADAPTER ASSEMBLY



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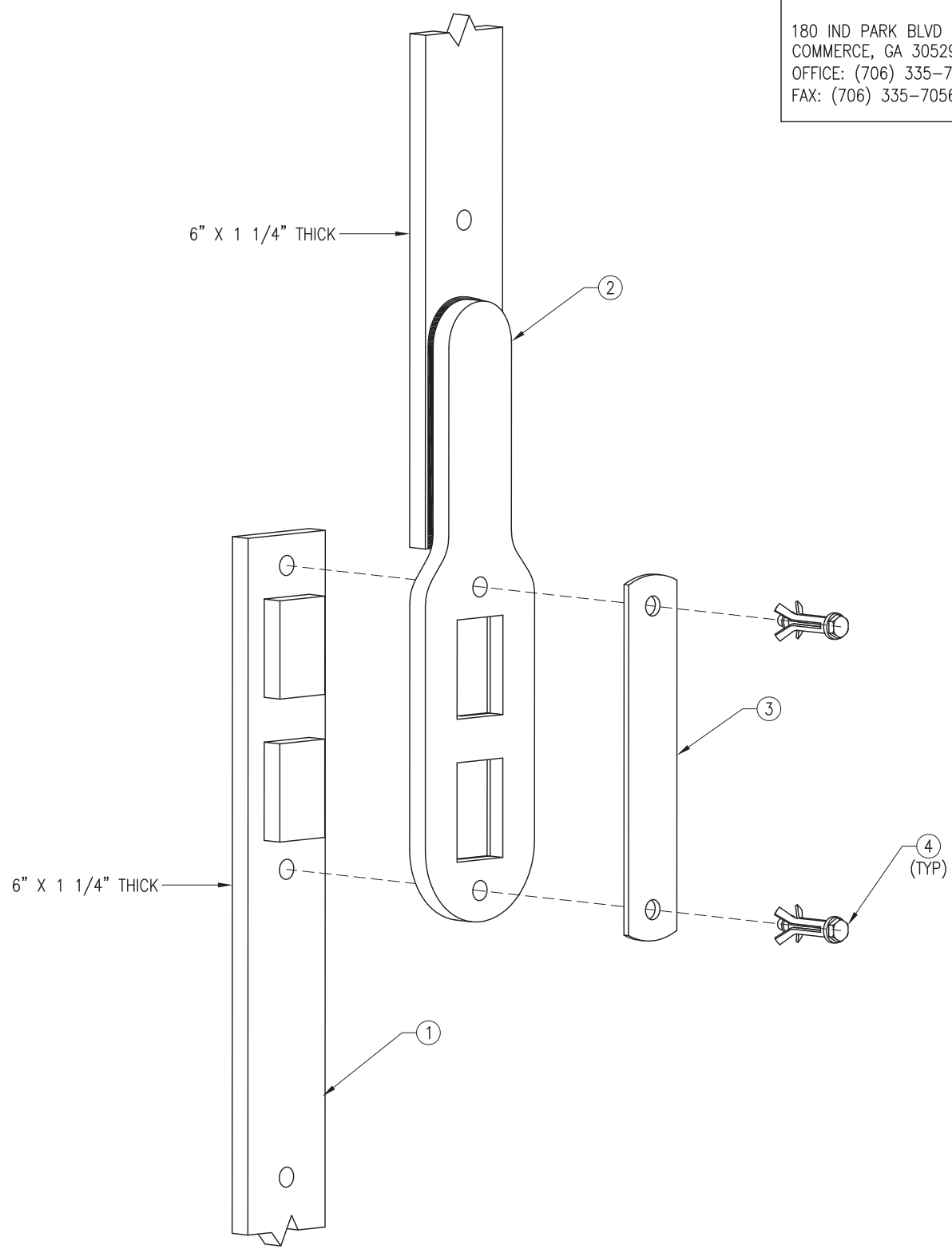
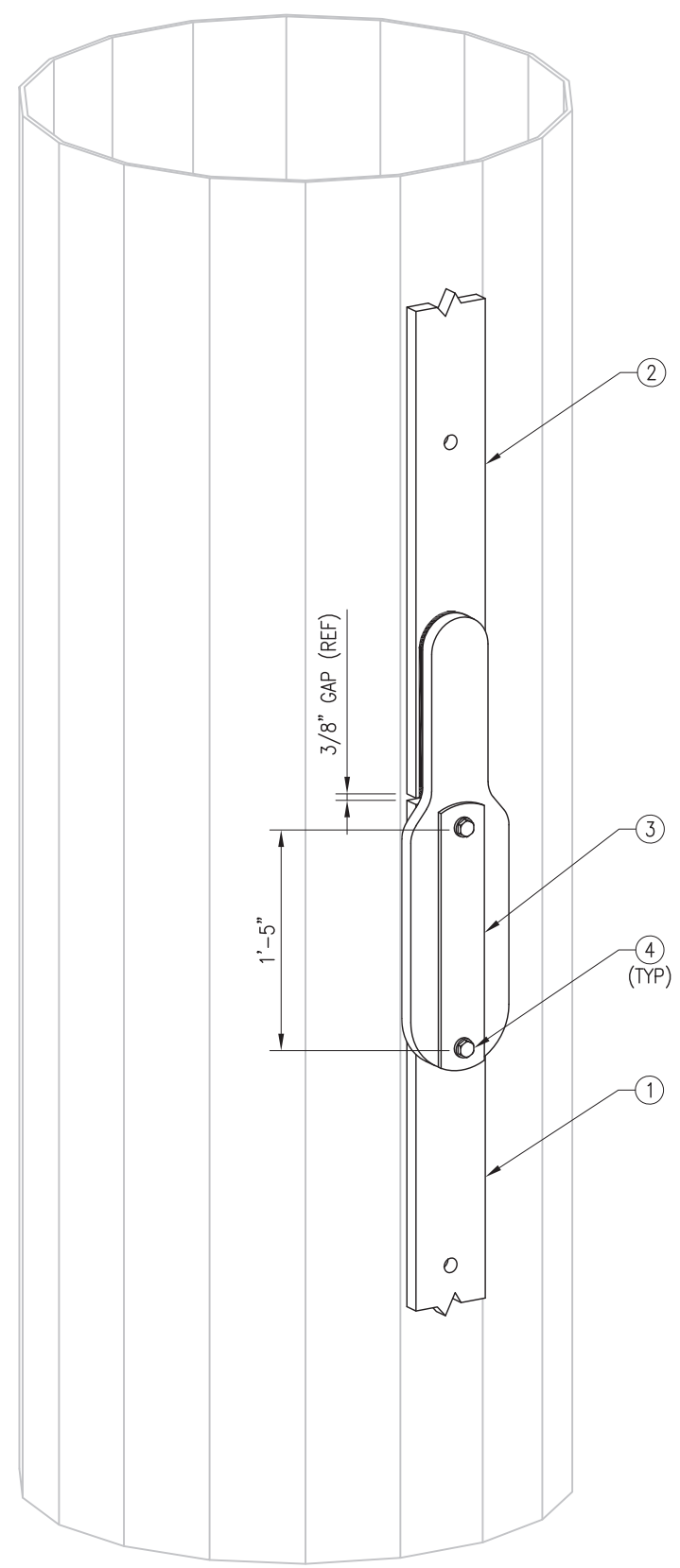
STEP BOLT
INSTALLATION DETAIL

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SHEET TITLE:
 SPLICE CONNECTION
 PLATE INSTALLATION
 DETAILS (TYPE BB)

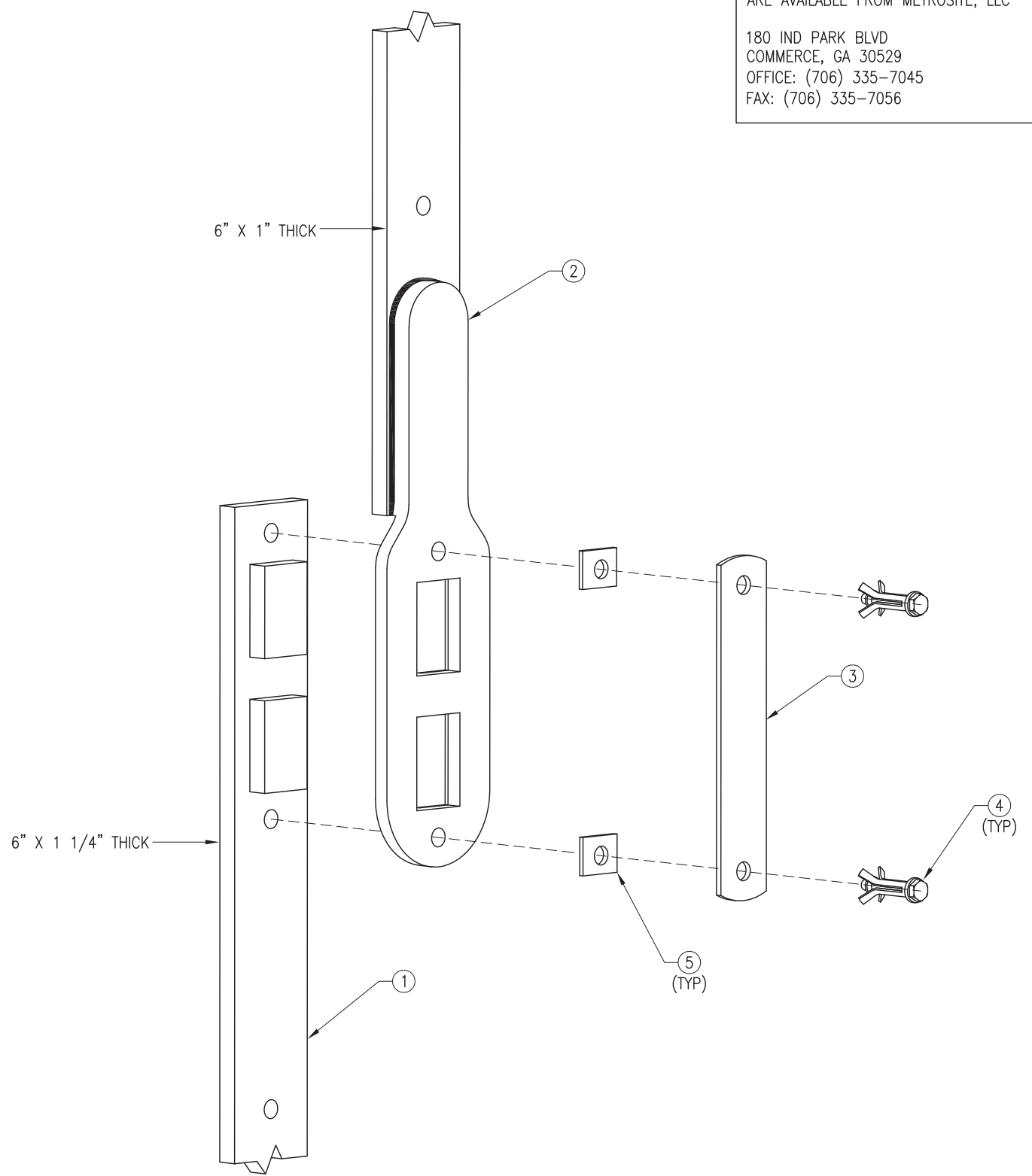
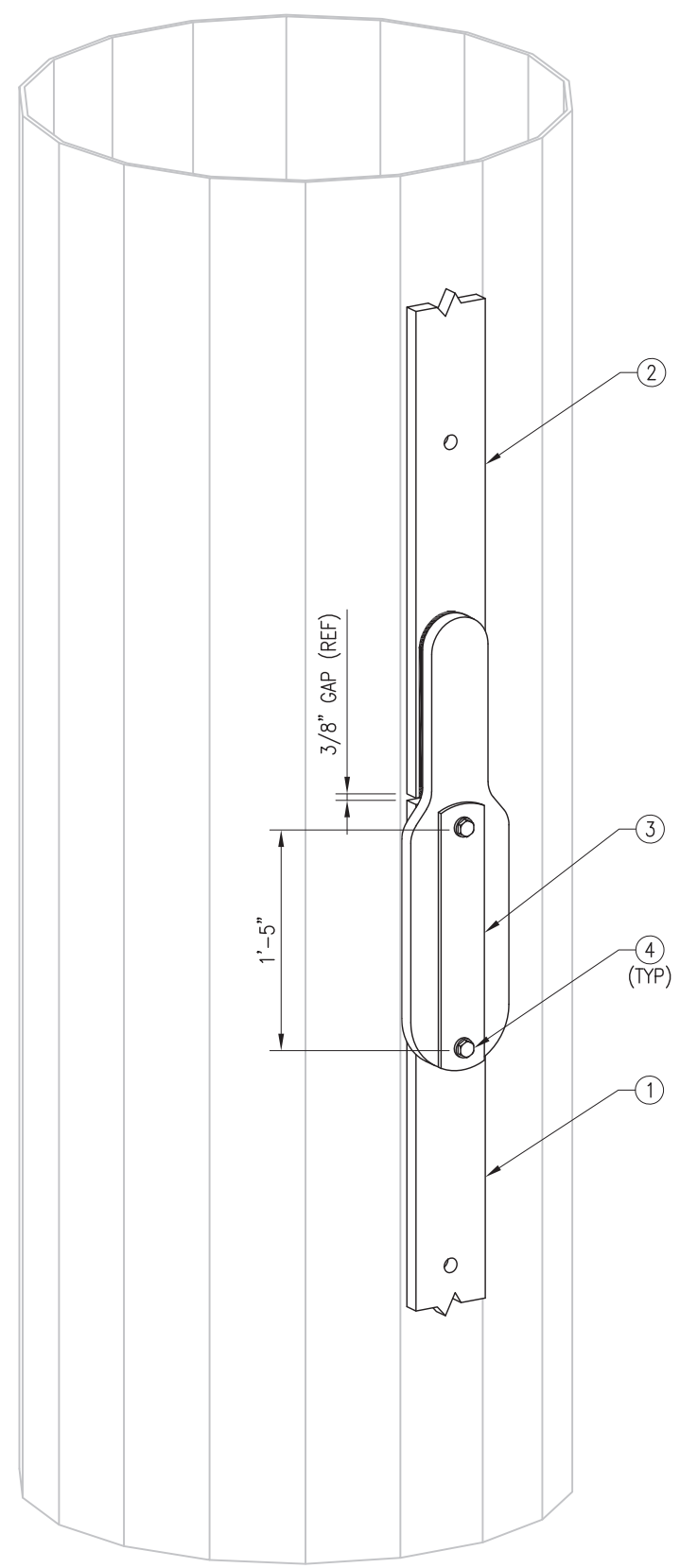
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SHEET NUMBER: A-LP-BB REV #: 0

FIELD NOTE:
 INSTALLATION TORQUE FOR THE (2) HB20-3 BOLTS AT SPLICE: 221 FT-LBS.

ITEM NO.	QTY.	MATERIAL PART NO.	DESCRIPTION
1	-	LP6X125-X-XXX	PL 1 1/4" X 6" PLATE WELDMENT
2	-	LP6X125-X-XXX	PL 1 1/4" X 6" PLATE WELDMENT
3	1	CPL-B	KEY PLATE COVER PLATE
4	2	HB20-3	LINDAPTER 3/4" TYPE HB HOLLO-BOLT (HCF)

US PATENT 9,546,497 B2



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SHEET TITLE:
 SPLICE CONNECTION
 PLATE INSTALLATION
 DETAILS (TYPE BC)

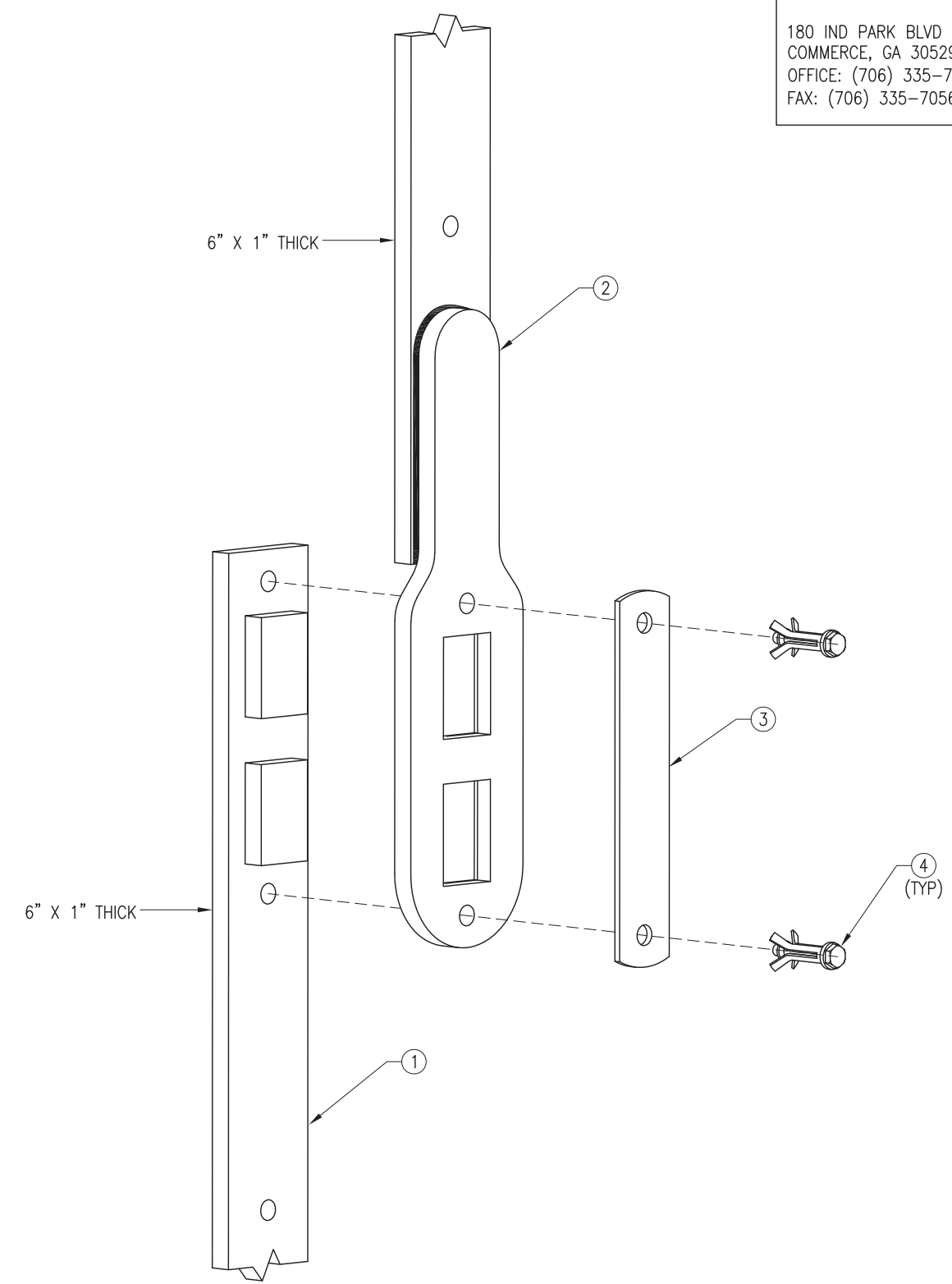
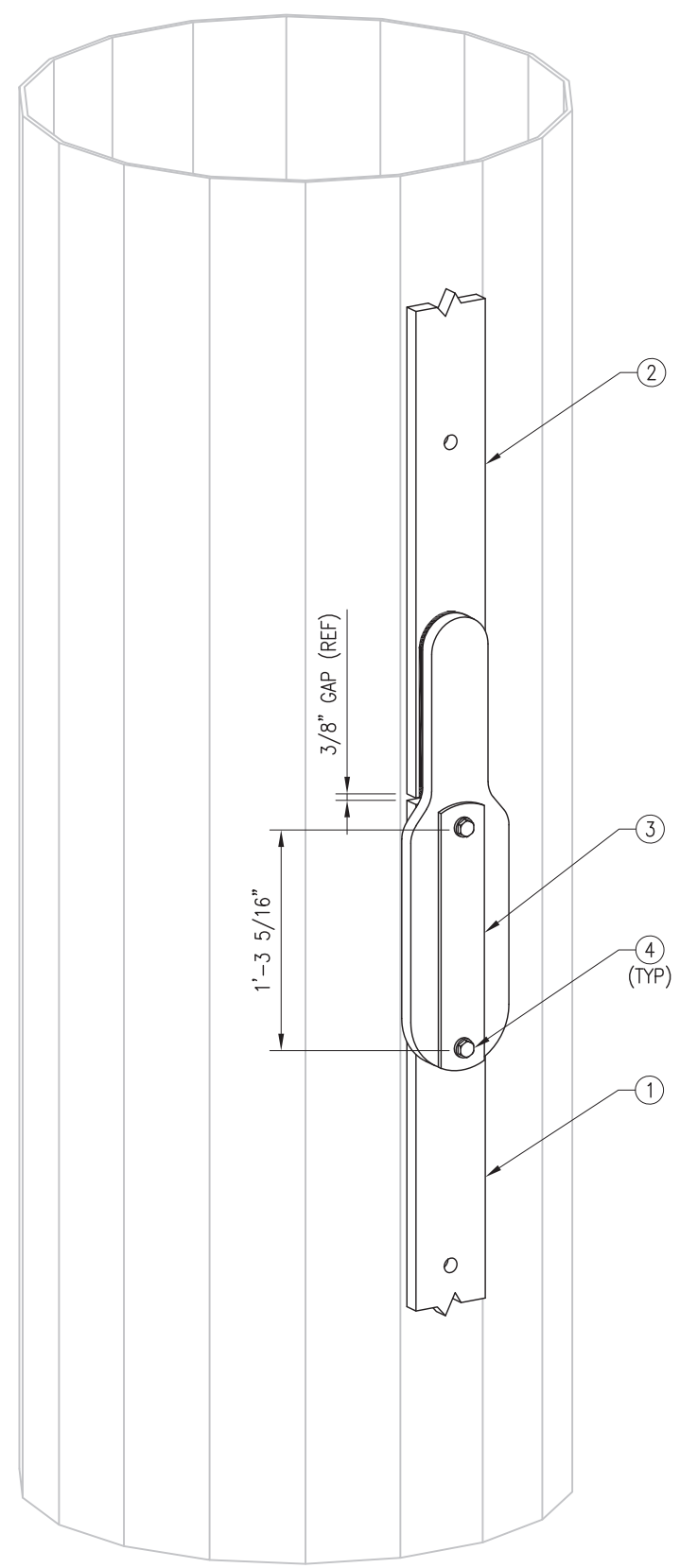
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SHEET NUMBER: A-LP-BC REV #: 0

FIELD NOTE:
 INSTALLATION TORQUE FOR THE (2) HB20-3 BOLTS AT SPLICE: 221 FT-LBS.

ITEM NO.	QTY.	MATERIAL PART NO.	DESCRIPTION
1	-	LP6X125-X-XXX	PL 1 1/4" X 6" PLATE WELDMENT
2	-	LP6X100-X-XXX	PL 1" X 6" PLATE WELDMENT
3	1	CPL-B	KEY PLATE COVER PLATE
4	2	HB20-3	LINDAPTER 3/4" TYPE HB HOLLO-BOLT (HCF)
5	2	SHIM-M20-1	PL 1/4" X 3" X 3" A36

US PATENT 9,546,497 B2



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 SPLICE CONNECTION
 PLATE INSTALLATION
 DETAILS (TYPE CC)

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SHEET NUMBER: REV #:
 A-LP-CC 0

FIELD NOTE:
 INSTALLATION TORQUE FOR THE (2) HB20-3 BOLTS AT SPLICE: 221 FT-LBS.

ITEM NO.	QTY.	MATERIAL PART NO.	DESCRIPTION
1	-	LP6X100-X-XXX	PL 1" X 6" PLATE WELDMENT
2	-	LP6X100-X-XXX	PL 1" X 6" PLATE WELDMENT
3	1	CPL-C	KEY PLATE COVER PLATE
4	2	HB20-3	LINDAPTER 3/4" TYPE HB HOLLO-BOLT (HCF)



NEXGEN2

BLIND BOLT ASSEMBLY



INSTALLATION GUIDE



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PRE-INSTALL BOLT ON INSTALL TOOL:



1 Thread the installation tool tip into the splined end of the bolt.

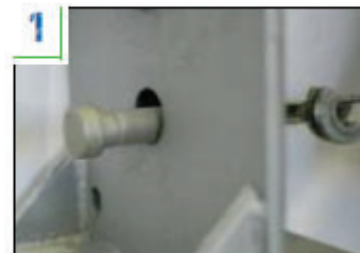


2 Remove the nut, the face washer and the spring shear sleeve and slide along the handle of the tool.



3 Move the collapsible washer to the correct location on the tool and fold in place.

INSTALLATION:



1 Install the bolt into the hole followed by the collapsible washer.



2 Rotate the tool 180°.



3 Pulling back, rock the tool side-to-side to engage the collapsible washer.



4 Engage the spring shear sleeve into the shear plane.



5 Slide the face washer forward and move the nut up to fasten to the bolt. Tighten the nut snug tight at this point.



6 Remove the tool by unscrewing it from bolt (counterclockwise).



7 Using the shear wrench engage the outer socket with the splined end of the bolt. Press the trigger until correct tension has been achieved (the bolt spline separates from the bolt).



8 Press the small trigger on the shear wrench to eject the bolt spline. The application is now complete.

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 ASSEMBLY INSTALLATION
 GUIDE

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SHEET NUMBER: SPEC-1 REV #: 0



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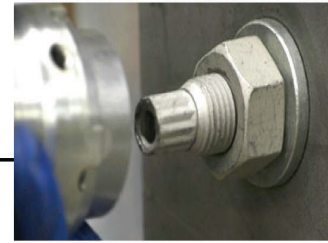


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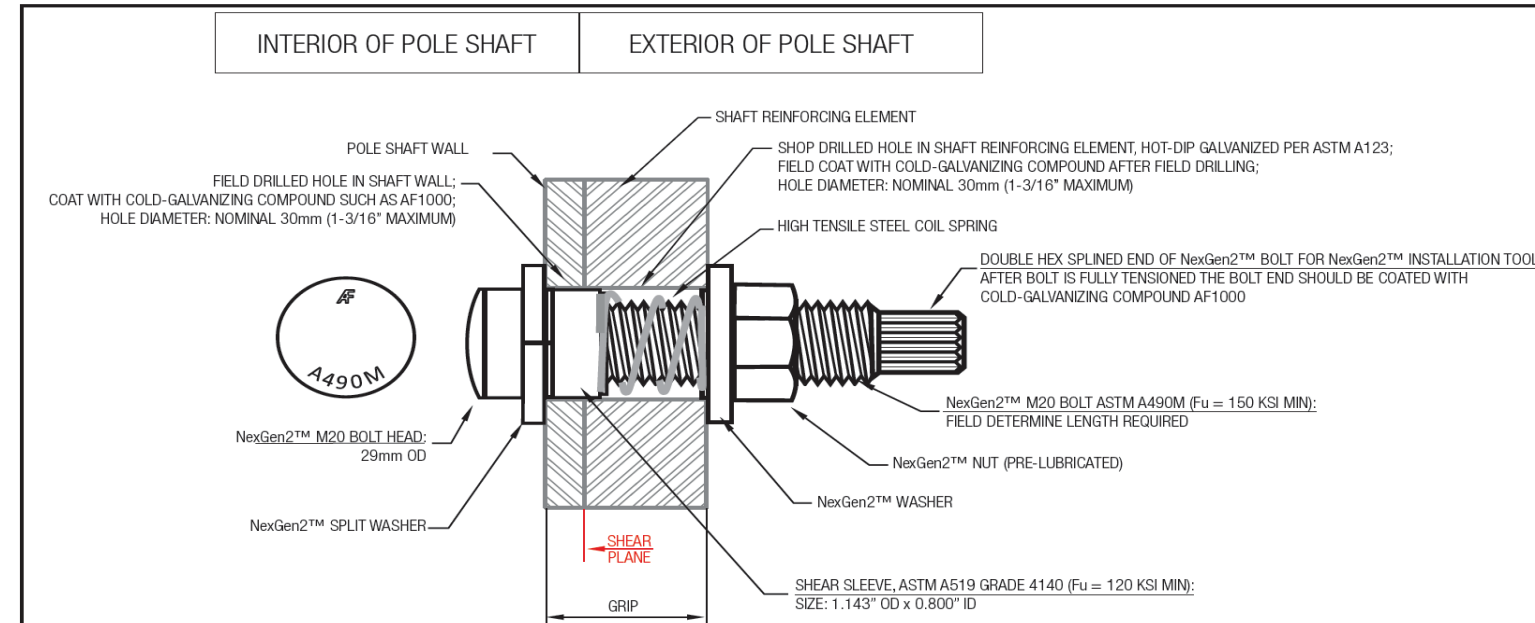
Pre-Tension



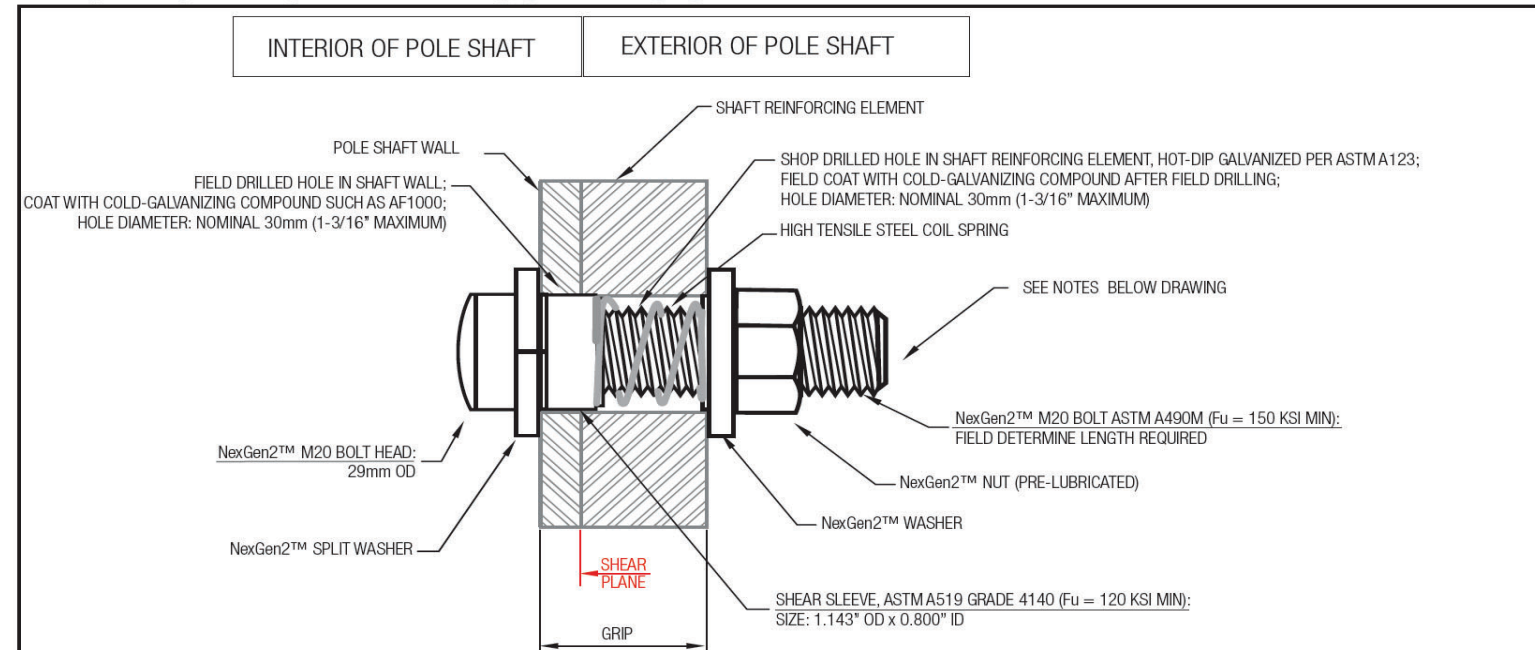
Post-Tension



TYPICAL NG2™ BOLT DETAIL: **PRE-TENSION**



TYPICAL NG2™ BOLT DETAIL: **POST-TENSION**



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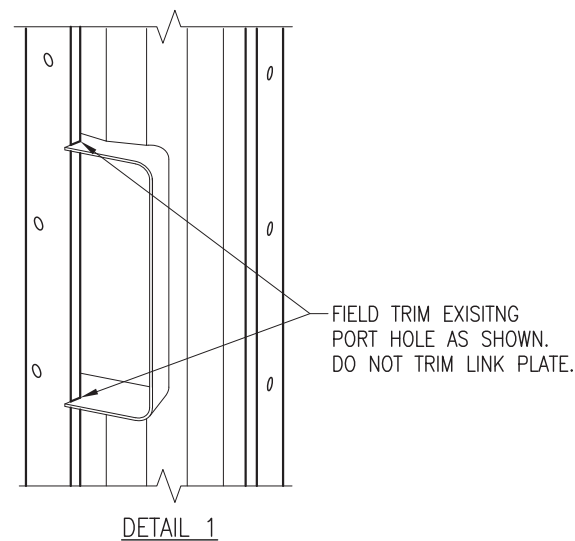
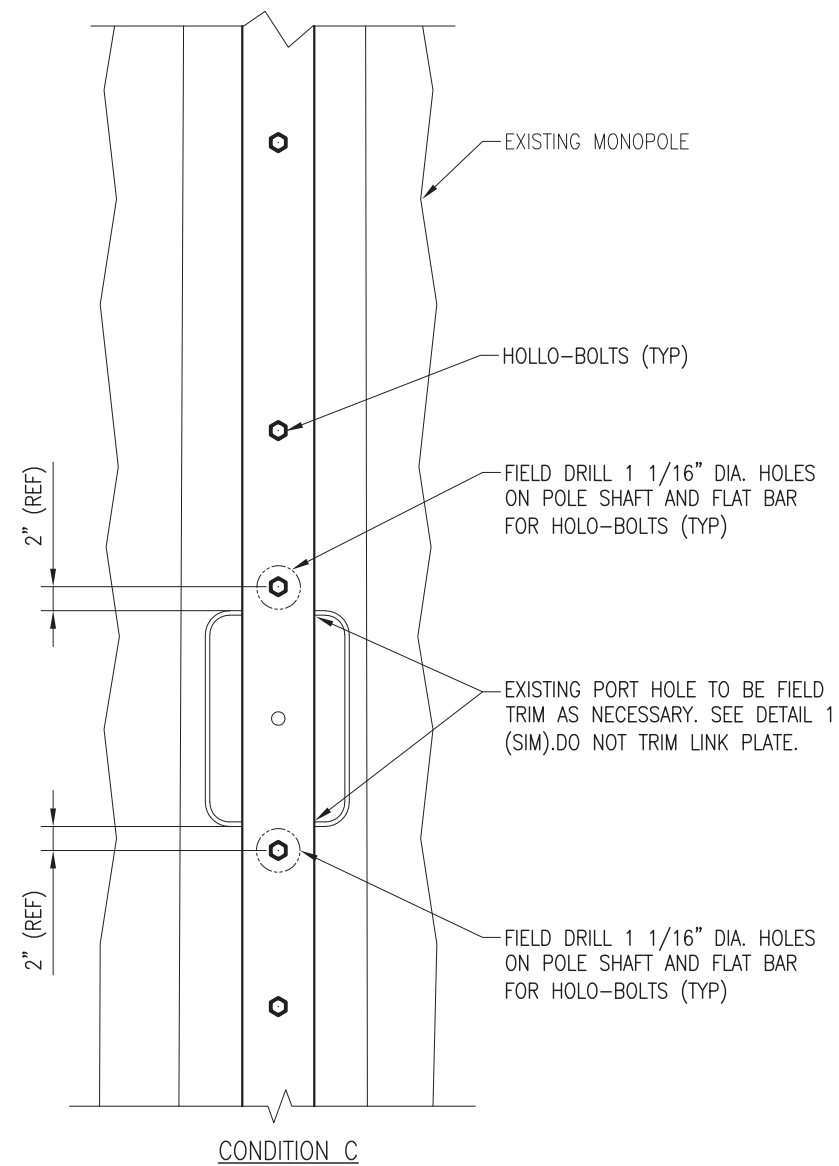
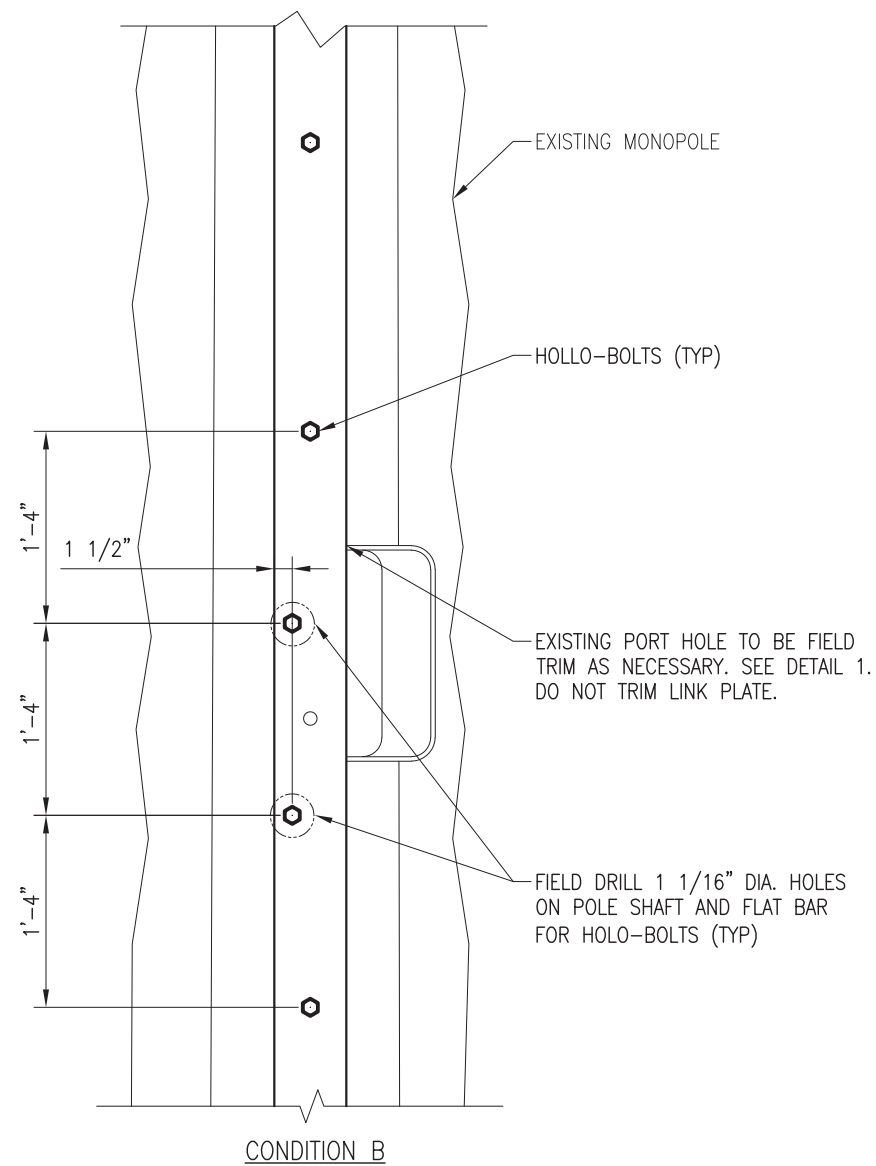
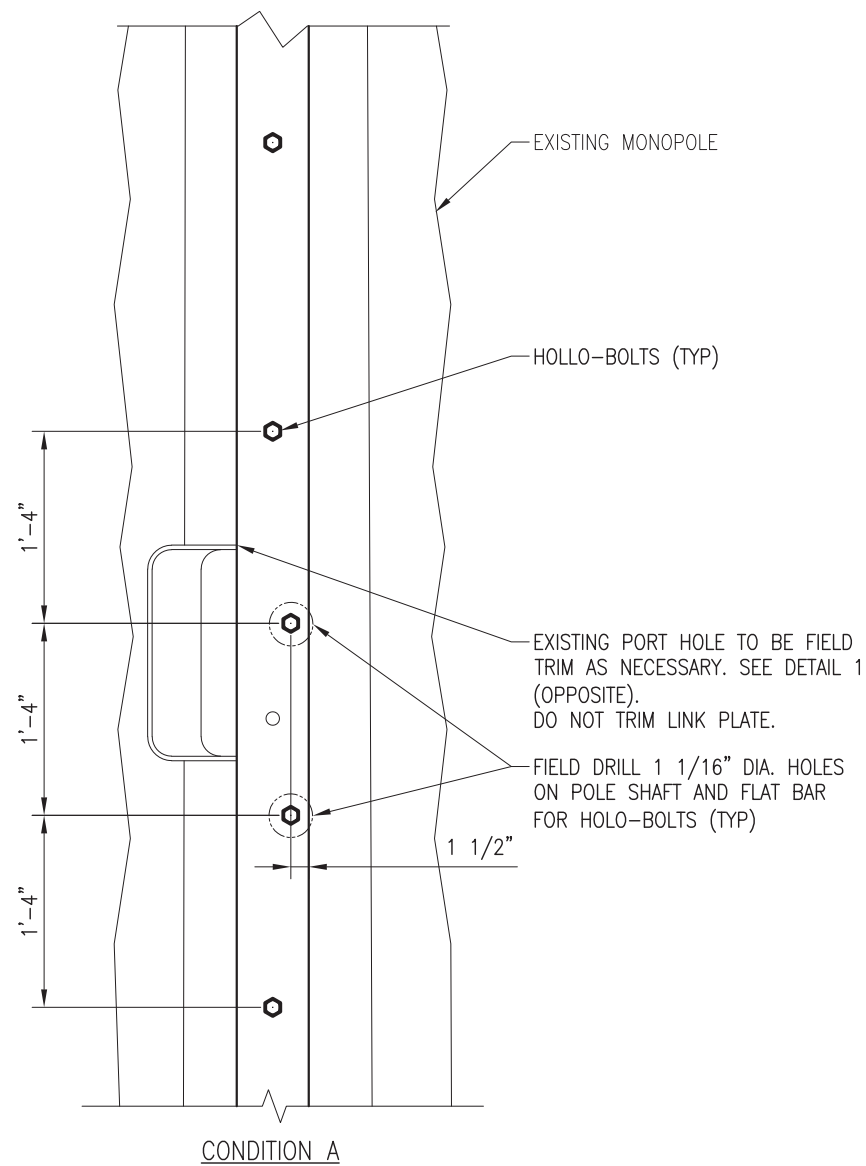
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SHEET TITLE:
 NEXGEN2 BLIND BOLT
 ASSEMBLY INSTALLATION
 GUIDE

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SHEET NUMBER: SPEC-2 REV #: 0



- NOTES:
1. REFER TO SHEET A-* FOR FLAT BAR LOCATION.
 2. DO NOT TRIM LINK PLATE.



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1	FIRST ISSUE	LC	04/04/23

SHEET TITLE:
**INSTALLATION AT
 HANDHOLE LOCATION
 DETAILS**

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SHEET NUMBER: LP-AT-PH | REV #: 0

ATTACHMENT 3

December 13, 2022 (Rev. 1)
June 24, 2021



SAI Communications
12 Industrial Way
Salem NH, 03079

RE: AT&T Site Number: CT1231
 FA Number: 12712096
 PACE Number: MRCTB051866
 PT Number: 2051A0ZE7S
 TEP Project Number: 375412
 AT&T Site Name: MILFORD WAMPUS LANE
 Site Address: 160 Wampus Lane
 Milford, CT 06460

To Whom It May Concern:

TEP Northeast (TEP NE) has been authorized by SAI Communications to perform a mount analysis on the proposed AT&T antenna/RRH mount to determine their capability of supporting the following additional loading:

- (2) TPA65R-BU8DA-K Antennas (96.0"x20.7"x7.7" – Wt. = 87 lbs. /each)
- (3) AIR6419 Antennas (31.1"x16.1"x7.3" – Wt. = 66 lbs. /each)
- (3) AIR6449 Antennas (30.6"x15.9"x10.6" – Wt. 82 lbs. /each)
- (2) DMP65R-BU8DA-K Antennas (96.0"x20.7"x7.7" – Wt. = 119 lbs. /each)
- (2) TPA45R-KU8A Antennas (98.7"x15.4"x8.2" – Wt. = 80 lbs. /each)
- (3) 4478 B14 RRH's (18.1"x13.4"x8.3" – Wt. = 60 lbs. /each)
- (3) 4415 B30 RRH's (16.5"x13.4"x5.9" – Wt. = 46 lbs. /each)
- (3) 4449 B5/B12 RRH's (17.9"x13.2"x9.4" – Wt. = 73 lbs. /each)
- (3) 8843 B2/B66A RRH's (14.9"x13.2"x10.9" – Wt. = 72 lbs. /each)
- (2) DC9-48-60-24-8C-EV Surge Arrestors (31.4"x10.2"Ø – Wt. = 29 lbs. /each)

*Proposed equipment shown in bold.

Mount fabrication drawings prepared by SitePro1, P/N VFA12-WLL-30120 dated May 3, 2018; P/N LWRM dated August 24, 2012; P/N MM01 dated May 10, 2010; and P/N MM02 dated May 10, 2010, were used to perform this analysis.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2021 with 2022 Connecticut State Building Code, and AT&T Mount Technical Directive – R22.
- TEP NE considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-H and Appendix P of the Connecticut State Building Code, the max basic wind speed for this site is equal to 120 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.0 in. An escalated ice thickness of 1.15 in was used for this analysis.
- TEP NE considers this site to be exposure category C; tower is located near large, flat, open, terrain/grasslands.
- TEP NE considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- TEP NE considers this site to have a spectral response acceleration parameter at short periods, S_s , of 0.202 and a spectral response acceleration parameter at a period of 1 second, S_1 , of 0.053.
- The mount has been analyzed with load combinations consisting of 500 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 3.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The proposed mounts are secured to the proposed monopole extension with ring mounts and threaded rods. TEP NE considers the threaded rods to be the governing connection member.

Based on our evaluation, we have determined that the Proposed (3) SitePro1 P/N VFA12-WLL-30120, (2) P/N LWRM, (2) P/N MM01, and (4) P/N MM02 mounts ARE CAPABLE of supporting the proposed installation.

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Proposed Mount Rating	47	LC27	63%	PASS

Reference Documents:

- Fabrication drawings prepared by SitePro1, P/N VFA12-WLL-30120, dated May 3, 2018.
- Fabrication drawings prepared by SitePro1, P/N LWRM, dated August 24, 2012.
- Fabrication drawings prepared by SitePro1, P/N MM01, dated May 10, 2010.
- Fabrication drawings prepared by SitePro1, P/N MM02, dated May 10, 2010.

This determination was based on the following limitations and assumptions:

1. TEP NE is not responsible for any modifications completed prior to and hereafter which TEP NE was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
4. The proposed mount will be adequately secured to the tower structure per the mount manufacturer's specifications.
5. All components pertaining to AT&T's mounts must be tightened and re-plumbed prior to the installation of new appurtenances.
6. TEP NE performed a localized analysis on the mount itself and not on the supporting tower structure.

Please feel free to contact our office should you have any questions.

Respectfully Submitted,
TEP Northeast



Michael Cabral
Director



Daniel P. Hamm, PE
Vice President



Wind & Ice
Calculations

Date: 12/13/2022
 Project Name: MILFORD WAMPUS LANE
 Project No.: CT1231
 Designed By: RL Checked By: MSC



2.6.5.2 Velocity Pressure Coeff:

$$K_z = 2.01 (z/z_g)^{2/\alpha}$$

$K_z =$ 1.350

$z =$ 136 (ft)
 $z_g =$ 900 (ft)
 $\alpha =$ 9.5

$$K_{zmin} \leq K_z \leq 2.01$$

Table 2-4

Exposure	Z_g	α	K_{zmin}	K_c
B	1200 ft	7.0	0.70	0.9
C	900 ft	9.5	0.85	1.0
D	700 ft	11.5	1.03	1.1

2.6.6.2 Topographic Factor:

Table 2-5

Topo. Category	K_t	f
2	0.43	1.25
3	0.53	2.0
4	0.72	1.5

$$K_{zt} = [1 + (K_c K_t / K_h)]^2$$

$K_{zt} =$ 1

(If Category 1 then $K_{zt} = 1.0$)

Category = 1

$$K_h = e^{(fz/H)}$$

$K_h =$ 1.0
 $K_c =$ 1.0 (from Table 2-4)
 $K_t =$ 0 (from Table 2-5)
 $f =$ 0 (from Table 2-5)
 $z =$ 136
 $z_s =$ 12 (Mean elevation of base of structure above surrounding terrain)
 $H =$ 0 (Ht. of the crest above surrounding terrain)
 $K_{zt} =$ 1.00 (from 2.6.6.2.1)
 $K_e =$ 1.00 (from 2.6.8)

2.6.10 Design Ice Thickness

Max Ice Thickness =
 Importance Factor =

$t_i =$ 1.00 in
 $I =$ 1.00 (from Table 2-3)
 $K_{iz} =$ 1.15 (from Sec. 2.6.10)

$$t_{iz} = t_i * I * K_{iz} * (K_{zt})^{0.35}$$

$t_{iz} =$ 1.15 in

Date: 12/13/2022
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 Designed By: RL Checked By: MSC



2.6.9 Gust Effect Factor

2.6.9.1 Self Supporting Lattice Structures

$G_h = 1.0$ Latticed Structures > 600 ft

$G_h = 0.85$ Latticed Structures 450 ft or less

$G_h = 0.85 + 0.15 [h/150 - 3.0]$ $h =$ ht. of structure

$h =$ 140

$G_h =$ 0.85

2.6.9.2 Guyed Masts

$G_h =$ 0.85

2.6.9.3 Pole Structures

$G_h =$ 1.1

2.6.9 Appurtenances

$G_h =$ 1.0

2.6.9.4 Structures Supported on Other Structures

(Cantilvered tubular or latticed spines, pole, structures on buildings (ht. : width ratio > 5)

$G_h =$ 1.35

$G_h =$ 1.00

2.6.11.2 Design Wind Force on Appurtenances

$F = q_z * G_h * (EPA)_A$

$q_z = 0.00256 * K_z * K_{zt} * K_s * K_e * K_d * V_{max}^2$

$q_z =$	47.27
$q_{z(ice)} =$	5.25
$q_{z(30)} =$	2.95

$K_z =$	1.350 (from 2.6.5.2)
$K_{zt} =$	1.0 (from 2.6.6.2.1)
$K_s =$	1.0 (from 2.6.7)
$K_e =$	1.00 (from 2.6.8)
$K_d =$	0.95 (from Table 2-2)
$V_{max} =$	120 mph (Ultimate Wind Speed)
$V_{max(ice)} =$	40 mph
$V_{30} =$	30 mph

Table 2-2

Structure Type	Wind Direction Probability Factor, K_d
Latticed structures with triangular, square or rectangular cross sections	0.85
Tubular pole structures, latticed structures with other cross sections, appurtenances	0.95
Tubular pole structures supporting antennas enclosed within a cylindrical shroud	1.00

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Determine Ca:

Table 2-9

Force Coefficients (Ca) for Appurtenances				
Member Type		Aspect Ratio ≤ 2.5	Aspect Ratio = 7	Aspect Ratio ≥ 25
		Ca	Ca	Ca
Flat		1.2	1.4	2.0
Square/Rectangular HSS		$1.2 - 2.8(r_s) \geq 0.85$	$1.4 - 4.0(r_s) \geq 0.90$	$2.0 - 6.0(r_s) \geq 1.25$
Round	C < 39 (Subcritical)	0.7	0.8	1.2
	$39 \leq C \leq 78$ (Transitional)	$4.14/(C^{0.485})$	$3.66/(C^{0.415})$	$46.8/(C^{1.0})$
	C > 78 (Supercritical)	0.5	0.6	0.6

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
 (Aspect ratio is independent of the spacing between support points of a linear appurtenance,
 Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = 1.15 in Angle = 0 (deg) Equivalent Angle = 180 (deg)

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ca	Force (lbs)	Force (lbs) (w/ Ice)	Force (lbs) (30 mph)
TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	4.64	1.30	845	107	53
AIR6419 Antenna	31.1	16.1	7.3	3.48	1.93	1.20	197	27	12
AIR6449 Antenna	30.6	15.9	10.6	3.38	1.92	1.20	192	26	12
DMP65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	4.64	1.30	845	107	53
TPA45R-KU8A Antenna	98.7	15.4	8.2	10.56	6.41	1.37	685	90	43
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	2.18	1.20	59	9	4
4415 B30 RRH (Side)	16.5	5.9	13.4	0.68	2.80	1.21	39	7	2
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.90	1.20	66	10	4
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.20	64	10	4
DC9-48-60-24-8C-EV Surge Arrestor	31.4	10.2	10.2	2.22	3.08	0.70	74	11	5
5/8" Round Bar	0.6	12.0	-	0.05	0.05	1.20	3		
3/4" Round Bar	0.8	12.0	-	0.06	0.06	1.20	4		
2" Pipe	2.4	12.0	-	0.20	0.20	1.20	11		
2-1/2" Pipe	2.9	12.0	-	0.24	0.24	1.20	14		
3" Pipe	3.5	12.0	-	0.29	0.29	1.20	17		
PL 3-1/2x5/8	0.6	12.0	-	0.05	0.05	2.00	5		
PL 11-1/4x5/8	0.6	12.0	-	0.05	0.05	2.00	5		
HSS 4x4	4.0	12.0	-	0.33	0.33	2.00	32		

Date: 12/13/2022
 Project Name: MILFORD WAMPUS LANE
 Project No.: CT1231
 Designed By: RL Checked By: MSC



WIND LOADS

Angle = 30 (deg)

Ice Thickness = 1.15 in.

Equivalent Angle = 210 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	845	384	730
AIR6419 Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	197	95	172
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	192	130	176
DMP65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	845	384	730
TPA45R-KU8A Antenna	98.7	15.4	8.2	10.56	5.62	6.41	12.04	1.37	1.57	685	417	618
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	59	96	68
4415 B30 RRH (Side)	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	39	87	51
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	66	93	73
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	64	77	67

WIND LOADS WITH ICE:

TPA65R-BU8DA-K Antenna	98.3	23.0	10.0	15.70	6.83	4.27	9.83	1.28	1.49	105	54	93
AIR6419 Antenna	33.4	18.4	9.6	4.27	2.23	1.82	3.48	1.20	1.24	27	15	24
AIR6449 Antenna	32.9	18.2	12.9	4.16	2.95	1.81	2.55	1.20	1.20	26	19	24
DMP65R-BU8DA-K Antenna	98.3	23.0	10.0	15.70	6.83	4.27	9.83	1.28	1.49	105	54	93
TPA45R-KU8A Antenna	101.0	17.7	10.5	12.42	7.37	5.71	9.62	1.34	1.49	88	58	80
4478 B14 RRH (Side)	20.4	10.6	15.7	1.50	2.23	1.92	1.30	1.20	1.20	9	14	11
4415 B30 RRH (Side)	18.8	8.2	15.7	1.07	2.05	2.29	1.20	1.20	1.20	7	13	8
4449 B5/B12 RRH (Side)	20.2	11.7	15.5	1.64	2.18	1.73	1.30	1.20	1.20	10	14	11
8843 B2/B66A RRH (Side)	17.2	13.2	15.5	1.58	1.85	1.30	1.11	1.20	1.20	10	12	10

WIND LOADS AT 30 MPH:

TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	53	24	46
AIR6419 Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	12	6	11
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	12	8	11
DMP65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	53	24	46
TPA45R-KU8A Antenna	98.7	15.4	8.2	10.56	5.62	6.41	12.04	1.37	1.57	43	26	39
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	4
4415 B30 RRH (Side)	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	2	5	3
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	4	6	5
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	4

Date: 12/13/2022
 Project Name: MILFORD WAMPUS LANE
 Project No.: CT1231
 Designed By: RL Checked By: MSC



WIND LOADS

Angle = 60 (deg)

Ice Thickness = 1.15 in.

Equivalent Angle = 240 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	845	384	499
AIR6419 Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	197	95	121
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	192	130	145
DMP65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	845	384	499
TPA45R-KU8A Antenna	98.7	15.4	8.2	10.56	5.62	6.41	12.04	1.37	1.57	685	417	484
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	59	96	86
4415 B30 RRH (Side)	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	39	87	75
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	66	93	86
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	64	77	74

WIND LOADS WITH ICE:

TPA65R-BU8DA-K Antenna	98.3	23.0	10.0	15.70	6.83	4.27	9.83	1.28	1.49	105	54	67
AIR6419 Antenna	33.4	18.4	9.6	4.27	2.23	1.82	3.48	1.20	1.24	27	15	18
AIR6449 Antenna	32.9	18.2	12.9	4.16	2.95	1.81	2.55	1.20	1.20	26	19	21
DMP65R-BU8DA-K Antenna	98.3	23.0	10.0	15.70	6.83	4.27	9.83	1.28	1.49	105	54	67
TPA45R-KU8A Antenna	101.0	17.7	10.5	12.42	7.37	5.71	9.62	1.34	1.49	88	58	65
4478 B14 RRH (Side)	20.4	10.6	15.7	1.50	2.23	1.92	1.30	1.20	1.20	9	14	13
4415 B30 RRH (Side)	18.8	8.2	15.7	1.07	2.05	2.29	1.20	1.20	1.20	7	13	11
4449 B5/B12 RRH (Side)	20.2	11.7	15.5	1.64	2.18	1.73	1.30	1.20	1.20	10	14	13
8843 B2/B66A RRH (Side)	17.2	13.2	15.5	1.58	1.85	1.30	1.11	1.20	1.20	10	12	11

WIND LOADS AT 30 MPH:

TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	53	24	31
AIR6419 Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	12	6	8
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	12	8	9
DMP65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	53	24	31
TPA45R-KU8A Antenna	98.7	15.4	8.2	10.56	5.62	6.41	12.04	1.37	1.57	43	26	30
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	5
4415 B30 RRH (Side)	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	2	5	5
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	4	6	5
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	5



WIND LOADS

Angle = 90 (deg) Ice Thickness = 1.15 in. Equivalent Angle = 270 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	845	384	384
AIR6419 Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	197	95	95
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	192	130	130
DMP65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	845	384	384
TPA45R-KU8A Antenna	98.7	15.4	8.2	10.56	5.62	6.41	12.04	1.37	1.57	685	417	417
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	59	96	96
4415 B30 RRH (Side)	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	39	87	87
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	66	93	93
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	64	77	77

WIND LOADS WITH ICE:

TPA65R-BU8DA-K Antenna	98.3	23.0	10.0	15.70	6.83	4.27	9.83	1.28	1.49	105	54	54
AIR6419 Antenna	33.4	18.4	9.6	4.27	2.23	1.82	3.48	1.20	1.24	27	15	15
AIR6449 Antenna	32.9	18.2	12.9	4.16	2.95	1.81	2.55	1.20	1.20	26	19	19
DMP65R-BU8DA-K Antenna	98.3	23.0	10.0	15.70	6.83	4.27	9.83	1.28	1.49	105	54	54
TPA45R-KU8A Antenna	101.0	17.7	10.5	12.42	7.37	5.71	9.62	1.34	1.49	88	58	58
4478 B14 RRH (Side)	20.4	10.6	15.7	1.50	2.23	1.92	1.30	1.20	1.20	9	14	14
4415 B30 RRH (Side)	18.8	8.2	15.7	1.07	2.05	2.29	1.20	1.20	1.20	7	13	13
4449 B5/B12 RRH (Side)	20.2	11.7	15.5	1.64	2.18	1.73	1.30	1.20	1.20	10	14	14
8843 B2/B66A RRH (Side)	17.2	13.2	15.5	1.58	1.85	1.30	1.11	1.20	1.20	10	12	12

WIND LOADS AT 30 MPH:

TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	53	24	24
AIR6419 Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	12	6	6
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	12	8	8
DMP65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	53	24	24
TPA45R-KU8A Antenna	98.7	15.4	8.2	10.56	5.62	6.41	12.04	1.37	1.57	43	26	26
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	6
4415 B30 RRH (Side)	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	2	5	5
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	4	6	6
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	5

Date: 12/13/2022
 Project Name: MILFORD WAMPUS LANE
 Project No.: CT1231
 Designed By: RL Checked By: MSC



WIND LOADS

Angle = 120 (deg) Ice Thickness = 1.15 in. Equivalent Angle = 300 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	845	384	499
AIR6419 Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	197	95	121
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	192	130	145
DMP65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	845	384	499
TPA45R-KU8A Antenna	98.7	15.4	8.2	10.56	5.62	6.41	12.04	1.37	1.57	685	417	484
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	59	96	86
4415 B30 RRH (Side)	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	39	87	75
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	66	93	86
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	64	77	74

WIND LOADS WITH ICE:

TPA65R-BU8DA-K Antenna	98.3	23.0	10.0	15.70	6.83	4.27	9.83	1.28	1.49	105	54	67
AIR6419 Antenna	33.4	18.4	9.6	4.27	2.23	1.82	3.48	1.20	1.24	27	15	18
AIR6449 Antenna	32.9	18.2	12.9	4.16	2.95	1.81	2.55	1.20	1.20	26	19	21
DMP65R-BU8DA-K Antenna	98.3	23.0	10.0	15.70	6.83	4.27	9.83	1.28	1.49	105	54	67
TPA45R-KU8A Antenna	101.0	17.7	10.5	12.42	7.37	5.71	9.62	1.34	1.49	88	58	65
4478 B14 RRH (Side)	20.4	10.6	15.7	1.50	2.23	1.92	1.30	1.20	1.20	9	14	13
4415 B30 RRH (Side)	18.8	8.2	15.7	1.07	2.05	2.29	1.20	1.20	1.20	7	13	11
4449 B5/B12 RRH (Side)	20.2	11.7	15.5	1.64	2.18	1.73	1.30	1.20	1.20	10	14	13
8843 B2/B66A RRH (Side)	17.2	13.2	15.5	1.58	1.85	1.30	1.11	1.20	1.20	10	12	11

WIND LOADS AT 30 MPH:

TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	53	24	31
AIR6419 Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	12	6	8
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	12	8	9
DMP65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	53	24	31
TPA45R-KU8A Antenna	98.7	15.4	8.2	10.56	5.62	6.41	12.04	1.37	1.57	43	26	30
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	5
4415 B30 RRH (Side)	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	2	5	5
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	4	6	5
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	5

Date: 12/13/2022
 Project Name: MILFORD WAMPUS LANE
 Project No.: CT1231
 Designed By: RL Checked By: MSC



WIND LOADS

Angle = 150 (deg) Ice Thickness = 1.15 in. Equivalent Angle = 330 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	845	384	730
AIR6419 Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	197	95	172
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	192	130	176
DMP65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	845	384	730
TPA45R-KUBA Antenna	98.7	15.4	8.2	10.56	5.62	6.41	12.04	1.37	1.57	685	417	618
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	59	96	68
4415 B30 RRH (Side)	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	39	87	51
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	66	93	73
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	64	77	67

WIND LOADS WITH ICE:

TPA65R-BU8DA-K Antenna	98.3	23.0	10.0	15.70	6.83	4.27	9.83	1.28	1.49	105	54	93
AIR6419 Antenna	33.4	18.4	9.6	4.27	2.23	1.82	3.48	1.20	1.24	27	15	24
AIR6449 Antenna	32.9	18.2	12.9	4.16	2.95	1.81	2.55	1.20	1.20	26	19	24
DMP65R-BU8DA-K Antenna	98.3	23.0	10.0	15.70	6.83	4.27	9.83	1.28	1.49	105	54	93
TPA45R-KUBA Antenna	101.0	17.7	10.5	12.42	7.37	5.71	9.62	1.34	1.49	88	58	80
4478 B14 RRH (Side)	20.4	10.6	15.7	1.50	2.23	1.92	1.30	1.20	1.20	9	14	11
4415 B30 RRH (Side)	18.8	8.2	15.7	1.07	2.05	2.29	1.20	1.20	1.20	7	13	8
4449 B5/B12 RRH (Side)	20.2	11.7	15.5	1.64	2.18	1.73	1.30	1.20	1.20	10	14	11
8843 B2/B66A RRH (Side)	17.2	13.2	15.5	1.58	1.85	1.30	1.11	1.20	1.20	10	12	10

WIND LOADS AT 30 MPH:

TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	53	24	46
AIR6419 Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	12	6	11
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	12	8	11
DMP65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	53	24	46
TPA45R-KUBA Antenna	98.7	15.4	8.2	10.56	5.62	6.41	12.04	1.37	1.57	43	26	39
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	4
4415 B30 RRH (Side)	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	2	5	3
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	4	6	5
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	4

Date: 12/12/2022
 Project Name: MILFORD WAMPUS LANE
 Project No.: CT1231
 Designed By: RL Checked By: MSC



ICE WEIGHT CALCULATIONS

Thickness of ice: 1.15 in.
 Density of ice: 56 pcf

TPA65R-BU8DA-K Antenna
 Weight of ice based on total radial SF area:
 Height (in): 96.0
 Width (in): 20.7
 Depth (in): 7.7
 Total weight of ice on object: 261 lbs
 Weight of object: 87.0 lbs
Combined weight of ice and object: 348 lbs

AIR6419 Antenna
 Weight of ice based on total radial SF area:
 Height (in): 31.1
 Width (in): 16.1
 Depth (in): 7.3
 Total weight of ice on object: 69 lbs
 Weight of object: 66.0 lbs
Combined weight of ice and object: 135 lbs

DMP65R-BU8DA-K Antenna
 Weight of ice based on total radial SF area:
 Height (in): 96.0
 Width (in): 20.7
 Depth (in): 7.7
 Total weight of ice on object: 261 lbs
 Weight of object: 119.0 lbs
Combined weight of ice and object: 380 lbs

AIR6449 Antenna
 Weight of ice based on total radial SF area:
 Height (in): 30.6
 Width (in): 15.9
 Depth (in): 10.6
 Total weight of ice on object: 73 lbs
 Weight of object: 82.0 lbs
Combined weight of ice and object: 155 lbs

TPA45R-KU8A Antenna
 Weight of ice based on total radial SF area:
 Height (in): 98.7
 Width (in): 15.4
 Depth (in): 8.2
 Total weight of ice on object: 215 lbs
 Weight of object: 80.0 lbs
Combined weight of ice and object: 295 lbs

4478 B14 RRH
 Weight of ice based on total radial SF area:
 Height (in): 18.1
 Width (in): 13.4
 Depth (in): 8.3
 Total weight of ice on object: 36 lbs
 Weight of object: 60.0 lbs
Combined weight of ice and object: 96 lbs

4415 B30 RRH
 Weight of ice based on total radial SF area:
 Height (in): 16.5
 Width (in): 13.4
 Depth (in): 5.9
 Total weight of ice on object: 31 lbs
 Weight of object: 46.0 lbs
Combined weight of ice and object: 77 lbs

4449 B5/B12 RRH
 Weight of ice based on total radial SF area:
 Height (in): 17.9
 Width (in): 13.2
 Depth (in): 9.4
 Total weight of ice on object: 36 lbs
 Weight of object: 73.0 lbs
Combined weight of ice and object: 109 lbs

8843 B2/B66A RRH
 Weight of ice based on total radial SF area:
 Height (in): 14.9
 Width (in): 13.2
 Depth (in): 10.9
 Total weight of ice on object: 32 lbs
 Weight of object: 72.0 lbs
Combined weight of ice and object: 104 lbs

DC9-48-60-24-8C-EV Surge Arrestor
 Weight of ice based on total radial SF area:
 Depth (in): 31.4
 Diameter (in): 10.2
 Total weight of ice on object: 42 lbs
 Weight of object: 29 lbs
Combined weight of ice and object: 71 lbs

5/8" Round Bar
 Per foot weight of ice:
 diameter (in): 0.625
Per foot weight of ice on object: 2 plf

3/4" Round Bar
 Per foot weight of ice:
 diameter (in): 0.75
Per foot weight of ice on object: 3 plf

2" Pipe
 Per foot weight of ice:
 diameter (in): 2.38
Per foot weight of ice on object: 5 plf

2-1/2" Pipe
 Per foot weight of ice:
 diameter (in): 2.88
Per foot weight of ice on object: 6 plf

3" Pipe
 Per foot weight of ice:
 diameter (in): 3.5
Per foot weight of ice on object: 7 plf

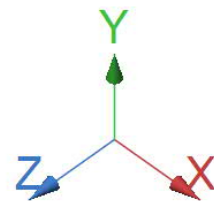
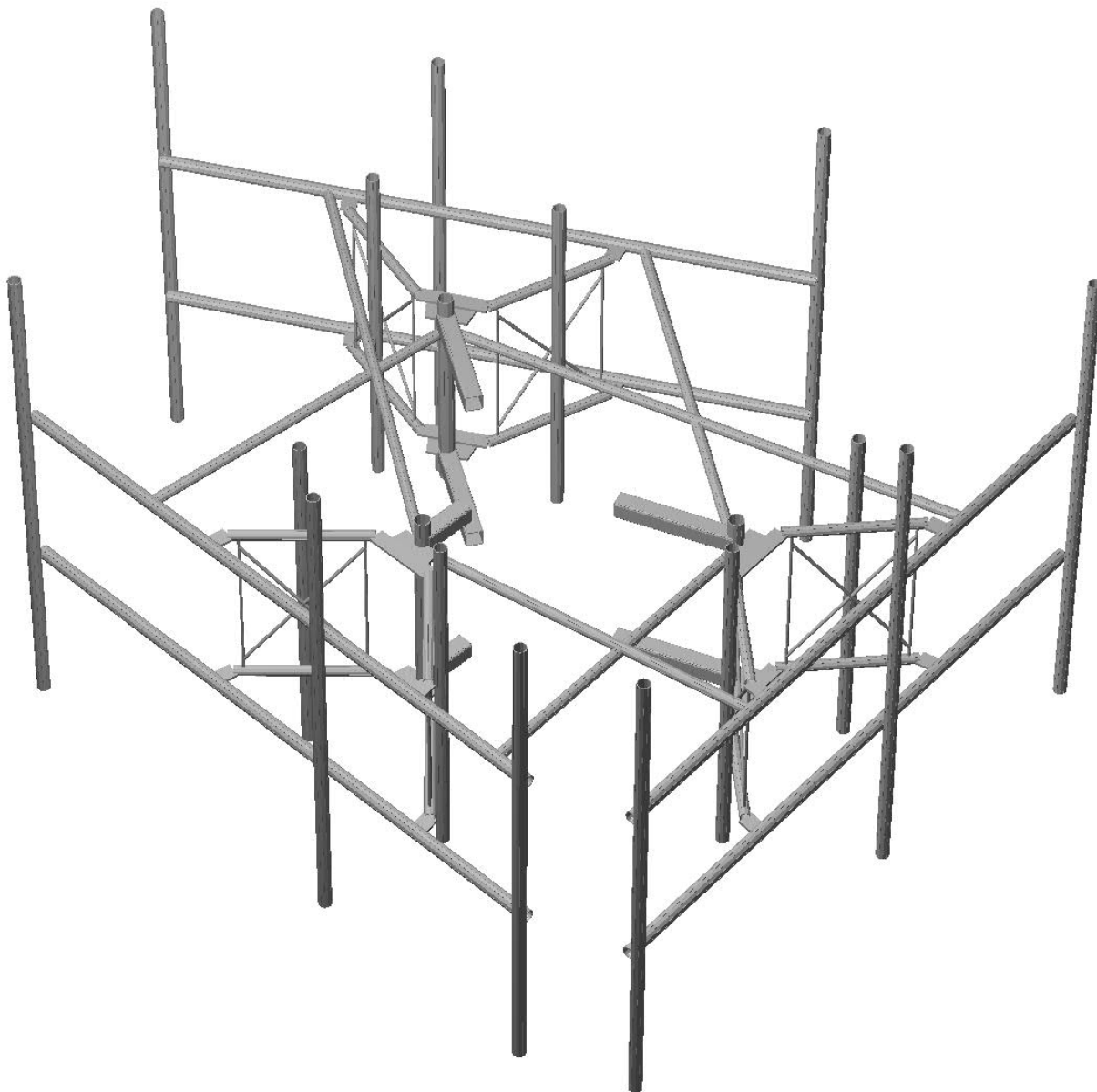
PL 3-1/2x5/8
 Weight of ice based on total radial SF area:
 Height (in): 3.5
 Width (in): 0.625
Per foot weight of ice on object: 7 plf

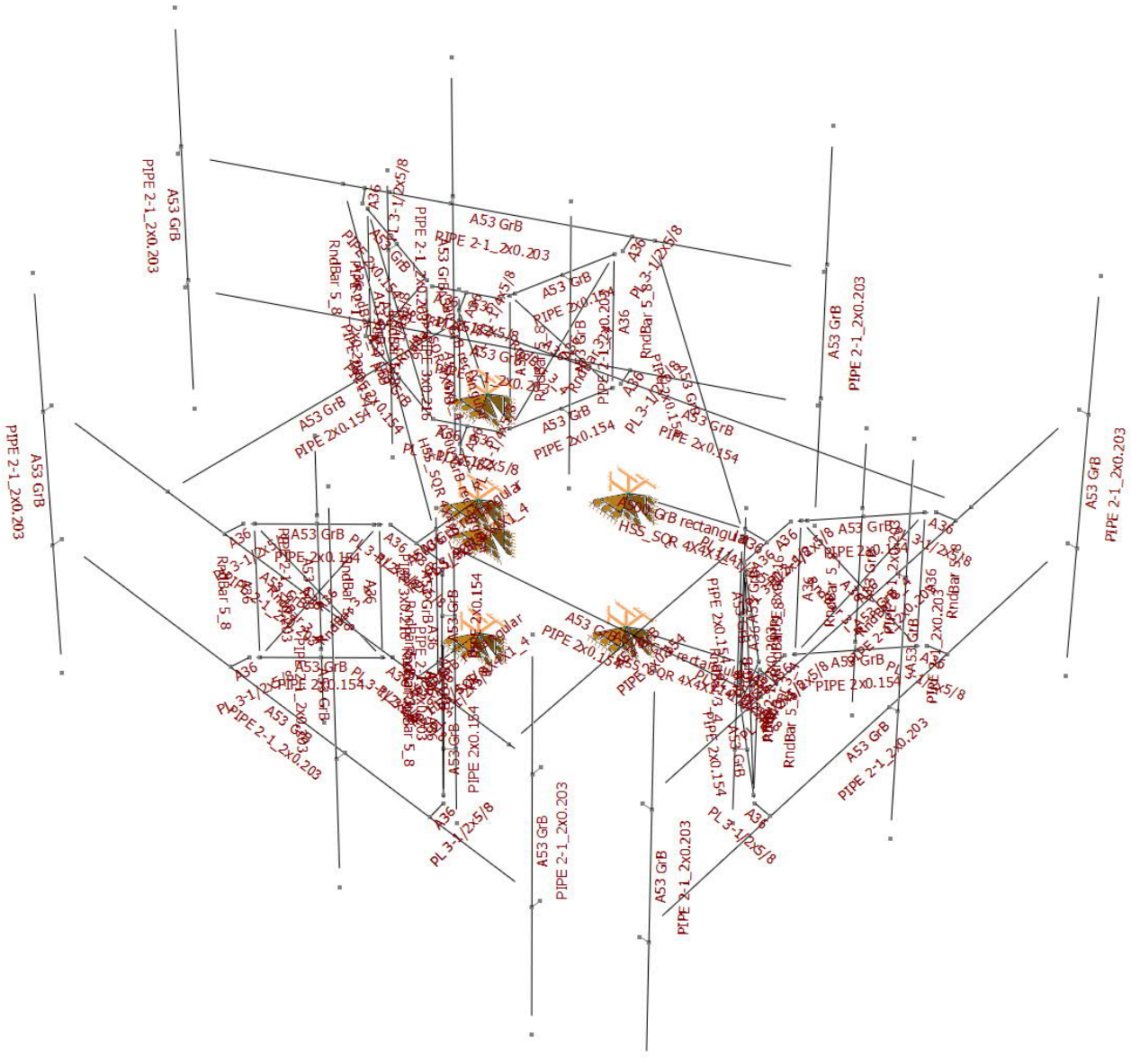
PL 11-1/4x5/8
 Weight of ice based on total radial SF area:
 Height (in): 11.25
 Width (in): 0.625
Per foot weight of ice on object: 17 plf

HSS 4x4
 Weight of ice based on total radial SF area:
 Height (in): 4
 Width (in): 4
Per foot weight of ice on object: 10 plf



Mount Calculations
(Proposed Conditions)

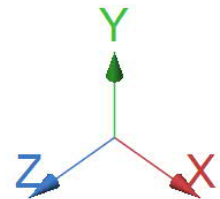
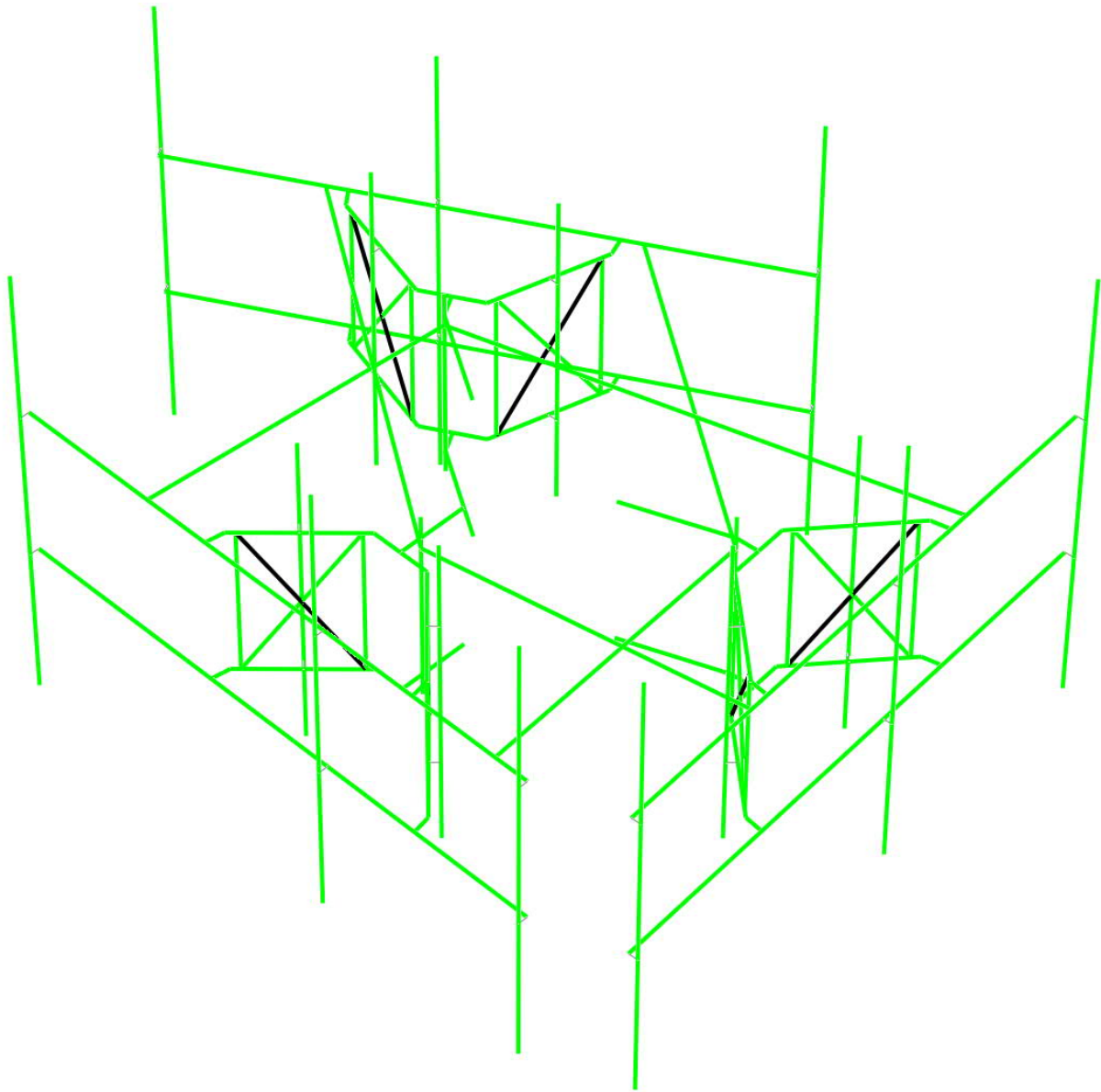


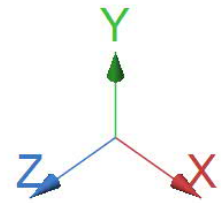
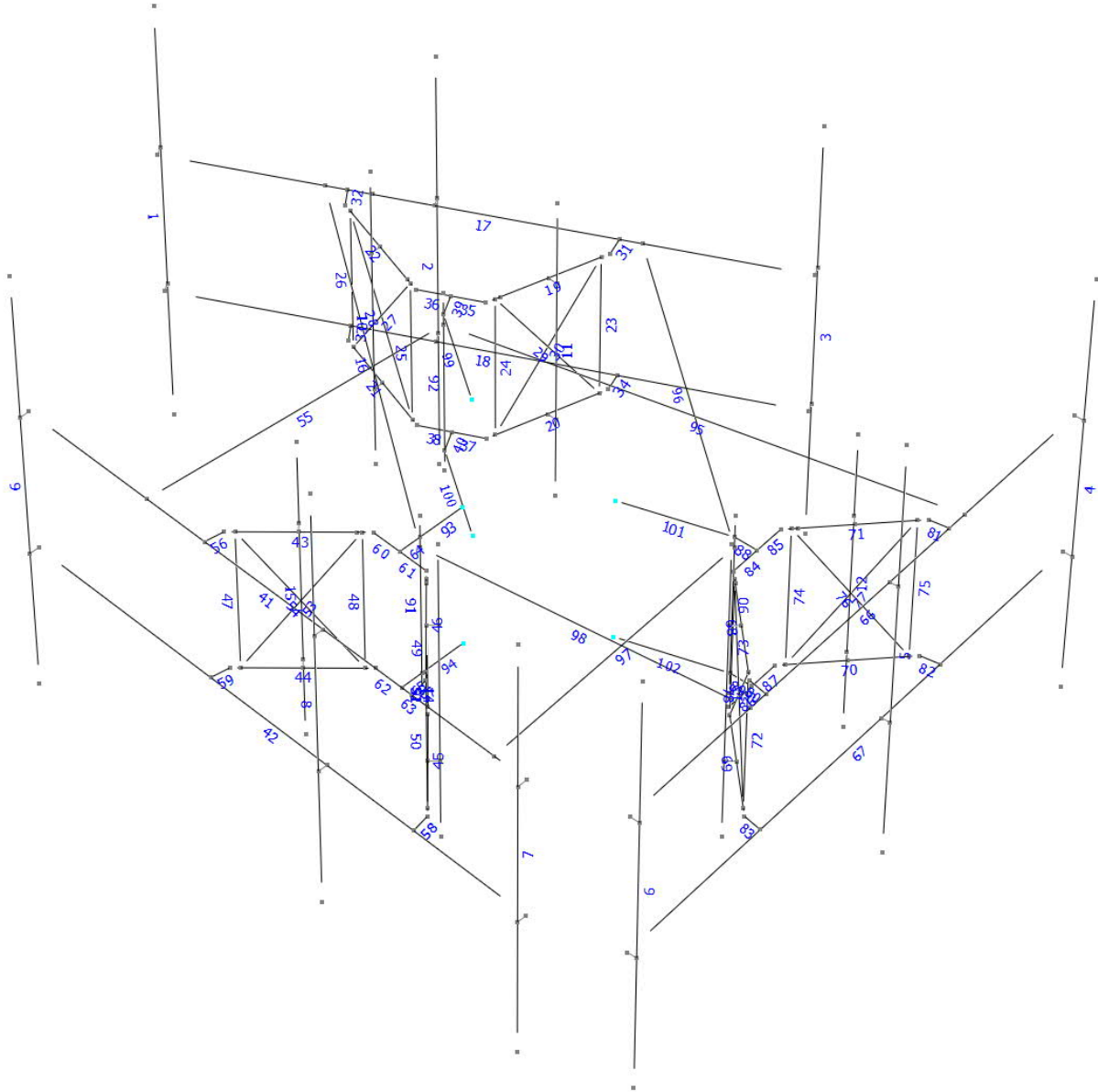




Design status

- Not designed
- Error on design
- Design O.K.
- With warnings





Current Date: 12/13/2022 5:26 PM
 Units system: English

Load data

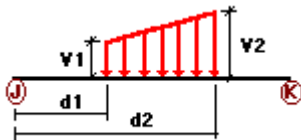
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
W0	Wind Load 0/60/120 deg	No	WIND
W30	Wind Load 30/90/150 deg	No	WIND
Di	Ice Load	No	LL
Wi0	Ice Wind Load 0/60/120 deg	No	WIND
Wi30	Ice Wind Load 30/90/150 deg	No	WIND
WL0	WL 30 mph 0/60/120 deg	No	WIND
WL30	WL 30 mph 30/90/150 deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load End of Mount	No	LL
LLa1	250 lb Live Load Antenna 1	No	LL
LLa2	250 lb Live Load Antenna 2	No	LL
LLa3	250 lb Live Load Antenna 3	No	LL

Distributed force on members



Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
W0	1	z	-0.014	-0.014	0.00	No	100.00	Yes
	2	z	-0.014	-0.014	0.00	No	100.00	Yes
	3	z	-0.014	-0.014	0.00	No	100.00	Yes
	4	z	-0.014	-0.014	0.00	No	100.00	Yes
	5	z	-0.014	-0.014	0.00	No	100.00	Yes
	6	z	-0.014	-0.014	0.00	No	100.00	Yes
	10	z	-0.014	-0.014	0.00	No	100.00	Yes
	11	z	-0.014	-0.014	0.00	No	100.00	Yes
	12	z	-0.014	-0.014	0.00	No	100.00	Yes
	13	z	-0.014	-0.014	0.00	No	100.00	Yes
	14	z	-0.014	-0.014	0.00	No	100.00	Yes
	15	z	-0.014	-0.014	0.00	No	100.00	Yes
	17	z	-0.014	-0.014	0.00	No	100.00	Yes
	18	z	-0.014	-0.014	0.00	No	100.00	Yes
	66	z	-0.014	-0.014	0.00	No	100.00	Yes
	67	z	-0.014	-0.014	0.00	No	100.00	Yes

41	z	-0.014	-0.014	0.00	No	100.00	Yes
42	z	-0.014	-0.014	0.00	No	100.00	Yes
16	z	-0.011	-0.011	0.00	No	100.00	Yes
19	z	-0.011	-0.011	0.00	No	100.00	Yes
20	z	-0.011	-0.011	0.00	No	100.00	Yes
21	z	-0.011	-0.011	0.00	No	100.00	Yes
43	z	-0.011	-0.011	0.00	No	100.00	Yes
44	z	-0.011	-0.011	0.00	No	100.00	Yes
45	z	-0.011	-0.011	0.00	No	100.00	Yes
46	z	-0.011	-0.011	0.00	No	100.00	Yes
22	z	-0.011	-0.011	0.00	No	100.00	Yes
55	z	-0.011	-0.011	0.00	No	100.00	Yes
68	z	-0.011	-0.011	0.00	No	100.00	Yes
69	z	-0.011	-0.011	0.00	No	100.00	Yes
70	z	-0.011	-0.011	0.00	No	100.00	Yes
71	z	-0.011	-0.011	0.00	No	100.00	Yes
95	z	-0.011	-0.011	0.00	No	100.00	Yes
96	z	-0.011	-0.011	0.00	No	100.00	Yes
97	z	-0.011	-0.011	0.00	No	100.00	Yes
98	z	-0.011	-0.011	0.00	No	100.00	Yes
90	z	-0.011	-0.011	0.00	No	100.00	Yes
91	z	-0.011	-0.011	0.00	No	100.00	Yes
92	z	-0.011	-0.011	0.00	No	100.00	Yes
23	z	-0.003	-0.003	0.00	No	100.00	Yes
24	z	-0.003	-0.003	0.00	No	100.00	Yes
25	z	-0.003	-0.003	0.00	No	100.00	Yes
26	z	-0.003	-0.003	0.00	No	100.00	Yes
47	z	-0.003	-0.003	0.00	No	100.00	Yes
48	z	-0.003	-0.003	0.00	No	100.00	Yes
49	z	-0.003	-0.003	0.00	No	100.00	Yes
50	z	-0.003	-0.003	0.00	No	100.00	Yes
72	z	-0.003	-0.003	0.00	No	100.00	Yes
73	z	-0.003	-0.003	0.00	No	100.00	Yes
74	z	-0.003	-0.003	0.00	No	100.00	Yes
75	z	-0.003	-0.003	0.00	No	100.00	Yes
27	z	-0.004	-0.004	0.00	No	100.00	Yes
28	z	-0.004	-0.004	0.00	No	100.00	Yes
29	z	-0.004	-0.004	0.00	No	100.00	Yes
30	z	-0.004	-0.004	0.00	No	100.00	Yes
51	z	-0.004	-0.004	0.00	No	100.00	Yes
52	z	-0.004	-0.004	0.00	No	100.00	Yes
53	z	-0.004	-0.004	0.00	No	100.00	Yes
54	z	-0.004	-0.004	0.00	No	100.00	Yes
76	z	-0.004	-0.004	0.00	No	100.00	Yes
77	z	-0.004	-0.004	0.00	No	100.00	Yes
78	z	-0.004	-0.004	0.00	No	100.00	Yes
79	z	-0.004	-0.004	0.00	No	100.00	Yes
31	z	-0.005	-0.005	0.00	No	100.00	Yes
32	z	-0.005	-0.005	0.00	No	100.00	Yes
33	z	-0.005	-0.005	0.00	No	100.00	Yes
34	z	-0.005	-0.005	0.00	No	100.00	Yes
35	z	-0.005	-0.005	0.00	No	100.00	Yes
36	z	-0.005	-0.005	0.00	No	100.00	Yes
37	z	-0.005	-0.005	0.00	No	100.00	Yes
38	z	-0.005	-0.005	0.00	No	100.00	Yes
60	z	-0.005	-0.005	0.00	No	100.00	Yes
61	z	-0.005	-0.005	0.00	No	100.00	Yes
62	z	-0.005	-0.005	0.00	No	100.00	Yes
63	z	-0.005	-0.005	0.00	No	100.00	Yes
80	z	-0.005	-0.005	0.00	No	100.00	Yes

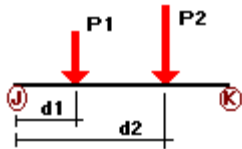
	81	z	-0.005	-0.005	0.00	No	100.00	Yes
	82	z	-0.005	-0.005	0.00	No	100.00	Yes
	83	z	-0.005	-0.005	0.00	No	100.00	Yes
	84	z	-0.005	-0.005	0.00	No	100.00	Yes
	85	z	-0.005	-0.005	0.00	No	100.00	Yes
	86	z	-0.005	-0.005	0.00	No	100.00	Yes
	87	z	-0.005	-0.005	0.00	No	100.00	Yes
	88	z	-0.005	-0.005	0.00	No	100.00	Yes
	89	z	-0.005	-0.005	0.00	No	100.00	Yes
	99	z	-0.032	-0.032	0.00	No	100.00	Yes
	100	z	-0.032	-0.032	0.00	No	100.00	Yes
	101	z	-0.032	-0.032	0.00	No	100.00	Yes
	102	z	-0.032	-0.032	0.00	No	100.00	Yes
W30	93	x	-0.032	-0.032	0.00	No	100.00	Yes
	1	x	-0.014	-0.014	0.00	No	100.00	Yes
	2	x	-0.014	-0.014	0.00	No	100.00	Yes
	3	x	-0.014	-0.014	0.00	No	100.00	Yes
	7	x	-0.014	-0.014	0.00	No	100.00	Yes
	8	x	-0.014	-0.014	0.00	No	100.00	Yes
	9	x	-0.014	-0.014	0.00	No	100.00	Yes
	10	x	-0.014	-0.014	0.00	No	100.00	Yes
	11	x	-0.014	-0.014	0.00	No	100.00	Yes
	12	x	-0.014	-0.014	0.00	No	100.00	Yes
	13	x	-0.014	-0.014	0.00	No	100.00	Yes
	14	x	-0.014	-0.014	0.00	No	100.00	Yes
	15	x	-0.014	-0.014	0.00	No	100.00	Yes
	17	x	-0.014	-0.014	0.00	No	100.00	Yes
	18	x	-0.014	-0.014	0.00	No	100.00	Yes
	66	x	-0.014	-0.014	0.00	No	100.00	Yes
	67	x	-0.014	-0.014	0.00	No	100.00	Yes
	41	x	-0.014	-0.014	0.00	No	100.00	Yes
	42	x	-0.014	-0.014	0.00	No	100.00	Yes
	16	x	-0.011	-0.011	0.00	No	100.00	Yes
	19	x	-0.011	-0.011	0.00	No	100.00	Yes
	20	x	-0.011	-0.011	0.00	No	100.00	Yes
	21	x	-0.011	-0.011	0.00	No	100.00	Yes
	43	x	-0.011	-0.011	0.00	No	100.00	Yes
	44	x	-0.011	-0.011	0.00	No	100.00	Yes
	45	x	-0.011	-0.011	0.00	No	100.00	Yes
	46	x	-0.011	-0.011	0.00	No	100.00	Yes
	22	x	-0.011	-0.011	0.00	No	100.00	Yes
	55	x	-0.011	-0.011	0.00	No	100.00	Yes
	68	x	-0.011	-0.011	0.00	No	100.00	Yes
	69	x	-0.011	-0.011	0.00	No	100.00	Yes
	70	x	-0.011	-0.011	0.00	No	100.00	Yes
	71	x	-0.011	-0.011	0.00	No	100.00	Yes
	95	x	-0.011	-0.011	0.00	No	100.00	Yes
	96	x	-0.011	-0.011	0.00	No	100.00	Yes
	97	x	-0.011	-0.011	0.00	No	100.00	Yes
	98	x	-0.011	-0.011	0.00	No	100.00	Yes
	90	x	-0.011	-0.011	0.00	No	100.00	Yes
	91	x	-0.011	-0.011	0.00	No	100.00	Yes
	92	x	-0.011	-0.011	0.00	No	100.00	Yes
	23	x	-0.003	-0.003	0.00	No	100.00	Yes
	24	x	-0.003	-0.003	0.00	No	100.00	Yes
	25	x	-0.003	-0.003	0.00	No	100.00	Yes
	26	x	-0.003	-0.003	0.00	No	100.00	Yes
	47	x	-0.003	-0.003	0.00	No	100.00	Yes
	48	x	-0.003	-0.003	0.00	No	100.00	Yes
	49	x	-0.003	-0.003	0.00	No	100.00	Yes

	50	x	-0.003	-0.003	0.00	No	100.00	Yes
	72	x	-0.003	-0.003	0.00	No	100.00	Yes
	73	x	-0.003	-0.003	0.00	No	100.00	Yes
	74	x	-0.003	-0.003	0.00	No	100.00	Yes
	75	x	-0.003	-0.003	0.00	No	100.00	Yes
	27	x	-0.004	-0.004	0.00	No	100.00	Yes
	28	x	-0.004	-0.004	0.00	No	100.00	Yes
	29	x	-0.004	-0.004	0.00	No	100.00	Yes
	30	x	-0.004	-0.004	0.00	No	100.00	Yes
	51	x	-0.004	-0.004	0.00	No	100.00	Yes
	52	x	-0.004	-0.004	0.00	No	100.00	Yes
	53	x	-0.004	-0.004	0.00	No	100.00	Yes
	54	x	-0.004	-0.004	0.00	No	100.00	Yes
	76	x	-0.004	-0.004	0.00	No	100.00	Yes
	77	x	-0.004	-0.004	0.00	No	100.00	Yes
	78	x	-0.004	-0.004	0.00	No	100.00	Yes
	79	x	-0.004	-0.004	0.00	No	100.00	Yes
	31	x	-0.005	-0.005	0.00	No	100.00	Yes
	32	x	-0.005	-0.005	0.00	No	100.00	Yes
	33	x	-0.005	-0.005	0.00	No	100.00	Yes
	34	x	-0.005	-0.005	0.00	No	100.00	Yes
	35	x	-0.005	-0.005	0.00	No	100.00	Yes
	36	x	-0.005	-0.005	0.00	No	100.00	Yes
	37	x	-0.005	-0.005	0.00	No	100.00	Yes
	38	x	-0.005	-0.005	0.00	No	100.00	Yes
	56	x	-0.005	-0.005	0.00	No	100.00	Yes
	57	x	-0.005	-0.005	0.00	No	100.00	Yes
	58	x	-0.005	-0.005	0.00	No	100.00	Yes
	59	x	-0.005	-0.005	0.00	No	100.00	Yes
	60	x	-0.005	-0.005	0.00	No	100.00	Yes
	61	x	-0.005	-0.005	0.00	No	100.00	Yes
	62	x	-0.005	-0.005	0.00	No	100.00	Yes
	63	x	-0.005	-0.005	0.00	No	100.00	Yes
	80	x	-0.005	-0.005	0.00	No	100.00	Yes
	81	x	-0.005	-0.005	0.00	No	100.00	Yes
	82	x	-0.005	-0.005	0.00	No	100.00	Yes
	83	x	-0.005	-0.005	0.00	No	100.00	Yes
	84	x	-0.005	-0.005	0.00	No	100.00	Yes
	85	x	-0.005	-0.005	0.00	No	100.00	Yes
	86	x	-0.005	-0.005	0.00	No	100.00	Yes
	87	x	-0.005	-0.005	0.00	No	100.00	Yes
	39	x	-0.005	-0.005	0.00	No	100.00	Yes
	40	x	-0.005	-0.005	0.00	No	100.00	Yes
	64	x	-0.005	-0.005	0.00	No	100.00	Yes
	65	x	-0.005	-0.005	0.00	No	100.00	Yes
	88	x	-0.005	-0.005	0.00	No	100.00	Yes
	89	x	-0.005	-0.005	0.00	No	100.00	Yes
	94	x	-0.032	-0.032	0.00	No	100.00	Yes
	99	x	-0.032	-0.032	0.00	No	100.00	Yes
	100	x	-0.032	-0.032	0.00	No	100.00	Yes
	101	x	-0.032	-0.032	0.00	No	100.00	Yes
	102	x	-0.032	-0.032	0.00	No	100.00	Yes
Di	93	y	-0.01	-0.01	0.00	No	100.00	Yes
	1	y	-0.006	-0.006	0.00	No	100.00	Yes
	2	y	-0.006	-0.006	0.00	No	100.00	Yes
	3	y	-0.006	-0.006	0.00	No	100.00	Yes
	4	y	-0.006	-0.006	0.00	No	100.00	Yes
	5	y	-0.006	-0.006	0.00	No	100.00	Yes
	6	y	-0.006	-0.006	0.00	No	100.00	Yes
	7	y	-0.006	-0.006	0.00	No	100.00	Yes

8	y	-0.006	-0.006	0.00	No	100.00	Yes
9	y	-0.006	-0.006	0.00	No	100.00	Yes
10	y	-0.006	-0.006	0.00	No	100.00	Yes
11	y	-0.006	-0.006	0.00	No	100.00	Yes
12	y	-0.006	-0.006	0.00	No	100.00	Yes
13	y	-0.006	-0.006	0.00	No	100.00	Yes
14	y	-0.006	-0.006	0.00	No	100.00	Yes
15	y	-0.006	-0.006	0.00	No	100.00	Yes
17	y	-0.006	-0.006	0.00	No	100.00	Yes
18	y	-0.006	-0.006	0.00	No	100.00	Yes
66	y	-0.006	-0.006	0.00	No	100.00	Yes
67	y	-0.006	-0.006	0.00	No	100.00	Yes
41	y	-0.006	-0.006	0.00	No	100.00	Yes
42	y	-0.006	-0.006	0.00	No	100.00	Yes
16	y	-0.005	-0.005	0.00	No	100.00	Yes
19	y	-0.005	-0.005	0.00	No	100.00	Yes
20	y	-0.005	-0.005	0.00	No	100.00	Yes
21	y	-0.005	-0.005	0.00	No	100.00	Yes
43	y	-0.005	-0.005	0.00	No	100.00	Yes
44	y	-0.005	-0.005	0.00	No	100.00	Yes
45	y	-0.005	-0.005	0.00	No	100.00	Yes
46	y	-0.005	-0.005	0.00	No	100.00	Yes
22	y	-0.005	-0.005	0.00	No	100.00	Yes
55	y	-0.005	-0.005	0.00	No	100.00	Yes
68	y	-0.005	-0.005	0.00	No	100.00	Yes
69	y	-0.005	-0.005	0.00	No	100.00	Yes
70	y	-0.005	-0.005	0.00	No	100.00	Yes
71	y	-0.005	-0.005	0.00	No	100.00	Yes
95	y	-0.005	-0.005	0.00	No	100.00	Yes
96	y	-0.005	-0.005	0.00	No	100.00	Yes
97	y	-0.005	-0.005	0.00	No	100.00	Yes
98	y	-0.005	-0.005	0.00	No	100.00	Yes
90	y	-0.005	-0.005	0.00	No	100.00	Yes
91	y	-0.005	-0.005	0.00	No	100.00	Yes
92	y	-0.005	-0.005	0.00	No	100.00	Yes
23	y	-0.002	-0.002	0.00	No	100.00	Yes
24	y	-0.002	-0.002	0.00	No	100.00	Yes
25	y	-0.002	-0.002	0.00	No	100.00	Yes
26	y	-0.002	-0.002	0.00	No	100.00	Yes
47	y	-0.002	-0.002	0.00	No	100.00	Yes
48	y	-0.002	-0.002	0.00	No	100.00	Yes
49	y	-0.002	-0.002	0.00	No	100.00	Yes
50	y	-0.002	-0.002	0.00	No	100.00	Yes
72	y	-0.002	-0.002	0.00	No	100.00	Yes
73	y	-0.002	-0.002	0.00	No	100.00	Yes
74	y	-0.002	-0.002	0.00	No	100.00	Yes
75	y	-0.002	-0.002	0.00	No	100.00	Yes
27	y	-0.003	-0.003	0.00	No	100.00	Yes
28	y	-0.003	-0.003	0.00	No	100.00	Yes
29	y	-0.003	-0.003	0.00	No	100.00	Yes
30	y	-0.003	-0.003	0.00	No	100.00	Yes
51	y	-0.003	-0.003	0.00	No	100.00	Yes
52	y	-0.003	-0.003	0.00	No	100.00	Yes
53	y	-0.003	-0.003	0.00	No	100.00	Yes
54	y	-0.003	-0.003	0.00	No	100.00	Yes
76	y	-0.003	-0.003	0.00	No	100.00	Yes
77	y	-0.003	-0.003	0.00	No	100.00	Yes
78	y	-0.003	-0.003	0.00	No	100.00	Yes
79	y	-0.003	-0.003	0.00	No	100.00	Yes
31	y	-0.007	-0.007	0.00	No	100.00	Yes

32	y	-0.007	-0.007	0.00	No	100.00	Yes
33	y	-0.007	-0.007	0.00	No	100.00	Yes
34	y	-0.007	-0.007	0.00	No	100.00	Yes
35	y	-0.007	-0.007	0.00	No	100.00	Yes
36	y	-0.007	-0.007	0.00	No	100.00	Yes
37	y	-0.007	-0.007	0.00	No	100.00	Yes
38	y	-0.007	-0.007	0.00	No	100.00	Yes
56	y	-0.007	-0.007	0.00	No	100.00	Yes
57	y	-0.007	-0.007	0.00	No	100.00	Yes
58	y	-0.007	-0.007	0.00	No	100.00	Yes
59	y	-0.007	-0.007	0.00	No	100.00	Yes
60	y	-0.007	-0.007	0.00	No	100.00	Yes
61	y	-0.007	-0.007	0.00	No	100.00	Yes
62	y	-0.007	-0.007	0.00	No	100.00	Yes
63	y	-0.007	-0.007	0.00	No	100.00	Yes
80	y	-0.007	-0.007	0.00	No	100.00	Yes
81	y	-0.007	-0.007	0.00	No	100.00	Yes
82	y	-0.007	-0.007	0.00	No	100.00	Yes
83	y	-0.007	-0.007	0.00	No	100.00	Yes
84	y	-0.007	-0.007	0.00	No	100.00	Yes
85	y	-0.007	-0.007	0.00	No	100.00	Yes
86	y	-0.007	-0.007	0.00	No	100.00	Yes
87	y	-0.007	-0.007	0.00	No	100.00	Yes
39	y	-0.017	-0.017	0.00	No	100.00	Yes
40	y	-0.017	-0.017	0.00	No	100.00	Yes
64	y	-0.017	-0.017	0.00	No	100.00	Yes
65	y	-0.017	-0.017	0.00	No	100.00	Yes
88	y	-0.017	-0.017	0.00	No	100.00	Yes
89	y	-0.017	-0.017	0.00	No	100.00	Yes
94	y	-0.01	-0.01	0.00	No	100.00	Yes
99	y	-0.01	-0.01	0.00	No	100.00	Yes
100	y	-0.01	-0.01	0.00	No	100.00	Yes
101	y	-0.01	-0.01	0.00	No	100.00	Yes
102	y	-0.01	-0.01	0.00	No	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	1	y	-0.044	2.50	No
		y	-0.044	7.50	No
	2	y	-0.033	3.00	No
		y	-0.033	4.00	No
		y	-0.041	6.00	No
	3	y	-0.041	7.00	No
		y	-0.06	2.50	No
	4	y	-0.06	7.50	No
		y	-0.044	2.50	No
	5	y	-0.044	7.50	No
y		-0.033	3.00	No	

	y	-0.033	4.00	No	
	y	-0.041	6.00	No	
	y	-0.041	7.00	No	
6	y	-0.06	2.50	No	
	y	-0.06	7.50	No	
7	y	-0.04	2.50	No	
	y	-0.04	7.50	No	
8	y	-0.033	3.00	No	
	y	-0.033	4.00	No	
	y	-0.041	6.00	No	
	y	-0.041	7.00	No	
9	y	-0.04	2.50	No	
	y	-0.04	7.50	No	
10	y	-0.06	6.00	No	
	y	-0.046	6.00	No	
	y	-0.029	1.50	No	
11	y	-0.073	6.00	No	
	y	-0.072	6.00	No	
12	y	-0.06	6.00	No	
	y	-0.046	6.00	No	
13	y	-0.073	6.00	No	
	y	-0.072	6.00	No	
	y	-0.029	1.50	No	
14	y	-0.06	6.00	No	
	y	-0.046	6.00	No	
15	y	-0.073	6.00	No	
	y	-0.072	6.00	No	
WO	1	z	-0.25	2.50	No
		z	-0.25	7.50	No
	2	z	-0.061	3.00	No
		z	-0.061	4.00	No
		z	-0.073	6.00	No
		z	-0.073	7.00	No
	3	z	-0.25	2.50	No
		z	-0.25	7.50	No
	4	z	-0.25	2.50	No
		z	-0.25	7.50	No
	5	z	-0.061	3.00	No
		z	-0.061	4.00	No
		z	-0.073	6.00	No
		z	-0.073	7.00	No
	6	z	-0.25	2.50	No
		z	-0.25	7.50	No
	7	z	-0.343	2.50	No
		z	-0.343	7.50	No
	8	z	-0.099	3.00	No
		z	-0.099	4.00	No
		z	-0.096	6.00	No
		z	-0.096	7.00	No
	9	z	-0.343	2.50	No
		z	-0.343	7.50	No
	10	z	-0.086	6.00	No
		z	-0.074	1.50	No
	11	z	-0.086	6.00	No
	12	z	-0.086	6.00	No
	13	z	-0.086	6.00	No
		z	-0.074	1.50	No
	14	z	-0.059	6.00	No
		z	-0.039	6.00	No
	15	z	-0.066	6.00	No

W30	1	z	-0.064	6.00	No
		x	-0.365	2.50	No
		x	-0.365	7.50	No
	2	x	-0.086	3.00	No
		x	-0.086	4.00	No
		x	-0.089	6.00	No
	3	x	-0.089	7.00	No
		x	-0.365	2.50	No
		x	-0.365	7.50	No
	4	x	-0.365	2.50	No
		x	-0.365	7.50	No
		x	-0.086	3.00	No
	5	x	-0.086	4.00	No
		x	-0.089	6.00	No
		x	-0.089	7.00	No
6	x	-0.365	2.50	No	
	x	-0.365	7.50	No	
	x	-0.209	2.50	No	
7	x	-0.209	7.50	No	
	x	-0.048	3.00	No	
	x	-0.048	4.00	No	
8	x	-0.065	6.00	No	
	x	-0.065	7.00	No	
	x	-0.209	2.50	No	
9	x	-0.209	7.50	No	
	x	-0.068	6.00	No	
	x	-0.074	1.50	No	
10	x	-0.073	6.00	No	
	x	-0.068	6.00	No	
	x	-0.073	6.00	No	
11	x	-0.074	1.50	No	
	x	-0.096	6.00	No	
	x	-0.093	6.00	No	
Di	1	y	-0.131	2.50	No
		y	-0.131	7.50	No
		y	-0.034	3.00	No
	2	y	-0.034	4.00	No
		y	-0.036	6.00	No
		y	-0.036	7.00	No
	3	y	-0.036	7.00	No
		y	-0.131	2.50	No
		y	-0.131	7.50	No
	4	y	-0.131	2.50	No
		y	-0.131	7.50	No
		y	-0.034	3.00	No
	5	y	-0.034	4.00	No
		y	-0.036	6.00	No
		y	-0.036	7.00	No
6	y	-0.036	7.00	No	
	y	-0.131	2.50	No	
	y	-0.131	7.50	No	
7	y	-0.107	2.50	No	
	y	-0.107	7.50	No	
	y	-0.034	3.00	No	
8	y	-0.034	4.00	No	
	y	-0.036	6.00	No	
	y	-0.036	7.00	No	
9	y	-0.036	7.00	No	
	y	-0.107	2.50	No	
	y	-0.107	7.50	No	
10	y	-0.107	7.50	No	
	y	-0.036	6.00	No	
	y	-0.031	6.00	No	
		y	-0.042	1.50	No

	11	y	-0.036	6.00	No
		y	-0.032	6.00	No
	12	y	-0.036	6.00	No
		y	-0.031	6.00	No
	13	y	-0.036	6.00	No
		y	-0.032	6.00	No
		y	-0.042	1.50	No
	14	y	-0.036	6.00	No
		y	-0.031	6.00	No
	15	y	-0.036	6.00	No
		y	-0.032	6.00	No
Wi0	1	z	-0.034	2.50	No
		z	-0.034	7.50	No
	2	z	-0.009	3.00	No
		z	-0.009	4.00	No
		z	-0.011	6.00	No
		z	-0.011	7.00	No
	3	z	-0.034	2.50	No
		z	-0.034	7.50	No
	4	z	-0.034	2.50	No
		z	-0.034	7.50	No
	5	z	-0.009	3.00	No
		z	-0.009	4.00	No
		z	-0.011	6.00	No
		z	-0.011	7.00	No
	6	z	-0.034	2.50	No
		z	-0.034	7.50	No
	7	z	-0.045	2.50	No
		z	-0.045	7.50	No
	8	z	-0.014	3.00	No
		z	-0.014	4.00	No
		z	-0.014	6.00	No
		z	-0.014	7.00	No
	9	z	-0.045	2.50	No
		z	-0.045	7.50	No
	10	z	-0.013	6.00	No
		z	-0.011	1.50	No
	11	z	-0.013	6.00	No
	12	z	-0.013	6.00	No
	13	z	-0.013	6.00	No
		z	-0.011	1.50	No
	14	z	-0.009	6.00	No
		z	-0.007	6.00	No
	15	z	-0.01	6.00	No
		z	-0.01	6.00	No
Wi30	1	x	-0.047	2.50	No
		x	-0.047	7.50	No
	2	x	-0.012	3.00	No
		x	-0.012	4.00	No
		x	-0.013	6.00	No
		x	-0.013	7.00	No
	3	x	-0.047	2.50	No
		x	-0.047	7.50	No
	4	x	-0.047	2.50	No
		x	-0.047	7.50	No
	5	x	-0.012	3.00	No
		x	-0.012	4.00	No
		x	-0.013	6.00	No
		x	-0.013	7.00	No
	6	x	-0.047	2.50	No

		x	-0.047	7.50	No
	7	x	-0.029	2.50	No
		x	-0.029	7.50	No
	8	x	-0.008	3.00	No
		x	-0.008	4.00	No
		x	-0.01	6.00	No
		x	-0.01	7.00	No
	9	x	-0.029	2.50	No
		x	-0.029	7.50	No
	10	x	-0.011	6.00	No
		x	-0.011	1.50	No
	11	x	-0.011	6.00	No
	12	x	-0.011	6.00	No
	13	x	-0.011	6.00	No
		x	-0.011	1.50	No
	14	x	-0.014	6.00	No
	15	x	-0.014	6.00	No
WLO	1	z	-0.016	2.50	No
		z	-0.016	7.50	No
	2	z	-0.004	3.00	No
		z	-0.004	4.00	No
		z	-0.005	6.00	No
		z	-0.005	7.00	No
	3	z	-0.016	2.50	No
		z	-0.016	7.50	No
	4	z	-0.016	2.50	No
		z	-0.016	7.50	No
	5	z	-0.004	3.00	No
		z	-0.004	4.00	No
		z	-0.005	6.00	No
		z	-0.005	7.00	No
	6	z	-0.016	2.50	No
		z	-0.016	7.50	No
	7	z	-0.022	2.50	No
		z	-0.022	7.50	No
	8	z	-0.007	3.00	No
		z	-0.007	4.00	No
		z	-0.006	6.00	No
		z	-0.006	7.00	No
	9	z	-0.022	2.50	No
		z	-0.022	7.50	No
	10	z	-0.005	6.00	No
		z	-0.005	1.50	No
	11	z	-0.005	6.00	No
	12	z	-0.005	6.00	No
	13	z	-0.005	6.00	No
		z	-0.005	1.50	No
	14	z	-0.004	6.00	No
		z	-0.002	6.00	No
	15	z	-0.004	6.00	No
		z	-0.004	6.00	No
WL30	1	x	-0.023	2.50	No
		x	-0.023	7.50	No
	2	x	-0.006	3.00	No
		x	-0.006	4.00	No
		x	-0.006	6.00	No
		x	-0.006	7.00	No
	3	x	-0.023	2.50	No
		x	-0.023	7.50	No
	4	x	-0.023	2.50	No

		x	-0.023	7.50	No
5		x	-0.006	3.00	No
		x	-0.006	4.00	No
		x	-0.006	6.00	No
		x	-0.006	7.00	No
6		x	-0.023	2.50	No
		x	-0.023	7.50	No
7		x	-0.014	2.50	No
		x	-0.014	7.50	No
8		x	-0.003	3.00	No
		x	-0.003	4.00	No
		x	-0.005	6.00	No
		x	-0.005	7.00	No
9		x	-0.014	2.50	No
		x	-0.014	7.50	No
10		x	-0.004	6.00	No
		x	-0.005	1.50	No
11		x	-0.005	6.00	No
12		x	-0.004	6.00	No
13		x	-0.005	6.00	No
		x	-0.005	1.50	No
14		x	-0.006	6.00	No
15		x	-0.006	6.00	No
LL1	42	y	-0.25	50.00	Yes
LL2	42	y	-0.25	0.00	Yes
LLa1	7	y	-0.50	50.00	Yes
LLa2	8	y	-0.50	50.00	Yes
LLa3	9	y	-0.50	50.00	Yes

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	-1.00	0.00
W0	Wind Load 0/60/120 deg	No	0.00	0.00	0.00
W30	Wind Load 30/90/150 deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
Wi0	Ice Wind Load 0/60/120 deg	No	0.00	0.00	0.00
Wi30	Ice Wind Load 30/90/150 deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0/60/120 deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30/90/150 deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load End of Mount	No	0.00	0.00	0.00
LLa1	250 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	250 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	250 lb Live Load Antenna 3	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
DL	0.00	0.00	0.00
W0	0.00	0.00	0.00
W30	0.00	0.00	0.00
Di	0.00	0.00	0.00
Wi0	0.00	0.00	0.00
Wi30	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00

Current Date: 12/13/2022 5:27 PM
 Units system: English

Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

- LC1=1.2DL+W0
- LC2=1.2DL+W30
- LC3=1.2DL-W0
- LC4=1.2DL-W30
- LC5=0.9DL+W0
- LC6=0.9DL+W30
- LC7=0.9DL-W0
- LC8=0.9DL-W30
- LC9=1.2DL+Di+Wi0
- LC10=1.2DL+Di+Wi30
- LC11=1.2DL+Di-Wi0
- LC12=1.2DL+Di-Wi30
- LC13=1.4DL
- LC14=1.2DL+1.6LL1
- LC15=1.2DL+1.6LL2
- LC16=1.2DL+W0+1.6LLa1
- LC17=1.2DL+W30+1.6LLa1
- LC18=1.2DL-W0+1.6LLa1
- LC19=1.2DL-W30+1.6LLa1
- LC20=1.2DL+W0+1.6LLa2
- LC21=1.2DL+W30+1.6LLa2
- LC22=1.2DL-W0+1.6LLa2
- LC23=1.2DL-W30+1.6LLa2
- LC24=1.2DL+W0+1.6LLa3
- LC25=1.2DL+W30+1.6LLa3
- LC26=1.2DL-W0+1.6LLa3
- LC27=1.2DL-W30+1.6LLa3
- LC28=1.4DL

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	HSS_SQR 4X4X1_4	93	LC25 at 100.00%	0.17	OK	
		94	LC27 at 100.00%	0.19	OK	
		99	LC1 at 100.00%	0.23	OK	
		100	LC3 at 100.00%	0.29	OK	
		101	LC3 at 100.00%	0.26	OK	
		102	LC1 at 100.00%	0.29	OK	
	PIPE 2-1_2x0.203	1	LC2 at 33.33%	0.17	OK	
		2	LC2 at 33.33%	0.17	OK	
		3	LC4 at 33.33%	0.23	OK	
		4	LC1 at 33.33%	0.16	OK	
		5	LC1 at 33.33%	0.17	OK	
		6	LC3 at 33.33%	0.19	OK	
		7	LC19 at 33.33%	0.24	OK	
		8	LC1 at 64.58%	0.13	OK	
		9	LC25 at 33.33%	0.39	OK	
		10	LC11 at 27.08%	0.06	OK	
		11	LC10 at 27.08%	0.05	OK	
		12	LC3 at 72.92%	0.05	OK	
		13	LC11 at 27.08%	0.05	OK	
		14	LC17 at 27.08%	0.07	OK	

	15	LC27 at 27.08%	0.09	OK
	17	LC1 at 74.11%	0.38	OK
	18	LC3 at 28.13%	0.43	OK
	66	LC4 at 73.96%	0.39	OK
	67	LC2 at 28.13%	0.46	OK
	41	LC25 at 36.46%	0.41	OK
	42	LC24 at 35.94%	0.45	OK
<hr/>				
PIPE 2x0.154	16	LC3 at 50.00%	0.11	OK
	19	LC2 at 93.75%	0.23	OK
	20	LC3 at 93.75%	0.22	OK
	21	LC4 at 93.75%	0.36	OK
	43	LC26 at 93.75%	0.33	OK
	44	LC27 at 93.75%	0.33	OK
	45	LC17 at 93.75%	0.25	OK
	46	LC16 at 93.75%	0.26	OK
	22	LC1 at 93.75%	0.28	OK
	55	LC5 at 100.00%	0.07	OK
	68	LC1 at 93.75%	0.23	OK
	69	LC2 at 93.75%	0.22	OK
	70	LC3 at 93.75%	0.23	OK
	71	LC4 at 93.75%	0.28	OK
	95	LC1 at 0.00%	0.20	OK
	96	LC8 at 100.00%	0.08	OK
	97	LC4 at 50.00%	0.05	OK
	98	LC3 at 50.00%	0.06	OK
<hr/>				
PIPE 3x0.216	90	LC11 at 87.50%	0.19	OK
	91	LC9 at 87.50%	0.07	OK
	92	LC12 at 87.50%	0.19	OK
<hr/>				
PL 11-1/4x5/8	39	LC9 at 100.00%	0.22	OK
	40	LC12 at 100.00%	0.17	OK
	64	LC11 at 100.00%	0.21	OK
	65	LC12 at 100.00%	0.16	OK
	88	LC12 at 100.00%	0.22	OK
	89	LC11 at 100.00%	0.17	OK
<hr/>				
PL 3-1/2x5/8	31	LC3 at 100.00%	0.21	OK
	32	LC4 at 100.00%	0.22	OK
	33	LC12 at 100.00%	0.21	OK
	34	LC11 at 100.00%	0.20	OK
	35	LC12 at 100.00%	0.38	OK
	36	LC11 at 0.00%	0.33	OK
	37	LC11 at 100.00%	0.36	OK
	38	LC12 at 0.00%	0.32	OK
	56	LC24 at 100.00%	0.37	OK
	57	LC16 at 100.00%	0.30	OK
	58	LC17 at 100.00%	0.32	OK
	59	LC27 at 100.00%	0.38	OK
	60	LC24 at 100.00%	0.52	OK
	61	LC16 at 0.00%	0.44	OK
	62	LC24 at 100.00%	0.49	OK
	63	LC16 at 0.00%	0.42	OK
	80	LC9 at 100.00%	0.20	OK
	81	LC3 at 100.00%	0.27	OK
	82	LC11 at 100.00%	0.21	OK
	83	LC9 at 100.00%	0.19	OK
	84	LC10 at 100.00%	0.39	OK
	85	LC3 at 0.00%	0.40	OK
	86	LC9 at 100.00%	0.36	OK
	87	LC11 at 0.00%	0.32	OK
<hr/>				
RndBar 3_4	27	LC9 at 0.00%	0.13	OK

28	LC4 at 0.00%	0.15	With warnings
29	LC12 at 0.00%	0.12	OK
30	LC2 at 100.00%	0.14	With warnings
51	LC17 at 0.00%	0.16	OK
52	LC17 at 0.00%	0.17	With warnings
53	LC26 at 100.00%	0.20	OK
54	LC27 at 100.00%	0.22	With warnings
76	LC11 at 0.00%	0.12	OK
77	LC3 at 0.00%	0.13	With warnings
78	LC11 at 0.00%	0.13	OK
79	LC1 at 100.00%	0.14	With warnings

RndBar 5_8

23	LC10 at 87.50%	0.39	OK
24	LC10 at 87.50%	0.35	OK
25	LC12 at 87.50%	0.36	OK
26	LC12 at 87.50%	0.38	OK
47	LC27 at 87.50%	0.63	OK
48	LC27 at 87.50%	0.61	OK
49	LC17 at 87.50%	0.49	OK
50	LC17 at 87.50%	0.51	OK
72	LC9 at 87.50%	0.39	OK
73	LC9 at 87.50%	0.37	OK
74	LC11 at 87.50%	0.35	OK
75	LC11 at 87.50%	0.37	OK

Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
5	0.00	1.6667	1.73	0
6	0.00	-1.6667	1.73	0
3	-1.7213	1.6667	-0.1995	0
4	-1.7213	-1.6667	-0.1995	0
1	1.7213	1.6667	-0.1995	0
2	1.7213	-1.6667	-0.1995	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
5	1	1	1	1	1	1
6	1	1	1	1	1	1
3	1	1	1	1	1	1
4	1	1	1	1	1	1
1	1	1	1	1	1	1
2	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
93	47	5		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
1	14	13		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
2	166	165		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
3	16	15		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
4	94	93		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
5	159	158		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
6	96	95		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
7	54	53		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
8	149	148		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
9	56	55		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
10	133	131		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
11	135	137		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
12	134	132		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
13	136	138		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
14	130	129		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
15	127	128		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
17	19	20		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
18	21	22		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
66	99	100		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
67	101	102		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
41	59	60		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
42	61	62		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
16	17	147		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
19	23	8		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
20	24	10		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
21	25	11		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
43	63	48		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
44	64	50		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
45	65	51		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
46	66	52		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
22	26	12		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
55	75	145		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
68	103	88		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
69	104	90		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
70	105	91		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
71	106	92		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
95	97	145		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
96	35	146		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
97	57	146		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
98	115	147		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
90	139	140		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
91	141	142		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
92	143	144		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
23	27	28		RndBar 5_8	A36	0.00	0.00	0.00
24	29	30		RndBar 5_8	A36	0.00	0.00	0.00
25	31	32		RndBar 5_8	A36	0.00	0.00	0.00
26	33	34		RndBar 5_8	A36	0.00	0.00	0.00
47	67	68		RndBar 5_8	A36	0.00	0.00	0.00
48	69	70		RndBar 5_8	A36	0.00	0.00	0.00
49	71	72		RndBar 5_8	A36	0.00	0.00	0.00
50	73	74		RndBar 5_8	A36	0.00	0.00	0.00
72	107	108		RndBar 5_8	A36	0.00	0.00	0.00
73	109	110		RndBar 5_8	A36	0.00	0.00	0.00
74	111	112		RndBar 5_8	A36	0.00	0.00	0.00
75	113	114		RndBar 5_8	A36	0.00	0.00	0.00
27	31	34		RndBar 3_4	A36	0.00	0.00	0.00
28	32	33		RndBar 3_4	A36	0.00	0.00	0.00
29	28	29		RndBar 3_4	A36	0.00	0.00	0.00

30	27	30	RndBar 3_4	A36	0.00	0.00	0.00
51	71	74	RndBar 3_4	A36	0.00	0.00	0.00
52	72	73	RndBar 3_4	A36	0.00	0.00	0.00
53	68	69	RndBar 3_4	A36	0.00	0.00	0.00
54	67	70	RndBar 3_4	A36	0.00	0.00	0.00
76	111	114	RndBar 3_4	A36	0.00	0.00	0.00
77	112	113	RndBar 3_4	A36	0.00	0.00	0.00
78	108	109	RndBar 3_4	A36	0.00	0.00	0.00
79	107	110	RndBar 3_4	A36	0.00	0.00	0.00
31	23	37	PL 3-1/2x5/8	A36	0.00	0.00	0.00
32	26	38	PL 3-1/2x5/8	A36	0.00	0.00	0.00
33	25	39	PL 3-1/2x5/8	A36	0.00	0.00	0.00
34	24	40	PL 3-1/2x5/8	A36	0.00	0.00	0.00
35	8	45	PL 3-1/2x5/8	A36	0.00	0.00	0.00
36	45	12	PL 3-1/2x5/8	A36	0.00	0.00	0.00
37	10	46	PL 3-1/2x5/8	A36	0.00	0.00	0.00
38	46	11	PL 3-1/2x5/8	A36	0.00	0.00	0.00
56	63	77	PL 3-1/2x5/8	A36	0.00	0.00	0.00
57	66	78	PL 3-1/2x5/8	A36	0.00	0.00	0.00
58	65	79	PL 3-1/2x5/8	A36	0.00	0.00	0.00
59	64	80	PL 3-1/2x5/8	A36	0.00	0.00	0.00
60	48	85	PL 3-1/2x5/8	A36	0.00	0.00	0.00
61	85	52	PL 3-1/2x5/8	A36	0.00	0.00	0.00
62	50	86	PL 3-1/2x5/8	A36	0.00	0.00	0.00
63	86	51	PL 3-1/2x5/8	A36	0.00	0.00	0.00
80	103	117	PL 3-1/2x5/8	A36	0.00	0.00	0.00
81	106	118	PL 3-1/2x5/8	A36	0.00	0.00	0.00
82	105	119	PL 3-1/2x5/8	A36	0.00	0.00	0.00
83	104	120	PL 3-1/2x5/8	A36	0.00	0.00	0.00
84	88	125	PL 3-1/2x5/8	A36	0.00	0.00	0.00
85	125	92	PL 3-1/2x5/8	A36	0.00	0.00	0.00
86	90	126	PL 3-1/2x5/8	A36	0.00	0.00	0.00
87	126	91	PL 3-1/2x5/8	A36	0.00	0.00	0.00
39	45	7	PL 11-1/4x5/8	A36	11.25	9.25	0.00
40	46	9	PL 11-1/4x5/8	A36	11.25	9.25	0.00
64	85	47	PL 11-1/4x5/8	A36	11.25	9.25	0.00
65	86	49	PL 11-1/4x5/8	A36	11.25	9.25	0.00
88	125	87	PL 11-1/4x5/8	A36	11.25	9.25	0.00
89	126	89	PL 11-1/4x5/8	A36	11.25	9.25	0.00
94	49	6	HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
99	7	3	HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
100	9	4	HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
101	87	1	HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
102	89	2	HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
1	315.00	0	0.00	0.00	0.00
2	315.00	0	0.00	0.00	0.00
3	315.00	0	0.00	0.00	0.00
4	315.00	0	0.00	0.00	0.00
5	315.00	0	0.00	0.00	0.00
6	315.00	0	0.00	0.00	0.00
7	315.00	0	0.00	0.00	0.00

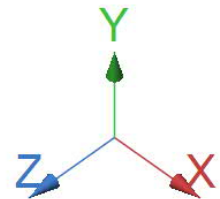
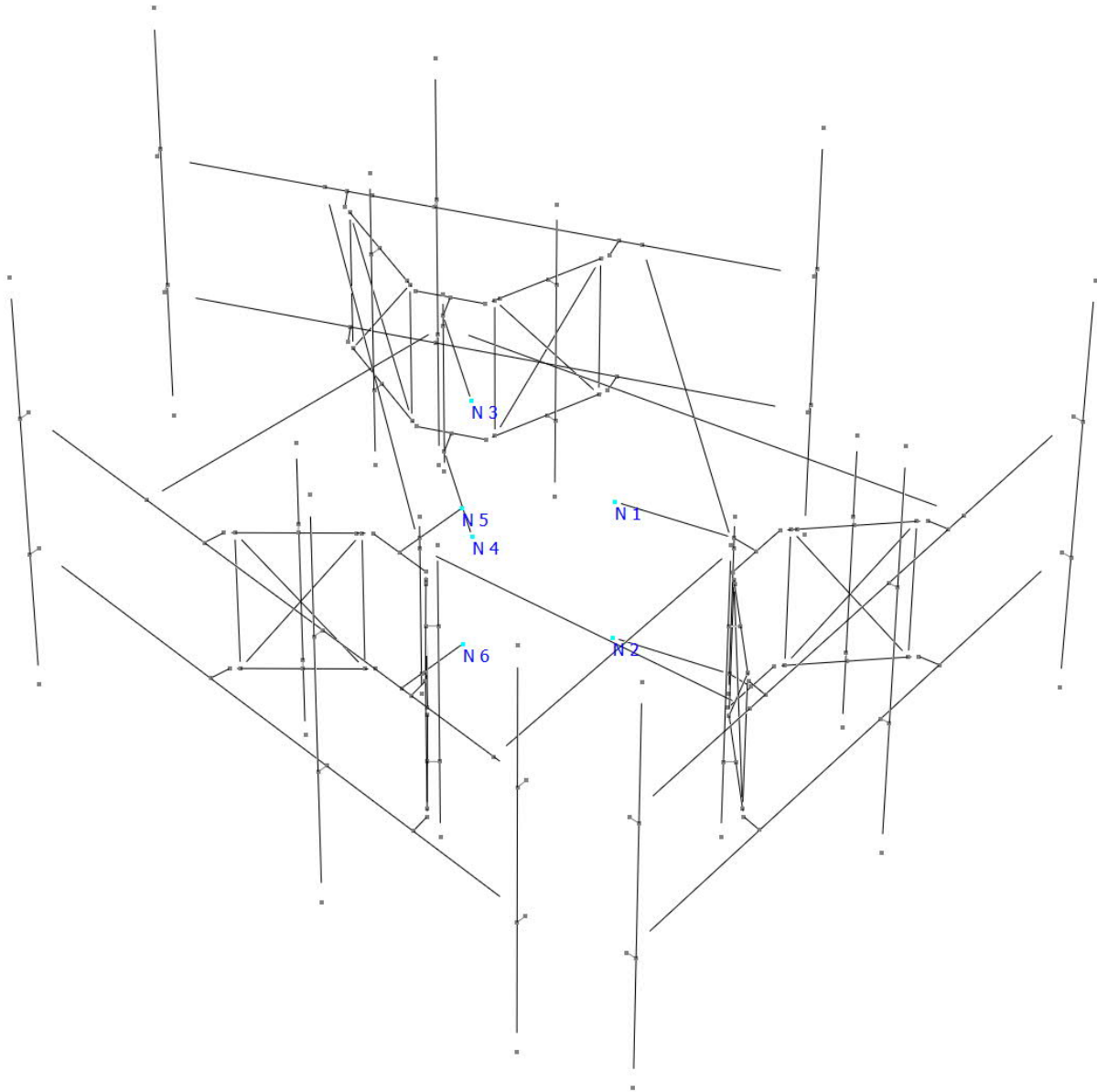
8	315.00	0	0.00	0.00	0.00
9	315.00	0	0.00	0.00	0.00
10	315.00	0	0.00	0.00	0.00
11	315.00	0	0.00	0.00	0.00
12	315.00	0	0.00	0.00	0.00
13	315.00	0	0.00	0.00	0.00
14	315.00	0	0.00	0.00	0.00
15	315.00	0	0.00	0.00	0.00
90	0.00	2	0.9397	0.00	-0.342
92	0.00	2	0.866	0.00	0.50
23	0.00	2	-0.50	0.00	-0.866
24	0.00	2	-0.50	0.00	-0.866
25	0.00	2	-0.50	0.00	-0.866
26	0.00	2	-0.50	0.00	-0.866
47	0.00	2	0.00	0.00	1.00
48	0.00	2	0.00	0.00	1.00
49	0.00	2	0.00	0.00	1.00
50	0.00	2	0.00	0.00	1.00
72	0.00	2	0.9962	0.00	-0.0872
73	0.00	2	0.9962	0.00	-0.0872
74	0.00	2	0.9962	0.00	-0.0872
75	0.00	2	0.9962	0.00	-0.0872
31	90.00	0	0.00	0.00	0.00
32	90.00	0	0.00	0.00	0.00
33	90.00	0	0.00	0.00	0.00
34	90.00	0	0.00	0.00	0.00
35	90.00	0	0.00	0.00	0.00
36	90.00	0	0.00	0.00	0.00
37	90.00	0	0.00	0.00	0.00
38	90.00	0	0.00	0.00	0.00
56	90.00	0	0.00	0.00	0.00
57	90.00	0	0.00	0.00	0.00
58	90.00	0	0.00	0.00	0.00
59	90.00	0	0.00	0.00	0.00
60	90.00	0	0.00	0.00	0.00
61	90.00	0	0.00	0.00	0.00
62	90.00	0	0.00	0.00	0.00
63	90.00	0	0.00	0.00	0.00
80	90.00	0	0.00	0.00	0.00
81	90.00	0	0.00	0.00	0.00
82	90.00	0	0.00	0.00	0.00
83	90.00	0	0.00	0.00	0.00
84	90.00	0	0.00	0.00	0.00
85	90.00	0	0.00	0.00	0.00
86	90.00	0	0.00	0.00	0.00
87	90.00	0	0.00	0.00	0.00
39	90.00	0	0.00	0.00	0.00
40	90.00	0	0.00	0.00	0.00
64	90.00	0	0.00	0.00	0.00
65	90.00	0	0.00	0.00	0.00
88	90.00	0	0.00	0.00	0.00
89	90.00	0	0.00	0.00	0.00

Rigid end offsets

Member	DJX [in]	DJY [in]	DJZ [in]	DKX [in]	DKY [in]	DKZ [in]
27	0.00	-3.50	0.00	0.00	3.50	0.00
28	0.00	3.50	0.00	0.00	-3.50	0.00
29	0.00	3.50	0.00	0.00	-3.50	0.00
30	0.00	-3.50	0.00	0.00	3.50	0.00
51	0.00	-3.50	0.00	0.00	3.50	0.00
52	0.00	3.50	0.00	0.00	-3.50	0.00
53	0.00	3.50	0.00	0.00	-3.50	0.00
54	0.00	-3.50	0.00	0.00	3.50	0.00
76	0.00	-3.50	0.00	0.00	3.50	0.00
77	0.00	3.50	0.00	0.00	-3.50	0.00
78	0.00	3.50	0.00	0.00	-3.50	0.00
79	0.00	-3.50	0.00	0.00	3.50	0.00
39	0.00	-0.625	0.00	0.00	-0.625	0.00
40	0.00	-0.625	0.00	0.00	-0.625	0.00
64	0.00	-0.625	0.00	0.00	-0.625	0.00
65	0.00	-0.625	0.00	0.00	-0.625	0.00
88	0.00	-0.625	0.00	0.00	-0.625	0.00
89	0.00	-0.625	0.00	0.00	-0.625	0.00

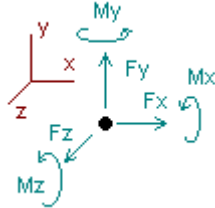
Hinges

Member	Node-J				Node-K				TOR	AXL	Axial rigidity
	M33	M22	V3	V2	M33	M22	V3	V2			
16	1	1	0	0	1	1	0	0	0	0	Full
55	1	1	0	0	1	1	0	0	0	0	Full
95	1	1	0	0	1	1	0	0	0	0	Full
96	1	1	0	0	1	1	0	0	0	0	Full
97	1	1	0	0	1	1	0	0	0	0	Full
98	1	1	0	0	1	1	0	0	0	0	Full
28	0	0	0	0	0	0	0	0	0	0	Tension only
30	0	0	0	0	0	0	0	0	0	0	Tension only
52	0	0	0	0	0	0	0	0	0	0	Tension only
54	0	0	0	0	0	0	0	0	0	0	Tension only
77	0	0	0	0	0	0	0	0	0	0	Tension only
79	0	0	0	0	0	0	0	0	0	0	Tension only
31	1	1	0	0	0	0	0	0	0	0	Full
32	1	1	0	0	0	0	0	0	0	0	Full
33	1	1	0	0	0	0	0	0	0	0	Full
34	1	1	0	0	0	0	0	0	0	0	Full
56	1	1	0	0	0	0	0	0	0	0	Full
57	1	1	0	0	0	0	0	0	0	0	Full
58	1	1	0	0	0	0	0	0	0	0	Full
59	1	1	0	0	0	0	0	0	0	0	Full
80	1	1	0	0	0	0	0	0	0	0	Full
81	1	1	0	0	0	0	0	0	0	0	Full
82	1	1	0	0	0	0	0	0	0	0	Full
83	1	1	0	0	0	0	0	0	0	0	Full



Analysis result

Reactions



Direction of positive forces and moments

Node	Forces [Kip]			Moments [Kip*ft]		
	FX	FY	FZ	MX	MY	MZ
Condition LC1=1.2DL+W0						
5	0.72370	0.54496	-0.63996	-0.70943	0.45083	0.07482
6	-0.06136	0.72240	2.33089	-0.72857	0.00868	-0.03810
3	1.72867	0.93663	2.53197	0.72352	2.14546	-1.14534
4	-0.59375	0.69954	0.62645	0.62382	2.03896	-1.02542
1	-2.80476	0.81440	2.36738	0.22451	-2.06107	1.27308
2	1.00750	0.72176	1.16362	0.23909	-3.47384	1.20270
SUM	0.00000	4.43969	8.38035	0.37295	-0.89099	0.34175
Condition LC2=1.2DL+W30						
5	1.22005	0.75755	-1.35178	-0.70953	1.28037	0.07902
6	1.13673	0.65662	0.79396	-0.68721	1.89211	0.04761
3	2.45152	0.86949	0.65522	0.92879	-1.43061	-0.94919
4	0.95283	0.73865	-0.78666	0.85501	-3.10640	-0.89310
1	0.06838	0.64792	0.82098	0.31155	-1.43329	1.15390
2	2.56945	0.76946	-0.13173	0.41675	-1.74161	1.19562
SUM	8.39896	4.43969	0.00000	1.11535	-4.53943	0.63386
Condition LC3=1.2DL-W0						
5	-0.29529	0.83399	-0.82739	-0.73456	0.00529	-0.08832
6	-0.11975	0.68496	-0.69403	-0.69643	-0.24177	-0.02268
3	-0.51567	0.59005	-1.09849	0.83315	-1.18734	-0.85428
4	-0.75945	0.83523	-2.26947	0.93167	-3.23959	-0.97577
1	0.56667	0.69410	-1.96234	0.52802	2.84592	1.13274
2	1.12349	0.80137	-1.52865	0.50564	2.68031	1.21216
SUM	0.00000	4.43969	-8.38035	1.36750	0.86282	0.40386
Condition LC4=1.2DL-W30						
5	-0.80315	0.62353	-0.13200	-0.73363	-0.83380	-0.09414
6	-1.31926	0.74847	0.84196	-0.73648	-2.12823	-0.10782
3	-1.21887	0.65711	0.78524	0.62838	2.38995	-1.04914
4	-2.30505	0.79507	-0.85566	0.70013	1.90538	-1.10659
1	-2.31470	0.86067	-0.40717	0.44158	2.19581	1.25258
2	-0.43794	0.75484	-0.23237	0.32979	0.93826	1.22015
SUM	-8.39896	4.43969	0.00000	0.62978	4.46737	0.11505

Condition **LC5=0.9DL+W0**

5	0.67080	0.37208	-0.45506	-0.52862	0.39419	0.07665
6	-0.03857	0.54646	2.12606	-0.55029	0.03800	-0.03052
3	1.57554	0.74582	2.35232	0.52941	2.02614	-0.89578
4	-0.42525	0.50814	0.83129	0.42993	2.18770	-0.77577
1	-2.52399	0.62560	2.31684	0.13078	-2.15845	0.97257
2	0.74146	0.53167	1.20891	0.14638	-3.37240	0.90123

SUM 0.00000 3.32977 8.38035 0.15759 -0.88482 0.24838

Condition **LC6=0.9DL+W30**

5	1.16749	0.58503	-1.16743	-0.52912	1.22397	0.08073
6	1.15931	0.48096	0.58954	-0.50922	1.92098	0.05510
3	2.29887	0.67871	0.47544	0.73432	-1.55062	-0.69989
4	1.12136	0.54716	-0.58164	0.66077	-2.95516	-0.64368
1	0.34948	0.45894	0.77007	0.21734	-1.53069	0.85247
2	2.30245	0.57896	-0.08599	0.32354	-1.64097	0.89316

SUM 8.39896 3.32977 0.00000 0.89762 -4.53249 0.53788

Condition **LC7=0.9DL-W0**

5	-0.34833	0.66172	-0.64365	-0.55443	-0.05129	-0.08657
6	-0.09710	0.50949	-0.89813	-0.51861	-0.21234	-0.01510
3	-0.66914	0.39898	-1.27863	0.63795	-1.30748	-0.60401
4	-0.59011	0.64328	-2.06366	0.73672	-3.08774	-0.72535
1	0.84781	0.50547	-2.01347	0.43348	2.74933	0.83166
2	0.85687	0.61083	-1.48281	0.41206	2.77857	0.90991

SUM 0.00000 3.32977 -8.38035 1.14717 0.86905 0.31054

Condition **LC8=0.9DL-W30**

5	-0.85659	0.45092	0.05223	-0.55311	-0.89066	-0.09227
6	-1.29640	0.57271	0.63743	-0.55839	-2.09835	-0.10015
3	-1.37275	0.46599	0.60529	0.43352	2.27054	-0.79862
4	-2.13574	0.60322	-0.65004	0.50557	2.05475	-0.85593
1	-2.03389	0.67223	-0.45793	0.34752	2.09925	0.95241
2	-0.70359	0.56470	-0.18698	0.23669	1.03732	0.91888

SUM -8.39896 3.32977 0.00000 0.41181 4.47284 0.02433

Condition **LC9=1.2DL+Di+Wi0**

5	0.44751	1.19819	-1.45211	-1.27220	0.43716	-0.01131
6	-0.19440	1.24040	1.68895	-1.25672	-0.23877	-0.05774
3	1.31177	1.39399	1.51806	1.39614	1.00002	-1.83007
4	-1.32146	1.38265	-1.41961	1.38886	-0.82002	-1.82144
1	-2.26368	1.36627	0.62864	0.67640	0.42563	2.17972
2	2.02025	1.37456	-0.26593	0.67428	-0.95851	2.18300

SUM 0.00000 7.95604 0.69800 1.60675 -0.15448 0.64216

Condition **LC10=1.2DL+Di+Wi30**

5	0.49637	1.21567	-1.43782	-1.27396	0.51595	-0.00786
6	-0.08441	1.23933	1.52948	-1.25499	-0.05951	-0.04988
3	1.37664	1.38748	1.33370	1.41638	0.65828	-1.81067
4	-1.18008	1.38623	-1.53824	1.40771	-1.28035	-1.81049
1	-2.05762	1.35090	0.49662	0.68471	0.50496	2.16759
2	2.17111	1.37643	-0.38374	0.68738	-0.80085	2.18098

SUM 0.72200 7.95604 0.00000 1.66724 -0.46153 0.66967

Condition **LC11=1.2DL+Di-Wi0**

5	0.35599	1.22067	-1.31349	-1.27741	0.41393	-0.02743
6	-0.19921	1.24598	1.37433	-1.25728	-0.25801	-0.05741
3	1.11480	1.35919	1.19417	1.40623	0.69830	-1.80125
4	-1.33536	1.39491	-1.66100	1.41410	-1.27058	-1.81883
1	-1.96594	1.35419	0.21766	0.70866	0.90542	2.16421
2	2.02972	1.38110	-0.50967	0.69761	-0.37838	2.18359

SUM 0.00000 7.95604 -0.69800 1.69192 0.11068 0.64288

Condition **LC12=1.2DL+Di-Wi30**

5	0.30701	1.20320	-1.32793	-1.27565	0.33505	-0.03090
6	-0.30921	1.24703	1.53378	-1.25900	-0.43730	-0.06526
3	1.05011	1.36569	1.37857	1.38600	1.04003	-1.82063
4	-1.47672	1.39132	-1.54237	1.39525	-0.81030	-1.82976
1	-2.17205	1.36956	0.34978	0.70035	0.82587	2.17635
2	1.87887	1.37924	-0.39184	0.68453	-0.53612	2.18562

SUM -0.72200 7.95604 0.00000 1.63149 0.41722 0.61541

Condition **LC13=1.4DL**

5	0.24723	0.80513	-0.86016	-0.84209	0.26432	-0.00834
6	-0.10600	0.82016	0.95427	-0.83082	-0.13698	-0.03538
3	0.71543	0.89069	0.83938	0.90834	0.55892	-1.16614
4	-0.78826	0.89492	-0.95821	0.90728	-0.70103	-1.16698
1	-1.31135	0.88015	0.23735	0.43922	0.45290	1.40355
2	1.24293	0.88859	-0.21263	0.43477	-0.46563	1.40880

SUM 0.00000 5.17964 0.00000 1.01670 -0.02750 0.43550

Condition **LC14=1.2DL+1.6LL1**

5	0.29022	0.89477	-1.03468	-0.93388	0.30320	-0.02506
6	-0.18411	0.89911	1.12729	-0.92032	-0.22546	-0.04693
3	0.61736	0.76322	0.72316	0.77884	0.48241	-0.99859
4	-0.67491	0.76640	-0.82101	0.77714	-0.59978	-0.99941
1	-1.11246	0.75558	0.18864	0.37709	0.40536	1.20297
2	1.06390	0.76063	-0.18339	0.37058	-0.39471	1.20696

SUM 0.00000 4.83969 0.00000 0.44945 -0.02899 0.33995

Condition **LC15=1.2DL+1.6LL2**

5	0.85290	0.89869	-1.10965	-0.92829	0.83361	-0.13684
6	-0.82243	0.89523	1.12801	-0.91321	-0.96923	-0.15520
3	0.69624	0.74960	0.81591	0.76777	0.55154	-1.00221
4	-0.69010	0.77787	-0.81515	0.79164	-0.56945	-1.00599
1	-1.09997	0.75730	0.16670	0.37760	0.44033	1.20447
2	1.06336	0.76100	-0.18582	0.36817	-0.38298	1.20864

SUM 0.00000 4.83969 0.00000 0.46368 -0.09618 0.11287

Condition **LC16=1.2DL+Wl0+1.6LLa1**

5	-0.73940	1.08446	-1.33805	-1.14171	-0.68021	0.18564
6	1.01675	1.10162	1.56491	-1.12634	1.09474	0.15228
3	0.55726	0.77400	0.65784	0.77811	0.43192	-1.00905
4	-0.67011	0.76630	-0.77775	0.76513	-0.52977	-1.00846
1	-1.24425	0.73772	0.34070	0.36058	0.23102	1.20514
2	1.07974	0.77560	-0.12565	0.37949	-0.55448	1.22164

SUM 0.00000 5.23969 0.32200 0.01526 -0.00678 0.74719

Condition **LC17=1.2DL+WL30+1.6LLa1**

5	-0.71665	1.09280	-1.32880	-1.14271	-0.64321	0.18718
6	1.06811	1.10119	1.49308	-1.12568	1.17806	0.15590
3	0.59009	0.77087	0.56706	0.78708	0.26339	-1.00019
4	-0.60329	0.76801	-0.83121	0.77300	-0.74271	-1.00394
1	-1.14472	0.73028	0.27806	0.36402	0.26691	1.19936
2	1.15046	0.77654	-0.17819	0.38516	-0.48624	1.22081

SUM 0.34400 5.23969 0.00000 0.04087 -0.16379 0.75912

Condition **LC18=1.2DL-WL0+1.6LLa1**

5	-0.78423	1.09511	-1.26703	-1.14453	-0.69169	0.17759
6	1.01412	1.10451	1.42323	-1.12699	1.08443	0.15237
3	0.46331	0.75708	0.50024	0.78169	0.28413	-0.99559
4	-0.67611	0.77211	-0.88607	0.77547	-0.73209	-1.00804
1	-1.10089	0.73207	0.14285	0.37455	0.46117	1.19830
2	1.08381	0.77881	-0.23522	0.38869	-0.29369	1.22268

SUM 0.00000 5.23969 -0.32200 0.04888 0.11226 0.74731

Condition **LC19=1.2DL-WL30+1.6LLa1**

5	-0.80702	1.08678	-1.27632	-1.14354	-0.72871	0.17605
6	0.96276	1.10492	1.49506	-1.12765	1.00110	0.14874
3	0.43052	0.76021	0.59103	0.77273	0.45265	-1.00444
4	-0.74293	0.77040	-0.83260	0.76761	-0.51917	-1.01255
1	-1.20043	0.73951	0.20551	0.37111	0.42523	1.20408
2	1.01310	0.77788	-0.18268	0.38303	-0.36195	1.22351

SUM -0.34400 5.23969 0.00000 0.02329 0.26915 0.73538

Condition **LC20=1.2DL+WL0+1.6LLa2**

5	0.15412	1.09317	-1.40283	-1.14573	0.17364	0.01058
6	-0.00428	1.09411	1.55548	-1.12982	-0.07632	-0.01727
3	0.64603	0.77349	0.78140	0.77850	0.54218	-1.00507
4	-0.67005	0.76225	-0.76808	0.76986	-0.50332	-0.99930
1	-1.18645	0.75882	0.28478	0.37028	0.29434	1.20581
2	1.06062	0.75786	-0.12874	0.36490	-0.52512	1.20528

SUM 0.00000 5.23969 0.32200 0.00801 -0.09459 0.40003

Condition **LC21=1.2DL+WL30+1.6LLa2**

5	0.17682	1.10158	-1.39377	-1.14680	0.21062	0.01213
6	0.04712	1.09376	1.48367	-1.12923	0.00697	-0.01363
3	0.67892	0.77037	0.69069	0.78749	0.37372	-0.99623
4	-0.60323	0.76396	-0.82154	0.77773	-0.71624	-0.99478
1	-1.08695	0.75131	0.22222	0.37368	0.33013	1.19992
2	1.13131	0.75871	-0.18127	0.37054	-0.45690	1.20434

SUM 0.34400 5.23969 0.00000 0.03341 -0.25171 0.41174

Condition **LC22=1.2DL-WL0+1.6LLa2**

5	0.10906	1.10391	-1.33207	-1.14864	0.16201	0.00258
6	-0.00668	1.09709	1.41391	-1.13055	-0.08641	-0.01713
3	0.55213	0.75660	0.62386	0.78211	0.39446	-0.99165
4	-0.67605	0.76808	-0.87640	0.78022	-0.70562	-0.99889
1	-1.04311	0.75306	0.08699	0.38419	0.52442	1.19880
2	1.06466	0.76095	-0.23829	0.37404	-0.26435	1.20616

SUM 0.00000 5.23969 -0.32200 0.04137 0.02451 0.39986

Condition **LC23=1.2DL-WL30+1.6LLa2**

5	0.08634	1.09550	-1.34116	-1.14758	0.12501	0.00103
6	-0.05808	1.09744	1.48571	-1.13114	-0.16970	-0.02077
3	0.51928	0.75971	0.71458	0.77313	0.56292	-1.00049
4	-0.74287	0.76637	-0.82294	0.77235	-0.49271	-1.00341
1	-1.14263	0.76057	0.14958	0.38079	0.48858	1.20469
2	0.99397	0.76010	-0.18577	0.36841	-0.33259	1.20710

SUM -0.34400 5.23969 0.00000 0.01598 0.18151 0.38816

Condition **LC24=1.2DL+WL0+1.6LLa3**

5	1.51014	1.10320	-1.52678	-1.13461	1.45363	-0.26010
6	-1.55682	1.08612	1.55814	-1.11502	-1.77540	-0.27661
3	0.81652	0.74207	0.96942	0.75432	0.67544	-1.01058
4	-0.70128	0.78629	-0.75683	0.79901	-0.44099	-1.01336
1	-1.12827	0.76270	0.21381	0.37188	0.38853	1.20943
2	1.05971	0.75933	-0.13576	0.35837	-0.49542	1.21034

SUM 0.00000 5.23969 0.32200 0.03394 -0.19421 -0.14089

Condition **LC25=1.2DL+WL30+1.6LLa3**

5	1.53250	1.11155	-1.51758	-1.13563	1.49020	-0.25848
6	-1.50504	1.08572	1.48613	-1.11440	-1.69165	-0.27290
3	0.84943	0.73904	0.87872	0.76336	0.50701	-1.00182
4	-0.63447	0.78805	-0.81030	0.80692	-0.65392	-1.00891
1	-1.02883	0.75517	0.15132	0.37526	0.42426	1.20352
2	1.13040	0.76017	-0.18828	0.36400	-0.42721	1.20937

SUM 0.34400 5.23969 0.00000 0.05951 -0.35130 -0.12922

Condition **LC26=1.2DL-WL0+1.6LLa3**

5	1.46471	1.11375	-1.45558	-1.13734	1.44155	-0.26804
6	-1.55887	1.08892	1.41626	-1.11558	-1.78528	-0.27640
3	0.72265	0.72539	0.81177	0.75810	0.52760	-0.99743
4	-0.70734	0.79231	-0.86520	0.80952	-0.64332	-1.01322
1	-0.98489	0.75691	0.01605	0.38576	0.61857	1.20239
2	1.06375	0.76241	-0.24531	0.36750	-0.23466	1.21118

SUM 0.00000 5.23969 -0.32200 0.06796 -0.07554 -0.14153

Condition **LC27=1.2DL-WL30+1.6LLa3**

5	1.44231	1.10540	-1.46481	-1.13632	1.40496	-0.26967
6	-1.61066	1.08931	1.48827	-1.11620	-1.86904	-0.28012
3	0.68978	0.72843	0.90249	0.74906	0.69602	-1.00618
4	-0.77415	0.79055	-0.81173	0.80160	-0.43040	-1.01767
1	-1.08435	0.76444	0.07857	0.38238	0.58279	1.20830
2	0.99306	0.76157	-0.19279	0.36187	-0.30289	1.21215

SUM -0.34400 5.23969 0.00000 0.04240 0.08144 -0.15319

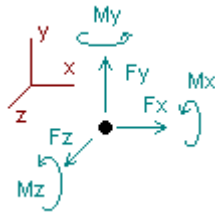
Condition **LC28=1.4DL**

5	0.24723	0.80513	-0.86016	-0.84209	0.26432	-0.00834
6	-0.10600	0.82016	0.95427	-0.83082	-0.13698	-0.03538
3	0.71543	0.89069	0.83938	0.90834	0.55892	-1.16614
4	-0.78826	0.89492	-0.95821	0.90728	-0.70103	-1.16698
1	-1.31135	0.88015	0.23735	0.43922	0.45290	1.40355
2	1.24293	0.88859	-0.21263	0.43477	-0.46563	1.40880

SUM 0.00000 5.17964 0.00000 1.01670 -0.02750 0.43550

Envelope for nodal reactions

Note.- I_c is the controlling load condition



Direction of positive forces and moments

Envelope of nodal reactions for :

- LC1=1.2DL+W0
- LC2=1.2DL+W30
- LC3=1.2DL-W0
- LC4=1.2DL-W30
- LC5=0.9DL+W0
- LC6=0.9DL+W30
- LC7=0.9DL-W0
- LC8=0.9DL-W30
- LC9=1.2DL+Di+Wi0
- LC10=1.2DL+Di+Wi30
- LC11=1.2DL+Di-Wi0
- LC12=1.2DL+Di-Wi30
- LC13=1.4DL
- LC14=1.2DL+1.6LL1
- LC15=1.2DL+1.6LL2
- LC16=1.2DL+WL0+1.6LLa1
- LC17=1.2DL+WL30+1.6LLa1
- LC18=1.2DL-WL0+1.6LLa1
- LC19=1.2DL-WL30+1.6LLa1
- LC20=1.2DL+WL0+1.6LLa2
- LC21=1.2DL+WL30+1.6LLa2
- LC22=1.2DL-WL0+1.6LLa2
- LC23=1.2DL-WL30+1.6LLa2
- LC24=1.2DL+WL0+1.6LLa3
- LC25=1.2DL+WL30+1.6LLa3
- LC26=1.2DL-WL0+1.6LLa3
- LC27=1.2DL-WL30+1.6LLa3
- LC28=1.4DL

Node		Forces						Moments					
		Fx	Ic	Fy	Ic	Fz	Ic	Mx	Ic	My	Ic	Mz	Ic
		[Kip]		[Kip]		[Kip]		[Kip*ft]		[Kip*ft]		[Kip*ft]	
5	Max	1.533	LC25	1.221	LC11	0.052	LC8	-0.52862	LC5	1.49020	LC25	0.18718	LC17
	Min	-0.857	LC8	0.372	LC5	-1.527	LC24	-1.27741	LC11	-0.89066	LC8	-0.26967	LC27
6	Max	1.159	LC6	1.247	LC12	2.331	LC1	-0.50922	LC6	1.92098	LC6	0.15590	LC17
	Min	-1.611	LC27	0.481	LC6	-0.898	LC7	-1.25900	LC12	-2.12823	LC4	-0.28012	LC27
3	Max	2.452	LC2	1.394	LC9	2.532	LC1	1.41638	LC10	2.38995	LC4	-0.60401	LC7
	Min	-1.373	LC8	0.399	LC7	-1.279	LC7	0.43352	LC8	-1.55062	LC6	-1.83007	LC9

4	Max	1.121	LC6	1.395	LC11	0.831	LC5	1.41410	LC11	2.18770	LC5	-0.64368	LC6
	Min	-2.305	LC4	0.508	LC5	-2.269	LC3	0.42993	LC5	-3.23959	LC3	-1.82976	LC12

1	Max	0.848	LC7	1.370	LC12	2.367	LC1	0.70866	LC11	2.84592	LC3	2.17972	LC9
	Min	-2.805	LC1	0.459	LC6	-2.013	LC7	0.13078	LC5	-2.15845	LC5	0.83166	LC7

2	Max	2.569	LC2	1.381	LC11	1.209	LC5	0.69761	LC11	2.77857	LC7	2.18562	LC12
	Min	-0.704	LC8	0.532	LC5	-1.529	LC3	0.14638	LC5	-3.47384	LC1	0.89316	LC6



Connection Check

Date: 12/13/2022
Project Name: MILFORD WAMPUS LANE
Project No.: CT1231
Designed By: RL Checked By: MSC



CHECK CONNECTION CAPACITY (Worst Case)

Reference: AISC Steel Construction Manual 14th Edition (ASD)

Bolt Type = **A325 5/8"** Threaded Rod

Allowable Tensile Load =

$F_{Tall} =$ **13806** lbs.

Allowable Shear Load =

$F_{vall} =$ **8283** lbs.

CONNECTION PLATE CONFIGURATION (4-BOLTS)

$N_{BOLT\ ROWS}$	=	2 rows	S_y	=	6 in	(Min.)
N_{BOLTS}	=	2 bolts/row	S_x	=	6 in	(Min.)

TENSILE FORCES

Moment in Y axis:	2846 lb-ft.	(See Bentley Output)
Couple Reaction from M_y :	11384 lbs.	
Moment in Z axis:	2180 lb-ft.	(See Bentley Output)
Couple Reaction from M_z :	8720 lbs.	
Reaction in X direction:	2805 lbs.	(See Bentley Output)
Resultant:	5727 lbs.	

SHEAR FORCES

Moment in X axis:	709 lb-ft.	(See Bentley Output)
Couple Reaction from M_x :	2836 lbs.	
Reaction in Y direction:	1370 lbs.	(See Bentley Output)
Reaction in Z direction:	2367 lbs.	(See Bentley Output)
Resultant:	1175 lbs.	

Date: 12/13/2022
Project Name: MILFORD WAMPUS LANE
Project No.: CT1231
Designed By: RL Checked By: MSC



(CONT.)

Tension Design Load /Bolts =

$$f_t = 5727 \text{ lbs.} < 13806 \text{ lbs.} \text{ Therefore, OK!}$$

Shear Design Load / Bolts=

$$f_v = 1175 \text{ lbs.} < 8283 \text{ lbs.} \text{ Therefore, OK!}$$

CHECK COMBINED TENSION AND SHEAR

$$\begin{array}{rclclcl} f_t / F_T & + & f_v / F_v & \leq & 1.0 & \\ 0.415 & + & 0.142 & = & 0.557 & < 1.0 \text{ Therefore, OK!} \end{array}$$

Date: 12/13/2022
Project Name: MILFORD WAMPUS LANE
Project No.: CT1231
Designed By: RL Checked By: MSC



CHECK CONNECTION CAPACITY (Worst Case)

Reference: AISC Steel Construction Manual 14th Edition (ASD)

Bolt Type = A36 5/8" Threaded Rod

Allowable Tensile Load =

$$F_{Tall} = 6673 \text{ lbs.}$$

Allowable Shear Load =

$$F_{Vall} = 4004 \text{ lbs.}$$

TENSILE FORCES

Reaction $F = 2805$ lbs. (See Bentley Output)

SHEAR FORCES

Reactions in Y direction: 1370 lbs. (See Bentley Output)

Reactions in Z direction: 2367 lbs. (See Bentley Output)

Resultant: 2735 lbs.

No. of Supports = 1

No. of Bolts / Support = 3

Tension Design Load /Bolts =

$$f_t = 935 \text{ lbs.} < 6673 \text{ lbs.} \text{ Therefore, OK!}$$

Shear Design Load / Bolts=

$$f_v = 912 \text{ lbs.} < 4004 \text{ lbs.} \text{ Therefore, OK!}$$

CHECK COMBINED TENSION AND SHEAR

$$\begin{aligned} f_t / F_T + f_v / F_V &\leq 1.0 \\ 0.140 + 0.228 &= 0.368 < 1.0 \text{ Therefore, OK!} \end{aligned}$$

ATTACHMENT 4

PROJECT INFORMATION

SCOPE OF WORK: TELECOMMUNICATIONS FACILITY (NSB A EXISTING 120'-0" A.G.L. TALL MONOPOLE WITH PROPOSED 20'-0" MONOPOLE EXTENSION. PROPOSED WALK-IN CABINET, AND GENERATOR WILL BE INSTALLED AT GRADE INSIDE A EXISTING FENCED-IN COMPOUND. PROPOSED TWELVE PANEL ANTENNAS, TWELVE RRH'S & TWO SURGE ARRESTORS WILL BE INSTALLED AT A HEIGHT OF 136'-0" A.G.L.):

SITE ADDRESS: 160 WAMPUS LANE
MILFORD, CT 06460

APPLICANT: AT&T
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

SITE OWNER: CUTTING EDGE TECHNOLOGY
160 WAMPUS LANE,
MILFORD, CT 06460

LATITUDE: 41.225122 N, 41° 13' 30.44" N

LONGITUDE: 73.042283 W, 73° 02' 32.22" W

TYPE OF SITE: MONOPOLE/ WALK-IN CABINET

EXISTING TOWER HEIGHT: 120'-0"±

PROPOSED TOWER HEIGHT: 140'-0"±

RAD CENTER: 136'-0"±



SITE NUMBER: CT1231

SITE NAME: MILFORD WAMPUS LANE

FA CODE:12712096

**PACE ID: MRCTB051866, MRCTB051858, MRCTB051863,
MRCTB051860, MRCTB048400, MRCTB051857, MRCTB051862**

PROJECT: NSB

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	3
GN-1	GENERAL NOTES	3
SN-1	SPECIAL INSPECTION NOTES	3
C-1	PLOT PLAN	3
A-1	COMPOUND & EQUIPMENT PLANS	3
A-2	ANTENNA LAYOUT & ELEVATION	3
A-3	DETAILS	3
A-4	DETAILS	3
E-1	ELECTRICAL NOTES & ONE-LINE DIAGRAM	3
G-1	GROUNDING DETAILS	3
RF-1	RF PLUMBING DIAGRAM (ALPHA & BETA)	3
RF-2	RF PLUMBING DIAGRAM (GAMMA)	3

VICINITY MAP

DIRECTIONS TO SITE:
GET ON I-90 W, HEAD SOUTHWEST, TURN RIGHT TOWARD LEGGATT MCCALL CONN, TURN LEFT ONTO LEGGATT MCCALL CONN, CONTINUE ONTO BURR ST, TURN LEFT ONTO COCHITUATE RD, USE THE RIGHT LANE TO MERGE ONTO I-90 W VIA THE RAMP TO SPRINGFIELD, (TOLL ROAD), FOLLOW I-90 W, I-84 AND I-91 S TO US-1 S/BOSTON POST RD IN MILFORD. TAKE EXIT 39A FROM I-95 S, MERGE ONTO I-90 W, (TOLL ROAD), KEEP LEFT TO STAY ON I-90 W, (TOLL ROAD), TAKE EXIT 78 TOWARD I-84 (TOLL ROAD), CONTINUE ONTO I-84, (TOLL ROAD), ENTERING CONNECTICUT, KEEP LEFT TO STAY ON I-84, USE THE LEFT 2 LANES TO TAKE EXIT 57 FOR CT-15 S TOWARD I-91 S/CHARTER OAK BRIDGE/N.Y.CITY, CONTINUE ONTO CT-15 S, CONTINUE ONTO CT-15 S/US-5 S, TAKE EXIT 86 TO MERGE ONTO I-91 S TOWARD NEW HAVEN/N.Y.CITY, TAKE THE EXIT ON THE LEFT ONTO I-95 S TOWARD N.Y. CITY, TAKE EXIT 39A TO MERGE ONTO US-1 S/BOSTON POST RD, TAKE CHERRY ST TO WAMPUS LN, MERGE ONTO US-1 S/BOSTON POST RD, SLIGHT LEFT TOWARD CHERRY ST, CONTINUE ONTO CHERRY ST, TURN LEFT ONTO GULF ST, SLIGHT LEFT ONTO OLD BUCKINGHAM AVE, SLIGHT LEFT ONTO WAMPUS LN, DESTINATION WILL BE ON THE LEFT



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3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T MOBILITY REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
4. CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN.

SBA SITE ID #: CT46128

72 HOURS

CALL BEFORE YOU DIG

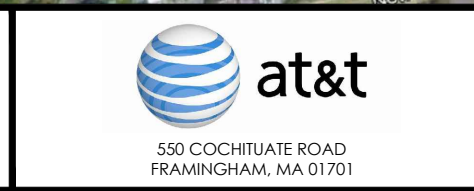
CALL TOLL FREE 1-800-922-4455
OR CALL 811

UNDERGROUND SERVICE ALERT



SITE NUMBER: CT1231
SITE NAME: MILFORD WAMPUS LANE

160 WAMPUS LANE
MILFORD, CT 06460
NEW HAVEN COUNTY



NO.	DATE	REVISIONS	BY	CHK	APP'D
3	04/07/23	ISSUED FOR CONSTRUCTION	MA	JC	DPH
2	03/02/22	ISSUED FOR CONSTRUCTION	CC	JC	DPH
1	12/15/21	ISSUED FOR REVIEW	AR	JC	DPH
0	11/17/21	ISSUED FOR REVIEW	AR	JC	DPH

SCALE: AS SHOWN DESIGNED BY: JC DRAWN BY: AR



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GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81 STANDARDS) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS AND #2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR – SAI
 SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER – AT&T MOBILITY
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
20. **APPLICABLE BUILDING CODES:**
 SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

**BUILDING CODE: IBC 2021 WITH 2022 CT STATE BUILDING CODE AMENDMENTS
 ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE (NFPA 70-2017)**

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

**TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-H,
 STRUCTURAL STANDARDS FOR STEEL**

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	GC	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BBU	BATTERY BACKUP UNIT	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
BTCW	BARE TINNED SOLID COPPER WIRE	MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BGR	BURIED GROUND RING	MIN	MINIMUM	TBRR	TO BE REMOVED AND REPLACED
BTS	BASE TRANSCEIVER STATION	P	PROPOSED	TYP	TYPICAL
E	EXISTING	NTS	NOT TO SCALE	UG	UNDER GROUND
EGB	EQUIPMENT GROUND BAR	RAO	RADIATION CENTER LINE (ANTENNA)	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		



**SITE NUMBER: CT1231
 SITE NAME: MILFORD WAMPUS LANE**

160 WAMPUS LANE
 MILFORD, CT 06460
 NEW HAVEN COUNTY



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0	11/17/21	ISSUED FOR REVIEW	AR	JC	DPH
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: JC	DRAWN BY: AR		



AT&T		
GENERAL NOTES (NSB)		
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STRUCTURAL NOTES:

- DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-H STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
- DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
- STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
- STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
- STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UNON.
- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
- FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
- CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D.I.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL", 14TH EDITION.
- INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
- UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
- EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
- EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
- WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
- ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
- NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
- SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

GENERAL: WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

NOTES:

- ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"Ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
- SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
- SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
- VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
- CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
- EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.

NOTES:

- REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
- PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
- PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
- HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
- ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
- AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

SPECIAL INSPECTION CHECKLIST

BEFORE CONSTRUCTION

CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	ENGINEER OF RECORD APPROVED SHOP DRAWINGS ¹
REQUIRED	MATERIAL SPECIFICATIONS REPORT ²
N/A	FABRICATOR NDE INSPECTION
REQUIRED	PACKING SLIPS ³

ADDITIONAL TESTING AND INSPECTIONS:

DURING CONSTRUCTION

CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS ⁴
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION ⁵
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT

ADDITIONAL TESTING AND INSPECTIONS:

AFTER CONSTRUCTION

CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS ⁶
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	PHOTOGRAPHS

ADDITIONAL TESTING AND INSPECTIONS:

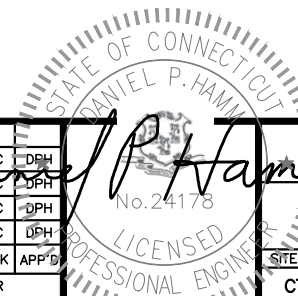


SITE NUMBER: CT1231
SITE NAME: MILFORD WAMPUS LANE

160 WAMPUS LANE
MILFORD, CT 06460
NEW HAVEN COUNTY



3	04/07/23	ISSUED FOR CONSTRUCTION	MA	JC	DPH
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NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: JC	DRAWN BY: AR		



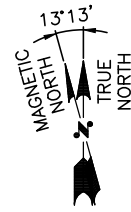
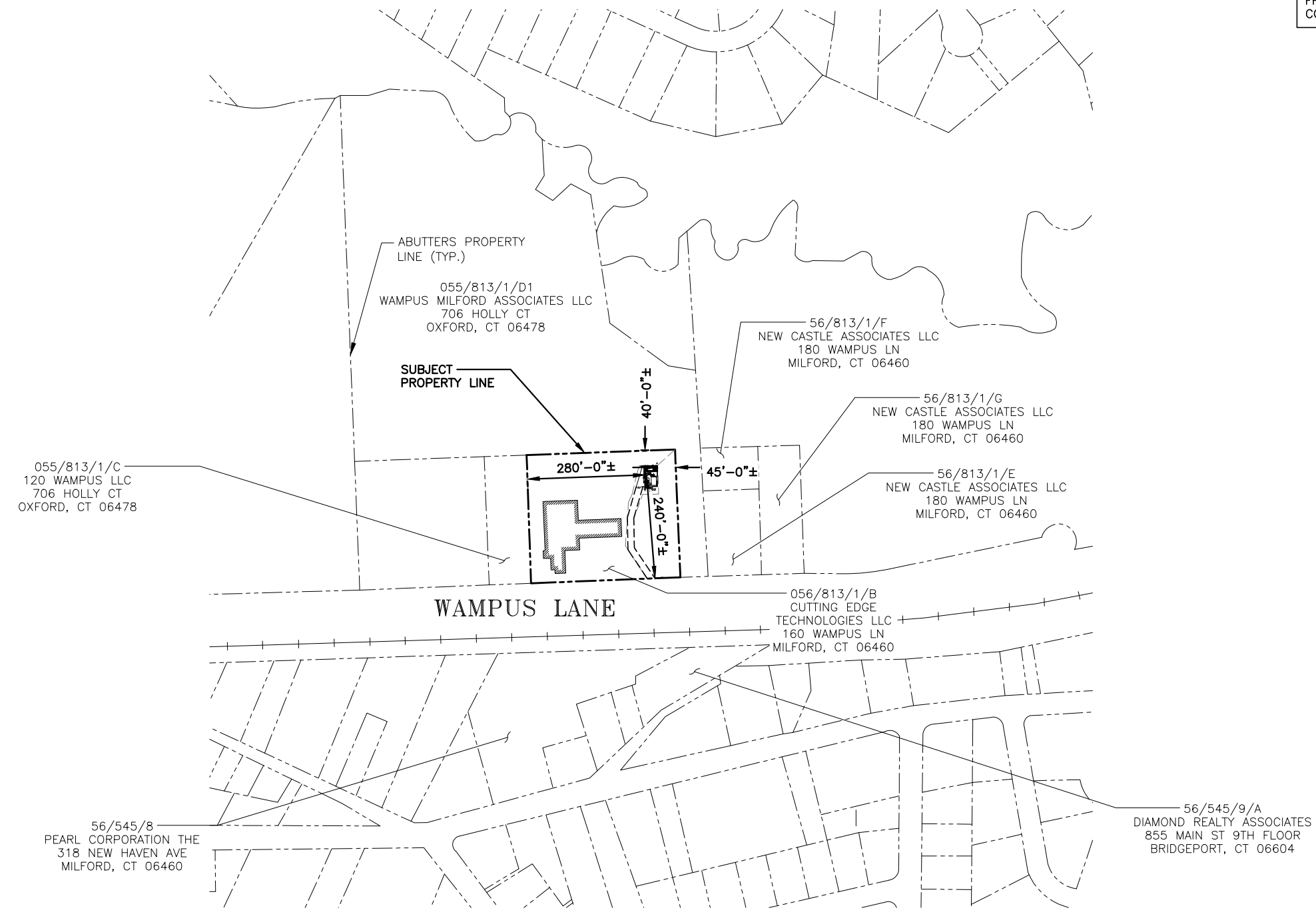
AT&T

STRUCTURAL NOTES
(NSB)

SITE NUMBER	DRAWING NUMBER	REV
CT1231	SN-1	3

ZONING INFORMATION		
ZONING DISTRICT:	INDUSTRIAL DISTRICT: ID	
DIMENSIONS REQUIREMENTS:	REQUIRED	PROPOSED
ANTENNA SETBACKS		
FRONT YARD SETBACK:	30'-0"	240'-0"±
SIDE YARD SETBACK:	0'-0"	280'-0"±
SIDE YARD SETBACK:	0'-0"	45'-0"±
REAR YARD SETBACK:	0'-0"	40'-0"±

INFORMATION TAKEN FROM PLANS BY CONNECTICUT GIS



PLOT PLAN
 22x34 SCALE: 1"=80'
 11x17 SCALE: 1"=160'

1
C-1

0 40' 80' 160' 240'

TEP
NORTHEAST
 TEP OP&CO, LLC.
 45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845
 TEL: (978) 557-5553

SNI
 12 INDUSTRIAL WAY
 SALEM, NH 03079

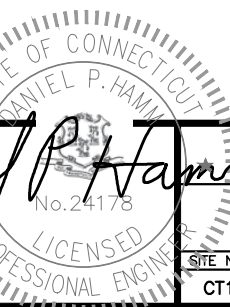
SITE NUMBER: CT1231
SITE NAME: MILFORD WAMPUS LANE

160 WAMPUS LANE
 MILFORD, CT 06460
 NEW HAVEN COUNTY

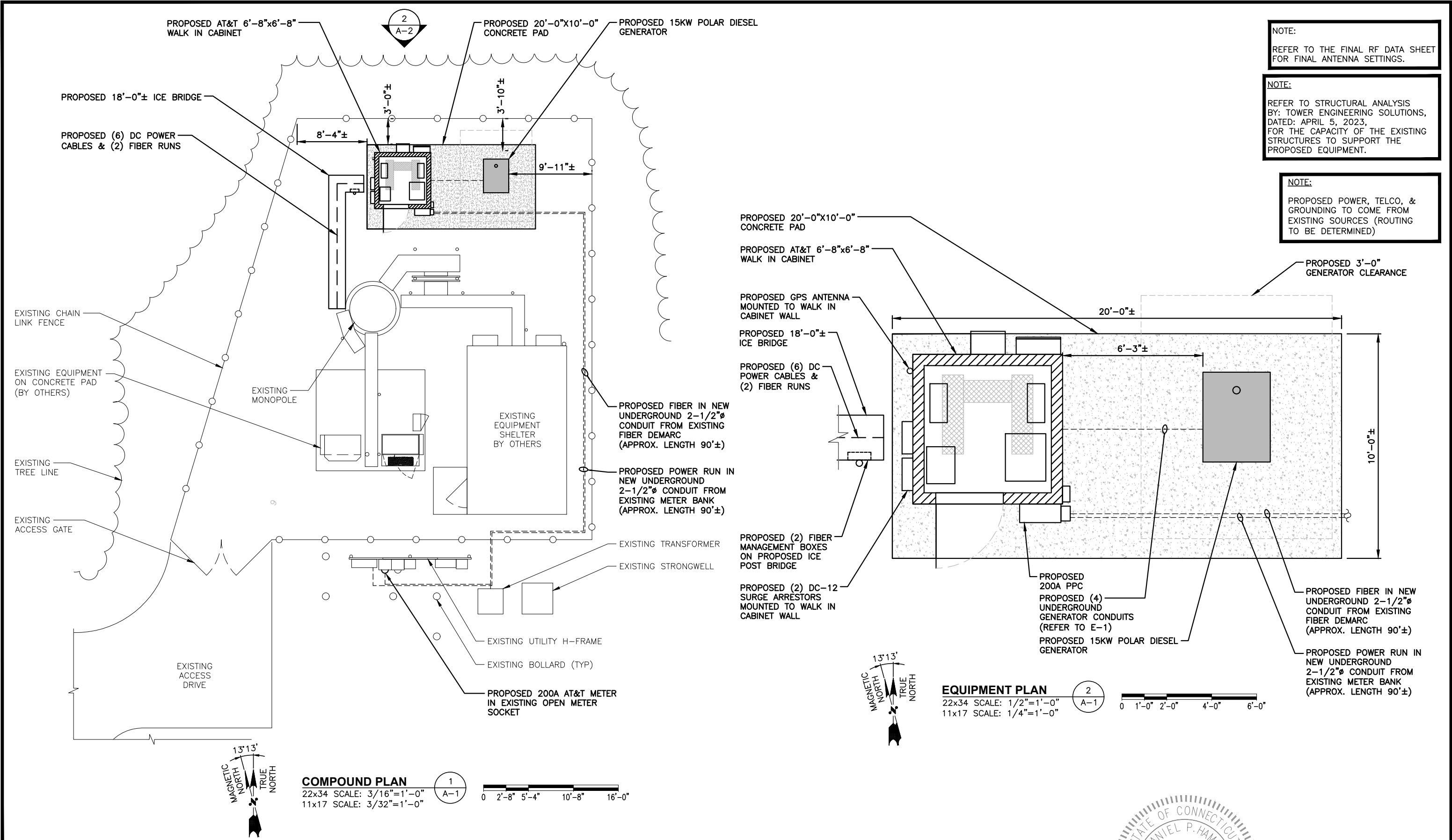
at&t
 550 COCHITUATE ROAD
 FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
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AT&T	
PLOT PLAN (NSB)	
SITE NUMBER	DRAWING NUMBER
CT1231	C-1
REV	3



NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
REFER TO STRUCTURAL ANALYSIS BY: TOWER ENGINEERING SOLUTIONS, DATED: APRIL 5, 2023, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:
PROPOSED POWER, TELCO, & GROUNDING TO COME FROM EXISTING SOURCES (ROUTING TO BE DETERMINED)

COMPOUND PLAN
22x34 SCALE: 3/16"=1'-0"
11x17 SCALE: 3/32"=1'-0"

EQUIPMENT PLAN
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

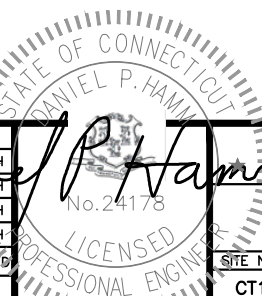


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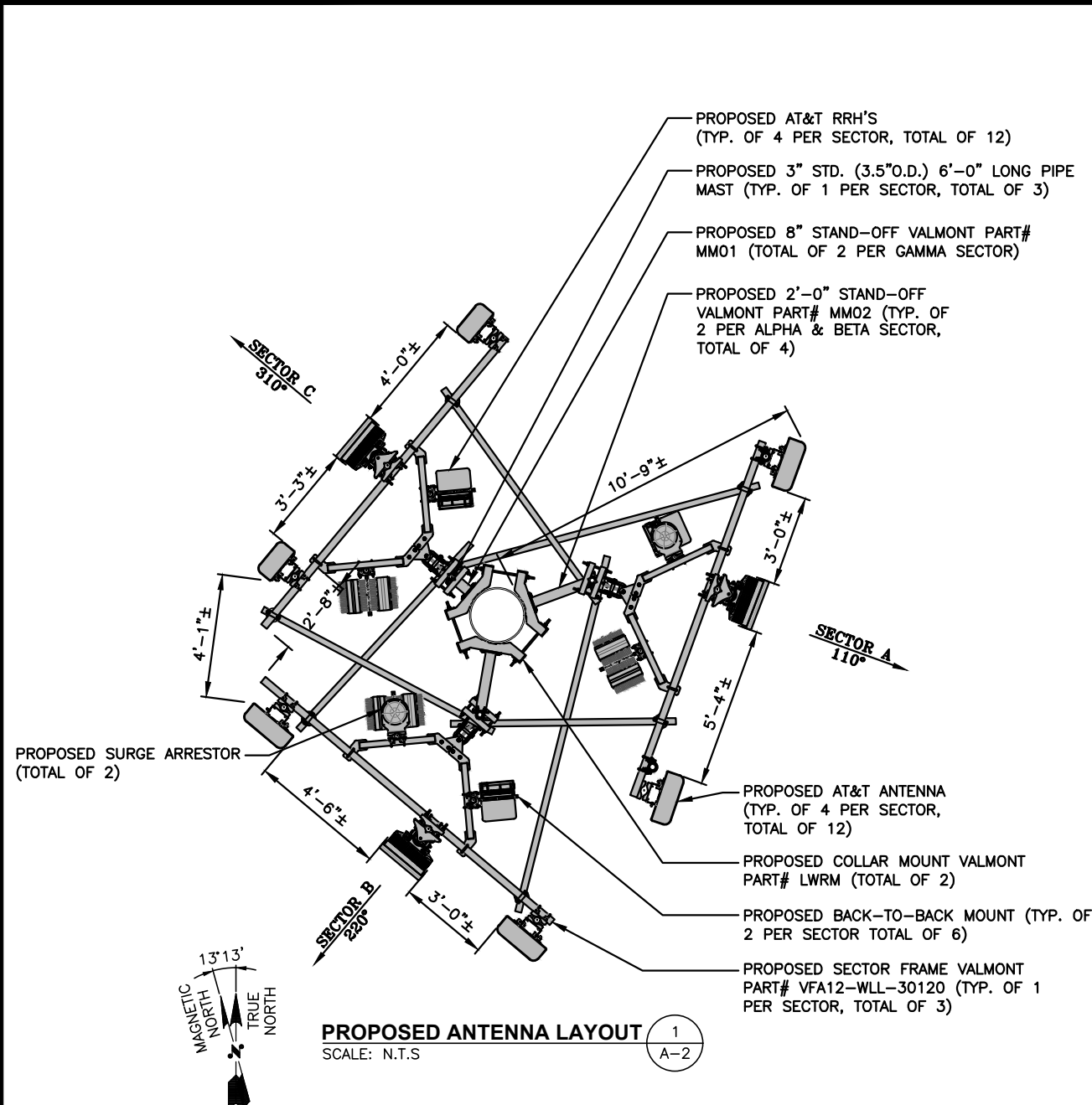
160 WAMPUS LANE
MILFORD, CT 06460
NEW HAVEN COUNTY



3	04/07/23	ISSUED FOR CONSTRUCTION	MA	JC	DPH
2	03/02/22	ISSUED FOR CONSTRUCTION	CC	JC	DPH
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NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: JC	DRAWN BY: AR		



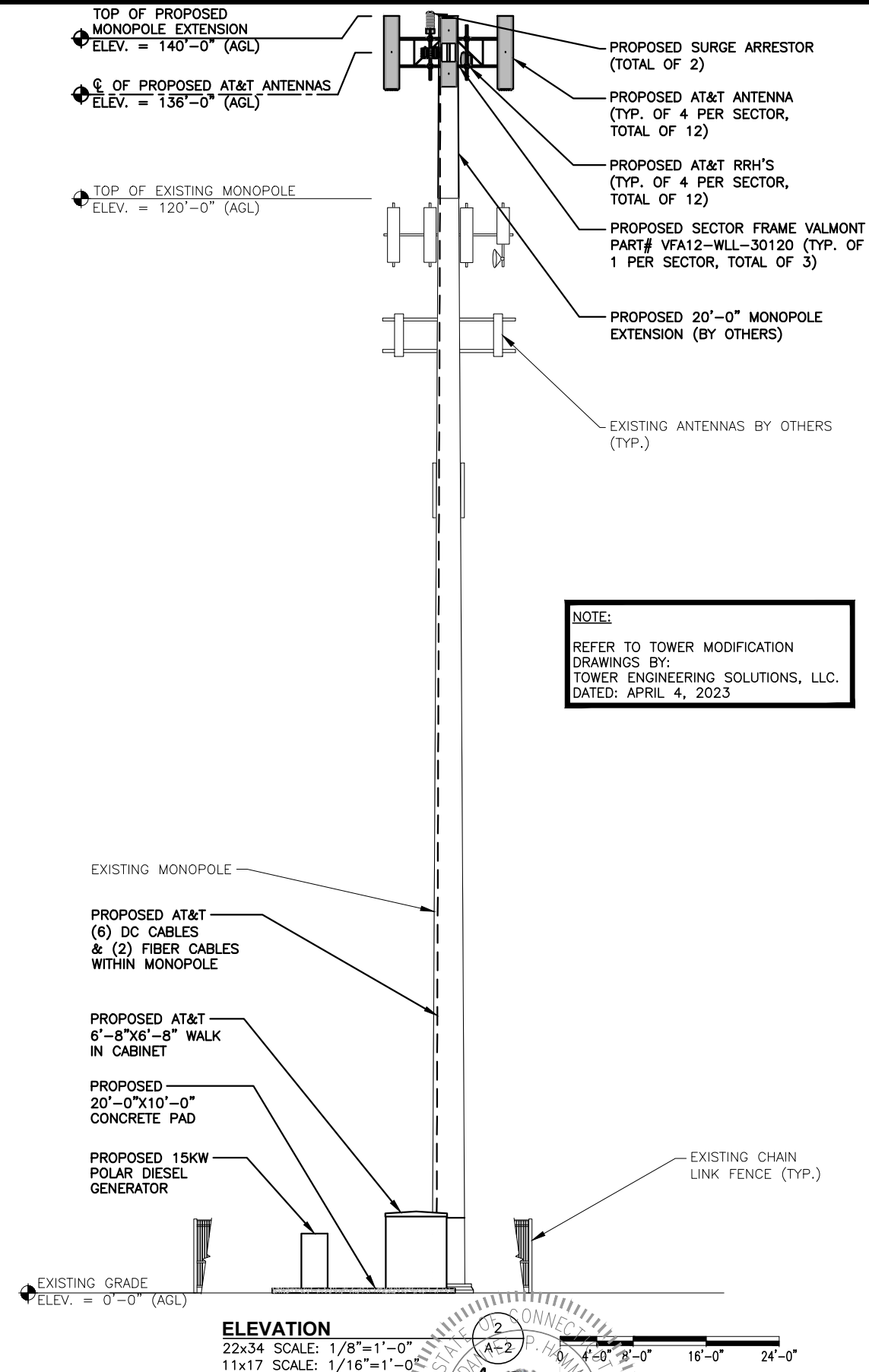
AT&T	
COMPOUND & EQUIPMENT PLANS (NSB)	
SITE NUMBER	DRAWING NUMBER
CT1231	A-1
REV	3



NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: TEP NORTHEAST, OPCO LLC. DATED: DECEMBER 13, 2022. (REV. 1)

NOTE:
REFER TO STRUCTURAL ANALYSIS BY: TOWER ENGINEERING SOLUTIONS, DATED: APRIL 5, 2023, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.



NOTE:
REFER TO TOWER MODIFICATION DRAWINGS BY: TOWER ENGINEERING SOLUTIONS, LLC. DATED: APRIL 4, 2023



SITE NUMBER: CT1231
SITE NAME: MILFORD WAMPUS LANE

160 WAMPUS LANE
MILFORD, CT 06460
NEW HAVEN COUNTY



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SCALE: AS SHOWN DESIGNED BY: JC DRAWN BY: AR



AT&T	
ANTENNA LAYOUT & ELEVATION (NSB)	
SITE NUMBER	DRAWING NUMBER
CT1231	A-2
REV	3

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: TEP NORTHEAST, OPCO LLC. DATED: DECEMBER 13, 2022. (REV. 1)

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
REFER TO STRUCTURAL ANALYSIS BY: TOWER ENGINEERING SOLUTIONS, DATED: APRIL 5, 2023, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

PROPOSED 2' STAND-OFF VALMONT PART# MM02 (TYP. OF 2 PER BETA & GAMMA SECTORS, TOTAL OF 4)

PROPOSED 8" STAND-OFF VALMONT PART# MM01 (TOTAL OF 2 PER ALPHA SECTOR)

PROPOSED COLLAR MOUNT VALMONT PART# LWRM (TOTAL OF 2)

PROPOSED 3" STD. (3.5" O.D.) 7'-0" LONG PIPE MAST (TYP. OF 1 PER SECTOR, TOTAL OF 3)

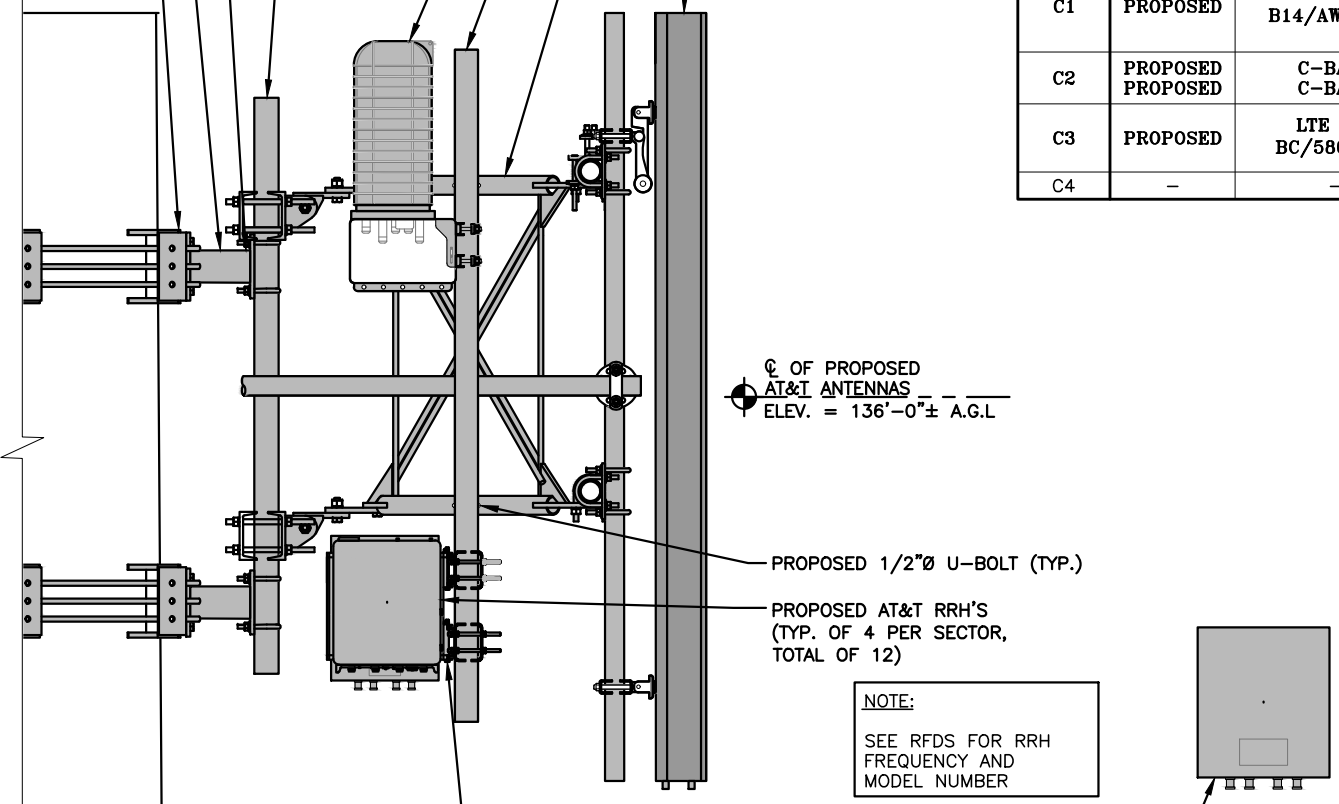
PROPOSED SURGE ARRESTOR (TOTAL OF 2)

PROPOSED 2-1/2" STD. (2.88" O.D.) MOUNTING PIPE (7'-0" LONG PIPE) (TYP. OF 2 PER SECTOR, TOTAL OF 6)

PROPOSED SECTOR FRAME VALMONT PART# VFA12-WLL-30120 (TYP. OF 1 PER SECTOR, TOTAL OF 3)

PROPOSED AT&T ANTENNAS (TYP. OF 4 PER SECTOR, TOTAL OF 12)

ANTENNA SCHEDULE										
SECTOR	EXISTING/PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA Ø HEIGHT	AZIMUTH	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	PROPOSED	LTE B14/AWS/WCS	TPA65R-BU8DA-K	96X21X7.8	136'-0"	110°	(P) (1) 4478 B14 (P) (1) 4415 B30	18.1X13.4X8.3 16.5X13.4X5.9	(P) (6) DC POWER CABLES (P) (2) FIBER RUN (LENGTH=170'±)	(P) (2) RAYCAP DC9-48-60-24-8C-EV
A2	PROPOSED	C-BAND	AIR6449 B77D	30.4X15.9X8.1	136'-0"	110°	-	-		
A3	PROPOSED	LTE 700 BC/580/PCS	DMP65R-BU8DA-K	96X20.7X7.7	136'-0"	110°	(P) (1) 4449 B5/B12 (P) (1) 8843 B2/B66A	17.9X13.2X9.7 14.9X13.2X10.9		
A4	-	-	-	-	-	-	-	-		
B1	PROPOSED	LTE B14/AWS/WCS	TPA65R-BU8DA-K	96X21X7.8	136'-0"	220°	(P) (1) 4478 B14 (P) (1) 4415 B30	18.1X13.4X8.3 16.5X13.4X5.9		
B2	PROPOSED	C-BAND	AIR6449 B77D	30.4X15.9X8.1	136'-0"	220°	-	-		
B3	PROPOSED	LTE 700 BC/580/PCS	DMP65R-BU8DA-K	96X20.7X7.7	136'-0"	220°	(P) (1) 4449 B5/B12 (P) (1) 8843 B2/B66A	17.9X13.2X9.7 14.9X13.2X10.9		
B4	-	-	-	-	-	-	-	-		
C1	PROPOSED	LTE B14/AWS/WCS	TPA45R-KU8A	98.7X15.4X8.2	136'-0"	310°	(P) (1) 4478 B14 (P) (1) 4415 B30	18.1X13.4X8.3 16.5X13.4X5.9		
C2	PROPOSED	C-BAND	AIR6449 B77D	30.4X15.9X8.1	136'-0"	310°	-	-		
C3	PROPOSED	LTE 700 BC/580/PCS	TPA45R-KU8A	98.7X15.4X8.2	136'-0"	310°	(P) (1) 4449 B5/B12 (P) (1) 8843 B2/B66A	17.9X13.2X9.7 14.9X13.2X10.9		
C4	-	-	-	-	-	-	-	-		



Ø OF PROPOSED AT&T ANTENNAS
ELEV. = 136'-0"± A.G.L.

PROPOSED 1/2" Ø U-BOLT (TYP.)

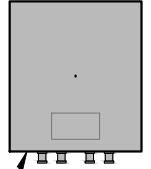
PROPOSED AT&T RRH'S (TYP. OF 4 PER SECTOR, TOTAL OF 12)

NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER

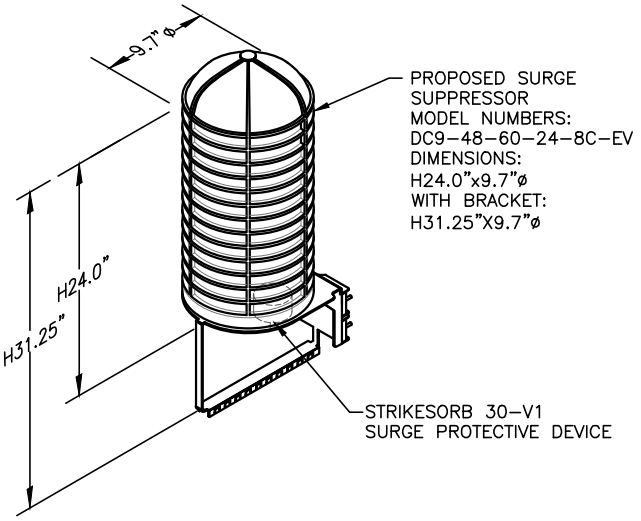
PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED RRUS DETAIL
SCALE: N.T.S.

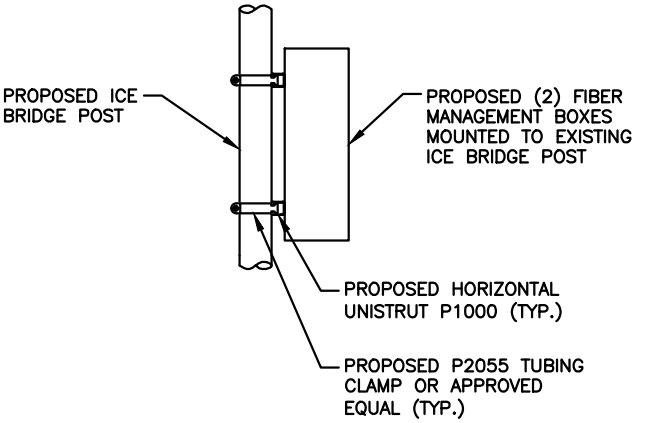


FINAL ANTENNA SCHEDULE
SCALE: N.T.S.



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL
SCALE: N.T.S.



PROPOSED FIBER MANAGEMENT BOX MOUNTING DETAIL
SCALE: N.T.S.

NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER

PROPOSED SECTOR FRAME, ANTENNA, SURGE SUPPRESSOR & RRH'S MOUNTING DETAIL
SCALE: N.T.S.

2
A-3

3
A-3

4
A-3

5
A-3



SITE NUMBER: CT1231
SITE NAME: MILFORD WAMPUS LANE

160 WAMPUS LANE
MILFORD, CT 06460
NEW HAVEN COUNTY

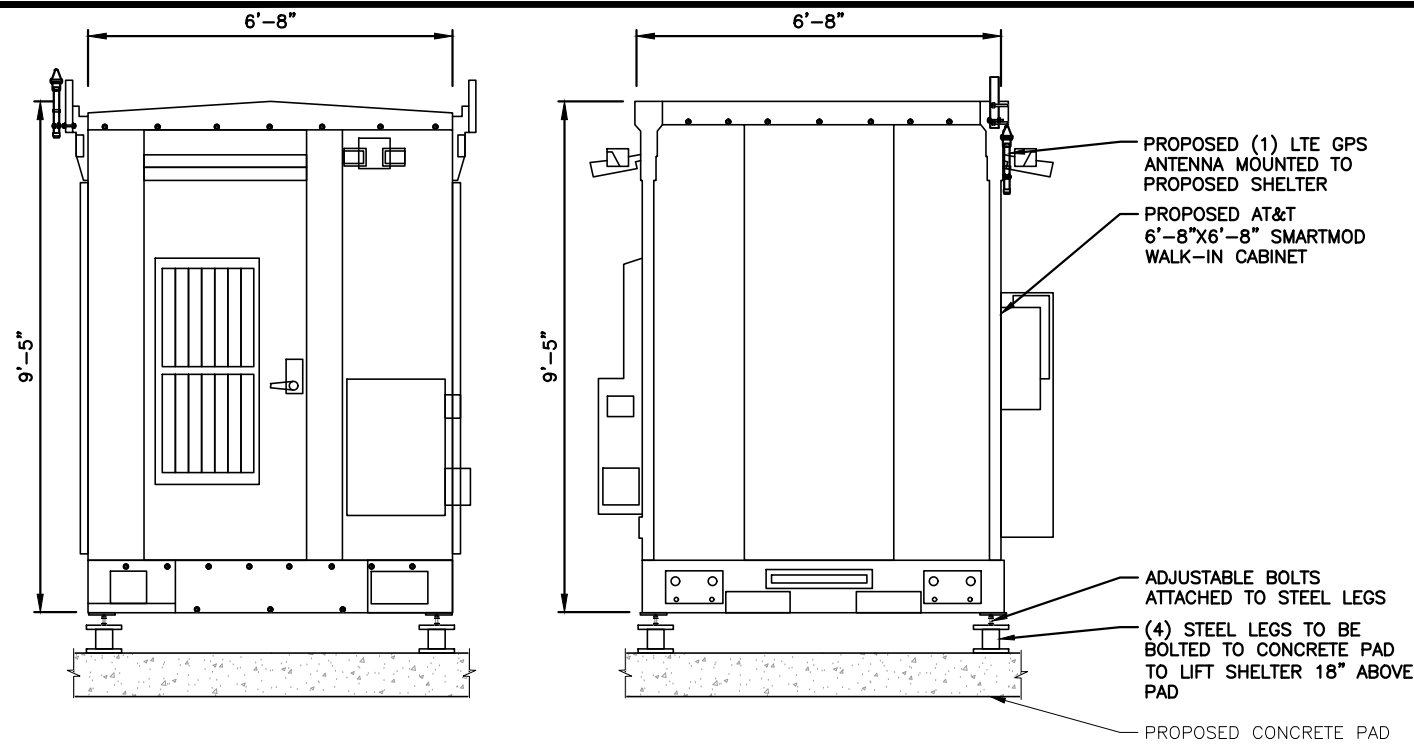


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SITE NUMBER	DRAWING NUMBER	REV
CT1231	A-3	3

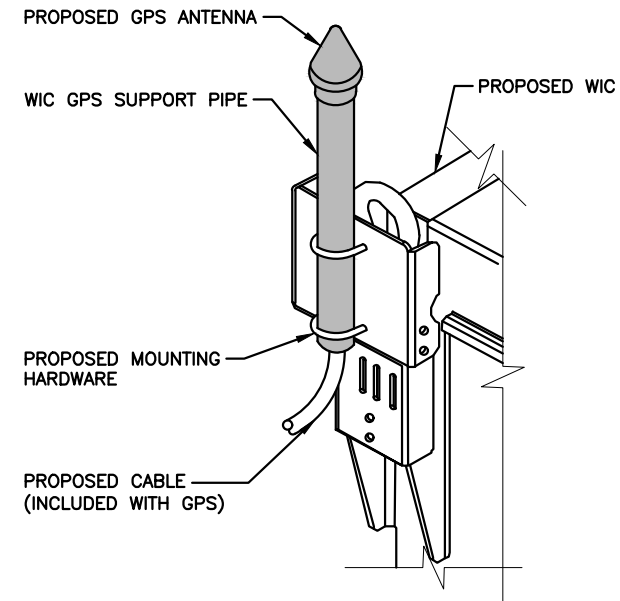
AT&T
DETAILS
(NSB)



NOTE:
SHELTER SHALL BE MOUNTED PER
MANUFACTURER'S SPECIFICATIONS.

TYPICAL SHELTER DETAIL
SCALE: N.T.S.

1
A-4

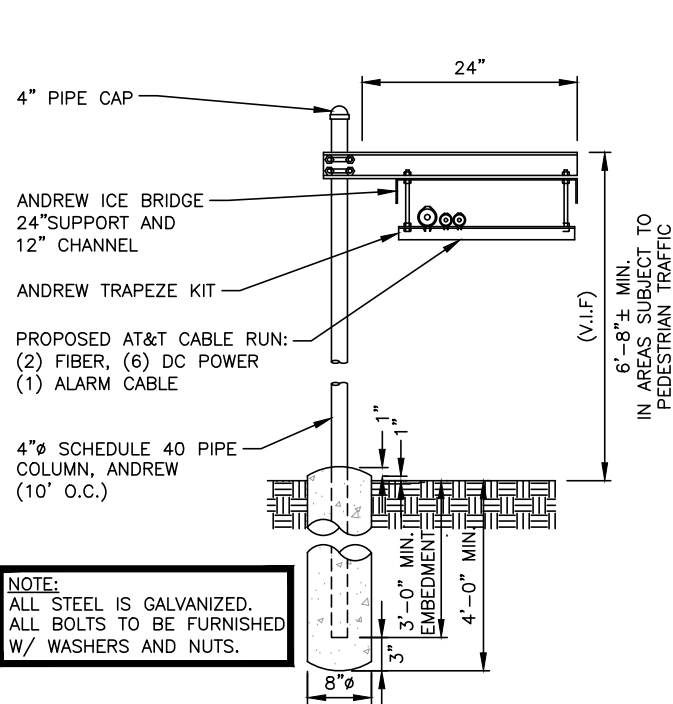


GPS MOUNTING DETAIL
N.T.S.

2
A-4

FOUNDATION NOTES & CONCRETE SPECIFICATIONS:

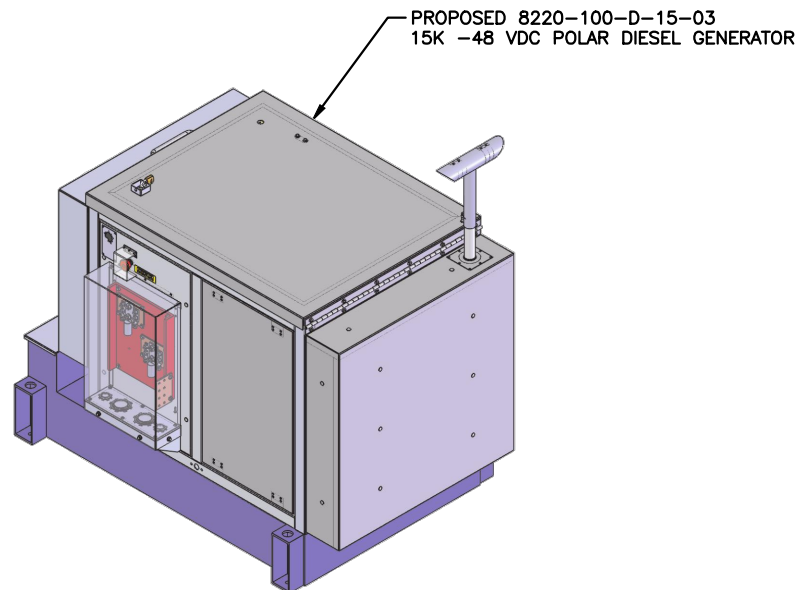
- FOUNDATION AREA SHALL BE EXCAVATED TO THE DEPTH AND DIMENSIONS SHOWN ON THE PLANS. EXISTING LEDGE AND ALL OTHER EXISTING UNSUITABLE MATERIAL SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE. THE SUBGRADE SHALL BE ROLLED WITH A 1-TON, VIBRATORY, WALK-BEHIND ROLLER AT A SPEED OF LESS THAN 2 FPS, 6 PASSES MINIMUM, TO PROVIDE UNYIELDING SURFACE.
- UNDERCUT SOFT OR "WEAVING" AREAS A MINIMUM OF 12 INCHES DEEP. BACKFILL UNDERCUT AREA WITH FILL MEETING THE SPECIFICATIONS OF STRUCTURAL FILL.
- CONCRETE TO HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'c)=4000 psi. CONCRETE TO BE AIR ENTRAINED, DESIRED AIR CONTENT TO BE 6% (PLUS OR MINUS 2%)
- REINFORCING BAR TO BE ASTM A615 GRADE 60.
- WELDED WIRE FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A185. WIRES FOR FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A82.
- COORDINATE WITH MANUFACTURER OF PREFABRICATED SHELTER FOR LOCATION OF ATTACHMENTS TO BASE SLAB.
- ALL REINFORCING TO HAVE MINIMUM CONCRETE COVER PER ACI SPECIFICATIONS.
- ALL CONCRETE MATERIALS AND WORKMANSHIP SHALL CONFORM TO LATEST EDITION OF ACI 318 AND APPLICABLE STATE BUILDING CODE.



NOTE:
ALL STEEL IS GALVANIZED.
ALL BOLTS TO BE FURNISHED
W/ WASHERS AND NUTS.

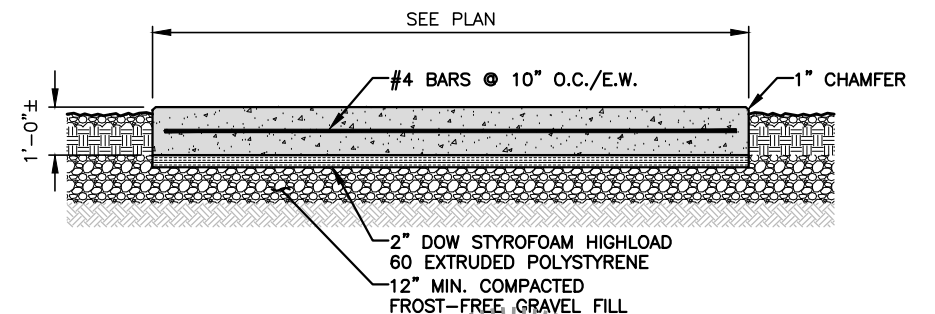
ICE BRIDGE DETAIL
SCALE: N.T.S.

3
A-4



PROPOSED 15kW DIESEL POLAR GENERATOR
SCALE: N.T.S.

4
A-4



CONCRETE PAD DETAIL
22x34 SCALE: N.T.S.

5
A-4



SITE NUMBER: CT1231
SITE NAME: MILFORD WAMPUS LANE

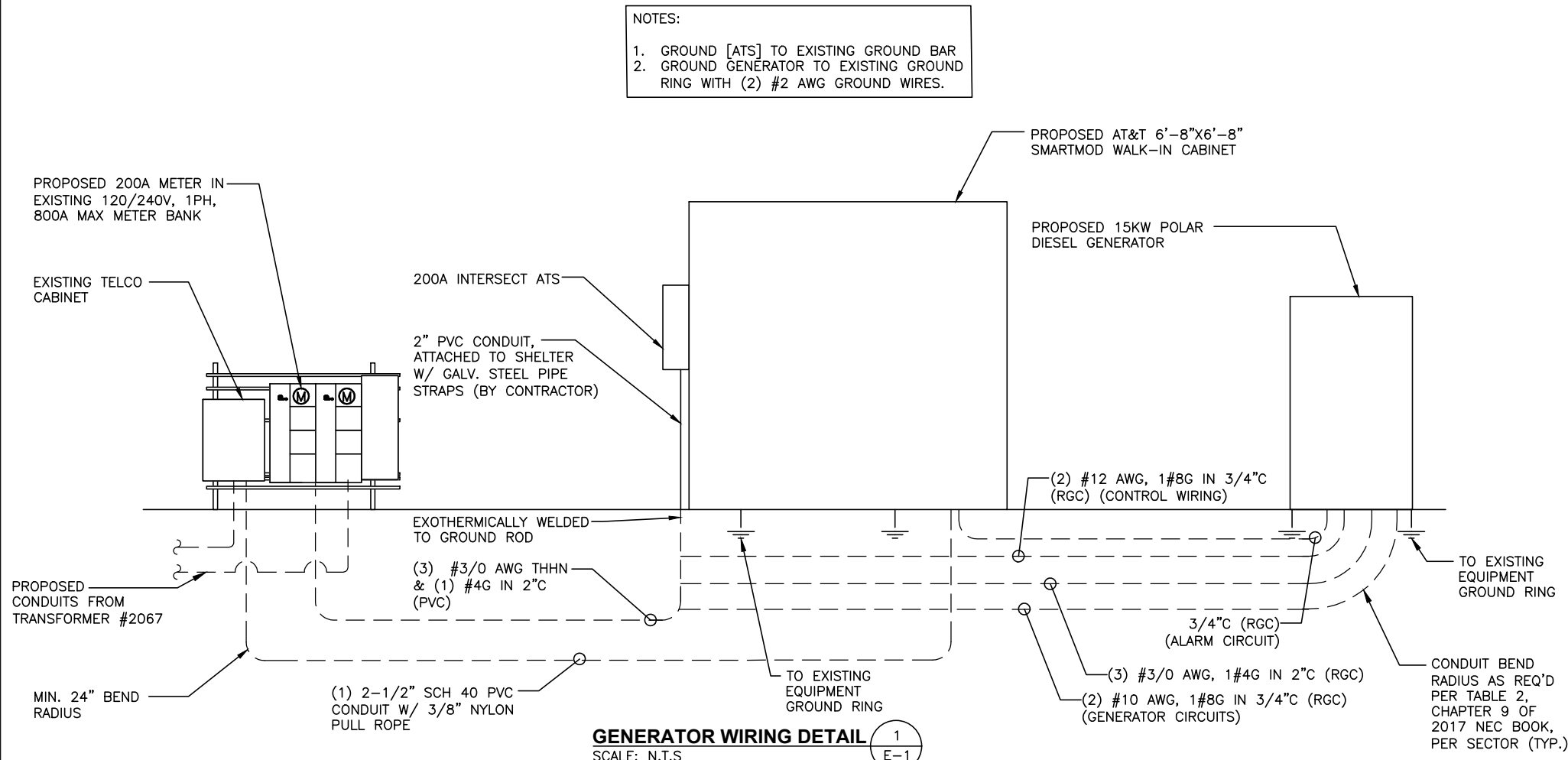
160 WAMPUS LANE
MILFORD, CT 06460
NEW HAVEN COUNTY



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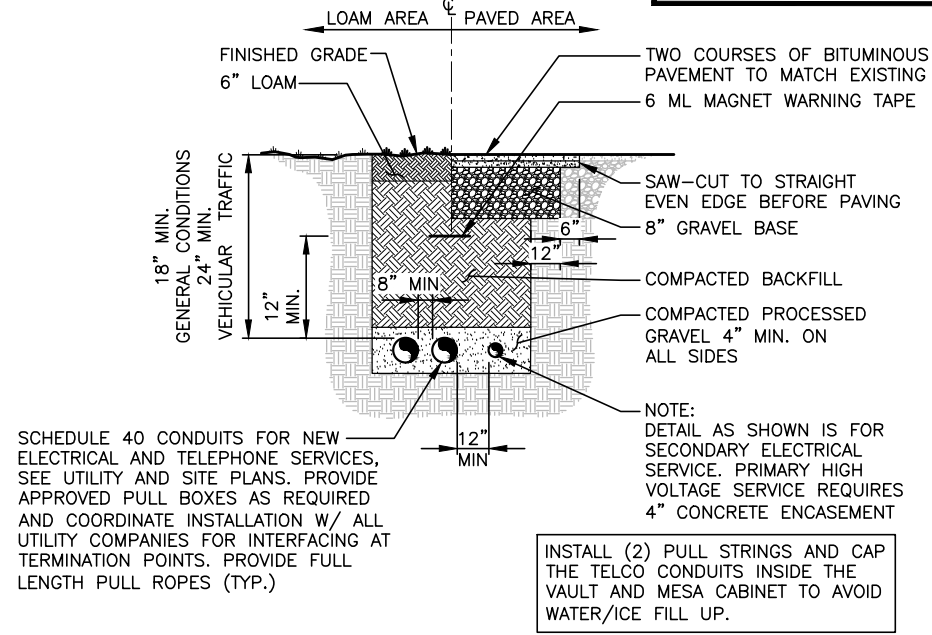
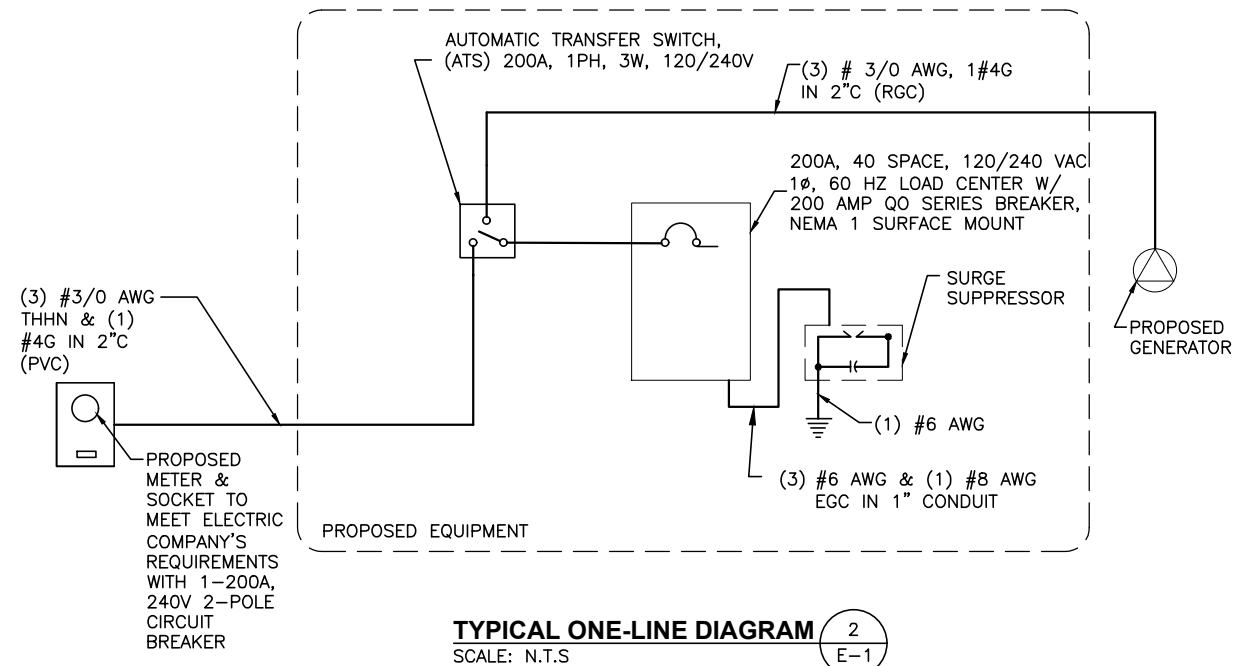
AT&T	
DETAILS (NSB)	
SITE NUMBER	DRAWING NUMBER
CT1231	A-4
REV	3



ELECTRICAL LEGEND & ABBREVIATIONS

	NEW PANEL BOARD, SURFACE MOUNTED
	EXISTING PANEL BOARD, SURFACE MOUNTED
	DRY TYPE TRANSFORMER
	METER
	CIRCUIT BREAKER
	NON-FUSIBLE DISCONNECT SWITCH, MOUNTED 54" A.F.F.
	FUSIBLE DISCONNECT SWITCH, MOUNTED 54" A.F.F.
	TRANSIENT VOLTAGE SURGE SUPPRESSOR WITH BUILT-IN FUSES, SURFACE MOUNTED
	DUPLEX OUTLET, SURFACE MOUNTED, 20 AMPS, 125 VOLTS, SINGLE PHASE
	JUNCTION BOX, SURFACE MOUNTED 18" A.F.F.
	EXPOSED WIRING
	HOME RUNS, MINIMUM 2#10 + 1#8G IN 3/4" CONDUIT U.O.N.
A.F.F.	ABOVE FINISHED FLOOR
U.O.N.	UNLESS OTHERWISE NOTED
WP	WEATHERPROOF
GFI	GROUND FAULT INTERRUPTER
A	AMPERE
V	VOLT
KWH	KILOWATT - HOUR
C	CONDUIT
PVC	POLYVINYL CHLORIDE
HZ	HERTZ
PH, #	PHASE
W	WATTS
NEC	NATIONAL ELECTRIC CODE
PPC	POWER PROTECTION CABINET
UL	UNDERWRITER LABORATORIES
PTS	POWER TRANSFER SWITCH
QO	QUICK OPEN GALVANIZED RIGID CONDUIT
G	GROUND
	GROUND
MGB	MASTER GROUND BAR
EGB	EQUIPMENT GROUND BAR
	GROUND COPPER WIRE, SIZE AS NOTED
	EXPOSED WIRING
	COAXIAL CABLE
	EXOTHERMIC (CAD WELD) OR MECHANICAL (COMPRESSION TYPE) CONNECTION
PF	POWER FACTOR

- ### ELECTRICAL AND GROUNDING NOTES
- ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
 - ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
 - THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
 - GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
 - ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
 - BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
 - ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THININSULATION.
 - RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
 - RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
 - WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
 - ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
 - PPC SUPPLIED BY PROJECT OWNER.
 - GROUNDING SHALL COMPLY WITH NEC ART. 250.
 - GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
 - USE #6 AWG COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 AWG SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
 - ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
 - ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 AWG WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
 - CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
 - APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
 - BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.
 - BOND ANTENNA EGB'S AND MGB TO GROUND RING.
 - CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS MAXIMUM RESISTANCE REQUIRED.
 - CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE-TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.
 - ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2" OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL, MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50.



TEP
NORTHEAST
TEP OP&CO, LLC.
45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845
TEL: (978) 557-5553

SAI
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT1231
 SITE NAME: MILFORD WAMPUS LANE

160 WAMPUS LANE
 MILFORD, CT 06460
 NEW HAVEN COUNTY

550 COCHITUATE ROAD
 FRAMINGHAM, MA 01701

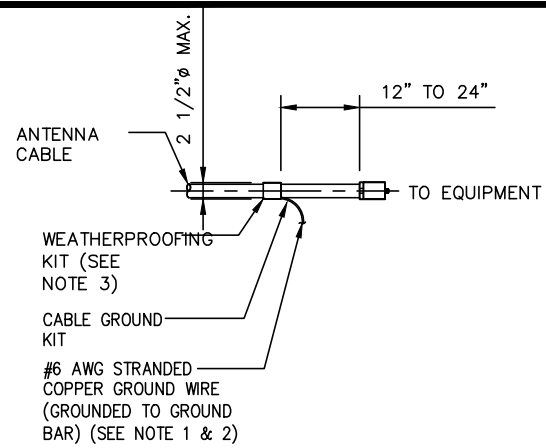
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DANIEL P. HAMM
 No. 24178
 LICENSED PROFESSIONAL ENGINEER

AT&T

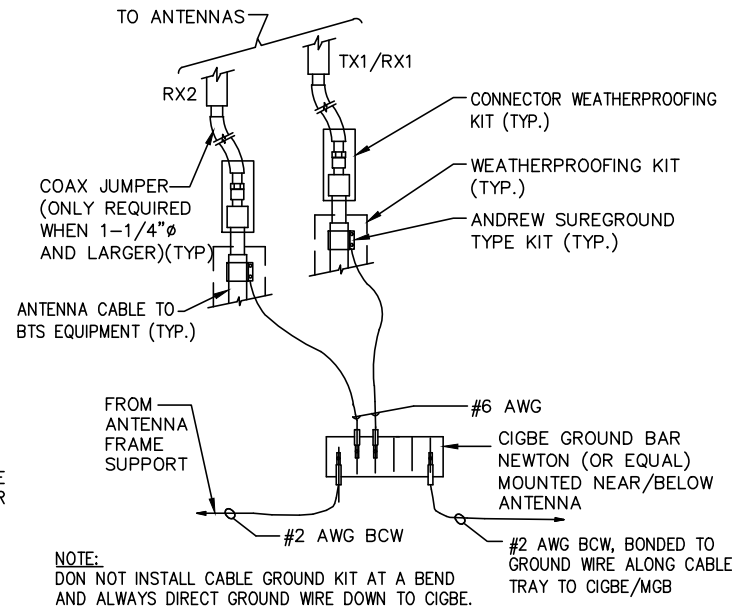
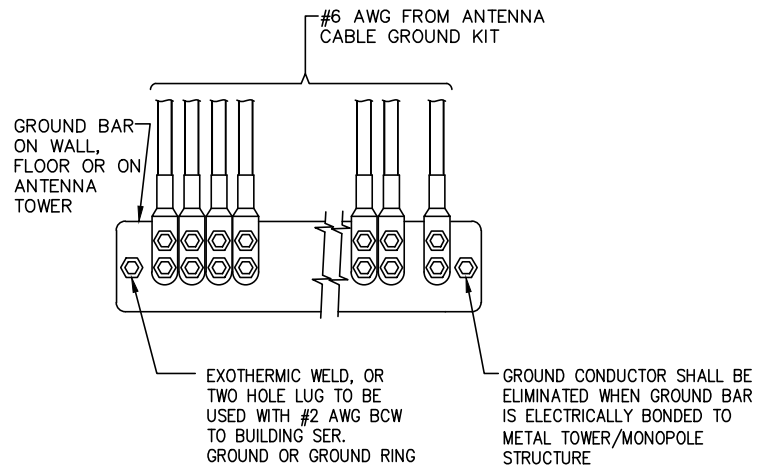
ELECTRICAL NOTES & ONE-LINE DIAGRAM (NSB)

SITE NUMBER	DRAWING NUMBER	REV
CT1231	E-1	3



NOTES:

- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
- GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
- WEATHER PROOFING SHALL BE TWO-PART TAPE SUPPLIED WITH KIT. COLD SHRINK SHALL NOT BE USED.



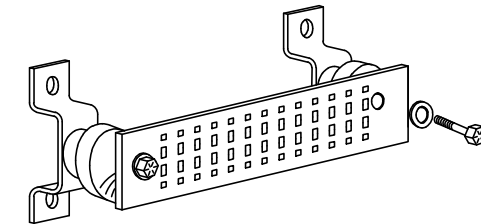
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

- CABLE ENTRY PORTS (HATCH PLATES) (#2 AWG)
- GENERATOR FRAMEWORK (IF AVAILABLE) (#2 AWG)
- TELCO GROUND BAR
- COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2 AWG)
- +24V POWER SUPPLY RETURN BAR (#2 AWG)
- 48V POWER SUPPLY RETURN BAR (#2 AWG)
- RECTIFIER FRAMES.

SECTION "A" - SURGE ABSORBERS

- INTERIOR GROUND RING (#2 AWG)
- EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2 AWG)
- METALLIC COLD WATER PIPE (IF AVAILABLE) (#2 AWG)
- BUILDING STEEL (IF AVAILABLE) (#2 AWG)



CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE

SCALE: N.T.S.

INSTALLATION OF GROUND WIRE TO GROUND BAR

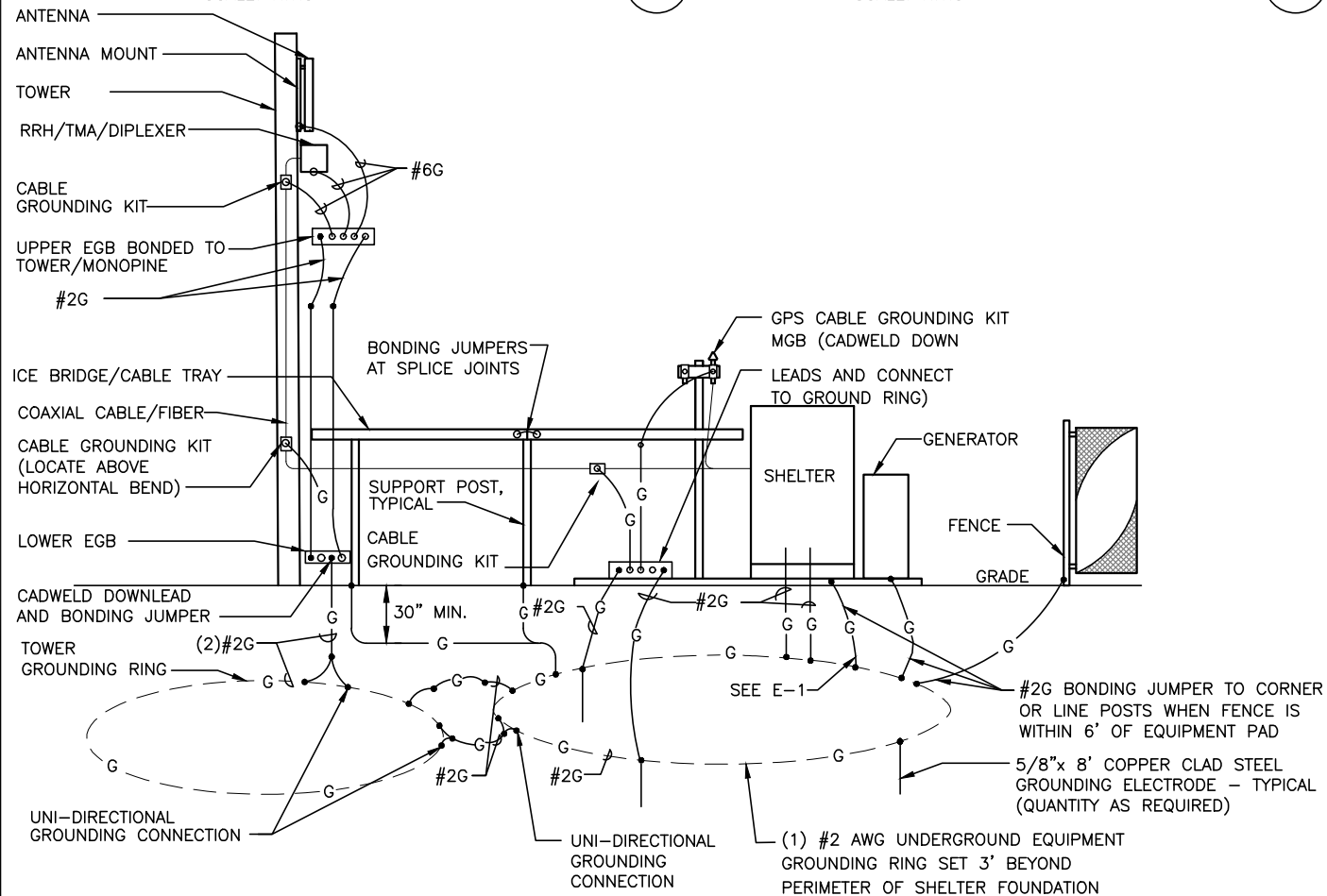
SCALE: N.T.S.

INSTALLATION OF GROUND WIRE TO GROUNDING BAR TOWER

SCALE: N.T.S.

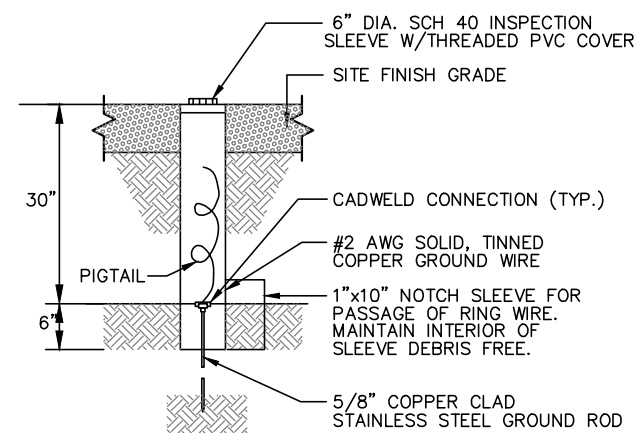
GROUND BAR - DETAIL

SCALE: N.T.S.



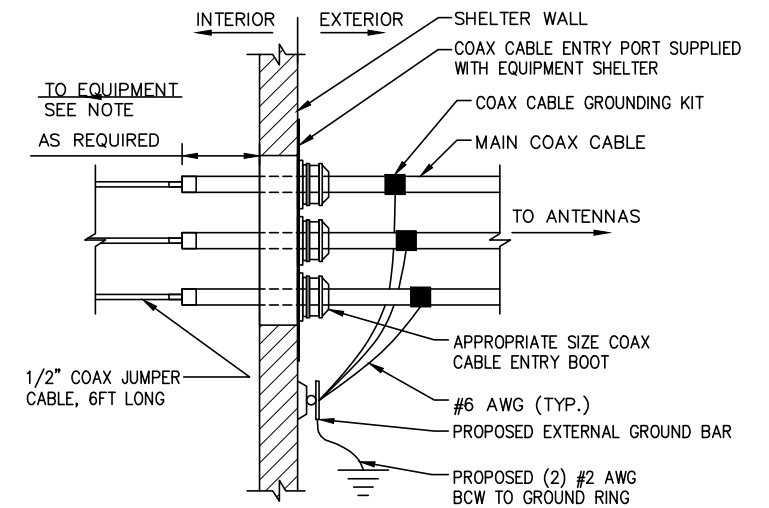
GROUNDING ONE-LINE DIAGRAM

SCALE: N.T.S.



GROUND ROD TEST WELL DETAIL

SCALE: N.T.S.



INSTALLATION OF GROUND WIRE TO GROUND BAR

SCALE: N.T.S.

NOTE: EXTEND MAIN COAXIAL CABLE AS CLOSE AS POSSIBLE TO BTS EQUIPMENT. MAX LENGTH OF BTS JUMPER IS 6 FT.



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160 WAMPUS LANE
MILFORD, CT 06460
NEW HAVEN COUNTY



550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

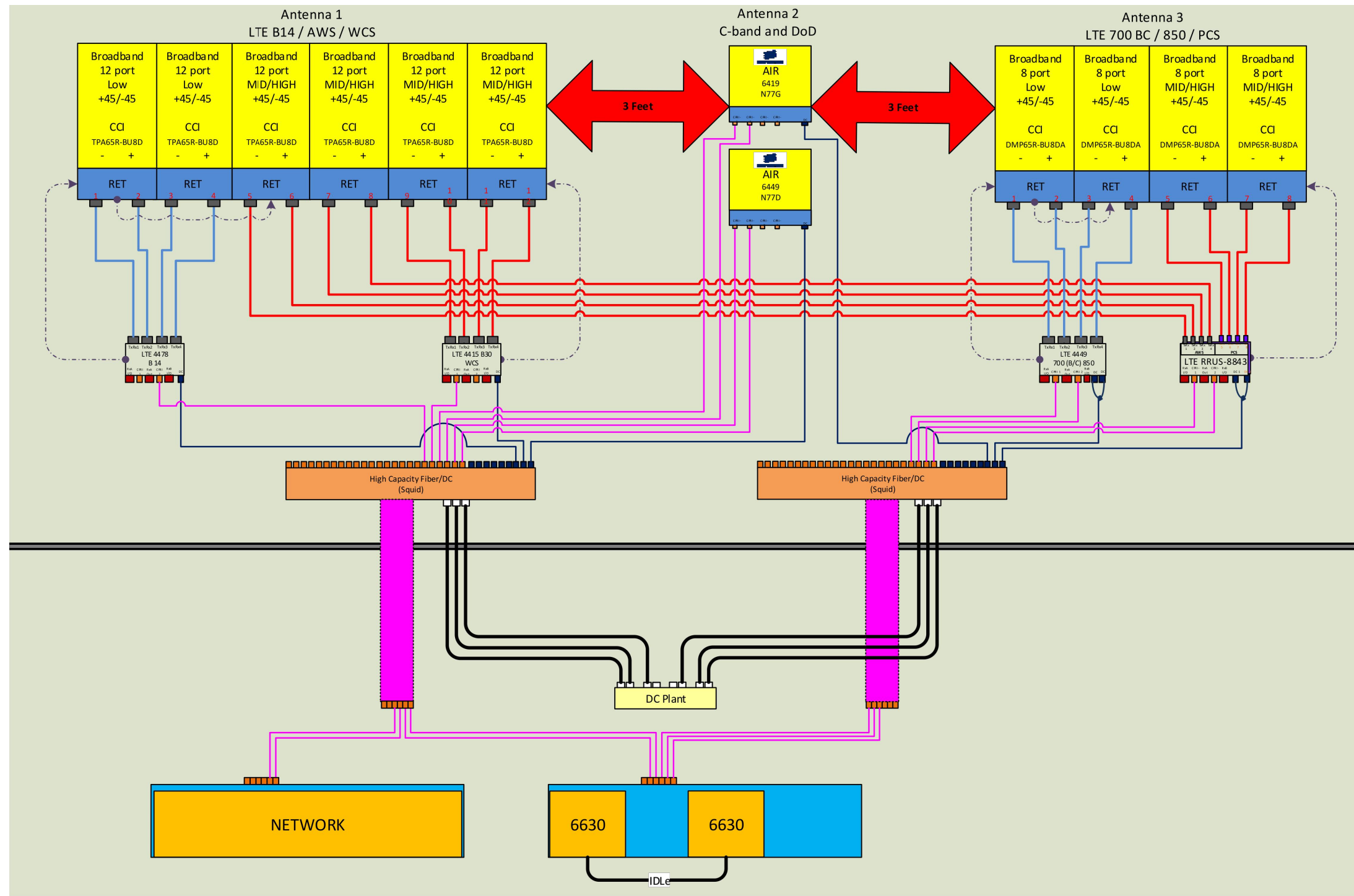
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AT&T

GROUNDING DETAILS (NSB)

SITE NUMBER	DRAWING NUMBER	REV
CT1231	G-1	3



**RF PLUMBING DIAGRAM
(ALPHA & BETA SECTORS)**
SCALE: N.T.S.

1
RF-1

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.



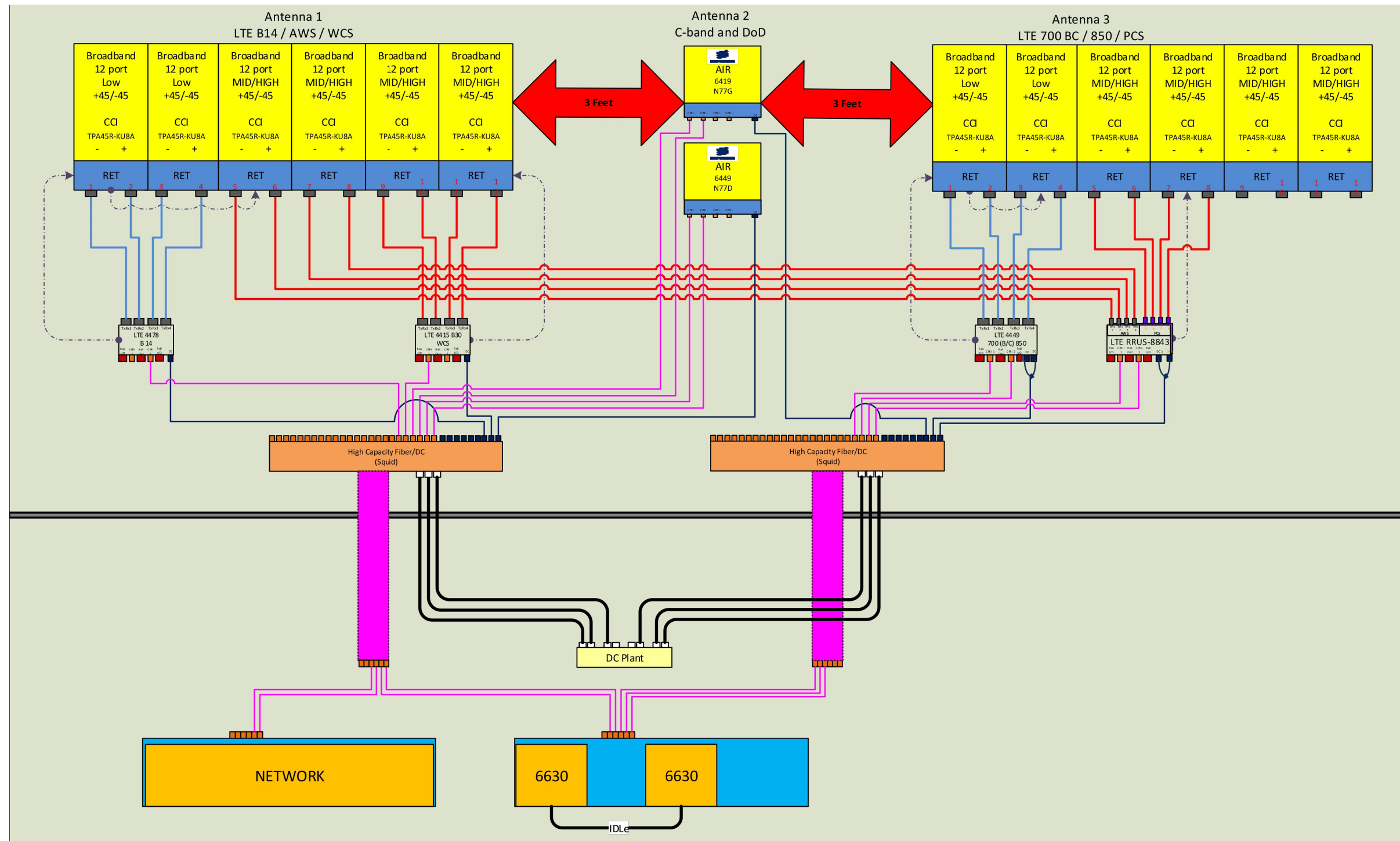
SITE NUMBER: CT1231
SITE NAME: MILFORD WAMPUS LANE

160 WAMPUS LANE
MILFORD, CT 06460
NEW HAVEN COUNTY



3	04/07/23	ISSUED FOR CONSTRUCTION	MJ	JC	DPH
2	03/02/22	ISSUED FOR CONSTRUCTION	CC	JC	DPH
1	12/15/21	ISSUED FOR REVIEW	CC	JC	DPH
0	11/17/21	ISSUED FOR REVIEW	AR	JC	DPH
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: JC	DRAWN BY: AR		

AT&T		
RF PLUMBING DIAGRAM (ALPHA & BETA)		
(NSB)		
SITE NUMBER	DRAWING NUMBER	REV
CT1231	RF-1	3



**RF PLUMBING DIAGRAM
(GAMMA SECTOR)**

SCALE: N.T.S



NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS

NOTE:
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NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN			DESIGNED BY: JC	DRAWN BY: AR	

AT&T		
RF PLUMBING DIAGRAM (GAMMA) (NSB)		
SITE NUMBER	DRAWING NUMBER	REV
CT1231	RF-2	3