December 26, 2023

Melanie A. Bachman Executive
Director Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re:	**Notice of Exempt Modification – Antenna and RRU Swap/Add**
Property Address:	**12 Burr Road Bloomfield, CT**
Applicant:	**AT&T Mobility, LLC**

Dear Ms. Bachman:

On behalf of AT&T, please accept this application as notification pursuant to R.C.S.A. §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16- 50j-72(b) (2).

AT&T currently maintains a wireless telecommunications facility consisting of nine (9) wireless telecommunication antennas at an antenna center line height of 107-foot level on an existing 130-foot monopole, owned by SBA Communications, and Maple Hill Farms, Inc., as the Property Owner, 12 Burr Rd, Bloomfield, CT 06002.

AT&T desires to modify its existing telecommunications facility by swapping six (6) antennas, (6) remote radio units and associated lines. The centerline height of said antennas and remote radio units is and will remain at 107' on the existing antenna mount.

Attached is a summary of the planned modifications including power density calculations reflecting the change in AT&T's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

Please accept this letter pursuant to Regulation of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-5l0j-72(b) (2). In accordance with R.C.S.A., a copy of this letter is being sent to Philip Schenk, Acting Town Manager, Town of Bloomfield 800 Bloomfield Avenue Bloomfield, CT 06002, Justin LaFountain, Director of Building & Land Use, Town of Bloomfield 800 Bloomfield Avenue Bloomfield, CT 06002. A copy of this letter is being sent to the tower owner SBA Communications 8051 Congress Avenue Jupiter, FL 33478 and Maple Hill Farms, Inc., as the Property Owner, 12 Burr Rd, Bloomfield, CT 06002.

The following is a list of subsequent decisions by the Connecticut Siting Council:

- **EM-CING-011-100628** – AT&T Mobility, LLC notice of intent to modify an existing telecommunications facility located at 12 Burr Road, Bloomfield, Connecticut.

The planned modifications to AT&T's facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-72(b) (2).

1. The proposed modifications will not result in an increase in the height of the existing tower. AT&T's replacement antennas will be installed at the 107-foot level of the 130-foot Monopole.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require and extension of the site boundary.
3. The proposed modifications will not increase the noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative worst-case RF emissions calculation for AT&T's modified facility is provided in the RF Emissions Compliance Report,

included in Tab 2.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (See Structural Analysis Report included in Tab 3).

For the foregoing reasons, AT&T respectfully submits that the proposed modifications to the above referenced telecommunications facility constitutes an exempt modification under R.C.S.A. §16-50j-72(b) (2).

Sincerely,

Carolyn Seeley
Real Estate Specialist
Smartlink on behalf of AT&T
(978) 760-5577
Carolyn.seeley@smartlinkgroup.com

CC w/enclosures:

Philip Schenk, Acting Town Manager
Town of Bloomfield
800 Bloomfield Avenue
PO Box 337
Bloomfield, CT 06002

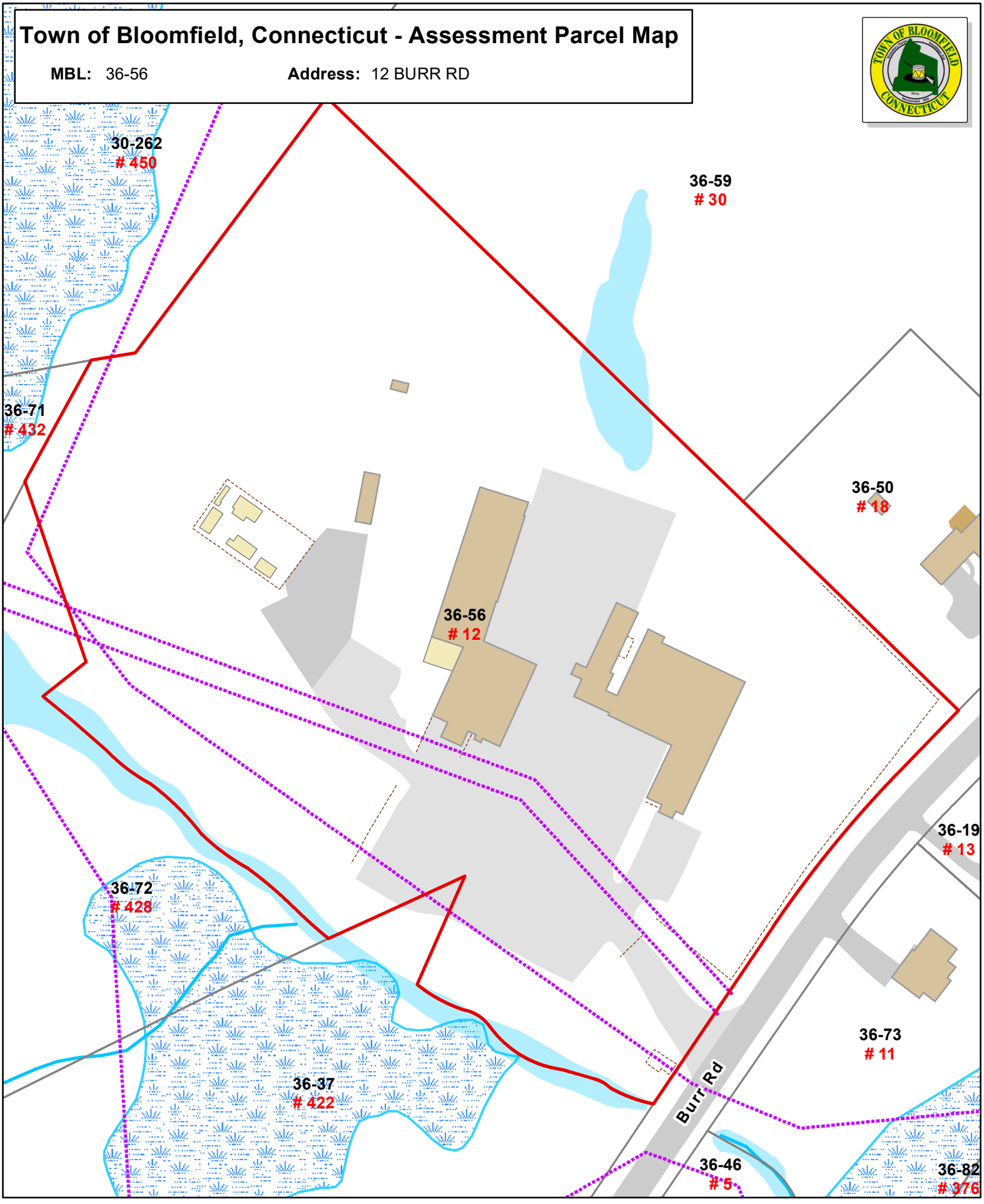
Justin LaFountain, Director of Building & Land Use
Town of Bloomfield
800 Bloomfield Avenue
PO Box 337
Bloomfield, CT 06002

Maple Hill Farms, Inc., Property Owner
12 Burr Road
Bloomfield, CT 06002

SBA Communications, Tower Owner
8051 Congress Avenue
Jupiter, FL 33478

Town of Bloomfield, Connecticut - Assessment Parcel Map

MBL: 36-56 **Address:** 12 BURR RD



N W E S

Approximate Scale:

1 inch = 100 feet

Map Produced December 2021

TOWN OF BLOOMFIELD CONNECTICUT

GIS & Real Property Information

Town Offices
800 Bloomfield Avenue
Bloomfield CT 06002

Property Search

Name: ex. Smith

House No:
12

Street:
BURR RD

Unique Id: ex. 7764

MBL (Parcel ID): ex. 25-486

Old MBL: ex. 57-4-3

GO

Information Updates

GIS Parcels Provided October 2019

Property Info Data Updated Nightly

Current Parcel Count 7,329 +/-

Detailed Parcel Information

Parcel ID

Unique ID
4360

Owner
MAPLE HILL FARMS INC

Location
12 BURR RD

MAILING ADDRESS
PO BOX 767
BLOOMFIELD CT 06002

Quick Links: Quick Map Assessor Tax Map Summary Card

Scroll Down For Complete Property Detail

PARCEL VALUATIONS

	Appraised Value	Assessed Value

REPORT AN ISSUE

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

Structural Analysis Report

Existing 140 ft Rohn Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT13548-S

Customer Site Name: Bloomfield 4

Carrier Name: AT&T (App#: 222089, V#5)

Carrier Site ID / Name: CTL01255 / Bloomfield CT Burr Road

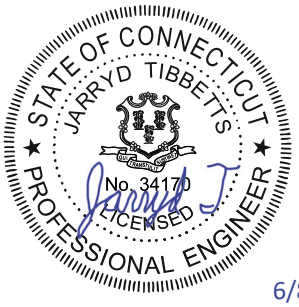
Site Location: 12 Burr Road

Bloomfield, Connecticut

Hartford County

Latitude: 41.817858

Longitude: -72.764511



6/8/2023

Analysis Result:

Max Structural Usage: 70.1% [Pass]

Max Foundation Usage: 59.0% [Pass]

Additional Usage Caused by New Mount/Mount Modification: +0.5%

Report Prepared By: Wei-Hsiang Chen

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 modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Monopole original structural design report & shaft section data prepared by ROHN. Dated 12-02-2009. Drawing No 606820-01-D1. File No 0606820. Monopole previous structural report prepared by FDH Engineering, Inc. Dated 08-22-2014. Project No 146ASY1400.
Foundation Drawing	Monopole original foundation calculations & Drawings prepared by ROHN. Dated 12-02-2009. Drawing No 606820-01-F1 & 606820-01-F2. File No 0606820.
Geotechnical Report	Monopole geotechnical report prepared by Tower Engineering Professionals, Inc. Dated 03-01-2010. Project No 093184.01 Rev 1.
Modification Drawings	Monopole previous modifications by FDH Engineering, Inc. Dated 06-26-2012. Project No 12-02719E S1. Modification inspection report prepared by FDH Engineering, Inc. Dated 08-30-2012. Project No 1206095TC1.
Mount Analysis	TEP Northeast Project # CT1255. Dated 09-29-2022.

Analysis Criteria

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

Wind Speed Used in the Analysis:	116.0 mph (3-Sec. Gust) (Ultimate wind speed)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1”1/2 radial ice concurrent
Service Load Wind Speed:	60 mph + 0” Radial ice
Standard/Codes:	TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code
Exposure Category:	C
Risk Category:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.181, S_1 = 0.055

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	130.0	3	RFS APXVAARR24_43-U-NA20 (Octa) - Panel	(3) Modified T-Arms	(1) 1 1/4" Hybrid (15) 1 5/8" (2) 1.9" Hybrid	T-Mobile
2		3	Ericsson AIR32 KRD901146-1_B66A (Octa) - Panel			
3		3	Ericsson KRY 112 144/2 TMA's			
4		3	Ericsson AIR6449 B41 - Panel			
5		3	Ericsson 4449 B71 + B85			
6		3	Ericsson 4460 B25 + B66			
7	117.0	6	Antel LPA-80063/6CF_5 - Panel	(3) T-Arms w/ (3) Commscope BSAMNT-SBS-1-2, 12'-6" long 2.0" STD Pipe & SitePro1 PRK-1245 kit	(6) 1 5/8" (2) 1 5/8" Hybrid	Verizon
8		3	Samsung XXDWMM-12.5-65-8TCBRS_Port1_3550_8D T integrated antenna with RRH RT4401 - Panel			
9		6	Andrew SBNHH-1D65B w/ 126 Mount Pipe - Panel			
10		3	Samsung MT6407-77A - Panel			
11		3	Samsung B2/B66A RRHBR049 (RFV01UD1A) RRU's			
12		3	Samsung B5/B13 RRHBR04C (RFV01UD2A) RRU's			
13		3	Samsung CBRS RRH - RT4401-48A RRU's			
14		1	Commscope FE-16148-OVP-B12 OVP			
-	107.0	1	Andrew SBNH-1D6565C - Panel	Platform w/ Handrails	(12) 1 5/8" (1) 1/2" [(1) Fiber + (2) DC Cables inside (1) 3" Conduit*]	AT&T
-		1	KMW AM-X-CD-16-65-007-RET - Panel			
-		12	Powerwave 7020.00			
-		9	Powerwave P65-16-XLH-RR - Panel			
-		1	Powerwave P65-17-XLH - Panel			
-		12	Powerwave TT08-19DB111-001			
-	106.0	6	Andrew RRUS11 RRU	(1) Valmont LWRM Ring Mount		
-		1	Raycap DC6-48-60-18-8F - OVP			

* Existing (1) Fiber + (2) DC Power lines installed inside (1) 3" Conduit running outside of the pole shaft and exposed to wind.

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
15	107.02	2	Raycap DC6-48-60-18-8F - OVP	Sector Frame [(3) Site Pro1 P/N VFA12-WLL-30120]	(12) 1 5/8" (1) 2" Innerduct[1] (1) 3" Innerduct[2]	AT&T
16	107.0	1	Powerwave P65-17-XLH-RR - Panel			
17		1	Commscope SBNH-1D6565C - Panel			
18		1	AMX AM-X-CD-16-65-00T-RET - Panel			
19		2	CCI OPA-65R-BU6DA - Panel			
20		4	CCI OPA65R-BU8DA - Panel			
21		12	4.9"x8.3"x2.4" RET			
22		3	Ericsson RRUS 4478 B14 RRU			
23		3	Ericsson 4449 B5/B12 RRU			
24		3	Ericsson 8843 B25/B66A RRU			

1. (1) 2" Innerduct house (2) 7/8" DC Cable and (1) 3/8" Fiber.
2. (1) 3" Innerduct house (1) 0.39" Fiber and (2) 7/8" DC Cables.

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:	**64.7%**	**70.1%**	**60.6%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	2740.3	27.9	40.0

Two foundation design options were included in the referenced foundation design document. Since it is not known which option was installed, both designs were analyzed using the supplied documents and soils report and both were found adequate. Therefore, no modification to the foundation will be required.

Service Load Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.0628 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

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

2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.

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

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

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

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

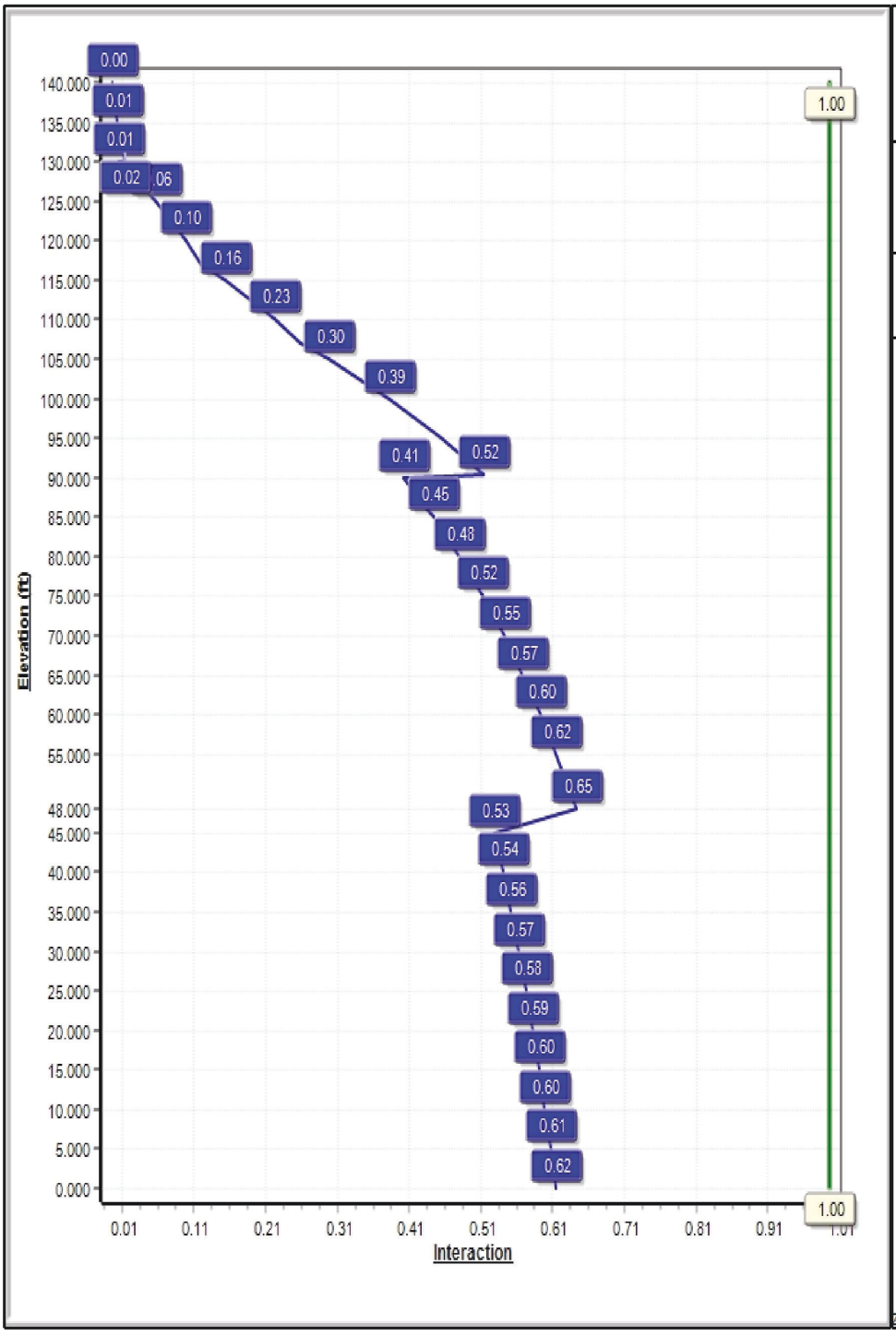
Usage Diagram - Max Ratio 64.72% at 48.0ft

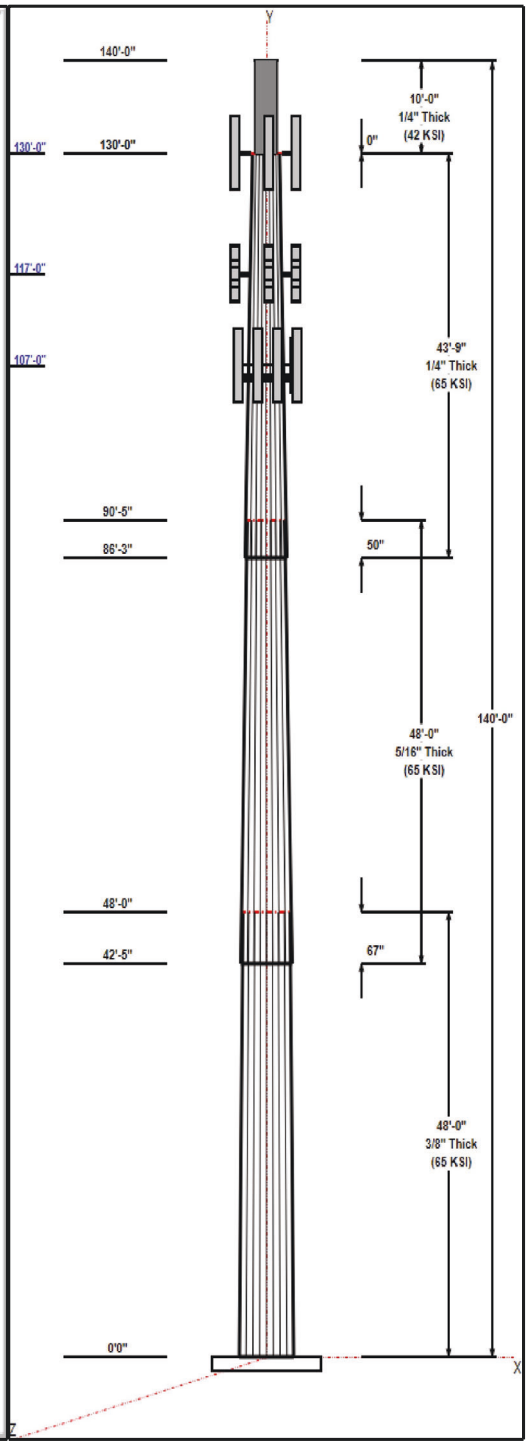
Structure:	CT13548-S-SBA	**Code:**	EIA/TIA-222-H	6/8/2023
Site Name:	Bloomfield 4	**Exposure:**	C	
Height:	140.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

Tower Engineering Solutions

Dead Load Factor:	1.20	**Iterations:**	23
Wind Load Factor:	1.00		

Load Case : 1.2D + 1.0W 116 mph Wind





Structure: CT13548-S-SBA

Type: Custom
Site Name: Bloomfield 4
Height: 140.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.25788

6/8/2023

Tower Engineering Solutions

Shaft Properties

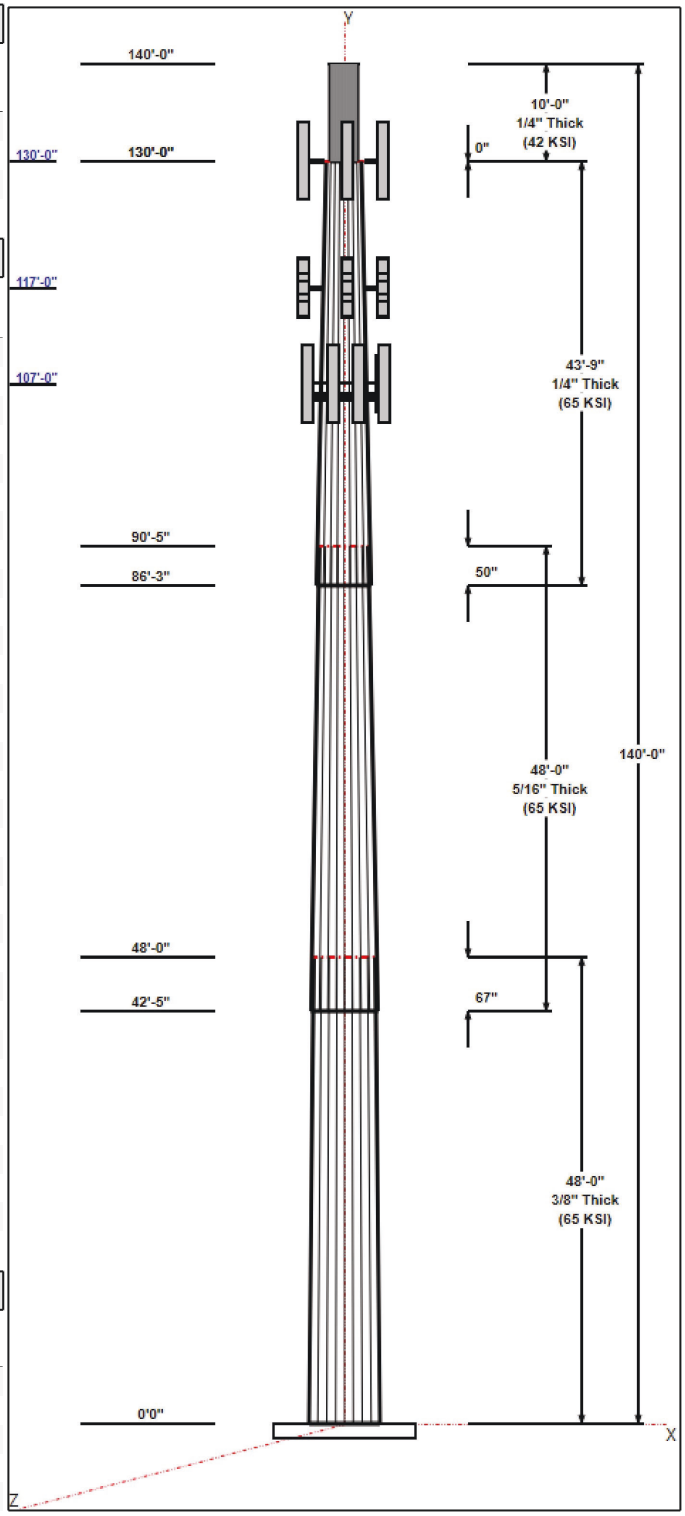
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	48.00	40.62	53.00	0.375		0.25788	65
2	48.00	30.31	42.69	0.313	Slip	0.25788	65
3	43.75	20.60	31.88	0.250	Slip	0.25788	65
4	10.00	20.00	20.00	0.250	Butt	0.00000	42

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
140.00	143.50	1	Lightning Rod	---
130.00	130.00	3	RFS	T-Mobile
130.00	130.00	3	Ericsson AIR32	T-Mobile
130.00	130.00	3	T-Arms	T-Mobile
130.00	130.00	3	Ericsson KRY 112 144/2	T-Mobile
130.00	130.00	3	Ericsson AIR6449 B41	T-Mobile
130.00	130.00	3	Ericsson 4449 B71 + B85	T-Mobile
130.00	130.00	3	Ericsson 4460 B25 + B66	T-Mobile
130.00	130.00	1	MS-HRECP	T-Mobile
117.00	119.00	1	SitePro1 PRK-1245 kit	Verizon
117.00	117.00	6	Antel LPA-80063/6CF_5	Verizon
117.00	117.00	3	Samsung	Verizon
117.00	117.00	6	Andrew SBNHH-1D65B w/	Verizon
117.00	117.00	3	Samsung MT6407-77A	Verizon
117.00	117.00	3	Commscope	Verizon
117.00	117.00	3	Samsung B2/B66A	Verizon
117.00	117.00	3	Samsung B5/B13	Verizon
117.00	117.00	3	Samsung CBRS RRH -	Verizon
117.00	117.00	1	Commscope	Verizon
117.00	117.00	3	T-Arms	Verizon
117.00	113.67	1	12'-6" long 2.0" STD Pipe	Verizon
107.00	107.00	2	OPA-65R-BU6DA	AT&T
107.00	107.00	4	OPA-65R-BU8DA	AT&T
107.00	107.00	3	RRUS 4478 B14	AT&T
107.00	107.00	3	4449 B5/B12	AT&T
107.00	107.00	3	8843 B25/B66A	AT&T
107.00	107.00	1	(3) VFA12 (Sector frame)	AT&T
107.00	107.00	12	4.9"x8.3"x2.4" RET	AT&T
107.00	107.02	2	Raycap DC6-48-60-18-8F	AT&T
107.00	107.00	1	Powerwave	AT&T
107.00	107.00	1	Commscope	AT&T
107.00	107.00	1	AMX	AT&T

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
3.00	130.00	Inside	1 1/4" Fiber	T-Mobile
3.00	130.00	Inside	1 5/8" Coax	T-Mobile
3.00	130.00	Inside	1.9" Hybrid	T-Mobile
3.00	117.00	Inside	1 5/8" Coax	Verizon
3.00	117.00	Inside	1 5/8" Hybrid	Verizon
3.00	107.00	Inside	0.39" Fiber	AT&T
3.00	107.00	Inside	1 5/8" Coax	AT&T
3.00	107.00	Inside	2" Innerduct	AT&T
3.00	107.00	Inside	3" Innerduct	AT&T
3.00	107.00	Inside	3/8" Fiber	AT&T



3.00	107.00	Inside	7/8" DC Power	AT&T

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
24	1.5" F1554 105	105.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.0000	62.0	50.0	Round

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 116 mph Wind	2740.3	27.9	40.0
0.9D + 1.0W 116 mph Wind	2713.9	27.8	30.0
1.2D + 1.0Di + 1.0Wi 50 mph Wind	839.0	8.5	61.3
1.2D + 1.0Ev + 1.0Eh	76.0	0.6	41.4
0.9D + 1.0Ev + 1.0Eh	75.5	0.6	31.3
1.0D + 1.0W 60 mph Wind	652.4	6.7	33.4

Structure: CT13548-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Bloomfield 4
Height: 140.00 (ft)

6/8/2023

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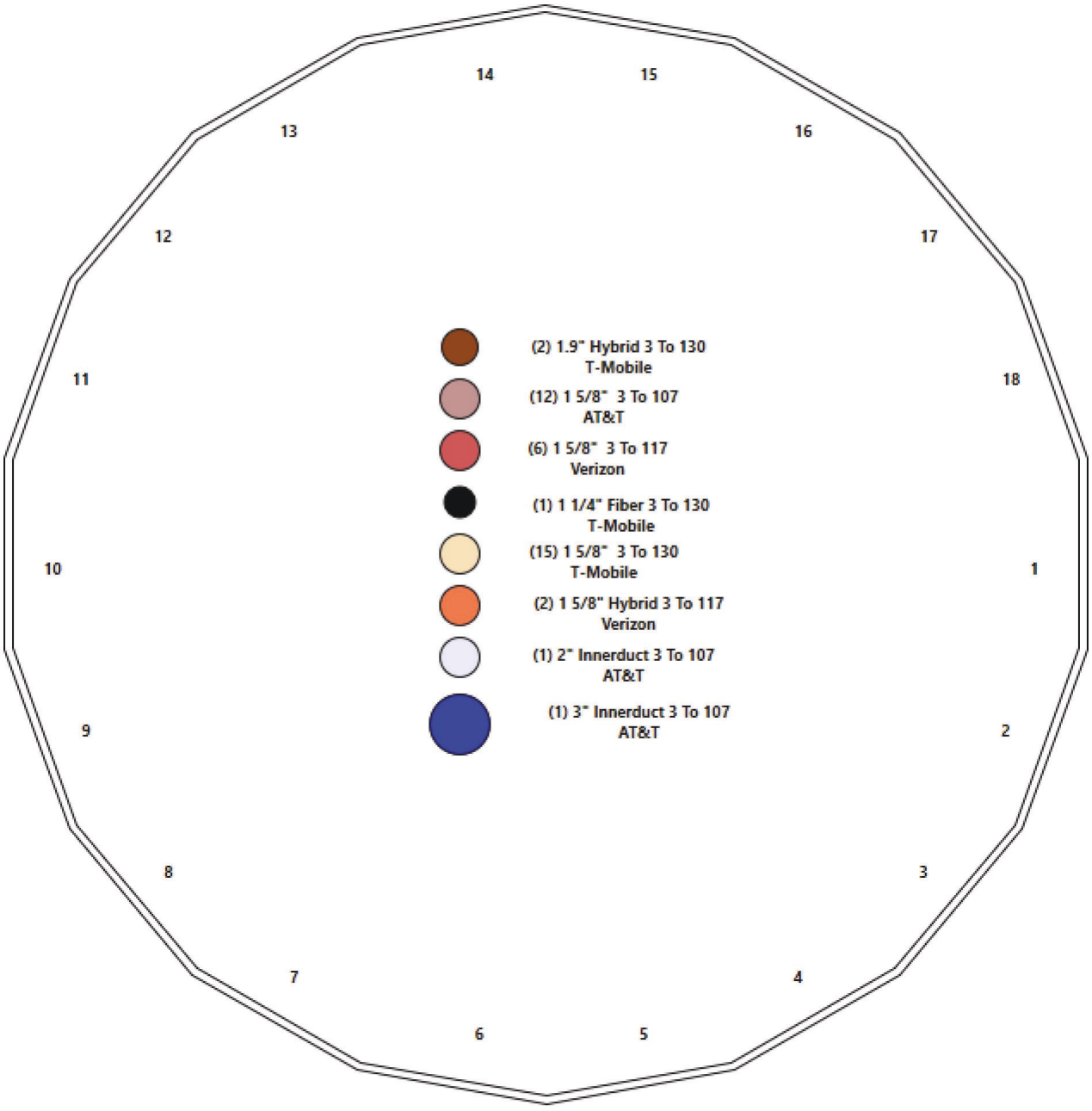

Shaft Properties

Structure:	CT13548-S-SBA		**Code:**	TIA-222-H	6/8/2023
Site Name:	Bloomfield 4		**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: 5

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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	48.000	0.3750	65		0.00	9,027
2	18	48.000	0.3125	65	Slip	67.00	5,862
3	18	43.750	0.2500	65	Slip	50.00	3,070
4	R	10.000	0.2500	42	Flange	0.00	528
					Total Shaft Weight:		**18,487**

	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	53.00	0.00	62.63	21915.53	23.51	141.33	40.62	48.00	47.90	9803.05	17.69	108.3	0.257885
2	42.69	42.42	42.03	9534.32	22.68	136.60	30.31	90.42	29.75	3381.89	15.69	96.99	0.257885
3	31.88	86.25	25.10	3173.09	21.08	127.53	20.60	130.00	16.15	844.85	13.12	82.40	0.257885
4	20.00	130.0	15.51	756.89	0.00	80.00	20.00	140.00	15.51	756.89	0.00	80.00	0.000000

Load Summary

Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**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: 6	

Tower Engineering Solutions

Discrete Appurtenances

				No Ice			Ice				
No.	Elev (ft)	Description	Qty	Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	140.00	Lightning Rod	1	35.00	1.05	1.00	66.20	3.407	1.00	0.00	3.50
2	130.00	RFS APXVAARR24_43-U-NA20	3	128.00	20.24	0.72	551.63	22.112	0.72	0.00	0.00
3	130.00	Ericsson AIR32 KRD901146-1_B66A	3	132.20	6.51	0.86	313.48	7.673	0.86	0.00	0.00
4	130.00	T-Arms	3	350.00	8.00	0.75	590.86	14.882	0.75	0.00	0.00
5	130.00	Ericsson KRY 112 144/2 TMA's	3	11.02	0.35	0.67	21.67	0.750	0.67	0.00	0.00
6	130.00	Ericsson AIR6449 B41	3	103.00	5.65	0.71	238.17	6.587	0.71	0.00	0.00
7	130.00	Ericsson 4449 B71 + B85	3	73.20	1.97	0.67	130.12	2.531	0.67	0.00	0.00
8	130.00	Ericsson 4460 B25 + B66	3	109.00	2.85	0.67	179.88	3.515	0.67	0.00	0.00
9	130.00	MS-HRECP	1	514.00	12.25	1.00	1115.32	24.052	1.00	0.00	0.00
10	117.00	SitePro1 PRK-1245 kit	1	464.91	9.50	1.00	781.49	19.204	1.00	0.00	2.00
11	117.00	Antel LPA-80063/6CF_5	6	27.00	9.59	0.95	278.79	12.261	0.95	0.00	0.00
12	117.00	Samsung XXDWMM-12.5-65	3	23.10	1.54	0.75	53.40	1.848	0.75	0.00	0.00
13	117.00	Andrew SBNHH-1D65B w/ 126	6	40.00	8.16	0.83	237.22	9.426	0.83	0.00	0.00
14	117.00	Samsung MT6407-77A	3	87.10	4.71	0.70	203.11	5.613	0.70	0.00	0.00
15	117.00	Commscope BSAMNT-SBS-1-2	3	67.40	0.09	0.60	113.30	0.151	0.60	0.00	0.00
16	117.00	Samsung B2/B66A RRHBR049	3	84.00	1.88	0.67	133.76	2.418	0.67	0.00	0.00
17	117.00	Samsung B5/B13 RRHBR04C	3	73.30	1.88	0.67	122.76	2.418	0.67	0.00	0.00
18	117.00	Samsung CBRS RRH - RT4401-48A	3	23.14	1.53	0.67	39.80	2.059	0.67	0.00	0.00
19	117.00	Commscope FE-16148-OVP-B12	1	15.10	1.87	0.67	53.96	2.825	0.67	0.00	0.00
20	117.00	T-Arms	3	350.00	8.00	0.75	588.33	14.810	0.75	0.00	0.00
21	117.00	12'-6" long 2.0" STD Pipe	1	261.72	6.75	1.00	564.69	13.185	1.00	0.00	-3.33
22	107.00	OPA-65R-BU6DA	2	60.20	12.71	0.72	336.76	14.146	0.72	0.00	0.00
23	107.00	OPA-65R-BU8DA	4	76.50	12.71	0.73	444.07	19.855	0.73	0.00	0.00
24	107.00	RRUS 4478 B14	3	59.40	1.65	0.67	99.49	2.151	0.67	0.00	0.00
25	107.00	4449 B5/B12	3	71.00	1.97	0.67	122.61	2.499	0.67	0.00	0.00
26	107.00	8843 B25/B66A	3	72.00	1.64	0.67	117.29	2.120	0.67	0.00	0.00
27	107.00	(3) VFA12 (Sector frame)	1	1696.00	47.10	1.00	3298.48	04.318	1.00	0.00	0.00
28	107.00	4.9"x8.3"x2.4" RET	12	2.20	0.40	0.60	12.09	0.868	0.60	0.00	0.00
29	107.00	Raycap DC6-48-60-18-8F	2	32.80	1.47	0.67	92.57	2.147	0.67	0.00	0.02
30	107.00	Powerwave P65-17-XLH-RR	1	59.00	11.44	0.80	268.41	14.567	0.80	0.00	0.00
31	107.00	Commscope SBNH-1D6565C	1	66.10	11.47	0.80	288.35	14.613	0.80	0.00	0.00
32	107.00	AMX AM-X-CD-16-65-007-RET	1	48.50	8.02	0.78	205.39	10.721	0.78	0.00	0.00
		Totals:	**92**	**9,531.31**			**23,377.31**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
3.00	130.00	(1) 1 1/4" Fiber	0.00	Inside
3.00	130.00	(15) 1 5/8" Coax	0.00	Inside
3.00	130.00	(2) 1.9" Hybrid	0.00	Inside
3.00	117.00	(6) 1 5/8" Coax	0.00	Inside
3.00	117.00	(2) 1 5/8" Hybrid	0.00	Inside
3.00	107.00	(1) 0.39" Fiber	0.00	Inside
3.00	107.00	(12) 1 5/8" Coax	0.00	Inside
3.00	107.00	(1) 2" Innerduct	0.00	Inside
3.00	107.00	(1) 3" Innerduct	0.00	Inside

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
3.00	107.00	(1) 3/8" Fiber			0.00	Inside					
3.00	107.00	(4) 7/8" DC Power			0.00	Inside					

Shaft Section Properties

Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**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: 8	

Increment Length: **5 (ft)**

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.3750	53.000	62.635	21915.5	23.51	141.33	73.7	814.4	0.0
5.00		0.3750	51.711	61.100	20343.7	22.90	137.89	74.5	774.9	1052.6
10.00		0.3750	50.421	59.565	18849.0	22.30	134.46	75.2	736.3	1026.5
15.00		0.3750	49.132	58.031	17429.3	21.69	131.02	75.9	698.7	1000.4
20.00		0.3750	47.842	56.496	16082.7	21.09	127.58	76.6	662.1	974.3
25.00		0.3750	46.553	54.961	14807.4	20.48	124.14	77.3	626.5	948.2
30.00		0.3750	45.263	53.427	13601.3	19.87	120.70	78.0	591.9	922.0
35.00		0.3750	43.974	51.892	12462.5	19.27	117.26	78.7	558.2	895.9
40.00		0.3750	42.685	50.357	11389.2	18.66	113.83	79.5	525.5	869.8
42.42	Bot - Section 2	0.3750	42.061	49.615	10893.3	18.37	112.16	79.8	510.1	411.1
45.00		0.3750	41.395	48.823	10379.3	18.05	110.39	80.2	493.9	799.2
48.00	Top - Section 1	0.3125	41.247	40.600	8595.0	21.86	131.99	0.0	0.0	912.1
50.00		0.3125	40.731	40.088	8274.2	21.57	130.34	76.0	400.1	274.6
55.00		0.3125	39.441	38.810	7507.3	20.84	126.21	76.9	374.9	671.2
60.00		0.3125	38.152	37.531	6789.3	20.12	122.09	77.7	350.5	649.4
65.00		0.3125	36.862	36.252	6118.7	19.39	117.96	78.6	326.9	627.7
70.00		0.3125	35.573	34.973	5493.7	18.66	113.83	79.5	304.2	605.9
75.00		0.3125	34.284	33.694	4912.8	17.93	109.71	80.3	282.2	584.1
80.00		0.3125	32.994	32.415	4374.3	17.21	105.58	81.2	261.1	562.4
85.00		0.3125	31.705	31.136	3876.7	16.48	101.46	82.0	240.8	540.6
86.25	Bot - Section 3	0.3125	31.382	30.816	3758.5	16.30	100.42	82.2	235.9	131.8
90.00		0.3125	30.415	29.857	3418.4	15.75	97.33	82.5	221.4	702.5
90.42	Top - Section 2	0.2500	30.808	24.247	2860.6	20.32	123.23	0.0	0.0	76.7
95.00		0.2500	29.626	23.309	2541.3	19.48	118.50	78.5	169.0	370.8
100.00		0.2500	28.337	22.286	2221.2	18.58	113.35	79.6	154.4	387.9
105.00		0.2500	27.047	21.263	1929.1	17.67	108.19	80.6	140.5	370.5
107.00		0.2500	26.531	20.853	1819.8	17.30	106.13	81.1	135.1	143.3
110.00		0.2500	25.758	20.240	1663.8	16.76	103.03	81.7	127.2	209.7
115.00		0.2500	24.468	19.217	1424.0	15.85	97.87	82.5	114.6	335.7
117.00		0.2500	23.952	18.807	1335.0	15.48	95.81	82.5	109.8	129.4
120.00		0.2500	23.179	18.193	1208.5	14.94	92.72	82.5	102.7	188.9
125.00		0.2500	21.889	17.170	1015.8	14.03	87.56	82.5	91.4	300.8
130.00	Top - Section 3	0.2500	20.600	16.147	844.8	13.12	82.40	82.5	80.8	283.4
130.00	Bot - Section 4	0.2500	20.000	15.512	756.9	13.12	82.40	41.7	75.7	
135.00		0.2500	20.000	15.512	756.9	0.00	80.00	41.7	75.7	263.9
140.00		0.2500	20.000	15.512	756.9	0.00	80.00	41.7	75.7	263.9
										18487.1

Wind Loading - Shaft

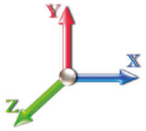
Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 116 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	27.617	30.38	477.92	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	27.617	30.38	466.29	0.730	0.000	5.00	22.151	16.17	491.2	0.0	1263.1
10.00		1.00	0.85	27.617	30.38	454.66	0.730	0.000	5.00	21.606	15.77	479.1	0.0	1231.8
15.00		1.00	0.85	27.617	30.38	443.03	0.730	0.000	5.00	21.060	15.37	467.0	0.0	1200.5
20.00		1.00	0.90	29.303	32.23	444.38	0.730	0.000	5.00	20.515	14.98	482.7	0.0	1169.1
25.00		1.00	0.95	30.712	33.78	442.68	0.730	0.000	5.00	19.969	14.58	492.5	0.0	1137.8
30.00		1.00	0.98	31.914	35.11	438.76	0.730	0.000	5.00	19.423	14.18	497.8	0.0	1106.5
35.00		1.00	1.01	32.967	36.26	433.23	0.730	0.000	5.00	18.878	13.78	499.7	0.0	1075.1
40.00		1.00	1.04	33.907	37.30	426.48	0.730	0.000	5.00	18.332	13.38	499.1	0.0	1043.8
42.42	Bot - Section 2	1.00	1.06	34.328	37.76	422.86	0.730	0.000	2.42	8.665	6.33	238.9	0.0	493.3
45.00		1.00	1.07	34.758	38.23	418.76	0.730	0.000	2.58	9.258	6.76	258.4	0.0	959.0
48.00	Top - Section 1	1.00	1.08	35.233	38.76	413.73	0.730	0.000	3.00	10.569	7.72	299.0	0.0	1094.5
50.00		1.00	1.09	35.538	39.09	416.63	0.730	0.000	2.00	6.937	5.06	198.0	0.0	329.5
55.00		1.00	1.12	36.258	39.88	407.51	0.730	0.000	5.00	16.960	12.38	493.8	0.0	805.4
60.00		1.00	1.14	36.928	40.62	397.81	0.730	0.000	5.00	16.415	11.98	486.7	0.0	779.3
65.00		1.00	1.16	37.556	41.31	387.62	0.730	0.000	5.00	15.869	11.58	478.6	0.0	753.2
70.00		1.00	1.17	38.146	41.96	376.99	0.730	0.000	5.00	15.324	11.19	469.4	0.0	727.1
75.00		1.00	1.19	38.704	42.57	365.98	0.730	0.000	5.00	14.778	10.79	459.3	0.0	701.0
80.00		1.00	1.21	39.234	43.16	354.61	0.730	0.000	5.00	14.232	10.39	448.4	0.0	674.9
85.00		1.00	1.22	39.738	43.71	342.94	0.730	0.000	5.00	13.687	9.99	436.7	0.0	648.8
86.25	Bot - Section 3	1.00	1.23	39.860	43.85	339.97	0.730	0.000	1.25	3.336	2.44	106.8	0.0	158.1
90.00		1.00	1.24	40.219	44.24	330.97	0.730	0.000	3.75	9.964	7.27	321.8	0.0	843.0
90.42	Top - Section 2	1.00	1.24	40.258	44.28	329.96	0.730	0.000	0.42	1.088	0.79	35.2	0.0	92.0
95.00		1.00	1.25	40.679	44.75	324.22	0.730	0.000	4.58	11.719	8.56	382.8	0.0	445.0
100.00		1.00	1.27	41.121	45.23	311.79	0.730	0.000	5.00	12.262	8.95	404.9	0.0	465.4
105.00		1.00	1.28	41.545	45.70	299.14	0.730	0.000	5.00	11.716	8.55	390.9	0.0	444.6
107.00	Appurtenance(s)	1.00	1.28	41.711	45.88	294.01	0.730	0.000	2.00	4.534	3.31	151.9	0.0	172.0
110.00		1.00	1.29	41.954	46.15	286.27	0.730	0.000	3.00	6.637	4.84	223.6	0.0	251.7
115.00		1.00	1.30	42.349	46.58	273.22	0.730	0.000	5.00	10.625	7.76	361.3	0.0	402.8
117.00	Appurtenance(s)	1.00	1.31	42.503	46.75	267.94	0.730	0.000	2.00	4.097	2.99	139.8	0.0	155.3
120.00		1.00	1.32	42.730	47.00	259.98	0.730	0.000	3.00	5.982	4.37	205.3	0.0	226.6
125.00		1.00	1.33	43.099	47.41	246.58	0.730	0.000	5.00	9.534	6.96	330.0	0.0	361.0
130.00	Top - Section 3	1.00	1.34	43.456	47.80	233.01	0.730	0.000	5.00	8.989	6.56	313.7	0.0	340.1
135.00		1.00	1.35	43.803	48.18	223.68	0.600	0.000	5.00	8.333	5.00	240.9	0.0	316.7
140.00	Appurtenance(s)	1.00	1.36	44.139	48.55	224.53	0.600	0.000	5.00	8.333	5.00	242.8	0.0	316.7
								Totals:	**140.00**			**12,027.9**		**22,184.5**

Discrete Appurtenance Forces

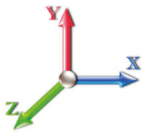
Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 116 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

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	140.00	Lightning Rod	1	44.369	48.806	1.00	1.00	1.05	42.00	0.000	3.500	51.25	0.00	179.36
2	130.00	Ericsson KRY 112 144/2	3	43.456	47.802	0.54	0.80	0.56	39.67	0.000	0.000	26.90	0.00	0.00
3	130.00	RFS	3	43.456	47.802	0.58	0.80	34.97	460.80	0.000	0.000	1671.85	0.00	0.00
4	130.00	T-Arms	3	43.456	47.802	0.56	0.75	13.50	1260.00	0.000	0.000	645.32	0.00	0.00
5	130.00	Ericsson AIR32	3	43.456	47.802	0.69	0.80	13.44	475.92	0.000	0.000	642.29	0.00	0.00
6	130.00	Ericsson 4449 B71 + B85	3	43.456	47.802	0.54	0.80	3.17	263.52	0.000	0.000	151.42	0.00	0.00
7	130.00	Ericsson 4460 B25 + B66	3	43.456	47.802	0.54	0.80	4.58	392.40	0.000	0.000	219.07	0.00	0.00
8	130.00	MS-HRECP	1	43.456	47.802	1.00	1.00	12.25	616.80	0.000	0.000	585.57	0.00	0.00
9	130.00	Ericsson AIR6449 B41	3	43.456	47.802	0.57	0.80	9.63	370.80	0.000	0.000	460.22	0.00	0.00
10	117.00	Samsung B5/B13	3	42.503	46.753	0.54	0.80	3.02	263.88	0.000	0.000	141.34	0.00	0.00
11	117.00	Commscope	3	42.503	46.753	0.48	0.80	0.13	242.64	0.000	0.000	6.06	0.00	0.00
12	117.00	Samsung B2/B66A	3	42.503	46.753	0.54	0.80	3.02	302.40	0.000	0.000	141.34	0.00	0.00
13	117.00	T-Arms	3	42.503	46.753	0.56	0.75	13.50	1260.00	0.000	0.000	631.17	0.00	0.00
14	117.00	Samsung CBRS RRH -	3	42.503	46.753	0.54	0.80	2.46	83.30	0.000	0.000	115.02	0.00	0.00
15	117.00	Commscope	1	42.503	46.753	0.54	0.80	1.00	18.12	0.000	0.000	46.86	0.00	0.00
16	117.00	12'-6" long 2.0" STD Pipe	1	42.245	46.470	0.75	0.75	5.06	314.06	0.000	-3.330	235.25	0.00	-783.39
17	117.00	Samsung MT6407-77A	3	42.503	46.753	0.56	0.80	7.91	313.56	0.000	0.000	369.95	0.00	0.00
18	117.00	Samsung	3	42.503	46.753	0.60	0.80	2.77	83.16	0.000	0.000	129.60	0.00	0.00
19	117.00	Antel LPA-80063/6CF_5	6	42.503	46.753	0.76	0.80	43.73	194.40	0.000	0.000	2044.53	0.00	0.00
20	117.00	SitePro1 PRK-1245 kit	1	42.655	46.920	0.75	0.75	7.13	557.89	0.000	2.000	334.31	0.00	668.61
21	117.00	Andrew SBNHH-1D65B w/	6	42.503	46.753	0.66	0.80	32.51	288.00	0.000	0.000	1519.92	0.00	0.00
22	107.00	8843 B25/B66A	3	41.711	45.882	0.54	0.80	2.64	259.20	0.000	0.000	121.00	0.00	0.00
23	107.00	OPA-65R-BU6DA	2	41.711	45.882	0.58	0.80	14.64	144.48	0.000	0.000	671.80	0.00	0.00
24	107.00	OPA-65R-BU8DA	4	41.711	45.882	0.58	0.80	29.69	367.20	0.000	0.000	1362.26	0.00	0.00
25	107.00	RRUS 4478 B14	3	41.711	45.882	0.54	0.80	2.65	213.84	0.000	0.000	121.73	0.00	0.00
26	107.00	4449 B5/B12	3	41.711	45.882	0.54	0.80	3.17	255.60	0.000	0.000	145.34	0.00	0.00
27	107.00	Raycap DC6-48-60-18-8F	2	41.712	45.884	0.54	0.80	1.58	78.72	0.000	0.020	72.31	0.00	1.45
28	107.00	(3) VFA12 (Sector frame)	1	41.711	45.882	1.00	1.00	47.10	2035.20	0.000	0.000	2161.04	0.00	0.00
29	107.00	4.9"x8.3"x2.4" RET	12	41.711	45.882	0.45	0.75	2.16	31.68	0.000	0.000	99.10	0.00	0.00
30	107.00	Powerwave	1	41.711	45.882	0.60	0.75	6.86	70.80	0.000	0.000	314.93	0.00	0.00
31	107.00	Commscope	1	41.711	45.882	0.60	0.75	6.88	79.32	0.000	0.000	315.76	0.00	0.00
32	107.00	AMX	1	41.711	45.882	0.58	0.75	4.69	58.20	0.000	0.000	215.26	0.00	0.00
							Totals:		**11,437.57**			**15,769.78**		

Total Applied Force Summary

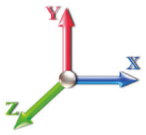
Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 11	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 116 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		491.24	1372.88	0.00	0.00
10.00		479.14	1506.17	0.00	0.00
15.00		467.04	1474.84	0.00	0.00
20.00		482.71	1443.51	0.00	0.00
25.00		492.48	1412.17	0.00	0.00
30.00		497.77	1380.84	0.00	0.00
35.00		499.74	1349.51	0.00	0.00
40.00		499.14	1318.17	0.00	0.00
42.42		238.86	625.88	0.00	0.00
45.00		258.41	1100.81	0.00	0.00
48.00		299.02	1259.11	0.00	0.00
50.00		197.95	439.23	0.00	0.00
55.00		493.80	1079.80	0.00	0.00
60.00		486.75	1053.69	0.00	0.00
65.00		478.57	1027.57	0.00	0.00
70.00		469.38	1001.46	0.00	0.00
75.00		459.29	975.35	0.00	0.00
80.00		448.39	949.24	0.00	0.00
85.00		436.74	923.13	0.00	0.00
86.25		106.79	226.70	0.00	0.00
90.00		321.78	1048.78	0.00	0.00
90.42		35.18	114.90	0.00	0.00
95.00		382.81	696.53	0.00	0.00
100.00		404.89	739.83	0.00	0.00
105.00		390.87	718.94	0.00	0.00
107.00	(33) attachments	5752.39	3875.97	0.00	1.45
110.00		223.59	359.84	0.00	0.00
115.00		361.32	583.02	0.00	0.00
117.00	(36) attachments	5855.18	4148.78	0.00	-114.78
120.00		205.27	304.39	0.00	0.00
125.00		329.96	490.60	0.00	0.00
130.00	(22) attachments	4716.31	4349.63	0.00	0.00
135.00		240.92	316.70	0.00	0.00
140.00	(1) attachments	294.01	358.70	0.00	179.36
	Totals:	**27,797.68**	**40,026.65**	**0.00**	**66.03**

Calculated Forces

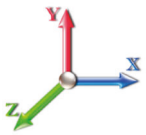
Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 116 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

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	-39.98	-27.86	0.00	-2740.2	0.00	2740.29	4157.29	1099.24	4799.53	4504.76	0.00	0.000	0.000	0.619
5.00	-38.53	-27.48	0.00	-2601.0	0.00	2601.00	4094.64	1072.30	4567.21	4327.39	0.09	-0.173	0.000	0.611
10.00	-36.94	-27.11	0.00	-2463.5	0.00	2463.58	4030.02	1045.37	4340.66	4151.35	0.37	-0.350	0.000	0.603
15.00	-35.38	-26.75	0.00	-2328.0	0.00	2328.02	3963.43	1018.44	4119.87	3976.78	0.83	-0.531	0.000	0.595
20.00	-33.86	-26.36	0.00	-2194.2	0.00	2194.28	3894.87	991.50	3904.84	3803.85	1.49	-0.716	0.000	0.586
25.00	-32.37	-25.96	0.00	-2062.4	0.00	2062.48	3824.34	964.57	3695.58	3632.72	2.34	-0.904	0.000	0.577
30.00	-30.91	-25.54	0.00	-1932.7	0.00	1932.71	3751.84	937.64	3492.08	3463.54	3.39	-1.096	0.000	0.567
35.00	-29.48	-25.11	0.00	-1805.0	0.00	1805.02	3677.38	910.70	3294.34	3296.47	4.64	-1.291	0.000	0.556
40.00	-28.12	-24.65	0.00	-1679.4	0.00	1679.46	3600.94	883.77	3102.36	3131.67	6.10	-1.490	0.000	0.545
42.42	-27.45	-24.45	0.00	-1619.8	0.00	1619.88	3563.29	870.75	3011.64	3052.87	6.88	-1.590	0.000	0.539
45.00	-26.31	-24.21	0.00	-1556.7	0.00	1556.73	3522.53	856.84	2916.15	2969.29	7.78	-1.697	0.000	0.533
48.00	-25.02	-23.92	0.00	-1484.1	0.00	1484.10	2765.58	712.53	2419.93	2329.81	8.88	-1.822	0.000	0.647
50.00	-24.52	-23.78	0.00	-1436.2	0.00	1436.26	2743.08	703.55	2359.33	2281.52	9.66	-1.907	0.000	0.640
55.00	-23.36	-23.34	0.00	-1317.3	0.00	1317.38	2685.46	681.11	2211.20	2161.80	11.79	-2.143	0.000	0.619
60.00	-22.23	-22.91	0.00	-1200.6	0.00	1200.67	2625.87	658.66	2067.86	2043.62	14.16	-2.382	0.000	0.597
65.00	-21.13	-22.47	0.00	-1086.1	0.00	1086.14	2564.31	636.22	1929.34	1927.14	16.79	-2.622	0.000	0.573
70.00	-20.06	-22.04	0.00	-973.77	0.00	973.77	2500.78	613.77	1795.61	1812.53	19.66	-2.861	0.000	0.547
75.00	-19.02	-21.61	0.00	-863.58	0.00	863.58	2435.28	591.33	1666.69	1699.95	22.78	-3.099	0.000	0.517
80.00	-18.01	-21.18	0.00	-755.53	0.00	755.53	2367.81	568.88	1542.56	1589.54	26.16	-3.333	0.000	0.484
85.00	-17.07	-20.73	0.00	-649.63	0.00	649.63	2298.37	546.44	1423.24	1481.47	29.77	-3.562	0.000	0.447
86.25	-16.81	-20.64	0.00	-623.72	0.00	623.72	2280.70	540.83	1394.16	1454.84	30.71	-3.620	0.000	0.438
90.00	-15.75	-20.28	0.00	-546.30	0.00	546.30	2218.24	523.99	1308.73	1370.52	33.62	-3.786	0.000	0.407
90.42	-15.60	-20.27	0.00	-537.85	0.00	537.85	1691.27	425.53	1078.87	1063.05	33.95	-3.805	0.000	0.517
95.00	-14.86	-19.89	0.00	-444.96	0.00	444.96	1646.42	409.07	997.03	994.50	37.70	-3.995	0.000	0.459
100.00	-14.08	-19.49	0.00	-345.51	0.00	345.51	1595.61	391.12	911.42	921.15	42.00	-4.216	0.000	0.386
105.00	-13.35	-19.07	0.00	-248.09	0.00	248.09	1542.83	373.16	829.66	849.43	46.52	-4.406	0.000	0.303
107.00	-9.91	-13.05	0.00	-209.94	0.00	209.94	1521.16	365.98	798.03	821.23	48.38	-4.473	0.000	0.263
110.00	-9.55	-12.82	0.00	-170.80	0.00	170.80	1488.07	355.21	751.74	779.49	51.22	-4.563	0.000	0.227
115.00	-8.98	-12.42	0.00	-106.72	0.00	106.72	1427.69	337.25	677.66	709.69	56.06	-4.681	0.000	0.158
117.00	-5.32	-6.25	0.00	-81.89	0.00	81.89	1397.29	330.07	649.10	679.64	58.03	-4.719	0.000	0.125
120.00	-5.03	-6.02	0.00	-63.14	0.00	63.14	1351.68	319.29	607.42	635.77	61.01	-4.765	0.000	0.103
125.00	-4.56	-5.66	0.00	-33.03	0.00	33.03	1275.66	301.34	541.02	565.91	66.02	-4.822	0.000	0.062
130.00	-0.63	-0.59	0.00	-4.75	0.00	4.75	1199.65	283.38	478.47	500.12	71.09	-4.848	0.000	0.010
130.00	-0.63	-0.59	0.00	-4.75	0.00	4.75	582.69	175.90	17307.8	281.02	71.09	-4.848	0.000	0.018
135.00	-0.33	-0.32	0.00	-1.80	0.00	1.80	582.69	175.90	17307.8	281.02	76.16	-4.854	0.000	0.007
140.00	0.00	-0.29	0.00	-0.18	0.00	0.18	582.69	175.90	17307.8	281.02	81.24	-4.856	0.000	0.001

Wind Loading - Shaft

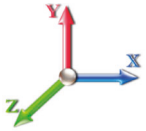
Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 116 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	27.617	30.38	477.92	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	27.617	30.38	466.29	0.730	0.000	5.00	22.151	16.17	491.2	0.0	947.3
10.00		1.00	0.85	27.617	30.38	454.66	0.730	0.000	5.00	21.606	15.77	479.1	0.0	923.8
15.00		1.00	0.85	27.617	30.38	443.03	0.730	0.000	5.00	21.060	15.37	467.0	0.0	900.3
20.00		1.00	0.90	29.303	32.23	444.38	0.730	0.000	5.00	20.515	14.98	482.7	0.0	876.8
25.00		1.00	0.95	30.712	33.78	442.68	0.730	0.000	5.00	19.969	14.58	492.5	0.0	853.3
30.00		1.00	0.98	31.914	35.11	438.76	0.730	0.000	5.00	19.423	14.18	497.8	0.0	829.8
35.00		1.00	1.01	32.967	36.26	433.23	0.730	0.000	5.00	18.878	13.78	499.7	0.0	806.3
40.00		1.00	1.04	33.907	37.30	426.48	0.730	0.000	5.00	18.332	13.38	499.1	0.0	782.8
42.42	Bot - Section 2	1.00	1.06	34.328	37.76	422.86	0.730	0.000	2.42	8.665	6.33	238.9	0.0	370.0
45.00		1.00	1.07	34.758	38.23	418.76	0.730	0.000	2.58	9.258	6.76	258.4	0.0	719.3
48.00	Top - Section 1	1.00	1.08	35.233	38.76	413.73	0.730	0.000	3.00	10.569	7.72	299.0	0.0	820.9
50.00		1.00	1.09	35.538	39.09	416.63	0.730	0.000	2.00	6.937	5.06	198.0	0.0	247.1
55.00		1.00	1.12	36.258	39.88	407.51	0.730	0.000	5.00	16.960	12.38	493.8	0.0	604.1
60.00		1.00	1.14	36.928	40.62	397.81	0.730	0.000	5.00	16.415	11.98	486.7	0.0	584.5
65.00		1.00	1.16	37.556	41.31	387.62	0.730	0.000	5.00	15.869	11.58	478.6	0.0	564.9
70.00		1.00	1.17	38.146	41.96	376.99	0.730	0.000	5.00	15.324	11.19	469.4	0.0	545.3
75.00		1.00	1.19	38.704	42.57	365.98	0.730	0.000	5.00	14.778	10.79	459.3	0.0	525.7
80.00		1.00	1.21	39.234	43.16	354.61	0.730	0.000	5.00	14.232	10.39	448.4	0.0	506.1
85.00		1.00	1.22	39.738	43.71	342.94	0.730	0.000	5.00	13.687	9.99	436.7	0.0	486.6
86.25	Bot - Section 3	1.00	1.23	39.860	43.85	339.97	0.730	0.000	1.25	3.336	2.44	106.8	0.0	118.6
90.00		1.00	1.24	40.219	44.24	330.97	0.730	0.000	3.75	9.964	7.27	321.8	0.0	632.2
90.42	Top - Section 2	1.00	1.24	40.258	44.28	329.96	0.730	0.000	0.42	1.088	0.79	35.2	0.0	69.0
95.00		1.00	1.25	40.679	44.75	324.22	0.730	0.000	4.58	11.719	8.56	382.8	0.0	333.8
100.00		1.00	1.27	41.121	45.23	311.79	0.730	0.000	5.00	12.262	8.95	404.9	0.0	349.1
105.00		1.00	1.28	41.545	45.70	299.14	0.730	0.000	5.00	11.716	8.55	390.9	0.0	333.4
107.00	Appurtenance(s)	1.00	1.28	41.711	45.88	294.01	0.730	0.000	2.00	4.534	3.31	151.9	0.0	129.0
110.00		1.00	1.29	41.954	46.15	286.27	0.730	0.000	3.00	6.637	4.84	223.6	0.0	188.8
115.00		1.00	1.30	42.349	46.58	273.22	0.730	0.000	5.00	10.625	7.76	361.3	0.0	302.1
117.00	Appurtenance(s)	1.00	1.31	42.503	46.75	267.94	0.730	0.000	2.00	4.097	2.99	139.8	0.0	116.4
120.00		1.00	1.32	42.730	47.00	259.98	0.730	0.000	3.00	5.982	4.37	205.3	0.0	170.0
125.00		1.00	1.33	43.099	47.41	246.58	0.730	0.000	5.00	9.534	6.96	330.0	0.0	270.8
130.00	Top - Section 3	1.00	1.34	43.456	47.80	233.01	0.730	0.000	5.00	8.989	6.56	313.7	0.0	255.1
135.00		1.00	1.35	43.803	48.18	223.68	0.600	0.000	5.00	8.333	5.00	240.9	0.0	237.5
140.00	Appurtenance(s)	1.00	1.36	44.139	48.55	224.53	0.600	0.000	5.00	8.333	5.00	242.8	0.0	237.5
								Totals:	**140.00**			**12,027.9**		**16,638.4**

Discrete Appurtenance Forces

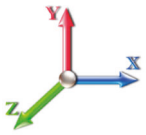
Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 14	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 116 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 23

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	140.00	Lightning Rod	1	44.369	48.806	1.00	1.00	1.05	31.50	0.000	3.500	51.25	0.00	179.36
2	130.00	Ericsson KRY 112 144/2	3	43.456	47.802	0.54	0.80	0.56	29.75	0.000	0.000	26.90	0.00	0.00
3	130.00	RFS	3	43.456	47.802	0.58	0.80	34.97	345.60	0.000	0.000	1671.85	0.00	0.00
4	130.00	T-Arms	3	43.456	47.802	0.56	0.75	13.50	945.00	0.000	0.000	645.32	0.00	0.00
5	130.00	Ericsson AIR32	3	43.456	47.802	0.69	0.80	13.44	356.94	0.000	0.000	642.29	0.00	0.00
6	130.00	Ericsson 4449 B71 + B85	3	43.456	47.802	0.54	0.80	3.17	197.64	0.000	0.000	151.42	0.00	0.00
7	130.00	Ericsson 4460 B25 + B66	3	43.456	47.802	0.54	0.80	4.58	294.30	0.000	0.000	219.07	0.00	0.00
8	130.00	MS-HRECP	1	43.456	47.802	1.00	1.00	12.25	462.60	0.000	0.000	585.57	0.00	0.00
9	130.00	Ericsson AIR6449 B41	3	43.456	47.802	0.57	0.80	9.63	278.10	0.000	0.000	460.22	0.00	0.00
10	117.00	Samsung B5/B13	3	42.503	46.753	0.54	0.80	3.02	197.91	0.000	0.000	141.34	0.00	0.00
11	117.00	Commscope	3	42.503	46.753	0.48	0.80	0.13	181.98	0.000	0.000	6.06	0.00	0.00
12	117.00	Samsung B2/B66A	3	42.503	46.753	0.54	0.80	3.02	226.80	0.000	0.000	141.34	0.00	0.00
13	117.00	T-Arms	3	42.503	46.753	0.56	0.75	13.50	945.00	0.000	0.000	631.17	0.00	0.00
14	117.00	Samsung CBRS RRH -	3	42.503	46.753	0.54	0.80	2.46	62.48	0.000	0.000	115.02	0.00	0.00
15	117.00	Commscope	1	42.503	46.753	0.54	0.80	1.00	13.59	0.000	0.000	46.86	0.00	0.00
16	117.00	12'-6" long 2.0" STD Pipe	1	42.245	46.470	0.75	0.75	5.06	235.55	0.000	-3.330	235.25	0.00	-783.39
17	117.00	Samsung MT6407-77A	3	42.503	46.753	0.56	0.80	7.91	235.17	0.000	0.000	369.95	0.00	0.00
18	117.00	Samsung	3	42.503	46.753	0.60	0.80	2.77	62.37	0.000	0.000	129.60	0.00	0.00
19	117.00	Antel LPA-80063/6CF_5	6	42.503	46.753	0.76	0.80	43.73	145.80	0.000	0.000	2044.53	0.00	0.00
20	117.00	SitePro1 PRK-1245 kit	1	42.655	46.920	0.75	0.75	7.13	418.42	0.000	2.000	334.31	0.00	668.61
21	117.00	Andrew SBNHH-1D65B w/	6	42.503	46.753	0.66	0.80	32.51	216.00	0.000	0.000	1519.92	0.00	0.00
22	107.00	8843 B25/B66A	3	41.711	45.882	0.54	0.80	2.64	194.40	0.000	0.000	121.00	0.00	0.00
23	107.00	OPA-65R-BU6DA	2	41.711	45.882	0.58	0.80	14.64	108.36	0.000	0.000	671.80	0.00	0.00
24	107.00	OPA-65R-BU8DA	4	41.711	45.882	0.58	0.80	29.69	275.40	0.000	0.000	1362.26	0.00	0.00
25	107.00	RRUS 4478 B14	3	41.711	45.882	0.54	0.80	2.65	160.38	0.000	0.000	121.73	0.00	0.00
26	107.00	4449 B5/B12	3	41.711	45.882	0.54	0.80	3.17	191.70	0.000	0.000	145.34	0.00	0.00
27	107.00	Raycap DC6-48-60-18-8F	2	41.712	45.884	0.54	0.80	1.58	59.04	0.000	0.020	72.31	0.00	1.45
28	107.00	(3) VFA12 (Sector frame)	1	41.711	45.882	1.00	1.00	47.10	1526.40	0.000	0.000	2161.04	0.00	0.00
29	107.00	4.9"x8.3"x2.4" RET	12	41.711	45.882	0.45	0.75	2.16	23.76	0.000	0.000	99.10	0.00	0.00
30	107.00	Powerwave	1	41.711	45.882	0.60	0.75	6.86	53.10	0.000	0.000	314.93	0.00	0.00
31	107.00	Commscope	1	41.711	45.882	0.60	0.75	6.88	59.49	0.000	0.000	315.76	0.00	0.00
32	107.00	AMX	1	41.711	45.882	0.58	0.75	4.69	43.65	0.000	0.000	215.26	0.00	0.00
							Totals:		**8,578.18**			**15,769.78**		

Total Applied Force Summary

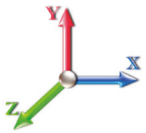
Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 116 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		491.24	1029.66	0.00	0.00
10.00		479.14	1129.63	0.00	0.00
15.00		467.04	1106.13	0.00	0.00
20.00		482.71	1082.63	0.00	0.00
25.00		492.48	1059.13	0.00	0.00
30.00		497.77	1035.63	0.00	0.00
35.00		499.74	1012.13	0.00	0.00
40.00		499.14	988.63	0.00	0.00
42.42		238.86	469.41	0.00	0.00
45.00		258.41	825.61	0.00	0.00
48.00		299.02	944.34	0.00	0.00
50.00		197.95	329.42	0.00	0.00
55.00		493.80	809.85	0.00	0.00
60.00		486.75	790.26	0.00	0.00
65.00		478.57	770.68	0.00	0.00
70.00		469.38	751.10	0.00	0.00
75.00		459.29	731.51	0.00	0.00
80.00		448.39	711.93	0.00	0.00
85.00		436.74	692.35	0.00	0.00
86.25		106.79	170.03	0.00	0.00
90.00		321.78	786.58	0.00	0.00
90.42		35.18	86.17	0.00	0.00
95.00		382.81	522.39	0.00	0.00
100.00		404.89	554.87	0.00	0.00
105.00		390.87	539.20	0.00	0.00
107.00	(33) attachments	5752.39	2906.97	0.00	1.45
110.00		223.59	269.88	0.00	0.00
115.00		361.32	437.27	0.00	0.00
117.00	(36) attachments	5855.18	3111.58	0.00	-114.78
120.00		205.27	228.29	0.00	0.00
125.00		329.96	367.95	0.00	0.00
130.00	(22) attachments	4716.31	3262.22	0.00	0.00
135.00		240.92	237.52	0.00	0.00
140.00	(1) attachments	294.01	269.02	0.00	179.36
	Totals:	**27,797.68**	**30,019.99**	**0.00**	**66.03**

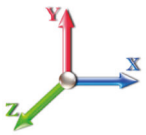
Calculated Forces

Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**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	

Load Case: 0.9D + 1.0W 116 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 23

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	-29.98	-27.84	0.00	-2713.9	0.00	2713.92	4157.29	1099.24	4799.53	4504.76	0.00	0.000	0.000	0.610
5.00	-28.87	-27.44	0.00	-2574.7	0.00	2574.70	4094.64	1072.30	4567.21	4327.39	0.09	-0.172	0.000	0.603
10.00	-27.65	-27.04	0.00	-2437.5	0.00	2437.51	4030.02	1045.37	4340.66	4151.35	0.37	-0.347	0.000	0.595
15.00	-26.47	-26.65	0.00	-2302.3	0.00	2302.32	3963.43	1018.44	4119.87	3976.78	0.83	-0.526	0.000	0.586
20.00	-25.31	-26.23	0.00	-2169.0	0.00	2169.08	3894.87	991.50	3904.84	3803.85	1.48	-0.708	0.000	0.577
25.00	-24.17	-25.81	0.00	-2037.9	0.00	2037.91	3824.34	964.57	3695.58	3632.72	2.32	-0.894	0.000	0.568
30.00	-23.06	-25.37	0.00	-1908.8	0.00	1908.87	3751.84	937.64	3492.08	3463.54	3.36	-1.084	0.000	0.558
35.00	-21.97	-24.92	0.00	-1782.0	0.00	1782.03	3677.38	910.70	3294.34	3296.47	4.59	-1.277	0.000	0.547
40.00	-20.93	-24.45	0.00	-1657.4	0.00	1657.42	3600.94	883.77	3102.36	3131.67	6.04	-1.473	0.000	0.536
42.42	-20.43	-24.24	0.00	-1598.3	0.00	1598.33	3563.29	870.75	3011.64	3052.87	6.81	-1.571	0.000	0.530
45.00	-19.56	-24.00	0.00	-1535.7	0.00	1535.71	3522.53	856.84	2916.15	2969.29	7.69	-1.677	0.000	0.524
48.00	-18.58	-23.70	0.00	-1463.7	0.00	1463.72	2765.58	712.53	2419.93	2329.81	8.78	-1.800	0.000	0.636
50.00	-18.20	-23.54	0.00	-1416.3	0.00	1416.32	2743.08	703.55	2359.33	2281.52	9.56	-1.884	0.000	0.629
55.00	-17.31	-23.09	0.00	-1298.6	0.00	1298.60	2685.46	681.11	2211.20	2161.80	11.65	-2.117	0.000	0.608
60.00	-16.45	-22.64	0.00	-1183.1	0.00	1183.13	2625.87	658.66	2067.86	2043.62	14.00	-2.353	0.000	0.586
65.00	-15.60	-22.20	0.00	-1069.9	0.00	1069.91	2564.31	636.22	1929.34	1927.14	16.59	-2.589	0.000	0.562
70.00	-14.79	-21.75	0.00	-958.92	0.00	958.92	2500.78	613.77	1795.61	1812.53	19.43	-2.824	0.000	0.536
75.00	-13.99	-21.31	0.00	-850.15	0.00	850.15	2435.28	591.33	1666.69	1699.95	22.51	-3.059	0.000	0.507
80.00	-13.22	-20.88	0.00	-743.58	0.00	743.58	2367.81	568.88	1542.56	1589.54	25.84	-3.289	0.000	0.475
85.00	-12.51	-20.43	0.00	-639.18	0.00	639.18	2298.37	546.44	1423.24	1481.47	29.40	-3.514	0.000	0.438
86.25	-12.31	-20.34	0.00	-613.64	0.00	613.64	2280.70	540.83	1394.16	1454.84	30.33	-3.572	0.000	0.429
90.00	-11.51	-19.99	0.00	-537.36	0.00	537.36	2218.24	523.99	1308.73	1370.52	33.20	-3.735	0.000	0.399
90.42	-11.39	-19.97	0.00	-529.03	0.00	529.03	1691.27	425.53	1078.87	1063.05	33.53	-3.754	0.000	0.507
95.00	-10.83	-19.59	0.00	-437.51	0.00	437.51	1646.42	409.07	997.03	994.50	37.23	-3.940	0.000	0.449
100.00	-10.23	-19.18	0.00	-339.57	0.00	339.57	1595.61	391.12	911.42	921.15	41.47	-4.157	0.000	0.377
105.00	-9.68	-18.77	0.00	-243.66	0.00	243.66	1542.83	373.16	829.66	849.43	45.93	-4.344	0.000	0.296
107.00	-7.21	-12.83	0.00	-206.11	0.00	206.11	1521.16	365.98	798.03	821.23	47.76	-4.410	0.000	0.257
110.00	-6.93	-12.59	0.00	-167.63	0.00	167.63	1488.07	355.21	751.74	779.49	50.56	-4.498	0.000	0.221
115.00	-6.51	-12.21	0.00	-104.66	0.00	104.66	1427.69	337.25	677.66	709.69	55.33	-4.614	0.000	0.153
117.00	-3.88	-6.12	0.00	-80.25	0.00	80.25	1397.29	330.07	649.10	679.64	57.27	-4.651	0.000	0.121
120.00	-3.66	-5.90	0.00	-61.88	0.00	61.88	1351.68	319.29	607.42	635.77	60.21	-4.697	0.000	0.100
125.00	-3.32	-5.55	0.00	-32.36	0.00	32.36	1275.66	301.34	541.02	565.91	65.15	-4.752	0.000	0.060
130.00	-0.46	-0.58	0.00	-4.63	0.00	4.63	1199.65	283.38	478.47	500.12	70.14	-4.778	0.000	0.010
130.00	-0.46	-0.58	0.00	-4.63	0.00	4.63	582.69	175.90	17307.8	281.02	70.14	-4.778	0.000	0.017
135.00	-0.24	-0.32	0.00	-1.76	0.00	1.76	582.69	175.90	17307.8	281.02	75.14	-4.784	0.000	0.007
140.00	0.00	-0.29	0.00	-0.18	0.00	0.18	582.69	175.90	17307.8	281.02	80.15	-4.785	0.000	0.001

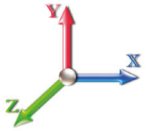
Wind Loading - Shaft

Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**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: 17	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.131	5.64	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.131	5.64	0.00	1.200	1.242	5.00	23.186	27.82	157.0	407.8	1670.9
10.00		1.00	0.85	5.131	5.64	0.00	1.200	1.331	5.00	22.715	27.26	153.8	427.2	1659.0
15.00		1.00	0.85	5.131	5.64	0.00	1.200	1.386	5.00	22.215	26.66	150.5	434.2	1634.7
20.00		1.00	0.90	5.444	5.99	0.00	1.200	1.427	5.00	21.704	26.04	156.0	435.8	1605.0
25.00		1.00	0.95	5.706	6.28	0.00	1.200	1.459	5.00	21.185	25.42	159.6	434.3	1572.1
30.00		1.00	0.98	5.929	6.52	0.00	1.200	1.486	5.00	20.662	24.79	161.7	430.6	1537.1
35.00		1.00	1.01	6.125	6.74	0.00	1.200	1.509	5.00	20.135	24.16	162.8	425.5	1500.6
40.00		1.00	1.04	6.300	6.93	0.00	1.200	1.529	5.00	19.607	23.53	163.0	419.1	1462.9
42.42	Bot - Section 2	1.00	1.06	6.378	7.02	0.00	1.200	1.538	2.42	9.285	11.14	78.2	200.9	694.2
45.00		1.00	1.07	6.458	7.10	0.00	1.200	1.547	2.58	9.925	11.91	84.6	215.9	1175.0
48.00	Top - Section 1	1.00	1.08	6.546	7.20	0.00	1.200	1.557	3.00	11.348	13.62	98.1	247.9	1342.4
50.00		1.00	1.09	6.603	7.26	0.00	1.200	1.564	2.00	7.458	8.95	65.0	164.0	493.5
55.00		1.00	1.12	6.736	7.41	0.00	1.200	1.579	5.00	18.276	21.93	162.5	401.4	1206.8
60.00		1.00	1.14	6.861	7.55	0.00	1.200	1.592	5.00	17.742	21.29	160.7	392.3	1171.6
65.00		1.00	1.16	6.978	7.68	0.00	1.200	1.605	5.00	17.207	20.65	158.5	382.8	1136.0
70.00		1.00	1.17	7.087	7.80	0.00	1.200	1.617	5.00	16.671	20.01	156.0	372.8	1099.9
75.00		1.00	1.19	7.191	7.91	0.00	1.200	1.628	5.00	16.135	19.36	153.2	362.5	1063.4
80.00		1.00	1.21	7.289	8.02	0.00	1.200	1.639	5.00	15.598	18.72	150.1	351.8	1026.7
85.00		1.00	1.22	7.383	8.12	0.00	1.200	1.649	5.00	15.061	18.07	146.8	340.9	989.6
86.25	Bot - Section 3	1.00	1.23	7.406	8.15	0.00	1.200	1.651	1.25	3.680	4.42	36.0	84.5	242.6
90.00		1.00	1.24	7.472	8.22	0.00	1.200	1.658	3.75	11.000	13.20	108.5	251.1	1094.1
90.42	Top - Section 2	1.00	1.24	7.480	8.23	0.00	1.200	1.659	0.42	1.203	1.44	11.9	27.8	119.9
95.00		1.00	1.25	7.558	8.31	0.00	1.200	1.667	4.58	12.993	15.59	129.6	296.4	741.4
100.00		1.00	1.27	7.640	8.40	0.00	1.200	1.676	5.00	13.658	16.39	137.7	311.7	777.2
105.00		1.00	1.28	7.719	8.49	0.00	1.200	1.684	5.00	13.120	15.74	133.7	299.9	744.4
107.00	Appurtenance(s)	1.00	1.28	7.749	8.52	0.00	1.200	1.687	2.00	5.096	6.12	52.1	118.0	290.0
110.00		1.00	1.29	7.795	8.57	0.00	1.200	1.692	3.00	7.483	8.98	77.0	172.7	424.4
115.00		1.00	1.30	7.868	8.65	0.00	1.200	1.699	5.00	12.041	14.45	125.1	275.6	678.4
117.00	Appurtenance(s)	1.00	1.31	7.897	8.69	0.00	1.200	1.702	2.00	4.665	5.60	48.6	108.3	263.5
120.00		1.00	1.32	7.939	8.73	0.00	1.200	1.707	3.00	6.836	8.20	71.6	157.9	384.5
125.00		1.00	1.33	8.007	8.81	0.00	1.200	1.714	5.00	10.962	13.15	115.9	250.6	611.6
130.00	Top - Section 3	1.00	1.34	8.074	8.88	0.00	1.200	1.720	5.00	10.422	12.51	111.1	237.9	578.0
135.00		1.00	1.35	8.138	8.95	0.00	1.200	1.727	5.00	9.772	11.73	105.0	229.2	545.9
140.00	Appurtenance(s)	1.00	1.36	8.201	9.02	0.00	1.200	1.733	5.00	9.778	11.73	105.8	230.1	546.8
								Totals:	**140.00**			**4,047.5**		**32,084.2**

Discrete Appurtenance Forces

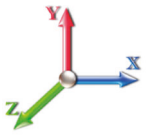
Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 22

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	140.00	Lightning Rod	1	8.243	9.068	1.00	1.00	3.41	64.20	0.000	3.500	30.90	0.00	108.13
2	130.00	Ericsson KRY 112 144/2	3	8.074	8.881	0.54	0.80	1.21	62.37	0.000	0.000	10.71	0.00	0.00
3	130.00	RFS	3	8.074	8.881	0.58	0.80	38.21	1731.68	0.000	0.000	339.35	0.00	0.00
4	130.00	T-Arms	3	8.074	8.881	0.56	0.75	25.11	1772.58	0.000	0.000	223.03	0.00	0.00
5	130.00	Ericsson AIR32	3	8.074	8.881	0.69	0.80	15.84	1019.77	0.000	0.000	140.65	0.00	0.00
6	130.00	Ericsson 4449 B71 + B85	3	8.074	8.881	0.54	0.80	4.07	259.09	0.000	0.000	36.15	0.00	0.00
7	130.00	Ericsson 4460 B25 + B66	3	8.074	8.881	0.54	0.80	5.65	554.05	0.000	0.000	50.20	0.00	0.00
8	130.00	MS-HRECP	1	8.074	8.881	1.00	1.00	24.05	1732.12	0.000	0.000	213.61	0.00	0.00
9	130.00	Ericsson AIR6449 B41	3	8.074	8.881	0.57	0.80	11.22	681.21	0.000	0.000	99.68	0.00	0.00
10	117.00	Samsung B5/B13	3	7.897	8.686	0.54	0.80	3.89	386.47	0.000	0.000	33.77	0.00	0.00
11	117.00	Commscope	3	7.897	8.686	0.48	0.80	0.22	327.53	0.000	0.000	1.89	0.00	0.00
12	117.00	Samsung B2/B66A	3	7.897	8.686	0.54	0.80	3.89	344.89	0.000	0.000	33.77	0.00	0.00
13	117.00	T-Arms	3	7.897	8.686	0.56	0.75	24.99	1765.00	0.000	0.000	217.08	0.00	0.00
14	117.00	Samsung CBRS RRH -	3	7.897	8.686	0.54	0.80	3.31	31.39	0.000	0.000	28.76	0.00	0.00
15	117.00	Commscope	1	7.897	8.686	0.54	0.80	1.51	36.98	0.000	0.000	13.15	0.00	0.00
16	117.00	12'-6" long 2.0" STD Pipe	1	7.849	8.634	0.75	0.75	9.89	213.07	0.000	-3.330	85.38	0.00	-284.30
17	117.00	Samsung MT6407-77A	3	7.897	8.686	0.56	0.80	9.43	661.58	0.000	0.000	81.91	0.00	0.00
18	117.00	Samsung	3	7.897	8.686	0.60	0.80	3.33	-82.15	0.000	0.000	28.90	0.00	0.00
19	117.00	Antel LPA-80063/6CF_5	6	7.897	8.686	0.76	0.80	55.91	1261.76	0.000	0.000	485.65	0.00	0.00
20	117.00	SitePro1 PRK-1245 kit	1	7.925	8.717	0.75	0.75	14.40	779.38	0.000	2.000	125.55	0.00	251.11
21	117.00	Andrew SBNHH-1D65B w/	6	7.897	8.686	0.66	0.80	37.55	1471.30	0.000	0.000	326.19	0.00	0.00
22	107.00	8843 B25/B66A	3	7.749	8.524	0.54	0.80	3.41	359.07	0.000	0.000	29.06	0.00	0.00
23	107.00	OPA-65R-BU6DA	2	7.749	8.524	0.58	0.80	16.30	697.61	0.000	0.000	138.92	0.00	0.00
24	107.00	OPA-65R-BU8DA	4	7.749	8.524	0.58	0.80	46.38	1837.47	0.000	0.000	395.37	0.00	0.00
25	107.00	RRUS 4478 B14	3	7.749	8.524	0.54	0.80	3.46	305.91	0.000	0.000	29.49	0.00	0.00
26	107.00	4449 B5/B12	3	7.749	8.524	0.54	0.80	4.02	369.62	0.000	0.000	34.26	0.00	0.00
27	107.00	Raycap DC6-48-60-18-8F	2	7.750	8.525	0.54	0.80	2.30	162.86	0.000	0.020	19.62	0.00	0.39
28	107.00	(3) VFA12 (Sector frame)	1	7.749	8.524	1.00	1.00	104.32	3245.68	0.000	0.000	889.25	0.00	0.00
29	107.00	4.9"x8.3"x2.4" RET	12	7.749	8.524	0.45	0.75	4.69	115.54	0.000	0.000	39.96	0.00	0.00
30	107.00	Powerwave	1	7.749	8.524	0.60	0.75	8.74	218.21	0.000	0.000	74.50	0.00	0.00
31	107.00	Commscope	1	7.749	8.524	0.60	0.75	8.77	235.67	0.000	0.000	74.74	0.00	0.00
32	107.00	AMX	1	7.749	8.524	0.58	0.75	6.27	168.59	0.000	0.000	53.46	0.00	0.00
							Totals:		**22,790.50**			**4,384.91**		

Total Applied Force Summary

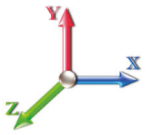
Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		157.04	1780.69	0.00	0.00
10.00		153.85	1933.33	0.00	0.00
15.00		150.46	1909.06	0.00	0.00
20.00		155.97	1879.34	0.00	0.00
25.00		159.56	1846.46	0.00	0.00
30.00		161.71	1811.48	0.00	0.00
35.00		162.79	1774.98	0.00	0.00
40.00		163.04	1737.32	0.00	0.00
42.42		78.16	826.83	0.00	0.00
45.00		84.60	1316.73	0.00	0.00
48.00		98.05	1507.06	0.00	0.00
50.00		65.00	603.22	0.00	0.00
55.00		162.51	1481.23	0.00	0.00
60.00		160.68	1446.02	0.00	0.00
65.00		158.48	1410.35	0.00	0.00
70.00		155.96	1374.27	0.00	0.00
75.00		153.15	1337.83	0.00	0.00
80.00		150.08	1301.06	0.00	0.00
85.00		146.78	1264.00	0.00	0.00
86.25		35.98	311.23	0.00	0.00
90.00		108.50	1299.88	0.00	0.00
90.42		11.88	142.72	0.00	0.00
95.00		129.62	992.95	0.00	0.00
100.00		137.74	1051.55	0.00	0.00
105.00		133.67	1018.80	0.00	0.00
107.00	(33) attachments	1830.76	8115.97	0.00	0.39
110.00		76.99	532.52	0.00	0.00
115.00		125.06	858.60	0.00	0.00
117.00	(36) attachments	1510.63	7532.83	0.00	-33.20
120.00		71.63	462.29	0.00	0.00
125.00		115.87	741.22	0.00	0.00
130.00	(22) attachments	1224.44	8520.50	0.00	0.00
135.00		104.98	545.90	0.00	0.00
140.00	(1) attachments	136.74	611.00	0.00	108.13
	Totals:	**8,432.37**	**61,279.22**	**0.00**	**75.33**

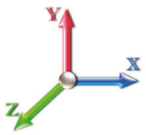
Calculated Forces

Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**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: 20	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 22

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	-61.28	-8.46	0.00	-839.03	0.00	839.03	4157.29	1099.24	4799.53	4504.76	0.00	0.000	0.000	0.201
5.00	-59.49	-8.36	0.00	-796.73	0.00	796.73	4094.64	1072.30	4567.21	4327.39	0.03	-0.053	0.000	0.199
10.00	-57.55	-8.26	0.00	-754.94	0.00	754.94	4030.02	1045.37	4340.66	4151.35	0.11	-0.107	0.000	0.196
15.00	-55.63	-8.16	0.00	-713.65	0.00	713.65	3963.43	1018.44	4119.87	3976.78	0.26	-0.163	0.000	0.194
20.00	-53.74	-8.05	0.00	-672.87	0.00	672.87	3894.87	991.50	3904.84	3803.85	0.46	-0.219	0.000	0.191
25.00	-51.89	-7.93	0.00	-632.63	0.00	632.63	3824.34	964.57	3695.58	3632.72	0.72	-0.277	0.000	0.188
30.00	-50.07	-7.81	0.00	-592.96	0.00	592.96	3751.84	937.64	3492.08	3463.54	1.04	-0.336	0.000	0.185
35.00	-48.29	-7.69	0.00	-553.90	0.00	553.90	3677.38	910.70	3294.34	3296.47	1.42	-0.396	0.000	0.181
40.00	-46.55	-7.55	0.00	-515.44	0.00	515.44	3600.94	883.77	3102.36	3131.67	1.87	-0.457	0.000	0.178
42.42	-45.72	-7.49	0.00	-497.19	0.00	497.19	3563.29	870.75	3011.64	3052.87	2.11	-0.488	0.000	0.176
45.00	-44.39	-7.42	0.00	-477.84	0.00	477.84	3522.53	856.84	2916.15	2969.29	2.38	-0.520	0.000	0.174
48.00	-42.88	-7.34	0.00	-455.57	0.00	455.57	2765.58	712.53	2419.93	2329.81	2.72	-0.559	0.000	0.211
50.00	-42.28	-7.30	0.00	-440.90	0.00	440.90	2743.08	703.55	2359.33	2281.52	2.96	-0.585	0.000	0.209
55.00	-40.79	-7.17	0.00	-404.40	0.00	404.40	2685.46	681.11	2211.20	2161.80	3.61	-0.657	0.000	0.202
60.00	-39.33	-7.05	0.00	-368.52	0.00	368.52	2625.87	658.66	2067.86	2043.62	4.34	-0.731	0.000	0.195
65.00	-37.92	-6.92	0.00	-333.29	0.00	333.29	2564.31	636.22	1929.34	1927.14	5.15	-0.804	0.000	0.188
70.00	-36.54	-6.79	0.00	-298.70	0.00	298.70	2500.78	613.77	1795.61	1812.53	6.03	-0.878	0.000	0.180
75.00	-35.19	-6.66	0.00	-264.76	0.00	264.76	2435.28	591.33	1666.69	1699.95	6.99	-0.951	0.000	0.170
80.00	-33.89	-6.53	0.00	-231.47	0.00	231.47	2367.81	568.88	1542.56	1589.54	8.02	-1.022	0.000	0.160
85.00	-32.62	-6.38	0.00	-198.83	0.00	198.83	2298.37	546.44	1423.24	1481.47	9.13	-1.092	0.000	0.149
86.25	-32.31	-6.36	0.00	-190.85	0.00	190.85	2280.70	540.83	1394.16	1454.84	9.42	-1.110	0.000	0.145
90.00	-31.01	-6.24	0.00	-167.00	0.00	167.00	2218.24	523.99	1308.73	1370.52	10.31	-1.161	0.000	0.136
90.42	-30.86	-6.24	0.00	-164.40	0.00	164.40	1691.27	425.53	1078.87	1063.05	10.42	-1.167	0.000	0.173
95.00	-29.86	-6.13	0.00	-135.78	0.00	135.78	1646.42	409.07	997.03	994.50	11.56	-1.225	0.000	0.155
100.00	-28.81	-6.00	0.00	-105.15	0.00	105.15	1595.61	391.12	911.42	921.15	12.88	-1.292	0.000	0.132
105.00	-27.79	-5.86	0.00	-75.16	0.00	75.16	1542.83	373.16	829.66	849.43	14.27	-1.350	0.000	0.107
107.00	-19.72	-3.84	0.00	-63.45	0.00	63.45	1521.16	365.98	798.03	821.23	14.84	-1.370	0.000	0.090
110.00	-19.19	-3.76	0.00	-51.91	0.00	51.91	1488.07	355.21	751.74	779.49	15.71	-1.397	0.000	0.080
115.00	-18.33	-3.63	0.00	-33.09	0.00	33.09	1427.69	337.25	677.66	709.69	17.20	-1.434	0.000	0.060
117.00	-10.84	-1.93	0.00	-25.84	0.00	25.84	1397.29	330.07	649.10	679.64	17.80	-1.445	0.000	0.046
120.00	-10.37	-1.85	0.00	-20.05	0.00	20.05	1351.68	319.29	607.42	635.77	18.71	-1.460	0.000	0.039
125.00	-9.64	-1.72	0.00	-10.81	0.00	10.81	1275.66	301.34	541.02	565.91	20.25	-1.478	0.000	0.027
130.00	-1.15	-0.27	0.00	-2.23	0.00	2.23	1199.65	283.38	478.47	500.12	21.81	-1.487	0.000	0.005
130.00	-1.15	-0.27	0.00	-2.23	0.00	2.23	582.69	175.90	17307.8	281.02	21.81	-1.487	0.000	0.010
135.00	-0.61	-0.15	0.00	-0.87	0.00	0.87	582.69	175.90	17307.8	281.02	23.37	-1.490	0.000	0.004
140.00	0.00	-0.14	0.00	-0.11	0.00	0.11	582.69	175.90	17307.8	281.02	24.93	-1.491	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**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: 21	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.19	**Iterations**	20
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.09	**Ss**	0.18
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.38	**SA**	0.03	**S1**	0.06
						Seismic Importance Factor	1.00

Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	
5.00		1162.3	2.50	44.88	0.01	
10.00		1300.8	7.50	50.23	0.11	
15.00		1274.7	12.50	49.22	0.28	
20.00		1248.6	17.50	48.21	0.53	
25.00		1222.5	22.50	47.21	0.85	
30.00		1196.4	27.50	46.20	1.21	
35.00		1170.3	32.50	45.19	1.62	
40.00		1144.2	37.50	44.18	2.06	
42.42	Bot - Section 2	543.67	41.21	20.99	0.56	
45.00		940.97	43.71	36.33	1.89	
48.00	Top - Section 1	1076.7	46.50	41.57	2.80	
50.00		384.32	49.00	14.84	0.40	
55.00		945.56	52.50	36.51	2.76	
60.00		923.80	57.50	35.67	3.16	
65.00		902.04	62.50	34.83	3.56	
70.00		880.28	67.50	33.99	3.95	
75.00		858.52	72.50	33.15	4.33	
80.00		836.77	77.50	32.31	4.71	
85.00		815.01	82.50	31.47	5.06	
86.25	Bot - Section 3	200.35	85.63	7.74	0.33	
90.00		908.28	88.13	35.07	7.17	
90.42	Top - Section 2	99.56	90.21	3.84	0.09	
95.00		622.36	92.71	24.03	3.72	
100.00		662.25	97.50	25.57	4.66	
105.00		644.85	102.50	24.90	4.89	
107.00	Appurtenance(s)	3248.2	106.00	125.43	132.64	
110.00		317.89	108.50	12.27	1.33	
115.00		515.89	112.50	19.92	3.77	
117.00	Appurtenance(s)	3469.3	116.00	133.96	181.20	
120.00		266.62	118.50	10.29	1.12	
125.00		430.44	122.50	16.62	3.11	
130.00	Top - Section 3	3646.2	127.50	140.80	241.81	
135.00		263.91	132.50	10.19	1.37	
140.00	Appurtenance(s)	298.91	137.50	11.54	1.89	
	Totals:	**34,423.0**		**1,329.2**	**628.9**	**Total Wind:** **27,797.7**

Calculated Forces

Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**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: 22	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.19			**Iterations**	20
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.09			**Ss**	0.18
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.38	**SA**	0.03			**S1**	0.06
								Seismic Importance Factor	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-41.36	-0.63	0.00	-75.95	0.00	75.95	4157.29	1099.24	4799.53	4504.76		0.00	0.00	0.027
5.00	-39.94	-0.63	0.00	-72.80	0.00	72.80	4094.64	1072.30	4567.21	4327.39		0.00	0.00	0.027
10.00	-38.38	-0.64	0.00	-69.63	0.00	69.63	4030.02	1045.37	4340.66	4151.35		0.01	-0.01	0.026
15.00	-36.86	-0.64	0.00	-66.45	0.00	66.45	3963.43	1018.44	4119.87	3976.78		0.02	-0.01	0.026
20.00	-35.37	-0.64	0.00	-63.26	0.00	63.26	3894.87	991.50	3904.84	3803.85		0.04	-0.02	0.026
25.00	-33.91	-0.64	0.00	-60.05	0.00	60.05	3824.34	964.57	3695.58	3632.72		0.07	-0.03	0.025
30.00	-32.48	-0.64	0.00	-56.83	0.00	56.83	3751.84	937.64	3492.08	3463.54		0.10	-0.03	0.025
35.00	-31.08	-0.65	0.00	-53.61	0.00	53.61	3677.38	910.70	3294.34	3296.47		0.13	-0.04	0.025
40.00	-29.72	-0.64	0.00	-50.38	0.00	50.38	3600.94	883.77	3102.36	3131.67		0.17	-0.04	0.024
42.42	-29.08	-0.65	0.00	-48.82	0.00	48.82	3563.29	870.75	3011.64	3052.87		0.20	-0.05	0.024
45.00	-27.94	-0.64	0.00	-47.15	0.00	47.15	3522.53	856.84	2916.15	2969.29		0.22	-0.05	0.024
48.00	-26.64	-0.64	0.00	-45.22	0.00	45.22	2765.58	712.53	2419.93	2329.81		0.25	-0.05	0.029
50.00	-26.18	-0.64	0.00	-43.94	0.00	43.94	2743.08	703.55	2359.33	2281.52		0.28	-0.06	0.029
55.00	-25.07	-0.64	0.00	-40.72	0.00	40.72	2685.46	681.11	2211.20	2161.80		0.34	-0.06	0.028
60.00	-23.98	-0.64	0.00	-37.51	0.00	37.51	2625.87	658.66	2067.86	2043.62		0.41	-0.07	0.027
65.00	-22.91	-0.64	0.00	-34.30	0.00	34.30	2564.31	636.22	1929.34	1927.14		0.49	-0.08	0.027
70.00	-21.88	-0.64	0.00	-31.11	0.00	31.11	2500.78	613.77	1795.61	1812.53		0.57	-0.09	0.026
75.00	-20.87	-0.63	0.00	-27.92	0.00	27.92	2435.28	591.33	1666.69	1699.95		0.67	-0.09	0.025
80.00	-19.89	-0.63	0.00	-24.75	0.00	24.75	2367.81	568.88	1542.56	1589.54		0.77	-0.10	0.024
85.00	-18.93	-0.62	0.00	-21.60	0.00	21.60	2298.37	546.44	1423.24	1481.47		0.88	-0.11	0.023
86.25	-18.70	-0.63	0.00	-20.82	0.00	20.82	2280.70	540.83	1394.16	1454.84		0.91	-0.11	0.023
90.00	-17.62	-0.62	0.00	-18.48	0.00	18.48	2218.24	523.99	1308.73	1370.52		0.99	-0.12	0.021
90.42	-17.50	-0.62	0.00	-18.22	0.00	18.22	1691.27	425.53	1078.87	1063.05		1.00	-0.12	0.027
95.00	-16.78	-0.61	0.00	-15.39	0.00	15.39	1646.42	409.07	997.03	994.50		1.12	-0.12	0.026
100.00	-16.01	-0.61	0.00	-12.32	0.00	12.32	1595.61	391.12	911.42	921.15		1.25	-0.13	0.023
105.00	-15.27	-0.60	0.00	-9.27	0.00	9.27	1542.83	373.16	829.66	849.43		1.39	-0.14	0.021
107.00	-11.27	-0.46	0.00	-8.06	0.00	8.06	1521.16	365.98	798.03	821.23		1.45	-0.14	0.017
110.00	-10.89	-0.46	0.00	-6.67	0.00	6.67	1488.07	355.21	751.74	779.49		1.54	-0.14	0.016
115.00	-10.29	-0.46	0.00	-4.36	0.00	4.36	1427.69	337.25	677.66	709.69		1.69	-0.15	0.013
117.00	-6.01	-0.26	0.00	-3.44	0.00	3.44	1397.29	330.07	649.10	679.64		1.76	-0.15	0.009
120.00	-5.69	-0.26	0.00	-2.65	0.00	2.65	1351.68	319.29	607.42	635.77		1.85	-0.15	0.008
125.00	-5.19	-0.26	0.00	-1.33	0.00	1.33	1275.66	301.34	541.02	565.91		2.01	-0.15	0.006
130.00	-0.70	-0.01	0.00	-0.04	0.00	0.04	1199.65	283.38	478.47	500.12		2.17	-0.16	0.001
130.00	-0.70	-0.01	0.00	-0.04	0.00	0.04	582.69	175.90	17307.8	281.02		2.17	-0.16	0.001
135.00	-0.37	0.00	0.00	-0.01	0.00	0.01	582.69	175.90	17307.8	281.02		2.34	-0.16	0.001
140.00	0.00	0.00	0.00	0.00	0.00	0.00	582.69	175.90	17307.8	281.02		2.50	-0.16	0.000

Seismic Segment Forces (Factored)

Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**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: 23	

Tower Engineering Solutions

Load Case: 0.9D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.19	**Iterations**	20
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.09	**Ss**	0.18
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.38	**SA**	0.03	**S1**	0.06
						Seismic Importance Factor	1.00

Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	
5.00		1134.9	2.50	43.82	0.01	
10.00		1232.2	7.50	47.58	0.10	
15.00		1206.1	12.50	46.57	0.26	
20.00		1180.0	17.50	45.57	0.49	
25.00		1153.9	22.50	44.56	0.78	
30.00		1127.8	27.50	43.55	1.11	
35.00		1101.7	32.50	42.54	1.48	
40.00		1075.6	37.50	41.53	1.88	
42.42	Bot - Section 2	510.52	41.21	19.71	0.51	
45.00		905.53	43.71	34.97	1.81	
48.00	Top - Section 1	1035.5	46.50	39.99	2.67	
50.00		356.88	49.00	13.78	0.35	
55.00		876.97	52.50	33.86	2.44	
60.00		855.21	57.50	33.02	2.79	
65.00		833.45	62.50	32.18	3.13	
70.00		811.69	67.50	31.34	3.46	
75.00		789.93	72.50	30.50	3.78	
80.00		768.17	77.50	29.66	4.09	
85.00		746.41	82.50	28.82	4.37	
86.25	Bot - Section 3	183.20	85.63	7.07	0.28	
90.00		856.83	88.13	33.09	6.57	
90.42	Top - Section 2	93.84	90.21	3.62	0.08	
95.00		559.48	92.71	21.60	3.10	
100.00		593.66	97.50	22.92	3.86	
105.00		576.25	102.50	22.25	4.02	
107.00	Appurtenance(s)	3220.8	106.00	124.37	134.40	
110.00		290.85	108.50	11.23	1.15	
115.00		470.83	112.50	18.18	3.24	
117.00	Appurtenance(s)	3451.3	116.00	133.27	184.82	
120.00		247.18	118.50	9.54	0.99	
125.00		398.04	122.50	15.37	2.74	
130.00	Top - Section 3	3613.8	127.50	139.54	244.81	
135.00		263.91	132.50	10.19	1.41	
140.00	Appurtenance(s)	298.91	137.50	11.54	1.95	
	Totals:	**32,821.8**		**1,267.4**	**628.9**	**Total Wind:** **27,797.7**

Calculated Forces

Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**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: 24	

Tower Engineering Solutions

Load Case: 0.9D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.19			**Iterations**	20
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.09			**Ss**	0.18
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.38	**SA**	0.03			**S1**	0.06
								Seismic Importance Factor	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-31.29	-0.63	0.00	-75.47	0.00	75.47	4157.29	1099.24	4799.53	4504.76		0.00	0.00	0.024
5.00	-30.21	-0.63	0.00	-72.32	0.00	72.32	4094.64	1072.30	4567.21	4327.39		0.00	0.00	0.024
10.00	-29.04	-0.63	0.00	-69.16	0.00	69.16	4030.02	1045.37	4340.66	4151.35		0.01	-0.01	0.024
15.00	-27.88	-0.64	0.00	-65.99	0.00	65.99	3963.43	1018.44	4119.87	3976.78		0.02	-0.01	0.024
20.00	-26.76	-0.64	0.00	-62.81	0.00	62.81	3894.87	991.50	3904.84	3803.85		0.04	-0.02	0.023
25.00	-25.65	-0.64	0.00	-59.62	0.00	59.62	3824.34	964.57	3695.58	3632.72		0.07	-0.03	0.023
30.00	-24.57	-0.64	0.00	-56.42	0.00	56.42	3751.84	937.64	3492.08	3463.54		0.10	-0.03	0.023
35.00	-23.52	-0.64	0.00	-53.22	0.00	53.22	3677.38	910.70	3294.34	3296.47		0.13	-0.04	0.023
40.00	-22.49	-0.64	0.00	-50.02	0.00	50.02	3600.94	883.77	3102.36	3131.67		0.17	-0.04	0.022
42.42	-22.00	-0.64	0.00	-48.47	0.00	48.47	3563.29	870.75	3011.64	3052.87		0.19	-0.05	0.022
45.00	-21.14	-0.64	0.00	-46.82	0.00	46.82	3522.53	856.84	2916.15	2969.29		0.22	-0.05	0.022
48.00	-20.15	-0.64	0.00	-44.90	0.00	44.90	2765.58	712.53	2419.93	2329.81		0.25	-0.05	0.027
50.00	-19.81	-0.64	0.00	-43.63	0.00	43.63	2743.08	703.55	2359.33	2281.52		0.28	-0.06	0.026
55.00	-18.97	-0.64	0.00	-40.44	0.00	40.44	2685.46	681.11	2211.20	2161.80		0.34	-0.06	0.026
60.00	-18.14	-0.64	0.00	-37.26	0.00	37.26	2625.87	658.66	2067.86	2043.62		0.41	-0.07	0.025
65.00	-17.34	-0.63	0.00	-34.08	0.00	34.08	2564.31	636.22	1929.34	1927.14		0.48	-0.08	0.024
70.00	-16.56	-0.63	0.00	-30.92	0.00	30.92	2500.78	613.77	1795.61	1812.53		0.57	-0.08	0.024
75.00	-15.80	-0.63	0.00	-27.76	0.00	27.76	2435.28	591.33	1666.69	1699.95		0.66	-0.09	0.023
80.00	-15.05	-0.62	0.00	-24.62	0.00	24.62	2367.81	568.88	1542.56	1589.54		0.76	-0.10	0.022
85.00	-14.33	-0.62	0.00	-21.50	0.00	21.50	2298.37	546.44	1423.24	1481.47		0.87	-0.11	0.021
86.25	-14.16	-0.62	0.00	-20.73	0.00	20.73	2280.70	540.83	1394.16	1454.84		0.90	-0.11	0.020
90.00	-13.34	-0.61	0.00	-18.40	0.00	18.40	2218.24	523.99	1308.73	1370.52		0.99	-0.12	0.019
90.42	-13.25	-0.61	0.00	-18.14	0.00	18.14	1691.27	425.53	1078.87	1063.05		1.00	-0.12	0.025
95.00	-12.70	-0.61	0.00	-15.33	0.00	15.33	1646.42	409.07	997.03	994.50		1.11	-0.12	0.023
100.00	-12.12	-0.61	0.00	-12.28	0.00	12.28	1595.61	391.12	911.42	921.15		1.24	-0.13	0.021
105.00	-11.56	-0.60	0.00	-9.24	0.00	9.24	1542.83	373.16	829.66	849.43		1.38	-0.14	0.018
107.00	-8.53	-0.46	0.00	-8.03	0.00	8.03	1521.16	365.98	798.03	821.23		1.44	-0.14	0.015
110.00	-8.25	-0.46	0.00	-6.65	0.00	6.65	1488.07	355.21	751.74	779.49		1.53	-0.14	0.014
115.00	-7.79	-0.46	0.00	-4.34	0.00	4.34	1427.69	337.25	677.66	709.69		1.68	-0.15	0.012
117.00	-4.55	-0.26	0.00	-3.43	0.00	3.43	1397.29	330.07	649.10	679.64		1.75	-0.15	0.008
120.00	-4.31	-0.26	0.00	-2.64	0.00	2.64	1351.68	319.29	607.42	635.77		1.84	-0.15	0.007
125.00	-3.93	-0.26	0.00	-1.33	0.00	1.33	1275.66	301.34	541.02	565.91		2.00	-0.15	0.005
130.00	-0.53	0.00	0.00	-0.04	0.00	0.04	1199.65	283.38	478.47	500.12		2.16	-0.15	0.001
130.00	-0.53	0.00	0.00	-0.04	0.00	0.04	582.69	175.90	17307.8	281.02		2.16	-0.15	0.001
135.00	-0.28	0.00	0.00	-0.01	0.00	0.01	582.69	175.90	17307.8	281.02		2.32	-0.15	0.001
140.00	0.00	0.00	0.00	0.00	0.00	0.00	582.69	175.90	17307.8	281.02		2.48	-0.15	0.000

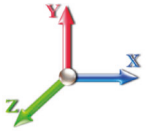
Wind Loading - Shaft

Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**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	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	6.611	7.27	247.20	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	6.611	7.27	241.18	0.730	0.000	5.00	22.151	16.17	117.6	0.0	1052.6
10.00		1.00	0.85	6.611	7.27	235.17	0.730	0.000	5.00	21.606	15.77	114.7	0.0	1026.5
15.00		1.00	0.85	6.611	7.27	229.16	0.730	0.000	5.00	21.060	15.37	111.8	0.0	1000.4
20.00		1.00	0.90	7.014	7.72	229.85	0.730	0.000	5.00	20.515	14.98	115.6	0.0	974.3
25.00		1.00	0.95	7.352	8.09	228.97	0.730	0.000	5.00	19.969	14.58	117.9	0.0	948.2
30.00		1.00	0.98	7.640	8.40	226.94	0.730	0.000	5.00	19.423	14.18	119.2	0.0	922.0
35.00		1.00	1.01	7.891	8.68	224.09	0.730	0.000	5.00	18.878	13.78	119.6	0.0	895.9
40.00		1.00	1.04	8.116	8.93	220.59	0.730	0.000	5.00	18.332	13.38	119.5	0.0	869.8
42.42	Bot - Section 2	1.00	1.06	8.217	9.04	218.72	0.730	0.000	2.42	8.665	6.33	57.2	0.0	411.1
45.00		1.00	1.07	8.320	9.15	216.60	0.730	0.000	2.58	9.258	6.76	61.9	0.0	799.2
48.00	Top - Section 1	1.00	1.08	8.434	9.28	214.00	0.730	0.000	3.00	10.569	7.72	71.6	0.0	912.1
50.00		1.00	1.09	8.507	9.36	215.50	0.730	0.000	2.00	6.937	5.06	47.4	0.0	274.6
55.00		1.00	1.12	8.679	9.55	210.78	0.730	0.000	5.00	16.960	12.38	118.2	0.0	671.2
60.00		1.00	1.14	8.840	9.72	205.77	0.730	0.000	5.00	16.415	11.98	116.5	0.0	649.4
65.00		1.00	1.16	8.990	9.89	200.49	0.730	0.000	5.00	15.869	11.58	114.6	0.0	627.7
70.00		1.00	1.17	9.131	10.04	195.00	0.730	0.000	5.00	15.324	11.19	112.4	0.0	605.9
75.00		1.00	1.19	9.265	10.19	189.30	0.730	0.000	5.00	14.778	10.79	109.9	0.0	584.1
80.00		1.00	1.21	9.392	10.33	183.42	0.730	0.000	5.00	14.232	10.39	107.3	0.0	562.4
85.00		1.00	1.22	9.512	10.46	177.38	0.730	0.000	5.00	13.687	9.99	104.5	0.0	540.6
86.25	Bot - Section 3	1.00	1.23	9.542	10.50	175.85	0.730	0.000	1.25	3.336	2.44	25.6	0.0	131.8
90.00		1.00	1.24	9.627	10.59	171.19	0.730	0.000	3.75	9.964	7.27	77.0	0.0	702.5
90.42	Top - Section 2	1.00	1.24	9.637	10.60	170.67	0.730	0.000	0.42	1.088	0.79	8.4	0.0	76.7
95.00		1.00	1.25	9.738	10.71	167.70	0.730	0.000	4.58	11.719	8.56	91.6	0.0	370.8
100.00		1.00	1.27	9.843	10.83	161.27	0.730	0.000	5.00	12.262	8.95	96.9	0.0	387.9
105.00		1.00	1.28	9.945	10.94	154.73	0.730	0.000	5.00	11.716	8.55	93.6	0.0	370.5
107.00	Appurtenance(s)	1.00	1.28	9.985	10.98	152.08	0.730	0.000	2.00	4.534	3.31	36.3	0.0	143.3
110.00		1.00	1.29	10.043	11.05	148.07	0.730	0.000	3.00	6.637	4.84	53.5	0.0	209.7
115.00		1.00	1.30	10.137	11.15	141.32	0.730	0.000	5.00	10.625	7.76	86.5	0.0	335.7
117.00	Appurtenance(s)	1.00	1.31	10.174	11.19	138.59	0.730	0.000	2.00	4.097	2.99	33.5	0.0	129.4
120.00		1.00	1.32	10.229	11.25	134.47	0.730	0.000	3.00	5.982	4.37	49.1	0.0	188.9
125.00		1.00	1.33	10.317	11.35	127.54	0.730	0.000	5.00	9.534	6.96	79.0	0.0	300.8
130.00	Top - Section 3	1.00	1.34	10.402	11.44	120.52	0.730	0.000	5.00	8.989	6.56	75.1	0.0	283.4
135.00		1.00	1.35	10.485	11.53	115.69	0.600	0.000	5.00	8.333	5.00	57.7	0.0	263.9
140.00	Appurtenance(s)	1.00	1.36	10.566	11.62	116.14	0.600	0.000	5.00	8.333	5.00	58.1	0.0	263.9
								Totals:	**140.00**			**2,879.2**		**18,487.1**

Discrete Appurtenance Forces

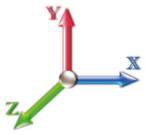
Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 26	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

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	140.00	Lightning Rod	1	10.621	11.683	1.00	1.00	1.05	35.00	0.000	3.500	12.27	0.00	42.94
2	130.00	Ericsson KRY 112 144/2	3	10.402	11.443	0.54	0.80	0.56	33.06	0.000	0.000	6.44	0.00	0.00
3	130.00	RFS	3	10.402	11.443	0.58	0.80	34.97	384.00	0.000	0.000	400.20	0.00	0.00
4	130.00	T-Arms	3	10.402	11.443	0.56	0.75	13.50	1050.00	0.000	0.000	154.48	0.00	0.00
5	130.00	Ericsson AIR32	3	10.402	11.443	0.69	0.80	13.44	396.60	0.000	0.000	153.75	0.00	0.00
6	130.00	Ericsson 4449 B71 + B85	3	10.402	11.443	0.54	0.80	3.17	219.60	0.000	0.000	36.25	0.00	0.00
7	130.00	Ericsson 4460 B25 + B66	3	10.402	11.443	0.54	0.80	4.58	327.00	0.000	0.000	52.44	0.00	0.00
8	130.00	MS-HRECP	1	10.402	11.443	1.00	1.00	12.25	514.00	0.000	0.000	140.17	0.00	0.00
9	130.00	Ericsson AIR6449 B41	3	10.402	11.443	0.57	0.80	9.63	309.00	0.000	0.000	110.16	0.00	0.00
10	117.00	Samsung B5/B13	3	10.174	11.192	0.54	0.80	3.02	219.90	0.000	0.000	33.83	0.00	0.00
11	117.00	Commscope	3	10.174	11.192	0.48	0.80	0.13	202.20	0.000	0.000	1.45	0.00	0.00
12	117.00	Samsung B2/B66A	3	10.174	11.192	0.54	0.80	3.02	252.00	0.000	0.000	33.83	0.00	0.00
13	117.00	T-Arms	3	10.174	11.192	0.56	0.75	13.50	1050.00	0.000	0.000	151.09	0.00	0.00
14	117.00	Samsung CBRS RRH -	3	10.174	11.192	0.54	0.80	2.46	69.42	0.000	0.000	27.53	0.00	0.00
15	117.00	Commscope	1	10.174	11.192	0.54	0.80	1.00	15.10	0.000	0.000	11.22	0.00	0.00
16	117.00	12'-6" long 2.0" STD Pipe	1	10.113	11.124	0.75	0.75	5.06	261.72	0.000	-3.330	56.31	0.00	-187.53
17	117.00	Samsung MT6407-77A	3	10.174	11.192	0.56	0.80	7.91	261.30	0.000	0.000	88.56	0.00	0.00
18	117.00	Samsung	3	10.174	11.192	0.60	0.80	2.77	69.30	0.000	0.000	31.02	0.00	0.00
19	117.00	Antel LPA-80063/6CF_5	6	10.174	11.192	0.76	0.80	43.73	162.00	0.000	0.000	489.41	0.00	0.00
20	117.00	SitePro1 PRK-1245 kit	1	10.211	11.232	0.75	0.75	7.13	464.91	0.000	2.000	80.03	0.00	160.05
21	117.00	Andrew SBNHH-1D65B w/	6	10.174	11.192	0.66	0.80	32.51	240.00	0.000	0.000	363.83	0.00	0.00
22	107.00	8843 B25/B66A	3	9.985	10.983	0.54	0.80	2.64	216.00	0.000	0.000	28.96	0.00	0.00
23	107.00	OPA-65R-BU6DA	2	9.985	10.983	0.58	0.80	14.64	120.40	0.000	0.000	160.81	0.00	0.00
24	107.00	OPA-65R-BU8DA	4	9.985	10.983	0.58	0.80	29.69	306.00	0.000	0.000	326.09	0.00	0.00
25	107.00	RRUS 4478 B14	3	9.985	10.983	0.54	0.80	2.65	178.20	0.000	0.000	29.14	0.00	0.00
26	107.00	4449 B5/B12	3	9.985	10.983	0.54	0.80	3.17	213.00	0.000	0.000	34.79	0.00	0.00
27	107.00	Raycap DC6-48-60-18-8F	2	9.985	10.983	0.54	0.80	1.58	65.60	0.000	0.020	17.31	0.00	0.35
28	107.00	(3) VFA12 (Sector frame)	1	9.985	10.983	1.00	1.00	47.10	1696.00	0.000	0.000	517.30	0.00	0.00
29	107.00	4.9"x8.3"x2.4" RET	12	9.985	10.983	0.45	0.75	2.16	26.40	0.000	0.000	23.72	0.00	0.00
30	107.00	Powerwave	1	9.985	10.983	0.60	0.75	6.86	59.00	0.000	0.000	75.39	0.00	0.00
31	107.00	Commscope	1	9.985	10.983	0.60	0.75	6.88	66.10	0.000	0.000	75.59	0.00	0.00
32	107.00	AMX	1	9.985	10.983	0.58	0.75	4.69	48.50	0.000	0.000	51.53	0.00	0.00
							Totals:		**9,531.31**			**3,774.92**		

Total Applied Force Summary

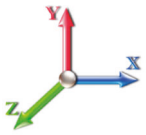
Structure:	CT13548-S-SBA		**Code:**	TIA-222-H	6/8/2023
Site Name:	Bloomfield 4		**Exposure:**	C	
Height:	140.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 27

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		117.59	1144.06	0.00	0.00
10.00		114.69	1255.14	0.00	0.00
15.00		111.80	1229.03	0.00	0.00
20.00		115.55	1202.92	0.00	0.00
25.00		117.89	1176.81	0.00	0.00
30.00		119.15	1150.70	0.00	0.00
35.00		119.63	1124.59	0.00	0.00
40.00		119.48	1098.48	0.00	0.00
42.42		57.18	521.57	0.00	0.00
45.00		61.86	917.34	0.00	0.00
48.00		71.58	1049.26	0.00	0.00
50.00		47.39	366.02	0.00	0.00
55.00		118.20	899.83	0.00	0.00
60.00		116.52	878.07	0.00	0.00
65.00		114.56	856.31	0.00	0.00
70.00		112.36	834.55	0.00	0.00
75.00		109.94	812.79	0.00	0.00
80.00		107.33	791.04	0.00	0.00
85.00		104.55	769.28	0.00	0.00
86.25		25.56	188.92	0.00	0.00
90.00		77.03	873.98	0.00	0.00
90.42		8.42	95.75	0.00	0.00
95.00		91.64	580.44	0.00	0.00
100.00		96.92	616.52	0.00	0.00
105.00		93.56	599.12	0.00	0.00
107.00	(33) attachments	1376.99	3229.97	0.00	0.35
110.00		53.52	299.87	0.00	0.00
115.00		86.49	485.85	0.00	0.00
117.00	(36) attachments	1401.59	3457.32	0.00	-27.48
120.00		49.14	253.66	0.00	0.00
125.00		78.98	408.84	0.00	0.00
130.00	(22) attachments	1128.97	3624.69	0.00	0.00
135.00		57.67	263.91	0.00	0.00
140.00	(1) attachments	70.38	298.91	0.00	42.94
	Totals:	**6,654.12**	**33,355.54**	**0.00**	**15.81**

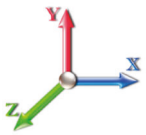
Calculated Forces

Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**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: 28	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

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	-33.35	-6.67	0.00	-652.36	0.00	652.36	4157.29	1099.24	4799.53	4504.76	0.00	0.000	0.000	0.153
5.00	-32.20	-6.57	0.00	-619.03	0.00	619.03	4094.64	1072.30	4567.21	4327.39	0.02	-0.041	0.000	0.151
10.00	-30.94	-6.48	0.00	-586.17	0.00	586.17	4030.02	1045.37	4340.66	4151.35	0.09	-0.083	0.000	0.149
15.00	-29.71	-6.39	0.00	-553.78	0.00	553.78	3963.43	1018.44	4119.87	3976.78	0.20	-0.126	0.000	0.147
20.00	-28.50	-6.29	0.00	-521.85	0.00	521.85	3894.87	991.50	3904.84	3803.85	0.35	-0.170	0.000	0.145
25.00	-27.32	-6.19	0.00	-490.40	0.00	490.40	3824.34	964.57	3695.58	3632.72	0.56	-0.215	0.000	0.142
30.00	-26.17	-6.09	0.00	-459.45	0.00	459.45	3751.84	937.64	3492.08	3463.54	0.81	-0.261	0.000	0.140
35.00	-25.04	-5.98	0.00	-429.01	0.00	429.01	3677.38	910.70	3294.34	3296.47	1.11	-0.307	0.000	0.137
40.00	-23.94	-5.87	0.00	-399.10	0.00	399.10	3600.94	883.77	3102.36	3131.67	1.45	-0.354	0.000	0.134
42.42	-23.41	-5.82	0.00	-384.91	0.00	384.91	3563.29	870.75	3011.64	3052.87	1.64	-0.378	0.000	0.133
45.00	-22.49	-5.76	0.00	-369.87	0.00	369.87	3522.53	856.84	2916.15	2969.29	1.85	-0.404	0.000	0.131
48.00	-21.44	-5.69	0.00	-352.58	0.00	352.58	2765.58	712.53	2419.93	2329.81	2.11	-0.433	0.000	0.159
50.00	-21.07	-5.66	0.00	-341.20	0.00	341.20	2743.08	703.55	2359.33	2281.52	2.30	-0.453	0.000	0.157
55.00	-20.17	-5.55	0.00	-312.91	0.00	312.91	2685.46	681.11	2211.20	2161.80	2.80	-0.510	0.000	0.152
60.00	-19.29	-5.45	0.00	-285.15	0.00	285.15	2625.87	658.66	2067.86	2043.62	3.37	-0.566	0.000	0.147
65.00	-18.43	-5.34	0.00	-257.92	0.00	257.92	2564.31	636.22	1929.34	1927.14	3.99	-0.623	0.000	0.141
70.00	-17.59	-5.24	0.00	-231.22	0.00	231.22	2500.78	613.77	1795.61	1812.53	4.68	-0.680	0.000	0.135
75.00	-16.77	-5.13	0.00	-205.03	0.00	205.03	2435.28	591.33	1666.69	1699.95	5.42	-0.737	0.000	0.128
80.00	-15.98	-5.03	0.00	-179.37	0.00	179.37	2367.81	568.88	1542.56	1589.54	6.22	-0.792	0.000	0.120
85.00	-15.21	-4.92	0.00	-154.22	0.00	154.22	2298.37	546.44	1423.24	1481.47	7.08	-0.846	0.000	0.111
86.25	-15.02	-4.90	0.00	-148.06	0.00	148.06	2280.70	540.83	1394.16	1454.84	7.30	-0.860	0.000	0.108
90.00	-14.14	-4.82	0.00	-129.68	0.00	129.68	2218.24	523.99	1308.73	1370.52	8.00	-0.900	0.000	0.101
90.42	-14.04	-4.81	0.00	-127.67	0.00	127.67	1691.27	425.53	1078.87	1063.05	8.07	-0.904	0.000	0.129
95.00	-13.46	-4.72	0.00	-105.61	0.00	105.61	1646.42	409.07	997.03	994.50	8.96	-0.949	0.000	0.115
100.00	-12.84	-4.63	0.00	-81.99	0.00	81.99	1595.61	391.12	911.42	921.15	9.99	-1.002	0.000	0.097
105.00	-12.24	-4.53	0.00	-58.85	0.00	58.85	1542.83	373.16	829.66	849.43	11.06	-1.047	0.000	0.077
107.00	-9.04	-3.10	0.00	-49.79	0.00	49.79	1521.16	365.98	798.03	821.23	11.50	-1.063	0.000	0.067
110.00	-8.74	-3.04	0.00	-40.50	0.00	40.50	1488.07	355.21	751.74	779.49	12.18	-1.084	0.000	0.058
115.00	-8.25	-2.95	0.00	-25.30	0.00	25.30	1427.69	337.25	677.66	709.69	13.33	-1.112	0.000	0.041
117.00	-4.82	-1.48	0.00	-19.40	0.00	19.40	1397.29	330.07	649.10	679.64	13.80	-1.121	0.000	0.032
120.00	-4.57	-1.43	0.00	-14.96	0.00	14.96	1351.68	319.29	607.42	635.77	14.51	-1.132	0.000	0.027
125.00	-4.16	-1.34	0.00	-7.82	0.00	7.82	1275.66	301.34	541.02	565.91	15.70	-1.145	0.000	0.017
130.00	-0.56	-0.14	0.00	-1.12	0.00	1.12	1199.65	283.38	478.47	500.12	16.90	-1.152	0.000	0.003
130.00	-0.56	-0.14	0.00	-1.12	0.00	1.12	582.69	175.90	17307.8	281.02	16.90	-1.152	0.000	0.005
135.00	-0.30	-0.08	0.00	-0.42	0.00	0.42	582.69	175.90	17307.8	281.02	18.11	-1.153	0.000	0.002
140.00	0.00	-0.07	0.00	-0.04	0.00	0.04	582.69	175.90	17307.8	281.02	19.32	-1.153	0.000	0.000

Final Analysis Summary

Structure:	CT13548-S-SBA	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**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	

Tower Engineering Solutions

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 116 mph Wind	27.9	0.00	39.98	0.00	0.00	2740.29
0.9D + 1.0W 116 mph Wind	27.8	0.00	29.98	0.00	0.00	2713.92
1.2D + 1.0Di + 1.0Wi 50 mph Wind	8.5	0.00	61.28	0.00	0.00	839.03
1.2D + 1.0Ev + 1.0Eh	0.6	0.00	41.36	0.00	0.00	75.95
0.9D + 1.0Ev + 1.0Eh	0.6	0.00	31.29	0.00	0.00	75.47
1.0D + 1.0W 60 mph Wind	6.7	0.00	33.35	0.00	0.00	652.36

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 116 mph Wind	-25.02	-23.92	0.00	-1484.1	0.00	-1484.1	2765.58	712.53	2419.93	2329.81	48.00	0.647
0.9D + 1.0W 116 mph Wind	-18.58	-23.70	0.00	-1463.7	0.00	-1463.7	2765.58	712.53	2419.93	2329.81	48.00	0.636
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-42.88	-7.34	0.00	-455.57	0.00	-455.57	2765.58	712.53	2419.93	2329.81	48.00	0.211
1.2D + 1.0Ev + 1.0Eh	-26.64	-0.64	0.00	-45.22	0.00	-45.22	2765.58	712.53	2419.93	2329.81	48.00	0.029
0.9D + 1.0Ev + 1.0Eh	-20.15	-0.64	0.00	-44.90	0.00	-44.90	2765.58	712.53	2419.93	2329.81	48.00	0.027
1.0D + 1.0W 60 mph Wind	-21.44	-5.69	0.00	-352.58	0.00	-352.58	2765.58	712.53	2419.93	2329.81	48.00	0.159

Base Plate Summary

Structure:	CT13548-S-SB	**Code:**	TIA-222-H	6/8/2023	
Site Name:	Bloomfield 4	**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: 30	

Tower Engineering Solutions

Reactions	
Original Design	
Moment (kip-ft):	2825.90
Axial (kip):	51.34
Shear (kip):	27.29
Analysis (1.2D + 1.0W)	
Moment (kip-ft):	2740.29
Axial (kip):	39.98
Shear (kip):	27.86

Base Plate	
Yield (ksi):	50.00
Width (in):	62.00
Style:	Round
Polygon Sides:	0.00
Clip Length (in):	0.00
Effective Len (in):	9.02
Moment (kip-in):	246.11
Allow Stress (ksi):	67.50
Applied Stress (ksi):	41.17
Stress Ratio:	0.61

Anchor Bolts	
Bolt Circle:	58.13
Number Bolts:	24.00
Bolt Type:	1.5" F1554 105
Bolt Diameter (in):	1.50
Yield (ksi):	105.00
Ultimate (ksi):	125.00
Arrangement:	Radial
Cluster Dist (in):	0.00
Start Angle (deg):	0.00
Compression	
Force (kip):	95.95
Allowable (kip):	167.00
Ratio:	0.58
Tension	
Force (kip):	92.62
Allowable (kip):	132.19
Ratio:	0.70

Monopole Mat Foundation Design

			Date: 6/8/2023
Customer Name:	AT&T	**TIA Standard:**	TIA-222-H
Site Name:		**Structure Height (Ft.):**	140
Site Number:	CT13548-S-SBA	**Engineer Name:**	J. Tibbetts
Engr. Number:	141143	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

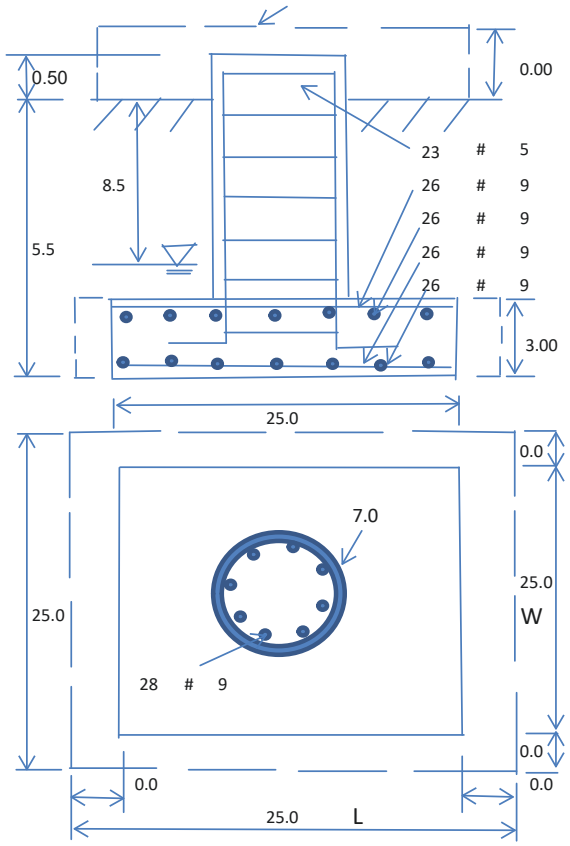
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	40.0	Shear Force (Kips):	27.9
Uplift Force (Kips):	0.0	Moment (Kips-ft):	2740.3
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	5.5
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	3.00
Length of Pad (ft.):	25	Width of Pad (ft.):	25
Final Length of pad (ft)	25.0	Final width of pad (ft):	25.0



Material Properties and Reabr Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	28	Tie Spacing (in):	3.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	9	
Concrete Cover (in.):	6	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	26	Qty. of Rebar in Pad (W):	26	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	26	Qty. of Rebar in Pad (W):	26	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

Soil Unit Weight (pcf):	115.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	8.5	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	6000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:			1.00	

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

Total Dry Soil Volume (cu. Ft.):	1466.29	Total Dry Soil Weight (Kips):	168.62
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	168.62	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1990.45	Total Dry Concrete Weight (Kips):	298.57
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	298.57	Total Vertical Load on Base (Kips):	507.19

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	2008	<	Allowable Factored Soil Bearing (psf):	4500	0.45	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	5755.9	>	Design Factored Momont (kips-ft):	2789	0.48	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	2.06	OK!				

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90		Strength reduction factor (Shear):	0.75		
Strength reduction factor (Axial compresion):	0.65		Wind Load Factor on Concrete Design:	1.00		
					Load/ Capacity Ratio	
(1) Concrete Pier:						
Vertical Steel Rebar Area (sq. in./each):	1.00		Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	4809.3	>	Design Factored Moment (Mu, Kips-F	2824.0	0.59	OK!
Calculated Shear Capacity (Kips):	1359.0	>	Design Factored Shear (Kips):	27.9	0.02	OK!
Calculated Tension Capacity (Tn, Kips):	1512.0	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9748.3	>	Design Factored Axial Load (Pu Kips):	40.0	0.00	OK!
Moment & Axial Strength Combination:	0.59	OK!	Check Tie Spacing (Design/Required):		0.25	OK!
Pier Reinforcement Ratio:	0.005		Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	837.8	>	One-Way Factored Shear (L-D. Kips):	187.0	0.22	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	837.8	>	One-Way Factored Shear (W-D., Kips)	187.0	0.22	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	785.8	>	One-Way Factored Shear (C-C, Kips):	181.7	0.23	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0029	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0029		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	3354.7	>	Moment at Bottom (L-Dir. K-Ft):	1015.9	0.30	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	3354.7	>	Moment at Bottom (W-Dir. K-Ft):	1015.9	0.30	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	4713.0	>	Moment at Bottom (C-C Dir. K-Ft):	1436.8	0.30	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0029	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0029		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	3354.7	>	Moment at the top (L-Dir K-Ft):	434.2	0.13	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	3354.7	>	Moment at the top (W-Dir K-Ft):	434.2	0.13	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	4713.0	>	Moment at the top (C-C Dir. K-Ft):	407.4	0.09	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:						
Moment transferred by punching shear:	1096.1	k-ft.	Max. factored shear stress v_{u_CD}:		2.7	Psi
Max. factored shear stress v_{u_AB}:	8.8	Psi	Factored shear Strength ϕv_n:		189.7	Psi
Max. factored shear stress v_u:	8.8	Psi	Check Usage of Punching Shear Capacity:		0.05	OK!
(4).Check Bending Capacity of the Pad Within the Effective Slab Width:						
Overturning moment to be transferred by flexure:	822.1	k-ft.	Effective Width for resisting OT moment:		16.0	ft.
Calculated number of Rebar in Effective width:	17		Actual number of Rebar in Effective width:		13	
Steel Pad Moment Capacity (L-Direc. Kips-ft):	1687.1	k-ft.	Check Usage of the Flexure Capacity:		0.49	OK!

Pier Foundation Design For Monopole

				Date
				6/8/2023
	Customer Name:	AT&T	**EIA/TIA Standard:**	TIA-222-H
	Site Name:		**Structure Height (Ft.):**	140
	Site Number:	CT13548-S-SBA	**Engineer Name:**	J. Tibbetts
	Engr. Number:	141143	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	40.0	Shear Force (Kips):	27.9
Uplift Force (Kips):	0.0	Moment (Kips-ft):	2740.3

Foundation Geometries:

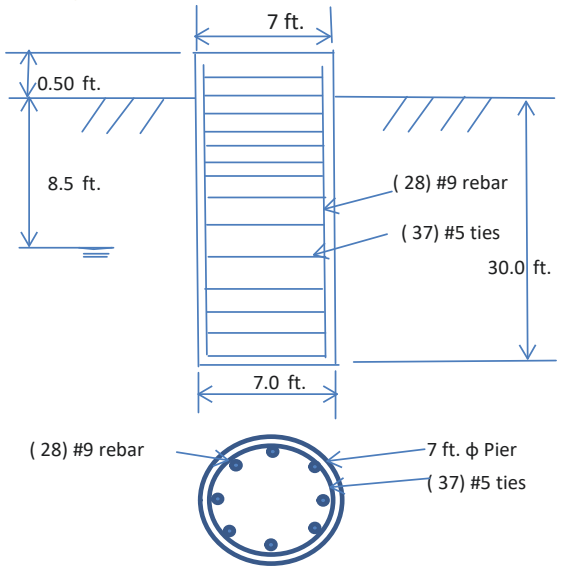
Diameter of Pier (ft.):	7.0	Depth of Base B. G. S. :	30.0	ft.
Pier Height A. G. (ft.):	0.50			

Material Properties and Reabr Info:

Concrete Strength (psi):	4000	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:	28	Tie Spacing:	12.0	in.
Concrete Cover (in.):	5	Concrete unit weight:	150.0	pcf

Soil Design Parameters:

Water Table B.G.S. (ft):	8.5	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		



Monopole Pier Foundation

Depth of Layers (ft) Top	Depth of Layers (ft) Bottom	γ_{soil} (pcf)	ϕ (°)	Cohesion (psf)	Ultimate Skin Friction (psf)	Ultimate Bearing (psf)	Soil Types
0.0	4.0	110	25	0	0	0	Silt
4.0	8.0	115	33	0	400	0	Sand
8.0	15.0	115	33	0	550	0	Sand
15.0	26.0	115	33	0	800	0	Sand
26.0	31.0	115	33	0	1100	6000	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.):	8715	Dry Soil Weight from Conical Failure:	982	Kips
Total Buoyant Soil Volume from Conical Failure (cu. Ft.):	6404	Buoyant Soil Weight from Conical Failure (Ki	447	Kips
Total Dry Concrete Volume (cu. Ft.):	346	Total Dry Concrete Weight:	52.0	Kips
Total Buoyant Concrete Volume (cu. Ft.):	827.4	Total Buoyant Concrete Weight:	72.48	Kips
Total Effective Concrete Weight (Kips):	124.4	Total Effective Soil Weight:	1429.1	Kips
Total Effective Vertical Load on Base (Kips):	69.8			

Check Soil Capacities:

					Usage	
Allowable Foundation Overturning Resistance (kips-ft.):	10433.3	>	Design Factored Moment (kips-ft):	3295	0.32	OK!
Factor of Safety of Passive Soil Resistance against Moment:	3.17	OK!				

Check the capacities of Reinforceing Concrete:

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

Reinforcing Concrete Pier:

					Usage	
Vertical Steel Rebar Area (sq. in./each):	1.00		Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	4778.1	>	Design Factored Moment (Mu, K-Ft):	2841.5	0.59	OK!
Calculated Shear Capacity (Kips):	967.6	>	Design Factored Shear (Kips):	214.7	0.22	OK!
Calculated Tension Capacity (Tn, Kips):	1512.0	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9748	>	Design Factored Axial Load (Pu Kips):	40.0	0.00	OK!
Moment & Axial Strength Combination:	0.59	OK!	Max. Allowable Tie/Stirrup Spacing:	12.00	in.	
Pier Reinforcement Ratio:	0.005		Reinforcement Ratio is too small			

RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

Site Name:	BLOOMFIELD CT BURR ROAD
Crown Castle Site#:	NA
Site ID:	CTL01255
Project Name:	LTE 2C
Address:	12 BURR ROAD, BLOOMFIELD, CT 06002
County:	HARTFORD
Latitude:	41.8179444
Longitude:	-72.7645944
Structure Type:	MONOPOLE
Property Owner:	NA
Property Contact:	NA

AT&T Existing Facility

Report Information

Report Writer: Dheeraj Bisht **Report Generated Date:** 03-23-2023

Site Compliance Statement

Compliance Status	Compliant
Cumulative General Population % MPE (Ground Level)	0.6122%

March 23, 2023

Emissions Analysis for Site: **CTL01255– BLOOMFIELD CT BURR ROAD**

MobileComm Professionals, Inc was directed to analyze the proposed AT&T facility located at **12 BURR ROAD, BLOOMFIELD, CT 06002**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter (µW/cm2). The number of mW/cm^2 or µW/cm2 calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the 700 and 850 MHz Bands are approximately 0.467 mW/cm^2 and 0.567 mW/cm^2 respectively or 466.667 µW/cm2 and 566.667 µW/cm2 respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS), 2300 MHz (WCS), 3540 MHz (DoD Band) and 3840 MHz (C-Band) bands is 1 mW/cm^2 or 1000 µW/cm2. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

1. Theoretical Calculations: Methods and Procedures

MobileComm Professionals, Inc has performed theoretical modeling of the site using a software tool, RoofMaster® Version 40.12.23.2022, which incorporates calculation methodologies detailed in FCC OET 65. RoofMaster® uses a cylindrical model for conservative power density predictions within the near field of the antenna where the antenna pattern has not truly formed yet. Within this area power density values tend to decrease based upon an inverse distance function. At the point where it is appropriate for modeling to change from near-field calculations to far-field calculations, the power decreases inversely with the square of the distance. The modeling is based on worst-case assumptions in terms of transmitter power and duty cycle. No losses were included in the power calculations unless they were specifically provided for the project.

In OET 65, a far field model is presented to calculate the spatial peak power density. The RoofMaster® implementation of this model incorporates antenna manufacturer's horizontal and vertical pattern data to determine the power density in all directions. This model yields the power density at a single point in space. In order to determine the spatial power density for comparison to the FCC limits, the average of several points calculated within the human profile (0-6') must be conducted. RoofMaster® calculates seven power density values between 0-6' above the specified study plane and performs a linear spatial average.

The following table details the antennas and operating parameters for the AT&T antenna system as well as any other antenna systems at the site. This is based on antenna information provided by the client and data compiled from other sources where necessary. The data below was input into Roofmaster® to perform the theoretical exposure calculations at the ground.

The theoretical calculations performed in Roofmaster® determine the cumulative exposure at all sample points at ground level (0-6' spatial average). The results from highest cumulative sample point at ground level surrounding the site are displayed in the table below. The contribution from directional antennas to the maximum cumulative totals varies greatly depending on location; therefore, the contribution from one antenna sector at the highest calculated exposure point may be greater or less than other sectors since sectorized directional antennas are pointed in different directions and there is not much overlapping exposure.

The contribution to the cumulative power density and % MPE for each antenna/frequency band is listed in the table. The cumulative power density and cumulative % MPE are displayed at the bottom of the table.

2. Antenna Inventory & Power Data

Sector	Ant ID	Operator	Antenna Mfg	Antenna Model	Antenna Type	FREQ. (MHz)	TECH.	AZ. (^{0})	HBW (^{0})	Antenna Gain (dBd)	Antenna Aperture (ft)	#of Channels	Transmitter Power Per Channel (Watts)	Total ERP (Watts)	Total EIRP (Watts)	Height (ft)	Calculated Power Density ($\mu W/cm^2$)	Allowable MPE ($\mu W/cm^2$)	Calculated MPE%
A	1	AT&T	CCI	OPA65R-BU6D	Panel	700	LTE(FN)	50	73	12.15	6	4	40	2339.48	3838.13	107	0.011442	466.67	0.002452
A	1	AT&T	CCI	OPA65R-BU6D	Panel	2100	LTE/5G	50	69	16.05	6	4	40	5742.75	9421.50	107	0.002282	1000.00	0.000228
A	2	AT&T	CCI	OPA65R-BU6D	Panel	700	LTE(B12)	50	73	12.15	6	4	40	2339.48	3838.13	107	0.003993	466.67	0.000856
A	2	AT&T	CCI	OPA65R-BU6D	Panel	850	5G	50	64	13.05	6	4	40	2878.19	4721.93	107	0.000704	566.67	0.000124
A	2	AT&T	CCI	OPA65R-BU6D	Panel	1900	LTE/5G	50	68	15.95	6	4	40	5612.03	9207.04	107	0.000931	1000.00	0.000093
B	3	AT&T	CCI	OPA65R-BU8D	Panel	700	LTE(FN)	170	75	13.55	8	4	40	3229.39	5298.10	107	0.150684	466.67	0.032289
B	3	AT&T	CCI	OPA65R-BU8D	Panel	2100	LTE/5G	170	69	16.05	8	4	40	5742.75	9421.50	107	0.157070	1000.00	0.015707
B	4	AT&T	CCI	OPA65R-BU8D	Panel	700	LTE(B12)	170	75	13.55	8	4	40	3229.39	5298.10	107	0.017418	466.67	0.003732
B	4	AT&T	CCI	OPA65R-BU8D	Panel	850	5G	170	63	14.45	8	4	40	3973.01	6518.08	107	0.017834	566.67	0.003147
B	4	AT&T	CCI	OPA65R-BU8D	Panel	1900	LTE/5G	170	67	15.75	8	4	40	5359.45	8792.65	107	0.026443	1000.00	0.002644
C	5	AT&T	CCI	OPA65R-BU8D	Panel	700	LTE(FN)	290	75	13.55	8	4	40	3229.39	5298.10	107	0.000075	466.67	0.000016
C	5	AT&T	CCI	OPA65R-BU8D	Panel	2100	LTE/5G	290	69	16.05	8	4	40	5742.75	9421.50	107	0.000017	1000.00	0.000002
C	6	AT&T	CCI	OPA65R-BU8D	Panel	700	LTE(B12)	290	75	13.55	8	4	40	3229.39	5298.10	107	0.000059	466.67	0.000013
C	6	AT&T	CCI	OPA65R-BU8D	Panel	850	5G	290	63	14.45	8	4	40	3973.01	6518.08	107	0.000016	566.67	0.000003
C	6	AT&T	CCI	OPA65R-BU8D	Panel	1900	LTE/5G	290	67	15.75	8	4	40	5359.45	8792.65	107	0.000259	1000.00	0.000026

Table 2.1: Antenna Inventory & Power Data

**NOTE: 75% Duty Cycle and adjusted power reduction factor of 0.32 was applied to the AIR6449 & AIR6449 antennas per guidance from AT&T. Specifications were not available for the Ericsson AIR 6449 antenna. Per AT&T, specifications for the AIR 6449 antenna were used to model the 6449 due to its similarity.*

Sector	Ant ID	Operator	Antenna Mfg	Antenna Model	Antenna Type	FREQ. (MHz)	TECH.	AZ. (^{0})	HBW (^{0})	Antenna Gain (dBd)	Antenna Aperture (ft)	#of Channels	Transmitter Power Per Channel (Watts)	Total ERP (Watts)	Total EIRP (Watts)	Height (ft)	Calculated Power Density ($\mu W/cm^2$)	Allowable MPE ($\mu W/cm^2$)	Calculated MPE%
A	7	T-Mobile	Ericsson	AIR6449_LTE_B41	Panel	2500	LTE	60	12.5	22.65	2.75	1	40.67	7485.61	12280.81	130	0.104352	1000.00	0.010435
A	7	T-Mobile	Ericsson	AIR6449_NR_B41	Panel	2500	5G	60	12.5	22.65	2.75	1	67.78	12476.02	20468.02	130	0.173919	1000.00	0.017392
A	8	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	600	LTE	60	69	13.25	8	1	40	753.46	1236.12	130	0.000188	400.00	0.000047
A	8	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	600	5G	60	69	13.25	8	1	80	1506.92	2472.24	130	0.000376	400.00	0.000094
A	8	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	700	LTE	60	64	13.65	8	1	40	826.15	1355.38	130	0.000382	466.67	0.000082
A	8	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	1900	LTE	60	63	16.05	8	1	160	5742.75	9421.50	130	0.001300	1000.00	0.000130
A	8	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	1900	GSM	60	63	16.05	8	1	10	358.92	588.84	130	0.000081	1000.00	0.000008
A	8	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	2100	UMTS	60	65	16.45	8	1	10	393.55	645.65	130	0.000029	1000.00	0.000003
A	8	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	2100	LTE	60	65	16.45	8	1	160	6296.80	10330.47	130	0.000460	1000.00	0.000046
B	9	T-Mobile	Ericsson	AIR6449_LTE_B41	Panel	2500	LTE	170	12.5	22.65	2.75	1	40.67	7485.61	12280.81	130	0.293069	1000.00	0.029307
B	9	T-Mobile	Ericsson	AIR6449_NR_B41	Panel	2500	5G	170	12.5	22.65	2.75	1	67.78	12476.02	20468.02	130	0.488448	1000.00	0.048845
B	10	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	600	LTE	170	69	13.25	8	1	40	753.46	1236.12	130	0.005310	400.00	0.001328
B	10	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	600	5G	170	69	13.25	8	1	80	1506.92	2472.24	130	0.010621	400.00	0.002655
B	10	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	700	LTE	170	64	13.65	8	1	40	826.15	1355.38	130	0.003333	466.67	0.000714
B	10	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	1900	LTE	170	63	16.05	8	1	160	5742.75	9421.50	130	0.017978	1000.00	0.001798
B	10	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	1900	GSM	170	63	16.05	8	1	10	358.92	588.84	130	0.001124	1000.00	0.000112
B	10	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	2100	UMTS	170	65	16.45	8	1	10	393.55	645.65	130	0.000491	1000.00	0.000049
B	10	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	2100	LTE	170	65	16.45	8	1	160	6296.80	10330.47	130	0.007858	1000.00	0.000786
C	11	T-Mobile	Ericsson	AIR6449_LTE_B41	Panel	2500	LTE	320	12.5	22.65	2.75	1	40.67	7485.61	12280.81	130	0.000307	1000.00	0.000031
C	11	T-Mobile	Ericsson	AIR6449_NR_B41	Panel	2500	5G	320	12.5	22.65	2.75	1	67.78	12476.02	20468.02	130	0.000511	1000.00	0.000051
C	12	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	600	LTE	320	69	13.25	8	1	40	753.46	1236.12	130	0.000019	400.00	0.000005
C	12	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	600	5G	320	69	13.25	8	1	80	1506.92	2472.24	130	0.000039	400.00	0.000010
C	12	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	700	LTE	320	64	13.65	8	1	40	826.15	1355.38	130	0.000024	466.67	0.000005
C	12	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	1900	LTE	320	63	16.05	8	1	160	5742.75	9421.50	130	0.000339	1000.00	0.000034
C	12	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	1900	GSM	320	63	16.05	8	1	10	358.92	588.84	130	0.000021	1000.00	0.000002
C	12	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	2100	UMTS	320	65	16.45	8	1	10	393.55	645.65	130	0.000009	1000.00	0.000001
C	12	T-Mobile	RFS	APXVAARR24_43-U-NA20	Panel	2100	LTE	320	65	16.45	8	1	160	6296.80	10330.47	130	0.000151	1000.00	0.000015

Table 2.2: Antenna Inventory & Power Data

**NOTE: 75% Duty Cycle and adjusted power reduction factor of 0.32 was applied to the AIR6449 & AIR6449 antennas per guidance from AT&T. Specifications were not available for the Ericsson AIR 6449 antenna. Per AT&T, specifications for the AIR 6449 antenna were used to model the 6449 due to its similarity.*

Sector	Ant ID	Operator	Antenna Mfg	Antenna Model	Antenna Type	FREQ. (MHz)	TECH.	AZ. (^{0})	HBW (^{0})	Antenna Gain (dBd)	Antenna Aperture (ft)	#of Channels	Transmitter Power Per Channel (Watts)	Total ERP (Watts)	Total EIRP (Watts)	Height (ft)	Calculated Power Density ($\mu W/cm^2$)	Allowable MPE ($\mu W/cm^2$)	Calculated MPE%
A	13	Verizon	Antel	LPA-80063/6CF	Panel	850	CDMA	60	63	14.5	5.9	1	10	251.19	412.10	117	0.008221	566.67	0.001451
A	14	Verizon	Samsung	MT6407-77A	Panel	3700	LTE	60	17	22.85	2.92	4	35	26985.35	44271.89	119	0.943889	1000.00	0.094389
A	15-1	Verizon	CommScope	SBNHH-1D65B	Panel	700	LTE	60	68	12.75	6.1	4	40	2686.09	4406.77	117	0.083692	466.67	0.017934
A	15-1	Verizon	CommScope	SBNHH-1D65B	Panel	850	LTE	60	66	12.55	6.1	4	40	2565.19	4208.43	117	0.077028	566.67	0.013593
A	15-2	Verizon	CommScope	SBNHH-1D65B	Panel	1900	LTE	60	66	16.05	6.1	4	40	5742.75	9421.50	117	0.082158	1000.00	0.008216
A	15-2	Verizon	CommScope	SBNHH-1D65B	Panel	2100	LTE	60	63	16.45	6.1	4	40	6296.80	10330.47	117	0.083148	1000.00	0.008315
A	16	Verizon	Samsung	XXDWMM-12.5-65-8T-C	Panel	3550	LTE	60	65	10.85	1.00	4	5	216.79	355.66	115.5	0.002796	1000.00	0.000280
A	17	Verizon	Antel	LPA-80063/6CF	Panel	850	CDMA	60	63	14.5	5.9	1	10	251.19	412.10	117	0.008221	566.67	0.001451
B	18	Verizon	Antel	LPA-80063/6CF	Panel	850	CDMA	180	63	14.5	5.9	1	10	251.19	412.10	117	0.008221	566.67	0.001451
B	19	Verizon	Samsung	MT6407-77A	Panel	3700	LTE	180	17	22.85	2.92	4	35	26985.35	44271.89	119	0.943889	1000.00	0.094389
B	20-1	Verizon	CommScope	SBNHH-1D65B	Panel	700	LTE	180	68	12.75	6.1	4	40	2686.09	4406.77	117	0.083692	466.67	0.017934
B	20-1	Verizon	CommScope	SBNHH-1D65B	Panel	850	LTE	180	66	12.55	6.1	4	40	2565.19	4208.43	117	0.077028	566.67	0.013593
B	20-2	Verizon	CommScope	SBNHH-1D65B	Panel	1900	LTE	180	66	16.05	6.1	4	40	5742.75	9421.50	117	0.082158	1000.00	0.008216
B	20-2	Verizon	CommScope	SBNHH-1D65B	Panel	2100	LTE	180	63	16.45	6.1	4	40	6296.80	10330.47	117	0.083148	1000.00	0.008315
B	21	Verizon	Samsung	XXDWMM-12.5-65-8T-C	Panel	3550	LTE	180	65	10.85	1.00	4	5	216.79	355.66	115.5	0.002796	1000.00	0.000280
B	22	Verizon	Antel	LPA-80063/6CF	Panel	850	CDMA	180	63	14.5	5.9	1	10	251.19	412.10	117	0.008221	566.67	0.001451
C	23	Verizon	Antel	LPA-80063/6CF	Panel	850	CDMA	300	63	14.5	5.9	1	10	251.19	412.10	117	0.008221	566.67	0.001451
C	24	Verizon	Samsung	MT6407-77A	Panel	3700	LTE	300	17	22.85	2.92	4	35	26985.35	44271.89	119	0.943889	1000.00	0.094389
C	25-1	Verizon	CommScope	SBNHH-1D65B	Panel	700	LTE	300	68	12.75	6.1	4	40	2686.09	4406.77	117	0.083692	466.67	0.017934
C	25-1	Verizon	CommScope	SBNHH-1D65B	Panel	850	LTE	300	66	12.55	6.1	4	40	2565.19	4208.43	117	0.077028	566.67	0.013593
C	25-2	Verizon	CommScope	SBNHH-1D65B	Panel	1900	LTE	300	66	16.05	6.1	4	40	5742.75	9421.50	117	0.082158	1000.00	0.008216
C	25-2	Verizon	CommScope	SBNHH-1D65B	Panel	2100	LTE	300	63	16.45	6.1	4	40	6296.80	10330.47	117	0.083148	1000.00	0.008315
C	26	Verizon	Samsung	XXDWMM-12.5-65-8T-C	Panel	3550	LTE	300	65	10.85	1.00	4	5	216.79	355.66	115.5	0.002796	1000.00	0.000280
C	27	Verizon	Antel	LPA-80063/6CF	Panel	850	CDMA	300	63	14.5	5.9	1	10	251.19	412.10	117	0.008221	566.67	0.001451
																Calculated Power Density ($\mu W/cm^2$)	**5.367425**	**Calculated MPE%**	**0.6122**

Table 2.3: Antenna Inventory & Power Data

**NOTE: 75% Duty Cycle and adjusted power reduction factor of 0.32 was applied to the AIR6449 & AIR6449 antennas per guidance from AT&T. Specifications were not available for the Ericsson AIR 6449 antenna. Per AT&T, specifications for the AIR 6449 antenna were used to model the 6449 due to its similarity.*

3. Compliance Summary

The theoretical calculations performed for this analysis yielded results that were **within** the allowable limits for general public exposure to RF Emissions.

The anticipated composite MPE value for this site assuming all carriers present is 0.6122 % of the allowable FCC established general public limit sampled at the ground level.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were within the allowable 100% threshold standard per the federal government.

PROJECT INFORMATION

SCOPE OF WORK:

ITEMS TO BE MOUNTED ON THE EXISTING MONOPOLE:
- NEW AT&T ANTENNAS: OPA65R-BU6DA @ POS. 3 & 4 (TOTAL OF 2 FOR ALPHA SECTOR).
- NEW AT&T ANTENNAS: OPA65R-BU8DA @ POS. 3 & 4 (TYP. OF 2 FOR BETA & GAMMA SECTOR, TOTAL OF 4).
- NEW AT&T ANTENNA MOUNT: VFA12-WLL-30120 (TYP.OF 1 PER SECTOR, TOTAL OF 3).
- RELOCATED EXISTING AT&T LTE ANTENNA AM-X-CD-16-65-00T-RET FROM POS. 3 ON EXISTING ANTENNA MOUNT TO POS. 1 ON NEW ANTENNA MOUNT. (TOTAL OF 1 FOR ALPHA SECTOR)
- RELOCATED EXISTING AT&T LTE ANTENNA SBNH-1D6565C FROM POS. 3 ON EXISTING ANTENNA MOUNT TO POS. 1 ON NEW ANTENNA MOUNT. (TOTAL OF 1 FOR BETA SECTOR)
- RELOCATED EXISTING AT&T LTE ANTENNA P65-17-XLH-RR FROM POS. 3 ON EXISTING ANTENNA MOUNT TO POS. 1 ON NEW ANTENNA MOUNT. (TOTAL OF 1 FOR GAMMA SECTOR)
- NEW AT&T RRUS: 4449 B5/B12 (850/700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS: 4478 B14 (850) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS: 8843 B2/B66A (PCS/AWS) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T BACK TO BACK MOUNTS (TYP. OF 2 PER SECTOR, TOTAL OF 6)
- NEW AT&T DC & FIBER SURGE ARRESTOR DC6-48-60-18-8F (TOTAL OF 1) WITH (2) #6AWG DC TRUNKS & (1) 18 PAIR FIBER RUN.
- NEW AT&T 2"ø FLEX CONDUIT FOR ROUTING UP MONOPOLE
- INSTALL (6) NEW Y-CABLES (2 PER SECTOR)

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:
- ADD 1X6651+IDLE

FINAL= 1X6630/1X6651+IDLE XCEDE
- INSTALL (1) DC-12 SURGE ARRESTOR INSIDE EXISTING LTE FIF RACK
- INSTALL NEW NETSURE 7100 DC POWER PLANT WITH 3 STRINGS OF BATTERIES
- NEW AT&T FIBER MANAGEMENT BOX MOUNTED TO ICE BRIDGE LEG

ITEMS TO BE REMOVED:
- EXISTING AT&T ANTENNAS: POWERWAVE 7770 (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- EXISTING AT&T RRUS: RRUS-11 B12 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T DIPLEXERS: LGP21901 (TYP. OF 4 PER SECTOR, TOTAL OF 12).
- EXISTING AT&T TMAS: TT19-08BP111-001 (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- EXISTING AT&T T-ARM SECTOR FRAMES (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T INFINITY DC POWER PLANT
- EXISTING AT&T RRUWS (TOTAL OF 3).
- EXISTING ARGUS STAND-ALONE CONVERTER SHELF.

ITEMS TO REMAIN:
- (3) ANTENNAS, (1) SURGE ARRESTOR, (12) COAX CABLES, (2) DC POWER & (1) FIBER, (6) RET CABLES.

RFDS:	FINAL-APPROVED V1 RFDS DATED 12/11/2023
SITE ADDRESS:	12 BURR ROAD BLOOMFIELD, CT 06002
LATITUDE:	41.817944° N, 41° 49' 04.59" N
LONGITUDE:	72.764594° W, 72° 45' 52.53" W
TYPE OF SITE:	MONOPOLE / INDOOR EQUIPMENT
STRUCTURE HEIGHT:	140'-0"±
RAD CENTER:	107'-0"±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	3
GN-1	GENERAL NOTES	3
A-1	COMPOUND & EQUIPMENT PLANS	3
A-2	ANTENNA LAYOUTS & ELEVATION	3
A-3	DETAILS	3
A-4	MOUNTING DETAILS	3
G-1	GROUNDING DETAILS	3
RF-1	RF PLUMBING DIAGRAM	3

SBA SITE #: CT13548

AT&T

SITE NUMBER: CTL01255

SITE NAME: BLOOMFIELD CT BURR ROAD

FA CODE: 10141392

PACE ID: MRCTB066232, MRCTB066230, MRCTB066220, MRCTB066226, MRCTB066277

PROJECT: LTE 2C, 5G NR RADIO, ANTENNA MODS, 5G NR 1DR-1, 5G NR 1DR-2 2023 UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

MERGE ONTO I-91 N. CONTINUE ON I-91 N TO BLOOMFIELD. TAKE EXIT35B2 TURN LEFT OFF EXIT ONTO CT218W/PUTNAM HIGHWAY CONTINUE TO FOLLOW CT218W (WEST 430 MILES). CONTINUE STRAIGHT (BEAR RIGHT AT FORK) ONTO MAPLE AVENUE (WEST AND NORTH 60 MILES). TURN LEFT ON BURR ROAD (WEST 8 MILES). SITE IS ON THE RIGHT JUST BEFORE TUBLEDOWN BROOK SITE LOCATED BEHIND MAPLE HILL FARMS.

GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
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.

72 HOURS

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OR CALL 811

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

smartlink
SMARTLINK
1997 ANNAPOLIS EXCHANGE PKWY SUITE 200
ANNAPOLIS, MD 21401

SITE NUMBER: CTL01255
SITE NAME: BLOOMFIELD CT BURR ROAD
SBA SITE # ID: CT13548

12 BURR ROAD
BLOOMFIELD, CT 06002
HARTFORD COUNTY

AT&T
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
3	12/12/23	ISSUED FOR CONSTRUCTION	JS	AT	DPH
2	01/12/23	ISSUED FOR CONSTRUCTION	JS	AT	DPH
1	12/12/22	ISSUED FOR REVIEW	AW	AT	DPH
0	10/12/22	ISSUED FOR REVIEW	JS	AT	DPH

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: MJ

STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

TITLE SHEET
LTE 2C, 5G NR RADIO, ANTENNA MODS, 5G NR 1DR-1, 5G NR 1DR-2 2023 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL01255	T-1	3

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 – SMARTLINK
   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: 2020 NATIONAL ELECTRICAL CODE (NFPA 70-2020)

    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	RAD	RADIATION CENTER (ANTENNA)	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		

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1997 ANNAPOLIS EXCHANGE PKWY SUITE 200
ANNAPOLIS, MD 21401

SITE NUMBER: CTL01255
SITE NAME: BLOOMFIELD CT BURR ROAD
SBA SITE # ID: CT13548

12 BURR ROAD
BLOOMFIELD, CT 06002
HARTFORD COUNTY

AT&T
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
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1	12/12/22	ISSUED FOR REVIEW	AW	AZ	DPH
0	10/12/22	ISSUED FOR REVIEW	JS	AT	DPH

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: MJ

STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

GENERAL NOTES
LTE 2C, 5G NR RADIO, ANTENNA MODS, 5G NR 1DR-1, 5G NR 1DR-2 2023 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL01255	GN-1	3

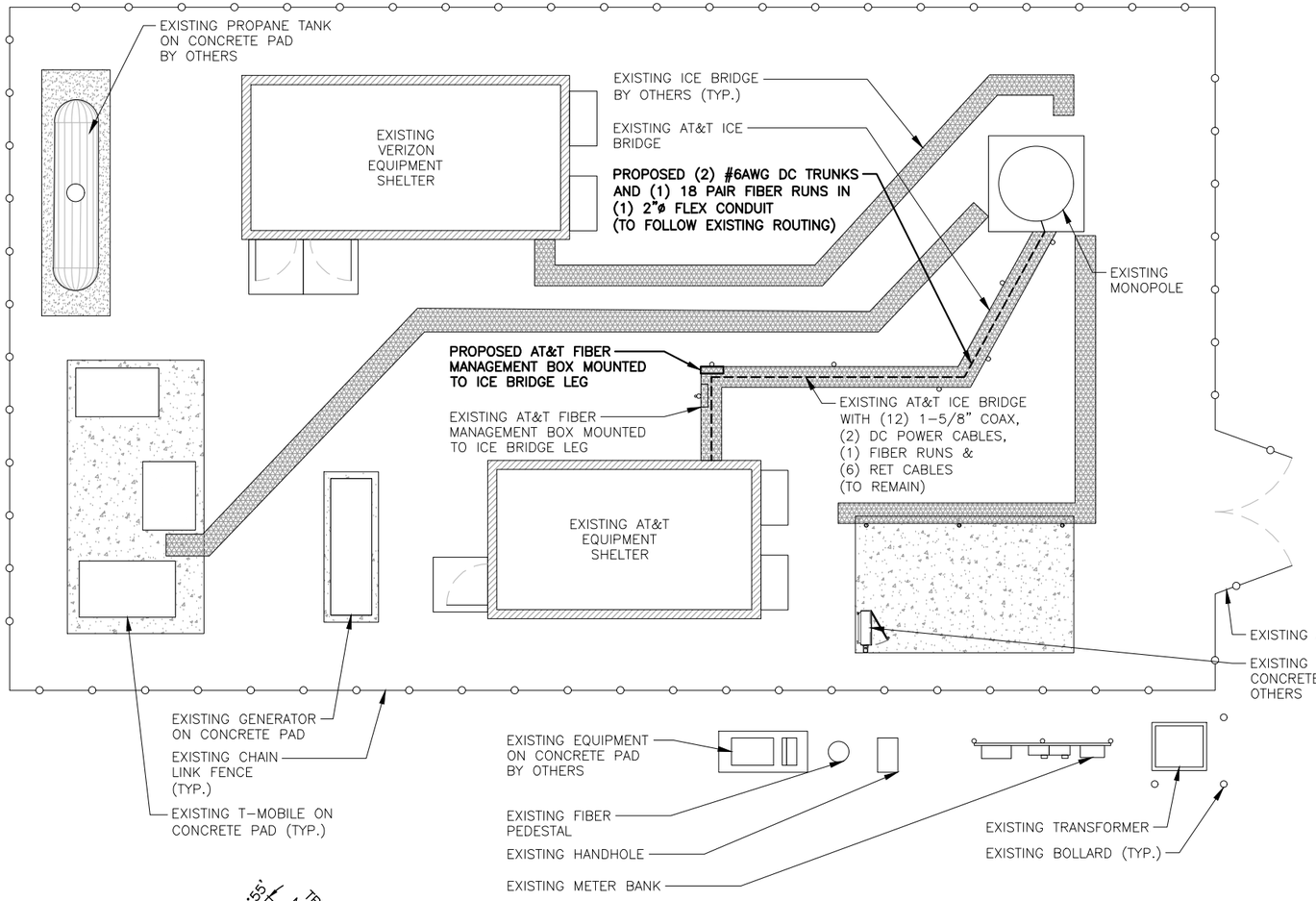
NOTE:
REFER TO MOUNT STRUCTURAL ANALYSIS BY: TOWER ENGINEERING PROFESSIONALS DATED: SEPTEMBER 29, 2022, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:

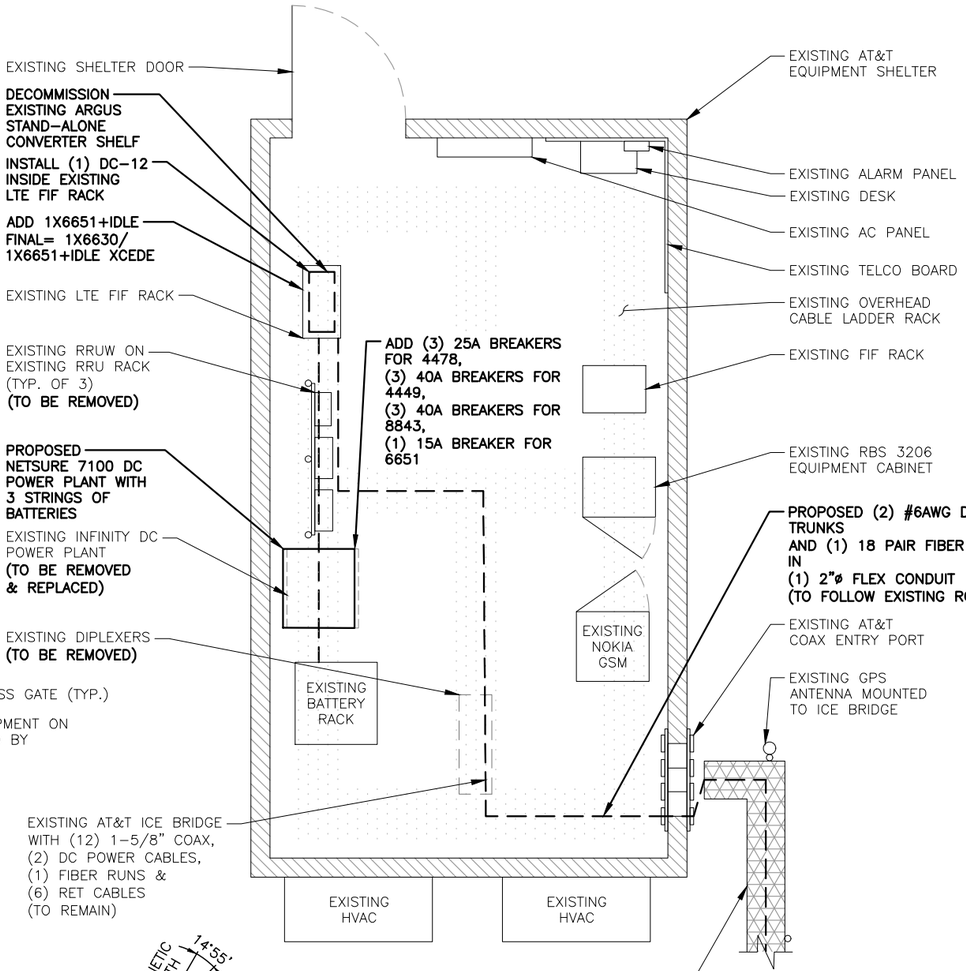
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.



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



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

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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: MJ

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LICENSED PROFESSIONAL ENGINEER

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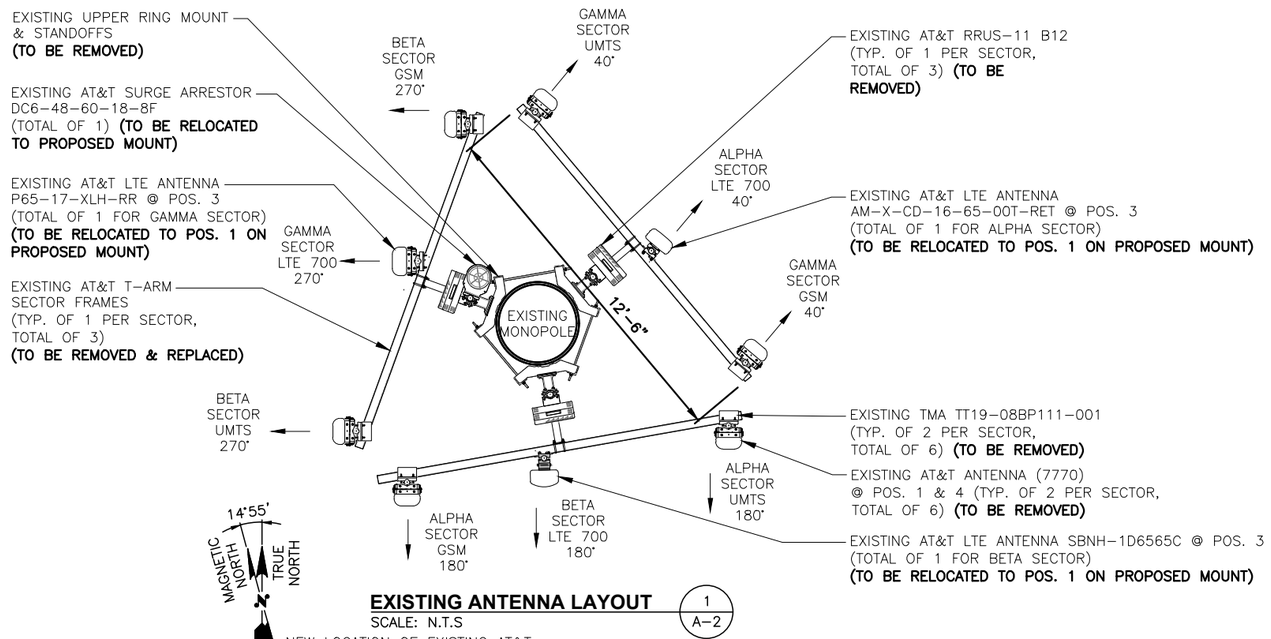
COMPOUND & EQUIPMENT PLANS
LTE 2C, 5G NR RADIO, ANTENNA MODS, 5G NR 1DR-1, 5G NR 1DR-2 2023 UPGRADE

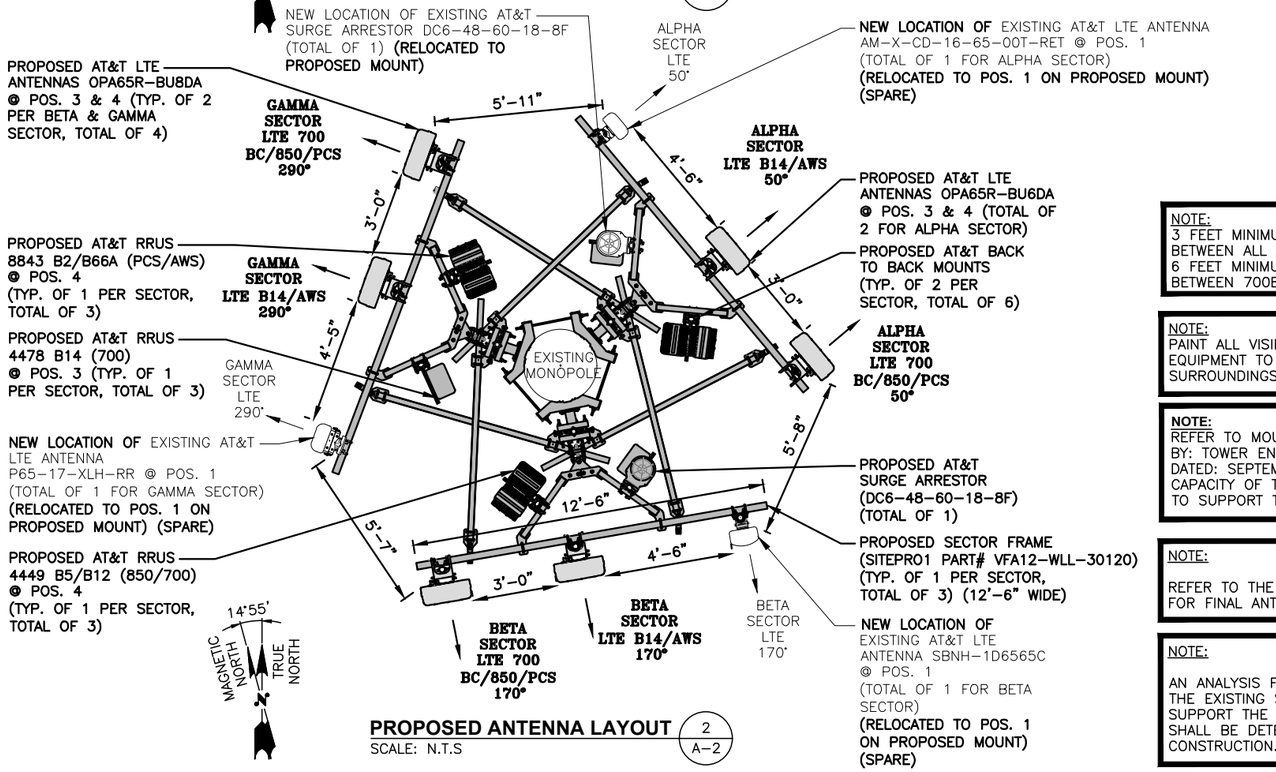
SITE NUMBER	DRAWING NUMBER	REV
CTL01255	A-1	3



EXISTING ANTENNA LAYOUT

SCALE: N.T.S

1 / A-2



PROPOSED ANTENNA LAYOUT

SCALE: N.T.S

2 / A-2

NOTE:
3 FEET MINIMUM SEPARATION BETWEEN ALL ANTENNAS.
6 FEET MINIMUM SEPARATION BETWEEN 700BC & 700DE.

NOTE:
PAINT ALL VISIBLE PROPOSED EQUIPMENT TO MATCH EXISTING SURROUNDINGS

NOTE:
REFER TO MOUNT STRUCTURAL ANALYSIS BY: TOWER ENGINEERING PROFESSIONALS DATED: SEPTEMBER 29, 2022, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:
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NOTE:
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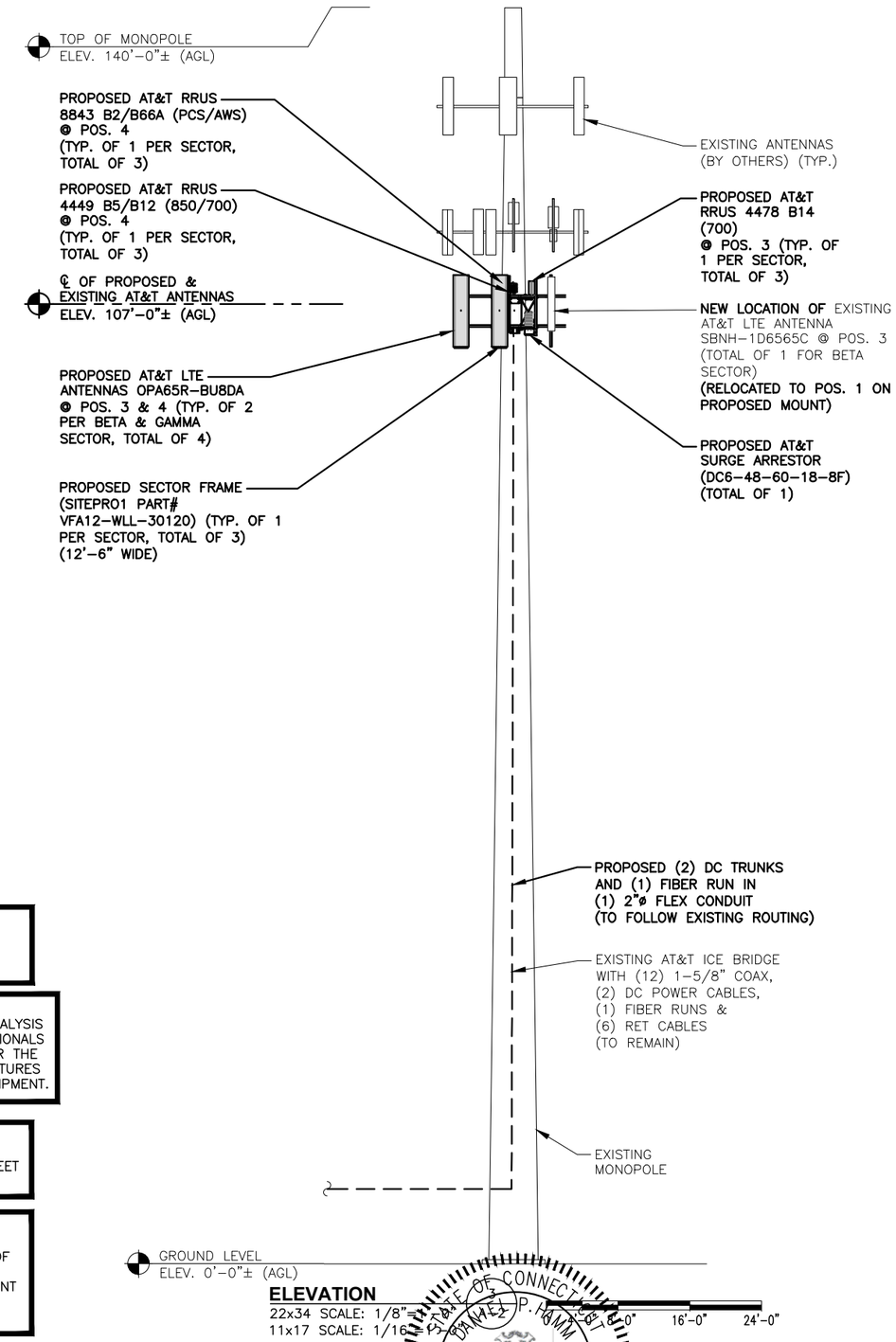

ELEVATION

22x34 SCALE: 1/8" = 1'-0"
11x17 SCALE: 1/16" = 1'-0"

0'-0" 16'-0" 24'-0"

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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: MJ

STATE OF CONNECTICUT DANIEL P. HAMM No. 24178 LICENSED PROFESSIONAL ENGINEER

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ANTENNA LAYOUTS & ELEVATION
LTE 2C, 5G NR RADIO, ANTENNA MODS, 5G NR 1DR-1, 5G NR 1DR-2 2023 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL01255	A-2	3

ANTENNA SCHEDULE

FINAL–APPROVED V1 RFDS DATED 09/21/2022

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	EXISTING	SPARE	AM–X–CD–16–6 5–00T–RET	72X11.8X5.9	107'–0"±	50°	–	–	–	(E)(4) 1–5/8" COAX	(E)(1) RAYCAP DC6–48–60–18–8F
A2	–	–	–	–	–	–	–	–	–	(E)(2) DC POWER & (1) FIBER	
A3	**PROPOSED**	**LTE B–14/AWS**	**OPA65R–BU6DA**	**71.2X21X7.8**	**107'–0"±**	**50°**	–	**(P)(1) 4478 B14 (700)**	**18.1X13.4X8.3**	–	
A4	**PROPOSED**	**LTE 700 BC/850/PCS**	**OPA65R–BU6DA**	**71.2X21X7.8**	**107'–0"±**	**50°**	–	**(P)(1) 4449 B5/B12 (850/700) (P)(1) 8843 B2/B66A**	**14.9X13.2X10.4 14.9X13.2X10.9**	**(P)(1) Y–CABLE (P)(1) Y–CABLE**	
B1	EXISTING	SPARE	SBNH–1D6565C	96.4X11.9X7.1	107'–0"±	170°	–	–	–	(E)(4) 1–5/8" COAX	(P)(1) RAYCAP DC6–48–60–18–8F
B2	–	–	–	–	–	–	–	–	–	**(P)(2) #6AWG DC POWER & (1) 18 PAIR FIBER RUN (APPROX. LENGTH 170'–0"±)**	
B3	**PROPOSED**	**LTE B–14/AWS**	**OPA65R–BU8DA**	**96X21X7.8**	**107'–0"±**	**170°**	–	**(P)(1) 4478 B14 (700)**	**18.1X13.4X8.3**	–	
B4	**PROPOSED**	**LTE 700 BC/850/PCS**	**OPA65R–BU8DA**	**96X21X7.8**	**107'–0"±**	**170°**	–	**(P)(1) 4449 B5/B12 (850/700) (P)(1) 8843 B2/B66A**	**14.9X13.2X10.4 14.9X13.2X10.9**	**(P)(1) Y–CABLE (P)(1) Y–CABLE**	
C1	EXISTING	SPARE	P65–17–XLH–R R	96X12X6	107'–0"±	290°	–	–	–	(E)(4) 1–5/8" COAX	
C2	–	–	–	–	–	–	–	–	–	–	
C3	**PROPOSED**	**LTE B–14/AWS**	**OPA65R–BU8DA**	**96X21X7.8**	**107'–0"±**	**290°**	–	**(P)(1) 4478 B14 (700)**	**18.1X13.4X8.3**	–	
C4	**PROPOSED**	**LTE 700 BC/850/PCS**	**OPA65R–BU8DA**	**96X21X7.8**	**107'–0"±**	**290°**	–	**(P)(1) 4449 B5/B12 (850/700) (P)(1) 8843 B2/B66A**	**14.9X13.2X10.4 14.9X13.2X10.9**	**(P)(1) Y–CABLE (P)(1) Y–CABLE**	

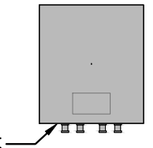
FINAL ANTENNA SCHEDULE (1 / A–3)
SCALE: N.T.S

RRU CHART

QUANTITY	MODEL	SIZE (L x W x D)
P(3)	4449 (850/700)	17.9"x13.2"x10.4"
P(3)	8843 (PCS/AWS)	14.9"x13.2"x10.9"
P(3)	4478 B14 (700)	18.1"x13.4"x8.3"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

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 (2 / A–3)
SCALE: N.T.S

NOTE:
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NOTE:
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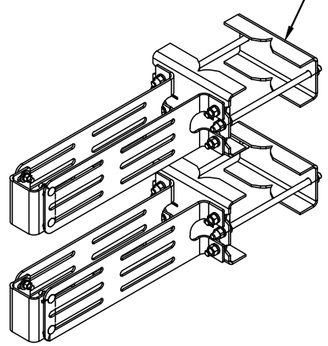
NOTE:
PAINT ALL VISIBLE PROPOSED EQUIPMENT TO MATCH EXISTING SURROUNDINGS

PROPOSED DC12 RAYCAP
P/N DC12–48–60–RM
WEIGHT: 15.0 LBS.

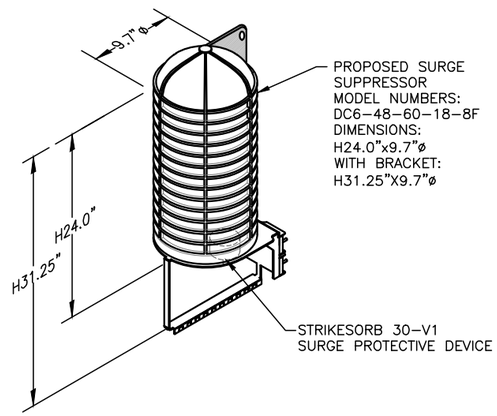
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC12 DETAIL (3 / A–3)
SCALE: N.T.S



PROPOSED DUAL RRU MOUNT, COMMSCOPE PART #RR–FA2 (TOTAL OF 6)

PROPOSED BACK TO BACK MOUNT COMMSCOPE (RR-FA2) (4 / A–3)
SCALE: N.T.S

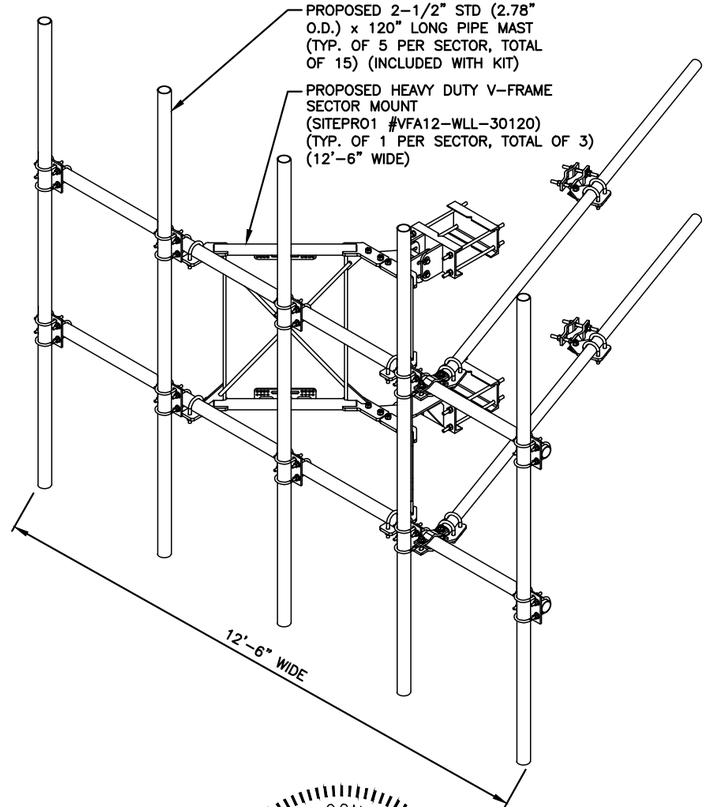


PROPOSED SURGE SUPPRESSOR
MODEL NUMBERS:
DC6–48–60–18–8F
DIMENSIONS:
H24.0"x9.7"ø
WITH BRACKET:
H31.25"X9.7"ø

STRIKESORB 30–V1
SURGE PROTECTIVE DEVICE

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL (5 / A–3)
SCALE: N.T.S



HEAVY DUTY V-FRAME DETAIL (6 / A–3)
SCALE: N.T.S

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DETAILS
SITE 2C, 5G NR RADIO, ANTENNA MODS, 5G NR 1DR–1, 5G NR 1DR–2 2023 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL01255	A–3	3

NOTE:
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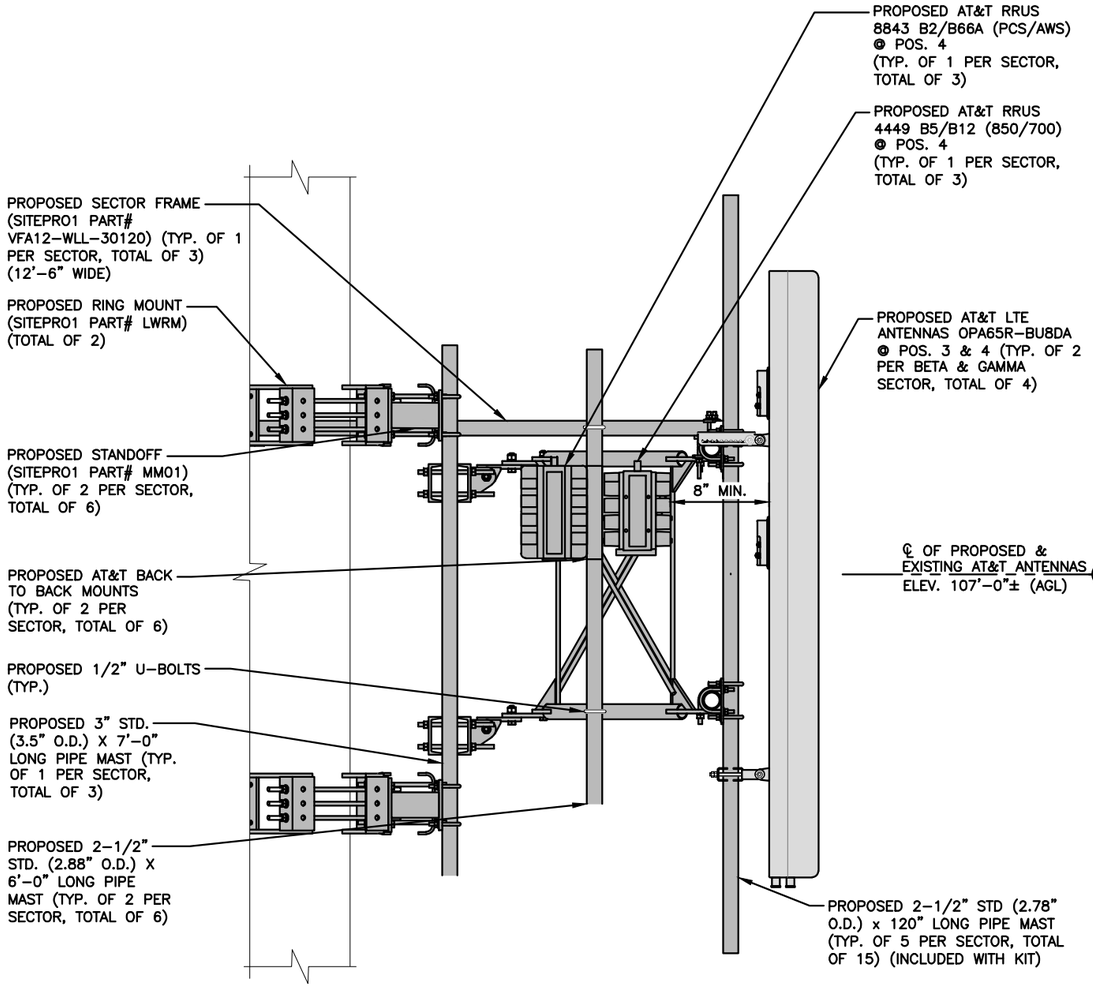
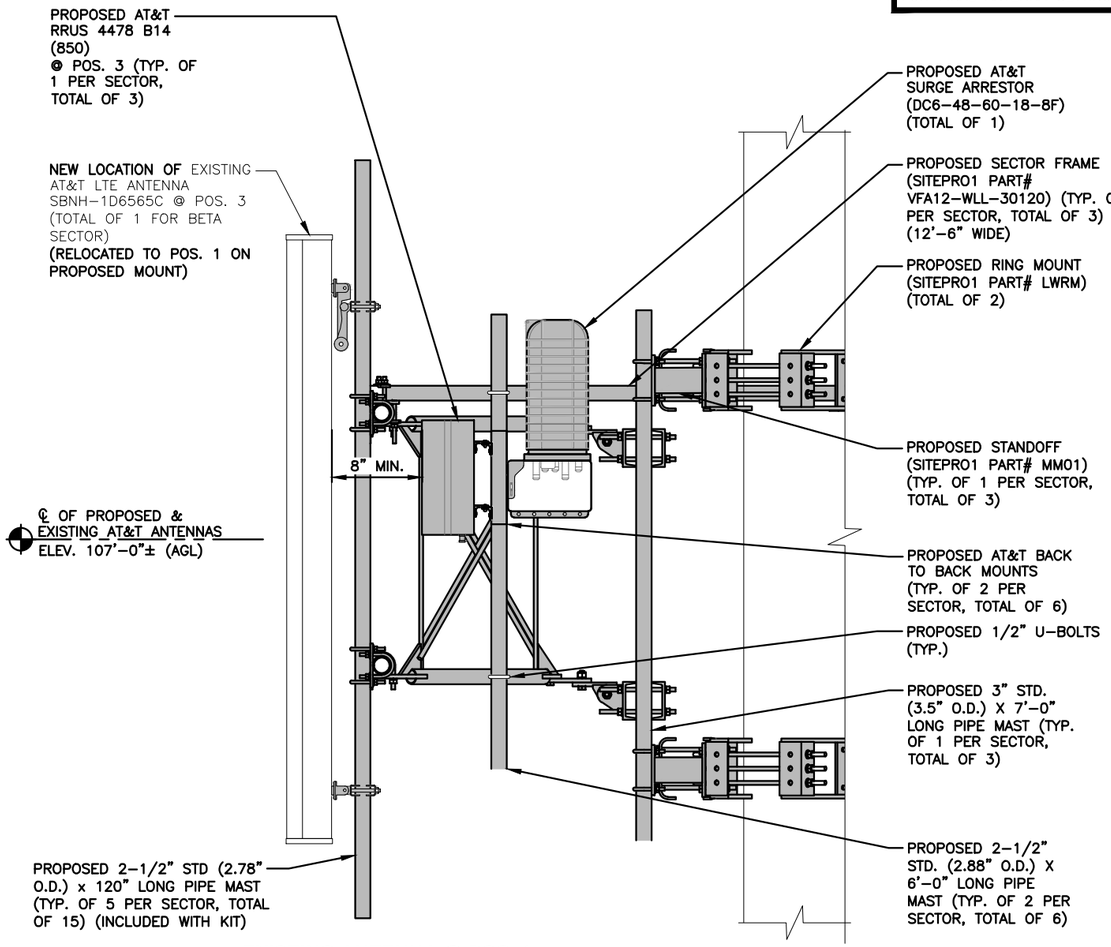


℄ OF PROPOSED & EXISTING AT&T ANTENNAS
ELEV. 107'-0"± (AGL)

℄ OF PROPOSED & EXISTING AT&T ANTENNAS
ELEV. 107'-0"± (AGL)



PROPOSED ANTENNA @ POS. 3 & 4
MOUNTING DETAIL
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"
1 / A-4

0 0'-6" 1'-0" 2'-0" 3'-0"

EXISTING ANTENNA @ POS. 1
MOUNTING DETAIL
(BETA SECTOR)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"
2 / A-4

0 0'-6" 1'-0" 2'-0" 3'-0"

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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: MJ

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MOUNTING DETAILS
LTE 2C, 5G NR RADIO, ANTENNA MODS, 5G NR 1DR-1, 5G NR 1DR-2 2023 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
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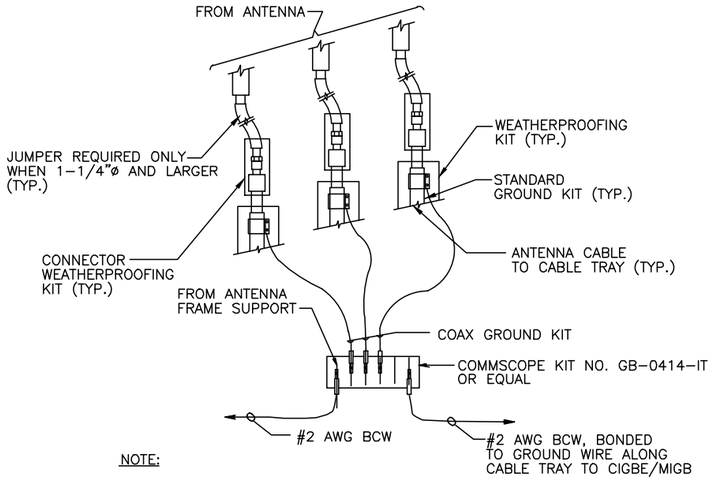


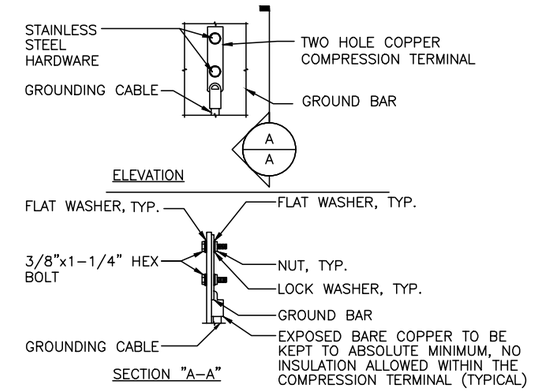
NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

GROUND WIRE TO GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

1 / G-1



NOTES:

1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATION.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB

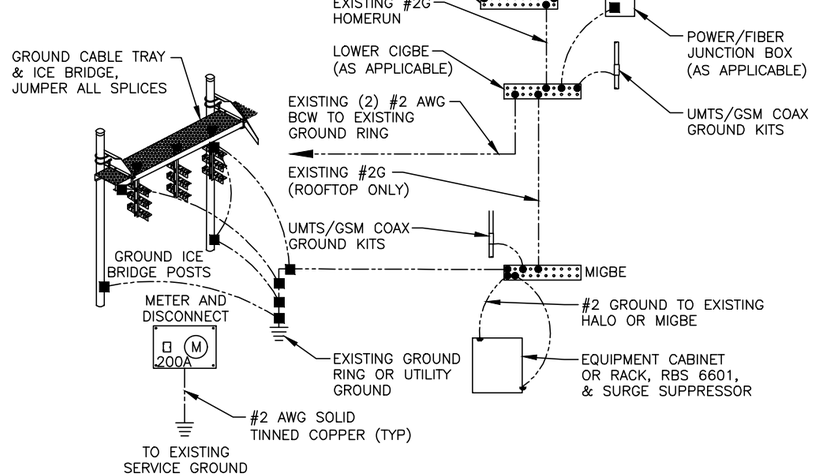
TYPICAL GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

3 / G-1

AT&T GROUNDING STANDARDS TO BE FOLLOWED:

ATT-TP-76416
ATT-TP-76300
ATT-CEM-18002
ATT-002-290-531
ATT-002-290-701
ATT-CEM-23001



GROUNDING RISER DIAGRAM

SCALE: N.T.S

2 / G-1

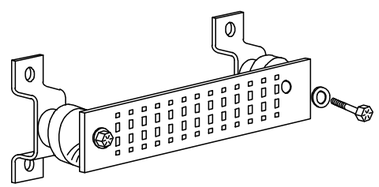
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

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)



GROUND BAR - DETAIL (AS REQUIRED)

SCALE: N.T.S

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

smartlink
SMARTLINK
1997 ANNAPOLIS EXCHANGE PKWY SUITE 200
ANNAPOLIS, MD 21401

SITE NUMBER: CTL01255
SITE NAME: BLOOMFIELD CT BURR ROAD
SBA SITE # ID: CT13548

12 BURR ROAD
BLOOMFIELD, CT 06002
HARTFORD COUNTY

AT&T
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
3	12/12/23	ISSUED FOR CONSTRUCTION	JS	AT	DPH
2	01/12/23	ISSUED FOR CONSTRUCTION	JS	AT	DPH
1	12/12/22	ISSUED FOR REVIEW	JS	AT	DPH
0	10/12/22	ISSUED FOR REVIEW	JS	AT	DPH

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: MJ

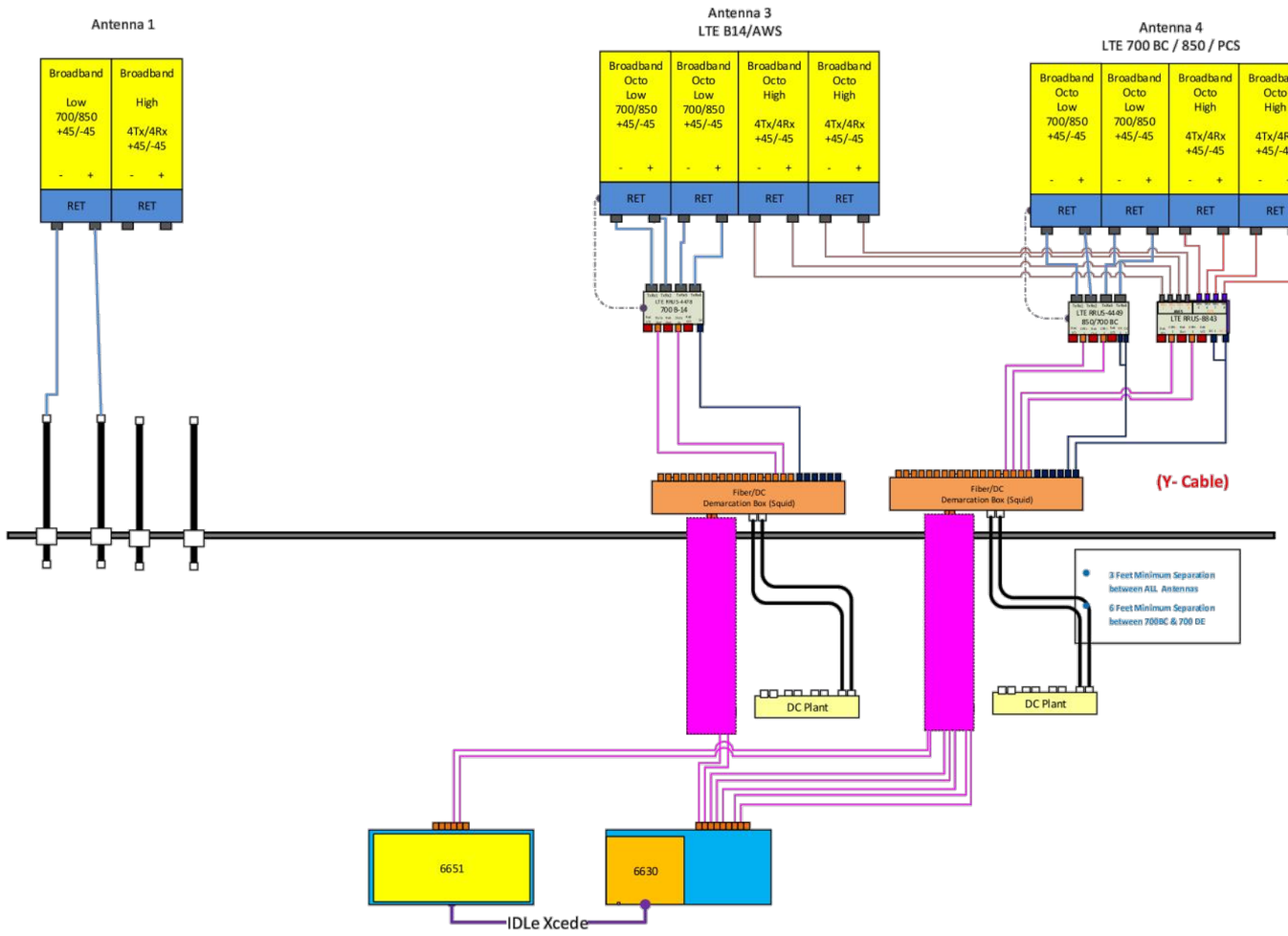
STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

GROUNDING DETAILS
LTE 2C, 5G NR RADIO, ANTENNA MODS, 5G NR 1DR-1, 5G NR 1DR-2 2023 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL01255	G-1	3

FINAL-APPROVED V1 RFDS DATED 12/11/2023



RF PLUMBING DIAGRAM (1 / RF-1)
SCALE: N.T.S

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS.
3. RFDS USED FOR REFERENCE.

NOTE:

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

TEP NORTHEAST
TEP OPCO, LLC.
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SITE NUMBER: CTL01255
SITE NAME: BLOOMFIELD CT BURR ROAD
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HARTFORD COUNTY

AT&T
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
3	12/12/23	ISSUED FOR CONSTRUCTION	JS	AT	DPH
2	01/12/23	ISSUED FOR CONSTRUCTION	JS	AT	DPH
1	12/12/22	ISSUED FOR REVIEW	KW	AT	DPH
0	10/12/22	ISSUED FOR REVIEW	JS	AT	DPH

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: MJ

AT&T

RF PLUMBING DIAGRAM
LTE 2C, 5G NR RADIO, ANTENNA MODS, 5G NR 1DR-1, 5G NR 1DR-2 2023 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL01255	RF-1	3

Showing 1 of 4

DELIVERED

Friday

12/29/23 at 11:24 AM

Your package was released as requested and safely delivered.

Signed for by: S.IGNATURE NOT REQ

Obtain proof of delivery

DELIVERY STATUS

Delivered

TRACKING ID

774612162285

FROM
Oxford, MA US

Label Created
12/27/23 8:52 AM

WE HAVE YOUR PACKAGE
WEST BOYLSTON, MA
12/28/23 3:17 PM

ON THE WAY
SOUTH WINDSOR, CT

12/29/23 5:06 AM

OUT FOR DELIVERY
SOUTH WINDSOR, CT
12/29/23 5:24 AM

DELIVERED
BLOOMFIELD, CT US

Delivered
12/29/23 at 11:24 AM

↓ View travel history

Want updates on this shipment? Enter your email and we will do the rest!

YOUR EMAIL
pbaker915

SUBMIT

✖ Your email is invalid.

MORE OPTIONS

Manage Delivery

Shipment facts

Shipment overview

TRACKING NUMBER 774612162285

DELIVERED TO Shipping/Receiving

SHIP DATE 12/28/23

STANDARD TRANSIT 1/2/24 before 5:00 PM

ACTUAL DELIVERY 12/29/23 at 11:24 AM

Services

SERVICE FedEx 2Day

TERMS Shipper

SPECIAL HANDLING SECTION Deliver Weekday

Package details

WEIGHT 0.5 lbs / 0.23 kgs

TOTAL PIECES 1

TOTAL SHIPMENT WEIGHT 0.5 lbs / 0.23 kgs

PACKAGING FedEx Envelope

↑ Back to top

Travel history

Ascending

Local Scan Time

Wednesday, 12/27/23

- 8:52 AM
  Shipment information sent to FedEx

Thursday, 12/28/23

- 3:17 PM
  Picked up
  WEST BOYLSTON, MA
- 3:18 PM
  Shipment arriving early
  WEST BOYLSTON, MA
- 9:33 PM
  Left FedEx origin facility
  WEST BOYLSTON, MA

Friday, 12/29/23

- 2:00 AM
  Arrived at FedEx hub
  WILLINGTON, CT
- 4:00 AM
  Departed FedEx hub
  WILLINGTON, CT
- 5:06 AM
  At local FedEx facility
  SOUTH WINDSOR, CT
- 5:24 AM
  On FedEx vehicle for delivery
  SOUTH WINDSOR, CT
- 11:24 AM
  Delivered
  BLOOMFIELD, CT

11:24 AM
Delivered
BLOOMFIELD, CT

↑ Back to top

FedEx®

FedEx® Tracking

DELIVERED

Friday

12/29/23 at 11:24 AM

Your package was released as requested and safely delivered.

Signed for by: S.IGNATURE NOT REQ

Obtain proof of delivery

DELIVERY STATUS

Delivered

TRACKING ID

774612169566

FROM
Oxford, MA US

Label Created
12/27/23 8:52 AM

WE HAVE YOUR PACKAGE
WEST BOYLSTON, MA
12/28/23 3:17 PM

ON THE WAY
SOUTH WINDSOR, CT
12/29/23 5:03 AM

OUT FOR DELIVERY
SOUTH WINDSOR, CT
12/29/23 5:25 AM

Delivered
12/29/23 at 11:24 AM

View travel history

Want updates on this shipment? Enter your email and we will do the rest!

YOUR EMAIL
pbaker915

SUBMIT

✖ Your email is invalid.

MORE OPTIONS

Manage Delivery

Shipment facts

Shipment overview

TRACKING NUMBER 774612169566

DELIVERED TO Shipping/Receiving

SHIP DATE 12/28/23

STANDARD TRANSIT 1/2/24 before 5:00 PM

ACTUAL DELIVERY 12/29/23 at 11:24 AM

Services

SERVICE FedEx 2Day

TERMS Shipper

SPECIAL HANDLING SECTION Deliver Weekday

Package details

WEIGHT 0.5 lbs / 0.23 kgs

TOTAL PIECES 1

TOTAL SHIPMENT WEIGHT 0.5 lbs / 0.23 kgs

PACKAGING FedEx Envelope

FedEx

Travel History

Ascending

Local Scan Time

Wednesday, 12/27/23

- 8:52 AM
  Shipment information sent to FedEx

Thursday, 12/28/23

- 3:17 PM
  Picked up
  WEST BOYLSTON, MA
- 3:18 PM
  Shipment arriving early
  WEST BOYLSTON, MA
- 9:33 PM
  Left FedEx origin facility
  WEST BOYLSTON, MA

Friday, 12/29/23

- 1:53 AM
  Arrived at FedEx hub
  WILLINGTON, CT
- 3:26 AM
  Departed FedEx hub
  WILLINGTON, CT
- 5:03 AM
  At local FedEx facility
  SOUTH WINDSOR, CT
- 5:25 AM
  On FedEx vehicle for delivery
  SOUTH WINDSOR, CT
- 11:24 AM
  Delivered
  BLOOMFIELD, CT
- 11:24 AM
  Delivered
  BLOOMFIELD, CT

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All (0)

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FedEx®

FedEx® Tracking

DELIVERED

Friday

12/29/23 at 1:59 PM

Your package was released as requested and safely delivered.

Signed for by: S.IGNATURE NOT REQ

Obtain proof of delivery

DELIVERY STATUS

Delivered

TRACKING ID

774612204013

FROM
Oxford, MA US

Label Created
12/27/23 8:55 AM

WE HAVE YOUR PACKAGE
WEST BOYLSTON, MA
12/28/23 3:17 PM

ON THE WAY
SOUTH WINDSOR, CT
12/29/23 5:05 AM

OUT FOR DELIVERY
SOUTH WINDSOR, CT
12/29/23 5:20 AM

Delivered
12/29/23 at 1:59 PM

View travel history

Want updates on this shipment? Enter your email and we will do the rest!

YOUR EMAIL
pbaker915

SUBMIT

✖ Your email is invalid.

MORE OPTIONS

Manage Delivery

Shipment facts

Shipment overview

TRACKING NUMBER 774612204013

DELIVERED TO Shipping/Receiving

SHIP DATE 12/28/23

STANDARD TRANSIT 1/2/24 before 8:00 PM

ACTUAL DELIVERY 12/29/23 at 1:59 PM

Services

SERVICE FedEx 2Day

TERMS Shipper

SPECIAL HANDLING SECTION Deliver Weekday

Package details

WEIGHT 0.5 lbs / 0.23 kgs

TOTAL PIECES 1

TOTAL SHIPMENT WEIGHT 0.5 lbs / 0.23 kgs

PACKAGING FedEx Envelope

FedEx

Travel History

Ascending

Local Scan Time

Wednesday, 12/27/23

- 8:55 AM
  Shipment information sent to FedEx

Thursday, 12/28/23

- 3:17 PM
  Shipment arriving early
  WEST BOYLSTON, MA
- 3:17 PM
  Picked up
  WEST BOYLSTON, MA
- 9:33 PM
  Left FedEx origin facility
  WEST BOYLSTON, MA

Friday, 12/29/23

- 2:26 AM
  Arrived at FedEx hub
  WILLINGTON, CT
- 4:00 AM
  Departed FedEx hub
  WILLINGTON, CT
- 5:05 AM
  At local FedEx facility
  SOUTH WINDSOR, CT
- 5:20 AM
  On FedEx vehicle for delivery
  SOUTH WINDSOR, CT
- 1:54 PM
  Delivered
  BLOOMFIELD, CT
- 1:59 PM
  Delivered
  BLOOMFIELD, CT

↑ Back to to

All (0)

FedEx®

FedEx® Tracking

DELIVERED

Wednesday

1/3/24 at 10:25 AM

Signed for by: J.HAWKINE

Obtain proof of delivery

DELIVERY STATUS

Delivered

TRACKING ID

774612211151

FROM
Oxford, MA US

Label Created
12/27/23 8:56 AM

WE HAVE YOUR PACKAGE
WEST BOYLSTON, MA
12/28/23 3:17 PM

ON THE WAY
BOCA RATON, FL
1/3/24 7:52 AM

OUT FOR DELIVERY
BOCA RATON, FL
1/3/24 8:35 AM

DELIVERED
JUPITER, FL US

Delivered
1/3/24 at 10:25 AM

View travel history

Want updates on this shipment? Enter your email and we will do the rest!

YOUR EMAIL
pbaker915

SUBMIT

✖ Your email is invalid.

MORE OPTIONS

Shipment facts

Shipment overview

TRACKING NUMBER 774612211151

DELIVERED TO Mailroom

SHIP DATE 12/28/23

STANDARD TRANSIT 1/2/24 before 5:00 PM

ACTUAL DELIVERY 1/3/24 at 10:25 AM

Services

SERVICE FedEx 2Day

TERMS Shipper

SPECIAL HANDLING SECTION Deliver Weekday

Package details

WEIGHT 0.5 lbs / 0.23 kgs

TOTAL PIECES 1

TOTAL SHIPMENT WEIGHT 0.5 lbs / 0.23 kgs

PACKAGING FedEx Envelope

Back to to

Travel history

Ascending

Local Scan Time

- 8:36 AM
  Shipment information sent to FedEx

Thursday, 12/28/23

- 3:17 PM
  Shipment arriving On-Time
  WEST BOYLSTON, MA
- 3:17 PM
  Picked up
  WEST BOYLSTON, MA
- 7:22 PM
  Left FedEx origin facility
  WEST BOYLSTON, MA
- 11:25 PM
  At local FedEx facility
  EAST BOSTON, MA

Friday, 12/29/23

- 10:21 AM
  Arrived at FedEx hub
  MEMPHIS, TN
- 3:32 PM
  Departed FedEx hub
  MEMPHIS, TN
- 9:28 PM
  At destination sort facility
  FORT LAUDERDALE, FL
- 10:43 PM
  At local FedEx facility
  FORT LAUDERDALE, FL

Saturday, 12/30/23

- 8:00 AM
  At local FedEx facility
  RIVIERA BEACH, FL
- 8:00 AM
  At local FedEx facility
  Your package is expected to arrive on the scheduled delivery date
  RIVIERA BEACH, FL

- 7:12 AM
  Shipment arriving On-Time
  RIVIERA BEACH, FL
- 8:36 AM
  Operational Delay
  Incorrect Address
  RIVIERA BEACH, FL
- 11:25 PM
  At local FedEx facility
  FORT LAUDERDALE, FL

Wednesday, 1/3/24

- 7:52 AM
  At local FedEx facility
  BOCA RATON, FL
- 8:35 AM
  On FedEx vehicle for delivery
  BOCA RATON, FL

10:25 AM
Delivered
JUPITER, FL

↑ Back to to

All (0)