Filed by:
John Morrison Site Development Specialist - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3808 - JoMorrison@sbasite.com

May 30 2023

Melanie A. Bachman
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Notice of Exempt Modification
26 Commerce Drive, North Branford, CT 06471
Latitude: 41.322138
Longitude: -72.773277
T-Mobile Site #: CT11390G_Anchor

Dear Ms. Bachman:

T-Mobile currently maintains six (9) antennas at the 154-foot level of the existing 155-foot Monopole Tower at 26 Commerce Drive, North Branford, CT. The 155-foot tower is owned by SBA Towers V, LLC. The property is owned by Artec Properties, LLC. T-Mobile now intends to replace (6) of the existing with new dual band antennas. The new antennas would be installed at the 154-foot level of the tower.

Planned Modifications:

TOWER

Remove:
- (1) 1-5/8" Fiber
- (1) 1 ¼" Fiber

Remove and Replace:
- (9) 1-5/8" Coax (Remove) - (3) 2" fiber (Replace)
- (3) Ericsson - AIR 21 B2A/B4P (Remove) – Commscope W-65B (Replace) Panel 2100/1900 Mhz
- (3) Ericsson - AIR 21 B4A B2P (Remove) – Ericsson AIR 6419 (Replace) Panel 2500 Mhz
- (3) Ericsson - KRY 112 144/1 – TMA (Remove) – Ericsson Radio 4460 B25+B66 (Replace)

Existing Equipment to Remain (including:
- (3) T-Arms with structural upgrades
- (3) 1-5/8" fiber
- (3) RFS APXVAARR24_43-U-NA20 Panel 600/700 MHz
- (3) Ericsson Radio 4449 B71+B12

GROUND

Remove and Replace:
- Ericsson RBS6131 Cabinet (Remove) – Ericsson 6160 Site Support Cabinet (Replace)

Install New:
(1) Ericsson B160 Battery Cabinet

This facility was approved Council on January 24, 2005 under Docket No. 295. Approval was given for a monopole no taller than 155-feet above ground level to provide telecommunications services to both public and private entities. A recalculated radio frequency report was to be provided when a change in operations caused a change in power density levels. Upon the establishment of any new State or federal radio frequency standards applicable to the facility, the facility was to be brought into compliance. The Certificate Holder was to permit public or private entities to share space on the tower for fair consideration, or to provide legal, technical, environmental, or economic reasons precluding such sharing. Reasonable space on the tower was to be provided for no compensation for any municipal antennas, provided they were compatible with the structural integrity of the tower. Any obsolete antennas were to be removed within 60 days. There were no further post construction stipulations set. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16.50j-72(b)(2). In accordance with R.C.S.A. § 16.50j-73, a copy of this letter is being sent to the Town of North Branford's Mayor, Michael J. Doody, and Zoning Enforcement Officer, Tom Hogarty, as well as to the property owner. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

The planned modifications to the 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 structure.
2. The proposed modification will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modification will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

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

Sincerely,

John Morrison
SDS Specialist I

SBA Communications Corporation
134 Flanders Road
Suite 125
Westborough, MA 01581

x3808 + **T**
508.768.7960 + **C**
JoMorrison@sbasite.com

Your Signal Starts Here.

Attachments

cc: Michael Downes, Town Manager / with attachments
North Branford Town Hall, 909 Foxon Road, North Branford, CT 06471
Stephen Buccitti, Zoning Enforcement Officer / with attachments
North Branford Town Hall, 909 Foxon Road, North Branford, CT 06471
Artec Properties LLC / with attachments
26 Commerce Drive, North Branford, CT 06471

SBA Network Services, LLC

To: CONNECTICUT SITING COUNCIL 129986

Check Number: 2176913
Date: 05/30/2023

Invoice Number	Invoice Date	Description	Gross Amount	Taxes Withheld	Net Amount
PRSF05262301	05/26/2023	535051-CT11390-CSC Fees	$ 625.00	$ 0.00	$ 625.00
			$ 625.00	$ 0.00	$ 625.00

SBA Network Services, LLC
8051 Congress Avenue
NV15551-A Betty Lane
Boca Raton, FL 33487
(800) 487-7483

Wells Fargo Bank

2176913

061209756 129986

DATE 05/30/2023

AMOUNT $ 625.00

Void After 120 Days

Six Hundred Twenty Five Dollars And 00 Cents

Pay to the Order of:

CONNECTICUT SITING COUNCIL
ACCOUNTS RECEIVABLE
TEN FRANKLIN SQUARE

NEW BRITAIN, CT 06051

Brian Lazarus

⑈2176913⑈ ⑆061209756⑆ 20799004 24566⑈

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26 COMMERCE DR

Location	26 COMMERCE DR	**Mblu**	19/C 13-5/ / /
Acct#	000156	**Owner**	ARTEC PROPERTIES LLC
Assessment	$906,400	**Appraisal**	$1,294,800
PID	1373	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$787,700	$507,100	$1,294,800

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$551,400	$355,000	$906,400

Owner of Record

Owner	ARTEC PROPERTIES LLC	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	26 COMMERCE DR NORTH BRANFORD, CT 06471-1250	**Book & Page**	472/1180
		Sale Date	12/30/2014

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
ARTEC PROPERTIES LLC	$0		472/1180	12/30/2014
ARTEC MACHINERY CORP	$0		140/ 074	06/17/1982

Building Information

Building 1 : Section 1

Year Built:	1984
Living Area:	27,700
Replacement Cost:	$1,576,753
Building Percent Good:	63
Replacement Cost Less Depreciation:	$993,400

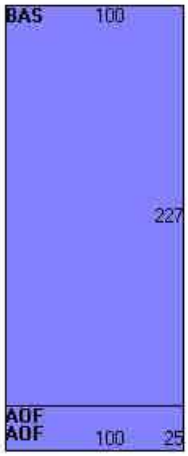
Building Attributes

Field	Description
STYLE	Pre-Eng Mfg
MODEL	Ind or Comm
Grade	Average
Stories:	1
Occupancy	5
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	Brick Veneer
Roof Structure	Gable/Hip
Roof Cover	Metal/Tin
Interior Wall 1	Minim/Masonry
Interior Wall 2	Drywall/Sheet
Interior Floor 1	Concr-Finished
Interior Floor 2	Carpet
Heating Fuel	Gas
Heating Type	Forced Air-Duc
AC Type	None
Bldg Use	INDUSTRIAL MDL-96
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	4000
Heat/AC	NONE
Frame Type	STEEL
Baths/Plumbing	AVERAGE
Ceiling/Wall	NONE
Rooms/Prtns	AVERAGE
Wall Height	16
% Comn Wall	0

Building Photo

(http://images.vgsi.com/photos/NorthBranfordCTPhotos//\00\00\

Building Layout



(http://images.vgsi.com/photos/NorthBranfordCTPhotos//Sketche

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	22,700	22,700
AOF	Office, (Average)	5,000	5,000
		27,700	27,700

Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #
MEZ1	MEZZANINE-UNF	250 S.F.	$3,200	1
A/C	AIR CONDITION	2500 UNITS	$3,500	1
LFT2	LIFT-HEAVY	1 UNITS	$3,200	1
LDL1	LOAD LEVELERS	2 UNITS	$3,800	1

Land

Land Use

Use Code	4000
Description	INDUSTRIAL MDL-96
Zone	I2
Neighborhood	
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	2.02
Frontage	0
Depth	0
Assessed Value	$355,000
Appraised Value	$507,100

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
TW1	CELL TOWER			155 HEIGHT	$104,600	1
ELCB	ELECTRONIC COMM BLDG			360 S.F.	$60,800	1
ELCB	ELECTRONIC COMM BLDG			180 S.F.	$30,400	1
FN4	FENCE-8' CHAIN			192 L.F.	$3,400	1
	CONCRETE PAD			9	$0	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$787,700	$507,100	$1,294,800
2016	$787,700	$507,100	$1,294,800
2015	$787,700	$507,100	$1,294,800

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$551,400	$355,000	$906,400
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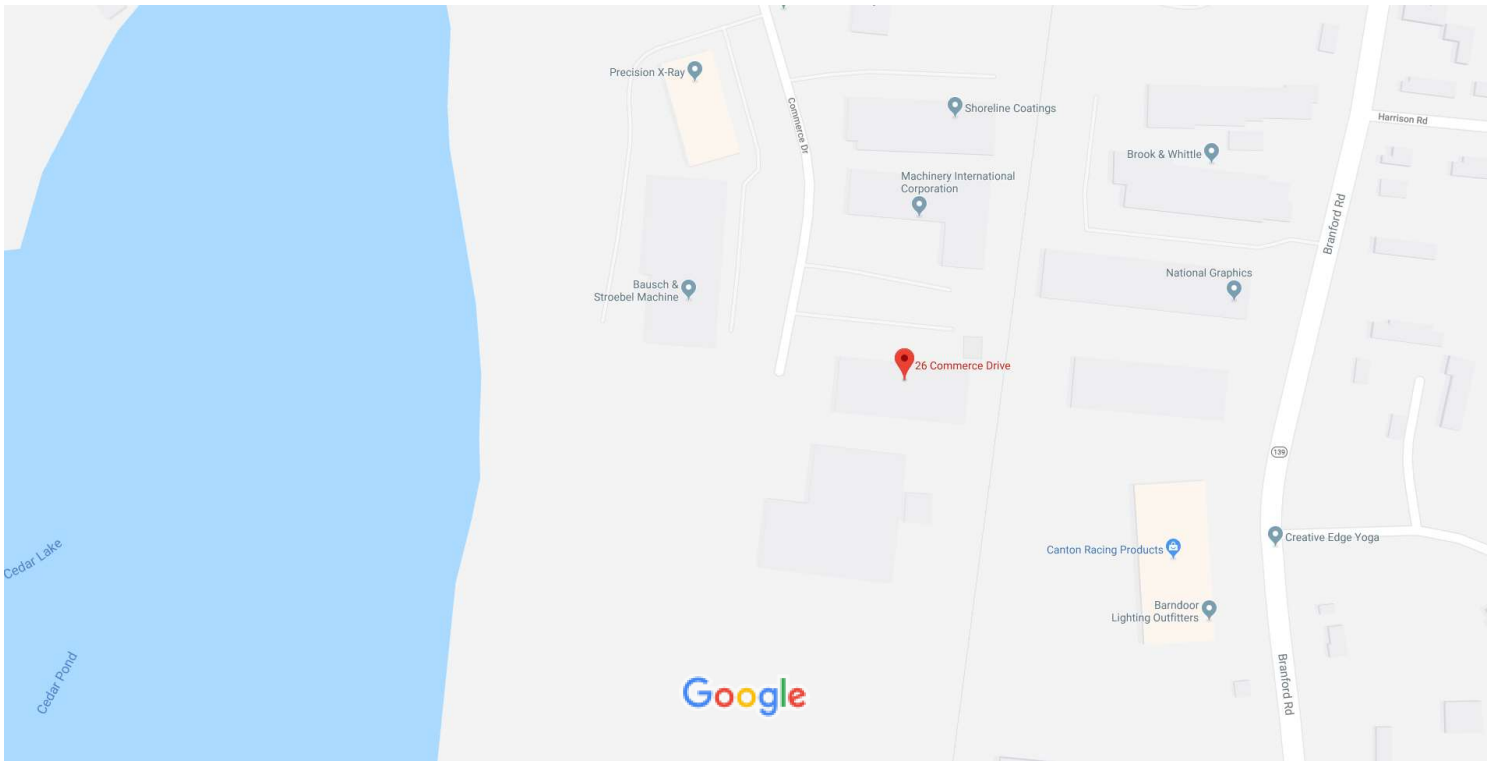
Google Maps 26 Commerce Dr



26 Commerce Dr

North Branford, CT 06471

Directions Save Nearby Send to your phone Share

At this location

Advantage Lawn Care LLC

Lawn care service · 26 Commerce Dr
Open until 5:00 PM

Artec Machine Systems

5.0 ★★★★★ (1)
Industrial equipment supplier · 26 Commerce Dr
Open until 4:30 PM

County Hill Landscaping Inc

Landscaper · 26 Commerce Dr

Financial & Benefits Concepts

Financial planner · 26 Commerce Dr # 2

Maco Machinery

Professional services · 26 Commerce Dr

Stephen W Whalen Law Offices

5.0 ★★★★★ (1)
Law firm · 26 Commerce Dr
Open until 5:30 PM

Connecticut Siting Council

Decisions

DOCKET NO. 295 – National Grid Communications, Inc. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility in North Branford, Connecticut.	}	Connecticut Siting Council January 24, 2005

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Pubic Need, as provided by General Statutes § 16-50k, be issued to Tower Ventures II, LLC for the construction, maintenance and operation of a wireless telecommunications facility at 26 Commerce Drive, North Branford, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be designed as a monopole and shall be constructed no taller than 155 feet above ground level to provide telecommunications services to both public and private entities.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on all parties and intervenors, as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
   a. a final site plan(s) of site development to include specifications for the tower, tower foundation, T-bar mounted antennas, equipment building, access road, utility line, and landscaping; and
   b. construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of electromagnetic radio frequency power density is submitted to the Council in the event other carriers locate at this facility or if circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any municipal antennas, provided such antennas are compatible with the structural integrity of the tower.

7. If the facility does not initially provide wireless services within one year of completion of construction or ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

8. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and cease to function.

9. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved. Any request for extensions of the period shall be filed with the Council not later than sixty days prior to expiration date of the Certificate and shall be served on all parties and intervenors, as listed in the service list. Any proposed modifications to this Decision and Order shall likewise be so served.

10. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with notice in writing two weeks prior to the commencement of construction activities at the approved site. In addition, the Certificate Holder shall provide the Council with written notice of the completion of construction.

Pursuant to General Statutes **§** 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the New Haven Register and the Totoket Times.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Applicant	**Its Representative**
Tower Ventures II, LLC	Benjamin S. Proto, Jr., Esq. 2090 Cutspring Road Stratford, CT 06614 (203) 378-9595
Intervenor	
Southwestern Bell Mobile Systems, LLC d/b/a Cingular Wireless, LLC	Kenneth I. Spigle, Esq. Tower Ventures II, LLC 170 Westminster Street, Suite 701

	Providence, RI 02903 **Its Representative** Wendell G. Davis Blackwell, Davis & Spadacinni, LLC 158 East Center Street Manchester, CT 06040 (860) 432-0676 (860) 432-2926 fax

Content Last Modified on 10/3/2005 3:12:54 PM

SBA Communications Corporation
8051 Congress Avenue
Boca Raton, FL 33487-1307

T + 561 995 7670
F + 561 995 7626

sbasite.com

Structural Analysis Report

Client: T-Mobile

Client Site ID / Name: CT11390G / CT390/TVI Ind. Park_FT
Application #: 227235, v2

SBA Site ID / Name: CT13610-A / ARTEC

155 ft Monopole

26 Commerce Drive
N. Branford, Connecticut 06471
Lat: 41.322139, Long: -72.773278

Project number: CT13610-TMO-051723

Analysis Results

Tower	82.9%	Pass
Foundation	44.0%	Pass

Change in tower stress due to mount modification / replacement	N/A

Exp. 01/31/2024

05/18/2023

Prepared by: Aaron Corona

May 17, 2023

SBA Communications Corporation
8051 Congress Avenue
Boca Raton, FL 33487-1307

T + 561 995 7670
F + 561 995 7626

sbasite.com

Structural Analysis Report

Client: T-Mobile

Client Site ID / Name: CT11390G / CT390/TVI Ind. Park_FT
Application #: 227235, v2

SBA Site ID / Name: CT13610-A / ARTEC

155 ft Monopole

26 Commerce Drive
N. Branford, Connecticut 06471
Lat: 41.322139, Long: -72.773278

Project number: CT13610-TMO-051723

Analysis Results

Tower	82.9%	Pass
Foundation	44.0%	Pass

Change in tower stress due to mount modification / replacement	N/A

Prepared by: Aaron Corona

May 17, 2023

Table of Contents

Introduction

The purpose of this report is to summarize the analysis results on the 155 ft Monopole to support the proposed antennas and transmissions lines in addition to those currently installed.

Table 1 List of Documents Used

Item	Document
Tower design/drawings	Paul J. Ford and Company, Job # 29205-0112 Rev 1, dated 3/31/2005
Foundation drawings	Paul J. Ford and Company, Job # 29205-0112, dated 5/31/2005
Geotechnical report	JGI Eastern, Inc., Project # 05267G, dated 5/16/2005
Mount Analysis	TES, Project # 140509, dated 5/10/2023
Modification drawings	TES, Project # 81048, dated 7/31/2019
Latest SA	SBA, Project # CT13610-ATT-041322 Rev 1, dated 4/15/2022

Analysis Criteria

Table 2 Code Related Data

Jurisdiction (State/County/City)	Connecticut/New Haven/N. Branford
Governing Codes	ANSI/TIA/EIA 222-H, 2021 IBC, 2022 Connecticut State Building Code
Ultimate Wind Speed (3-Sec gust)	121.0 mph
Wind Speed with Ice (3-Sec gust)	50 mph
Service Wind Speed (3-Sec gust)	60 mph
Ice Thickness	1.00”
Risk Category	II
Exposure Category	C
Topographic Category	1
Crest Height	0 ft
Ground Elevation	111.38 ft.
Seismic Parameter S_s	0.204
Seismic Parameter S_1	0.054

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.

Appurtenance Loading

Existing Loading:

Table 3 Existing Appurtenances

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	154.0	3	Ericsson Air 21 B2A/B4P - Panel	(3) T-Arm w/ (3) V-Bracing Kits [MetroSite MS-C1B-350P] (3) End Brace	(9) 1 5/8" (4) 1 5/8" Fiber	T-Mobile
2		3	Ericsson Air 21 B4A/B2P - Panel			
3		3	RFS APXVAARR24_43-U-NA20 - Panel			
4		3	Ericsson KRY 112 144/1 - TMA			
5		3	Ericsson Radio 4449 B71B12 - RRU			
6	143.0	3	Cci TPA65R-BU6DA-K - Panel	14' Low Pro-Platform w/ Reinforcement and Handrail System w/ (12) Ant Mount Pipes [Site Pro 1 RMQLP-4120-H10]	(6) 1 5/8" (4) 1/2" DC power (2) 3/8" Fiber	AT&T
7		3	Cci OPA65R-BU6DA - Panel			
8		3	Ericsson AIR6449 B77D - Panel			
9		3	Ericsson RRUS 4478 B14 - RRU			
10		3	Ericsson RRUS 8843 B2 B66A - RRU			
11		3	Ericsson RRUS 4449 B5/B12 - RRU			
12		2	Raycap DC6-48-60-18-8F - OVP			
13	133.0	3	Samsung MT6407-77A - Panel	(3) T-Arm	(12) 1 5/8" (2) 1 5/8" Hybrid	Verizon
14		6	Andrew SBNHH-1D65B - Panel			
15		6	Amphenol LPA-80080-6CF - Panel			
16		3	Samsung RF4439d-25A - RRU			
17		3	Samsung RF4440d-13A - RRU			
18		2	Rfs Celwave DB-T1-6Z-8AB-0Z - OVP			
19	100.0	3	JMA Wireless MX08FRO665-21 - Panel	Platform w/ Handrail [Commscope MC-PK8-DSH]	(1) 1.6" Hybrid	Dish Wireless
20		3	Fujitsu TA08025-B605 - RRU			
21		3	Fujitsu TA08025-B604 - RRU			
22		1	Raycap RDIDC-9181-PF-48 - OVP			
23	89.75	1	Andrew DB408 - Whip	(1) T-Arm @ 85'	(6) 7/8"	Town of North Branford
24		2	Sinclair SD222 - Whip			
25	85.0	1	Radio Waves SP4-4.7NS RD4 - Dish			

Note: AT&T loading includes FirstNET equipment

Proposed Loading:

Information pertaining to proposed antennas and transmission lines were based upon the Application #: 227235, v2 from T-Mobile and is listed in Table 4.

Table 4 Proposed Appurtenances

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	154.0	3	RFS APXVAARR24_43-U-NA20 - Panel	(3) T-Arm w/ (3) V-Bracing Kits [MetroSite MS-C1B-350P] (3) End Brace	(4) 1.99" Fiber	T-Mobile
2		3	Commscope VV-65B-R1 - Panel			
3		3	Ericsson Air 6419 B41 - Panel			
4		3	Ericsson 4460 B25 + B66			
5		3	Ericsson 4449 B71 + B85			

Analysis Results

Tower

The results of the structural analysis are shown below in table 5. Additional information for the tower analysis is provided within the Appendix.

Table 5 Tower Analysis Summary

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	82.9%	55.9%	62.8%
Pass/Fail	Pass	Pass	Pass

Foundation

The results of the foundation analysis are shown below in table 6. Additional information for the foundation analysis is provided within the Appendix.

Table 6 Foundation Analysis Summary

Structural Component	Max Usage (%)	Analysis Result
Foundation	44.0%	Pass

Conclusions

Based on the analysis results, the existing tower and foundation were found to be ***sufficient*** to safely support the equipment listed in this analysis. No modification to the tower and foundation is needed at this time.

Installation Requirements

This analysis was performed under the assumption that the carrier will place the proposed equipment and feed lines at the installation height listed in Table 4 and in accordance with the coax layout shown. TMAs and RRUs are to be installed on existing mounts behind tenant's antennas unless otherwise noted. No equipment is to be installed directly in the climbing path. All equipment is to be installed per mount manufacturer specifications. In case site conditions do not allow for the required installation parameters to be met the carrier must notify SBA Communications Corporation engineers for approval of an alternative placement.

Assumptions and Limitations

Assumptions

This analysis was completed based on the following assumptions:

- Tower and foundation were built in accordance to manufacturer specifications.
- Tower and foundation has been properly maintained in accordance with the manufacturer's specifications
- All existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion
- Welds and bolts are assumed able to carry their intended original design loads.
- The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Table 3 and 4.
- This analysis may be affected if any assumptions are not valid or have been made in error. SBA should be notified to determine the effect on the structural integrity of the tower.

Limitations

The computer generated analysis performed by the tower software is limited to theoretical capacities of the towers structural members and does not account for any missing or damaged members or connections. The tower and foundation are assumed to have been properly designed, fabricated, installed and maintained, barring any conflicting findings from the most recent inspection.

SBA Communications Corporation has used its due diligence to verify the information provided to perform this analysis. It is unreasonable to perform a more detailed inspection of a tower and its components. This report is not a condition assessment of the tower or foundation.

Appendix

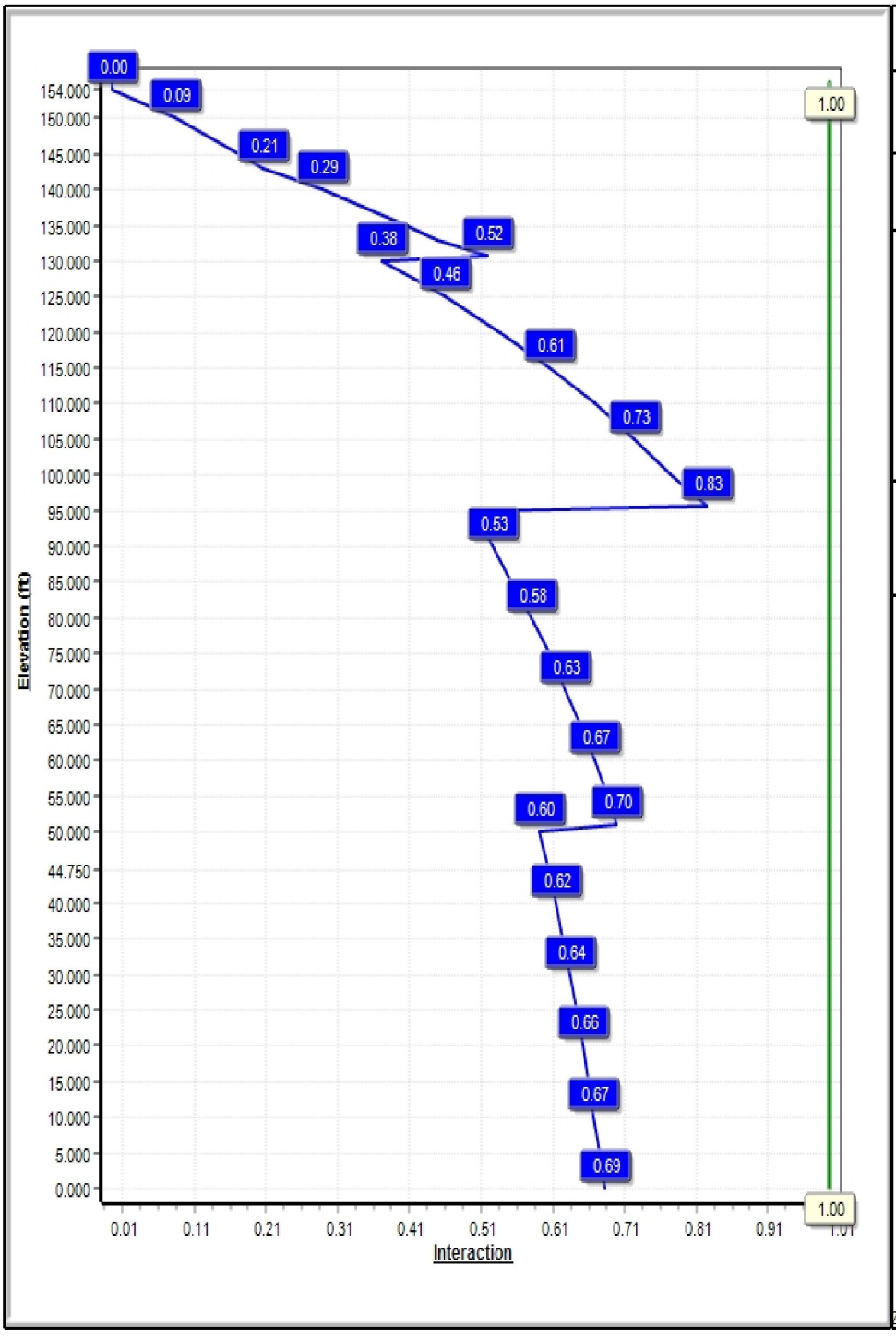
Usage Diagram - Max Ratio 82.92% at 95.8ft

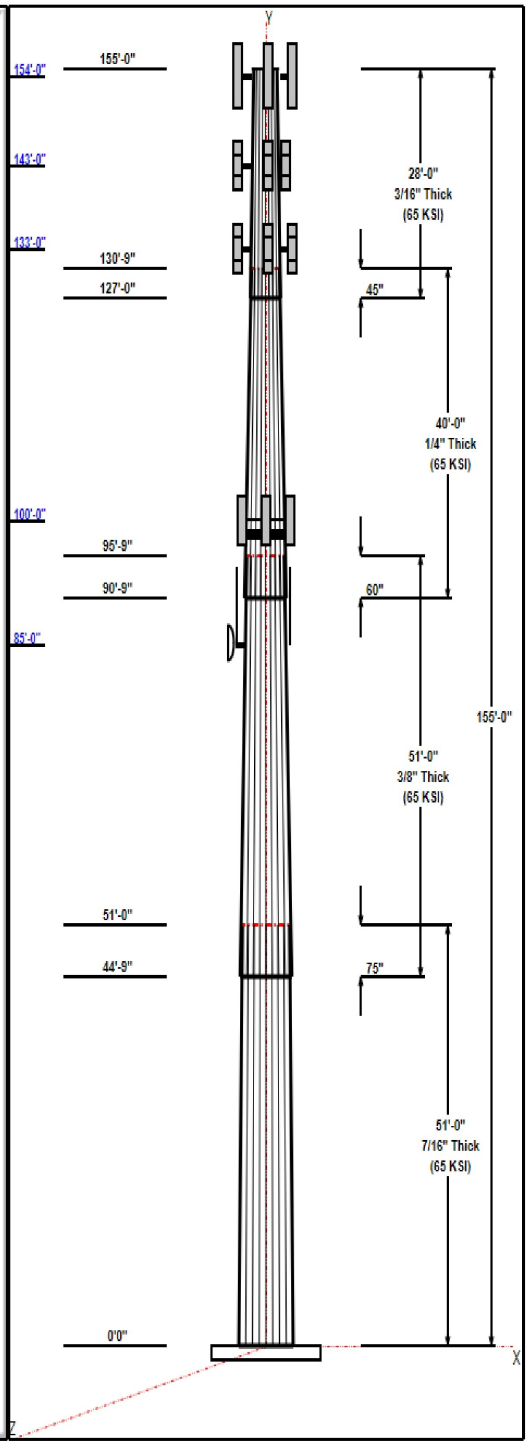
Structure:	CT13610-A	**Code:**	EIA/TIA-222-H	5/17/2023
Site Name:	ARTEC	**Exposure:**	C	
Height:	155.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

Dead Load Factor:	1.20
Wind Load Factor:	1.00

Load Case : 1.2D + 1.0W 121 mph Wind

Iterations: 23





Structure: CT13610-A

Type: Tapered
Site Name: ARTEC
Height: 155.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.25803

5/17/2023

Shaft Properties

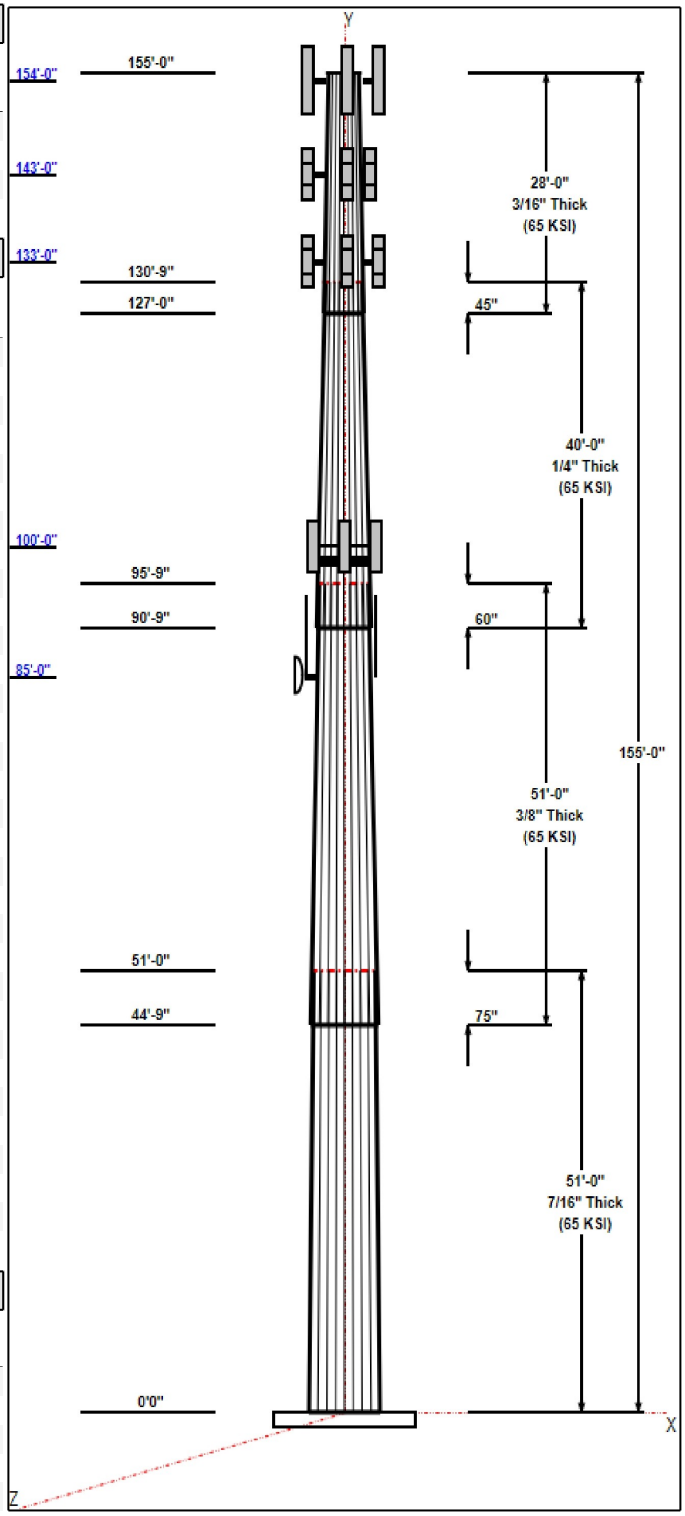
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	51.00	47.71	60.87	0.438		0.25803	65
2	51.00	36.91	50.07	0.375	Slip	0.25803	65
3	40.00	28.38	38.70	0.250	Slip	0.25803	65
4	28.00	22.50	29.72	0.188	Slip	0.25803	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
154.00	154.00	3	RFS -	T-Mobile
154.00	154.00	3	T-Arm	T-Mobile
154.00	154.00	3	Mount Mod	T-Mobile
154.00	154.00	3	Commscope VV-65B-R1	T-Mobile
154.00	154.00	3	Ericsson Air 6419 B41	T-Mobile
154.00	154.00	3	Ericsson 4460 B25 + B66	T-Mobile
154.00	154.00	3	Ericsson 4449 B71 + B85	T-Mobile
143.00	143.00	3	Cci - TPA65R-BU6DA-K	AT&T
143.00	143.00	3	Cci - OPA65R-BU6DA	AT&T
143.00	143.00	3	Ericsson - AIR6449 B77D	AT&T
143.00	143.00	3	Ericsson - RRUS 4478 B14	AT&T
143.00	143.00	3	Ericsson - RRUS 8843 B2	AT&T
143.00	143.00	3	Ericsson - RRUS 4449	AT&T
143.00	143.00	2	Raycap - DC6-48-60-18-8F	AT&T
143.00	143.00	1	RMQLP-4120-H10 + 12	AT&T
133.00	133.00	3	Samsung - MT6407-77A	Verizon
133.00	133.00	6	Andrew - SBNHH-1D65B	Verizon
133.00	133.00	6	Amphenol -	Verizon
133.00	133.00	3	Samsung - RF4439d-25A	Verizon
133.00	133.00	3	Samsung - RF4440d-13A	Verizon
133.00	133.00	2	Rfs Celwave -	Verizon
133.00	133.00	3	T-Arm	Verizon
100.00	100.00	3	JMA Wireless -	Dish Wireless
100.00	100.00	3	Fujitsu - TA08025-B605	Dish Wireless
100.00	100.00	3	Fujitsu - TA08025-B604	Dish Wireless
100.00	100.00	1	Raycap -	Dish Wireless
100.00	100.00	1	Platform w/ Handrail	Dish Wireless
85.00	89.75	1	DB408	Town of North Branford
85.00	89.75	2	SD222	Town of North Branford
85.00	85.00	1	SP4-4.7NS RD4	Town of North Branford
85.00	85.00	2	Pipe Mount	Town of North Branford
85.00	85.00	1	T-Arm	Verizon

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	155.00	Outside	Safety Cable	
0.00	155.00	Outside	Step bolts (ladder)	
0.00	154.00	Inside	1.99" Fiber	T-Mobile
0.00	143.00	Inside	1 5/8" Coax	AT&T
0.00	143.00	Inside	1/2" DC power	AT&T
0.00	143.00	Inside	3/8" Fiber	AT&T
0.00	133.00	Inside	1 5/8" Coax	Verizon
0.00	133.00	Inside	1 5/8" Hybrid	Verizon
0.00	100.00	Inside	1.6" Hybrid	Dish Wireless
0.00	85.00	Inside	7/8" Coax	Town of North Branford



Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
24	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.0000	70.0	50.0	Clipped

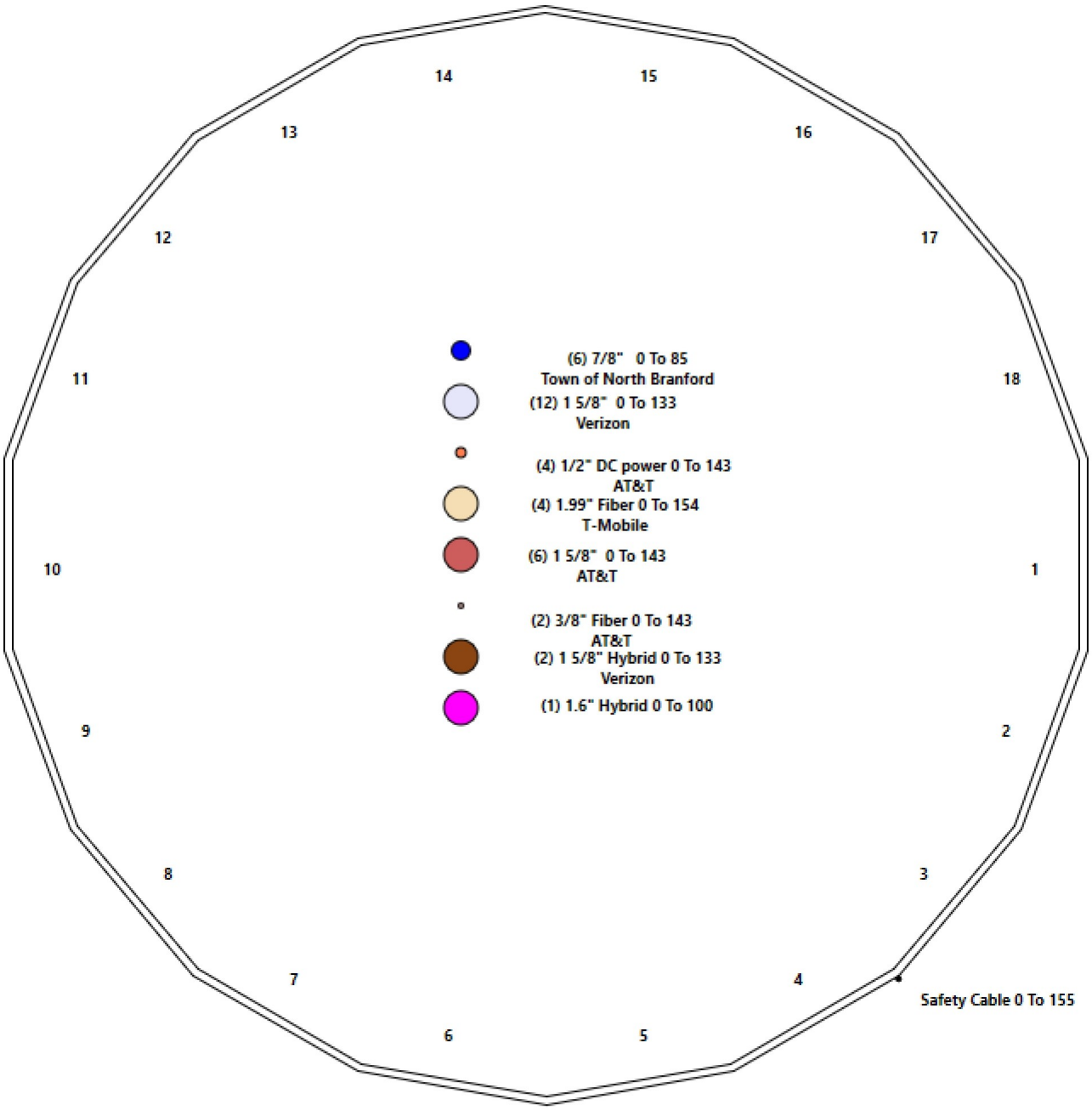
Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 121 mph Wind	4711.3	41.7	54.5
0.9D + 1.0W 121 mph Wind	4664.8	41.7	40.9
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1193.1	10.6	83.6
1.2D + 1.0Ev + 1.0Eh	180.7	1.2	56.2
0.9D + 1.0Ev + 1.0Eh	179.2	1.2	42.5
1.0D + 1.0W 60 mph Wind	1031.1	9.2	45.5

Structure: CT13610-A - Coax Line Placement

Type: Monopole
Site Name: ARTEC
Height: 155.00 (ft)

5/17/2023



Shaft Properties

Structure:	CT13610-A		**Code:**	TIA-222-H	5/17/2023
Site Name:	ARTEC		**Exposure:**	C	
Height:	155.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	C - Very Dense Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	51.000	0.4375	65		0.00	12,977
2	18	51.000	0.3750	65	Slip	75.00	8,906
3	18	40.000	0.2500	65	Slip	60.00	3,596
4	18	28.000	0.1875	65	Slip	45.00	1,470
					Total Shaft Weight:		**26,949**

	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	60.87	0.00	83.92	38719.89	23.12	139.13	47.71	51.00	65.64	18533.5	17.82	109.0	0.258032
2	50.07	44.75	59.15	18458.39	22.13	133.53	36.91	95.75	43.49	7335.41	15.95	98.44	0.258032
3	38.70	90.75	30.51	5700.26	25.89	154.81	28.38	130.75	22.32	2232.03	18.61	113.5	0.258032
4	29.72	127.0	17.58	1937.59	26.54	158.53	22.50	155.00	13.28	835.20	19.75	120.0	0.258032

Load Summary

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 6	

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	154.00	RFS - APXVAARR24_43-U-NA20	3	128.00	20.24	0.72	430.16	21.487	0.72	0.00	0.00
2	154.00	T-Arm	3	419.10	8.13	0.75	712.44	12.682	0.75	0.00	0.00
3	154.00	Mount Mod	3	911.72	22.25	1.00	1549.86	34.709	1.00	0.00	0.00
4	154.00	Commscope VV-65B-R1	3	28.00	7.92	0.74	143.95	8.748	0.76	0.00	0.00
5	154.00	Ericsson Air 6419 B41	3	68.50	5.75	0.71	160.87	6.391	0.73	0.00	0.00
6	154.00	Ericsson 4460 B25 + B66	3	104.00	2.14	0.89	144.81	2.526	0.90	0.00	0.00
7	154.00	Ericsson 4449 B71 + B85	3	75.00	1.95	0.90	112.94	2.323	0.91	0.00	0.00
8	143.00	Cci - TPA65R-BU6DA-K	3	69.00	12.70	0.72	258.55	13.654	0.73	0.00	0.00
9	143.00	Cci - OPA65R-BU6DA	3	79.40	12.70	0.72	268.94	13.654	0.73	0.00	0.00
10	143.00	Ericsson - AIR6449 B77D	3	88.00	4.13	0.84	160.18	4.669	0.84	0.00	0.00
11	143.00	Ericsson - RRUS 4478 B14	3	59.40	2.02	0.81	94.04	2.386	0.82	0.00	0.00
12	143.00	Ericsson - RRUS 8843 B2 B66A	3	48.40	1.64	0.72	74.67	1.967	0.73	0.00	0.00
13	143.00	Ericsson - RRUS 4449 B5/B12	3	73.00	1.64	0.90	103.53	1.967	0.90	0.00	0.00
14	143.00	Raycap - DC6-48-60-18-8F	2	32.80	2.20	1.34	95.10	2.605	1.32	0.00	0.00
15	143.00	RMQLP-4120-H10 + 12 Ant Mount	1	2400.00	37.80	1.00	4067.42	58.809	1.00	0.00	0.00
16	133.00	Samsung - MT6407-77A	3	79.40	4.69	0.75	151.11	5.272	0.75	0.00	0.00
17	133.00	Andrew - SBNHH-1D65B	6	40.00	8.16	0.83	162.00	8.970	0.84	0.00	0.00
18	133.00	Amphenol - LPA-80080-6CF	6	21.00	4.33	1.50	143.71	5.051	1.47	0.00	0.00
19	133.00	Samsung - RF4439d-25A	3	74.70	1.87	0.84	107.13	2.216	0.84	0.00	0.00
20	133.00	Samsung - RF4440d-13A	3	70.33	1.87	0.80	101.83	2.216	0.81	0.00	0.00
21	133.00	Rfs Celwave - DB-T1-6Z-8AB-0Z	2	44.00	4.80	0.71	118.43	5.347	0.72	0.00	0.00
22	133.00	T-Arm	3	419.10	8.13	0.75	708.17	12.616	0.75	0.00	0.00
23	100.00	JMA Wireless - MX08FRO665-21	3	64.50	12.49	0.73	245.00	13.411	0.74	0.00	0.00
24	100.00	Fujitsu - TA08025-B605	3	74.96	1.96	0.80	107.19	2.304	0.81	0.00	0.00
25	100.00	Fujitsu - TA08025-B604	3	63.93	1.96	0.76	95.10	2.304	0.77	0.00	0.00
26	100.00	Raycap - RDIDC-9181-PF-48	1	21.85	2.01	0.78	54.26	2.358	0.79	0.00	0.00
27	100.00	Platform w/ Handrail [Commscope	1	1727.00	22.00	1.00	2884.69	33.798	1.00	0.00	0.00
28	85.00	DB408	1	17.00	2.90	1.00	95.29	8.722	1.00	0.00	4.75
29	85.00	SD222	2	17.00	5.30	1.00	106.47	10.462	1.00	0.00	4.75
30	85.00	SP4-4.7NS RD4	1	60.00	23.14	1.00	208.42	25.175	1.00	0.00	0.00
31	85.00	Pipe Mount	2	60.00	5.00	1.00	91.66	7.199	1.00	0.00	0.00
32	85.00	T-Arm	1	419.10	8.13	1.00	695.51	12.420	1.00	0.00	0.00
		Totals:	**86**	**14,313.87**			**27,854.62**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	155.00	(1) Safety Cable	0.38	Outside
0.00	155.00	(1) Step bolts (ladder)	0.63	Outside
0.00	154.00	(4) 1.99" Fiber	0.00	Inside
0.00	143.00	(6) 1 5/8" Coax	0.00	Inside
0.00	143.00	(4) 1/2" DC power	0.00	Inside
0.00	143.00	(2) 3/8" Fiber	0.00	Inside
0.00	133.00	(12) 1 5/8" Coax	0.00	Inside
0.00	133.00	(2) 1 5/8" Hybrid	0.00	Inside
0.00	100.00	(1) 1.6" Hybrid	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)
0.00	85.00	(6) 7/8" Coax			0.00	Inside					

Shaft Section Properties

Structure:	CT13610-A		**Code:**	TIA-222-H	5/17/2023
Site Name:	ARTEC		**Exposure:**	C	
Height:	155.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	C - Very Dense 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		0.4375	60.870	83.915	38719.9	23.12	139.13	74.2	1252.	0.0
5.00		0.4375	59.580	82.124	36292.6	22.60	136.18	74.8	1199.	1412.5
10.00		0.4375	58.290	80.332	33968.9	22.08	133.23	75.4	1147.	1382.0
15.00		0.4375	57.000	78.541	31746.6	21.56	130.28	76.0	1097.	1351.5
20.00		0.4375	55.709	76.749	29623.4	21.04	127.34	76.7	1047.	1321.0
25.00		0.4375	54.419	74.958	27597.0	20.52	124.39	77.3	998.8	1290.6
30.00		0.4375	53.129	73.166	25665.2	20.00	121.44	77.9	951.5	1260.1
35.00		0.4375	51.839	71.375	23825.7	19.48	118.49	78.5	905.3	1229.6
40.00		0.4375	50.549	69.583	22076.3	18.96	115.54	79.1	860.2	1199.1
44.75	Bot - Section 2	0.4375	49.323	67.881	20495.8	18.47	112.74	79.7	818.5	1110.9
45.00		0.4375	49.259	67.792	20414.7	18.44	112.59	79.7	816.3	108.0
50.00		0.4375	47.968	66.000	18838.7	17.92	109.64	80.3	773.5	2130.2
51.00	Top - Section 1	0.3750	48.460	57.232	16719.1	21.38	129.23	0.0	0.0	419.2
55.00		0.3750	47.428	56.003	15665.5	20.89	126.48	76.8	650.6	770.6
60.00		0.3750	46.138	54.468	14411.9	20.28	123.03	77.5	615.2	939.8
65.00		0.3750	44.848	52.932	13227.0	19.68	119.59	78.3	580.9	913.6
70.00		0.3750	43.558	51.396	12108.9	19.07	116.15	79.0	547.5	887.5
75.00		0.3750	42.268	49.861	11055.7	18.46	112.71	79.7	515.2	861.4
80.00		0.3750	40.977	48.325	10065.4	17.86	109.27	80.4	483.8	835.3
85.00		0.3750	39.687	46.790	9136.1	17.25	105.83	81.1	453.4	809.1
90.00		0.3750	38.397	45.254	8265.8	16.64	102.39	81.8	424.0	783.0
90.75	Bot - Section 3	0.3750	38.204	45.024	8140.2	16.55	101.88	81.9	419.7	115.2
95.00		0.3750	37.107	43.719	7452.6	16.04	98.95	82.5	395.6	1076.7
95.75	Top - Section 2	0.2500	37.413	29.488	5145.5	24.98	149.65	0.0	0.0	186.7
100.00		0.2500	36.317	28.618	4703.3	24.20	145.27	72.9	255.1	420.2
105.00		0.2500	35.027	27.594	4216.4	23.29	140.11	74.0	237.1	478.2
110.00		0.2500	33.736	26.571	3764.4	22.38	134.95	75.1	219.8	460.8
115.00		0.2500	32.446	25.547	3345.8	21.47	129.79	76.1	203.1	443.4
120.00		0.2500	31.156	24.523	2959.5	20.56	124.62	77.2	187.1	425.9
125.00		0.2500	29.866	23.499	2604.1	19.65	119.46	78.3	171.7	408.5
127.00	Bot - Section 4	0.2500	29.350	23.090	2470.4	19.29	117.40	78.7	165.8	158.5
130.00		0.2500	28.576	22.476	2278.4	18.74	114.30	79.4	157.0	409.7
130.75	Top - Section 3	0.1875	28.757	17.002	1753.3	25.63	153.37	0.0	0.0	100.7
133.00		0.1875	28.177	16.656	1648.6	25.09	150.28	71.9	115.2	128.8
135.00		0.1875	27.661	16.349	1559.1	24.60	147.52	72.5	111.0	112.3
140.00		0.1875	26.370	15.582	1349.6	23.39	140.64	73.9	100.8	271.6
143.00		0.1875	25.596	15.121	1233.4	22.66	136.51	74.7	94.9	156.7
145.00		0.1875	25.080	14.814	1159.8	22.18	133.76	75.3	91.1	101.9
150.00		0.1875	23.790	14.046	988.6	20.96	126.88	76.7	81.8	245.5
154.00		0.1875	22.758	13.432	864.5	19.99	121.38	77.9	74.8	187.0
155.00		0.1875	22.500	13.278	835.2	19.75	120.00	78.2	73.1	45.4
										26948.9

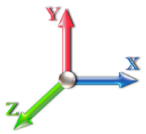
Wind Loading - Shaft

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

Load Case: 1.2D + 1.0W 121 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	30.144	33.16	573.44	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	30.144	33.16	561.29	0.730	0.000	5.00	25.481	18.60	616.8	0.0	1695.0
10.00		1.00	0.85	30.144	33.16	549.13	0.730	0.000	5.00	24.935	18.20	603.6	0.0	1658.4
15.00		1.00	0.85	30.144	33.16	536.98	0.730	0.000	5.00	24.389	17.80	590.4	0.0	1621.8
20.00		1.00	0.90	31.984	35.18	540.61	0.730	0.000	5.00	23.843	17.41	612.4	0.0	1585.2
25.00		1.00	0.95	33.523	36.87	540.64	0.730	0.000	5.00	23.297	17.01	627.1	0.0	1548.7
30.00		1.00	0.98	34.834	38.32	538.05	0.730	0.000	5.00	22.752	16.61	636.4	0.0	1512.1
35.00		1.00	1.01	35.983	39.58	533.57	0.730	0.000	5.00	22.206	16.21	641.6	0.0	1475.5
40.00		1.00	1.04	37.009	40.71	527.66	0.730	0.000	5.00	21.660	15.81	643.7	0.0	1438.9
44.75	Bot - Section 2	1.00	1.07	37.894	41.68	520.98	0.730	0.000	4.75	20.071	14.65	610.7	0.0	1333.1
45.00		1.00	1.07	37.938	41.73	520.60	0.730	0.000	0.25	1.059	0.77	32.2	0.0	129.6
50.00		1.00	1.09	38.789	42.67	512.62	0.730	0.000	5.00	20.885	15.25	650.5	0.0	2556.2
51.00	Top - Section 1	1.00	1.10	38.951	42.85	510.93	0.730	0.000	1.00	4.112	3.00	128.6	0.0	503.1
55.00		1.00	1.12	39.575	43.53	511.96	0.730	0.000	4.00	16.228	11.85	515.7	0.0	924.7
60.00		1.00	1.14	40.307	44.34	502.62	0.730	0.000	5.00	19.794	14.45	640.7	0.0	1127.7
65.00		1.00	1.16	40.992	45.09	492.69	0.730	0.000	5.00	19.248	14.05	633.6	0.0	1096.4
70.00		1.00	1.17	41.637	45.80	482.27	0.730	0.000	5.00	18.702	13.65	625.3	0.0	1065.0
75.00		1.00	1.19	42.246	46.47	471.39	0.730	0.000	5.00	18.156	13.25	615.9	0.0	1033.7
80.00		1.00	1.21	42.824	47.11	460.12	0.730	0.000	5.00	17.610	12.86	605.6	0.0	1002.3
85.00	Appurtenance(s)	1.00	1.22	43.374	47.71	448.49	0.730	0.000	5.00	17.064	12.46	594.3	0.0	971.0
90.00		1.00	1.24	43.899	48.29	436.53	0.730	0.000	5.00	16.519	12.06	582.3	0.0	939.6
90.75	Bot - Section 3	1.00	1.24	43.976	48.37	434.71	0.730	0.000	0.75	2.431	1.77	85.8	0.0	138.2
95.00		1.00	1.25	44.401	48.84	424.27	0.730	0.000	4.25	13.722	10.02	489.2	0.0	1292.0
95.75	Top - Section 2	1.00	1.25	44.475	48.92	422.40	0.730	0.000	0.75	2.381	1.74	85.0	0.0	224.1
100.00	Appurtenance(s)	1.00	1.27	44.883	49.37	417.48	0.730	0.000	4.25	13.258	9.68	477.8	0.0	504.2
105.00		1.00	1.28	45.347	49.88	404.72	0.730	0.000	5.00	15.092	11.02	549.6	0.0	573.8
110.00		1.00	1.29	45.793	50.37	391.73	0.730	0.000	5.00	14.547	10.62	534.9	0.0	552.9
115.00		1.00	1.30	46.224	50.85	378.51	0.730	0.000	5.00	14.001	10.22	519.7	0.0	532.0
120.00		1.00	1.32	46.640	51.30	365.10	0.730	0.000	5.00	13.455	9.82	503.9	0.0	511.1
125.00		1.00	1.33	47.042	51.75	351.48	0.730	0.000	5.00	12.909	9.42	487.6	0.0	490.2
127.00	Bot - Section 4	1.00	1.33	47.200	51.92	345.99	0.730	0.000	2.00	5.011	3.66	189.9	0.0	190.2
130.00		1.00	1.34	47.432	52.18	337.69	0.730	0.000	3.00	7.448	5.44	283.7	0.0	491.6
130.75	Top - Section 3	1.00	1.34	47.490	52.24	335.61	0.730	0.000	0.75	1.831	1.34	69.8	0.0	120.8
133.00	Appurtenance(s)	1.00	1.34	47.661	52.43	333.78	0.730	0.000	2.25	5.420	3.96	207.4	0.0	154.6
135.00		1.00	1.35	47.811	52.59	328.18	0.730	0.000	2.00	4.725	3.45	181.4	0.0	134.8
140.00		1.00	1.36	48.178	53.00	314.07	0.730	0.000	5.00	11.430	8.34	442.2	0.0	326.0
143.00	Appurtenance(s)	1.00	1.36	48.394	53.23	305.53	0.730	0.000	3.00	6.596	4.82	256.3	0.0	188.1
145.00		1.00	1.37	48.535	53.39	299.81	0.730	0.000	2.00	4.288	3.13	167.1	0.0	122.2
150.00		1.00	1.38	48.883	53.77	285.41	0.730	0.000	5.00	10.338	7.55	405.8	0.0	294.6
154.00	Appurtenance(s)	1.00	1.39	49.155	54.07	273.78	0.730	0.000	4.00	7.878	5.75	310.9	0.0	224.4
155.00		1.00	1.39	49.222	54.14	270.86	0.730	0.000	1.00	1.915	1.40	75.7	0.0	54.5
								Totals:	**155.00**			**17,531.4**		**32,338.6**

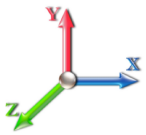
Discrete Appurtenance Forces

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Load Case: 1.2D + 1.0W 121 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	154.00	Ericsson 4460 B25 + B66	3	49.155	54.070	0.80	0.90	5.14	374.40	0.000	0.000	278.05	0.00	0.00
2	154.00	Ericsson Air 6419 B41	3	49.155	54.070	0.64	0.90	11.02	246.60	0.000	0.000	596.00	0.00	0.00
3	154.00	Commscope VV-65B-R1	3	49.155	54.070	0.67	0.90	15.82	100.80	0.000	0.000	855.61	0.00	0.00
4	154.00	Mount Mod	3	49.155	54.070	1.00	1.00	66.75	3282.19	0.000	0.000	3609.18	0.00	0.00
5	154.00	T-Arm	3	49.155	54.070	0.56	0.75	13.72	1508.76	0.000	0.000	741.81	0.00	0.00
6	154.00	RFS -	3	49.155	54.070	0.65	0.90	39.35	460.80	0.000	0.000	2127.47	0.00	0.00
7	154.00	Ericsson 4449 B71 + B85	3	49.155	54.070	0.81	0.90	4.74	270.00	0.000	0.000	256.21	0.00	0.00
8	143.00	Cci - OPA65R-BU6DA	3	48.394	53.233	0.54	0.75	20.57	285.84	0.000	0.000	1095.22	0.00	0.00
9	143.00	Ericsson - AIR6449 B77D	3	48.394	53.233	0.63	0.75	7.81	316.80	0.000	0.000	415.52	0.00	0.00
10	143.00	Ericsson - RRUS 4478	3	48.394	53.233	0.61	0.75	3.68	213.84	0.000	0.000	195.97	0.00	0.00
11	143.00	Cci - TPA65R-BU6DA-K	3	48.394	53.233	0.54	0.75	20.57	248.40	0.000	0.000	1095.22	0.00	0.00
12	143.00	RMQLP-4120-H10 + 12	1	48.394	53.233	1.00	1.00	37.80	2880.00	0.000	0.000	2012.21	0.00	0.00
13	143.00	Ericsson - RRUS 8843 B2	3	48.394	53.233	0.54	0.75	2.66	174.24	0.000	0.000	141.43	0.00	0.00
14	143.00	Ericsson - RRUS 4449	3	48.394	53.233	0.68	0.75	3.32	262.80	0.000	0.000	176.79	0.00	0.00
15	143.00	Raycap -	2	48.394	53.233	1.01	0.75	4.42	78.72	0.000	0.000	235.40	0.00	0.00
16	133.00	T-Arm	3	47.661	52.427	0.56	0.75	13.72	1508.76	0.000	0.000	719.26	0.00	0.00
17	133.00	Rfs Celwave -	2	47.661	52.427	0.57	0.80	5.45	105.60	0.000	0.000	285.87	0.00	0.00
18	133.00	Samsung - RF4440d-13A	3	47.661	52.427	0.64	0.80	3.59	253.19	0.000	0.000	188.23	0.00	0.00
19	133.00	Samsung - RF4439d-25A	3	47.661	52.427	0.67	0.80	3.77	268.92	0.000	0.000	197.64	0.00	0.00
20	133.00	Amphenol -	6	47.661	52.427	1.20	0.80	31.18	151.20	0.000	0.000	1634.46	0.00	0.00
21	133.00	Andrew - SBNHH-1D65B	6	47.661	52.427	0.66	0.80	32.51	288.00	0.000	0.000	1704.36	0.00	0.00
22	133.00	Samsung - MT6407-77A	3	47.661	52.427	0.60	0.80	8.44	285.84	0.000	0.000	442.59	0.00	0.00
23	100.00	JMA Wireless -	3	44.883	49.372	0.55	0.75	20.51	232.20	0.000	0.000	1012.85	0.00	0.00
24	100.00	Fujitsu - TA08025-B605	3	44.883	49.372	0.60	0.75	3.53	269.86	0.000	0.000	174.18	0.00	0.00
25	100.00	Fujitsu - TA08025-B604	3	44.883	49.372	0.57	0.75	3.35	230.15	0.000	0.000	165.47	0.00	0.00
26	100.00	Raycap -	1	44.883	49.372	0.58	0.75	1.18	26.22	0.000	0.000	58.05	0.00	0.00
27	100.00	Platform w/ Handrail	1	44.883	49.372	1.00	1.00	22.00	2072.40	0.000	0.000	1086.18	0.00	0.00
28	85.00	T-Arm	1	43.374	47.711	1.00	1.00	8.13	502.92	0.000	0.000	387.89	0.00	0.00
29	85.00	Pipe Mount	2	43.374	47.711	1.00	1.00	10.00	144.00	0.000	0.000	477.11	0.00	0.00
30	85.00	SP4-4.7NS RD4	1	43.374	47.711	1.00	1.00	23.14	72.00	0.000	0.000	1104.04	0.00	0.00
31	85.00	SD222	2	43.873	48.260	1.00	1.00	10.60	40.80	0.000	4.750	511.56	0.00	2429.91
32	85.00	DB408	1	43.873	48.260	1.00	1.00	2.90	20.40	0.000	4.750	139.96	0.00	664.79
							Totals:		**17,176.64**			**24,121.81**		

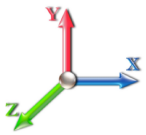
Total Applied Force Summary

Structure:	CT13610-A		**Code:**	TIA-222-H	5/17/2023
Site Name:	ARTEC		**Exposure:**	C	
Height:	155.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	C - Very Dense Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 11

Load Case: 1.2D + 1.0W 121 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		616.78	1884.66	0.00	0.00
10.00		603.57	1848.08	0.00	0.00
15.00		590.36	1811.50	0.00	0.00
20.00		612.37	1774.93	0.00	0.00
25.00		627.13	1738.35	0.00	0.00
30.00		636.40	1701.77	0.00	0.00
35.00		641.62	1665.20	0.00	0.00
40.00		643.69	1628.62	0.00	0.00
44.75		610.74	1513.31	0.00	0.00
45.00		32.25	139.08	0.00	0.00
50.00		650.53	2745.89	0.00	0.00
51.00		128.60	541.03	0.00	0.00
55.00		515.71	1076.49	0.00	0.00
60.00		640.65	1317.40	0.00	0.00
65.00		633.57	1286.05	0.00	0.00
70.00		625.29	1254.70	0.00	0.00
75.00		615.92	1223.35	0.00	0.00
80.00		605.57	1191.99	0.00	0.00
85.00	(7) attachments	3214.89	1940.76	0.00	3094.70
90.00		582.29	1110.57	0.00	0.00
90.75		85.83	163.88	0.00	0.00
95.00		489.24	1437.30	0.00	0.00
95.75		85.02	249.72	0.00	0.00
100.00	(11) attachments	2974.58	3480.33	0.00	0.00
105.00		549.57	738.19	0.00	0.00
110.00		534.91	717.29	0.00	0.00
115.00		519.68	696.39	0.00	0.00
120.00		503.91	675.49	0.00	0.00
125.00		487.64	654.59	0.00	0.00
127.00		189.92	255.98	0.00	0.00
130.00		283.67	590.21	0.00	0.00
130.75		69.83	145.50	0.00	0.00
133.00	(26) attachments	5379.85	3090.09	0.00	0.00
135.00		181.40	165.29	0.00	0.00
140.00		442.20	402.24	0.00	0.00
143.00	(21) attachments	5624.08	4694.46	0.00	0.00
145.00		167.13	135.94	0.00	0.00
150.00		405.81	328.89	0.00	0.00
154.00	(21) attachments	8775.28	6495.38	0.00	0.00
155.00		75.68	56.11	0.00	0.00
	Totals:	**41,653.16**	**54,566.99**	**0.00**	**3,094.70**

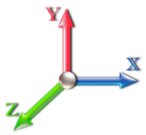
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Load Case: 1.2D + 1.0W 121 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	30.144	0.00	1.64
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	30.144	0.00	6.24
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	30.144	0.00	1.64
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	30.144	0.00	6.24
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	30.144	0.00	1.64
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	30.144	0.00	6.24
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	31.984	0.00	1.64
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	31.984	0.00	6.24
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	33.523	0.00	1.64
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	33.523	0.00	6.24
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	34.834	0.00	1.64
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	34.834	0.00	6.24
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	35.983	0.00	1.64
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	35.983	0.00	6.24
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	37.009	0.00	1.64
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	37.009	0.00	6.24
44.75	Safety Cable	Yes	4.75	0.000	0.38	0.15	0.00	0.020	0.000	37.894	0.00	1.56
44.75	Step bolts (ladder)	Yes	4.75	0.000	0.63	0.25	0.00	0.020	0.000	37.894	0.00	5.93
45.00	Safety Cable	Yes	0.25	0.000	0.38	0.01	0.00	0.020	0.000	37.938	0.00	0.08
45.00	Step bolts (ladder)	Yes	0.25	0.000	0.63	0.01	0.00	0.020	0.000	37.938	0.00	0.31
50.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	38.789	0.00	1.64
50.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	38.789	0.00	6.24
51.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.021	0.000	38.951	0.00	0.33
51.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.021	0.000	38.951	0.00	1.25
55.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.021	0.000	39.575	0.00	1.31
55.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.021	0.000	39.575	0.00	4.99
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	40.307	0.00	1.64
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	40.307	0.00	6.24
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	40.992	0.00	1.64
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	40.992	0.00	6.24
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	41.637	0.00	1.64
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	41.637	0.00	6.24
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	42.246	0.00	1.64
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	42.246	0.00	6.24
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	42.824	0.00	1.64
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	42.824	0.00	6.24
85.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	43.374	0.00	1.64
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	43.374	0.00	6.24
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	43.899	0.00	1.64
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	43.899	0.00	6.24
90.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.026	0.000	43.976	0.00	0.25
90.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.026	0.000	43.976	0.00	0.94
95.00	Safety Cable	Yes	4.25	0.000	0.38	0.13	0.00	0.026	0.000	44.401	0.00	1.39
95.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	0.22	0.00	0.026	0.000	44.401	0.00	5.30
95.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.027	0.000	44.475	0.00	0.25
95.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.027	0.000	44.475	0.00	0.94
100.00	Safety Cable	Yes	4.25	0.000	0.38	0.13	0.00	0.027	0.000	44.883	0.00	1.39

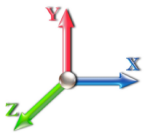
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Load Case: 1.2D + 1.0W 121 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
100.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	0.22	0.00	0.027	0.000	44.883	0.00	5.30
105.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	45.347	0.00	1.64
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	45.347	0.00	6.24
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.029	0.000	45.793	0.00	1.64
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.029	0.000	45.793	0.00	6.24
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	46.224	0.00	1.64
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	46.224	0.00	6.24
120.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.031	0.000	46.640	0.00	1.64
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.031	0.000	46.640	0.00	6.24
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	47.042	0.00	1.64
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	47.042	0.00	6.24
127.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.034	0.000	47.200	0.00	0.66
127.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.034	0.000	47.200	0.00	2.50
130.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.034	0.000	47.432	0.00	0.98
130.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.034	0.000	47.432	0.00	3.74
130.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.035	0.000	47.490	0.00	0.25
130.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.035	0.000	47.490	0.00	0.94
133.00	Safety Cable	Yes	2.25	0.000	0.38	0.07	0.00	0.035	0.000	47.661	0.00	0.74
133.00	Step bolts (ladder)	Yes	2.25	0.000	0.63	0.12	0.00	0.035	0.000	47.661	0.00	2.81
135.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.036	0.000	47.811	0.00	0.66
135.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.036	0.000	47.811	0.00	2.50
140.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.037	0.000	48.178	0.00	1.64
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.037	0.000	48.178	0.00	6.24
143.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.038	0.000	48.394	0.00	0.98
143.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.038	0.000	48.394	0.00	3.74
145.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.039	0.000	48.535	0.00	0.66
145.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.039	0.000	48.535	0.00	2.50
150.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.041	0.000	48.883	0.00	1.64
150.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.041	0.000	48.883	0.00	6.24
154.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.043	0.000	49.155	0.00	1.31
154.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.043	0.000	49.155	0.00	4.99
155.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.044	0.000	49.222	0.00	0.33
155.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.044	0.000	49.222	0.00	1.25
									Totals:		**0.0**	**244.2**

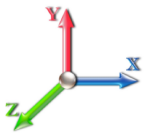
Calculated Forces

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 14	

Load Case: 1.2D + 1.0W 121 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	-54.50	-41.74	0.00	-4711.3	0.00	4711.34	5604.23	1472.71	7384.18	6972.80	0.00	0.000	0.000	0.686
5.00	-52.50	-41.27	0.00	-4502.6	0.00	4502.67	5529.79	1441.27	7072.26	6732.24	0.09	-0.169	0.000	0.679
10.00	-50.53	-40.81	0.00	-4296.3	0.00	4296.32	5453.38	1409.83	6767.07	6493.32	0.36	-0.342	0.000	0.672
15.00	-48.60	-40.36	0.00	-4092.2	0.00	4092.25	5374.99	1378.39	6468.61	6256.19	0.81	-0.517	0.000	0.664
20.00	-46.70	-39.88	0.00	-3890.4	0.00	3890.45	5294.63	1346.95	6176.88	6021.01	1.45	-0.696	0.000	0.656
25.00	-44.85	-39.37	0.00	-3691.0	0.00	3691.07	5212.30	1315.51	5891.88	5787.94	2.28	-0.878	0.000	0.647
30.00	-43.03	-38.85	0.00	-3494.2	0.00	3494.23	5128.00	1284.07	5613.62	5557.14	3.30	-1.063	0.000	0.638
35.00	-41.25	-38.31	0.00	-3300.0	0.00	3300.00	5041.73	1252.63	5342.08	5328.76	4.51	-1.252	0.000	0.628
40.00	-39.51	-37.75	0.00	-3108.4	0.00	3108.47	4953.48	1221.18	5077.28	5102.98	5.93	-1.443	0.000	0.618
44.75	-37.96	-37.17	0.00	-2929.1	0.00	2929.14	4867.82	1191.32	4831.95	4891.01	7.46	-1.628	0.000	0.608
45.00	-37.75	-37.20	0.00	-2919.8	0.00	2919.85	4863.26	1189.74	4819.20	4879.93	7.54	-1.638	0.000	0.607
50.00	-34.95	-36.54	0.00	-2733.8	0.00	2733.85	4771.07	1158.30	4567.86	4659.79	9.37	-1.835	0.000	0.595
51.00	-34.35	-36.45	0.00	-2697.3	0.00	2697.31	3927.98	1004.41	4007.19	3886.53	9.76	-1.876	0.000	0.704
55.00	-33.17	-36.01	0.00	-2551.5	0.00	2551.50	3872.44	982.85	3837.01	3748.69	11.40	-2.037	0.000	0.691
60.00	-31.74	-35.45	0.00	-2371.4	0.00	2371.43	3801.23	955.91	3629.48	3578.07	13.65	-2.261	0.000	0.672
65.00	-30.34	-34.88	0.00	-2194.1	0.00	2194.19	3728.06	928.96	3427.72	3409.45	16.14	-2.486	0.000	0.653
70.00	-28.98	-34.32	0.00	-2019.7	0.00	2019.79	3652.91	902.01	3231.73	3243.00	18.86	-2.713	0.000	0.632
75.00	-27.66	-33.75	0.00	-1848.2	0.00	1848.21	3575.79	875.06	3041.50	3078.88	21.83	-2.940	0.000	0.610
80.00	-26.37	-33.19	0.00	-1679.4	0.00	1679.46	3496.70	848.11	2857.05	2917.23	25.03	-3.167	0.000	0.585
85.00	-24.50	-29.96	0.00	-1510.4	0.00	1510.44	3415.64	821.16	2678.37	2758.23	28.46	-3.392	0.000	0.556
90.00	-23.36	-29.36	0.00	-1360.6	0.00	1360.63	3332.60	794.21	2505.45	2602.02	32.14	-3.616	0.000	0.531
90.75	-23.14	-29.31	0.00	-1338.6	0.00	1338.61	3319.98	790.17	2480.01	2578.84	32.71	-3.651	0.000	0.527
95.00	-21.68	-28.77	0.00	-1214.0	0.00	1214.02	3247.59	767.26	2338.31	2448.77	36.04	-3.840	0.000	0.504
95.75	-21.38	-28.71	0.00	-1192.4	0.00	1192.44	1911.44	517.52	1595.71	1463.25	36.65	-3.875	0.000	0.829
100.00	-18.01	-25.58	0.00	-1070.4	0.00	1070.41	1878.47	502.25	1502.93	1395.29	40.18	-4.061	0.000	0.779
105.00	-17.18	-25.07	0.00	-942.49	0.00	942.49	1837.85	484.28	1397.33	1315.95	44.60	-4.366	0.000	0.728
110.00	-16.38	-24.57	0.00	-817.13	0.00	817.13	1795.26	466.31	1295.57	1237.43	49.33	-4.662	0.000	0.672
115.00	-15.62	-24.07	0.00	-694.30	0.00	694.30	1750.70	448.35	1197.66	1159.88	54.36	-4.948	0.000	0.610
120.00	-14.88	-23.57	0.00	-573.97	0.00	573.97	1704.17	430.38	1103.60	1083.46	59.68	-5.218	0.000	0.541
125.00	-14.21	-23.07	0.00	-456.11	0.00	456.11	1655.66	412.41	1013.39	1008.33	65.28	-5.465	0.000	0.464
127.00	-13.93	-22.88	0.00	-409.98	0.00	409.98	1635.71	405.23	978.38	978.67	67.58	-5.560	0.000	0.431
130.00	-13.34	-22.56	0.00	-341.33	0.00	341.33	1605.19	394.45	927.02	934.64	71.12	-5.690	0.000	0.377
130.75	-13.17	-22.49	0.00	-324.41	0.00	324.41	1090.28	298.38	707.29	641.74	72.01	-5.721	0.000	0.523
133.00	-10.62	-16.84	0.00	-273.82	0.00	273.82	1077.75	292.32	678.84	621.39	74.73	-5.807	0.000	0.454
135.00	-10.43	-16.67	0.00	-240.13	0.00	240.13	1066.28	286.93	654.04	603.36	77.17	-5.895	0.000	0.411
140.00	-10.04	-16.21	0.00	-156.78	0.00	156.78	1036.22	273.46	594.05	558.63	83.44	-6.076	0.000	0.294
143.00	-5.96	-10.12	0.00	-108.15	0.00	108.15	1017.23	265.37	559.44	532.07	87.28	-6.160	0.000	0.211
145.00	-5.83	-9.95	0.00	-87.90	0.00	87.90	1004.18	259.98	536.95	514.49	89.87	-6.205	0.000	0.178
150.00	-5.54	-9.52	0.00	-38.15	0.00	38.15	970.18	246.51	482.73	471.12	96.40	-6.283	0.000	0.088
154.00	-0.05	-0.08	0.00	-0.08	0.00	0.08	941.55	235.73	441.44	437.06	101.67	-6.305	0.000	0.000
155.00	0.00	-0.08	0.00	0.00	0.00	0.00	934.20	233.03	431.40	428.65	102.99	-6.305	0.000	0.000

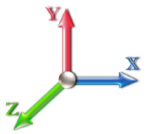
Wind Loading - Shaft

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Load Case: 0.9D + 1.0W 121 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	30.144	33.16	573.44	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	30.144	33.16	561.29	0.730	0.000	5.00	25.481	18.60	616.8	0.0	1271.2
10.00		1.00	0.85	30.144	33.16	549.13	0.730	0.000	5.00	24.935	18.20	603.6	0.0	1243.8
15.00		1.00	0.85	30.144	33.16	536.98	0.730	0.000	5.00	24.389	17.80	590.4	0.0	1216.4
20.00		1.00	0.90	31.984	35.18	540.61	0.730	0.000	5.00	23.843	17.41	612.4	0.0	1188.9
25.00		1.00	0.95	33.523	36.87	540.64	0.730	0.000	5.00	23.297	17.01	627.1	0.0	1161.5
30.00		1.00	0.98	34.834	38.32	538.05	0.730	0.000	5.00	22.752	16.61	636.4	0.0	1134.1
35.00		1.00	1.01	35.983	39.58	533.57	0.730	0.000	5.00	22.206	16.21	641.6	0.0	1106.6
40.00		1.00	1.04	37.009	40.71	527.66	0.730	0.000	5.00	21.660	15.81	643.7	0.0	1079.2
44.75	Bot - Section 2	1.00	1.07	37.894	41.68	520.98	0.730	0.000	4.75	20.071	14.65	610.7	0.0	999.8
45.00		1.00	1.07	37.938	41.73	520.60	0.730	0.000	0.25	1.059	0.77	32.2	0.0	97.2
50.00		1.00	1.09	38.789	42.67	512.62	0.730	0.000	5.00	20.885	15.25	650.5	0.0	1917.2
51.00	Top - Section 1	1.00	1.10	38.951	42.85	510.93	0.730	0.000	1.00	4.112	3.00	128.6	0.0	377.3
55.00		1.00	1.12	39.575	43.53	511.96	0.730	0.000	4.00	16.228	11.85	515.7	0.0	693.6
60.00		1.00	1.14	40.307	44.34	502.62	0.730	0.000	5.00	19.794	14.45	640.7	0.0	845.8
65.00		1.00	1.16	40.992	45.09	492.69	0.730	0.000	5.00	19.248	14.05	633.6	0.0	822.3
70.00		1.00	1.17	41.637	45.80	482.27	0.730	0.000	5.00	18.702	13.65	625.3	0.0	798.8
75.00		1.00	1.19	42.246	46.47	471.39	0.730	0.000	5.00	18.156	13.25	615.9	0.0	775.3
80.00		1.00	1.21	42.824	47.11	460.12	0.730	0.000	5.00	17.610	12.86	605.6	0.0	751.7
85.00	Appurtenance(s)	1.00	1.22	43.374	47.71	448.49	0.730	0.000	5.00	17.064	12.46	594.3	0.0	728.2
90.00		1.00	1.24	43.899	48.29	436.53	0.730	0.000	5.00	16.519	12.06	582.3	0.0	704.7
90.75	Bot - Section 3	1.00	1.24	43.976	48.37	434.71	0.730	0.000	0.75	2.431	1.77	85.8	0.0	103.7
95.00		1.00	1.25	44.401	48.84	424.27	0.730	0.000	4.25	13.722	10.02	489.2	0.0	969.0
95.75	Top - Section 2	1.00	1.25	44.475	48.92	422.40	0.730	0.000	0.75	2.381	1.74	85.0	0.0	168.1
100.00	Appurtenance(s)	1.00	1.27	44.883	49.37	417.48	0.730	0.000	4.25	13.258	9.68	477.8	0.0	378.1
105.00		1.00	1.28	45.347	49.88	404.72	0.730	0.000	5.00	15.092	11.02	549.6	0.0	430.4
110.00		1.00	1.29	45.793	50.37	391.73	0.730	0.000	5.00	14.547	10.62	534.9	0.0	414.7
115.00		1.00	1.30	46.224	50.85	378.51	0.730	0.000	5.00	14.001	10.22	519.7	0.0	399.0
120.00		1.00	1.32	46.640	51.30	365.10	0.730	0.000	5.00	13.455	9.82	503.9	0.0	383.3
125.00		1.00	1.33	47.042	51.75	351.48	0.730	0.000	5.00	12.909	9.42	487.6	0.0	367.7
127.00	Bot - Section 4	1.00	1.33	47.200	51.92	345.99	0.730	0.000	2.00	5.011	3.66	189.9	0.0	142.7
130.00		1.00	1.34	47.432	52.18	337.69	0.730	0.000	3.00	7.448	5.44	283.7	0.0	368.7
130.75	Top - Section 3	1.00	1.34	47.490	52.24	335.61	0.730	0.000	0.75	1.831	1.34	69.8	0.0	90.6
133.00	Appurtenance(s)	1.00	1.34	47.661	52.43	333.78	0.730	0.000	2.25	5.420	3.96	207.4	0.0	116.0
135.00		1.00	1.35	47.811	52.59	328.18	0.730	0.000	2.00	4.725	3.45	181.4	0.0	101.1
140.00		1.00	1.36	48.178	53.00	314.07	0.730	0.000	5.00	11.430	8.34	442.2	0.0	244.5
143.00	Appurtenance(s)	1.00	1.36	48.394	53.23	305.53	0.730	0.000	3.00	6.596	4.82	256.3	0.0	141.0
145.00		1.00	1.37	48.535	53.39	299.81	0.730	0.000	2.00	4.288	3.13	167.1	0.0	91.7
150.00		1.00	1.38	48.883	53.77	285.41	0.730	0.000	5.00	10.338	7.55	405.8	0.0	221.0
154.00	Appurtenance(s)	1.00	1.39	49.155	54.07	273.78	0.730	0.000	4.00	7.878	5.75	310.9	0.0	168.3
155.00		1.00	1.39	49.222	54.14	270.86	0.730	0.000	1.00	1.915	1.40	75.7	0.0	40.9
								Totals:	**155.00**			**17,531.4**		**24,254.0**

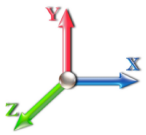
Discrete Appurtenance Forces

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Load Case: 0.9D + 1.0W 121 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	154.00	Ericsson 4460 B25 + B66	3	49.155	54.070	0.80	0.90	5.14	280.80	0.000	0.000	278.05	0.00	0.00
2	154.00	Ericsson Air 6419 B41	3	49.155	54.070	0.64	0.90	11.02	184.95	0.000	0.000	596.00	0.00	0.00
3	154.00	Commscope VV-65B-R1	3	49.155	54.070	0.67	0.90	15.82	75.60	0.000	0.000	855.61	0.00	0.00
4	154.00	Mount Mod	3	49.155	54.070	1.00	1.00	66.75	2461.64	0.000	0.000	3609.18	0.00	0.00
5	154.00	T-Arm	3	49.155	54.070	0.56	0.75	13.72	1131.57	0.000	0.000	741.81	0.00	0.00
6	154.00	RFS -	3	49.155	54.070	0.65	0.90	39.35	345.60	0.000	0.000	2127.47	0.00	0.00
7	154.00	Ericsson 4449 B71 + B85	3	49.155	54.070	0.81	0.90	4.74	202.50	0.000	0.000	256.21	0.00	0.00
8	143.00	Cci - OPA65R-BU6DA	3	48.394	53.233	0.54	0.75	20.57	214.38	0.000	0.000	1095.22	0.00	0.00
9	143.00	Ericsson - AIR6449 B77D	3	48.394	53.233	0.63	0.75	7.81	237.60	0.000	0.000	415.52	0.00	0.00
10	143.00	Ericsson - RRUS 4478	3	48.394	53.233	0.61	0.75	3.68	160.38	0.000	0.000	195.97	0.00	0.00
11	143.00	Cci - TPA65R-BU6DA-K	3	48.394	53.233	0.54	0.75	20.57	186.30	0.000	0.000	1095.22	0.00	0.00
12	143.00	RMQLP-4120-H10 + 12	1	48.394	53.233	1.00	1.00	37.80	2160.00	0.000	0.000	2012.21	0.00	0.00
13	143.00	Ericsson - RRUS 8843 B2	3	48.394	53.233	0.54	0.75	2.66	130.68	0.000	0.000	141.43	0.00	0.00
14	143.00	Ericsson - RRUS 4449	3	48.394	53.233	0.68	0.75	3.32	197.10	0.000	0.000	176.79	0.00	0.00
15	143.00	Raycap -	2	48.394	53.233	1.01	0.75	4.42	59.04	0.000	0.000	235.40	0.00	0.00
16	133.00	T-Arm	3	47.661	52.427	0.56	0.75	13.72	1131.57	0.000	0.000	719.26	0.00	0.00
17	133.00	Rfs Celwave -	2	47.661	52.427	0.57	0.80	5.45	79.20	0.000	0.000	285.87	0.00	0.00
18	133.00	Samsung - RF4440d-13A	3	47.661	52.427	0.64	0.80	3.59	189.89	0.000	0.000	188.23	0.00	0.00
19	133.00	Samsung - RF4439d-25A	3	47.661	52.427	0.67	0.80	3.77	201.69	0.000	0.000	197.64	0.00	0.00
20	133.00	Amphenol -	6	47.661	52.427	1.20	0.80	31.18	113.40	0.000	0.000	1634.46	0.00	0.00
21	133.00	Andrew - SBNHH-1D65B	6	47.661	52.427	0.66	0.80	32.51	216.00	0.000	0.000	1704.36	0.00	0.00
22	133.00	Samsung - MT6407-77A	3	47.661	52.427	0.60	0.80	8.44	214.38	0.000	0.000	442.59	0.00	0.00
23	100.00	JMA Wireless -	3	44.883	49.372	0.55	0.75	20.51	174.15	0.000	0.000	1012.85	0.00	0.00
24	100.00	Fujitsu - TA08025-B605	3	44.883	49.372	0.60	0.75	3.53	202.39	0.000	0.000	174.18	0.00	0.00
25	100.00	Fujitsu - TA08025-B604	3	44.883	49.372	0.57	0.75	3.35	172.61	0.000	0.000	165.47	0.00	0.00
26	100.00	Raycap -	1	44.883	49.372	0.58	0.75	1.18	19.67	0.000	0.000	58.05	0.00	0.00
27	100.00	Platform w/ Handrail	1	44.883	49.372	1.00	1.00	22.00	1554.30	0.000	0.000	1086.18	0.00	0.00
28	85.00	T-Arm	1	43.374	47.711	1.00	1.00	8.13	377.19	0.000	0.000	387.89	0.00	0.00
29	85.00	Pipe Mount	2	43.374	47.711	1.00	1.00	10.00	108.00	0.000	0.000	477.11	0.00	0.00
30	85.00	SP4-4.7NS RD4	1	43.374	47.711	1.00	1.00	23.14	54.00	0.000	0.000	1104.04	0.00	0.00
31	85.00	SD222	2	43.873	48.260	1.00	1.00	10.60	30.60	0.000	4.750	511.56	0.00	2429.91
32	85.00	DB408	1	43.873	48.260	1.00	1.00	2.90	15.30	0.000	4.750	139.96	0.00	664.79
							Totals:		**12,882.48**			**24,121.81**		

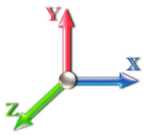
Total Applied Force Summary

Structure:	CT13610-A		**Code:**	TIA-222-H	5/17/2023
Site Name:	ARTEC		**Exposure:**	C	
Height:	155.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	C - Very Dense Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 17

Load Case: 0.9D + 1.0W 121 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		616.78	1413.49	0.00	0.00
10.00		603.57	1386.06	0.00	0.00
15.00		590.36	1358.63	0.00	0.00
20.00		612.37	1331.20	0.00	0.00
25.00		627.13	1303.76	0.00	0.00
30.00		636.40	1276.33	0.00	0.00
35.00		641.62	1248.90	0.00	0.00
40.00		643.69	1221.47	0.00	0.00
44.75		610.74	1134.98	0.00	0.00
45.00		32.25	104.31	0.00	0.00
50.00		650.53	2059.42	0.00	0.00
51.00		128.60	405.77	0.00	0.00
55.00		515.71	807.37	0.00	0.00
60.00		640.65	988.05	0.00	0.00
65.00		633.57	964.54	0.00	0.00
70.00		625.29	941.02	0.00	0.00
75.00		615.92	917.51	0.00	0.00
80.00		605.57	894.00	0.00	0.00
85.00	(7) attachments	3214.89	1455.57	0.00	3094.70
90.00		582.29	832.93	0.00	0.00
90.75		85.83	122.91	0.00	0.00
95.00		489.24	1077.97	0.00	0.00
95.75		85.02	187.29	0.00	0.00
100.00	(11) attachments	2974.58	2610.25	0.00	0.00
105.00		549.57	553.64	0.00	0.00
110.00		534.91	537.97	0.00	0.00
115.00		519.68	522.29	0.00	0.00
120.00		503.91	506.62	0.00	0.00
125.00		487.64	490.94	0.00	0.00
127.00		189.92	191.99	0.00	0.00
130.00		283.67	442.66	0.00	0.00
130.75		69.83	109.12	0.00	0.00
133.00	(26) attachments	5379.85	2317.57	0.00	0.00
135.00		181.40	123.96	0.00	0.00
140.00		442.20	301.68	0.00	0.00
143.00	(21) attachments	5624.08	3520.84	0.00	0.00
145.00		167.13	101.96	0.00	0.00
150.00		405.81	246.67	0.00	0.00
154.00	(21) attachments	8775.28	4871.53	0.00	0.00
155.00		75.68	42.08	0.00	0.00
	Totals:	**41,653.16**	**40,925.25**	**0.00**	**3,094.70**

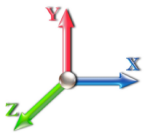
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

Load Case: 0.9D + 1.0W 121 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	30.144	0.00	1.23
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	30.144	0.00	4.68
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	30.144	0.00	1.23
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	30.144	0.00	4.68
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	30.144	0.00	1.23
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	30.144	0.00	4.68
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	31.984	0.00	1.23
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	31.984	0.00	4.68
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	33.523	0.00	1.23
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	33.523	0.00	4.68
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	34.834	0.00	1.23
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	34.834	0.00	4.68
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	35.983	0.00	1.23
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	35.983	0.00	4.68
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	37.009	0.00	1.23
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	37.009	0.00	4.68
44.75	Safety Cable	Yes	4.75	0.000	0.38	0.15	0.00	0.020	0.000	37.894	0.00	1.17
44.75	Step bolts (ladder)	Yes	4.75	0.000	0.63	0.25	0.00	0.020	0.000	37.894	0.00	4.45
45.00	Safety Cable	Yes	0.25	0.000	0.38	0.01	0.00	0.020	0.000	37.938	0.00	0.06
45.00	Step bolts (ladder)	Yes	0.25	0.000	0.63	0.01	0.00	0.020	0.000	37.938	0.00	0.23
50.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	38.789	0.00	1.23
50.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	38.789	0.00	4.68
51.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.021	0.000	38.951	0.00	0.25
51.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.021	0.000	38.951	0.00	0.94
55.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.021	0.000	39.575	0.00	0.98
55.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.021	0.000	39.575	0.00	3.74
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	40.307	0.00	1.23
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	40.307	0.00	4.68
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	40.992	0.00	1.23
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	40.992	0.00	4.68
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	41.637	0.00	1.23
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	41.637	0.00	4.68
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	42.246	0.00	1.23
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	42.246	0.00	4.68
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	42.824	0.00	1.23
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	42.824	0.00	4.68
85.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	43.374	0.00	1.23
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	43.374	0.00	4.68
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	43.899	0.00	1.23
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	43.899	0.00	4.68
90.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.026	0.000	43.976	0.00	0.18
90.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.026	0.000	43.976	0.00	0.70
95.00	Safety Cable	Yes	4.25	0.000	0.38	0.13	0.00	0.026	0.000	44.401	0.00	1.04
95.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	0.22	0.00	0.026	0.000	44.401	0.00	3.98
95.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.027	0.000	44.475	0.00	0.18
95.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.027	0.000	44.475	0.00	0.70
100.00	Safety Cable	Yes	4.25	0.000	0.38	0.13	0.00	0.027	0.000	44.883	0.00	1.04

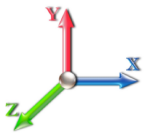
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

Load Case: 0.9D + 1.0W 121 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
100.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	0.22	0.00	0.027	0.000	44.883	0.00	3.98
105.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	45.347	0.00	1.23
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	45.347	0.00	4.68
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.029	0.000	45.793	0.00	1.23
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.029	0.000	45.793	0.00	4.68
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	46.224	0.00	1.23
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	46.224	0.00	4.68
120.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.031	0.000	46.640	0.00	1.23
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.031	0.000	46.640	0.00	4.68
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	47.042	0.00	1.23
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	47.042	0.00	4.68
127.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.034	0.000	47.200	0.00	0.49
127.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.034	0.000	47.200	0.00	1.87
130.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.034	0.000	47.432	0.00	0.74
130.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.034	0.000	47.432	0.00	2.81
130.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.035	0.000	47.490	0.00	0.18
130.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.035	0.000	47.490	0.00	0.70
133.00	Safety Cable	Yes	2.25	0.000	0.38	0.07	0.00	0.035	0.000	47.661	0.00	0.55
133.00	Step bolts (ladder)	Yes	2.25	0.000	0.63	0.12	0.00	0.035	0.000	47.661	0.00	2.11
135.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.036	0.000	47.811	0.00	0.49
135.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.036	0.000	47.811	0.00	1.87
140.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.037	0.000	48.178	0.00	1.23
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.037	0.000	48.178	0.00	4.68
143.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.038	0.000	48.394	0.00	0.74
143.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.038	0.000	48.394	0.00	2.81
145.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.039	0.000	48.535	0.00	0.49
145.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.039	0.000	48.535	0.00	1.87
150.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.041	0.000	48.883	0.00	1.23
150.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.041	0.000	48.883	0.00	4.68
154.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.043	0.000	49.155	0.00	0.98
154.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.043	0.000	49.155	0.00	3.74
155.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.044	0.000	49.222	0.00	0.25
155.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.044	0.000	49.222	0.00	0.94
									Totals:		**0.0**	**183.2**

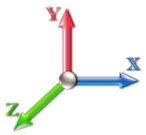
Calculated Forces

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

Load Case: 0.9D + 1.0W 121 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	-40.86	-41.71	0.00	-4664.7	0.00	4664.77	5604.23	1472.71	7384.18	6972.80	0.00	0.000	0.000	0.677
5.00	-39.33	-41.21	0.00	-4456.2	0.00	4456.20	5529.79	1441.27	7072.26	6732.24	0.09	-0.168	0.000	0.670
10.00	-37.82	-40.72	0.00	-4250.1	0.00	4250.15	5453.38	1409.83	6767.07	6493.32	0.36	-0.338	0.000	0.662
15.00	-36.35	-40.23	0.00	-4046.5	0.00	4046.58	5374.99	1378.39	6468.61	6256.19	0.81	-0.512	0.000	0.654
20.00	-34.90	-39.71	0.00	-3845.4	0.00	3845.45	5294.63	1346.95	6176.88	6021.01	1.44	-0.689	0.000	0.646
25.00	-33.48	-39.17	0.00	-3646.9	0.00	3646.91	5212.30	1315.51	5891.88	5787.94	2.26	-0.869	0.000	0.637
30.00	-32.09	-38.62	0.00	-3451.0	0.00	3451.06	5128.00	1284.07	5613.62	5557.14	3.26	-1.052	0.000	0.628
35.00	-30.73	-38.05	0.00	-3257.9	0.00	3257.98	5041.73	1252.63	5342.08	5328.76	4.47	-1.237	0.000	0.618
40.00	-29.40	-37.47	0.00	-3067.7	0.00	3067.73	4953.48	1221.18	5077.28	5102.98	5.86	-1.426	0.000	0.608
44.75	-28.22	-36.88	0.00	-2889.7	0.00	2889.74	4867.82	1191.32	4831.95	4891.01	7.38	-1.609	0.000	0.598
45.00	-28.05	-36.90	0.00	-2880.5	0.00	2880.52	4863.26	1189.74	4819.20	4879.93	7.46	-1.619	0.000	0.597
50.00	-25.94	-36.24	0.00	-2696.0	0.00	2696.04	4771.07	1158.30	4567.86	4659.79	9.26	-1.813	0.000	0.585
51.00	-25.47	-36.14	0.00	-2659.8	0.00	2659.81	3927.98	1004.41	4007.19	3886.53	9.64	-1.853	0.000	0.692
55.00	-24.57	-35.68	0.00	-2515.2	0.00	2515.25	3872.44	982.85	3837.01	3748.69	11.27	-2.012	0.000	0.679
60.00	-23.47	-35.09	0.00	-2336.8	0.00	2336.86	3801.23	955.91	3629.48	3578.07	13.49	-2.233	0.000	0.661
65.00	-22.40	-34.51	0.00	-2161.4	0.00	2161.40	3728.06	928.96	3427.72	3409.45	15.95	-2.455	0.000	0.641
70.00	-21.35	-33.92	0.00	-1988.8	0.00	1988.87	3652.91	902.01	3231.73	3243.00	18.64	-2.678	0.000	0.621
75.00	-20.34	-33.34	0.00	-1819.2	0.00	1819.25	3575.79	875.06	3041.50	3078.88	21.56	-2.901	0.000	0.598
80.00	-19.35	-32.77	0.00	-1652.5	0.00	1652.53	3496.70	848.11	2857.05	2917.23	24.72	-3.125	0.000	0.573
85.00	-17.96	-29.55	0.00	-1485.6	0.00	1485.60	3415.64	821.16	2678.37	2758.23	28.11	-3.347	0.000	0.545
90.00	-17.10	-28.95	0.00	-1337.8	0.00	1337.88	3332.60	794.21	2505.45	2602.02	31.74	-3.567	0.000	0.521
90.75	-16.93	-28.89	0.00	-1316.1	0.00	1316.16	3319.98	790.17	2480.01	2578.84	32.30	-3.601	0.000	0.517
95.00	-15.83	-28.36	0.00	-1193.3	0.00	1193.38	3247.59	767.26	2338.31	2448.77	35.59	-3.787	0.000	0.494
95.75	-15.60	-28.30	0.00	-1172.1	0.00	1172.11	1911.44	517.52	1595.71	1463.25	36.19	-3.821	0.000	0.812
100.00	-13.09	-25.21	0.00	-1051.8	0.00	1051.85	1878.47	502.25	1502.93	1395.29	39.67	-4.004	0.000	0.763
105.00	-12.45	-24.68	0.00	-925.82	0.00	925.82	1837.85	484.28	1397.33	1315.95	44.02	-4.303	0.000	0.713
110.00	-11.83	-24.17	0.00	-802.42	0.00	802.42	1795.26	466.31	1295.57	1237.43	48.69	-4.595	0.000	0.658
115.00	-11.24	-23.66	0.00	-681.59	0.00	681.59	1750.70	448.35	1197.66	1159.88	53.65	-4.875	0.000	0.597
120.00	-10.68	-23.16	0.00	-563.29	0.00	563.29	1704.17	430.38	1103.60	1083.46	58.89	-5.140	0.000	0.529
125.00	-10.17	-22.66	0.00	-447.49	0.00	447.49	1655.66	412.41	1013.39	1008.33	64.40	-5.383	0.000	0.453
127.00	-9.95	-22.47	0.00	-402.17	0.00	402.17	1635.71	405.23	978.38	978.67	66.67	-5.476	0.000	0.420
130.00	-9.51	-22.16	0.00	-334.76	0.00	334.76	1605.19	394.45	927.02	934.64	70.15	-5.603	0.000	0.367
130.75	-9.39	-22.09	0.00	-318.14	0.00	318.14	1090.28	298.38	707.29	641.74	71.04	-5.634	0.000	0.510
133.00	-7.59	-16.52	0.00	-268.44	0.00	268.44	1077.75	292.32	678.84	621.39	73.71	-5.718	0.000	0.442
135.00	-7.44	-16.34	0.00	-235.41	0.00	235.41	1066.28	286.93	654.04	603.36	76.12	-5.805	0.000	0.400
140.00	-7.15	-15.89	0.00	-153.70	0.00	153.70	1036.22	273.46	594.05	558.63	82.29	-5.982	0.000	0.285
143.00	-4.23	-9.93	0.00	-106.04	0.00	106.04	1017.23	265.37	559.44	532.07	86.07	-6.064	0.000	0.205
145.00	-4.14	-9.76	0.00	-86.18	0.00	86.18	1004.18	259.98	536.95	514.49	88.62	-6.109	0.000	0.173
150.00	-3.93	-9.33	0.00	-37.40	0.00	37.40	970.18	246.51	482.73	471.12	95.05	-6.184	0.000	0.085
154.00	-0.03	-0.08	0.00	-0.08	0.00	0.08	941.55	235.73	441.44	437.06	100.24	-6.206	0.000	0.000
155.00	0.00	-0.08	0.00	0.00	0.00	0.00	934.20	233.03	431.40	428.65	101.53	-6.206	0.000	0.000

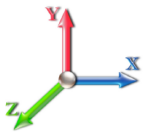
Wind Loading - Shaft

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 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	5.147	5.66	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.147	5.66	0.00	1.200	0.828	5.00	26.171	31.41	177.8	313.4	2008.4
10.00		1.00	0.85	5.147	5.66	0.00	1.200	0.887	5.00	25.675	30.81	174.4	329.0	1987.4
15.00		1.00	0.85	5.147	5.66	0.00	1.200	0.924	5.00	25.159	30.19	170.9	335.4	1957.2
20.00		1.00	0.90	5.461	6.01	0.00	1.200	0.951	5.00	24.636	29.56	177.6	337.6	1922.9
25.00		1.00	0.95	5.724	6.30	0.00	1.200	0.973	5.00	24.108	28.93	182.2	337.5	1886.2
30.00		1.00	0.98	5.948	6.54	0.00	1.200	0.991	5.00	23.577	28.29	185.1	335.8	1847.9
35.00		1.00	1.01	6.144	6.76	0.00	1.200	1.006	5.00	23.044	27.65	186.9	333.0	1808.5
40.00		1.00	1.04	6.319	6.95	0.00	1.200	1.019	5.00	22.509	27.01	187.8	329.3	1768.3
44.75	Bot - Section 2	1.00	1.07	6.471	7.12	0.00	1.200	1.031	4.75	20.887	25.06	178.4	308.9	1642.1
45.00		1.00	1.07	6.478	7.13	0.00	1.200	1.032	0.25	1.102	1.32	9.4	16.5	146.1
50.00		1.00	1.09	6.623	7.29	0.00	1.200	1.042	5.00	21.754	26.10	190.2	325.0	2881.2
51.00	Top - Section 1	1.00	1.10	6.651	7.32	0.00	1.200	1.044	1.00	4.286	5.14	37.6	64.8	567.9
55.00		1.00	1.12	6.758	7.43	0.00	1.200	1.052	4.00	16.930	20.32	151.0	255.7	1180.5
60.00		1.00	1.14	6.883	7.57	0.00	1.200	1.062	5.00	20.678	24.81	187.9	313.9	1441.6
65.00		1.00	1.16	7.000	7.70	0.00	1.200	1.070	5.00	20.140	24.17	186.1	307.8	1404.2
70.00		1.00	1.17	7.110	7.82	0.00	1.200	1.078	5.00	19.600	23.52	183.9	301.5	1366.5
75.00		1.00	1.19	7.214	7.93	0.00	1.200	1.086	5.00	19.061	22.87	181.5	294.8	1328.5
80.00		1.00	1.21	7.312	8.04	0.00	1.200	1.093	5.00	18.521	22.22	178.8	287.9	1290.3
85.00	Appurtenance(s)	1.00	1.22	7.406	8.15	0.00	1.200	1.099	5.00	17.980	21.58	175.8	280.8	1251.8
90.00		1.00	1.24	7.496	8.25	0.00	1.200	1.106	5.00	17.440	20.93	172.6	273.6	1213.2
90.75	Bot - Section 3	1.00	1.24	7.509	8.26	0.00	1.200	1.106	0.75	2.569	3.08	25.5	40.9	179.1
95.00		1.00	1.25	7.582	8.34	0.00	1.200	1.112	4.25	14.509	17.41	145.2	229.1	1521.1
95.75	Top - Section 2	1.00	1.25	7.594	8.35	0.00	1.200	1.112	0.75	2.520	3.02	25.3	40.3	264.3
100.00	Appurtenance(s)	1.00	1.27	7.664	8.43	0.00	1.200	1.117	4.25	14.049	16.86	142.1	222.7	726.9
105.00		1.00	1.28	7.743	8.52	0.00	1.200	1.123	5.00	16.028	19.23	163.8	254.2	828.0
110.00		1.00	1.29	7.819	8.60	0.00	1.200	1.128	5.00	15.487	18.58	159.8	246.3	799.2
115.00		1.00	1.30	7.893	8.68	0.00	1.200	1.133	5.00	14.945	17.93	155.7	238.3	770.3
120.00		1.00	1.32	7.964	8.76	0.00	1.200	1.138	5.00	14.403	17.28	151.4	230.1	741.3
125.00		1.00	1.33	8.033	8.84	0.00	1.200	1.142	5.00	13.861	16.63	147.0	221.9	712.1
127.00	Bot - Section 4	1.00	1.33	8.060	8.87	0.00	1.200	1.144	2.00	5.392	6.47	57.4	87.4	277.7
130.00		1.00	1.34	8.099	8.91	0.00	1.200	1.147	3.00	8.021	9.63	85.8	129.7	621.3
130.75	Top - Section 3	1.00	1.34	8.109	8.92	0.00	1.200	1.148	0.75	1.975	2.37	21.1	32.2	153.1
133.00	Appurtenance(s)	1.00	1.34	8.138	8.95	0.00	1.200	1.150	2.25	5.851	7.02	62.9	95.0	249.6
135.00		1.00	1.35	8.164	8.98	0.00	1.200	1.151	2.00	5.109	6.13	55.1	83.1	217.9
140.00		1.00	1.36	8.227	9.05	0.00	1.200	1.155	5.00	12.393	14.87	134.6	199.2	525.1
143.00	Appurtenance(s)	1.00	1.36	8.263	9.09	0.00	1.200	1.158	3.00	7.175	8.61	78.3	116.4	304.5
145.00		1.00	1.37	8.288	9.12	0.00	1.200	1.160	2.00	4.675	5.61	51.1	76.2	198.5
150.00		1.00	1.38	8.347	9.18	0.00	1.200	1.163	5.00	11.308	13.57	124.6	181.8	476.4
154.00	Appurtenance(s)	1.00	1.39	8.393	9.23	0.00	1.200	1.167	4.00	8.655	10.39	95.9	139.8	364.2
155.00		1.00	1.39	8.405	9.25	0.00	1.200	1.167	1.00	2.109	2.53	23.4	34.6	89.1
								Totals:	**155.00**			**5,181.7**		**40,920.3**

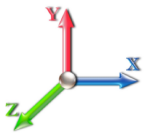
Discrete Appurtenance Forces

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 22	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 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	154.00	Ericsson 4460 B25 + B66	3	8.393	9.233	0.81	0.90	6.14	808.84	0.000	0.000	56.68	0.00	0.00
2	154.00	Ericsson Air 6419 B41	3	8.393	9.233	0.66	0.90	12.60	729.22	0.000	0.000	116.31	0.00	0.00
3	154.00	Commscope VV-65B-R1	3	8.393	9.233	0.68	0.90	17.95	532.66	0.000	0.000	165.73	0.00	0.00
4	154.00	Mount Mod	3	8.393	9.233	1.00	1.00	104.13	7931.76	0.000	0.000	961.36	0.00	0.00
5	154.00	T-Arm	3	8.393	9.233	0.56	0.75	21.40	3646.08	0.000	0.000	197.59	0.00	0.00
6	154.00	RFS -	3	8.393	9.233	0.65	0.90	41.77	460.80	0.000	0.000	385.65	0.00	0.00
7	154.00	Ericsson 4449 B71 + B85	3	8.393	9.233	0.82	0.90	5.71	608.81	0.000	0.000	52.70	0.00	0.00
8	143.00	Cci - OPA65R-BU6DA	3	8.263	9.090	0.55	0.75	22.43	1092.67	0.000	0.000	203.85	0.00	0.00
9	143.00	Ericsson - AIR6449 B77D	3	8.263	9.090	0.63	0.75	8.82	797.35	0.000	0.000	80.21	0.00	0.00
10	143.00	Ericsson - RRUS 4478	3	8.263	9.090	0.61	0.75	4.40	495.95	0.000	0.000	40.01	0.00	0.00
11	143.00	Cci - TPA65R-BU6DA-K	3	8.263	9.090	0.55	0.75	22.43	1024.04	0.000	0.000	203.85	0.00	0.00
12	143.00	RMQLP-4120-H10 + 12	1	8.263	9.090	1.00	1.00	58.81	2046.29	0.000	0.000	534.56	0.00	0.00
13	143.00	Ericsson - RRUS 8843 B2	3	8.263	9.090	0.55	0.75	3.23	398.26	0.000	0.000	29.37	0.00	0.00
14	143.00	Ericsson - RRUS 4449	3	8.263	9.090	0.68	0.75	3.98	573.40	0.000	0.000	36.21	0.00	0.00
15	143.00	Raycap -	2	8.263	9.090	0.99	0.75	5.16	268.93	0.000	0.000	46.89	0.00	0.00
16	133.00	T-Arm	3	8.138	8.952	0.56	0.75	21.29	3633.27	0.000	0.000	190.59	0.00	0.00
17	133.00	Rfs Celwave -	2	8.138	8.952	0.58	0.80	6.16	342.47	0.000	0.000	55.15	0.00	0.00
18	133.00	Samsung - RF4440d-13A	3	8.138	8.952	0.65	0.80	4.31	558.67	0.000	0.000	38.57	0.00	0.00
19	133.00	Samsung - RF4439d-25A	3	8.138	8.952	0.67	0.80	4.47	590.30	0.000	0.000	40.00	0.00	0.00
20	133.00	Amphenol -	6	8.138	8.952	1.18	0.80	35.64	1013.48	0.000	0.000	319.03	0.00	0.00
21	133.00	Andrew - SBNHH-1D65B	6	8.138	8.952	0.67	0.80	36.17	1260.01	0.000	0.000	323.79	0.00	0.00
22	133.00	Samsung - MT6407-77A	3	8.138	8.952	0.60	0.80	9.49	178.28	0.000	0.000	84.96	0.00	0.00
23	100.00	JMA Wireless -	3	7.664	8.430	0.55	0.75	22.33	967.21	0.000	0.000	188.24	0.00	0.00
24	100.00	Fujitsu - TA08025-B605	3	7.664	8.430	0.61	0.75	4.20	591.42	0.000	0.000	35.40	0.00	0.00
25	100.00	Fujitsu - TA08025-B604	3	7.664	8.430	0.58	0.75	3.99	515.45	0.000	0.000	33.65	0.00	0.00
26	100.00	Raycap -	1	7.664	8.430	0.59	0.75	1.40	80.48	0.000	0.000	11.78	0.00	0.00
27	100.00	Platform w/ Handrail	1	7.664	8.430	1.00	1.00	33.80	4957.09	0.000	0.000	284.93	0.00	0.00
28	85.00	T-Arm	1	7.406	8.147	1.00	1.00	12.42	1198.43	0.000	0.000	101.18	0.00	0.00
29	85.00	Pipe Mount	2	7.406	8.147	1.00	1.00	14.40	-572.68	0.000	0.000	117.29	0.00	0.00
30	85.00	SP4-4.7NS RD4	1	7.406	8.147	1.00	1.00	25.17	152.92	0.000	0.000	205.10	0.00	0.00
31	85.00	SD222	2	7.491	8.241	1.00	1.00	20.92	138.35	0.000	4.750	172.42	0.00	819.01
32	85.00	DB408	1	7.491	8.241	1.00	1.00	8.72	72.39	0.000	4.750	71.88	0.00	341.41
							Totals:		**37,092.58**			**5,384.94**		

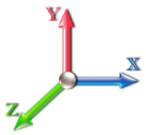
Total Applied Force Summary

Structure:	CT13610-A		**Code:**	TIA-222-H	5/17/2023
Site Name:	ARTEC		**Exposure:**	C	
Height:	155.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	C - Very Dense Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 23

Load Case: 1.2D + 1.0Di + 1.0Wi 50 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		177.81	2209.86	0.00	0.00
10.00		174.44	2190.41	0.00	0.00
15.00		170.94	2161.14	0.00	0.00
20.00		177.60	2127.54	0.00	0.00
25.00		182.15	2091.44	0.00	0.00
30.00		185.11	2053.67	0.00	0.00
35.00		186.90	2014.71	0.00	0.00
40.00		187.77	1974.84	0.00	0.00
44.75		178.40	1838.62	0.00	0.00
45.00		9.42	156.43	0.00	0.00
50.00		190.19	3088.40	0.00	0.00
51.00		37.63	609.34	0.00	0.00
55.00		151.01	1346.47	0.00	0.00
60.00		187.86	1649.42	0.00	0.00
65.00		186.08	1612.25	0.00	0.00
70.00		183.94	1574.76	0.00	0.00
75.00		181.50	1537.00	0.00	0.00
80.00		178.77	1498.98	0.00	0.00
85.00	(7) attachments	843.65	2450.16	0.00	1160.42
90.00		172.56	1403.58	0.00	0.00
90.75		25.46	207.67	0.00	0.00
95.00		145.20	1683.13	0.00	0.00
95.75		25.26	292.94	0.00	0.00
100.00	(11) attachments	696.14	8000.66	0.00	0.00
105.00		163.82	1012.39	0.00	0.00
110.00		159.85	983.76	0.00	0.00
115.00		155.70	954.99	0.00	0.00
120.00		151.41	926.09	0.00	0.00
125.00		146.97	897.08	0.00	0.00
127.00		57.37	351.67	0.00	0.00
130.00		85.75	732.38	0.00	0.00
130.75		21.14	180.85	0.00	0.00
133.00	(26) attachments	1114.94	7909.44	0.00	0.00
135.00		55.05	256.74	0.00	0.00
140.00		134.58	622.45	0.00	0.00
143.00	(21) attachments	1253.22	7059.78	0.00	0.00
145.00		51.14	220.62	0.00	0.00
150.00		124.59	531.98	0.00	0.00
154.00	(21) attachments	2031.91	15126.91	0.00	0.00
155.00		23.40	94.99	0.00	0.00
	Totals:	**10,566.64**	**83,635.57**	**0.00**	**1,160.42**

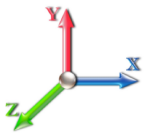
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 24	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.85	0.00	0.017	0.000	5.147	0.00	7.09
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.95	0.00	0.017	0.000	5.147	0.00	12.60
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.90	0.00	0.017	0.000	5.147	0.00	7.80
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.00	0.00	0.017	0.000	5.147	0.00	13.37
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.93	0.00	0.017	0.000	5.147	0.00	8.26
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.03	0.00	0.017	0.000	5.147	0.00	13.87
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.95	0.00	0.018	0.000	5.461	0.00	8.61
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.06	0.00	0.018	0.000	5.461	0.00	14.24
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.97	0.00	0.018	0.000	5.724	0.00	8.89
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.07	0.00	0.018	0.000	5.724	0.00	14.55
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.98	0.00	0.018	0.000	5.948	0.00	9.13
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.09	0.00	0.018	0.000	5.948	0.00	14.80
35.00	Safety Cable	Yes	5.00	0.000	0.38	1.00	0.00	0.019	0.000	6.144	0.00	9.34
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.10	0.00	0.019	0.000	6.144	0.00	15.03
40.00	Safety Cable	Yes	5.00	0.000	0.38	1.01	0.00	0.019	0.000	6.319	0.00	9.53
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.11	0.00	0.019	0.000	6.319	0.00	15.23
44.75	Safety Cable	Yes	4.75	0.000	0.38	0.97	0.00	0.020	0.000	6.471	0.00	9.21
44.75	Step bolts (ladder)	Yes	4.75	0.000	0.63	1.07	0.00	0.020	0.000	6.471	0.00	14.63
45.00	Safety Cable	Yes	0.25	0.000	0.38	0.05	0.00	0.020	0.000	6.478	0.00	0.49
45.00	Step bolts (ladder)	Yes	0.25	0.000	0.63	0.06	0.00	0.020	0.000	6.478	0.00	0.77
50.00	Safety Cable	Yes	5.00	0.000	0.38	1.03	0.00	0.020	0.000	6.623	0.00	9.85
50.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.13	0.00	0.020	0.000	6.623	0.00	15.57
51.00	Safety Cable	Yes	1.00	0.000	0.38	0.21	0.00	0.021	0.000	6.651	0.00	1.98
51.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.23	0.00	0.021	0.000	6.651	0.00	3.12
55.00	Safety Cable	Yes	4.00	0.000	0.38	0.83	0.00	0.021	0.000	6.758	0.00	8.00
55.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.91	0.00	0.021	0.000	6.758	0.00	12.58
60.00	Safety Cable	Yes	5.00	0.000	0.38	1.04	0.00	0.021	0.000	6.883	0.00	10.13
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.15	0.00	0.021	0.000	6.883	0.00	15.87
65.00	Safety Cable	Yes	5.00	0.000	0.38	1.05	0.00	0.022	0.000	7.000	0.00	10.25
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.15	0.00	0.022	0.000	7.000	0.00	16.00
70.00	Safety Cable	Yes	5.00	0.000	0.38	1.06	0.00	0.023	0.000	7.110	0.00	10.37
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.16	0.00	0.023	0.000	7.110	0.00	16.12
75.00	Safety Cable	Yes	5.00	0.000	0.38	1.06	0.00	0.023	0.000	7.214	0.00	10.48
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.17	0.00	0.023	0.000	7.214	0.00	16.24
80.00	Safety Cable	Yes	5.00	0.000	0.38	1.07	0.00	0.024	0.000	7.312	0.00	10.58
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.17	0.00	0.024	0.000	7.312	0.00	16.35
85.00	Safety Cable	Yes	5.00	0.000	0.38	1.07	0.00	0.025	0.000	7.406	0.00	10.68
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.18	0.00	0.025	0.000	7.406	0.00	16.46
90.00	Safety Cable	Yes	5.00	0.000	0.38	1.08	0.00	0.025	0.000	7.496	0.00	10.77
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.18	0.00	0.025	0.000	7.496	0.00	16.56
90.75	Safety Cable	Yes	0.75	0.000	0.38	0.16	0.00	0.026	0.000	7.509	0.00	1.62
90.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.18	0.00	0.026	0.000	7.509	0.00	2.49
95.00	Safety Cable	Yes	4.25	0.000	0.38	0.92	0.00	0.026	0.000	7.582	0.00	9.24
95.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	1.01	0.00	0.026	0.000	7.582	0.00	14.15
95.75	Safety Cable	Yes	0.75	0.000	0.38	0.16	0.00	0.027	0.000	7.594	0.00	1.63
95.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.18	0.00	0.027	0.000	7.594	0.00	2.50
100.00	Safety Cable	Yes	4.25	0.000	0.38	0.93	0.00	0.027	0.000	7.664	0.00	9.31

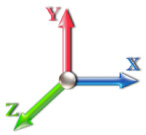
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
100.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	1.01	0.00	0.027	0.000	7.664	0.00	14.23
105.00	Safety Cable	Yes	5.00	0.000	0.38	1.09	0.00	0.028	0.000	7.743	0.00	11.03
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.20	0.00	0.028	0.000	7.743	0.00	16.83
110.00	Safety Cable	Yes	5.00	0.000	0.38	1.10	0.00	0.029	0.000	7.819	0.00	11.11
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.20	0.00	0.029	0.000	7.819	0.00	16.92
115.00	Safety Cable	Yes	5.00	0.000	0.38	1.10	0.00	0.030	0.000	7.893	0.00	11.19
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.21	0.00	0.030	0.000	7.893	0.00	17.00
120.00	Safety Cable	Yes	5.00	0.000	0.38	1.11	0.00	0.031	0.000	7.964	0.00	11.26
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.21	0.00	0.031	0.000	7.964	0.00	17.08
125.00	Safety Cable	Yes	5.00	0.000	0.38	1.11	0.00	0.033	0.000	8.033	0.00	11.34
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.21	0.00	0.033	0.000	8.033	0.00	17.15
127.00	Safety Cable	Yes	2.00	0.000	0.38	0.44	0.00	0.034	0.000	8.060	0.00	4.55
127.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.49	0.00	0.034	0.000	8.060	0.00	6.87
130.00	Safety Cable	Yes	3.00	0.000	0.38	0.67	0.00	0.034	0.000	8.099	0.00	6.84
130.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.73	0.00	0.034	0.000	8.099	0.00	10.34
130.75	Safety Cable	Yes	0.75	0.000	0.38	0.17	0.00	0.035	0.000	8.109	0.00	1.71
130.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.18	0.00	0.035	0.000	8.109	0.00	2.59
133.00	Safety Cable	Yes	2.25	0.000	0.38	0.50	0.00	0.035	0.000	8.138	0.00	5.15
133.00	Step bolts (ladder)	Yes	2.25	0.000	0.63	0.55	0.00	0.035	0.000	8.138	0.00	7.77
135.00	Safety Cable	Yes	2.00	0.000	0.38	0.45	0.00	0.036	0.000	8.164	0.00	4.59
135.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.49	0.00	0.036	0.000	8.164	0.00	6.92
140.00	Safety Cable	Yes	5.00	0.000	0.38	1.12	0.00	0.037	0.000	8.227	0.00	11.54
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.23	0.00	0.037	0.000	8.227	0.00	17.37
143.00	Safety Cable	Yes	3.00	0.000	0.38	0.67	0.00	0.038	0.000	8.263	0.00	6.95
143.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.74	0.00	0.038	0.000	8.263	0.00	10.44
145.00	Safety Cable	Yes	2.00	0.000	0.38	0.45	0.00	0.039	0.000	8.288	0.00	4.64
145.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.49	0.00	0.039	0.000	8.288	0.00	6.97
150.00	Safety Cable	Yes	5.00	0.000	0.38	1.13	0.00	0.041	0.000	8.347	0.00	11.66
150.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.23	0.00	0.041	0.000	8.347	0.00	17.50
154.00	Safety Cable	Yes	4.00	0.000	0.38	0.90	0.00	0.043	0.000	8.393	0.00	9.37
154.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.99	0.00	0.043	0.000	8.393	0.00	14.04
155.00	Safety Cable	Yes	1.00	0.000	0.38	0.23	0.00	0.044	0.000	8.405	0.00	2.34
155.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.25	0.00	0.044	0.000	8.405	0.00	3.51
										Totals:	**0.0**	**815.2**

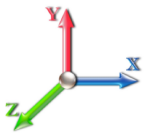
Calculated Forces

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 26	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

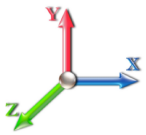
Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-83.63	-10.60	0.00	-1193.0	0.00	1193.05	5604.23	1472.71	7384.18	6972.80	0.00	0.000	0.000	0.186
5.00	-81.41	-10.48	0.00	-1140.0	0.00	1140.06	5529.79	1441.27	7072.26	6732.24	0.02	-0.043	0.000	0.184
10.00	-79.22	-10.37	0.00	-1087.6	0.00	1087.66	5453.38	1409.83	6767.07	6493.32	0.09	-0.087	0.000	0.182
15.00	-77.05	-10.25	0.00	-1035.8	0.00	1035.83	5374.99	1378.39	6468.61	6256.19	0.21	-0.131	0.000	0.180
20.00	-74.91	-10.13	0.00	-984.58	0.00	984.58	5294.63	1346.95	6176.88	6021.01	0.37	-0.176	0.000	0.178
25.00	-72.81	-10.00	0.00	-933.95	0.00	933.95	5212.30	1315.51	5891.88	5787.94	0.58	-0.222	0.000	0.175
30.00	-70.75	-9.86	0.00	-883.97	0.00	883.97	5128.00	1284.07	5613.62	5557.14	0.84	-0.269	0.000	0.173
35.00	-68.73	-9.72	0.00	-834.66	0.00	834.66	5041.73	1252.63	5342.08	5328.76	1.14	-0.317	0.000	0.170
40.00	-66.75	-9.58	0.00	-786.06	0.00	786.06	4953.48	1221.18	5077.28	5102.98	1.50	-0.365	0.000	0.168
44.75	-64.91	-9.41	0.00	-740.57	0.00	740.57	4867.82	1191.32	4831.95	4891.01	1.89	-0.412	0.000	0.165
45.00	-64.75	-9.43	0.00	-738.21	0.00	738.21	4863.26	1189.74	4819.20	4879.93	1.91	-0.414	0.000	0.165
50.00	-61.65	-9.25	0.00	-691.05	0.00	691.05	4771.07	1158.30	4567.86	4659.79	2.37	-0.464	0.000	0.161
51.00	-61.04	-9.24	0.00	-681.79	0.00	681.79	3927.98	1004.41	4007.19	3886.53	2.47	-0.475	0.000	0.191
55.00	-59.69	-9.12	0.00	-644.85	0.00	644.85	3872.44	982.85	3837.01	3748.69	2.88	-0.515	0.000	0.188
60.00	-58.03	-8.98	0.00	-599.23	0.00	599.23	3801.23	955.91	3629.48	3578.07	3.45	-0.572	0.000	0.183
65.00	-56.41	-8.83	0.00	-554.34	0.00	554.34	3728.06	928.96	3427.72	3409.45	4.08	-0.629	0.000	0.178
70.00	-54.83	-8.68	0.00	-510.18	0.00	510.18	3652.91	902.01	3231.73	3243.00	4.77	-0.686	0.000	0.172
75.00	-53.29	-8.54	0.00	-466.76	0.00	466.76	3575.79	875.06	3041.50	3078.88	5.52	-0.743	0.000	0.167
80.00	-51.78	-8.39	0.00	-424.07	0.00	424.07	3496.70	848.11	2857.05	2917.23	6.33	-0.801	0.000	0.160
85.00	-49.34	-7.56	0.00	-380.96	0.00	380.96	3415.64	821.16	2678.37	2758.23	7.20	-0.858	0.000	0.153
90.00	-47.93	-7.39	0.00	-343.16	0.00	343.16	3332.60	794.21	2505.45	2602.02	8.13	-0.914	0.000	0.146
90.75	-47.72	-7.39	0.00	-337.62	0.00	337.62	3319.98	790.17	2480.01	2578.84	8.28	-0.923	0.000	0.145
95.00	-46.04	-7.24	0.00	-306.22	0.00	306.22	3247.59	767.26	2338.31	2448.77	9.12	-0.971	0.000	0.139
95.75	-45.74	-7.23	0.00	-300.80	0.00	300.80	1911.44	517.52	1595.71	1463.25	9.27	-0.979	0.000	0.230
100.00	-37.75	-6.43	0.00	-270.07	0.00	270.07	1878.47	502.25	1502.93	1395.29	10.17	-1.026	0.000	0.214
105.00	-36.73	-6.30	0.00	-237.90	0.00	237.90	1837.85	484.28	1397.33	1315.95	11.28	-1.103	0.000	0.201
110.00	-35.74	-6.17	0.00	-206.40	0.00	206.40	1795.26	466.31	1295.57	1237.43	12.48	-1.178	0.000	0.187
115.00	-34.78	-6.03	0.00	-175.57	0.00	175.57	1750.70	448.35	1197.66	1159.88	13.75	-1.250	0.000	0.171
120.00	-33.86	-5.90	0.00	-145.40	0.00	145.40	1704.17	430.38	1103.60	1083.46	15.10	-1.319	0.000	0.154
125.00	-32.96	-5.76	0.00	-115.90	0.00	115.90	1655.66	412.41	1013.39	1008.33	16.52	-1.381	0.000	0.135
127.00	-32.60	-5.71	0.00	-104.39	0.00	104.39	1635.71	405.23	978.38	978.67	17.10	-1.405	0.000	0.127
130.00	-31.87	-5.61	0.00	-87.27	0.00	87.27	1605.19	394.45	927.02	934.64	17.99	-1.439	0.000	0.113
130.75	-31.69	-5.60	0.00	-83.06	0.00	83.06	1090.28	298.38	707.29	641.74	18.22	-1.447	0.000	0.159
133.00	-23.81	-4.29	0.00	-70.46	0.00	70.46	1077.75	292.32	678.84	621.39	18.91	-1.469	0.000	0.136
135.00	-23.55	-4.24	0.00	-61.88	0.00	61.88	1066.28	286.93	654.04	603.36	19.53	-1.491	0.000	0.125
140.00	-22.93	-4.11	0.00	-40.66	0.00	40.66	1036.22	273.46	594.05	558.63	21.12	-1.538	0.000	0.095
143.00	-15.91	-2.67	0.00	-28.35	0.00	28.35	1017.23	265.37	559.44	532.07	22.09	-1.560	0.000	0.069
145.00	-15.69	-2.61	0.00	-23.01	0.00	23.01	1004.18	259.98	536.95	514.49	22.75	-1.572	0.000	0.060
150.00	-15.16	-2.48	0.00	-9.94	0.00	9.94	970.18	246.51	482.73	471.12	24.41	-1.592	0.000	0.037
154.00	-0.09	-0.03	0.00	-0.03	0.00	0.03	941.55	235.73	441.44	437.06	25.74	-1.598	0.000	0.000
155.00	0.00	-0.02	0.00	0.00	0.00	0.00	934.20	233.03	431.40	428.65	26.08	-1.598	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT13610-A		**Code:**	TIA-222-H	5/17/2023
Site Name:	ARTEC		**Exposure:**	C	
Height:	155.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	C - Very Dense Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 27

Load Case: 1.2D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.18	**Iterations**	21
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.05	**Ss**	0.20
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.38	**SA**	0.02	**S1**	0.05
						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		1602.1	2.50	56.65	0.02	
10.00		1571.6	7.50	55.57	0.13	
15.00		1541.2	12.50	54.50	0.35	
20.00		1510.7	17.50	53.42	0.66	
25.00		1480.2	22.50	52.34	1.05	
30.00		1449.7	27.50	51.26	1.50	
35.00		1419.2	32.50	50.19	2.01	
40.00		1388.8	37.50	49.11	2.56	
44.75	Bot - Section 2	1291.1	42.38	45.65	2.83	
45.00		117.48	44.88	4.15	0.03	
50.00		2319.8	47.50	82.03	11.48	
51.00	Top - Section 1	457.18	50.50	16.17	0.50	
55.00		922.37	53.00	32.61	2.26	
60.00		1129.4	57.50	39.94	3.99	
65.00		1103.3	62.50	39.01	4.50	
70.00		1077.1	67.50	38.09	5.00	
75.00		1051.0	72.50	37.17	5.49	
80.00		1024.9	77.50	36.24	5.96	
85.00	Appurtenance(s)	1648.9	82.50	58.31	17.49	
90.00		953.97	87.50	33.73	6.59	
90.75	Bot - Section 3	140.84	90.38	4.98	0.15	
95.00		1221.9	92.88	43.21	12.18	
95.75	Top - Section 2	212.38	95.38	7.51	0.39	
100.00	Appurtenance(s)	2924.4	97.88	103.41	77.45	
105.00		642.55	102.50	22.72	4.10	
110.00		625.13	107.50	22.10	4.27	
115.00		607.72	112.50	21.49	4.42	
120.00		590.30	117.50	20.87	4.55	
125.00		572.88	122.50	20.26	4.66	
127.00	Bot - Section 4	224.28	126.00	7.93	0.75	
130.00		508.28	128.50	17.97	4.03	
130.75	Top - Section 3	125.36	130.38	4.43	0.25	
133.00	Appurtenance(s)	2587.4	131.88	91.49	110.06	
135.00		142.82	134.00	5.05	0.35	
140.00		347.91	137.50	12.30	2.16	
143.00	Appurtenance(s)	3919.6	141.50	138.60	290.80	
145.00		115.57	144.00	4.09	0.26	
150.00		279.79	147.50	9.89	1.61	
154.00	Appurtenance(s)	5417.3	152.00	191.56	640.99	
155.00		47.02	154.50	1.66	0.05	
	Totals:	**46,314.4**		**1,637.7**	**1,237.9**	**Total Wind:** **41,653.2**

Calculated Forces

Structure:	CT13610-A		**Code:**	TIA-222-H	5/17/2023
Site Name:	ARTEC		**Exposure:**	C	
Height:	155.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	C - Very Dense Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 28

SBA

Load Case: 1.2D + 1.0Ev + 1.0Eh

Iterations 21

Gust Response Factor	1.10			**Sds**	0.18			**Ss**	0.20
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.05			**S1**	0.05
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.38	**SA**	0.02			**Seismic Importance Factor**	1.00

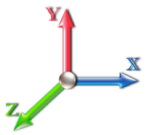
Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-56.20	-1.24	0.00	-180.66	0.00	180.66	5604.23	1472.71	7384.18	6972.80		0.00	0.00	0.036
5.00	-54.26	-1.25	0.00	-174.46	0.00	174.46	5529.79	1441.27	7072.26	6732.24		0.00	-0.01	0.036
10.00	-52.36	-1.25	0.00	-168.23	0.00	168.23	5453.38	1409.83	6767.07	6493.32		0.01	-0.01	0.036
15.00	-50.49	-1.26	0.00	-161.96	0.00	161.96	5374.99	1378.39	6468.61	6256.19		0.03	-0.02	0.035
20.00	-48.66	-1.26	0.00	-155.68	0.00	155.68	5294.63	1346.95	6176.88	6021.01		0.06	-0.03	0.035
25.00	-46.87	-1.27	0.00	-149.36	0.00	149.36	5212.30	1315.51	5891.88	5787.94		0.09	-0.03	0.035
30.00	-45.12	-1.27	0.00	-143.03	0.00	143.03	5128.00	1284.07	5613.62	5557.14		0.13	-0.04	0.035
35.00	-43.41	-1.27	0.00	-136.68	0.00	136.68	5041.73	1252.63	5342.08	5328.76		0.18	-0.05	0.034
40.00	-41.73	-1.27	0.00	-130.32	0.00	130.32	4953.48	1221.18	5077.28	5102.98		0.23	-0.06	0.034
44.75	-40.17	-1.27	0.00	-124.27	0.00	124.27	4867.82	1191.32	4831.95	4891.01		0.30	-0.07	0.034
45.00	-40.02	-1.28	0.00	-123.95	0.00	123.95	4863.26	1189.74	4819.20	4879.93		0.30	-0.07	0.034
50.00	-37.20	-1.26	0.00	-117.57	0.00	117.57	4771.07	1158.30	4567.86	4659.79		0.37	-0.07	0.033
51.00	-36.64	-1.27	0.00	-116.31	0.00	116.31	3927.98	1004.41	4007.19	3886.53		0.39	-0.08	0.039
55.00	-35.53	-1.27	0.00	-111.25	0.00	111.25	3872.44	982.85	3837.01	3748.69		0.46	-0.08	0.039
60.00	-34.17	-1.27	0.00	-104.91	0.00	104.91	3801.23	955.91	3629.48	3578.07		0.55	-0.09	0.038
65.00	-32.85	-1.27	0.00	-98.58	0.00	98.58	3728.06	928.96	3427.72	3409.45		0.65	-0.10	0.038
70.00	-31.55	-1.26	0.00	-92.25	0.00	92.25	3652.91	902.01	3231.73	3243.00		0.76	-0.11	0.037
75.00	-30.29	-1.26	0.00	-85.93	0.00	85.93	3575.79	875.06	3041.50	3078.88		0.89	-0.12	0.036
80.00	-29.07	-1.26	0.00	-79.63	0.00	79.63	3496.70	848.11	2857.05	2917.23		1.02	-0.13	0.036
85.00	-27.07	-1.24	0.00	-73.34	0.00	73.34	3415.64	821.16	2678.37	2758.23		1.17	-0.15	0.035
90.00	-25.92	-1.23	0.00	-67.13	0.00	67.13	3332.60	794.21	2505.45	2602.02		1.33	-0.16	0.034
90.75	-25.75	-1.24	0.00	-66.21	0.00	66.21	3319.98	790.17	2480.01	2578.84		1.35	-0.16	0.033
95.00	-24.27	-1.22	0.00	-60.95	0.00	60.95	3247.59	767.26	2338.31	2448.77		1.50	-0.17	0.032
95.75	-24.01	-1.22	0.00	-60.04	0.00	60.04	1911.44	517.52	1595.71	1463.25		1.52	-0.17	0.054
100.00	-20.43	-1.14	0.00	-54.84	0.00	54.84	1878.47	502.25	1502.93	1395.29		1.68	-0.18	0.050
105.00	-19.67	-1.14	0.00	-49.14	0.00	49.14	1837.85	484.28	1397.33	1315.95		1.88	-0.19	0.048
110.00	-18.93	-1.14	0.00	-43.45	0.00	43.45	1795.26	466.31	1295.57	1237.43		2.09	-0.21	0.046
115.00	-18.21	-1.13	0.00	-37.77	0.00	37.77	1750.70	448.35	1197.66	1159.88		2.32	-0.23	0.043
120.00	-17.52	-1.13	0.00	-32.10	0.00	32.10	1704.17	430.38	1103.60	1083.46		2.56	-0.24	0.040
125.00	-16.84	-1.13	0.00	-26.44	0.00	26.44	1655.66	412.41	1013.39	1008.33		2.82	-0.25	0.036
127.00	-16.58	-1.13	0.00	-24.19	0.00	24.19	1635.71	405.23	978.38	978.67		2.93	-0.26	0.035
130.00	-15.97	-1.12	0.00	-20.81	0.00	20.81	1605.19	394.45	927.02	934.64		3.09	-0.27	0.032
130.75	-15.82	-1.12	0.00	-19.97	0.00	19.97	1090.28	298.38	707.29	641.74		3.13	-0.27	0.046
133.00	-12.64	-1.00	0.00	-17.44	0.00	17.44	1077.75	292.32	678.84	621.39		3.26	-0.27	0.040
135.00	-12.47	-1.00	0.00	-15.45	0.00	15.45	1066.28	286.93	654.04	603.36		3.38	-0.28	0.037
140.00	-12.05	-1.00	0.00	-10.46	0.00	10.46	1036.22	273.46	594.05	558.63		3.68	-0.29	0.030
143.00	-7.22	-0.68	0.00	-7.47	0.00	7.47	1017.23	265.37	559.44	532.07		3.87	-0.30	0.021
145.00	-7.08	-0.68	0.00	-6.11	0.00	6.11	1004.18	259.98	536.95	514.49		3.99	-0.30	0.019
150.00	-6.74	-0.68	0.00	-2.71	0.00	2.71	970.18	246.51	482.73	471.12		4.31	-0.31	0.013
154.00	-0.06	0.00	0.00	0.00	0.00	0.00	941.55	235.73	441.44	437.06		4.57	-0.31	0.000
155.00	0.00	0.00	0.00	0.00	0.00	0.00	934.20	233.03	431.40	428.65		4.63	-0.31	0.000

Seismic Segment Forces (Factored)

Structure:	CT13610-A		**Code:**	TIA-222-H	5/17/2023
Site Name:	ARTEC		**Exposure:**	C	
Height:	155.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	C - Very Dense Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 29

Load Case: 0.9D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.18	**Iterations**	21
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.05	**Ss**	0.20
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.38	**SA**	0.02	**S1**	0.05
						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		1554.7	2.50	54.98	0.01	
10.00		1524.2	7.50	53.90	0.13	
15.00		1493.7	12.50	52.82	0.33	
20.00		1463.3	17.50	51.74	0.63	
25.00		1432.8	22.50	50.66	1.00	
30.00		1402.3	27.50	49.59	1.42	
35.00		1371.8	32.50	48.51	1.90	
40.00		1341.3	37.50	47.43	2.42	
44.75	Bot - Section 2	1246.0	42.38	44.06	2.67	
45.00		115.11	44.88	4.07	0.03	
50.00		2272.4	47.50	80.35	11.16	
51.00	Top - Section 1	447.69	50.50	15.83	0.49	
55.00		884.43	53.00	31.27	2.11	
60.00		1082.0	57.50	38.26	3.71	
65.00		1055.9	62.50	37.34	4.17	
70.00		1029.7	67.50	36.41	4.63	
75.00		1003.6	72.50	35.49	5.07	
80.00		977.52	77.50	34.57	5.50	
85.00	Appurtenance(s)	1601.5	82.50	56.63	16.72	
90.00		911.23	87.50	32.22	6.09	
90.75	Bot - Section 3	134.43	90.38	4.75	0.14	
95.00		1185.6	92.88	41.92	11.62	
95.75	Top - Section 2	205.96	95.38	7.28	0.37	
100.00	Appurtenance(s)	2888.1	97.88	102.13	76.56	
105.00		601.46	102.50	21.27	3.64	
110.00		584.05	107.50	20.65	3.78	
115.00		566.63	112.50	20.04	3.89	
120.00		549.21	117.50	19.42	3.99	
125.00		531.79	122.50	18.80	4.07	
127.00	Bot - Section 4	207.84	126.00	7.35	0.66	
130.00		483.62	128.50	17.10	3.70	
130.75	Top - Section 3	119.19	130.38	4.21	0.23	
133.00	Appurtenance(s)	2568.9	131.88	90.84	109.96	
135.00		135.19	134.00	4.78	0.31	
140.00		328.84	137.50	11.63	1.96	
143.00	Appurtenance(s)	3908.2	141.50	138.20	293.00	
145.00		112.14	144.00	3.97	0.25	
150.00		271.22	147.50	9.59	1.53	
154.00	Appurtenance(s)	5410.5	152.00	191.32	647.98	
155.00		46.63	154.50	1.65	0.05	
	Totals:	**45,051.5**		**1,593.0**	**1,237.9**	**Total Wind:** **41,653.2**

Calculated Forces

Structure:	CT13610-A		**Code:**	TIA-222-H	5/17/2023
Site Name:	ARTEC		**Exposure:**	C	
Height:	155.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	C - Very Dense Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 30

Load Case: 0.9D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.18			**Iterations**	21
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.05			**Ss**	0.20
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.38	**SA**	0.02			**S1**	0.05
								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	-42.52	-1.24	0.00	-179.19	0.00	179.19	5604.23	1472.71	7384.18	6972.80		0.00	0.00	0.033
5.00	-41.05	-1.24	0.00	-172.99	0.00	172.99	5529.79	1441.27	7072.26	6732.24		0.00	-0.01	0.033
10.00	-39.61	-1.25	0.00	-166.77	0.00	166.77	5453.38	1409.83	6767.07	6493.32		0.01	-0.01	0.033
15.00	-38.20	-1.25	0.00	-160.53	0.00	160.53	5374.99	1378.39	6468.61	6256.19		0.03	-0.02	0.033
20.00	-36.81	-1.26	0.00	-154.26	0.00	154.26	5294.63	1346.95	6176.88	6021.01		0.06	-0.03	0.033
25.00	-35.46	-1.26	0.00	-147.98	0.00	147.98	5212.30	1315.51	5891.88	5787.94		0.09	-0.03	0.032
30.00	-34.13	-1.26	0.00	-141.69	0.00	141.69	5128.00	1284.07	5613.62	5557.14		0.13	-0.04	0.032
35.00	-32.84	-1.26	0.00	-135.38	0.00	135.38	5041.73	1252.63	5342.08	5328.76		0.18	-0.05	0.032
40.00	-31.57	-1.26	0.00	-129.07	0.00	129.07	4953.48	1221.18	5077.28	5102.98		0.23	-0.06	0.032
44.75	-30.39	-1.26	0.00	-123.07	0.00	123.07	4867.82	1191.32	4831.95	4891.01		0.29	-0.07	0.031
45.00	-30.28	-1.26	0.00	-122.75	0.00	122.75	4863.26	1189.74	4819.20	4879.93		0.30	-0.07	0.031
50.00	-28.14	-1.25	0.00	-116.44	0.00	116.44	4771.07	1158.30	4567.86	4659.79		0.37	-0.07	0.031
51.00	-27.72	-1.25	0.00	-115.18	0.00	115.18	3927.98	1004.41	4007.19	3886.53		0.39	-0.08	0.037
55.00	-26.88	-1.25	0.00	-110.17	0.00	110.17	3872.44	982.85	3837.01	3748.69		0.45	-0.08	0.036
60.00	-25.85	-1.25	0.00	-103.90	0.00	103.90	3801.23	955.91	3629.48	3578.07		0.54	-0.09	0.036
65.00	-24.85	-1.25	0.00	-97.63	0.00	97.63	3728.06	928.96	3427.72	3409.45		0.64	-0.10	0.035
70.00	-23.87	-1.25	0.00	-91.37	0.00	91.37	3652.91	902.01	3231.73	3243.00		0.76	-0.11	0.035
75.00	-22.92	-1.25	0.00	-85.13	0.00	85.13	3575.79	875.06	3041.50	3078.88		0.88	-0.12	0.034
80.00	-21.99	-1.24	0.00	-78.89	0.00	78.89	3496.70	848.11	2857.05	2917.23		1.01	-0.13	0.033
85.00	-20.48	-1.23	0.00	-72.68	0.00	72.68	3415.64	821.16	2678.37	2758.23		1.16	-0.14	0.032
90.00	-19.61	-1.22	0.00	-66.54	0.00	66.54	3332.60	794.21	2505.45	2602.02		1.32	-0.15	0.031
90.75	-19.49	-1.22	0.00	-65.63	0.00	65.63	3319.98	790.17	2480.01	2578.84		1.34	-0.16	0.031
95.00	-18.37	-1.21	0.00	-60.43	0.00	60.43	3247.59	767.26	2338.31	2448.77		1.48	-0.17	0.030
95.75	-18.17	-1.21	0.00	-59.53	0.00	59.53	1911.44	517.52	1595.71	1463.25		1.51	-0.17	0.050
100.00	-15.46	-1.13	0.00	-54.39	0.00	54.39	1878.47	502.25	1502.93	1395.29		1.66	-0.18	0.047
105.00	-14.88	-1.13	0.00	-48.74	0.00	48.74	1837.85	484.28	1397.33	1315.95		1.86	-0.19	0.045
110.00	-14.32	-1.13	0.00	-43.11	0.00	43.11	1795.26	466.31	1295.57	1237.43		2.07	-0.21	0.043
115.00	-13.78	-1.12	0.00	-37.48	0.00	37.48	1750.70	448.35	1197.66	1159.88		2.29	-0.22	0.040
120.00	-13.26	-1.12	0.00	-31.87	0.00	31.87	1704.17	430.38	1103.60	1083.46		2.54	-0.24	0.037
125.00	-12.75	-1.12	0.00	-26.27	0.00	26.27	1655.66	412.41	1013.39	1008.33		2.79	-0.25	0.034
127.00	-12.55	-1.12	0.00	-24.03	0.00	24.03	1635.71	405.23	978.38	978.67		2.90	-0.26	0.032
130.00	-12.09	-1.11	0.00	-20.69	0.00	20.69	1605.19	394.45	927.02	934.64		3.06	-0.27	0.030
130.75	-11.97	-1.11	0.00	-19.85	0.00	19.85	1090.28	298.38	707.29	641.74		3.11	-0.27	0.042
133.00	-9.57	-0.99	0.00	-17.35	0.00	17.35	1077.75	292.32	678.84	621.39		3.23	-0.27	0.037
135.00	-9.44	-0.99	0.00	-15.37	0.00	15.37	1066.28	286.93	654.04	603.36		3.35	-0.28	0.034
140.00	-9.12	-0.99	0.00	-10.41	0.00	10.41	1036.22	273.46	594.05	558.63		3.65	-0.29	0.027
143.00	-5.47	-0.68	0.00	-7.45	0.00	7.45	1017.23	265.37	559.44	532.07		3.83	-0.30	0.019
145.00	-5.36	-0.68	0.00	-6.09	0.00	6.09	1004.18	259.98	536.95	514.49		3.96	-0.30	0.017
150.00	-5.10	-0.68	0.00	-2.70	0.00	2.70	970.18	246.51	482.73	471.12		4.27	-0.30	0.011
154.00	-0.04	0.00	0.00	0.00	0.00	0.00	941.55	235.73	441.44	437.06		4.53	-0.31	0.000
155.00	0.00	0.00	0.00	0.00	0.00	0.00	934.20	233.03	431.40	428.65		4.59	-0.31	0.000

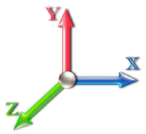
Wind Loading - Shaft

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 31	

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	6.632	7.29	284.35	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	6.632	7.29	278.32	0.730	0.000	5.00	25.481	18.60	135.7	0.0	1412.5
10.00		1.00	0.85	6.632	7.29	272.30	0.730	0.000	5.00	24.935	18.20	132.8	0.0	1382.0
15.00		1.00	0.85	6.632	7.29	266.27	0.730	0.000	5.00	24.389	17.80	129.9	0.0	1351.5
20.00		1.00	0.90	7.037	7.74	268.07	0.730	0.000	5.00	23.843	17.41	134.7	0.0	1321.0
25.00		1.00	0.95	7.375	8.11	268.08	0.730	0.000	5.00	23.297	17.01	138.0	0.0	1290.6
30.00		1.00	0.98	7.664	8.43	266.80	0.730	0.000	5.00	22.752	16.61	140.0	0.0	1260.1
35.00		1.00	1.01	7.916	8.71	264.58	0.730	0.000	5.00	22.206	16.21	141.2	0.0	1229.6
40.00		1.00	1.04	8.142	8.96	261.65	0.730	0.000	5.00	21.660	15.81	141.6	0.0	1199.1
44.75	Bot - Section 2	1.00	1.07	8.337	9.17	258.34	0.730	0.000	4.75	20.071	14.65	134.4	0.0	1110.9
45.00		1.00	1.07	8.347	9.18	258.15	0.730	0.000	0.25	1.059	0.77	7.1	0.0	108.0
50.00		1.00	1.09	8.534	9.39	254.19	0.730	0.000	5.00	20.885	15.25	143.1	0.0	2130.2
51.00	Top - Section 1	1.00	1.10	8.569	9.43	253.35	0.730	0.000	1.00	4.112	3.00	28.3	0.0	419.2
55.00		1.00	1.12	8.707	9.58	253.86	0.730	0.000	4.00	16.228	11.85	113.5	0.0	770.6
60.00		1.00	1.14	8.868	9.75	249.23	0.730	0.000	5.00	19.794	14.45	140.9	0.0	939.8
65.00		1.00	1.16	9.018	9.92	244.31	0.730	0.000	5.00	19.248	14.05	139.4	0.0	913.6
70.00		1.00	1.17	9.160	10.08	239.14	0.730	0.000	5.00	18.702	13.65	137.6	0.0	887.5
75.00		1.00	1.19	9.294	10.22	233.75	0.730	0.000	5.00	18.156	13.25	135.5	0.0	861.4
80.00		1.00	1.21	9.421	10.36	228.16	0.730	0.000	5.00	17.610	12.86	133.2	0.0	835.3
85.00	Appurtenance(s)	1.00	1.22	9.542	10.50	222.39	0.730	0.000	5.00	17.064	12.46	130.8	0.0	809.1
90.00		1.00	1.24	9.658	10.62	216.46	0.730	0.000	5.00	16.519	12.06	128.1	0.0	783.0
90.75	Bot - Section 3	1.00	1.24	9.675	10.64	215.56	0.730	0.000	0.75	2.431	1.77	18.9	0.0	115.2
95.00		1.00	1.25	9.768	10.75	210.38	0.730	0.000	4.25	13.722	10.02	107.6	0.0	1076.7
95.75	Top - Section 2	1.00	1.25	9.785	10.76	209.46	0.730	0.000	0.75	2.381	1.74	18.7	0.0	186.7
100.00	Appurtenance(s)	1.00	1.27	9.874	10.86	207.02	0.730	0.000	4.25	13.258	9.68	105.1	0.0	420.2
105.00		1.00	1.28	9.976	10.97	200.69	0.730	0.000	5.00	15.092	11.02	120.9	0.0	478.2
110.00		1.00	1.29	10.075	11.08	194.25	0.730	0.000	5.00	14.547	10.62	117.7	0.0	460.8
115.00		1.00	1.30	10.169	11.19	187.69	0.730	0.000	5.00	14.001	10.22	114.3	0.0	443.4
120.00		1.00	1.32	10.261	11.29	181.04	0.730	0.000	5.00	13.455	9.82	110.9	0.0	425.9
125.00		1.00	1.33	10.349	11.38	174.29	0.730	0.000	5.00	12.909	9.42	107.3	0.0	408.5
127.00	Bot - Section 4	1.00	1.33	10.384	11.42	171.56	0.730	0.000	2.00	5.011	3.66	41.8	0.0	158.5
130.00		1.00	1.34	10.435	11.48	167.45	0.730	0.000	3.00	7.448	5.44	62.4	0.0	409.7
130.75	Top - Section 3	1.00	1.34	10.448	11.49	166.42	0.730	0.000	0.75	1.831	1.34	15.4	0.0	100.7
133.00	Appurtenance(s)	1.00	1.34	10.485	11.53	165.51	0.730	0.000	2.25	5.420	3.96	45.6	0.0	128.8
135.00		1.00	1.35	10.518	11.57	162.73	0.730	0.000	2.00	4.725	3.45	39.9	0.0	112.3
140.00		1.00	1.36	10.599	11.66	155.74	0.730	0.000	5.00	11.430	8.34	97.3	0.0	271.6
143.00	Appurtenance(s)	1.00	1.36	10.647	11.71	151.50	0.730	0.000	3.00	6.596	4.82	56.4	0.0	156.7
145.00		1.00	1.37	10.678	11.75	148.67	0.730	0.000	2.00	4.288	3.13	36.8	0.0	101.9
150.00		1.00	1.38	10.754	11.83	141.52	0.730	0.000	5.00	10.338	7.55	89.3	0.0	245.5
154.00	Appurtenance(s)	1.00	1.39	10.814	11.90	135.76	0.730	0.000	4.00	7.878	5.75	68.4	0.0	187.0
155.00		1.00	1.39	10.829	11.91	134.31	0.730	0.000	1.00	1.915	1.40	16.7	0.0	45.4
								Totals:	**155.00**			**3,856.9**		**26,948.9**

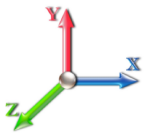
Discrete Appurtenance Forces

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 32	

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	154.00	Ericsson 4460 B25 + B66	3	10.814	11.896	0.80	0.90	5.14	312.00	0.000	0.000	61.17	0.00	0.00
2	154.00	Ericsson Air 6419 B41	3	10.814	11.896	0.64	0.90	11.02	205.50	0.000	0.000	131.12	0.00	0.00
3	154.00	Commscope VV-65B-R1	3	10.814	11.896	0.67	0.90	15.82	84.00	0.000	0.000	188.24	0.00	0.00
4	154.00	Mount Mod	3	10.814	11.896	1.00	1.00	66.75	2735.16	0.000	0.000	794.03	0.00	0.00
5	154.00	T-Arm	3	10.814	11.896	0.56	0.75	13.72	1257.30	0.000	0.000	163.20	0.00	0.00
6	154.00	RFS -	3	10.814	11.896	0.65	0.90	39.35	384.00	0.000	0.000	468.05	0.00	0.00
7	154.00	Ericsson 4449 B71 + B85	3	10.814	11.896	0.81	0.90	4.74	225.00	0.000	0.000	56.37	0.00	0.00
8	143.00	Cci - OPA65R-BU6DA	3	10.647	11.711	0.54	0.75	20.57	238.20	0.000	0.000	240.95	0.00	0.00
9	143.00	Ericsson - AIR6449 B77D	3	10.647	11.711	0.63	0.75	7.81	264.00	0.000	0.000	91.42	0.00	0.00
10	143.00	Ericsson - RRUS 4478	3	10.647	11.711	0.61	0.75	3.68	178.20	0.000	0.000	43.11	0.00	0.00
11	143.00	Cci - TPA65R-BU6DA-K	3	10.647	11.711	0.54	0.75	20.57	207.00	0.000	0.000	240.95	0.00	0.00
12	143.00	RMQLP-4120-H10 + 12	1	10.647	11.711	1.00	1.00	37.80	2400.00	0.000	0.000	442.69	0.00	0.00
13	143.00	Ericsson - RRUS 8843 B2	3	10.647	11.711	0.54	0.75	2.66	145.20	0.000	0.000	31.11	0.00	0.00
14	143.00	Ericsson - RRUS 4449	3	10.647	11.711	0.68	0.75	3.32	219.00	0.000	0.000	38.89	0.00	0.00
15	143.00	Raycap -	2	10.647	11.711	1.01	0.75	4.42	65.60	0.000	0.000	51.79	0.00	0.00
16	133.00	T-Arm	3	10.485	11.534	0.56	0.75	13.72	1257.30	0.000	0.000	158.24	0.00	0.00
17	133.00	Rfs Celwave -	2	10.485	11.534	0.57	0.80	5.45	88.00	0.000	0.000	62.89	0.00	0.00
18	133.00	Samsung - RF4440d-13A	3	10.485	11.534	0.64	0.80	3.59	210.99	0.000	0.000	41.41	0.00	0.00
19	133.00	Samsung - RF4439d-25A	3	10.485	11.534	0.67	0.80	3.77	224.10	0.000	0.000	43.48	0.00	0.00
20	133.00	Amphenol -	6	10.485	11.534	1.20	0.80	31.18	126.00	0.000	0.000	359.58	0.00	0.00
21	133.00	Andrew - SBNHH-1D65B	6	10.485	11.534	0.66	0.80	32.51	240.00	0.000	0.000	374.96	0.00	0.00
22	133.00	Samsung - MT6407-77A	3	10.485	11.534	0.60	0.80	8.44	238.20	0.000	0.000	97.37	0.00	0.00
23	100.00	JMA Wireless -	3	9.874	10.862	0.55	0.75	20.51	193.50	0.000	0.000	222.83	0.00	0.00
24	100.00	Fujitsu - TA08025-B605	3	9.874	10.862	0.60	0.75	3.53	224.88	0.000	0.000	38.32	0.00	0.00
25	100.00	Fujitsu - TA08025-B604	3	9.874	10.862	0.57	0.75	3.35	191.79	0.000	0.000	36.40	0.00	0.00
26	100.00	Raycap -	1	9.874	10.862	0.58	0.75	1.18	21.85	0.000	0.000	12.77	0.00	0.00
27	100.00	Platform w/ Handrail	1	9.874	10.862	1.00	1.00	22.00	1727.00	0.000	0.000	238.96	0.00	0.00
28	85.00	T-Arm	1	9.542	10.497	1.00	1.00	8.13	419.10	0.000	0.000	85.34	0.00	0.00
29	85.00	Pipe Mount	2	9.542	10.497	1.00	1.00	10.00	120.00	0.000	0.000	104.97	0.00	0.00
30	85.00	SP4-4.7NS RD4	1	9.542	10.497	1.00	1.00	23.14	60.00	0.000	0.000	242.89	0.00	0.00
31	85.00	SD222	2	9.652	10.617	1.00	1.00	10.60	34.00	0.000	4.750	112.54	0.00	534.59
32	85.00	DB408	1	9.652	10.617	1.00	1.00	2.90	17.00	0.000	4.750	30.79	0.00	146.25
							Totals:		**14,313.87**			**5,306.85**		

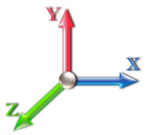
Total Applied Force Summary

Structure:	CT13610-A		**Code:**	TIA-222-H	5/17/2023
Site Name:	ARTEC		**Exposure:**	C	
Height:	155.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	C - Very Dense Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 33

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		135.69	1570.55	0.00	0.00
10.00		132.79	1540.07	0.00	0.00
15.00		129.88	1509.59	0.00	0.00
20.00		134.72	1479.11	0.00	0.00
25.00		137.97	1448.63	0.00	0.00
30.00		140.01	1418.15	0.00	0.00
35.00		141.16	1387.67	0.00	0.00
40.00		141.61	1357.19	0.00	0.00
44.75		134.36	1261.09	0.00	0.00
45.00		7.10	115.90	0.00	0.00
50.00		143.12	2288.24	0.00	0.00
51.00		28.29	450.86	0.00	0.00
55.00		113.46	897.08	0.00	0.00
60.00		140.95	1097.83	0.00	0.00
65.00		139.39	1071.71	0.00	0.00
70.00		137.56	1045.58	0.00	0.00
75.00		135.50	1019.45	0.00	0.00
80.00		133.23	993.33	0.00	0.00
85.00	(7) attachments	707.28	1617.30	0.00	680.84
90.00		128.11	925.48	0.00	0.00
90.75		18.88	136.57	0.00	0.00
95.00		107.63	1197.75	0.00	0.00
95.75		18.70	208.10	0.00	0.00
100.00	(11) attachments	654.41	2900.27	0.00	0.00
105.00		120.91	615.16	0.00	0.00
110.00		117.68	597.74	0.00	0.00
115.00		114.33	580.32	0.00	0.00
120.00		110.86	562.91	0.00	0.00
125.00		107.28	545.49	0.00	0.00
127.00		41.78	213.32	0.00	0.00
130.00		62.41	491.84	0.00	0.00
130.75		15.36	121.25	0.00	0.00
133.00	(26) attachments	1183.58	2575.07	0.00	0.00
135.00		39.91	137.74	0.00	0.00
140.00		97.28	335.20	0.00	0.00
143.00	(21) attachments	1237.31	3912.05	0.00	0.00
145.00		36.77	113.29	0.00	0.00
150.00		89.28	274.07	0.00	0.00
154.00	(21) attachments	1930.58	5412.81	0.00	0.00
155.00		16.65	46.76	0.00	0.00
	Totals:	**9,163.79**	**45,472.49**	**0.00**	**680.84**

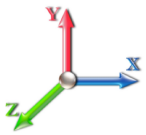
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 34	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	6.632	0.00	1.37
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	6.632	0.00	5.20
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	6.632	0.00	1.37
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	6.632	0.00	5.20
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	6.632	0.00	1.37
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	6.632	0.00	5.20
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	7.037	0.00	1.37
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	7.037	0.00	5.20
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	7.375	0.00	1.37
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	7.375	0.00	5.20
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	7.664	0.00	1.37
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	7.664	0.00	5.20
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	7.916	0.00	1.37
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	7.916	0.00	5.20
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	8.142	0.00	1.37
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	8.142	0.00	5.20
44.75	Safety Cable	Yes	4.75	0.000	0.38	0.15	0.00	0.020	0.000	8.337	0.00	1.30
44.75	Step bolts (ladder)	Yes	4.75	0.000	0.63	0.25	0.00	0.020	0.000	8.337	0.00	4.94
45.00	Safety Cable	Yes	0.25	0.000	0.38	0.01	0.00	0.020	0.000	8.347	0.00	0.07
45.00	Step bolts (ladder)	Yes	0.25	0.000	0.63	0.01	0.00	0.020	0.000	8.347	0.00	0.26
50.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	8.534	0.00	1.37
50.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	8.534	0.00	5.20
51.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.021	0.000	8.569	0.00	0.27
51.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.021	0.000	8.569	0.00	1.04
55.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.021	0.000	8.707	0.00	1.09
55.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.021	0.000	8.707	0.00	4.16
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	8.868	0.00	1.37
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	8.868	0.00	5.20
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	9.018	0.00	1.37
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	9.018	0.00	5.20
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	9.160	0.00	1.37
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	9.160	0.00	5.20
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	9.294	0.00	1.37
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	9.294	0.00	5.20
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	9.421	0.00	1.37
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	9.421	0.00	5.20
85.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	9.542	0.00	1.37
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	9.542	0.00	5.20
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	9.658	0.00	1.37
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	9.658	0.00	5.20
90.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.026	0.000	9.675	0.00	0.20
90.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.026	0.000	9.675	0.00	0.78
95.00	Safety Cable	Yes	4.25	0.000	0.38	0.13	0.00	0.026	0.000	9.768	0.00	1.16
95.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	0.22	0.00	0.026	0.000	9.768	0.00	4.42
95.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.027	0.000	9.785	0.00	0.20
95.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.027	0.000	9.785	0.00	0.78
100.00	Safety Cable	Yes	4.25	0.000	0.38	0.13	0.00	0.027	0.000	9.874	0.00	1.16

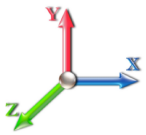
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 35	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
100.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	0.22	0.00	0.027	0.000	9.874	0.00	4.42
105.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	9.976	0.00	1.37
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	9.976	0.00	5.20
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.029	0.000	10.075	0.00	1.37
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.029	0.000	10.075	0.00	5.20
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	10.169	0.00	1.37
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	10.169	0.00	5.20
120.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.031	0.000	10.261	0.00	1.37
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.031	0.000	10.261	0.00	5.20
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	10.349	0.00	1.37
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	10.349	0.00	5.20
127.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.034	0.000	10.384	0.00	0.55
127.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.034	0.000	10.384	0.00	2.08
130.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.034	0.000	10.435	0.00	0.82
130.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.034	0.000	10.435	0.00	3.12
130.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.035	0.000	10.448	0.00	0.20
130.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.035	0.000	10.448	0.00	0.78
133.00	Safety Cable	Yes	2.25	0.000	0.38	0.07	0.00	0.035	0.000	10.485	0.00	0.61
133.00	Step bolts (ladder)	Yes	2.25	0.000	0.63	0.12	0.00	0.035	0.000	10.485	0.00	2.34
135.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.036	0.000	10.518	0.00	0.55
135.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.036	0.000	10.518	0.00	2.08
140.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.037	0.000	10.599	0.00	1.37
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.037	0.000	10.599	0.00	5.20
143.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.038	0.000	10.647	0.00	0.82
143.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.038	0.000	10.647	0.00	3.12
145.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.039	0.000	10.678	0.00	0.55
145.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.039	0.000	10.678	0.00	2.08
150.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.041	0.000	10.754	0.00	1.37
150.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.041	0.000	10.754	0.00	5.20
154.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.043	0.000	10.814	0.00	1.09
154.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.043	0.000	10.814	0.00	4.16
155.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.044	0.000	10.829	0.00	0.27
155.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.044	0.000	10.829	0.00	1.04
										Totals:	**0.0**	**203.5**

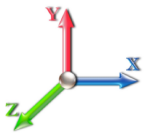
Calculated Forces

Structure:	CT13610-A	**Code:**	TIA-222-H	5/17/2023	
Site Name:	ARTEC	**Exposure:**	C		
Height:	155.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 36	

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	-45.47	-9.18	0.00	-1031.0	0.00	1031.06	5604.23	1472.71	7384.18	6972.80	0.00	0.000	0.000	0.156
5.00	-43.89	-9.07	0.00	-985.17	0.00	985.17	5529.79	1441.27	7072.26	6732.24	0.02	-0.037	0.000	0.154
10.00	-42.35	-8.96	0.00	-939.82	0.00	939.82	5453.38	1409.83	6767.07	6493.32	0.08	-0.075	0.000	0.153
15.00	-40.83	-8.86	0.00	-894.99	0.00	894.99	5374.99	1378.39	6468.61	6256.19	0.18	-0.113	0.000	0.151
20.00	-39.35	-8.75	0.00	-850.70	0.00	850.70	5294.63	1346.95	6176.88	6021.01	0.32	-0.152	0.000	0.149
25.00	-37.89	-8.63	0.00	-806.95	0.00	806.95	5212.30	1315.51	5891.88	5787.94	0.50	-0.192	0.000	0.147
30.00	-36.47	-8.51	0.00	-763.79	0.00	763.79	5128.00	1284.07	5613.62	5557.14	0.72	-0.233	0.000	0.145
35.00	-35.08	-8.39	0.00	-721.22	0.00	721.22	5041.73	1252.63	5342.08	5328.76	0.99	-0.274	0.000	0.142
40.00	-33.71	-8.27	0.00	-679.26	0.00	679.26	4953.48	1221.18	5077.28	5102.98	1.30	-0.316	0.000	0.140
44.75	-32.45	-8.14	0.00	-640.00	0.00	640.00	4867.82	1191.32	4831.95	4891.01	1.63	-0.356	0.000	0.138
45.00	-32.33	-8.14	0.00	-637.96	0.00	637.96	4863.26	1189.74	4819.20	4879.93	1.65	-0.358	0.000	0.137
50.00	-30.04	-8.00	0.00	-597.25	0.00	597.25	4771.07	1158.30	4567.86	4659.79	2.05	-0.401	0.000	0.135
51.00	-29.59	-7.98	0.00	-589.25	0.00	589.25	3927.98	1004.41	4007.19	3886.53	2.13	-0.410	0.000	0.159
55.00	-28.68	-7.88	0.00	-557.34	0.00	557.34	3872.44	982.85	3837.01	3748.69	2.49	-0.445	0.000	0.156
60.00	-27.58	-7.75	0.00	-517.95	0.00	517.95	3801.23	955.91	3629.48	3578.07	2.99	-0.494	0.000	0.152
65.00	-26.50	-7.63	0.00	-479.19	0.00	479.19	3728.06	928.96	3427.72	3409.45	3.53	-0.543	0.000	0.148
70.00	-25.45	-7.50	0.00	-441.06	0.00	441.06	3652.91	902.01	3231.73	3243.00	4.13	-0.593	0.000	0.143
75.00	-24.43	-7.37	0.00	-403.56	0.00	403.56	3575.79	875.06	3041.50	3078.88	4.77	-0.642	0.000	0.138
80.00	-23.43	-7.25	0.00	-366.68	0.00	366.68	3496.70	848.11	2857.05	2917.23	5.47	-0.692	0.000	0.132
85.00	-21.82	-6.54	0.00	-329.75	0.00	329.75	3415.64	821.16	2678.37	2758.23	6.22	-0.741	0.000	0.126
90.00	-20.89	-6.41	0.00	-297.04	0.00	297.04	3332.60	794.21	2505.45	2602.02	7.03	-0.790	0.000	0.120
90.75	-20.75	-6.40	0.00	-292.23	0.00	292.23	3319.98	790.17	2480.01	2578.84	7.15	-0.798	0.000	0.120
95.00	-19.55	-6.28	0.00	-265.04	0.00	265.04	3247.59	767.26	2338.31	2448.77	7.88	-0.839	0.000	0.114
95.75	-19.34	-6.27	0.00	-260.32	0.00	260.32	1911.44	517.52	1595.71	1463.25	8.01	-0.847	0.000	0.188
100.00	-16.45	-5.59	0.00	-233.68	0.00	233.68	1878.47	502.25	1502.93	1395.29	8.79	-0.887	0.000	0.176
105.00	-15.83	-5.47	0.00	-205.75	0.00	205.75	1837.85	484.28	1397.33	1315.95	9.75	-0.954	0.000	0.165
110.00	-15.23	-5.36	0.00	-178.38	0.00	178.38	1795.26	466.31	1295.57	1237.43	10.79	-1.019	0.000	0.153
115.00	-14.64	-5.25	0.00	-151.56	0.00	151.56	1750.70	448.35	1197.66	1159.88	11.89	-1.081	0.000	0.139
120.00	-14.08	-5.15	0.00	-125.29	0.00	125.29	1704.17	430.38	1103.60	1083.46	13.05	-1.140	0.000	0.124
125.00	-13.53	-5.04	0.00	-99.56	0.00	99.56	1655.66	412.41	1013.39	1008.33	14.27	-1.194	0.000	0.107
127.00	-13.32	-5.00	0.00	-89.49	0.00	89.49	1635.71	405.23	978.38	978.67	14.78	-1.214	0.000	0.100
130.00	-12.82	-4.93	0.00	-74.50	0.00	74.50	1605.19	394.45	927.02	934.64	15.55	-1.243	0.000	0.088
130.75	-12.70	-4.91	0.00	-70.81	0.00	70.81	1090.28	298.38	707.29	641.74	15.75	-1.250	0.000	0.122
133.00	-10.15	-3.68	0.00	-59.76	0.00	59.76	1077.75	292.32	678.84	621.39	16.34	-1.268	0.000	0.106
135.00	-10.01	-3.64	0.00	-52.41	0.00	52.41	1066.28	286.93	654.04	603.36	16.88	-1.288	0.000	0.096
140.00	-9.68	-3.54	0.00	-34.22	0.00	34.22	1036.22	273.46	594.05	558.63	18.25	-1.327	0.000	0.071
143.00	-5.80	-2.21	0.00	-23.61	0.00	23.61	1017.23	265.37	559.44	532.07	19.09	-1.345	0.000	0.050
145.00	-5.68	-2.17	0.00	-19.19	0.00	19.19	1004.18	259.98	536.95	514.49	19.66	-1.355	0.000	0.043
150.00	-5.41	-2.08	0.00	-8.33	0.00	8.33	970.18	246.51	482.73	471.12	21.08	-1.372	0.000	0.023
154.00	-0.05	-0.02	0.00	-0.02	0.00	0.02	941.55	235.73	441.44	437.06	22.24	-1.377	0.000	0.000
155.00	0.00	-0.02	0.00	0.00	0.00	0.00	934.20	233.03	431.40	428.65	22.53	-1.377	0.000	0.000

Final Analysis Summary

Structure:	CT13610-A		**Code:**	TIA-222-H	5/17/2023
Site Name:	ARTEC		**Exposure:**	C	
Height:	155.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	C - Very Dense Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 37

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 121 mph Wind	41.7	0.00	54.50	0.00	0.00	4711.34
0.9D + 1.0W 121 mph Wind	41.7	0.00	40.86	0.00	0.00	4664.77
1.2D + 1.0Di + 1.0Wi 50 mph Wind	10.6	0.00	83.63	0.00	0.00	1193.05
1.2D + 1.0Ev + 1.0Eh	1.2	0.00	56.20	0.00	0.00	180.66
0.9D + 1.0Ev + 1.0Eh	1.2	0.00	42.52	0.00	0.00	179.19
1.0D + 1.0W 60 mph Wind	9.2	0.00	45.47	0.00	0.00	1031.06

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 121 mph Wind	-21.38	-28.71	0.00	-1192.4	0.00	-1192.4	1911.44	517.52	1595.71	1463.25	95.75	0.829
0.9D + 1.0W 121 mph Wind	-15.60	-28.30	0.00	-1172.1	0.00	-1172.1	1911.44	517.52	1595.71	1463.25	95.75	0.812
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-45.74	-7.23	0.00	-300.80	0.00	-300.80	1911.44	517.52	1595.71	1463.25	95.75	0.230
1.2D + 1.0Ev + 1.0Eh	-24.01	-1.22	0.00	-60.04	0.00	-60.04	1911.44	517.52	1595.71	1463.25	95.75	0.054
0.9D + 1.0Ev + 1.0Eh	-18.17	-1.21	0.00	-59.53	0.00	-59.53	1911.44	517.52	1595.71	1463.25	95.75	0.050
1.0D + 1.0W 60 mph Wind	-19.34	-6.27	0.00	-260.32	0.00	-260.32	1911.44	517.52	1595.71	1463.25	95.75	0.188

Base Plate Summary

Structure:	CT13610-A		**Code:**	TIA-222-H	5/17/2023
Site Name:	ARTEC		**Exposure:**	C	
Height:	155.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	C - Very Dense Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 38

Reactions

Original Design

Moment (kip-ft):	5060.00
Axial (kip):	30.00
Shear (kip):	45.00

Analysis (1.2D + 1.0W)

Moment (kip-ft):	4711.34
Axial (kip):	54.50
Shear (kip):	41.74

Base Plate

Yield (ksi):	50.00
Width (in):	70.00
Style:	Clipped
Polygon Sides:	0.00
Clip Length (in):	15.00
Effective Len (in):	7.89
Moment (kip-in):	502.09
Allow Stress (ksi):	67.50
Applied Stress (ksi):	42.52
Stress Ratio:	0.63

Anchor Bolts

Bolt Circle:	68.00
Number Bolts:	24.00
Bolt Type:	2.25" 18J
Bolt Diameter (in):	2.25
Yield (ksi):	75.00
Ultimate (ksi):	100.00
Arrangement:	Clustered
Cluster Dist (in):	6.00
Start Angle (deg):	45.00

Compression

Force (kip):	140.84
Allowable (kip):	268.39
Ratio:	0.53

Tension

Force (kip):	136.30
Allowable (kip):	243.75
Ratio:	0.56

Monopole Mat Foundation Design

				Date
				5/16/2023
Customer Name:	T-Mobile	**TIA Standard:**	TIA-222-H
Site Name:		**Structure Height (Ft.):**	155
Site Number:	CT13610-A	**Engineer Name:**	SBA Engineer
Engr. Number:		**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

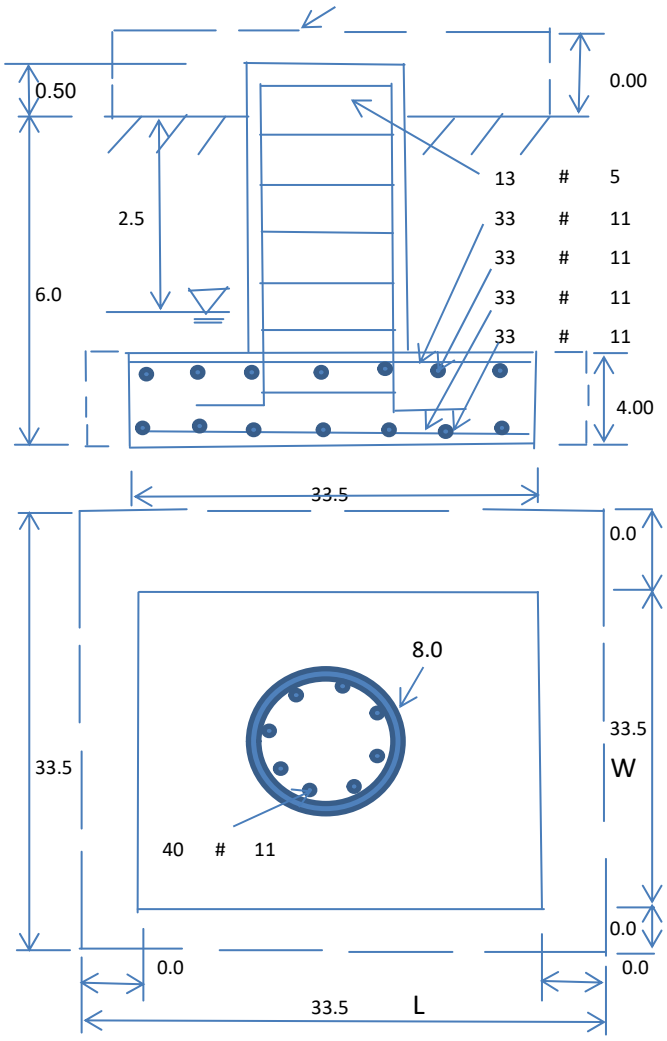
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	54.5	Shear Force (Kips):	41.7
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4711.3
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	8.0	Depth of Base BG (ft.):	6.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	4.00
Length of Pad (ft.):	33.5	Width of Pad (ft.):	33.5
Final Length of pad (ft)	33.5	Final width of pad (ft):	33.5



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	40	
Vertical Rebar Size #:	11	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	40	Tie Spacing (in):	6.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	11	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	33	Qty. of Rebar in Pad (W):	33	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	33	Qty. of Rebar in Pad (W):	33	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

Soil Unit Weight (pcf):	115.0	Soil Buoyant Weight:	52.6	Pcf		
Water Table B.G.S. (ft):	2.5	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	16000	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.:	No	Reduction factor on the maximum soil bearing pressure:			1.00	

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

Total Dry Soil Volume (cu. Ft.):	2143.97	Total Dry Soil Weight (Kips):	246.56
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	246.56	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	686.79	Total Dry Concrete Weight (Kips):	103.02
Total Buoyant Concrete Volume (cu. Ft.):	3927.88	Total Buoyant Concrete Weight (Kips):	344.08
Total Effective Concrete Weight (Kips):	447.10	Total Vertical Load on Base (Kips):	748.16

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	1517	<	Allowable Factored Soil Bearing (psf):	12000	0.13	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	11369.7	>	Design Factored Momont (kips-ft):	4982	0.44	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	2.28	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):	1.56		Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	11470.4	>	Design Factored Moment (Mu, Kips-Ft	4815.6	0.42	OK!
Calculated Shear Capacity (Kips):	912.1	>	Design Factored Shear (Kips):	41.7	0.05	OK!
Calculated Tension Capacity (Tn, Kips):	3369.6	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9515.1	>	Design Factored Axial Load (Pu Kips):	54.5	0.01	OK!
Moment & Axial Strength Combination:	0.42	OK!	Check Tie Spacing (Design/Required):		0.5	OK!
Pier Reinforcement Ratio:	0.009		Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	1463.5	>	One-Way Factored Shear (L-D. Kips):	280.4	0.19	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1463.5	>	One-Way Factored Shear (W-D., Kips):	280.4	0.19	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1397.6	>	One-Way Factored Shear (C-C, Kips):	263.0	0.19	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0029	OK!	Lower Steel Pad Reinf. Ratio (W-Direct	0.0029		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	9916.4	>	Moment at Bottom (L-Dir. K-Ft):	2197.7	0.22	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	9916.4	>	Moment at Bottom (W-Dir. K-Ft):	2197.7	0.22	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	13923.7	>	Moment at Bottom (C-C Dir. K-Ft):	3108.0	0.22	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):	9916.4	>	Moment at the top (L-Dir K-Ft):	700.3	0.07	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	9916.4	>	Moment at the top (W-Dir K-Ft):	700.3	0.07	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	13923.7	>	Moment at the top (C-C Dir. K-Ft):	654.3	0.05	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:						
Moment transferred by punching shear:	1884.5	k-ft.	Max. factored shear stress v_{u_CD}:		3.0	Psi
Max. factored shear stress v_{u_AB}:	7.3	Psi	Factored shear Strength ϕv_n:		164.3	Psi
Max. factored shear stress v_u:	7.3	Psi	Check Usage of Punching Shear Capacity:		0.04	OK!
(4).Check Bending Capacity of the Pad Within the Effective Slab Width:						
Overturning moment to be transferred by flexure:	1413.4	k-ft.	Effective Width for resisting OT moment:		20.0	ft.
Calculated number of Rebar in Effective width:	20		Actual number of Rebar in Effective width:		20	
Steel Pad Moment Capacity (L-Direc. Kips-ft):	6006.7	k-ft.	Check Usage of the Flexure Capacity:		0.24	OK!

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

Antenna Mount Analysis Report

Existing 155-Ft Monopole Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT13610-A-SBA

Customer Site Name: ARTEC

Carrier Name: T-Mobile (App#: 227235, V2)

Carrier Site ID / Name: CT11390G / CT390/TVI Ind. Park_FT

Site Location: 26 Commerce Drive

N. Branford, Connecticut

New Haven County

Latitude: 41.322138

Longitude: -72.773277

Analysis Result:

Max Structural Usage: 97.90% [Pass]

Report Prepared By: Sarath Basamsetti

NOTE: The proposed modifications per TES Project Number: 81048 dated 07/31/2019 have been installed as per the previous modification drawings. The analysis results are void if the proposed modifications are not installed in accordance with the modifications drawings.

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Introduction

The purpose of this report is to summarize the analysis results on the (3) Modified T-Arms at 154.00' elevation to support the proposed antenna configuration. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Mount Drawings	Mount mapping provided by Full Metal Tower Services, dated 04/26/2019
Antenna Loading	SBA, Application #: 227235, v2, dated 05/10/2023
Modification Drawings	TES Project Number: 81048, dated: 07/31/2019

Analysis Criteria

Wind Speed Used in the Analysis: 125 mph (3-Sec. Gust) (Ultimate Wind Speed)
Wind Speed with Ice: 50 mph (3-Sec. Gust) with 1" radial ice concurrent
Service Load Wind Speed: 30 mph +0" Radial ice
Standard/Codes: ANSI/TIA/EIA 222-H/IBC-2021
Exposure Category: C
Risk Category: II
Topographic Category: 1
Crest Height (Ft): 0
Ground Elevation Factor: 0.996

The site is a Risk Category II structure per IBC Table 1604.5. This site does not support emergency communication equipment for first responders such as fire departments, police, hospitals, ambulance services or any of the facilities listed for Risk Categories III and IV. The scope of work detailed in this structural analysis does not include items that are a part of emergency service as the 911 or essential facility service of an emergency response system.

Mount Information

(3) Modified T-Arms at 154.00' elevation.

Final Antenna Configuration

3	RFS APXVAARR24_43-U-NA20
3	Ericsson 4449 B71 + B85
3	Commscope VV-65B-R1
3	Ericsson Air 6419 B41
3	Ericsson 4460 B25 + B66

In addition to the proposed equipment loading, a 500 lb serviceability load was also considered in this analysis in accordance with TIA requirements.

Analysis Results

Our calculations have determined that under design wind load the existing mounts will be structurally adequate to support the proposed antenna configuration. The maximum structural usage is 97.90%, which occurs in the mount pipe. The proposed equipment must be installed as stipulated in the Final Antenna Configuration section of this report. The analysis results are void if the proposed equipment is not installed in accordance with this report.

NOTE: The proposed modifications per TES Project Number: 81048 dated 07/31/2019 have been installed as per the previous modification drawings. The analysis results are void if the proposed modifications are not installed in accordance with the modifications drawings.

Attachments

1. Mount Photos
2. Antenna Placement Diagram
3. Mount Mapping Information
4. Analysis Calculations

Standard Conditions

1. The loading configuration as analyzed in this report is as provided from the customer. Any deviation from this design shall be communicated to TES to verify deviation will not adversely impact the analysis.

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

3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion. The mount analysis is not a condition assessment of the mount.

4. The mount analysis was performed in accordance with the loading provided, and if applicable the modification required to support the additional loading.

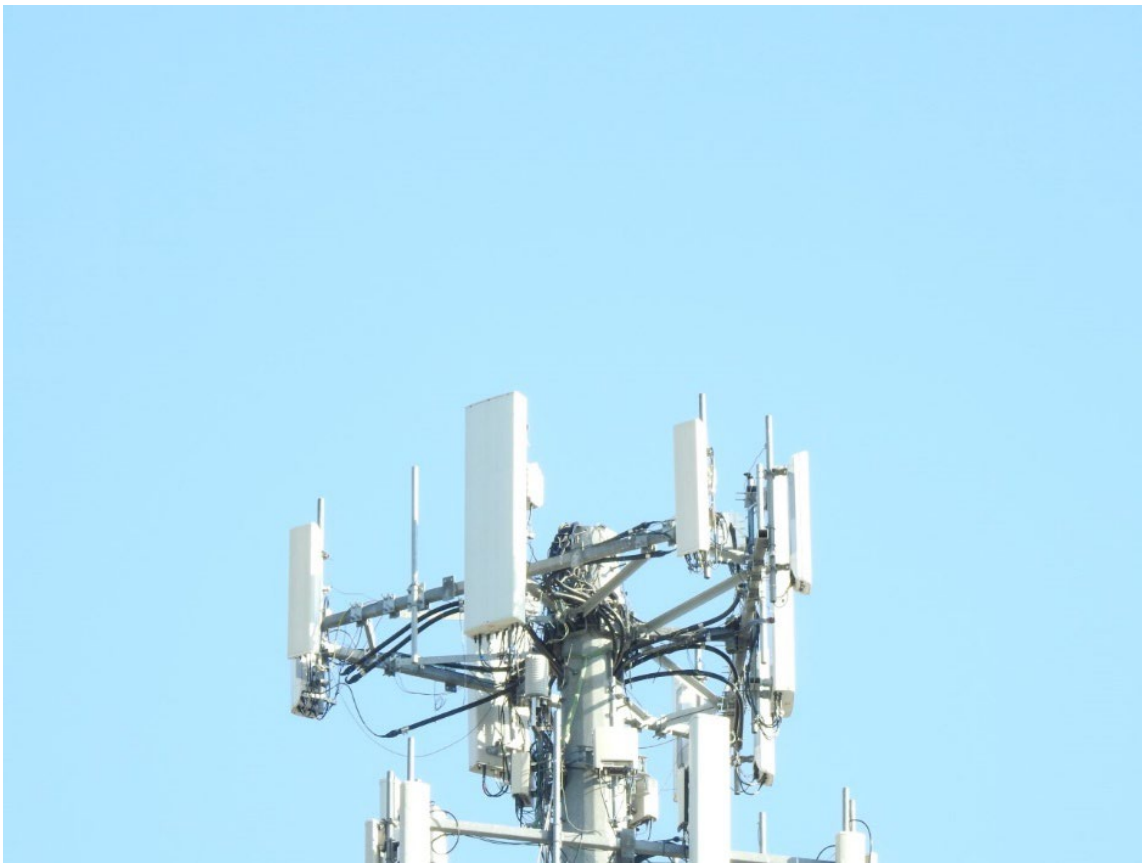
5. If the mount is modified, installation must adhere to the configuration communicated in the modification drawings.

6. The modification drawings are not intended to convey means or methods. These are the responsibility of the installing contractor.

7. Rigging plan review is available if the contractor requires for a construction class IV or other if required. Review fee would apply.

8. The mount modification package was created based upon information provided for the mount loading. The underlying tower is assumed to provide support and sufficient rigidity to support the mount loads as a tower analysis was not part of the mount analysis.

9. TES is not responsible for modifications to climbing facilities unless communicated to TES in writing.



Structure: CT13610-A-SBA - ARTEC

Sector: A

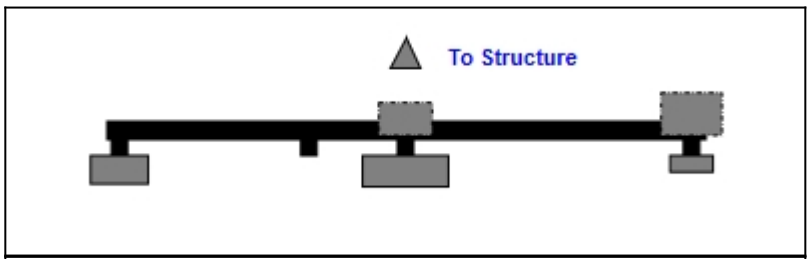
Structure Type: Monopole

Mount Elev: 154.00

5/10/2023

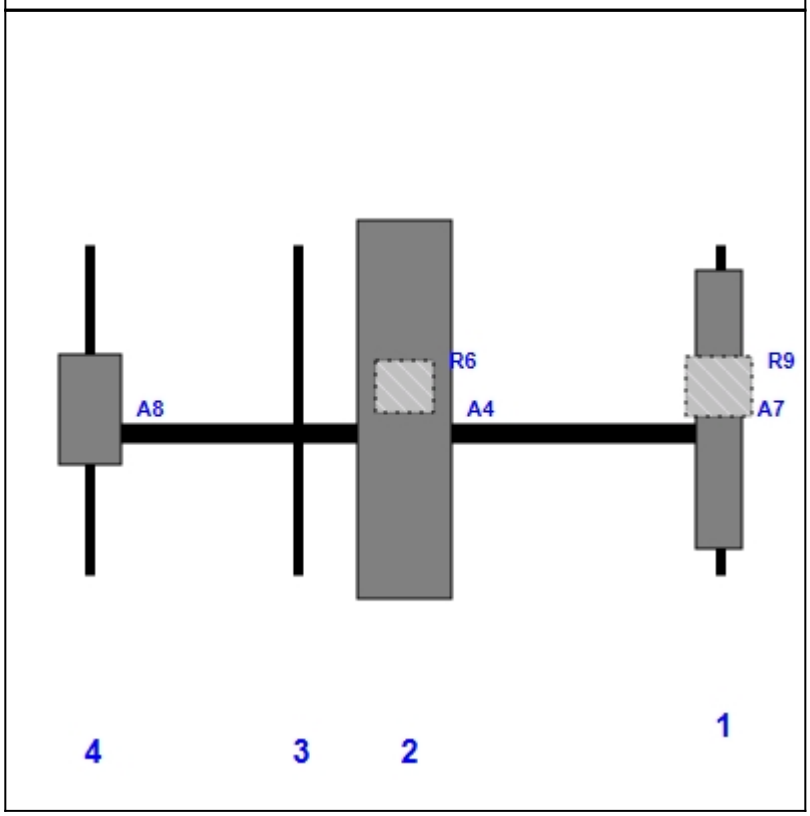
Tower Engineering Solutions

Plan View



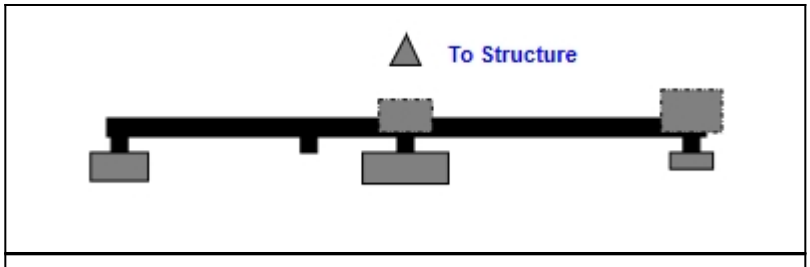
Front View

Looking Toward Structure



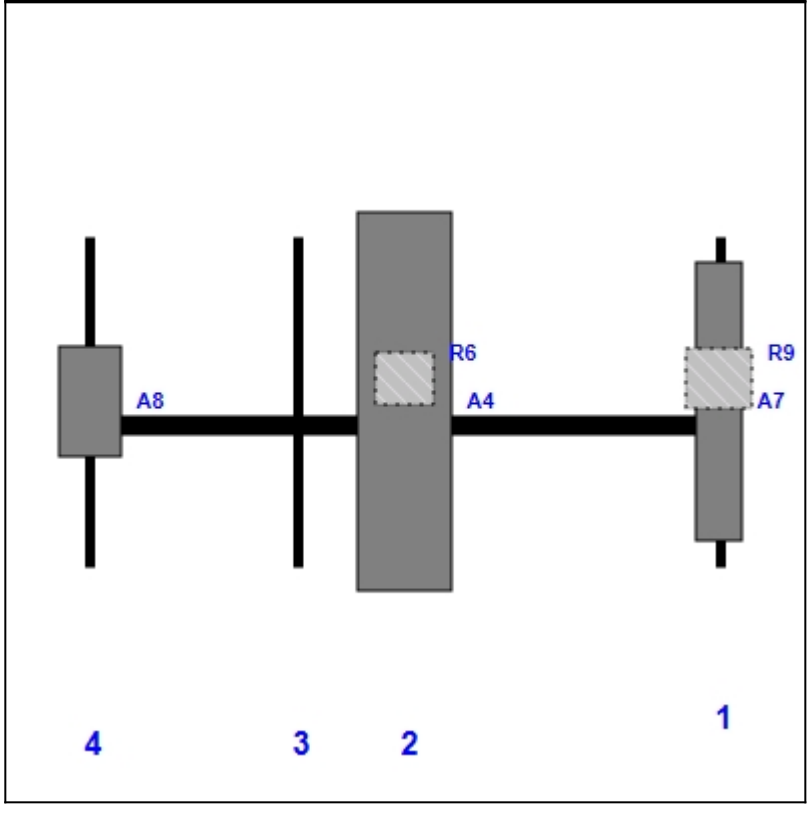
Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A7	VV-65B-R1	70.30	12.00	164.00	1	a	Front	42.00			
R9	4460 B25 + B66	15.10	17.00	164.00	1	a	Behind	36.00			
A4	APXVAARR24_43-U-NA20	95.90	24.00	84.00	2	a	Front	42.00			
R6	4449 B71 + B85	13.10	14.90	84.00	2	a	Behind	36.00			
A8	Air 6419 B41	28.30	16.10	4.00	4	a	Front	42.00			

Plan View



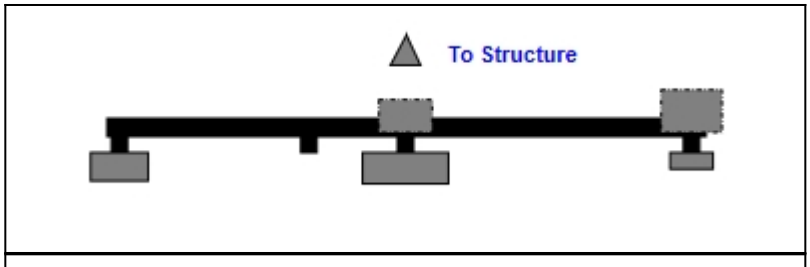
Front View

Looking Toward Structure



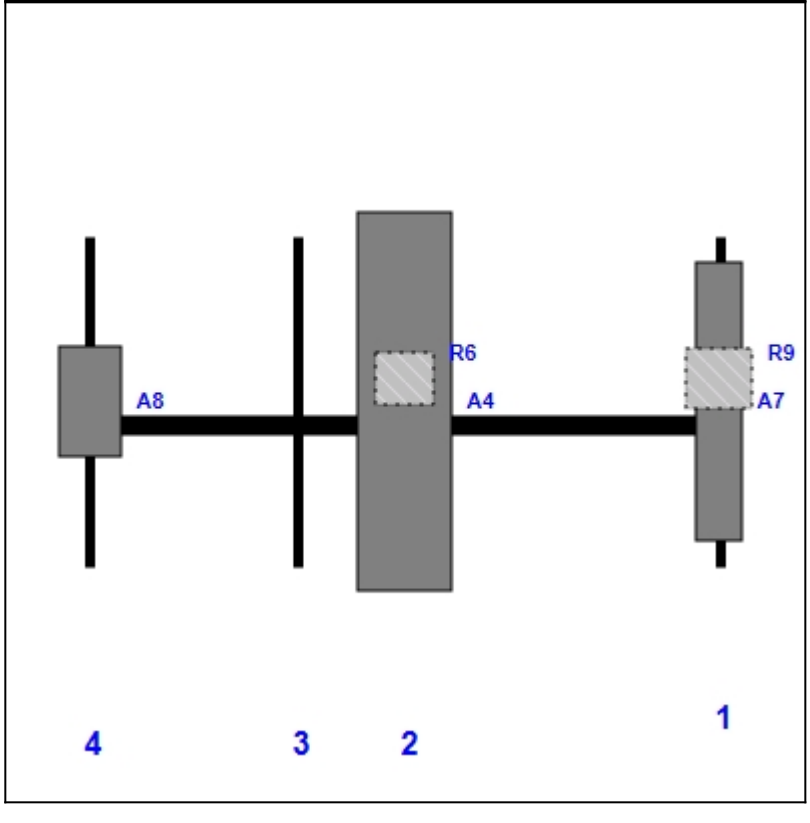
Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A7	VV-65B-R1	70.30	12.00	164.00	1	a	Front	42.00			
R9	4460 B25 + B66	15.10	17.00	164.00	1	a	Behind	36.00			
A4	APXVAARR24_43-U-NA20	95.90	24.00	84.00	2	a	Front	42.00			
R6	4449 B71 + B85	13.10	14.90	84.00	2	a	Behind	36.00			
A8	Air 6419 B41	28.30	16.10	4.00	4	a	Front	42.00			

Plan View



Front View

Looking Toward Structure

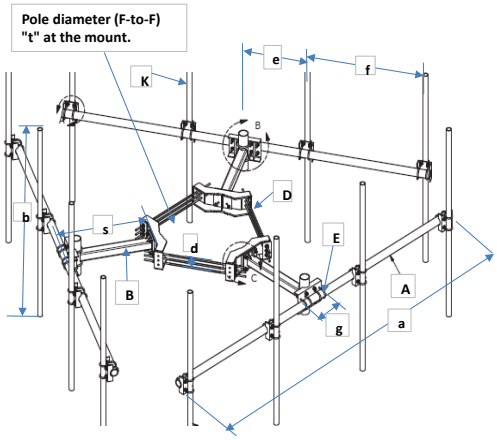


Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A7	VV-65B-R1	70.30	12.00	164.00	1	a	Front	42.00			
R9	4460 B25 + B66	15.10	17.00	164.00	1	a	Behind	36.00			
A4	APXVAARR24_43-U-NA20	95.90	24.00	84.00	2	a	Front	42.00			
R6	4449 B71 + B85	13.10	14.90	84.00	2	a	Behind	36.00			
A8	Air 6419 B41	28.30	16.10	4.00	4	a	Front	42.00			

Antenna Mount Type "MT-Z" Mapping Form (PATENT PENDING)

FCC # Not Posted

Tower Owner:	SBA Communications	**Mapping Date:**	4/26/19
Site Name:	ARTEC	**Structure Type:**	Monopole
Site Number or ID:	CT13610-A-SBA	**Structure Height (Ft.):**	157
Mapping Contractor:	Full Metal Tower Services	**Mount Height (Ft.):**	153.7



Geometries (Unit: inches)

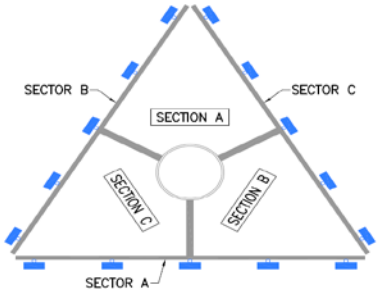
a	168	**e**	N/A	**j**	N/A	**o**	N/A	**s**	48
b	84	**f**	N/A	**k**	N/A	**p**	N/A	**t**	23
c	N/A	**g**	7	**m**	N/A	**q**	N/A	**u ***	48
d	6	**h**	N/A	**n**	N/A	**r**	N/A	**v ***	84

Members/Bolts (Unit: inches) — *** - See Ant. Layout for "u", "v" and member "K" (pipe)**

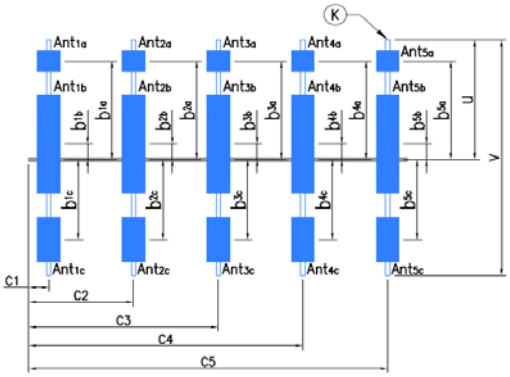
Items	Member	Lx (O.D.)	Ly (I.D.)	T	Items	Member	Lx (O.D.)	Ly (I.D.)	T
A	Tubing 4x4x1/4	4	4	0.25	**F**				
B	Tubing 4x4x1/4	4	4	0.25	**G**				
C					**H**				
D	3/4" Bolt	12			**J**				
E	1/2" Bolt	U-Bolt			**K* (pipe)**	2.375 OD x 0.154 Pipe	2.375	2.067	0.154

Distance from top of main platform member to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.)	N/A
Distance from top of main platform member to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.)	9'

Please enter the infomation below if members can't be found from the drop down lists



Climbing ladder is Located at Section C, at 310° Degree Azimuth



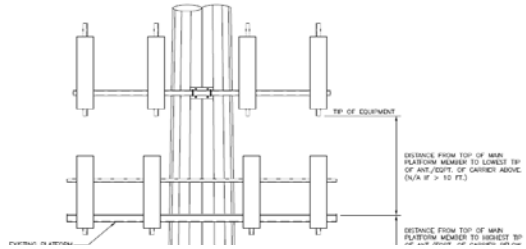
Antenna Layout

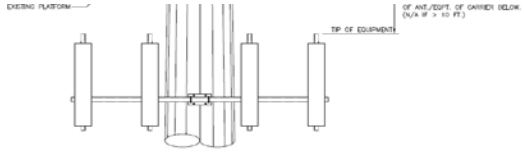
Ants. Items	Enter antenna model. If not labled, enter "Unknown". If no antenna at specified location, enter "N/A". If antennas and the locations are the same on all three sectors, only enter one sector.	Mounting Locations (Unit: inches)							Photos of antennas
	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Vertical Distances"b_{1a}, b_{2a}, b_{3a}, b_{1b}...." (In.)	Horiz. offset (Use "-" if Ant. is inside)	Horiz. offset "C_1, C_2, C_3, C_4, C_5" (in.)	Photo Numbers
Sector A									
Ant_{1a}									
Ant_{1b}	Antenna A	13	9	57	1/2" (2)	+6"	8	6	
Ant_{1c}	TMA A	6	3	8	1/2" (2)	+10"	N/A	6	
Ant_{2a}									
Ant_{2b}	Antenna B	12	8	56	1/2" (1)	+5"	7	164	
Ant_{2c}									
Ant_{3a}									
Ant_{3b}									
Ant_{3c}									
Ant_{4a}									
Ant_{4b}									
Ant_{4c}									
Ant_{5a}									
Ant_{5b}									
Ant_{5c}									
Are Ant same as sector A?		Yes	**Antennas on Sector B are the same as Sector A**						

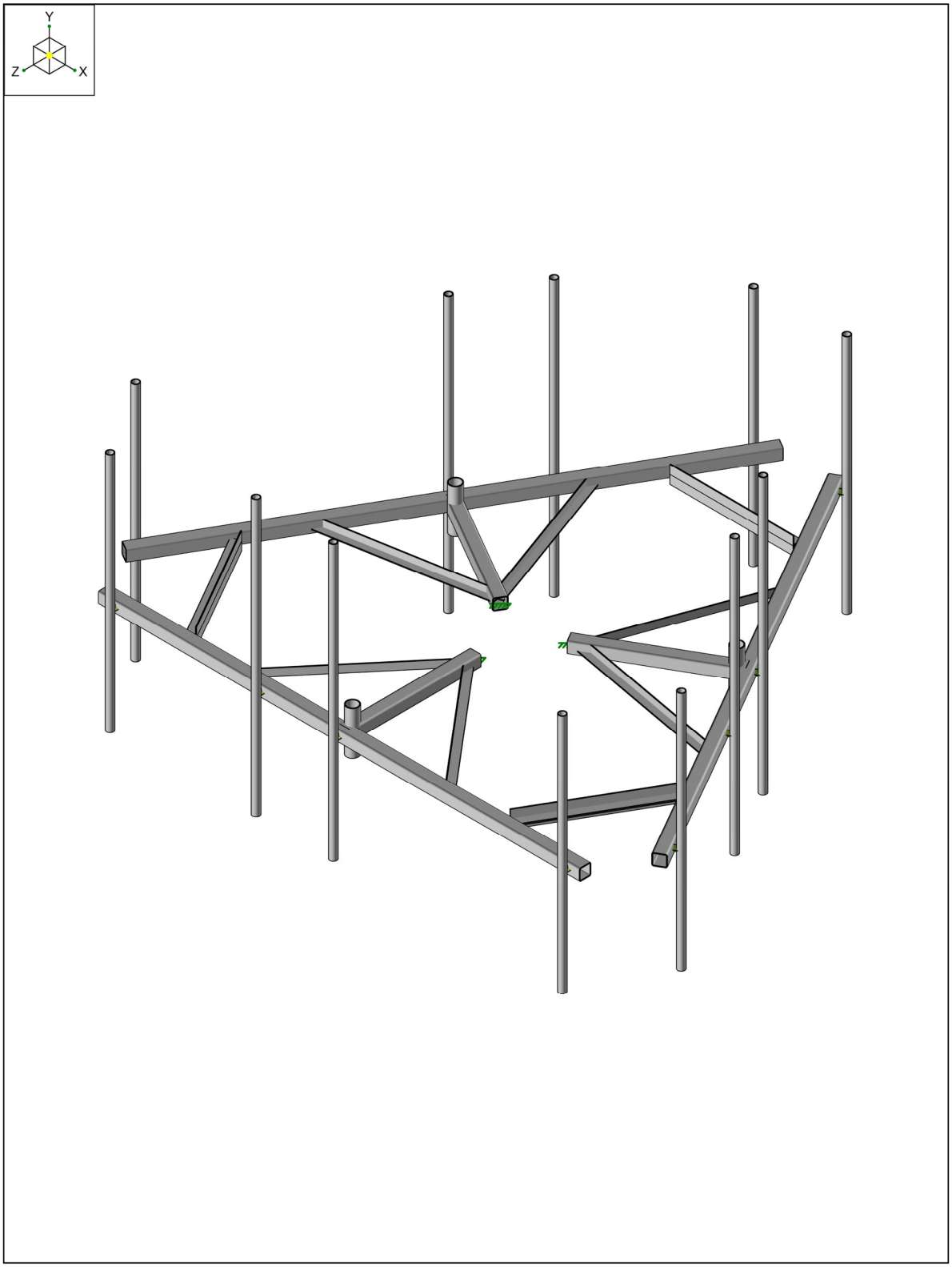
Azimuth (Degree) of Each Sector and Climbing Information

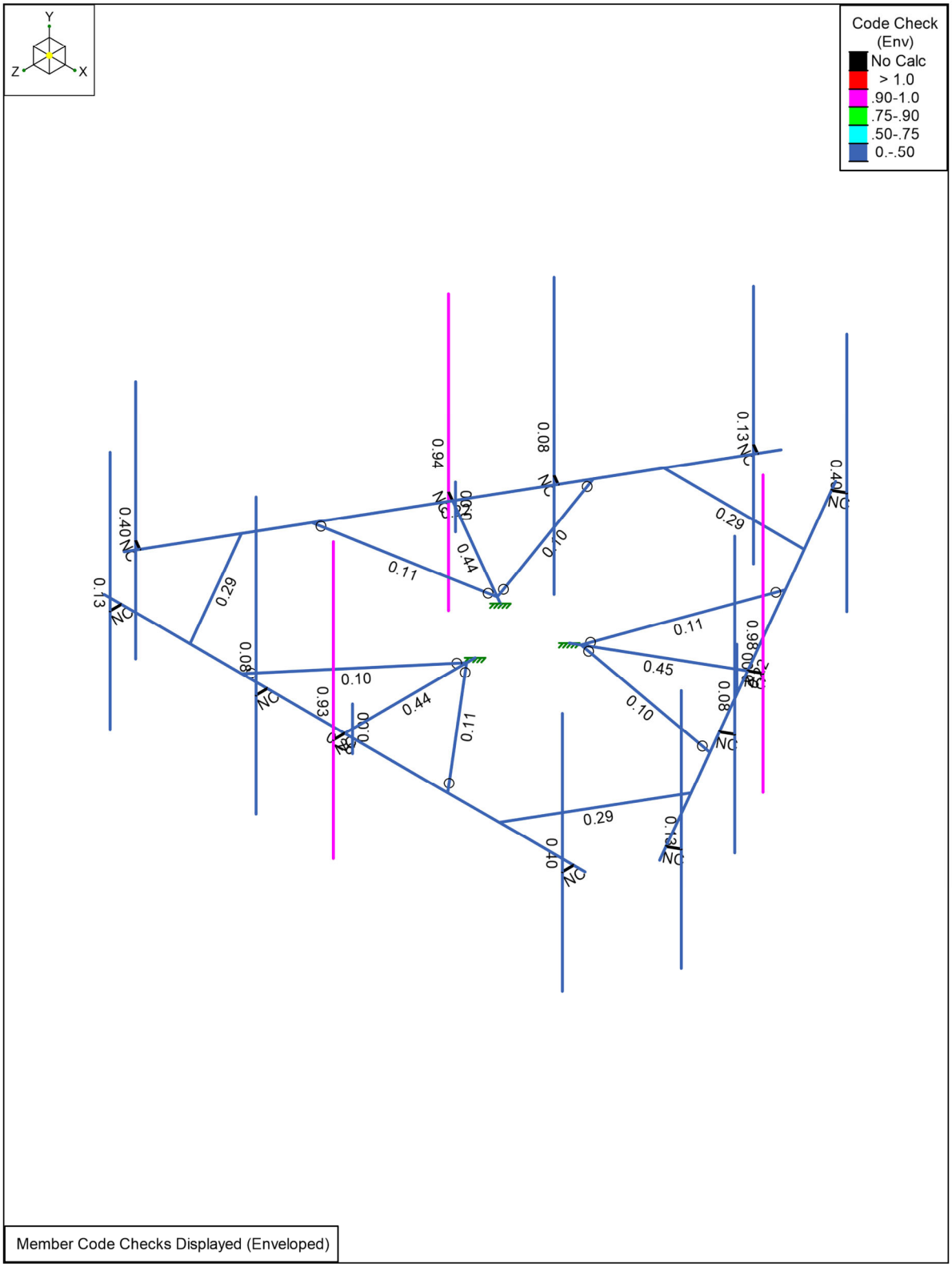
Sector A:	340°	N	Deg	
Sector B:	90°		Deg	
Sector C:	200°		Deg	
Climbing	310°		Deg	Located at Section C
Climbing Facility	Corrosion Type:			No corrosion observed
	Access:			Climbing path was unobstructed.
	Condition:			N/A

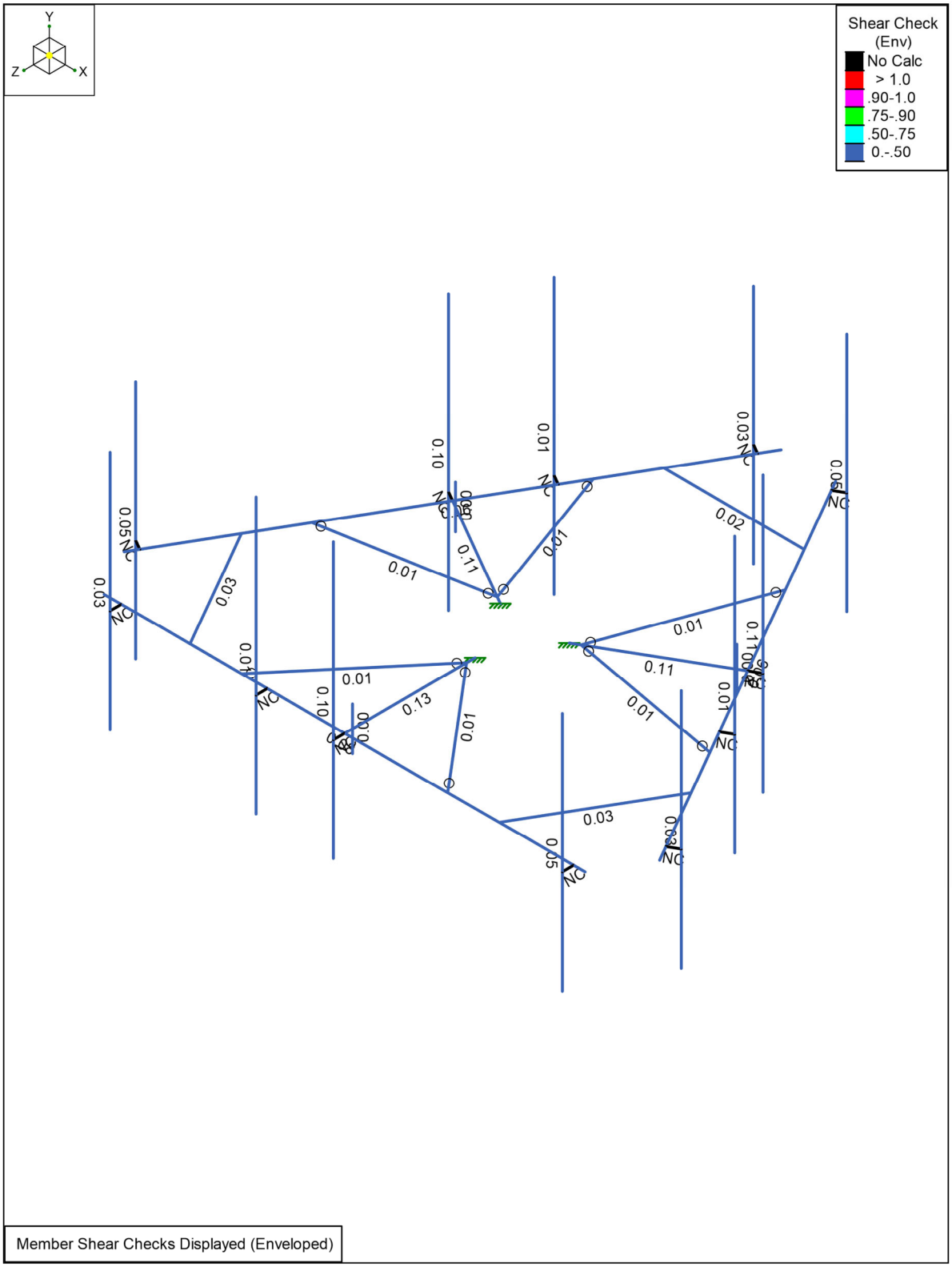
Are Ant same as sector A/B?	Same As A	**Antennas on Sector C are the same as Sector A**




EXISTING PLATFORM
OF ANT./EQPT. OF CARRIER BELOW.
(N/A IF > 10 FT.)
TIP OF EQUIPMENT


Y
Z
X


Y
Z
X
Code Check
(Env)
No Calc
> 1.0
.90-1.0
.75-.90
.50-.75
0.-.50
Member Code Checks Displayed (Enveloped)


Y
Z
X
Shear Check
(Env)
No Calc
> 1.0
.90-1.0
.75-.90
.50-.75
0.-.50
Member Shear Checks Displayed (Enveloped)

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Point	Distributed
1	Antenna D	None				72	
2	Antenna Di	None				72	
3	Antenna Wo (0 Deg)	None				72	
4	Antenna Wo (30 Deg)	None				72	
5	Antenna Wo (60 Deg)	None				72	
6	Antenna Wo (90 Deg)	None				72	
7	Antenna Wo (120 Deg)	None				72	
8	Antenna Wo (150 Deg)	None				72	
9	Antenna Wo (180 Deg)	None				72	
10	Antenna Wo (210 Deg)	None				72	
11	Antenna Wo (240 Deg)	None				72	
12	Antenna Wo (270 Deg)	None				72	
13	Antenna Wo (300 Deg)	None				72	
14	Antenna Wo (330 Deg)	None				72	
15	Antenna Wi (0 Deg)	None				72	
16	Antenna Wi (30 Deg)	None				72	
17	Antenna Wi (60 Deg)	None				72	
18	Antenna Wi (90 Deg)	None				72	
19	Antenna Wi (120 Deg)	None				72	
20	Antenna Wi (150 Deg)	None				72	
21	Antenna Wi (180 Deg)	None				72	
22	Antenna Wi (210 Deg)	None				72	
23	Antenna Wi (240 Deg)	None				72	
24	Antenna Wi (270 Deg)	None				72	
25	Antenna Wi (300 Deg)	None				72	
26	Antenna Wi (330 Deg)	None				72	
27	Antenna Wm (0 Deg)	None				72	
28	Antenna Wm (30 Deg)	None				72	
29	Antenna Wm (60 Deg)	None				72	
30	Antenna Wm (90 Deg)	None				72	
31	Antenna Wm (120 Deg)	None				72	
32	Antenna Wm (150 Deg)	None				72	
33	Antenna Wm (180 Deg)	None				72	
34	Antenna Wm (210 Deg)	None				72	
35	Antenna Wm (240 Deg)	None				72	
36	Antenna Wm (270 Deg)	None				72	
37	Antenna Wm (300 Deg)	None				72	
38	Antenna Wm (330 Deg)	None				72	
39	Structure D	None		-1			
40	Structure Di	None					27
41	Structure Wo (0 Deg)	None					54
42	Structure Wo (30 Deg)	None					54
43	Structure Wo (60 Deg)	None					54
44	Structure Wo (90 Deg)	None					54
45	Structure Wo (120 Deg)	None					54
46	Structure Wo (150 Deg)	None					54
47	Structure Wo (180 Deg)	None					54
48	Structure Wo (210 Deg)	None					54
49	Structure Wo (240 Deg)	None					54
50	Structure Wo (270 Deg)	None					54
51	Structure Wo (300 Deg)	None					54
52	Structure Wo (330 Deg)	None					54
53	Structure Wi (0 Deg)	None					54
54	Structure Wi (30 Deg)	None					54
55	Structure Wi (60 Deg)	None					54

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Point	Distributed
56	Structure Wi (90 Deg)	None					54
57	Structure Wi (120 Deg)	None					54
58	Structure Wi (150 Deg)	None					54
59	Structure Wi (180 Deg)	None					54
60	Structure Wi (210 Deg)	None					54
61	Structure Wi (240 Deg)	None					54
62	Structure Wi (270 Deg)	None					54
63	Structure Wi (300 Deg)	None					54
64	Structure Wi (330 Deg)	None					54
65	Structure Wm (0 Deg)	None					54
66	Structure Wm (30 Deg)	None					54
67	Structure Wm (60 Deg)	None					54
68	Structure Wm (90 Deg)	None					54
69	Structure Wm (120 Deg)	None					54
70	Structure Wm (150 Deg)	None					54
71	Structure Wm (180 Deg)	None					54
72	Structure Wm (210 Deg)	None					54
73	Structure Wm (240 Deg)	None					54
74	Structure Wm (270 Deg)	None					54
75	Structure Wm (300 Deg)	None					54
76	Structure Wm (330 Deg)	None					54
77	Lm1	None				1	
78	Lm2	None				1	
79	Lv1	None				1	
80	Lv2	None				1	
81	Antenna Ev	None				72	
82	Antenna Eh (0 Deg)	None				48	
83	Antenna Eh (90 Deg)	None				48	
84	Structure Ev	ELY		-0.044			
85	Structure Eh (0 Deg)	ELZ			-0.109		
86	Structure Eh (90 Deg)	ELX	0.109				

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.2D+1.0Wo (0 Deg)	Yes	Y	1	1.2	39	1.2	3	1	41	1								
2	1.2D+1.0Wo (30 Deg)	Yes	Y	1	1.2	39	1.2	4	1	42	1								
3	1.2D+1.0Wo (60 Deg)	Yes	Y	1	1.2	39	1.2	5	1	43	1								
4	1.2D+1.0Wo (90 Deg)	Yes	Y	1	1.2	39	1.2	6	1	44	1								
5	1.2D+1.0Wo (120 Deg)	Yes	Y	1	1.2	39	1.2	7	1	45	1								
6	1.2D+1.0Wo (150 Deg)	Yes	Y	1	1.2	39	1.2	8	1	46	1								
7	1.2D+1.0Wo (180 Deg)	Yes	Y	1	1.2	39	1.2	9	1	47	1								
8	1.2D+1.0Wo (210 Deg)	Yes	Y	1	1.2	39	1.2	10	1	48	1								
9	1.2D+1.0Wo (240 Deg)	Yes	Y	1	1.2	39	1.2	11	1	49	1								
10	1.2D+1.0Wo (270 Deg)	Yes	Y	1	1.2	39	1.2	12	1	50	1								
11	1.2D+1.0Wo (300 Deg)	Yes	Y	1	1.2	39	1.2	13	1	51	1								
12	1.2D+1.0Wo (330 Deg)	Yes	Y	1	1.2	39	1.2	14	1	52	1								
13	1.2D + 1.0Di + 1.0Wi (0 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	15	1	53	1				
14	1.2D + 1.0Di + 1.0Wi (30 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	16	1	54	1				
15	1.2D + 1.0Di + 1.0Wi (60 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	17	1	55	1				
16	1.2D + 1.0Di + 1.0Wi (90 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	18	1	56	1				
17	1.2D + 1.0Di + 1.0Wi (120 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	19	1	57	1				
18	1.2D + 1.0Di + 1.0Wi (150 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	20	1	58	1				
19	1.2D + 1.0Di + 1.0Wi (180 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	21	1	59	1				
20	1.2D + 1.0Di + 1.0Wi (210 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	22	1	60	1				
21	1.2D + 1.0Di + 1.0Wi (240 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	23	1	61	1				

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
22	1.2D + 1.0Di + 1.0Wi (270 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	24	1	62	1				
23	1.2D + 1.0Di + 1.0Wi (300 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	25	1	63	1				
24	1.2D + 1.0Di + 1.0Wi (330 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	26	1	64	1				
25	1.2D + 1.5Lm1 + 1.0Wm (0 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	27	1	65	1						
26	1.2D + 1.5Lm1 + 1.0Wm (30 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	28	1	66	1						
27	1.2D + 1.5Lm1 + 1.0Wm (60 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	29	1	67	1						
28	1.2D + 1.5Lm1 + 1.0Wm (90 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	30	1	68	1						
29	1.2D + 1.5Lm1 + 1.0Wm (120 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	31	1	69	1						
30	1.2D + 1.5Lm1 + 1.0Wm (150 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	32	1	70	1						
31	1.2D + 1.5Lm1 + 1.0Wm (180 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	33	1	71	1						
32	1.2D + 1.5Lm1 + 1.0Wm (210 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	34	1	72	1						
33	1.2D + 1.5Lm1 + 1.0Wm (240 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	35	1	73	1						
34	1.2D + 1.5Lm1 + 1.0Wm (270 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	36	1	74	1						
35	1.2D + 1.5Lm1 + 1.0Wm (300 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	37	1	75	1						
36	1.2D + 1.5Lm1 + 1.0Wm (330 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	38	1	76	1						
37	1.2D + 1.5Lm2 + 1.0Wm (0 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	27	1	65	1						
38	1.2D + 1.5Lm2 + 1.0Wm (30 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	28	1	66	1						
39	1.2D + 1.5Lm2 + 1.0Wm (60 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	29	1	67	1						
40	1.2D + 1.5Lm2 + 1.0Wm (90 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	30	1	68	1						
41	1.2D + 1.5Lm2 + 1.0Wm (120 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	31	1	69	1						
42	1.2D + 1.5Lm2 + 1.0Wm (150 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	32	1	70	1						
43	1.2D + 1.5Lm2 + 1.0Wm (180 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	33	1	71	1						
44	1.2D + 1.5Lm2 + 1.0Wm (210 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	34	1	72	1						
45	1.2D + 1.5Lm2 + 1.0Wm (240 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	35	1	73	1						
46	1.2D + 1.5Lm2 + 1.0Wm (270 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	36	1	74	1						
47	1.2D + 1.5Lm2 + 1.0Wm (300 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	37	1	75	1						
48	1.2D + 1.5Lm2 + 1.0Wm (330 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	38	1	76	1						
49	1.2D + 1.5Lv1	Yes	Y	1	1.2	39	1.2	79	1.5										
50	1.2D + 1.5Lv2	Yes	Y	1	1.2	39	1.2	80	1.5										
51	1.4D	Yes	Y	1	1.4	39	1.4												
52	1.2D + 1.0Ev + 1.0Eh (0 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	1	83		ELZ	1	ELX	
53	1.2D + 1.0Ev + 1.0Eh (30 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.866	83	0.5	ELZ	0.866	ELX	0.5
54	1.2D + 1.0Ev + 1.0Eh (60 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.5	83	0.866	ELZ	0.5	ELX	0.866
55	1.2D + 1.0Ev + 1.0Eh (90 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82		83	1	ELZ		ELX	1
56	1.2D + 1.0Ev + 1.0Eh (120 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.5	83	0.866	ELZ	-0.5	ELX	0.866
57	1.2D + 1.0Ev + 1.0Eh (150 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.866	83	0.5	ELZ	-0.866	ELX	0.5
58	1.2D + 1.0Ev + 1.0Eh (180 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-1	83		ELZ	-1	ELX	
59	1.2D + 1.0Ev + 1.0Eh (210 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.866	83	-0.5	ELZ	-0.866	ELX	-0.5
60	1.2D + 1.0Ev + 1.0Eh (240 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.5	83	-0.866	ELZ	-0.5	ELX	-0.866
61	1.2D + 1.0Ev + 1.0Eh (270 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82		83	-1	ELZ		ELX	-1
62	1.2D + 1.0Ev + 1.0Eh (300 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.5	83	-0.866	ELZ	0.5	ELX	-0.866
63	1.2D + 1.0Ev + 1.0Eh (330 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.866	83	-0.5	ELZ	0.866	ELX	-0.5
64	0.9D - 1.0Ev + 1.0Eh (0 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	1	83		ELZ	1	ELX	
65	0.9D - 1.0Ev + 1.0Eh (30 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.866	83	0.5	ELZ	0.866	ELX	0.5
66	0.9D - 1.0Ev + 1.0Eh (60 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.5	83	0.866	ELZ	0.5	ELX	0.866
67	0.9D - 1.0Ev + 1.0Eh (90 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82		83	1	ELZ		ELX	1
68	0.9D - 1.0Ev + 1.0Eh (120 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.5	83	0.866	ELZ	-0.5	ELX	0.866
69	0.9D - 1.0Ev + 1.0Eh (150 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.866	83	0.5	ELZ	-0.866	ELX	0.5
70	0.9D - 1.0Ev + 1.0Eh (180 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-1	83		ELZ	-1	ELX	
71	0.9D - 1.0Ev + 1.0Eh (210 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.866	83	-0.5	ELZ	-0.866	ELX	-0.5
72	0.9D - 1.0Ev + 1.0Eh (240 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.5	83	-0.866	ELZ	-0.5	ELX	-0.866
73	0.9D - 1.0Ev + 1.0Eh (270 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82		83	-1	ELZ		ELX	-1
74	0.9D - 1.0Ev + 1.0Eh (300 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.5	83	-0.866	ELZ	0.5	ELX	-0.866
75	0.9D - 1.0Ev + 1.0Eh (330 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.866	83	-0.5	ELZ	0.866	ELX	-0.5

Load Combination Design

	Description	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
1	1.2D+1.0Wo (0 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1.2D+1.0Wo (30 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1.2D+1.0Wo (60 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1.2D+1.0Wo (90 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1.2D+1.0Wo (120 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1.2D+1.0Wo (150 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1.2D+1.0Wo (180 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1.2D+1.0Wo (210 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1.2D+1.0Wo (240 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1.2D+1.0Wo (270 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1.2D+1.0Wo (300 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	1.2D+1.0Wo (330 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	1.2D + 1.0Di + 1.0Wi (0 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	1.2D + 1.0Di + 1.0Wi (30 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15	1.2D + 1.0Di + 1.0Wi (60 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16	1.2D + 1.0Di + 1.0Wi (90 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17	1.2D + 1.0Di + 1.0Wi (120 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
18	1.2D + 1.0Di + 1.0Wi (150 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19	1.2D + 1.0Di + 1.0Wi (180 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
20	1.2D + 1.0Di + 1.0Wi (210 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
21	1.2D + 1.0Di + 1.0Wi (240 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
22	1.2D + 1.0Di + 1.0Wi (270 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
23	1.2D + 1.0Di + 1.0Wi (300 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
24	1.2D + 1.0Di + 1.0Wi (330 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
25	1.2D + 1.5Lm1 + 1.0Wm (0 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
26	1.2D + 1.5Lm1 + 1.0Wm (30 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
27	1.2D + 1.5Lm1 + 1.0Wm (60 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
28	1.2D + 1.5Lm1 + 1.0Wm (90 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
29	1.2D + 1.5Lm1 + 1.0Wm (120 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
30	1.2D + 1.5Lm1 + 1.0Wm (150 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
31	1.2D + 1.5Lm1 + 1.0Wm (180 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
32	1.2D + 1.5Lm1 + 1.0Wm (210 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
33	1.2D + 1.5Lm1 + 1.0Wm (240 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
34	1.2D + 1.5Lm1 + 1.0Wm (270 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
35	1.2D + 1.5Lm1 + 1.0Wm (300 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
36	1.2D + 1.5Lm1 + 1.0Wm (330 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
37	1.2D + 1.5Lm2 + 1.0Wm (0 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
38	1.2D + 1.5Lm2 + 1.0Wm (30 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
39	1.2D + 1.5Lm2 + 1.0Wm (60 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
40	1.2D + 1.5Lm2 + 1.0Wm (90 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41	1.2D + 1.5Lm2 + 1.0Wm (120 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
42	1.2D + 1.5Lm2 + 1.0Wm (150 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
43	1.2D + 1.5Lm2 + 1.0Wm (180 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
44	1.2D + 1.5Lm2 + 1.0Wm (210 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
45	1.2D + 1.5Lm2 + 1.0Wm (240 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
46	1.2D + 1.5Lm2 + 1.0Wm (270 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
47	1.2D + 1.5Lm2 + 1.0Wm (300 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
48	1.2D + 1.5Lm2 + 1.0Wm (330 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
49	1.2D + 1.5Lv1		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
50	1.2D + 1.5Lv2		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
51	1.4D		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
52	1.2D + 1.0Ev + 1.0Eh (0 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
53	1.2D + 1.0Ev + 1.0Eh (30 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
54	1.2D + 1.0Ev + 1.0Eh (60 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
55	1.2D + 1.0Ev + 1.0Eh (90 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Load Combination Design (Continued)

	Description	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
56	1.2D + 1.0Ev + 1.0Eh (120 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
57	1.2D + 1.0Ev + 1.0Eh (150 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
58	1.2D + 1.0Ev + 1.0Eh (180 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
59	1.2D + 1.0Ev + 1.0Eh (210 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
60	1.2D + 1.0Ev + 1.0Eh (240 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
61	1.2D + 1.0Ev + 1.0Eh (270 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
62	1.2D + 1.0Ev + 1.0Eh (300 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
63	1.2D + 1.0Ev + 1.0Eh (330 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
64	0.9D - 1.0Ev + 1.0Eh (0 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
65	0.9D - 1.0Ev + 1.0Eh (30 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
66	0.9D - 1.0Ev + 1.0Eh (60 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
67	0.9D - 1.0Ev + 1.0Eh (90 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
68	0.9D - 1.0Ev + 1.0Eh (120 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
69	0.9D - 1.0Ev + 1.0Eh (150 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
70	0.9D - 1.0Ev + 1.0Eh (180 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
71	0.9D - 1.0Ev + 1.0Eh (210 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
72	0.9D - 1.0Ev + 1.0Eh (240 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
73	0.9D - 1.0Ev + 1.0Eh (270 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
74	0.9D - 1.0Ev + 1.0Eh (300 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
75	0.9D - 1.0Ev + 1.0Eh (330 Deg)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	N1	0	0	0.2	
2	N2	0	0	4	
3	N3	-7	0	4	
4	N4	7	0	4	
5	N5	6.666667	4	4.328125	
6	N6	6.666667	-3	4.328125	
7	N7	0	5	4.328125	
8	N8	0	-3	4.328125	
9	N9	-6.5	4	4.328125	
10	N10	-6.5	-3	4.328125	
11	N11	6.666667	0	4.328125	
12	N12	-6.5	0	4.328125	
13	N13	0	0.625	3.770833	
14	N14	0	-0.625	3.770833	
15	N15	0	0	4.328125	
16	N16	6.666667	0	4	
17	N17	-6.5	0	4	
18	N18	-3	0	4	
19	N19	3	0	4	
20	N20	0	0	-0.9583	
21	N21	4.294014	0	-3.43745	
22	N22	7.794014	0	2.624728	
23	N23	0.794014	0	-9.499628	
24	N24	1.244845	4	-9.375015	
25	N25	1.244845	-3	-9.375015	
26	N26	7.828178	4	2.027653	
27	N27	7.828178	-3	2.027653	
28	N28	1.244845	0	-9.375015	
29	N29	7.828178	0	2.027653	
30	N30	4.09555	0.625	-3.322867	
31	N31	4.09555	-0.625	-3.322867	
32	N32	0.96068	0	-9.210953	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
33	N33	7.544014	0	2.191715	
34	N34	-4.294014	0	-3.43745	
35	N35	-0.794014	0	-9.499628	
36	N36	-7.794014	0	2.624728	
37	N37	-7.911512	4	2.17199	
38	N38	-7.911512	-3	2.17199	
39	N39	-1.328178	4	-9.230678	
40	N40	-1.328178	-3	-9.230678	
41	N41	-7.911512	0	2.17199	
42	N42	-1.328178	0	-9.230678	
43	N43	-4.09555	0.625	-3.322867	
44	N44	-4.09555	-0.625	-3.322867	
45	N45	-7.627347	0	2.336053	
46	N46	-1.044014	0	-9.066615	
47	N47	0	0	3.770833	
48	N48	4.09555	0	-3.322867	
49	N49	-4.09555	0	-3.322867	
50	N50	-4.5	0	4	
51	N51	-6.544014	0	0.459664	
52	N52	0	0	0.45	
53	N53	6.544014	0	0.459664	
54	N54	4.5	0	4	
55	N55	-2.044014	0	-7.334564	
56	N56	2.044014	0	-7.334564	
57	N57	1.003117	0	-1.53745	
58	N58	5.794014	0	-0.839374	
59	N59	2.794014	0	-6.035526	
60	N60	1.219624	0	-1.66245	
61	N61	-1.003117	0	-1.53745	
62	N62	-2.794014	0	-6.035526	
63	N63	-5.794014	0	-0.839374	
64	N64	-1.219624	0	-1.66245	
65	N65	-2.25	5	4.328125	
66	N66	-2.25	-3	4.328125	
67	N67	-2.25	0	4	
68	N68	-2.25	0	4.328125	
69	N69	4.578178	5	-3.601513	
70	N70	4.578178	-3	-3.601513	
71	N71	4.578178	0	-3.601513	
72	N72	5.419014	0	-1.488893	
73	N73	5.703178	0	-1.652955	
74	N74	5.703178	5	-1.652955	
75	N75	5.703178	-3	-1.652955	
76	N76	-4.578178	5	-3.601513	
77	N77	-4.578178	-3	-3.601513	
78	N78	-4.578178	0	-3.601513	
79	N79	-3.169014	0	-5.386007	
80	N80	-3.453178	0	-5.55007	
81	N81	-3.453178	5	-5.55007	
82	N82	-3.453178	-3	-5.55007	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	Standoff Arm	HSS4X4X4	Beam	Tube	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
2	Plan Bracing	L2.5X2.5X4	Beam	Single Angle	A36 Gr.36	Typical	1.19	0.692	0.692	0.026

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
3	Mast Pipe	PIPE_3.5	Beam	HSS Pipe	A53 Gr.B	Typical	2.5	4.52	4.52	9.04
4	Mount Pipe	PIPE_2.0	Beam	HSS Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
5	Face Horizontal	HSS4X4X4	Beam	Tube	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
6	End Connection	LL3X3X4X0	Beam	Double Angle (No Gap)	A36 Gr.36	Typical	2.88	4.5	2.46	0.063
7	Mount Pipe Extra Strenght	PIPE_2.0X	Beam	HSS Pipe	A53 Gr.B	Typical	1.4	0.827	0.827	1.65

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [k/ft³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
7	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	M1	N3	N4		Face Horizontal	Beam	Tube	A500 Gr.B Rect	Typical
2	M2	N1	N2		Standoff Arm	Beam	Tube	A500 Gr.B Rect	Typical
3	MP1A	N5	N6		Mount Pipe	Beam	HSS Pipe	A53 Gr.B	Typical
4	MP2A	N7	N8		Mount Pipe Extra Strenght	Beam	HSS Pipe	A53 Gr.B	Typical
5	MP4A	N9	N10		Mount Pipe	Beam	HSS Pipe	A53 Gr.B	Typical
6	M6	N14	N13		Mast Pipe	Beam	HSS Pipe	A53 Gr.B	Typical
7	M7	N17	N12		RIGID	Beam	None	RIGID	DR1
8	M8	N2	N15		RIGID	Beam	None	RIGID	DR1
9	M9	N16	N11		RIGID	Beam	None	RIGID	DR1
10	M10	N22	N23		Face Horizontal	Beam	Tube	A500 Gr.B Rect	Typical
11	MP1C	N24	N25		Mount Pipe	Beam	HSS Pipe	A53 Gr.B	Typical
12	MP4C	N26	N27		Mount Pipe	Beam	HSS Pipe	A53 Gr.B	Typical
13	M13	N31	N30		Mast Pipe	Beam	HSS Pipe	A53 Gr.B	Typical
14	M14	N33	N29		RIGID	Beam	None	RIGID	DR1
15	M15	N32	N28		RIGID	Beam	None	RIGID	DR1
16	M16	N35	N36		Face Horizontal	Beam	Tube	A500 Gr.B Rect	Typical
17	MP1B	N37	N38		Mount Pipe	Beam	HSS Pipe	A53 Gr.B	Typical
18	MP4B	N39	N40		Mount Pipe	Beam	HSS Pipe	A53 Gr.B	Typical
19	M19	N44	N43		Mast Pipe	Beam	HSS Pipe	A53 Gr.B	Typical
20	M20	N46	N42		RIGID	Beam	None	RIGID	DR1
21	M21	N45	N41		RIGID	Beam	None	RIGID	DR1
22	M22	N50	N51	90	End Connection	Beam	Double Angle (No Gap)	A36 Gr.36	Typical
23	M23	N53	N54	90	End Connection	Beam	Double Angle (No Gap)	A36 Gr.36	Typical
24	M24	N55	N56	90	End Connection	Beam	Double Angle (No Gap)	A36 Gr.36	Typical
25	M25	N19	N52		Plan Bracing	Beam	Single Angle	A36 Gr.36	Typical
26	M26	N52	N18		Plan Bracing	Beam	Single Angle	A36 Gr.36	Typical
27	M27	N57	N21		Standoff Arm	Beam	Tube	A500 Gr.B Rect	Typical
28	M28	N59	N60		Plan Bracing	Beam	Single Angle	A36 Gr.36	Typical
29	M29	N60	N58		Plan Bracing	Beam	Single Angle	A36 Gr.36	Typical
30	M30	N61	N34		Standoff Arm	Beam	Tube	A500 Gr.B Rect	Typical
31	M31	N63	N64		Plan Bracing	Beam	Single Angle	A36 Gr.36	Typical
32	M32	N64	N62		Plan Bracing	Beam	Single Angle	A36 Gr.36	Typical
33	MP3A	N65	N66		Mount Pipe	Beam	HSS Pipe	A53 Gr.B	Typical
34	M34	N67	N68		RIGID	Beam	None	RIGID	DR1
35	MP2C	N69	N70		Mount Pipe Extra Strenght	Beam	HSS Pipe	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
36	M36	N21	N71		RIGID	Beam	None	RIGID	DR1
37	M37	N72	N73		RIGID	Beam	None	RIGID	DR1
38	MP3C	N74	N75		Mount Pipe	Beam	HSS Pipe	A53 Gr.B	Typical
39	MP2B	N76	N77		Mount Pipe Extra Strenght	Beam	HSS Pipe	A53 Gr.B	Typical
40	M40	N34	N78		RIGID	Beam	None	RIGID	DR1
41	M41	N79	N80		RIGID	Beam	None	RIGID	DR1
42	MP3B	N81	N82		Mount Pipe	Beam	HSS Pipe	A53 Gr.B	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
1	M1					Yes	N/A	None
2	M2					Yes	N/A	None
3	MP1A					Yes	N/A	None
4	MP2A					Yes	Default	None
5	MP4A					Yes	N/A	None
6	M6					Yes	N/A	None
7	M7					Yes	N/A	None
8	M8					Yes	N/A	None
9	M9					Yes	N/A	None
10	M10					Yes	N/A	None
11	MP1C					Yes	N/A	None
12	MP4C					Yes	N/A	None
13	M13					Yes	N/A	None
14	M14					Yes	N/A	None
15	M15					Yes	N/A	None
16	M16					Yes	N/A	None
17	MP1B					Yes	N/A	None
18	MP4B					Yes	N/A	None
19	M19					Yes	N/A	None
20	M20					Yes	N/A	None
21	M21					Yes	N/A	None
22	M22			3	3	Yes	N/A	None
23	M23			3	3	Yes	N/A	None
24	M24			3	3	Yes	N/A	None
25	M25	BenPIN	BenPIN			Yes	N/A	None
26	M26	BenPIN	BenPIN			Yes	N/A	None
27	M27					Yes	N/A	None
28	M28	BenPIN	BenPIN			Yes	N/A	None
29	M29	BenPIN	BenPIN			Yes	N/A	None
30	M30					Yes	N/A	None
31	M31	BenPIN	BenPIN			Yes	N/A	None
32	M32	BenPIN	BenPIN			Yes	N/A	None
33	MP3A					Yes	N/A	None
34	M34					Yes	N/A	None
35	MP2C					Yes	Default	None
36	M36					Yes	N/A	None
37	M37					Yes	N/A	None
38	MP3C					Yes	N/A	None
39	MP2B					Yes	Default	None
40	M40					Yes	N/A	None
41	M41					Yes	N/A	None
42	MP3B					Yes	N/A	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lb y-y [ft]	Lb z-z [ft]	Lcomp top [ft]	Channel Conn.	a [ft]	Function
1	M1	Face Horizontal	14			Lbyy	N/A	N/A	Gravity
2	M2	Standoff Arm	3.8			Lbyy	N/A	N/A	Gravity
3	MP1A	Mount Pipe	7			Lbyy	N/A	N/A	Gravity
4	MP2A	Mount Pipe Extra Strenght	8	Segment	Segment	Lbyy	N/A	N/A	Lateral
5	MP4A	Mount Pipe	7			Lbyy	N/A	N/A	Gravity
6	M6	Mast Pipe	1.25			Lbyy	N/A	N/A	Lateral
7	M10	Face Horizontal	14			Lbyy	N/A	N/A	Gravity
8	MP1C	Mount Pipe	7			Lbyy	N/A	N/A	Lateral
9	MP4C	Mount Pipe	7			Lbyy	N/A	N/A	Lateral
10	M13	Mast Pipe	1.25			Lbyy	N/A	N/A	Lateral
11	M16	Face Horizontal	14			Lbyy	N/A	N/A	Gravity
12	MP1B	Mount Pipe	7			Lbyy	N/A	N/A	Lateral
13	MP4B	Mount Pipe	7			Lbyy	N/A	N/A	Lateral
14	M19	Mast Pipe	1.25			Lbyy	N/A	N/A	Lateral
15	M22	End Connection	4.088			Lbyy	N/A	N/A	Lateral
16	M23	End Connection	4.088			Lbyy	N/A	N/A	Lateral
17	M24	End Connection	4.088			Lbyy	N/A	N/A	Lateral
18	M25	Plan Bracing	4.648				N/A	N/A	Lateral
19	M26	Plan Bracing	4.648				N/A	N/A	Lateral
20	M27	Standoff Arm	3.8			Lbyy	N/A	N/A	Gravity
21	M28	Plan Bracing	4.648				N/A	N/A	Lateral
22	M29	Plan Bracing	4.648				N/A	N/A	Lateral
23	M30	Standoff Arm	3.8			Lbyy	N/A	N/A	Gravity
24	M31	Plan Bracing	4.648				N/A	N/A	Lateral
25	M32	Plan Bracing	4.648				N/A	N/A	Lateral
26	MP3A	Mount Pipe	8			Lbyy	N/A	N/A	Lateral
27	MP2C	Mount Pipe Extra Strenght	8			Lbyy	N/A	N/A	Lateral
28	MP3C	Mount Pipe	8			Lbyy	N/A	N/A	Lateral
29	MP2B	Mount Pipe Extra Strenght	8			Lbyy	N/A	N/A	Lateral
30	MP3B	Mount Pipe	8			Lbyy	N/A	N/A	Lateral

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	Y	-64	0.5
2	MP2A	My	-0.043	0.5
3	MP2A	Mz	0	0.5
4	MP2A	Y	-64	6.5
5	MP2A	My	-0.043	6.5
6	MP2A	Mz	0	6.5
7	MP2B	Y	-64	0.5
8	MP2B	My	0.021	0.5
9	MP2B	Mz	-0.037	0.5
10	MP2B	Y	-64	6.5
11	MP2B	My	0.021	6.5
12	MP2B	Mz	-0.037	6.5
13	MP2C	Y	-64	0.5
14	MP2C	My	0.021	0.5
15	MP2C	Mz	0.037	0.5
16	MP2C	Y	-64	6.5
17	MP2C	My	0.021	6.5
18	MP2C	Mz	0.037	6.5
19	MP2A	Y	-74	3
20	MP2A	My	0.049	3
21	MP2A	Mz	0	3

Member Point Loads (BLC 1 : Antenna D) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
22	MP2B	Y	-74	3
23	MP2B	My	-0.025	3
24	MP2B	Mz	0.043	3
25	MP2C	Y	-74	3
26	MP2C	My	0.025	3
27	MP2C	Mz	0.043	3
28	MP1A	Y	-14	1.5
29	MP1A	My	-0.009	1.5
30	MP1A	Mz	0	1.5
31	MP1A	Y	-14	5.5
32	MP1A	My	-0.009	5.5
33	MP1A	Mz	0	5.5
34	MP1B	Y	-14	1.5
35	MP1B	My	0.005	1.5
36	MP1B	Mz	-0.008	1.5
37	MP1B	Y	-14	5.5
38	MP1B	My	0.005	5.5
39	MP1B	Mz	-0.008	5.5
40	MP1C	Y	-14	1.5
41	MP1C	My	0.005	1.5
42	MP1C	Mz	0.008	1.5
43	MP1C	Y	-14	5.5
44	MP1C	My	0.005	5.5
45	MP1C	Mz	0.008	5.5
46	MP4A	Y	-33.05	2.5
47	MP4A	My	-0.022	2.5
48	MP4A	Mz	0	2.5
49	MP4A	Y	-33.05	4.5
50	MP4A	My	-0.022	4.5
51	MP4A	Mz	0	4.5
52	MP4B	Y	-33.05	2.5
53	MP4B	My	0.011	2.5
54	MP4B	Mz	-0.019	2.5
55	MP4B	Y	-33.05	4.5
56	MP4B	My	0.011	4.5
57	MP4B	Mz	-0.019	4.5
58	MP4C	Y	-33.05	2.5
59	MP4C	My	0.011	2.5
60	MP4C	Mz	0.019	2.5
61	MP4C	Y	-33.05	4.5
62	MP4C	My	0.011	4.5
63	MP4C	Mz	0.019	4.5
64	MP1A	Y	-104	3
65	MP1A	My	0.069	3
66	MP1A	Mz	0	3
67	MP1B	Y	-104	3
68	MP1B	My	-0.035	3
69	MP1B	Mz	0.06	3
70	MP1C	Y	-104	3
71	MP1C	My	-0.035	3
72	MP1C	Mz	-0.06	3

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	Y	-135.463	0.5
2	MP2A	My	-0.09	0.5
3	MP2A	Mz	0	0.5
4	MP2A	Y	-135.463	6.5
5	MP2A	My	-0.09	6.5
6	MP2A	Mz	0	6.5
7	MP2B	Y	-135.463	0.5
8	MP2B	My	0.045	0.5
9	MP2B	Mz	-0.078	0.5
10	MP2B	Y	-135.463	6.5
11	MP2B	My	0.045	6.5
12	MP2B	Mz	-0.078	6.5
13	MP2C	Y	-135.463	0.5
14	MP2C	My	0.045	0.5
15	MP2C	Mz	0.078	0.5
16	MP2C	Y	-135.463	6.5
17	MP2C	My	0.045	6.5
18	MP2C	Mz	0.078	6.5
19	MP2A	Y	-39.605	3
20	MP2A	My	0.026	3
21	MP2A	Mz	0	3
22	MP2B	Y	-39.605	3
23	MP2B	My	-0.013	3
24	MP2B	Mz	0.023	3
25	MP2C	Y	-39.605	3
26	MP2C	My	0.013	3
27	MP2C	Mz	0.023	3
28	MP1A	Y	-52.332	1.5
29	MP1A	My	-0.035	1.5
30	MP1A	Mz	0	1.5
31	MP1A	Y	-52.332	5.5
32	MP1A	My	-0.035	5.5
33	MP1A	Mz	0	5.5
34	MP1B	Y	-52.332	1.5
35	MP1B	My	0.017	1.5
36	MP1B	Mz	-0.03	1.5
37	MP1B	Y	-52.332	5.5
38	MP1B	My	0.017	5.5
39	MP1B	Mz	-0.03	5.5
40	MP1C	Y	-52.332	1.5
41	MP1C	My	0.017	1.5
42	MP1C	Mz	0.03	1.5
43	MP1C	Y	-52.332	5.5
44	MP1C	My	0.017	5.5
45	MP1C	Mz	0.03	5.5
46	MP4A	Y	-34.216	2.5
47	MP4A	My	-0.023	2.5
48	MP4A	Mz	0	2.5
49	MP4A	Y	-34.216	4.5
50	MP4A	My	-0.023	4.5
51	MP4A	Mz	0	4.5
52	MP4B	Y	-34.216	2.5
53	MP4B	My	0.011	2.5
54	MP4B	Mz	-0.02	2.5
55	MP4B	Y	-34.216	4.5

Member Point Loads (BLC 2 : Antenna Di) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
56	MP4B	My	0.011	4.5
57	MP4B	Mz	-0.02	4.5
58	MP4C	Y	-34.216	2.5
59	MP4C	My	0.011	2.5
60	MP4C	Mz	0.02	2.5
61	MP4C	Y	-34.216	4.5
62	MP4C	My	0.011	4.5
63	MP4C	Mz	0.02	4.5
64	MP1A	Y	-54.602	3
65	MP1A	My	0.036	3
66	MP1A	Mz	0	3
67	MP1B	Y	-54.602	3
68	MP1B	My	-0.018	3
69	MP1B	Mz	0.032	3
70	MP1C	Y	-54.602	3
71	MP1C	My	-0.018	3
72	MP1C	Mz	-0.032	3

Member Point Loads (BLC 3 : Antenna Wo (0 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	0	0.5
2	MP2A	Z	-477.79	0.5
3	MP2A	Mx	0	0.5
4	MP2A	X	0	6.5
5	MP2A	Z	-477.79	6.5
6	MP2A	Mx	0	6.5
7	MP2B	X	0	0.5
8	MP2B	Z	-276.815	0.5
9	MP2B	Mx	0.16	0.5
10	MP2B	X	0	6.5
11	MP2B	Z	-276.815	6.5
12	MP2B	Mx	0.16	6.5
13	MP2C	X	0	0.5
14	MP2C	Z	-276.815	0.5
15	MP2C	Mx	-0.16	0.5
16	MP2C	X	0	6.5
17	MP2C	Z	-276.815	6.5
18	MP2C	Mx	-0.16	6.5
19	MP2A	X	0	3
20	MP2A	Z	-93.008	3
21	MP2A	Mx	0	3
22	MP2B	X	0	3
23	MP2B	Z	-58.815	3
24	MP2B	Mx	-0.034	3
25	MP2C	X	0	3
26	MP2C	Z	-58.815	3
27	MP2C	Mx	-0.034	3
28	MP1A	X	0	1.5
29	MP1A	Z	-186.489	1.5
30	MP1A	Mx	0	1.5
31	MP1A	X	0	5.5
32	MP1A	Z	-186.489	5.5
33	MP1A	Mx	0	5.5
34	MP1B	X	0	1.5
35	MP1B	Z	-113.262	1.5

Member Point Loads (BLC 3 : Antenna Wo (0 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
36	MP1B	Mx	0.065	1.5
37	MP1B	X	0	5.5
38	MP1B	Z	-113.262	5.5
39	MP1B	Mx	0.065	5.5
40	MP1C	X	0	1.5
41	MP1C	Z	-113.262	1.5
42	MP1C	Mx	-0.065	1.5
43	MP1C	X	0	5.5
44	MP1C	Z	-113.262	5.5
45	MP1C	Mx	-0.065	5.5
46	MP4A	X	0	2.5
47	MP4A	Z	-89.704	2.5
48	MP4A	Mx	0	2.5
49	MP4A	X	0	4.5
50	MP4A	Z	-89.704	4.5
51	MP4A	Mx	0	4.5
52	MP4B	X	0	2.5
53	MP4B	Z	-56.733	2.5
54	MP4B	Mx	0.033	2.5
55	MP4B	X	0	4.5
56	MP4B	Z	-56.733	4.5
57	MP4B	Mx	0.033	4.5
58	MP4C	X	0	2.5
59	MP4C	Z	-56.733	2.5
60	MP4C	Mx	-0.033	2.5
61	MP4C	X	0	4.5
62	MP4C	Z	-56.733	4.5
63	MP4C	Mx	-0.033	4.5
64	MP1A	X	0	3
65	MP1A	Z	-134.555	3
66	MP1A	Mx	0	3
67	MP1B	X	0	3
68	MP1B	Z	-86.661	3
69	MP1B	Mx	-0.05	3
70	MP1C	X	0	3
71	MP1C	Z	-86.661	3
72	MP1C	Mx	0.05	3

Member Point Loads (BLC 4 : Antenna Wo (30 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	205.399	0.5
2	MP2A	Z	-355.762	0.5
3	MP2A	Mx	-0.137	0.5
4	MP2A	X	205.399	6.5
5	MP2A	Z	-355.762	6.5
6	MP2A	Mx	-0.137	6.5
7	MP2B	X	104.912	0.5
8	MP2B	Z	-181.713	0.5
9	MP2B	Mx	0.14	0.5
10	MP2B	X	104.912	6.5
11	MP2B	Z	-181.713	6.5
12	MP2B	Mx	0.14	6.5
13	MP2C	X	205.399	0.5
14	MP2C	Z	-355.762	0.5
15	MP2C	Mx	-0.137	0.5

Member Point Loads (BLC 4 : Antenna Wo (30 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
16	MP2C	X	205.399	6.5
17	MP2C	Z	-355.762	6.5
18	MP2C	Mx	-0.137	6.5
19	MP2A	X	40.805	3
20	MP2A	Z	-70.677	3
21	MP2A	Mx	0.027	3
22	MP2B	X	23.709	3
23	MP2B	Z	-41.064	3
24	MP2B	Mx	-0.032	3
25	MP2C	X	40.805	3
26	MP2C	Z	-70.677	3
27	MP2C	Mx	-0.027	3
28	MP1A	X	81.04	1.5
29	MP1A	Z	-140.366	1.5
30	MP1A	Mx	-0.054	1.5
31	MP1A	X	81.04	5.5
32	MP1A	Z	-140.366	5.5
33	MP1A	Mx	-0.054	5.5
34	MP1B	X	44.427	1.5
35	MP1B	Z	-76.949	1.5
36	MP1B	Mx	0.059	1.5
37	MP1B	X	44.427	5.5
38	MP1B	Z	-76.949	5.5
39	MP1B	Mx	0.059	5.5
40	MP1C	X	81.04	1.5
41	MP1C	Z	-140.366	1.5
42	MP1C	Mx	-0.054	1.5
43	MP1C	X	81.04	5.5
44	MP1C	Z	-140.366	5.5
45	MP1C	Mx	-0.054	5.5
46	MP4A	X	39.357	2.5
47	MP4A	Z	-68.168	2.5
48	MP4A	Mx	-0.026	2.5
49	MP4A	X	39.357	4.5
50	MP4A	Z	-68.168	4.5
51	MP4A	Mx	-0.026	4.5
52	MP4B	X	22.872	2.5
53	MP4B	Z	-39.615	2.5
54	MP4B	Mx	0.03	2.5
55	MP4B	X	22.872	4.5
56	MP4B	Z	-39.615	4.5
57	MP4B	Mx	0.03	4.5
58	MP4C	X	39.357	2.5
59	MP4C	Z	-68.168	2.5
60	MP4C	Mx	-0.026	2.5
61	MP4C	X	39.357	4.5
62	MP4C	Z	-68.168	4.5
63	MP4C	Mx	-0.026	4.5
64	MP1A	X	59.295	3
65	MP1A	Z	-102.703	3
66	MP1A	Mx	0.04	3
67	MP1B	X	35.348	3
68	MP1B	Z	-61.225	3
69	MP1B	Mx	-0.047	3
70	MP1C	X	59.295	3

Member Point Loads (BLC 4 : Antenna Wo (30 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
71	MP1C	Z	-102.703	3
72	MP1C	Mx	0.04	3

Member Point Loads (BLC 5 : Antenna Wo (60 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	239.729	0.5
2	MP2A	Z	-138.408	0.5
3	MP2A	Mx	-0.16	0.5
4	MP2A	X	239.729	6.5
5	MP2A	Z	-138.408	6.5
6	MP2A	Mx	-0.16	6.5
7	MP2B	X	239.729	0.5
8	MP2B	Z	-138.408	0.5
9	MP2B	Mx	0.16	0.5
10	MP2B	X	239.729	6.5
11	MP2B	Z	-138.408	6.5
12	MP2B	Mx	0.16	6.5
13	MP2C	X	413.778	0.5
14	MP2C	Z	-238.895	0.5
15	MP2C	Mx	0	0.5
16	MP2C	X	413.778	6.5
17	MP2C	Z	-238.895	6.5
18	MP2C	Mx	0	6.5
19	MP2A	X	50.935	3
20	MP2A	Z	-29.407	3
21	MP2A	Mx	0.034	3
22	MP2B	X	50.935	3
23	MP2B	Z	-29.407	3
24	MP2B	Mx	-0.034	3
25	MP2C	X	80.548	3
26	MP2C	Z	-46.504	3
27	MP2C	Mx	0	3
28	MP1A	X	98.088	1.5
29	MP1A	Z	-56.631	1.5
30	MP1A	Mx	-0.065	1.5
31	MP1A	X	98.088	5.5
32	MP1A	Z	-56.631	5.5
33	MP1A	Mx	-0.065	5.5
34	MP1B	X	98.088	1.5
35	MP1B	Z	-56.631	1.5
36	MP1B	Mx	0.065	1.5
37	MP1B	X	98.088	5.5
38	MP1B	Z	-56.631	5.5
39	MP1B	Mx	0.065	5.5
40	MP1C	X	161.504	1.5
41	MP1C	Z	-93.245	1.5
42	MP1C	Mx	0	1.5
43	MP1C	X	161.504	5.5
44	MP1C	Z	-93.245	5.5
45	MP1C	Mx	0	5.5
46	MP4A	X	49.133	2.5
47	MP4A	Z	-28.367	2.5
48	MP4A	Mx	-0.033	2.5
49	MP4A	X	49.133	4.5
50	MP4A	Z	-28.367	4.5

Member Point Loads (BLC 5 : Antenna Wo (60 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
51	MP4A	Mx	-0.033	4.5
52	MP4B	X	49.133	2.5
53	MP4B	Z	-28.367	2.5
54	MP4B	Mx	0.033	2.5
55	MP4B	X	49.133	4.5
56	MP4B	Z	-28.367	4.5
57	MP4B	Mx	0.033	4.5
58	MP4C	X	77.686	2.5
59	MP4C	Z	-44.852	2.5
60	MP4C	Mx	0	2.5
61	MP4C	X	77.686	4.5
62	MP4C	Z	-44.852	4.5
63	MP4C	Mx	0	4.5
64	MP1A	X	75.051	3
65	MP1A	Z	-43.331	3
66	MP1A	Mx	0.05	3
67	MP1B	X	75.051	3
68	MP1B	Z	-43.331	3
69	MP1B	Mx	-0.05	3
70	MP1C	X	116.528	3
71	MP1C	Z	-67.278	3
72	MP1C	Mx	0	3

Member Point Loads (BLC 6 : Antenna Wo (90 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	209.824	0.5
2	MP2A	Z	0	0.5
3	MP2A	Mx	-0.14	0.5
4	MP2A	X	209.824	6.5
5	MP2A	Z	0	6.5
6	MP2A	Mx	-0.14	6.5
7	MP2B	X	410.798	0.5
8	MP2B	Z	0	0.5
9	MP2B	Mx	0.137	0.5
10	MP2B	X	410.798	6.5
11	MP2B	Z	0	6.5
12	MP2B	Mx	0.137	6.5
13	MP2C	X	410.798	0.5
14	MP2C	Z	0	0.5
15	MP2C	Mx	0.137	0.5
16	MP2C	X	410.798	6.5
17	MP2C	Z	0	6.5
18	MP2C	Mx	0.137	6.5
19	MP2A	X	47.417	3
20	MP2A	Z	0	3
21	MP2A	Mx	0.032	3
22	MP2B	X	81.611	3
23	MP2B	Z	0	3
24	MP2B	Mx	-0.027	3
25	MP2C	X	81.611	3
26	MP2C	Z	0	3
27	MP2C	Mx	0.027	3
28	MP1A	X	88.853	1.5
29	MP1A	Z	0	1.5
30	MP1A	Mx	-0.059	1.5

Member Point Loads (BLC 6 : Antenna Wo (90 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
31	MP1A	X	88.853	5.5
32	MP1A	Z	0	5.5
33	MP1A	Mx	-0.059	5.5
34	MP1B	X	162.08	1.5
35	MP1B	Z	0	1.5
36	MP1B	Mx	0.054	1.5
37	MP1B	X	162.08	5.5
38	MP1B	Z	0	5.5
39	MP1B	Mx	0.054	5.5
40	MP1C	X	162.08	1.5
41	MP1C	Z	0	1.5
42	MP1C	Mx	0.054	1.5
43	MP1C	X	162.08	5.5
44	MP1C	Z	0	5.5
45	MP1C	Mx	0.054	5.5
46	MP4A	X	45.743	2.5
47	MP4A	Z	0	2.5
48	MP4A	Mx	-0.03	2.5
49	MP4A	X	45.743	4.5
50	MP4A	Z	0	4.5
51	MP4A	Mx	-0.03	4.5
52	MP4B	X	78.714	2.5
53	MP4B	Z	0	2.5
54	MP4B	Mx	0.026	2.5
55	MP4B	X	78.714	4.5
56	MP4B	Z	0	4.5
57	MP4B	Mx	0.026	4.5
58	MP4C	X	78.714	2.5
59	MP4C	Z	0	2.5
60	MP4C	Mx	0.026	2.5
61	MP4C	X	78.714	4.5
62	MP4C	Z	0	4.5
63	MP4C	Mx	0.026	4.5
64	MP1A	X	70.697	3
65	MP1A	Z	0	3
66	MP1A	Mx	0.047	3
67	MP1B	X	118.591	3
68	MP1B	Z	0	3
69	MP1B	Mx	-0.04	3
70	MP1C	X	118.591	3
71	MP1C	Z	0	3
72	MP1C	Mx	-0.04	3

Member Point Loads (BLC 7 : Antenna Wo (120 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	239.729	0.5
2	MP2A	Z	138.408	0.5
3	MP2A	Mx	-0.16	0.5
4	MP2A	X	239.729	6.5
5	MP2A	Z	138.408	6.5
6	MP2A	Mx	-0.16	6.5
7	MP2B	X	413.778	0.5
8	MP2B	Z	238.895	0.5
9	MP2B	Mx	0	0.5
10	MP2B	X	413.778	6.5

Member Point Loads (BLC 7 : Antenna Wo (120 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
11	MP2B	Z	238.895	6.5
12	MP2B	Mx	0	6.5
13	MP2C	X	239.729	0.5
14	MP2C	Z	138.408	0.5
15	MP2C	Mx	0.16	0.5
16	MP2C	X	239.729	6.5
17	MP2C	Z	138.408	6.5
18	MP2C	Mx	0.16	6.5
19	MP2A	X	50.935	3
20	MP2A	Z	29.407	3
21	MP2A	Mx	0.034	3
22	MP2B	X	80.548	3
23	MP2B	Z	46.504	3
24	MP2B	Mx	0	3
25	MP2C	X	50.935	3
26	MP2C	Z	29.407	3
27	MP2C	Mx	0.034	3
28	MP1A	X	98.088	1.5
29	MP1A	Z	56.631	1.5
30	MP1A	Mx	-0.065	1.5
31	MP1A	X	98.088	5.5
32	MP1A	Z	56.631	5.5
33	MP1A	Mx	-0.065	5.5
34	MP1B	X	161.504	1.5
35	MP1B	Z	93.245	1.5
36	MP1B	Mx	0	1.5
37	MP1B	X	161.504	5.5
38	MP1B	Z	93.245	5.5
39	MP1B	Mx	0	5.5
40	MP1C	X	98.088	1.5
41	MP1C	Z	56.631	1.5
42	MP1C	Mx	0.065	1.5
43	MP1C	X	98.088	5.5
44	MP1C	Z	56.631	5.5
45	MP1C	Mx	0.065	5.5
46	MP4A	X	49.133	2.5
47	MP4A	Z	28.367	2.5
48	MP4A	Mx	-0.033	2.5
49	MP4A	X	49.133	4.5
50	MP4A	Z	28.367	4.5
51	MP4A	Mx	-0.033	4.5
52	MP4B	X	77.686	2.5
53	MP4B	Z	44.852	2.5
54	MP4B	Mx	0	2.5
55	MP4B	X	77.686	4.5
56	MP4B	Z	44.852	4.5
57	MP4B	Mx	0	4.5
58	MP4C	X	49.133	2.5
59	MP4C	Z	28.367	2.5
60	MP4C	Mx	0.033	2.5
61	MP4C	X	49.133	4.5
62	MP4C	Z	28.367	4.5
63	MP4C	Mx	0.033	4.5
64	MP1A	X	75.051	3
65	MP1A	Z	43.331	3

Member Point Loads (BLC 7 : Antenna Wo (120 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
66	MP1A	Mx	0.05	3
67	MP1B	X	116.528	3
68	MP1B	Z	67.278	3
69	MP1B	Mx	0	3
70	MP1C	X	75.051	3
71	MP1C	Z	43.331	3
72	MP1C	Mx	-0.05	3

Member Point Loads (BLC 8 : Antenna Wo (150 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	205.399	0.5
2	MP2A	Z	355.762	0.5
3	MP2A	Mx	-0.137	0.5
4	MP2A	X	205.399	6.5
5	MP2A	Z	355.762	6.5
6	MP2A	Mx	-0.137	6.5
7	MP2B	X	205.399	0.5
8	MP2B	Z	355.762	0.5
9	MP2B	Mx	-0.137	0.5
10	MP2B	X	205.399	6.5
11	MP2B	Z	355.762	6.5
12	MP2B	Mx	-0.137	6.5
13	MP2C	X	104.912	0.5
14	MP2C	Z	181.713	0.5
15	MP2C	Mx	0.14	0.5
16	MP2C	X	104.912	6.5
17	MP2C	Z	181.713	6.5
18	MP2C	Mx	0.14	6.5
19	MP2A	X	40.805	3
20	MP2A	Z	70.677	3
21	MP2A	Mx	0.027	3
22	MP2B	X	40.805	3
23	MP2B	Z	70.677	3
24	MP2B	Mx	0.027	3
25	MP2C	X	23.709	3
26	MP2C	Z	41.064	3
27	MP2C	Mx	0.032	3
28	MP1A	X	81.04	1.5
29	MP1A	Z	140.366	1.5
30	MP1A	Mx	-0.054	1.5
31	MP1A	X	81.04	5.5
32	MP1A	Z	140.366	5.5
33	MP1A	Mx	-0.054	5.5
34	MP1B	X	81.04	1.5
35	MP1B	Z	140.366	1.5
36	MP1B	Mx	-0.054	1.5
37	MP1B	X	81.04	5.5
38	MP1B	Z	140.366	5.5
39	MP1B	Mx	-0.054	5.5
40	MP1C	X	44.427	1.5
41	MP1C	Z	76.949	1.5
42	MP1C	Mx	0.059	1.5
43	MP1C	X	44.427	5.5
44	MP1C	Z	76.949	5.5
45	MP1C	Mx	0.059	5.5

Member Point Loads (BLC 8 : Antenna Wo (150 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
46	MP4A	X	39.357	2.5
47	MP4A	Z	68.168	2.5
48	MP4A	Mx	-0.026	2.5
49	MP4A	X	39.357	4.5
50	MP4A	Z	68.168	4.5
51	MP4A	Mx	-0.026	4.5
52	MP4B	X	39.357	2.5
53	MP4B	Z	68.168	2.5
54	MP4B	Mx	-0.026	2.5
55	MP4B	X	39.357	4.5
56	MP4B	Z	68.168	4.5
57	MP4B	Mx	-0.026	4.5
58	MP4C	X	22.872	2.5
59	MP4C	Z	39.615	2.5
60	MP4C	Mx	0.03	2.5
61	MP4C	X	22.872	4.5
62	MP4C	Z	39.615	4.5
63	MP4C	Mx	0.03	4.5
64	MP1A	X	59.295	3
65	MP1A	Z	102.703	3
66	MP1A	Mx	0.04	3
67	MP1B	X	59.295	3
68	MP1B	Z	102.703	3
69	MP1B	Mx	0.04	3
70	MP1C	X	35.348	3
71	MP1C	Z	61.225	3
72	MP1C	Mx	-0.047	3

Member Point Loads (BLC 9 : Antenna Wo (180 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	0	0.5
2	MP2A	Z	477.79	0.5
3	MP2A	Mx	0	0.5
4	MP2A	X	0	6.5
5	MP2A	Z	477.79	6.5
6	MP2A	Mx	0	6.5
7	MP2B	X	0	0.5
8	MP2B	Z	276.815	0.5
9	MP2B	Mx	-0.16	0.5
10	MP2B	X	0	6.5
11	MP2B	Z	276.815	6.5
12	MP2B	Mx	-0.16	6.5
13	MP2C	X	0	0.5
14	MP2C	Z	276.815	0.5
15	MP2C	Mx	0.16	0.5
16	MP2C	X	0	6.5
17	MP2C	Z	276.815	6.5
18	MP2C	Mx	0.16	6.5
19	MP2A	X	0	3
20	MP2A	Z	93.008	3
21	MP2A	Mx	0	3
22	MP2B	X	0	3
23	MP2B	Z	58.815	3
24	MP2B	Mx	0.034	3
25	MP2C	X	0	3

Member Point Loads (BLC 9 : Antenna Wo (180 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
26	MP2C	Z	58.815	3
27	MP2C	Mx	0.034	3
28	MP1A	X	0	1.5
29	MP1A	Z	186.489	1.5
30	MP1A	Mx	0	1.5
31	MP1A	X	0	5.5
32	MP1A	Z	186.489	5.5
33	MP1A	Mx	0	5.5
34	MP1B	X	0	1.5
35	MP1B	Z	113.262	1.5
36	MP1B	Mx	-0.065	1.5
37	MP1B	X	0	5.5
38	MP1B	Z	113.262	5.5
39	MP1B	Mx	-0.065	5.5
40	MP1C	X	0	1.5
41	MP1C	Z	113.262	1.5
42	MP1C	Mx	0.065	1.5
43	MP1C	X	0	5.5
44	MP1C	Z	113.262	5.5
45	MP1C	Mx	0.065	5.5
46	MP4A	X	0	2.5
47	MP4A	Z	89.704	2.5
48	MP4A	Mx	0	2.5
49	MP4A	X	0	4.5
50	MP4A	Z	89.704	4.5
51	MP4A	Mx	0	4.5
52	MP4B	X	0	2.5
53	MP4B	Z	56.733	2.5
54	MP4B	Mx	-0.033	2.5
55	MP4B	X	0	4.5
56	MP4B	Z	56.733	4.5
57	MP4B	Mx	-0.033	4.5
58	MP4C	X	0	2.5
59	MP4C	Z	56.733	2.5
60	MP4C	Mx	0.033	2.5
61	MP4C	X	0	4.5
62	MP4C	Z	56.733	4.5
63	MP4C	Mx	0.033	4.5
64	MP1A	X	0	3
65	MP1A	Z	134.555	3
66	MP1A	Mx	0	3
67	MP1B	X	0	3
68	MP1B	Z	86.661	3
69	MP1B	Mx	0.05	3
70	MP1C	X	0	3
71	MP1C	Z	86.661	3
72	MP1C	Mx	-0.05	3

Member Point Loads (BLC 10 : Antenna Wo (210 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	-205.399	0.5
2	MP2A	Z	355.762	0.5
3	MP2A	Mx	0.137	0.5
4	MP2A	X	-205.399	6.5
5	MP2A	Z	355.762	6.5

Member Point Loads (BLC 10 : Antenna Wo (210 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
6	MP2A	Mx	0.137	6.5
7	MP2B	X	-104.912	0.5
8	MP2B	Z	181.713	0.5
9	MP2B	Mx	-0.14	0.5
10	MP2B	X	-104.912	6.5
11	MP2B	Z	181.713	6.5
12	MP2B	Mx	-0.14	6.5
13	MP2C	X	-205.399	0.5
14	MP2C	Z	355.762	0.5
15	MP2C	Mx	0.137	0.5
16	MP2C	X	-205.399	6.5
17	MP2C	Z	355.762	6.5
18	MP2C	Mx	0.137	6.5
19	MP2A	X	-40.805	3
20	MP2A	Z	70.677	3
21	MP2A	Mx	-0.027	3
22	MP2B	X	-23.709	3
23	MP2B	Z	41.064	3
24	MP2B	Mx	0.032	3
25	MP2C	X	-40.805	3
26	MP2C	Z	70.677	3
27	MP2C	Mx	0.027	3
28	MP1A	X	-81.04	1.5
29	MP1A	Z	140.366	1.5
30	MP1A	Mx	0.054	1.5
31	MP1A	X	-81.04	5.5
32	MP1A	Z	140.366	5.5
33	MP1A	Mx	0.054	5.5
34	MP1B	X	-44.427	1.5
35	MP1B	Z	76.949	1.5
36	MP1B	Mx	-0.059	1.5
37	MP1B	X	-44.427	5.5
38	MP1B	Z	76.949	5.5
39	MP1B	Mx	-0.059	5.5
40	MP1C	X	-81.04	1.5
41	MP1C	Z	140.366	1.5
42	MP1C	Mx	0.054	1.5
43	MP1C	X	-81.04	5.5
44	MP1C	Z	140.366	5.5
45	MP1C	Mx	0.054	5.5
46	MP4A	X	-39.357	2.5
47	MP4A	Z	68.168	2.5
48	MP4A	Mx	0.026	2.5
49	MP4A	X	-39.357	4.5
50	MP4A	Z	68.168	4.5
51	MP4A	Mx	0.026	4.5
52	MP4B	X	-22.872	2.5
53	MP4B	Z	39.615	2.5
54	MP4B	Mx	-0.03	2.5
55	MP4B	X	-22.872	4.5
56	MP4B	Z	39.615	4.5
57	MP4B	Mx	-0.03	4.5
58	MP4C	X	-39.357	2.5
59	MP4C	Z	68.168	2.5
60	MP4C	Mx	0.026	2.5

Member Point Loads (BLC 10 : Antenna Wo (210 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
61	MP4C	X	-39.357	4.5
62	MP4C	Z	68.168	4.5
63	MP4C	Mx	0.026	4.5
64	MP1A	X	-59.295	3
65	MP1A	Z	102.703	3
66	MP1A	Mx	-0.04	3
67	MP1B	X	-35.348	3
68	MP1B	Z	61.225	3
69	MP1B	Mx	0.047	3
70	MP1C	X	-59.295	3
71	MP1C	Z	102.703	3
72	MP1C	Mx	-0.04	3

Member Point Loads (BLC 11 : Antenna Wo (240 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	-239.729	0.5
2	MP2A	Z	138.408	0.5
3	MP2A	Mx	0.16	0.5
4	MP2A	X	-239.729	6.5
5	MP2A	Z	138.408	6.5
6	MP2A	Mx	0.16	6.5
7	MP2B	X	-239.729	0.5
8	MP2B	Z	138.408	0.5
9	MP2B	Mx	-0.16	0.5
10	MP2B	X	-239.729	6.5
11	MP2B	Z	138.408	6.5
12	MP2B	Mx	-0.16	6.5
13	MP2C	X	-413.778	0.5
14	MP2C	Z	238.895	0.5
15	MP2C	Mx	0	0.5
16	MP2C	X	-413.778	6.5
17	MP2C	Z	238.895	6.5
18	MP2C	Mx	0	6.5
19	MP2A	X	-50.935	3
20	MP2A	Z	29.407	3
21	MP2A	Mx	-0.034	3
22	MP2B	X	-50.935	3
23	MP2B	Z	29.407	3
24	MP2B	Mx	0.034	3
25	MP2C	X	-80.548	3
26	MP2C	Z	46.504	3
27	MP2C	Mx	0	3
28	MP1A	X	-98.088	1.5
29	MP1A	Z	56.631	1.5
30	MP1A	Mx	0.065	1.5
31	MP1A	X	-98.088	5.5
32	MP1A	Z	56.631	5.5
33	MP1A	Mx	0.065	5.5
34	MP1B	X	-98.088	1.5
35	MP1B	Z	56.631	1.5
36	MP1B	Mx	-0.065	1.5
37	MP1B	X	-98.088	5.5
38	MP1B	Z	56.631	5.5
39	MP1B	Mx	-0.065	5.5
40	MP1C	X	-161.504	1.5

Member Point Loads (BLC 11 : Antenna Wo (240 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
41	MP1C	Z	93.245	1.5
42	MP1C	Mx	0	1.5
43	MP1C	X	-161.504	5.5
44	MP1C	Z	93.245	5.5
45	MP1C	Mx	0	5.5
46	MP4A	X	-49.133	2.5
47	MP4A	Z	28.367	2.5
48	MP4A	Mx	0.033	2.5
49	MP4A	X	-49.133	4.5
50	MP4A	Z	28.367	4.5
51	MP4A	Mx	0.033	4.5
52	MP4B	X	-49.133	2.5
53	MP4B	Z	28.367	2.5
54	MP4B	Mx	-0.033	2.5
55	MP4B	X	-49.133	4.5
56	MP4B	Z	28.367	4.5
57	MP4B	Mx	-0.033	4.5
58	MP4C	X	-77.686	2.5
59	MP4C	Z	44.852	2.5
60	MP4C	Mx	0	2.5
61	MP4C	X	-77.686	4.5
62	MP4C	Z	44.852	4.5
63	MP4C	Mx	0	4.5
64	MP1A	X	-75.051	3
65	MP1A	Z	43.331	3
66	MP1A	Mx	-0.05	3
67	MP1B	X	-75.051	3
68	MP1B	Z	43.331	3
69	MP1B	Mx	0.05	3
70	MP1C	X	-116.528	3
71	MP1C	Z	67.278	3
72	MP1C	Mx	0	3

Member Point Loads (BLC 12 : Antenna Wo (270 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	-209.824	0.5
2	MP2A	Z	0	0.5
3	MP2A	Mx	0.14	0.5
4	MP2A	X	-209.824	6.5
5	MP2A	Z	0	6.5
6	MP2A	Mx	0.14	6.5
7	MP2B	X	-410.798	0.5
8	MP2B	Z	0	0.5
9	MP2B	Mx	-0.137	0.5
10	MP2B	X	-410.798	6.5
11	MP2B	Z	0	6.5
12	MP2B	Mx	-0.137	6.5
13	MP2C	X	-410.798	0.5
14	MP2C	Z	0	0.5
15	MP2C	Mx	-0.137	0.5
16	MP2C	X	-410.798	6.5
17	MP2C	Z	0	6.5
18	MP2C	Mx	-0.137	6.5
19	MP2A	X	-47.417	3
20	MP2A	Z	0	3

Member Point Loads (BLC 12 : Antenna Wo (270 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
21	MP2A	Mx	-0.032	3
22	MP2B	X	-81.611	3
23	MP2B	Z	0	3
24	MP2B	Mx	0.027	3
25	MP2C	X	-81.611	3
26	MP2C	Z	0	3
27	MP2C	Mx	-0.027	3
28	MP1A	X	-88.853	1.5
29	MP1A	Z	0	1.5
30	MP1A	Mx	0.059	1.5
31	MP1A	X	-88.853	5.5
32	MP1A	Z	0	5.5
33	MP1A	Mx	0.059	5.5
34	MP1B	X	-162.08	1.5
35	MP1B	Z	0	1.5
36	MP1B	Mx	-0.054	1.5
37	MP1B	X	-162.08	5.5
38	MP1B	Z	0	5.5
39	MP1B	Mx	-0.054	5.5
40	MP1C	X	-162.08	1.5
41	MP1C	Z	0	1.5
42	MP1C	Mx	-0.054	1.5
43	MP1C	X	-162.08	5.5
44	MP1C	Z	0	5.5
45	MP1C	Mx	-0.054	5.5
46	MP4A	X	-45.743	2.5
47	MP4A	Z	0	2.5
48	MP4A	Mx	0.03	2.5
49	MP4A	X	-45.743	4.5
50	MP4A	Z	0	4.5
51	MP4A	Mx	0.03	4.5
52	MP4B	X	-78.714	2.5
53	MP4B	Z	0	2.5
54	MP4B	Mx	-0.026	2.5
55	MP4B	X	-78.714	4.5
56	MP4B	Z	0	4.5
57	MP4B	Mx	-0.026	4.5
58	MP4C	X	-78.714	2.5
59	MP4C	Z	0	2.5
60	MP4C	Mx	-0.026	2.5
61	MP4C	X	-78.714	4.5
62	MP4C	Z	0	4.5
63	MP4C	Mx	-0.026	4.5
64	MP1A	X	-70.697	3
65	MP1A	Z	0	3
66	MP1A	Mx	-0.047	3
67	MP1B	X	-118.591	3
68	MP1B	Z	0	3
69	MP1B	Mx	0.04	3
70	MP1C	X	-118.591	3
71	MP1C	Z	0	3
72	MP1C	Mx	0.04	3

Member Point Loads (BLC 13 : Antenna Wo (300 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	-239.729	0.5
2	MP2A	Z	-138.408	0.5
3	MP2A	Mx	0.16	0.5
4	MP2A	X	-239.729	6.5
5	MP2A	Z	-138.408	6.5
6	MP2A	Mx	0.16	6.5
7	MP2B	X	-413.778	0.5
8	MP2B	Z	-238.895	0.5
9	MP2B	Mx	0	0.5
10	MP2B	X	-413.778	6.5
11	MP2B	Z	-238.895	6.5
12	MP2B	Mx	0	6.5
13	MP2C	X	-239.729	0.5
14	MP2C	Z	-138.408	0.5
15	MP2C	Mx	-0.16	0.5
16	MP2C	X	-239.729	6.5
17	MP2C	Z	-138.408	6.5
18	MP2C	Mx	-0.16	6.5
19	MP2A	X	-50.935	3
20	MP2A	Z	-29.407	3
21	MP2A	Mx	-0.034	3
22	MP2B	X	-80.548	3
23	MP2B	Z	-46.504	3
24	MP2B	Mx	0	3
25	MP2C	X	-50.935	3
26	MP2C	Z	-29.407	3
27	MP2C	Mx	-0.034	3
28	MP1A	X	-98.088	1.5
29	MP1A	Z	-56.631	1.5
30	MP1A	Mx	0.065	1.5
31	MP1A	X	-98.088	5.5
32	MP1A	Z	-56.631	5.5
33	MP1A	Mx	0.065	5.5
34	MP1B	X	-161.504	1.5
35	MP1B	Z	-93.245	1.5
36	MP1B	Mx	0	1.5
37	MP1B	X	-161.504	5.5
38	MP1B	Z	-93.245	5.5
39	MP1B	Mx	0	5.5
40	MP1C	X	-98.088	1.5
41	MP1C	Z	-56.631	1.5
42	MP1C	Mx	-0.065	1.5
43	MP1C	X	-98.088	5.5
44	MP1C	Z	-56.631	5.5
45	MP1C	Mx	-0.065	5.5
46	MP4A	X	-49.133	2.5
47	MP4A	Z	-28.367	2.5
48	MP4A	Mx	0.033	2.5
49	MP4A	X	-49.133	4.5
50	MP4A	Z	-28.367	4.5
51	MP4A	Mx	0.033	4.5
52	MP4B	X	-77.686	2.5
53	MP4B	Z	-44.852	2.5
54	MP4B	Mx	0	2.5
55	MP4B	X	-77.686	4.5

Member Point Loads (BLC 13 : Antenna Wo (300 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
56	MP4B	Z	-44.852	4.5
57	MP4B	Mx	0	4.5
58	MP4C	X	-49.133	2.5
59	MP4C	Z	-28.367	2.5
60	MP4C	Mx	-0.033	2.5
61	MP4C	X	-49.133	4.5
62	MP4C	Z	-28.367	4.5
63	MP4C	Mx	-0.033	4.5
64	MP1A	X	-75.051	3
65	MP1A	Z	-43.331	3
66	MP1A	Mx	-0.05	3
67	MP1B	X	-116.528	3
68	MP1B	Z	-67.278	3
69	MP1B	Mx	0	3
70	MP1C	X	-75.051	3
71	MP1C	Z	-43.331	3
72	MP1C	Mx	0.05	3

Member Point Loads (BLC 14 : Antenna Wo (330 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	-205.399	0.5
2	MP2A	Z	-355.762	0.5
3	MP2A	Mx	0.137	0.5
4	MP2A	X	-205.399	6.5
5	MP2A	Z	-355.762	6.5
6	MP2A	Mx	0.137	6.5
7	MP2B	X	-205.399	0.5
8	MP2B	Z	-355.762	0.5
9	MP2B	Mx	0.137	0.5
10	MP2B	X	-205.399	6.5
11	MP2B	Z	-355.762	6.5
12	MP2B	Mx	0.137	6.5
13	MP2C	X	-104.912	0.5
14	MP2C	Z	-181.713	0.5
15	MP2C	Mx	-0.14	0.5
16	MP2C	X	-104.912	6.5
17	MP2C	Z	-181.713	6.5
18	MP2C	Mx	-0.14	6.5
19	MP2A	X	-40.805	3
20	MP2A	Z	-70.677	3
21	MP2A	Mx	-0.027	3
22	MP2B	X	-40.805	3
23	MP2B	Z	-70.677	3
24	MP2B	Mx	-0.027	3
25	MP2C	X	-23.709	3
26	MP2C	Z	-41.064	3
27	MP2C	Mx	-0.032	3
28	MP1A	X	-81.04	1.5
29	MP1A	Z	-140.366	1.5
30	MP1A	Mx	0.054	1.5
31	MP1A	X	-81.04	5.5
32	MP1A	Z	-140.366	5.5
33	MP1A	Mx	0.054	5.5
34	MP1B	X	-81.04	1.5
35	MP1B	Z	-140.366	1.5

Member Point Loads (BLC 14 : Antenna Wo (330 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
36	MP1B	Mx	0.054	1.5
37	MP1B	X	-81.04	5.5
38	MP1B	Z	-140.366	5.5
39	MP1B	Mx	0.054	5.5
40	MP1C	X	-44.427	1.5
41	MP1C	Z	-76.949	1.5
42	MP1C	Mx	-0.059	1.5
43	MP1C	X	-44.427	5.5
44	MP1C	Z	-76.949	5.5
45	MP1C	Mx	-0.059	5.5
46	MP4A	X	-39.357	2.5
47	MP4A	Z	-68.168	2.5
48	MP4A	Mx	0.026	2.5
49	MP4A	X	-39.357	4.5
50	MP4A	Z	-68.168	4.5
51	MP4A	Mx	0.026	4.5
52	MP4B	X	-39.357	2.5
53	MP4B	Z	-68.168	2.5
54	MP4B	Mx	0.026	2.5
55	MP4B	X	-39.357	4.5
56	MP4B	Z	-68.168	4.5
57	MP4B	Mx	0.026	4.5
58	MP4C	X	-22.872	2.5
59	MP4C	Z	-39.615	2.5
60	MP4C	Mx	-0.03	2.5
61	MP4C	X	-22.872	4.5
62	MP4C	Z	-39.615	4.5
63	MP4C	Mx	-0.03	4.5
64	MP1A	X	-59.295	3
65	MP1A	Z	-102.703	3
66	MP1A	Mx	-0.04	3
67	MP1B	X	-59.295	3
68	MP1B	Z	-102.703	3
69	MP1B	Mx	-0.04	3
70	MP1C	X	-35.348	3
71	MP1C	Z	-61.225	3
72	MP1C	Mx	0.047	3

Member Point Loads (BLC 15 : Antenna Wi (0 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	0	0.5
2	MP2A	Z	-81.185	0.5
3	MP2A	Mx	0	0.5
4	MP2A	X	0	6.5
5	MP2A	Z	-81.185	6.5
6	MP2A	Mx	0	6.5
7	MP2B	X	0	0.5
8	MP2B	Z	-48.449	0.5
9	MP2B	Mx	0.028	0.5
10	MP2B	X	0	6.5
11	MP2B	Z	-48.449	6.5
12	MP2B	Mx	0.028	6.5
13	MP2C	X	0	0.5
14	MP2C	Z	-48.449	0.5
15	MP2C	Mx	-0.028	0.5

Member Point Loads (BLC 15 : Antenna Wi (0 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
16	MP2C	X	0	6.5
17	MP2C	Z	-48.449	6.5
18	MP2C	Mx	-0.028	6.5
19	MP2A	X	0	3
20	MP2A	Z	-14.886	3
21	MP2A	Mx	0	3
22	MP2B	X	0	3
23	MP2B	Z	-10.994	3
24	MP2B	Mx	-0.006	3
25	MP2C	X	0	3
26	MP2C	Z	-10.994	3
27	MP2C	Mx	-0.006	3
28	MP1A	X	0	1.5
29	MP1A	Z	-32.998	1.5
30	MP1A	Mx	0	1.5
31	MP1A	X	0	5.5
32	MP1A	Z	-32.998	5.5
33	MP1A	Mx	0	5.5
34	MP1B	X	0	1.5
35	MP1B	Z	-21.002	1.5
36	MP1B	Mx	0.012	1.5
37	MP1B	X	0	5.5
38	MP1B	Z	-21.002	5.5
39	MP1B	Mx	0.012	5.5
40	MP1C	X	0	1.5
41	MP1C	Z	-21.002	1.5
42	MP1C	Mx	-0.012	1.5
43	MP1C	X	0	5.5
44	MP1C	Z	-21.002	5.5
45	MP1C	Mx	-0.012	5.5
46	MP4A	X	0	2.5
47	MP4A	Z	-16.343	2.5
48	MP4A	Mx	0	2.5
49	MP4A	X	0	4.5
50	MP4A	Z	-16.343	4.5
51	MP4A	Mx	0	4.5
52	MP4B	X	0	2.5
53	MP4B	Z	-10.717	2.5
54	MP4B	Mx	0.006	2.5
55	MP4B	X	0	4.5
56	MP4B	Z	-10.717	4.5
57	MP4B	Mx	0.006	4.5
58	MP4C	X	0	2.5
59	MP4C	Z	-10.717	2.5
60	MP4C	Mx	-0.006	2.5
61	MP4C	X	0	4.5
62	MP4C	Z	-10.717	4.5
63	MP4C	Mx	-0.006	4.5
64	MP1A	X	0	3
65	MP1A	Z	-19.109	3
66	MP1A	Mx	0	3
67	MP1B	X	0	3
68	MP1B	Z	-15.146	3
69	MP1B	Mx	-0.009	3
70	MP1C	X	0	3

Member Point Loads (BLC 15 : Antenna Wi (0 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
71	MP1C	Z	-15.146	3
72	MP1C	Mx	0.009	3

Member Point Loads (BLC 16 : Antenna Wi (30 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	35.136	0.5
2	MP2A	Z	-60.858	0.5
3	MP2A	Mx	-0.023	0.5
4	MP2A	X	35.136	6.5
5	MP2A	Z	-60.858	6.5
6	MP2A	Mx	-0.023	6.5
7	MP2B	X	18.769	0.5
8	MP2B	Z	-32.508	0.5
9	MP2B	Mx	0.025	0.5
10	MP2B	X	18.769	6.5
11	MP2B	Z	-32.508	6.5
12	MP2B	Mx	0.025	6.5
13	MP2C	X	35.136	0.5
14	MP2C	Z	-60.858	0.5
15	MP2C	Mx	-0.023	0.5
16	MP2C	X	35.136	6.5
17	MP2C	Z	-60.858	6.5
18	MP2C	Mx	-0.023	6.5
19	MP2A	X	6.794	3
20	MP2A	Z	-11.768	3
21	MP2A	Mx	0.005	3
22	MP2B	X	4.849	3
23	MP2B	Z	-8.398	3
24	MP2B	Mx	-0.006	3
25	MP2C	X	6.794	3
26	MP2C	Z	-11.768	3
27	MP2C	Mx	-0.005	3
28	MP1A	X	14.5	1.5
29	MP1A	Z	-25.114	1.5
30	MP1A	Mx	-0.01	1.5
31	MP1A	X	14.5	5.5
32	MP1A	Z	-25.114	5.5
33	MP1A	Mx	-0.01	5.5
34	MP1B	X	8.502	1.5
35	MP1B	Z	-14.726	1.5
36	MP1B	Mx	0.011	1.5
37	MP1B	X	8.502	5.5
38	MP1B	Z	-14.726	5.5
39	MP1B	Mx	0.011	5.5
40	MP1C	X	14.5	1.5
41	MP1C	Z	-25.114	1.5
42	MP1C	Mx	-0.01	1.5
43	MP1C	X	14.5	5.5
44	MP1C	Z	-25.114	5.5
45	MP1C	Mx	-0.01	5.5
46	MP4A	X	7.234	2.5
47	MP4A	Z	-12.529	2.5
48	MP4A	Mx	-0.005	2.5
49	MP4A	X	7.234	4.5
50	MP4A	Z	-12.529	4.5

Member Point Loads (BLC 16 : Antenna Wi (30 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
51	MP4A	Mx	-0.005	4.5
52	MP4B	X	4.421	2.5
53	MP4B	Z	-7.657	2.5
54	MP4B	Mx	0.006	2.5
55	MP4B	X	4.421	4.5
56	MP4B	Z	-7.657	4.5
57	MP4B	Mx	0.006	4.5
58	MP4C	X	7.234	2.5
59	MP4C	Z	-12.529	2.5
60	MP4C	Mx	-0.005	2.5
61	MP4C	X	7.234	4.5
62	MP4C	Z	-12.529	4.5
63	MP4C	Mx	-0.005	4.5
64	MP1A	X	8.894	3
65	MP1A	Z	-15.405	3
66	MP1A	Mx	0.006	3
67	MP1B	X	6.912	3
68	MP1B	Z	-11.972	3
69	MP1B	Mx	-0.009	3
70	MP1C	X	8.894	3
71	MP1C	Z	-15.405	3
72	MP1C	Mx	0.006	3

Member Point Loads (BLC 17 : Antenna Wi (60 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	41.958	0.5
2	MP2A	Z	-24.225	0.5
3	MP2A	Mx	-0.028	0.5
4	MP2A	X	41.958	6.5
5	MP2A	Z	-24.225	6.5
6	MP2A	Mx	-0.028	6.5
7	MP2B	X	41.958	0.5
8	MP2B	Z	-24.225	0.5
9	MP2B	Mx	0.028	0.5
10	MP2B	X	41.958	6.5
11	MP2B	Z	-24.225	6.5
12	MP2B	Mx	0.028	6.5
13	MP2C	X	70.308	0.5
14	MP2C	Z	-40.592	0.5
15	MP2C	Mx	0	0.5
16	MP2C	X	70.308	6.5
17	MP2C	Z	-40.592	6.5
18	MP2C	Mx	0	6.5
19	MP2A	X	9.521	3
20	MP2A	Z	-5.497	3
21	MP2A	Mx	0.006	3
22	MP2B	X	9.521	3
23	MP2B	Z	-5.497	3
24	MP2B	Mx	-0.006	3
25	MP2C	X	12.892	3
26	MP2C	Z	-7.443	3
27	MP2C	Mx	0	3
28	MP1A	X	18.189	1.5
29	MP1A	Z	-10.501	1.5
30	MP1A	Mx	-0.012	1.5

Member Point Loads (BLC 17 : Antenna Wi (60 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
31	MP1A	X	18.189	5.5
32	MP1A	Z	-10.501	5.5
33	MP1A	Mx	-0.012	5.5
34	MP1B	X	18.189	1.5
35	MP1B	Z	-10.501	1.5
36	MP1B	Mx	0.012	1.5
37	MP1B	X	18.189	5.5
38	MP1B	Z	-10.501	5.5
39	MP1B	Mx	0.012	5.5
40	MP1C	X	28.577	1.5
41	MP1C	Z	-16.499	1.5
42	MP1C	Mx	0	1.5
43	MP1C	X	28.577	5.5
44	MP1C	Z	-16.499	5.5
45	MP1C	Mx	0	5.5
46	MP4A	X	9.281	2.5
47	MP4A	Z	-5.359	2.5
48	MP4A	Mx	-0.006	2.5
49	MP4A	X	9.281	4.5
50	MP4A	Z	-5.359	4.5
51	MP4A	Mx	-0.006	4.5
52	MP4B	X	9.281	2.5
53	MP4B	Z	-5.359	2.5
54	MP4B	Mx	0.006	2.5
55	MP4B	X	9.281	4.5
56	MP4B	Z	-5.359	4.5
57	MP4B	Mx	0.006	4.5
58	MP4C	X	14.153	2.5
59	MP4C	Z	-8.171	2.5
60	MP4C	Mx	0	2.5
61	MP4C	X	14.153	4.5
62	MP4C	Z	-8.171	4.5
63	MP4C	Mx	0	4.5
64	MP1A	X	13.117	3
65	MP1A	Z	-7.573	3
66	MP1A	Mx	0.009	3
67	MP1B	X	13.117	3
68	MP1B	Z	-7.573	3
69	MP1B	Mx	-0.009	3
70	MP1C	X	16.549	3
71	MP1C	Z	-9.555	3
72	MP1C	Mx	0	3

Member Point Loads (BLC 18 : Antenna Wi (90 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	37.538	0.5
2	MP2A	Z	0	0.5
3	MP2A	Mx	-0.025	0.5
4	MP2A	X	37.538	6.5
5	MP2A	Z	0	6.5
6	MP2A	Mx	-0.025	6.5
7	MP2B	X	70.273	0.5
8	MP2B	Z	0	0.5
9	MP2B	Mx	0.023	0.5
10	MP2B	X	70.273	6.5

Member Point Loads (BLC 18 : Antenna Wi (90 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
11	MP2B	Z	0	6.5
12	MP2B	Mx	0.023	6.5
13	MP2C	X	70.273	0.5
14	MP2C	Z	0	0.5
15	MP2C	Mx	0.023	0.5
16	MP2C	X	70.273	6.5
17	MP2C	Z	0	6.5
18	MP2C	Mx	0.023	6.5
19	MP2A	X	9.697	3
20	MP2A	Z	0	3
21	MP2A	Mx	0.006	3
22	MP2B	X	13.589	3
23	MP2B	Z	0	3
24	MP2B	Mx	-0.005	3
25	MP2C	X	13.589	3
26	MP2C	Z	0	3
27	MP2C	Mx	0.005	3
28	MP1A	X	17.004	1.5
29	MP1A	Z	0	1.5
30	MP1A	Mx	-0.011	1.5
31	MP1A	X	17.004	5.5
32	MP1A	Z	0	5.5
33	MP1A	Mx	-0.011	5.5
34	MP1B	X	28.999	1.5
35	MP1B	Z	0	1.5
36	MP1B	Mx	0.01	1.5
37	MP1B	X	28.999	5.5
38	MP1B	Z	0	5.5
39	MP1B	Mx	0.01	5.5
40	MP1C	X	28.999	1.5
41	MP1C	Z	0	1.5
42	MP1C	Mx	0.01	1.5
43	MP1C	X	28.999	5.5
44	MP1C	Z	0	5.5
45	MP1C	Mx	0.01	5.5
46	MP4A	X	8.842	2.5
47	MP4A	Z	0	2.5
48	MP4A	Mx	-0.006	2.5
49	MP4A	X	8.842	4.5
50	MP4A	Z	0	4.5
51	MP4A	Mx	-0.006	4.5
52	MP4B	X	14.468	2.5
53	MP4B	Z	0	2.5
54	MP4B	Mx	0.005	2.5
55	MP4B	X	14.468	4.5
56	MP4B	Z	0	4.5
57	MP4B	Mx	0.005	4.5
58	MP4C	X	14.468	2.5
59	MP4C	Z	0	2.5
60	MP4C	Mx	0.005	2.5
61	MP4C	X	14.468	4.5
62	MP4C	Z	0	4.5
63	MP4C	Mx	0.005	4.5
64	MP1A	X	13.825	3
65	MP1A	Z	0	3

Member Point Loads (BLC 18 : Antenna Wi (90 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
66	MP1A	Mx	0.009	3
67	MP1B	X	17.788	3
68	MP1B	Z	0	3
69	MP1B	Mx	-0.006	3
70	MP1C	X	17.788	3
71	MP1C	Z	0	3
72	MP1C	Mx	-0.006	3

Member Point Loads (BLC 19 : Antenna Wi (120 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	41.958	0.5
2	MP2A	Z	24.225	0.5
3	MP2A	Mx	-0.028	0.5
4	MP2A	X	41.958	6.5
5	MP2A	Z	24.225	6.5
6	MP2A	Mx	-0.028	6.5
7	MP2B	X	70.308	0.5
8	MP2B	Z	40.592	0.5
9	MP2B	Mx	0	0.5
10	MP2B	X	70.308	6.5
11	MP2B	Z	40.592	6.5
12	MP2B	Mx	0	6.5
13	MP2C	X	41.958	0.5
14	MP2C	Z	24.225	0.5
15	MP2C	Mx	0.028	0.5
16	MP2C	X	41.958	6.5
17	MP2C	Z	24.225	6.5
18	MP2C	Mx	0.028	6.5
19	MP2A	X	9.521	3
20	MP2A	Z	5.497	3
21	MP2A	Mx	0.006	3
22	MP2B	X	12.892	3
23	MP2B	Z	7.443	3
24	MP2B	Mx	0	3
25	MP2C	X	9.521	3
26	MP2C	Z	5.497	3
27	MP2C	Mx	0.006	3
28	MP1A	X	18.189	1.5
29	MP1A	Z	10.501	1.5
30	MP1A	Mx	-0.012	1.5
31	MP1A	X	18.189	5.5
32	MP1A	Z	10.501	5.5
33	MP1A	Mx	-0.012	5.5
34	MP1B	X	28.577	1.5
35	MP1B	Z	16.499	1.5
36	MP1B	Mx	0	1.5
37	MP1B	X	28.577	5.5
38	MP1B	Z	16.499	5.5
39	MP1B	Mx	0	5.5
40	MP1C	X	18.189	1.5
41	MP1C	Z	10.501	1.5
42	MP1C	Mx	0.012	1.5
43	MP1C	X	18.189	5.5
44	MP1C	Z	10.501	5.5
45	MP1C	Mx	0.012	5.5

Member Point Loads (BLC 19 : Antenna Wi (120 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
46	MP4A	X	9.281	2.5
47	MP4A	Z	5.359	2.5
48	MP4A	Mx	-0.006	2.5
49	MP4A	X	9.281	4.5
50	MP4A	Z	5.359	4.5
51	MP4A	Mx	-0.006	4.5
52	MP4B	X	14.153	2.5
53	MP4B	Z	8.171	2.5
54	MP4B	Mx	0	2.5
55	MP4B	X	14.153	4.5
56	MP4B	Z	8.171	4.5
57	MP4B	Mx	0	4.5
58	MP4C	X	9.281	2.5
59	MP4C	Z	5.359	2.5
60	MP4C	Mx	0.006	2.5
61	MP4C	X	9.281	4.5
62	MP4C	Z	5.359	4.5
63	MP4C	Mx	0.006	4.5
64	MP1A	X	13.117	3
65	MP1A	Z	7.573	3
66	MP1A	Mx	0.009	3
67	MP1B	X	16.549	3
68	MP1B	Z	9.555	3
69	MP1B	Mx	0	3
70	MP1C	X	13.117	3
71	MP1C	Z	7.573	3
72	MP1C	Mx	-0.009	3

Member Point Loads (BLC 20 : Antenna Wi (150 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	35.136	0.5
2	MP2A	Z	60.858	0.5
3	MP2A	Mx	-0.023	0.5
4	MP2A	X	35.136	6.5
5	MP2A	Z	60.858	6.5
6	MP2A	Mx	-0.023	6.5
7	MP2B	X	35.136	0.5
8	MP2B	Z	60.858	0.5
9	MP2B	Mx	-0.023	0.5
10	MP2B	X	35.136	6.5
11	MP2B	Z	60.858	6.5
12	MP2B	Mx	-0.023	6.5
13	MP2C	X	18.769	0.5
14	MP2C	Z	32.508	0.5
15	MP2C	Mx	0.025	0.5
16	MP2C	X	18.769	6.5
17	MP2C	Z	32.508	6.5
18	MP2C	Mx	0.025	6.5
19	MP2A	X	6.794	3
20	MP2A	Z	11.768	3
21	MP2A	Mx	0.005	3
22	MP2B	X	6.794	3
23	MP2B	Z	11.768	3
24	MP2B	Mx	0.005	3
25	MP2C	X	4.849	3

Member Point Loads (BLC 20 : Antenna Wi (150 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
26	MP2C	Z	8.398	3
27	MP2C	Mx	0.006	3
28	MP1A	X	14.5	1.5
29	MP1A	Z	25.114	1.5
30	MP1A	Mx	-0.01	1.5
31	MP1A	X	14.5	5.5
32	MP1A	Z	25.114	5.5
33	MP1A	Mx	-0.01	5.5
34	MP1B	X	14.5	1.5
35	MP1B	Z	25.114	1.5
36	MP1B	Mx	-0.01	1.5
37	MP1B	X	14.5	5.5
38	MP1B	Z	25.114	5.5
39	MP1B	Mx	-0.01	5.5
40	MP1C	X	8.502	1.5
41	MP1C	Z	14.726	1.5
42	MP1C	Mx	0.011	1.5
43	MP1C	X	8.502	5.5
44	MP1C	Z	14.726	5.5
45	MP1C	Mx	0.011	5.5
46	MP4A	X	7.234	2.5
47	MP4A	Z	12.529	2.5
48	MP4A	Mx	-0.005	2.5
49	MP4A	X	7.234	4.5
50	MP4A	Z	12.529	4.5
51	MP4A	Mx	-0.005	4.5
52	MP4B	X	7.234	2.5
53	MP4B	Z	12.529	2.5
54	MP4B	Mx	-0.005	2.5
55	MP4B	X	7.234	4.5
56	MP4B	Z	12.529	4.5
57	MP4B	Mx	-0.005	4.5
58	MP4C	X	4.421	2.5
59	MP4C	Z	7.657	2.5
60	MP4C	Mx	0.006	2.5
61	MP4C	X	4.421	4.5
62	MP4C	Z	7.657	4.5
63	MP4C	Mx	0.006	4.5
64	MP1A	X	8.894	3
65	MP1A	Z	15.405	3
66	MP1A	Mx	0.006	3
67	MP1B	X	8.894	3
68	MP1B	Z	15.405	3
69	MP1B	Mx	0.006	3
70	MP1C	X	6.912	3
71	MP1C	Z	11.972	3
72	MP1C	Mx	-0.009	3

Member Point Loads (BLC 21 : Antenna Wi (180 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	0	0.5
2	MP2A	Z	81.185	0.5
3	MP2A	Mx	0	0.5
4	MP2A	X	0	6.5
5	MP2A	Z	81.185	6.5

Member Point Loads (BLC 21 : Antenna Wi (180 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
6	MP2A	Mx	0	6.5
7	MP2B	X	0	0.5
8	MP2B	Z	48.449	0.5
9	MP2B	Mx	-0.028	0.5
10	MP2B	X	0	6.5
11	MP2B	Z	48.449	6.5
12	MP2B	Mx	-0.028	6.5
13	MP2C	X	0	0.5
14	MP2C	Z	48.449	0.5
15	MP2C	Mx	0.028	0.5
16	MP2C	X	0	6.5
17	MP2C	Z	48.449	6.5
18	MP2C	Mx	0.028	6.5
19	MP2A	X	0	3
20	MP2A	Z	14.886	3
21	MP2A	Mx	0	3
22	MP2B	X	0	3
23	MP2B	Z	10.994	3
24	MP2B	Mx	0.006	3
25	MP2C	X	0	3
26	MP2C	Z	10.994	3
27	MP2C	Mx	0.006	3
28	MP1A	X	0	1.5
29	MP1A	Z	32.998	1.5
30	MP1A	Mx	0	1.5
31	MP1A	X	0	5.5
32	MP1A	Z	32.998	5.5
33	MP1A	Mx	0	5.5
34	MP1B	X	0	1.5
35	MP1B	Z	21.002	1.5
36	MP1B	Mx	-0.012	1.5
37	MP1B	X	0	5.5
38	MP1B	Z	21.002	5.5
39	MP1B	Mx	-0.012	5.5
40	MP1C	X	0	1.5
41	MP1C	Z	21.002	1.5
42	MP1C	Mx	0.012	1.5
43	MP1C	X	0	5.5
44	MP1C	Z	21.002	5.5
45	MP1C	Mx	0.012	5.5
46	MP4A	X	0	2.5
47	MP4A	Z	16.343	2.5
48	MP4A	Mx	0	2.5
49	MP4A	X	0	4.5
50	MP4A	Z	16.343	4.5
51	MP4A	Mx	0	4.5
52	MP4B	X	0	2.5
53	MP4B	Z	10.717	2.5
54	MP4B	Mx	-0.006	2.5
55	MP4B	X	0	4.5
56	MP4B	Z	10.717	4.5
57	MP4B	Mx	-0.006	4.5
58	MP4C	X	0	2.5
59	MP4C	Z	10.717	2.5
60	MP4C	Mx	0.006	2.5

Member Point Loads (BLC 21 : Antenna Wi (180 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
61	MP4C	X	0	4.5
62	MP4C	Z	10.717	4.5
63	MP4C	Mx	0.006	4.5
64	MP1A	X	0	3
65	MP1A	Z	19.109	3
66	MP1A	Mx	0	3
67	MP1B	X	0	3
68	MP1B	Z	15.146	3
69	MP1B	Mx	0.009	3
70	MP1C	X	0	3
71	MP1C	Z	15.146	3
72	MP1C	Mx	-0.009	3

Member Point Loads (BLC 22 : Antenna Wi (210 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	-35.136	0.5
2	MP2A	Z	60.858	0.5
3	MP2A	Mx	0.023	0.5
4	MP2A	X	-35.136	6.5
5	MP2A	Z	60.858	6.5
6	MP2A	Mx	0.023	6.5
7	MP2B	X	-18.769	0.5
8	MP2B	Z	32.508	0.5
9	MP2B	Mx	-0.025	0.5
10	MP2B	X	-18.769	6.5
11	MP2B	Z	32.508	6.5
12	MP2B	Mx	-0.025	6.5
13	MP2C	X	-35.136	0.5
14	MP2C	Z	60.858	0.5
15	MP2C	Mx	0.023	0.5
16	MP2C	X	-35.136	6.5
17	MP2C	Z	60.858	6.5
18	MP2C	Mx	0.023	6.5
19	MP2A	X	-6.794	3
20	MP2A	Z	11.768	3
21	MP2A	Mx	-0.005	3
22	MP2B	X	-4.849	3
23	MP2B	Z	8.398	3
24	MP2B	Mx	0.006	3
25	MP2C	X	-6.794	3
26	MP2C	Z	11.768	3
27	MP2C	Mx	0.005	3
28	MP1A	X	-14.5	1.5
29	MP1A	Z	25.114	1.5
30	MP1A	Mx	0.01	1.5
31	MP1A	X	-14.5	5.5
32	MP1A	Z	25.114	5.5
33	MP1A	Mx	0.01	5.5
34	MP1B	X	-8.502	1.5
35	MP1B	Z	14.726	1.5
36	MP1B	Mx	-0.011	1.5
37	MP1B	X	-8.502	5.5
38	MP1B	Z	14.726	5.5
39	MP1B	Mx	-0.011	5.5
40	MP1C	X	-14.5	1.5

Member Point Loads (BLC 22 : Antenna Wi (210 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
41	MP1C	Z	25.114	1.5
42	MP1C	Mx	0.01	1.5
43	MP1C	X	-14.5	5.5
44	MP1C	Z	25.114	5.5
45	MP1C	Mx	0.01	5.5
46	MP4A	X	-7.234	2.5
47	MP4A	Z	12.529	2.5
48	MP4A	Mx	0.005	2.5
49	MP4A	X	-7.234	4.5
50	MP4A	Z	12.529	4.5
51	MP4A	Mx	0.005	4.5
52	MP4B	X	-4.421	2.5
53	MP4B	Z	7.657	2.5
54	MP4B	Mx	-0.006	2.5
55	MP4B	X	-4.421	4.5
56	MP4B	Z	7.657	4.5
57	MP4B	Mx	-0.006	4.5
58	MP4C	X	-7.234	2.5
59	MP4C	Z	12.529	2.5
60	MP4C	Mx	0.005	2.5
61	MP4C	X	-7.234	4.5
62	MP4C	Z	12.529	4.5
63	MP4C	Mx	0.005	4.5
64	MP1A	X	-8.894	3
65	MP1A	Z	15.405	3
66	MP1A	Mx	-0.006	3
67	MP1B	X	-6.912	3
68	MP1B	Z	11.972	3
69	MP1B	Mx	0.009	3
70	MP1C	X	-8.894	3
71	MP1C	Z	15.405	3
72	MP1C	Mx	-0.006	3

Member Point Loads (BLC 23 : Antenna Wi (240 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	-41.958	0.5
2	MP2A	Z	24.225	0.5
3	MP2A	Mx	0.028	0.5
4	MP2A	X	-41.958	6.5
5	MP2A	Z	24.225	6.5
6	MP2A	Mx	0.028	6.5
7	MP2B	X	-41.958	0.5
8	MP2B	Z	24.225	0.5
9	MP2B	Mx	-0.028	0.5
10	MP2B	X	-41.958	6.5
11	MP2B	Z	24.225	6.5
12	MP2B	Mx	-0.028	6.5
13	MP2C	X	-70.308	0.5
14	MP2C	Z	40.592	0.5
15	MP2C	Mx	0	0.5
16	MP2C	X	-70.308	6.5
17	MP2C	Z	40.592	6.5
18	MP2C	Mx	0	6.5
19	MP2A	X	-9.521	3
20	MP2A	Z	5.497	3

Member Point Loads (BLC 23 : Antenna Wi (240 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
21	MP2A	Mx	-0.006	3
22	MP2B	X	-9.521	3
23	MP2B	Z	5.497	3
24	MP2B	Mx	0.006	3
25	MP2C	X	-12.892	3
26	MP2C	Z	7.443	3
27	MP2C	Mx	0	3
28	MP1A	X	-18.189	1.5
29	MP1A	Z	10.501	1.5
30	MP1A	Mx	0.012	1.5
31	MP1A	X	-18.189	5.5
32	MP1A	Z	10.501	5.5
33	MP1A	Mx	0.012	5.5
34	MP1B	X	-18.189	1.5
35	MP1B	Z	10.501	1.5
36	MP1B	Mx	-0.012	1.5
37	MP1B	X	-18.189	5.5
38	MP1B	Z	10.501	5.5
39	MP1B	Mx	-0.012	5.5
40	MP1C	X	-28.577	1.5
41	MP1C	Z	16.499	1.5
42	MP1C	Mx	0	1.5
43	MP1C	X	-28.577	5.5
44	MP1C	Z	16.499	5.5
45	MP1C	Mx	0	5.5
46	MP4A	X	-9.281	2.5
47	MP4A	Z	5.359	2.5
48	MP4A	Mx	0.006	2.5
49	MP4A	X	-9.281	4.5
50	MP4A	Z	5.359	4.5
51	MP4A	Mx	0.006	4.5
52	MP4B	X	-9.281	2.5
53	MP4B	Z	5.359	2.5
54	MP4B	Mx	-0.006	2.5
55	MP4B	X	-9.281	4.5
56	MP4B	Z	5.359	4.5
57	MP4B	Mx	-0.006	4.5
58	MP4C	X	-14.153	2.5
59	MP4C	Z	8.171	2.5
60	MP4C	Mx	0	2.5
61	MP4C	X	-14.153	4.5
62	MP4C	Z	8.171	4.5
63	MP4C	Mx	0	4.5
64	MP1A	X	-13.117	3
65	MP1A	Z	7.573	3
66	MP1A	Mx	-0.009	3
67	MP1B	X	-13.117	3
68	MP1B	Z	7.573	3
69	MP1B	Mx	0.009	3
70	MP1C	X	-16.549	3
71	MP1C	Z	9.555	3
72	MP1C	Mx	0	3

Member Point Loads (BLC 24 : Antenna Wi (270 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	-37.538	0.5
2	MP2A	Z	0	0.5
3	MP2A	Mx	0.025	0.5
4	MP2A	X	-37.538	6.5
5	MP2A	Z	0	6.5
6	MP2A	Mx	0.025	6.5
7	MP2B	X	-70.273	0.5
8	MP2B	Z	0	0.5
9	MP2B	Mx	-0.023	0.5
10	MP2B	X	-70.273	6.5
11	MP2B	Z	0	6.5
12	MP2B	Mx	-0.023	6.5
13	MP2C	X	-70.273	0.5
14	MP2C	Z	0	0.5
15	MP2C	Mx	-0.023	0.5
16	MP2C	X	-70.273	6.5
17	MP2C	Z	0	6.5
18	MP2C	Mx	-0.023	6.5
19	MP2A	X	-9.697	3
20	MP2A	Z	0	3
21	MP2A	Mx	-0.006	3
22	MP2B	X	-13.589	3
23	MP2B	Z	0	3
24	MP2B	Mx	0.005	3
25	MP2C	X	-13.589	3
26	MP2C	Z	0	3
27	MP2C	Mx	-0.005	3
28	MP1A	X	-17.004	1.5
29	MP1A	Z	0	1.5
30	MP1A	Mx	0.011	1.5
31	MP1A	X	-17.004	5.5
32	MP1A	Z	0	5.5
33	MP1A	Mx	0.011	5.5
34	MP1B	X	-28.999	1.5
35	MP1B	Z	0	1.5
36	MP1B	Mx	-0.01	1.5
37	MP1B	X	-28.999	5.5
38	MP1B	Z	0	5.5
39	MP1B	Mx	-0.01	5.5
40	MP1C	X	-28.999	1.5
41	MP1C	Z	0	1.5
42	MP1C	Mx	-0.01	1.5
43	MP1C	X	-28.999	5.5
44	MP1C	Z	0	5.5
45	MP1C	Mx	-0.01	5.5
46	MP4A	X	-8.842	2.5
47	MP4A	Z	0	2.5
48	MP4A	Mx	0.006	2.5
49	MP4A	X	-8.842	4.5
50	MP4A	Z	0	4.5
51	MP4A	Mx	0.006	4.5
52	MP4B	X	-14.468	2.5
53	MP4B	Z	0	2.5
54	MP4B	Mx	-0.005	2.5
55	MP4B	X	-14.468	4.5

Member Point Loads (BLC 24 : Antenna Wi (270 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
56	MP4B	Z	0	4.5
57	MP4B	Mx	-0.005	4.5
58	MP4C	X	-14.468	2.5
59	MP4C	Z	0	2.5
60	MP4C	Mx	-0.005	2.5
61	MP4C	X	-14.468	4.5
62	MP4C	Z	0	4.5
63	MP4C	Mx	-0.005	4.5
64	MP1A	X	-13.825	3
65	MP1A	Z	0	3
66	MP1A	Mx	-0.009	3
67	MP1B	X	-17.788	3
68	MP1B	Z	0	3
69	MP1B	Mx	0.006	3
70	MP1C	X	-17.788	3
71	MP1C	Z	0	3
72	MP1C	Mx	0.006	3

Member Point Loads (BLC 25 : Antenna Wi (300 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	-41.958	0.5
2	MP2A	Z	-24.225	0.5
3	MP2A	Mx	0.028	0.5
4	MP2A	X	-41.958	6.5
5	MP2A	Z	-24.225	6.5
6	MP2A	Mx	0.028	6.5
7	MP2B	X	-70.308	0.5
8	MP2B	Z	-40.592	0.5
9	MP2B	Mx	0	0.5
10	MP2B	X	-70.308	6.5
11	MP2B	Z	-40.592	6.5
12	MP2B	Mx	0	6.5
13	MP2C	X	-41.958	0.5
14	MP2C	Z	-24.225	0.5
15	MP2C	Mx	-0.028	0.5
16	MP2C	X	-41.958	6.5
17	MP2C	Z	-24.225	6.5
18	MP2C	Mx	-0.028	6.5
19	MP2A	X	-9.521	3
20	MP2A	Z	-5.497	3
21	MP2A	Mx	-0.006	3
22	MP2B	X	-12.892	3
23	MP2B	Z	-7.443	3
24	MP2B	Mx	0	3
25	MP2C	X	-9.521	3
26	MP2C	Z	-5.497	3
27	MP2C	Mx	-0.006	3
28	MP1A	X	-18.189	1.5
29	MP1A	Z	-10.501	1.5
30	MP1A	Mx	0.012	1.5
31	MP1A	X	-18.189	5.5
32	MP1A	Z	-10.501	5.5
33	MP1A	Mx	0.012	5.5
34	MP1B	X	-28.577	1.5
35	MP1B	Z	-16.499	1.5

Member Point Loads (BLC 25 : Antenna Wi (300 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
36	MP1B	Mx	0	1.5
37	MP1B	X	-28.577	5.5
38	MP1B	Z	-16.499	5.5
39	MP1B	Mx	0	5.5
40	MP1C	X	-18.189	1.5
41	MP1C	Z	-10.501	1.5
42	MP1C	Mx	-0.012	1.5
43	MP1C	X	-18.189	5.5
44	MP1C	Z	-10.501	5.5
45	MP1C	Mx	-0.012	5.5
46	MP4A	X	-9.281	2.5
47	MP4A	Z	-5.359	2.5
48	MP4A	Mx	0.006	2.5
49	MP4A	X	-9.281	4.5
50	MP4A	Z	-5.359	4.5
51	MP4A	Mx	0.006	4.5
52	MP4B	X	-14.153	2.5
53	MP4B	Z	-8.171	2.5
54	MP4B	Mx	0	2.5
55	MP4B	X	-14.153	4.5
56	MP4B	Z	-8.171	4.5
57	MP4B	Mx	0	4.5
58	MP4C	X	-9.281	2.5
59	MP4C	Z	-5.359	2.5
60	MP4C	Mx	-0.006	2.5
61	MP4C	X	-9.281	4.5
62	MP4C	Z	-5.359	4.5
63	MP4C	Mx	-0.006	4.5
64	MP1A	X	-13.117	3
65	MP1A	Z	-7.573	3
66	MP1A	Mx	-0.009	3
67	MP1B	X	-16.549	3
68	MP1B	Z	-9.555	3
69	MP1B	Mx	0	3
70	MP1C	X	-13.117	3
71	MP1C	Z	-7.573	3
72	MP1C	Mx	0.009	3

Member Point Loads (BLC 26 : Antenna Wi (330 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	-35.136	0.5
2	MP2A	Z	-60.858	0.5
3	MP2A	Mx	0.023	0.5
4	MP2A	X	-35.136	6.5
5	MP2A	Z	-60.858	6.5
6	MP2A	Mx	0.023	6.5
7	MP2B	X	-35.136	0.5
8	MP2B	Z	-60.858	0.5
9	MP2B	Mx	0.023	0.5
10	MP2B	X	-35.136	6.5
11	MP2B	Z	-60.858	6.5
12	MP2B	Mx	0.023	6.5
13	MP2C	X	-18.769	0.5
14	MP2C	Z	-32.508	0.5
15	MP2C	Mx	-0.025	0.5

Member Point Loads (BLC 26 : Antenna Wi (330 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
16	MP2C	X	-18.769	6.5
17	MP2C	Z	-32.508	6.5
18	MP2C	Mx	-0.025	6.5
19	MP2A	X	-6.794	3
20	MP2A	Z	-11.768	3
21	MP2A	Mx	-0.005	3
22	MP2B	X	-6.794	3
23	MP2B	Z	-11.768	3
24	MP2B	Mx	-0.005	3
25	MP2C	X	-4.849	3
26	MP2C	Z	-8.398	3
27	MP2C	Mx	-0.006	3
28	MP1A	X	-14.5	1.5
29	MP1A	Z	-25.114	1.5
30	MP1A	Mx	0.01	1.5
31	MP1A	X	-14.5	5.5
32	MP1A	Z	-25.114	5.5
33	MP1A	Mx	0.01	5.5
34	MP1B	X	-14.5	1.5
35	MP1B	Z	-25.114	1.5
36	MP1B	Mx	0.01	1.5
37	MP1B	X	-14.5	5.5
38	MP1B	Z	-25.114	5.5
39	MP1B	Mx	0.01	5.5
40	MP1C	X	-8.502	1.5
41	MP1C	Z	-14.726	1.5
42	MP1C	Mx	-0.011	1.5
43	MP1C	X	-8.502	5.5
44	MP1C	Z	-14.726	5.5
45	MP1C	Mx	-0.011	5.5
46	MP4A	X	-7.234	2.5
47	MP4A	Z	-12.529	2.5
48	MP4A	Mx	0.005	2.5
49	MP4A	X	-7.234	4.5
50	MP4A	Z	-12.529	4.5
51	MP4A	Mx	0.005	4.5
52	MP4B	X	-7.234	2.5
53	MP4B	Z	-12.529	2.5
54	MP4B	Mx	0.005	2.5
55	MP4B	X	-7.234	4.5
56	MP4B	Z	-12.529	4.5
57	MP4B	Mx	0.005	4.5
58	MP4C	X	-4.421	2.5
59	MP4C	Z	-7.657	2.5
60	MP4C	Mx	-0.006	2.5
61	MP4C	X	-4.421	4.5
62	MP4C	Z	-7.657	4.5
63	MP4C	Mx	-0.006	4.5
64	MP1A	X	-8.894	3
65	MP1A	Z	-15.405	3
66	MP1A	Mx	-0.006	3
67	MP1B	X	-8.894	3
68	MP1B	Z	-15.405	3
69	MP1B	Mx	-0.006	3
70	MP1C	X	-6.912	3

Member Point Loads (BLC 26 : Antenna Wi (330 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
71	MP1C	Z	-11.972	3
72	MP1C	Mx	0.009	3

Member Point Loads (BLC 27 : Antenna Wm (0 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	0	0.5
2	MP2A	Z	-27.521	0.5
3	MP2A	Mx	0	0.5
4	MP2A	X	0	6.5
5	MP2A	Z	-27.521	6.5
6	MP2A	Mx	0	6.5
7	MP2B	X	0	0.5
8	MP2B	Z	-15.945	0.5
9	MP2B	Mx	0.009	0.5
10	MP2B	X	0	6.5
11	MP2B	Z	-15.945	6.5
12	MP2B	Mx	0.009	6.5
13	MP2C	X	0	0.5
14	MP2C	Z	-15.945	0.5
15	MP2C	Mx	-0.009	0.5
16	MP2C	X	0	6.5
17	MP2C	Z	-15.945	6.5
18	MP2C	Mx	-0.009	6.5
19	MP2A	X	0	3
20	MP2A	Z	-5.357	3
21	MP2A	Mx	0	3
22	MP2B	X	0	3
23	MP2B	Z	-3.388	3
24	MP2B	Mx	-0.002	3
25	MP2C	X	0	3
26	MP2C	Z	-3.388	3
27	MP2C	Mx	-0.002	3
28	MP1A	X	0	1.5
29	MP1A	Z	-10.742	1.5
30	MP1A	Mx	0	1.5
31	MP1A	X	0	5.5
32	MP1A	Z	-10.742	5.5
33	MP1A	Mx	0	5.5
34	MP1B	X	0	1.5
35	MP1B	Z	-6.524	1.5
36	MP1B	Mx	0.004	1.5
37	MP1B	X	0	5.5
38	MP1B	Z	-6.524	5.5
39	MP1B	Mx	0.004	5.5
40	MP1C	X	0	1.5
41	MP1C	Z	-6.524	1.5
42	MP1C	Mx	-0.004	1.5
43	MP1C	X	0	5.5
44	MP1C	Z	-6.524	5.5
45	MP1C	Mx	-0.004	5.5
46	MP4A	X	0	2.5
47	MP4A	Z	-5.167	2.5
48	MP4A	Mx	0	2.5
49	MP4A	X	0	4.5
50	MP4A	Z	-5.167	4.5

Member Point Loads (BLC 27 : Antenna Wm (0 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
51	MP4A	Mx	0	4.5
52	MP4B	X	0	2.5
53	MP4B	Z	-3.268	2.5
54	MP4B	Mx	0.002	2.5
55	MP4B	X	0	4.5
56	MP4B	Z	-3.268	4.5
57	MP4B	Mx	0.002	4.5
58	MP4C	X	0	2.5
59	MP4C	Z	-3.268	2.5
60	MP4C	Mx	-0.002	2.5
61	MP4C	X	0	4.5
62	MP4C	Z	-3.268	4.5
63	MP4C	Mx	-0.002	4.5
64	MP1A	X	0	3
65	MP1A	Z	-7.75	3
66	MP1A	Mx	0	3
67	MP1B	X	0	3
68	MP1B	Z	-4.992	3
69	MP1B	Mx	-0.003	3
70	MP1C	X	0	3
71	MP1C	Z	-4.992	3
72	MP1C	Mx	0.003	3

Member Point Loads (BLC 28 : Antenna Wm (30 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	11.831	0.5
2	MP2A	Z	-20.492	0.5
3	MP2A	Mx	-0.008	0.5
4	MP2A	X	11.831	6.5
5	MP2A	Z	-20.492	6.5
6	MP2A	Mx	-0.008	6.5
7	MP2B	X	6.043	0.5
8	MP2B	Z	-10.467	0.5
9	MP2B	Mx	0.008	0.5
10	MP2B	X	6.043	6.5
11	MP2B	Z	-10.467	6.5
12	MP2B	Mx	0.008	6.5
13	MP2C	X	11.831	0.5
14	MP2C	Z	-20.492	0.5
15	MP2C	Mx	-0.008	0.5
16	MP2C	X	11.831	6.5
17	MP2C	Z	-20.492	6.5
18	MP2C	Mx	-0.008	6.5
19	MP2A	X	2.35	3
20	MP2A	Z	-4.071	3
21	MP2A	Mx	0.002	3
22	MP2B	X	1.366	3
23	MP2B	Z	-2.365	3
24	MP2B	Mx	-0.002	3
25	MP2C	X	2.35	3
26	MP2C	Z	-4.071	3
27	MP2C	Mx	-0.002	3
28	MP1A	X	4.668	1.5
29	MP1A	Z	-8.085	1.5
30	MP1A	Mx	-0.003	1.5

Member Point Loads (BLC 28 : Antenna Wm (30 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
31	MP1A	X	4.668	5.5
32	MP1A	Z	-8.085	5.5
33	MP1A	Mx	-0.003	5.5
34	MP1B	X	2.559	1.5
35	MP1B	Z	-4.432	1.5
36	MP1B	Mx	0.003	1.5
37	MP1B	X	2.559	5.5
38	MP1B	Z	-4.432	5.5
39	MP1B	Mx	0.003	5.5
40	MP1C	X	4.668	1.5
41	MP1C	Z	-8.085	1.5
42	MP1C	Mx	-0.003	1.5
43	MP1C	X	4.668	5.5
44	MP1C	Z	-8.085	5.5
45	MP1C	Mx	-0.003	5.5
46	MP4A	X	2.267	2.5
47	MP4A	Z	-3.926	2.5
48	MP4A	Mx	-0.002	2.5
49	MP4A	X	2.267	4.5
50	MP4A	Z	-3.926	4.5
51	MP4A	Mx	-0.002	4.5
52	MP4B	X	1.317	2.5
53	MP4B	Z	-2.282	2.5
54	MP4B	Mx	0.002	2.5
55	MP4B	X	1.317	4.5
56	MP4B	Z	-2.282	4.5
57	MP4B	Mx	0.002	4.5
58	MP4C	X	2.267	2.5
59	MP4C	Z	-3.926	2.5
60	MP4C	Mx	-0.002	2.5
61	MP4C	X	2.267	4.5
62	MP4C	Z	-3.926	4.5
63	MP4C	Mx	-0.002	4.5
64	MP1A	X	3.415	3
65	MP1A	Z	-5.916	3
66	MP1A	Mx	0.002	3
67	MP1B	X	2.036	3
68	MP1B	Z	-3.527	3
69	MP1B	Mx	-0.003	3
70	MP1C	X	3.415	3
71	MP1C	Z	-5.916	3
72	MP1C	Mx	0.002	3

Member Point Loads (BLC 29 : Antenna Wm (60 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	13.808	0.5
2	MP2A	Z	-7.972	0.5
3	MP2A	Mx	-0.009	0.5
4	MP2A	X	13.808	6.5
5	MP2A	Z	-7.972	6.5
6	MP2A	Mx	-0.009	6.5
7	MP2B	X	13.808	0.5
8	MP2B	Z	-7.972	0.5
9	MP2B	Mx	0.009	0.5
10	MP2B	X	13.808	6.5

Member Point Loads (BLC 29 : Antenna Wm (60 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
11	MP2B	Z	-7.972	6.5
12	MP2B	Mx	0.009	6.5
13	MP2C	X	23.834	0.5
14	MP2C	Z	-13.76	0.5
15	MP2C	Mx	0	0.5
16	MP2C	X	23.834	6.5
17	MP2C	Z	-13.76	6.5
18	MP2C	Mx	0	6.5
19	MP2A	X	2.934	3
20	MP2A	Z	-1.694	3
21	MP2A	Mx	0.002	3
22	MP2B	X	2.934	3
23	MP2B	Z	-1.694	3
24	MP2B	Mx	-0.002	3
25	MP2C	X	4.64	3
26	MP2C	Z	-2.679	3
27	MP2C	Mx	0	3
28	MP1A	X	5.65	1.5
29	MP1A	Z	-3.262	1.5
30	MP1A	Mx	-0.004	1.5
31	MP1A	X	5.65	5.5
32	MP1A	Z	-3.262	5.5
33	MP1A	Mx	-0.004	5.5
34	MP1B	X	5.65	1.5
35	MP1B	Z	-3.262	1.5
36	MP1B	Mx	0.004	1.5
37	MP1B	X	5.65	5.5
38	MP1B	Z	-3.262	5.5
39	MP1B	Mx	0.004	5.5
40	MP1C	X	9.303	1.5
41	MP1C	Z	-5.371	1.5
42	MP1C	Mx	0	1.5
43	MP1C	X	9.303	5.5
44	MP1C	Z	-5.371	5.5
45	MP1C	Mx	0	5.5
46	MP4A	X	2.83	2.5
47	MP4A	Z	-1.634	2.5
48	MP4A	Mx	-0.002	2.5
49	MP4A	X	2.83	4.5
50	MP4A	Z	-1.634	4.5
51	MP4A	Mx	-0.002	4.5
52	MP4B	X	2.83	2.5
53	MP4B	Z	-1.634	2.5
54	MP4B	Mx	0.002	2.5
55	MP4B	X	2.83	4.5
56	MP4B	Z	-1.634	4.5
57	MP4B	Mx	0.002	4.5
58	MP4C	X	4.475	2.5
59	MP4C	Z	-2.583	2.5
60	MP4C	Mx	0	2.5
61	MP4C	X	4.475	4.5
62	MP4C	Z	-2.583	4.5
63	MP4C	Mx	0	4.5
64	MP1A	X	4.323	3
65	MP1A	Z	-2.496	3

Member Point Loads (BLC 29 : Antenna Wm (60 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
66	MP1A	Mx	0.003	3
67	MP1B	X	4.323	3
68	MP1B	Z	-2.496	3
69	MP1B	Mx	-0.003	3
70	MP1C	X	6.712	3
71	MP1C	Z	-3.875	3
72	MP1C	Mx	0	3

Member Point Loads (BLC 30 : Antenna Wm (90 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	12.086	0.5
2	MP2A	Z	0	0.5
3	MP2A	Mx	-0.008	0.5
4	MP2A	X	12.086	6.5
5	MP2A	Z	0	6.5
6	MP2A	Mx	-0.008	6.5
7	MP2B	X	23.662	0.5
8	MP2B	Z	0	0.5
9	MP2B	Mx	0.008	0.5
10	MP2B	X	23.662	6.5
11	MP2B	Z	0	6.5
12	MP2B	Mx	0.008	6.5
13	MP2C	X	23.662	0.5
14	MP2C	Z	0	0.5
15	MP2C	Mx	0.008	0.5
16	MP2C	X	23.662	6.5
17	MP2C	Z	0	6.5
18	MP2C	Mx	0.008	6.5
19	MP2A	X	2.731	3
20	MP2A	Z	0	3
21	MP2A	Mx	0.002	3
22	MP2B	X	4.701	3
23	MP2B	Z	0	3
24	MP2B	Mx	-0.002	3
25	MP2C	X	4.701	3
26	MP2C	Z	0	3
27	MP2C	Mx	0.002	3
28	MP1A	X	5.118	1.5
29	MP1A	Z	0	1.5
30	MP1A	Mx	-0.003	1.5
31	MP1A	X	5.118	5.5
32	MP1A	Z	0	5.5
33	MP1A	Mx	-0.003	5.5
34	MP1B	X	9.336	1.5
35	MP1B	Z	0	1.5
36	MP1B	Mx	0.003	1.5
37	MP1B	X	9.336	5.5
38	MP1B	Z	0	5.5
39	MP1B	Mx	0.003	5.5
40	MP1C	X	9.336	1.5
41	MP1C	Z	0	1.5
42	MP1C	Mx	0.003	1.5
43	MP1C	X	9.336	5.5
44	MP1C	Z	0	5.5
45	MP1C	Mx	0.003	5.5

Member Point Loads (BLC 30 : Antenna Wm (90 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
46	MP4A	X	2.635	2.5
47	MP4A	Z	0	2.5
48	MP4A	Mx	-0.002	2.5
49	MP4A	X	2.635	4.5
50	MP4A	Z	0	4.5
51	MP4A	Mx	-0.002	4.5
52	MP4B	X	4.534	2.5
53	MP4B	Z	0	2.5
54	MP4B	Mx	0.002	2.5
55	MP4B	X	4.534	4.5
56	MP4B	Z	0	4.5
57	MP4B	Mx	0.002	4.5
58	MP4C	X	4.534	2.5
59	MP4C	Z	0	2.5
60	MP4C	Mx	0.002	2.5
61	MP4C	X	4.534	4.5
62	MP4C	Z	0	4.5
63	MP4C	Mx	0.002	4.5
64	MP1A	X	4.072	3
65	MP1A	Z	0	3
66	MP1A	Mx	0.003	3
67	MP1B	X	6.831	3
68	MP1B	Z	0	3
69	MP1B	Mx	-0.002	3
70	MP1C	X	6.831	3
71	MP1C	Z	0	3
72	MP1C	Mx	-0.002	3

Member Point Loads (BLC 31 : Antenna Wm (120 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	13.808	0.5
2	MP2A	Z	7.972	0.5
3	MP2A	Mx	-0.009	0.5
4	MP2A	X	13.808	6.5
5	MP2A	Z	7.972	6.5
6	MP2A	Mx	-0.009	6.5
7	MP2B	X	23.834	0.5
8	MP2B	Z	13.76	0.5
9	MP2B	Mx	0	0.5
10	MP2B	X	23.834	6.5
11	MP2B	Z	13.76	6.5
12	MP2B	Mx	0	6.5
13	MP2C	X	13.808	0.5
14	MP2C	Z	7.972	0.5
15	MP2C	Mx	0.009	0.5
16	MP2C	X	13.808	6.5
17	MP2C	Z	7.972	6.5
18	MP2C	Mx	0.009	6.5
19	MP2A	X	2.934	3
20	MP2A	Z	1.694	3
21	MP2A	Mx	0.002	3
22	MP2B	X	4.64	3
23	MP2B	Z	2.679	3
24	MP2B	Mx	0	3
25	MP2C	X	2.934	3

Member Point Loads (BLC 31 : Antenna Wm (120 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
26	MP2C	Z	1.694	3
27	MP2C	Mx	0.002	3
28	MP1A	X	5.65	1.5
29	MP1A	Z	3.262	1.5
30	MP1A	Mx	-0.004	1.5
31	MP1A	X	5.65	5.5
32	MP1A	Z	3.262	5.5
33	MP1A	Mx	-0.004	5.5
34	MP1B	X	9.303	1.5
35	MP1B	Z	5.371	1.5
36	MP1B	Mx	0	1.5
37	MP1B	X	9.303	5.5
38	MP1B	Z	5.371	5.5
39	MP1B	Mx	0	5.5
40	MP1C	X	5.65	1.5
41	MP1C	Z	3.262	1.5
42	MP1C	Mx	0.004	1.5
43	MP1C	X	5.65	5.5
44	MP1C	Z	3.262	5.5
45	MP1C	Mx	0.004	5.5
46	MP4A	X	2.83	2.5
47	MP4A	Z	1.634	2.5
48	MP4A	Mx	-0.002	2.5
49	MP4A	X	2.83	4.5
50	MP4A	Z	1.634	4.5
51	MP4A	Mx	-0.002	4.5
52	MP4B	X	4.475	2.5
53	MP4B	Z	2.583	2.5
54	MP4B	Mx	0	2.5
55	MP4B	X	4.475	4.5
56	MP4B	Z	2.583	4.5
57	MP4B	Mx	0	4.5
58	MP4C	X	2.83	2.5
59	MP4C	Z	1.634	2.5
60	MP4C	Mx	0.002	2.5
61	MP4C	X	2.83	4.5
62	MP4C	Z	1.634	4.5
63	MP4C	Mx	0.002	4.5
64	MP1A	X	4.323	3
65	MP1A	Z	2.496	3
66	MP1A	Mx	0.003	3
67	MP1B	X	6.712	3
68	MP1B	Z	3.875	3
69	MP1B	Mx	0	3
70	MP1C	X	4.323	3
71	MP1C	Z	2.496	3
72	MP1C	Mx	-0.003	3

Member Point Loads (BLC 32 : Antenna Wm (150 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	11.831	0.5
2	MP2A	Z	20.492	0.5
3	MP2A	Mx	-0.008	0.5
4	MP2A	X	11.831	6.5
5	MP2A	Z	20.492	6.5

Member Point Loads (BLC 32 : Antenna Wm (150 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
6	MP2A	Mx	-0.008	6.5
7	MP2B	X	11.831	0.5
8	MP2B	Z	20.492	0.5
9	MP2B	Mx	-0.008	0.5
10	MP2B	X	11.831	6.5
11	MP2B	Z	20.492	6.5
12	MP2B	Mx	-0.008	6.5
13	MP2C	X	6.043	0.5
14	MP2C	Z	10.467	0.5
15	MP2C	Mx	0.008	0.5
16	MP2C	X	6.043	6.5
17	MP2C	Z	10.467	6.5
18	MP2C	Mx	0.008	6.5
19	MP2A	X	2.35	3
20	MP2A	Z	4.071	3
21	MP2A	Mx	0.002	3
22	MP2B	X	2.35	3
23	MP2B	Z	4.071	3
24	MP2B	Mx	0.002	3
25	MP2C	X	1.366	3
26	MP2C	Z	2.365	3
27	MP2C	Mx	0.002	3
28	MP1A	X	4.668	1.5
29	MP1A	Z	8.085	1.5
30	MP1A	Mx	-0.003	1.5
31	MP1A	X	4.668	5.5
32	MP1A	Z	8.085	5.5
33	MP1A	Mx	-0.003	5.5
34	MP1B	X	4.668	1.5
35	MP1B	Z	8.085	1.5
36	MP1B	Mx	-0.003	1.5
37	MP1B	X	4.668	5.5
38	MP1B	Z	8.085	5.5
39	MP1B	Mx	-0.003	5.5
40	MP1C	X	2.559	1.5
41	MP1C	Z	4.432	1.5
42	MP1C	Mx	0.003	1.5
43	MP1C	X	2.559	5.5
44	MP1C	Z	4.432	5.5
45	MP1C	Mx	0.003	5.5
46	MP4A	X	2.267	2.5
47	MP4A	Z	3.926	2.5
48	MP4A	Mx	-0.002	2.5
49	MP4A	X	2.267	4.5
50	MP4A	Z	3.926	4.5
51	MP4A	Mx	-0.002	4.5
52	MP4B	X	2.267	2.5
53	MP4B	Z	3.926	2.5
54	MP4B	Mx	-0.002	2.5
55	MP4B	X	2.267	4.5
56	MP4B	Z	3.926	4.5
57	MP4B	Mx	-0.002	4.5
58	MP4C	X	1.317	2.5
59	MP4C	Z	2.282	2.5
60	MP4C	Mx	0.002	2.5

Member Point Loads (BLC 32 : Antenna Wm (150 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
61	MP4C	X	1.317	4.5
62	MP4C	Z	2.282	4.5
63	MP4C	Mx	0.002	4.5
64	MP1A	X	3.415	3
65	MP1A	Z	5.916	3
66	MP1A	Mx	0.002	3
67	MP1B	X	3.415	3
68	MP1B	Z	5.916	3
69	MP1B	Mx	0.002	3
70	MP1C	X	2.036	3
71	MP1C	Z	3.527	3
72	MP1C	Mx	-0.003	3

Member Point Loads (BLC 33 : Antenna Wm (180 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	0	0.5
2	MP2A	Z	27.521	0.5
3	MP2A	Mx	0	0.5
4	MP2A	X	0	6.5
5	MP2A	Z	27.521	6.5
6	MP2A	Mx	0	6.5
7	MP2B	X	0	0.5
8	MP2B	Z	15.945	0.5
9	MP2B	Mx	-0.009	0.5
10	MP2B	X	0	6.5
11	MP2B	Z	15.945	6.5
12	MP2B	Mx	-0.009	6.5
13	MP2C	X	0	0.5
14	MP2C	Z	15.945	0.5
15	MP2C	Mx	0.009	0.5
16	MP2C	X	0	6.5
17	MP2C	Z	15.945	6.5
18	MP2C	Mx	0.009	6.5
19	MP2A	X	0	3
20	MP2A	Z	5.357	3
21	MP2A	Mx	0	3
22	MP2B	X	0	3
23	MP2B	Z	3.388	3
24	MP2B	Mx	0.002	3
25	MP2C	X	0	3
26	MP2C	Z	3.388	3
27	MP2C	Mx	0.002	3
28	MP1A	X	0	1.5
29	MP1A	Z	10.742	1.5
30	MP1A	Mx	0	1.5
31	MP1A	X	0	5.5
32	MP1A	Z	10.742	5.5
33	MP1A	Mx	0	5.5
34	MP1B	X	0	1.5
35	MP1B	Z	6.524	1.5
36	MP1B	Mx	-0.004	1.5
37	MP1B	X	0	5.5
38	MP1B	Z	6.524	5.5
39	MP1B	Mx	-0.004	5.5
40	MP1C	X	0	1.5

Member Point Loads (BLC 33 : Antenna Wm (180 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
41	MP1C	Z	6.524	1.5
42	MP1C	Mx	0.004	1.5
43	MP1C	X	0	5.5
44	MP1C	Z	6.524	5.5
45	MP1C	Mx	0.004	5.5
46	MP4A	X	0	2.5
47	MP4A	Z	5.167	2.5
48	MP4A	Mx	0	2.5
49	MP4A	X	0	4.5
50	MP4A	Z	5.167	4.5
51	MP4A	Mx	0	4.5
52	MP4B	X	0	2.5
53	MP4B	Z	3.268	2.5
54	MP4B	Mx	-0.002	2.5
55	MP4B	X	0	4.5
56	MP4B	Z	3.268	4.5
57	MP4B	Mx	-0.002	4.5
58	MP4C	X	0	2.5
59	MP4C	Z	3.268	2.5
60	MP4C	Mx	0.002	2.5
61	MP4C	X	0	4.5
62	MP4C	Z	3.268	4.5
63	MP4C	Mx	0.002	4.5
64	MP1A	X	0	3
65	MP1A	Z	7.75	3
66	MP1A	Mx	0	3
67	MP1B	X	0	3
68	MP1B	Z	4.992	3
69	MP1B	Mx	0.003	3
70	MP1C	X	0	3
71	MP1C	Z	4.992	3
72	MP1C	Mx	-0.003	3

Member Point Loads (BLC 34 : Antenna Wm (210 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	-11.831	0.5
2	MP2A	Z	20.492	0.5
3	MP2A	Mx	0.008	0.5
4	MP2A	X	-11.831	6.5
5	MP2A	Z	20.492	6.5
6	MP2A	Mx	0.008	6.5
7	MP2B	X	-6.043	0.5
8	MP2B	Z	10.467	0.5
9	MP2B	Mx	-0.008	0.5
10	MP2B	X	-6.043	6.5
11	MP2B	Z	10.467	6.5
12	MP2B	Mx	-0.008	6.5
13	MP2C	X	-11.831	0.5
14	MP2C	Z	20.492	0.5
15	MP2C	Mx	0.008	0.5
16	MP2C	X	-11.831	6.5
17	MP2C	Z	20.492	6.5
18	MP2C	Mx	0.008	6.5
19	MP2A	X	-2.35	3
20	MP2A	Z	4.071	3

Member Point Loads (BLC 34 : Antenna Wm (210 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
21	MP2A	Mx	-0.002	3
22	MP2B	X	-1.366	3
23	MP2B	Z	2.365	3
24	MP2B	Mx	0.002	3
25	MP2C	X	-2.35	3
26	MP2C	Z	4.071	3
27	MP2C	Mx	0.002	3
28	MP1A	X	-4.668	1.5
29	MP1A	Z	8.085	1.5
30	MP1A	Mx	0.003	1.5
31	MP1A	X	-4.668	5.5
32	MP1A	Z	8.085	5.5
33	MP1A	Mx	0.003	5.5
34	MP1B	X	-2.559	1.5
35	MP1B	Z	4.432	1.5
36	MP1B	Mx	-0.003	1.5
37	MP1B	X	-2.559	5.5
38	MP1B	Z	4.432	5.5
39	MP1B	Mx	-0.003	5.5
40	MP1C	X	-4.668	1.5
41	MP1C	Z	8.085	1.5
42	MP1C	Mx	0.003	1.5
43	MP1C	X	-4.668	5.5
44	MP1C	Z	8.085	5.5
45	MP1C	Mx	0.003	5.5
46	MP4A	X	-2.267	2.5
47	MP4A	Z	3.926	2.5
48	MP4A	Mx	0.002	2.5
49	MP4A	X	-2.267	4.5
50	MP4A	Z	3.926	4.5
51	MP4A	Mx	0.002	4.5
52	MP4B	X	-1.317	2.5
53	MP4B	Z	2.282	2.5
54	MP4B	Mx	-0.002	2.5
55	MP4B	X	-1.317	4.5
56	MP4B	Z	2.282	4.5
57	MP4B	Mx	-0.002	4.5
58	MP4C	X	-2.267	2.5
59	MP4C	Z	3.926	2.5
60	MP4C	Mx	0.002	2.5
61	MP4C	X	-2.267	4.5
62	MP4C	Z	3.926	4.5
63	MP4C	Mx	0.002	4.5
64	MP1A	X	-3.415	3
65	MP1A	Z	5.916	3
66	MP1A	Mx	-0.002	3
67	MP1B	X	-2.036	3
68	MP1B	Z	3.527	3
69	MP1B	Mx	0.003	3
70	MP1C	X	-3.415	3
71	MP1C	Z	5.916	3
72	MP1C	Mx	-0.002	3

Member Point Loads (BLC 35 : Antenna Wm (240 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	-13.808	0.5
2	MP2A	Z	7.972	0.5
3	MP2A	Mx	0.009	0.5
4	MP2A	X	-13.808	6.5
5	MP2A	Z	7.972	6.5
6	MP2A	Mx	0.009	6.5
7	MP2B	X	-13.808	0.5
8	MP2B	Z	7.972	0.5
9	MP2B	Mx	-0.009	0.5
10	MP2B	X	-13.808	6.5
11	MP2B	Z	7.972	6.5
12	MP2B	Mx	-0.009	6.5
13	MP2C	X	-23.834	0.5
14	MP2C	Z	13.76	0.5
15	MP2C	Mx	0	0.5
16	MP2C	X	-23.834	6.5
17	MP2C	Z	13.76	6.5
18	MP2C	Mx	0	6.5
19	MP2A	X	-2.934	3
20	MP2A	Z	1.694	3
21	MP2A	Mx	-0.002	3
22	MP2B	X	-2.934	3
23	MP2B	Z	1.694	3
24	MP2B	Mx	0.002	3
25	MP2C	X	-4.64	3
26	MP2C	Z	2.679	3
27	MP2C	Mx	0	3
28	MP1A	X	-5.65	1.5
29	MP1A	Z	3.262	1.5
30	MP1A	Mx	0.004	1.5
31	MP1A	X	-5.65	5.5
32	MP1A	Z	3.262	5.5
33	MP1A	Mx	0.004	5.5
34	MP1B	X	-5.65	1.5
35	MP1B	Z	3.262	1.5
36	MP1B	Mx	-0.004	1.5
37	MP1B	X	-5.65	5.5
38	MP1B	Z	3.262	5.5
39	MP1B	Mx	-0.004	5.5
40	MP1C	X	-9.303	1.5
41	MP1C	Z	5.371	1.5
42	MP1C	Mx	0	1.5
43	MP1C	X	-9.303	5.5
44	MP1C	Z	5.371	5.5
45	MP1C	Mx	0	5.5
46	MP4A	X	-2.83	2.5
47	MP4A	Z	1.634	2.5
48	MP4A	Mx	0.002	2.5
49	MP4A	X	-2.83	4.5
50	MP4A	Z	1.634	4.5
51	MP4A	Mx	0.002	4.5
52	MP4B	X	-2.83	2.5
53	MP4B	Z	1.634	2.5
54	MP4B	Mx	-0.002	2.5
55	MP4B	X	-2.83	4.5

Member Point Loads (BLC 35 : Antenna Wm (240 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
56	MP4B	Z	1.634	4.5
57	MP4B	Mx	-0.002	4.5
58	MP4C	X	-4.475	2.5
59	MP4C	Z	2.583	2.5
60	MP4C	Mx	0	2.5
61	MP4C	X	-4.475	4.5
62	MP4C	Z	2.583	4.5
63	MP4C	Mx	0	4.5
64	MP1A	X	-4.323	3
65	MP1A	Z	2.496	3
66	MP1A	Mx	-0.003	3
67	MP1B	X	-4.323	3
68	MP1B	Z	2.496	3
69	MP1B	Mx	0.003	3
70	MP1C	X	-6.712	3
71	MP1C	Z	3.875	3
72	MP1C	Mx	0	3

Member Point Loads (BLC 36 : Antenna Wm (270 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	-12.086	0.5
2	MP2A	Z	0	0.5
3	MP2A	Mx	0.008	0.5
4	MP2A	X	-12.086	6.5
5	MP2A	Z	0	6.5
6	MP2A	Mx	0.008	6.5
7	MP2B	X	-23.662	0.5
8	MP2B	Z	0	0.5
9	MP2B	Mx	-0.008	0.5
10	MP2B	X	-23.662	6.5
11	MP2B	Z	0	6.5
12	MP2B	Mx	-0.008	6.5
13	MP2C	X	-23.662	0.5
14	MP2C	Z	0	0.5
15	MP2C	Mx	-0.008	0.5
16	MP2C	X	-23.662	6.5
17	MP2C	Z	0	6.5
18	MP2C	Mx	-0.008	6.5
19	MP2A	X	-2.731	3
20	MP2A	Z	0	3
21	MP2A	Mx	-0.002	3
22	MP2B	X	-4.701	3
23	MP2B	Z	0	3
24	MP2B	Mx	0.002	3
25	MP2C	X	-4.701	3
26	MP2C	Z	0	3
27	MP2C	Mx	-0.002	3
28	MP1A	X	-5.118	1.5
29	MP1A	Z	0	1.5
30	MP1A	Mx	0.003	1.5
31	MP1A	X	-5.118	5.5
32	MP1A	Z	0	5.5
33	MP1A	Mx	0.003	5.5
34	MP1B	X	-9.336	1.5
35	MP1B	Z	0	1.5

Member Point Loads (BLC 36 : Antenna Wm (270 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
36	MP1B	Mx	-0.003	1.5
37	MP1B	X	-9.336	5.5
38	MP1B	Z	0	5.5
39	MP1B	Mx	-0.003	5.5
40	MP1C	X	-9.336	1.5
41	MP1C	Z	0	1.5
42	MP1C	Mx	-0.003	1.5
43	MP1C	X	-9.336	5.5
44	MP1C	Z	0	5.5
45	MP1C	Mx	-0.003	5.5
46	MP4A	X	-2.635	2.5
47	MP4A	Z	0	2.5
48	MP4A	Mx	0.002	2.5
49	MP4A	X	-2.635	4.5
50	MP4A	Z	0	4.5
51	MP4A	Mx	0.002	4.5
52	MP4B	X	-4.534	2.5
53	MP4B	Z	0	2.5
54	MP4B	Mx	-0.002	2.5
55	MP4B	X	-4.534	4.5
56	MP4B	Z	0	4.5
57	MP4B	Mx	-0.002	4.5
58	MP4C	X	-4.534	2.5
59	MP4C	Z	0	2.5
60	MP4C	Mx	-0.002	2.5
61	MP4C	X	-4.534	4.5
62	MP4C	Z	0	4.5
63	MP4C	Mx	-0.002	4.5
64	MP1A	X	-4.072	3
65	MP1A	Z	0	3
66	MP1A	Mx	-0.003	3
67	MP1B	X	-6.831	3
68	MP1B	Z	0	3
69	MP1B	Mx	0.002	3
70	MP1C	X	-6.831	3
71	MP1C	Z	0	3
72	MP1C	Mx	0.002	3

Member Point Loads (BLC 37 : Antenna Wm (300 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	-13.808	0.5
2	MP2A	Z	-7.972	0.5
3	MP2A	Mx	0.009	0.5
4	MP2A	X	-13.808	6.5
5	MP2A	Z	-7.972	6.5
6	MP2A	Mx	0.009	6.5
7	MP2B	X	-23.834	0.5
8	MP2B	Z	-13.76	0.5
9	MP2B	Mx	0	0.5
10	MP2B	X	-23.834	6.5
11	MP2B	Z	-13.76	6.5
12	MP2B	Mx	0	6.5
13	MP2C	X	-13.808	0.5
14	MP2C	Z	-7.972	0.5
15	MP2C	Mx	-0.009	0.5

Member Point Loads (BLC 37 : Antenna Wm (300 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
16	MP2C	X	-13.808	6.5
17	MP2C	Z	-7.972	6.5
18	MP2C	Mx	-0.009	6.5
19	MP2A	X	-2.934	3
20	MP2A	Z	-1.694	3
21	MP2A	Mx	-0.002	3
22	MP2B	X	-4.64	3
23	MP2B	Z	-2.679	3
24	MP2B	Mx	0	3
25	MP2C	X	-2.934	3
26	MP2C	Z	-1.694	3
27	MP2C	Mx	-0.002	3
28	MP1A	X	-5.65	1.5
29	MP1A	Z	-3.262	1.5
30	MP1A	Mx	0.004	1.5
31	MP1A	X	-5.65	5.5
32	MP1A	Z	-3.262	5.5
33	MP1A	Mx	0.004	5.5
34	MP1B	X	-9.303	1.5
35	MP1B	Z	-5.371	1.5
36	MP1B	Mx	0	1.5
37	MP1B	X	-9.303	5.5
38	MP1B	Z	-5.371	5.5
39	MP1B	Mx	0	5.5
40	MP1C	X	-5.65	1.5
41	MP1C	Z	-3.262	1.5
42	MP1C	Mx	-0.004	1.5
43	MP1C	X	-5.65	5.5
44	MP1C	Z	-3.262	5.5
45	MP1C	Mx	-0.004	5.5
46	MP4A	X	-2.83	2.5
47	MP4A	Z	-1.634	2.5
48	MP4A	Mx	0.002	2.5
49	MP4A	X	-2.83	4.5
50	MP4A	Z	-1.634	4.5
51	MP4A	Mx	0.002	4.5
52	MP4B	X	-4.475	2.5
53	MP4B	Z	-2.583	2.5
54	MP4B	Mx	0	2.5
55	MP4B	X	-4.475	4.5
56	MP4B	Z	-2.583	4.5
57	MP4B	Mx	0	4.5
58	MP4C	X	-2.83	2.5
59	MP4C	Z	-1.634	2.5
60	MP4C	Mx	-0.002	2.5
61	MP4C	X	-2.83	4.5
62	MP4C	Z	-1.634	4.5
63	MP4C	Mx	-0.002	4.5
64	MP1A	X	-4.323	3
65	MP1A	Z	-2.496	3
66	MP1A	Mx	-0.003	3
67	MP1B	X	-6.712	3
68	MP1B	Z	-3.875	3
69	MP1B	Mx	0	3
70	MP1C	X	-4.323	3

Member Point Loads (BLC 37 : Antenna Wm (300 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
71	MP1C	Z	-2.496	3
72	MP1C	Mx	0.003	3

Member Point Loads (BLC 38 : Antenna Wm (330 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	-11.831	0.5
2	MP2A	Z	-20.492	0.5
3	MP2A	Mx	0.008	0.5
4	MP2A	X	-11.831	6.5
5	MP2A	Z	-20.492	6.5
6	MP2A	Mx	0.008	6.5
7	MP2B	X	-11.831	0.5
8	MP2B	Z	-20.492	0.5
9	MP2B	Mx	0.008	0.5
10	MP2B	X	-11.831	6.5
11	MP2B	Z	-20.492	6.5
12	MP2B	Mx	0.008	6.5
13	MP2C	X	-6.043	0.5
14	MP2C	Z	-10.467	0.5
15	MP2C	Mx	-0.008	0.5
16	MP2C	X	-6.043	6.5
17	MP2C	Z	-10.467	6.5
18	MP2C	Mx	-0.008	6.5
19	MP2A	X	-2.35	3
20	MP2A	Z	-4.071	3
21	MP2A	Mx	-0.002	3
22	MP2B	X	-2.35	3
23	MP2B	Z	-4.071	3
24	MP2B	Mx	-0.002	3
25	MP2C	X	-1.366	3
26	MP2C	Z	-2.365	3
27	MP2C	Mx	-0.002	3
28	MP1A	X	-4.668	1.5
29	MP1A	Z	-8.085	1.5
30	MP1A	Mx	0.003	1.5
31	MP1A	X	-4.668	5.5
32	MP1A	Z	-8.085	5.5
33	MP1A	Mx	0.003	5.5
34	MP1B	X	-4.668	1.5
35	MP1B	Z	-8.085	1.5
36	MP1B	Mx	0.003	1.5
37	MP1B	X	-4.668	5.5
38	MP1B	Z	-8.085	5.5
39	MP1B	Mx	0.003	5.5
40	MP1C	X	-2.559	1.5
41	MP1C	Z	-4.432	1.5
42	MP1C	Mx	-0.003	1.5
43	MP1C	X	-2.559	5.5
44	MP1C	Z	-4.432	5.5
45	MP1C	Mx	-0.003	5.5
46	MP4A	X	-2.267	2.5
47	MP4A	Z	-3.926	2.5
48	MP4A	Mx	0.002	2.5
49	MP4A	X	-2.267	4.5
50	MP4A	Z	-3.926	4.5

Member Point Loads (BLC 38 : Antenna Wm (330 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
51	MP4A	Mx	0.002	4.5
52	MP4B	X	-2.267	2.5
53	MP4B	Z	-3.926	2.5
54	MP4B	Mx	0.002	2.5
55	MP4B	X	-2.267	4.5
56	MP4B	Z	-3.926	4.5
57	MP4B	Mx	0.002	4.5
58	MP4C	X	-1.317	2.5
59	MP4C	Z	-2.282	2.5
60	MP4C	Mx	-0.002	2.5
61	MP4C	X	-1.317	4.5
62	MP4C	Z	-2.282	4.5
63	MP4C	Mx	-0.002	4.5
64	MP1A	X	-3.415	3
65	MP1A	Z	-5.916	3
66	MP1A	Mx	-0.002	3
67	MP1B	X	-3.415	3
68	MP1B	Z	-5.916	3
69	MP1B	Mx	-0.002	3
70	MP1C	X	-2.036	3
71	MP1C	Z	-3.527	3
72	MP1C	Mx	0.003	3

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M1	Y	-500	%5

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M1	Y	-500	%95

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M2	Y	-250	%50

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M27	Y	-250	%50

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	Y	-2.785	0.5
2	MP2A	My	-0.002	0.5
3	MP2A	Mz	0	0.5
4	MP2A	Y	-2.785	6.5
5	MP2A	My	-0.002	6.5
6	MP2A	Mz	0	6.5
7	MP2B	Y	-2.785	0.5
8	MP2B	My	0.000928	0.5

Member Point Loads (BLC 81 : Antenna Ev) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
9	MP2B	Mz	-0.002	0.5
10	MP2B	Y	-2.785	6.5
11	MP2B	My	0.000928	6.5
12	MP2B	Mz	-0.002	6.5
13	MP2C	Y	-2.785	0.5
14	MP2C	My	0.000928	0.5
15	MP2C	Mz	0.002	0.5
16	MP2C	Y	-2.785	6.5
17	MP2C	My	0.000928	6.5
18	MP2C	Mz	0.002	6.5
19	MP2A	Y	-3.22	3
20	MP2A	My	0.002	3
21	MP2A	Mz	0	3
22	MP2B	Y	-3.22	3
23	MP2B	My	-0.001	3
24	MP2B	Mz	0.002	3
25	MP2C	Y	-3.22	3
26	MP2C	My	0.001	3
27	MP2C	Mz	0.002	3
28	MP1A	Y	-0.609	1.5
29	MP1A	My	-0.000406	1.5
30	MP1A	Mz	0	1.5
31	MP1A	Y	-0.609	5.5
32	MP1A	My	-0.000406	5.5
33	MP1A	Mz	0	5.5
34	MP1B	Y	-0.609	1.5
35	MP1B	My	0.000203	1.5
36	MP1B	Mz	-0.000352	1.5
37	MP1B	Y	-0.609	5.5
38	MP1B	My	0.000203	5.5
39	MP1B	Mz	-0.000352	5.5
40	MP1C	Y	-0.609	1.5
41	MP1C	My	0.000203	1.5
42	MP1C	Mz	0.000352	1.5
43	MP1C	Y	-0.609	5.5
44	MP1C	My	0.000203	5.5
45	MP1C	Mz	0.000352	5.5
46	MP4A	Y	-1.438	2.5
47	MP4A	My	-0.000959	2.5
48	MP4A	Mz	0	2.5
49	MP4A	Y	-1.438	4.5
50	MP4A	My	-0.000959	4.5
51	MP4A	Mz	0	4.5
52	MP4B	Y	-1.438	2.5
53	MP4B	My	0.000479	2.5
54	MP4B	Mz	-0.00083	2.5
55	MP4B	Y	-1.438	4.5
56	MP4B	My	0.000479	4.5
57	MP4B	Mz	-0.00083	4.5
58	MP4C	Y	-1.438	2.5
59	MP4C	My	0.000479	2.5
60	MP4C	Mz	0.00083	2.5
61	MP4C	Y	-1.438	4.5
62	MP4C	My	0.000479	4.5
63	MP4C	Mz	0.00083	4.5

Member Point Loads (BLC 81 : Antenna Ev) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
64	MP1A	Y	-4.526	3
65	MP1A	My	0.003	3
66	MP1A	Mz	0	3
67	MP1B	Y	-4.526	3
68	MP1B	My	-0.002	3
69	MP1B	Mz	0.003	3
70	MP1C	Y	-4.526	3
71	MP1C	My	-0.002	3
72	MP1C	Mz	-0.003	3

Member Point Loads (BLC 82 : Antenna Eh (0 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	Z	-6.963	0.5
2	MP2A	Mx	0	0.5
3	MP2A	Z	-6.963	6.5
4	MP2A	Mx	0	6.5
5	MP2B	Z	-6.963	0.5
6	MP2B	Mx	0.004	0.5
7	MP2B	Z	-6.963	6.5
8	MP2B	Mx	0.004	6.5
9	MP2C	Z	-6.963	0.5
10	MP2C	Mx	-0.004	0.5
11	MP2C	Z	-6.963	6.5
12	MP2C	Mx	-0.004	6.5
13	MP2A	Z	-8.051	3
14	MP2A	Mx	0	3
15	MP2B	Z	-8.051	3
16	MP2B	Mx	-0.005	3
17	MP2C	Z	-8.051	3
18	MP2C	Mx	-0.005	3
19	MP1A	Z	-1.523	1.5
20	MP1A	Mx	0	1.5
21	MP1A	Z	-1.523	5.5
22	MP1A	Mx	0	5.5
23	MP1B	Z	-1.523	1.5
24	MP1B	Mx	0.000879	1.5
25	MP1B	Z	-1.523	5.5
26	MP1B	Mx	0.000879	5.5
27	MP1C	Z	-1.523	1.5
28	MP1C	Mx	-0.000879	1.5
29	MP1C	Z	-1.523	5.5
30	MP1C	Mx	-0.000879	5.5
31	MP4A	Z	-3.596	2.5
32	MP4A	Mx	0	2.5
33	MP4A	Z	-3.596	4.5
34	MP4A	Mx	0	4.5
35	MP4B	Z	-3.596	2.5
36	MP4B	Mx	0.002	2.5
37	MP4B	Z	-3.596	4.5
38	MP4B	Mx	0.002	4.5
39	MP4C	Z	-3.596	2.5
40	MP4C	Mx	-0.002	2.5
41	MP4C	Z	-3.596	4.5
42	MP4C	Mx	-0.002	4.5
43	MP1A	Z	-11.315	3

Member Point Loads (BLC 82 : Antenna Eh (0 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
44	MP1A	Mx	0	3
45	MP1B	Z	-11.315	3
46	MP1B	Mx	-0.007	3
47	MP1C	Z	-11.315	3
48	MP1C	Mx	0.007	3

Member Point Loads (BLC 83 : Antenna Eh (90 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP2A	X	6.963	0.5
2	MP2A	Mx	-0.005	0.5
3	MP2A	X	6.963	6.5
4	MP2A	Mx	-0.005	6.5
5	MP2B	X	6.963	0.5
6	MP2B	Mx	0.002	0.5
7	MP2B	X	6.963	6.5
8	MP2B	Mx	0.002	6.5
9	MP2C	X	6.963	0.5
10	MP2C	Mx	0.002	0.5
11	MP2C	X	6.963	6.5
12	MP2C	Mx	0.002	6.5
13	MP2A	X	8.051	3
14	MP2A	Mx	0.005	3
15	MP2B	X	8.051	3
16	MP2B	Mx	-0.003	3
17	MP2C	X	8.051	3
18	MP2C	Mx	0.003	3
19	MP1A	X	1.523	1.5
20	MP1A	Mx	-0.001	1.5
21	MP1A	X	1.523	5.5
22	MP1A	Mx	-0.001	5.5
23	MP1B	X	1.523	1.5
24	MP1B	Mx	0.000508	1.5
25	MP1B	X	1.523	5.5
26	MP1B	Mx	0.000508	5.5
27	MP1C	X	1.523	1.5
28	MP1C	Mx	0.000508	1.5
29	MP1C	X	1.523	5.5
30	MP1C	Mx	0.000508	5.5
31	MP4A	X	3.596	2.5
32	MP4A	Mx	-0.002	2.5
33	MP4A	X	3.596	4.5
34	MP4A	Mx	-0.002	4.5
35	MP4B	X	3.596	2.5
36	MP4B	Mx	0.001	2.5
37	MP4B	X	3.596	4.5
38	MP4B	Mx	0.001	4.5
39	MP4C	X	3.596	2.5
40	MP4C	Mx	0.001	2.5
41	MP4C	X	3.596	4.5
42	MP4C	Mx	0.001	4.5
43	MP1A	X	11.315	3
44	MP1A	Mx	0.008	3
45	MP1B	X	11.315	3
46	MP1B	Mx	-0.004	3
47	MP1C	X	11.315	3

Member Point Loads (BLC 83 : Antenna Eh (90 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
48	MP1C	Mx	-0.004	3

Member Area Loads

No Data to Print...

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	N1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N20						
3	N52						
4	N57	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N60						
6	N61	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
7	N64						

Envelope Node Reactions

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N1	max	1286.33	11	1963.656	19	2410.968	1	-0.742	1	1.434	12	1.262	40
2		min	-1286.704	5	687.77	64	-2411.018	7	-6.875	19	-1.433	6	-1.246	34
3	N57	max	2183.682	10	1966.099	15	2014.897	2	3.558	14	1.469	8	6.078	15
4		min	-2184.097	4	602.287	33	-2014.113	8	0.333	8	-1.467	2	0.746	9
5	N61	max	2373.803	10	1963.666	23	1815.755	12	3.436	24	1.474	4	-0.632	5
6		min	-2373.261	4	600.544	41	-1815.06	6	0.314	6	-1.472	10	-5.964	23
7	Totals:	max	5573.438	10	5734.684	24	5573.433	1						
8		min	-5573.438	4	2100.616	69	-5573.433	7						

Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	MP2C	PIPE_2.0X	0.979	5	3	0.114	5		1	19844.858	44100	2.531	2.531	1	H1-1b
2	MP2B	PIPE_2.0X	0.937	5	5	0.1	5		10	19844.858	44100	2.531	2.531	1	H1-1b
3	MP2A	PIPE_2.0X	0.935	5	1	0.1	5		6	32282.972	44100	2.531	2.531	1	H1-1b
4	M27	HSS4X4X4	0.448	0	14	0.109	0	y	41	131336.248	139518	16.181	16.181	1.699	H1-1b
5	M30	HSS4X4X4	0.438	0	22	0.109	0	y	33	131336.248	139518	16.181	16.181	1.726	H1-1b
6	M2	HSS4X4X4	0.438	0	18	0.133	0	y	41	131336.248	139518	16.181	16.181	1.726	H1-1b
7	MP1B	PIPE_2.0	0.401	3.938	5	0.055	2.917		9	17855.085	32130	1.872	1.872	1	H1-1b
8	MP1C	PIPE_2.0	0.401	3.938	9	0.055	2.917		1	17855.085	32130	1.872	1.872	1	H1-1b
9	MP1A	PIPE_2.0	0.401	3.938	1	0.055	4.01		5	17855.085	32130	1.872	1.872	1	H1-1b
10	M23	LL3X3X4X0	0.289	3.588	7	0.035	0	z	42	76674.129	93312	6.48	4.375	1	H1-1b
11	M24	LL3X3X4X0	0.288	3.588	3	0.023	3.588	y	4	76674.129	93312	6.48	4.375	1	H1-1b
12	M22	LL3X3X4X0	0.285	3.588	11	0.03	3.588	z	29	76674.129	93312	6.48	4.375	1	H1-1b
13	M1	HSS4X4X4	0.262	7	44	0.083	7	y	43	61430.995	139518	16.181	16.181	1.421	H1-1b
14	M10	HSS4X4X4	0.224	7	38	0.062	7	y	39	61430.995	139518	16.181	16.181	1.461	H1-1b
15	M16	HSS4X4X4	0.224	7	36	0.064	7	y	35	61430.995	139518	16.181	16.181	1.463	H1-1b
16	MP4C	PIPE_2.0	0.132	3.938	3	0.03	3.938		5	17855.085	32130	1.872	1.872	1	H1-1b
17	MP4B	PIPE_2.0	0.132	3.938	11	0.03	3.938		1	17855.085	32130	1.872	1.872	1	H1-1b
18	MP4A	PIPE_2.0	0.132	3.938	7	0.03	3.938		9	17855.085	32130	1.872	1.872	1	H1-1b
19	M25	L2.5X2.5X4	0.108	2.324	12	0.009	4.648	z	3	19052.836	38556	1.114	2.285	1.136	H2-1
20	M31	L2.5X2.5X4	0.108	2.324	4	0.012	4.648	y	30	19052.836	38556	1.114	2.285	1.136	H2-1
21	M28	L2.5X2.5X4	0.107	2.324	8	0.008	4.648	z	11	19052.836	38556	1.114	2.285	1.136	H2-1
22	M32	L2.5X2.5X4	0.098	2.324	6	0.009	4.648	z	3	19052.836	38556	1.114	2.285	1.136	H2-1
23	M26	L2.5X2.5X4	0.098	2.324	2	0.009	4.648	z	11	19052.836	38556	1.114	2.285	1.136	H2-1

Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
24	M29	L2.5X2.5X4	0.098	2.324	10	0.012	4.648	y	44	19052.836	38556	1.114	2.285	1.136	H2-1
25	MP3C	PIPE_2.0	0.076	5	4	0.006	5		4	14916.096	32130	1.872	1.872	1	H1-1b
26	MP3A	PIPE_2.0	0.076	5	8	0.006	5		8	14916.096	32130	1.872	1.872	1	H1-1b
27	MP3B	PIPE_2.0	0.076	5	12	0.006	5		12	14916.096	32130	1.872	1.872	1	H1-1b
28	M6	PIPE_3.5	0	0.625	24	0	0.625		7	78250	78750	7.954	7.954	1	H1-1b*
29	M13	PIPE_3.5	0	0.625	24	0	0.625		3	78250	78750	7.954	7.954	1	H1-1b*
30	M19	PIPE_3.5	0	0.625	24	0	0.625		11	78250	78750	7.954	7.954	1	H1-1b*

Radio Frequency Exposure Analysis Report

May 25, 2023

T-Mobile

Site Name: CT390/TVI Ind. Park_FT
Site Number: CT11390G
Site Address: 26 Commerce Dr, North Branford, CT 06471

Michael Fischer, P.E.
Registered Professional Engineer (Electrical)
Connecticut License Number 33928
Expires January 31, 2024

Signed 25 May 2023

Site Compliance Summary

T-Mobile Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	18.22909 µW/cm^2
Cumulative General Population % MPE (Ground Level):	1.82304%
Cumulative Calculated Power Density (35'Adjacent Rooftop Level):	29.03787 µW/cm^2
Cumulative General Population % MPE (35' Adjacent Rooftop Level):	2.90421%

May 25, 2023

Attn: Jessica Meyer
Centerline
750 W. Center Street, Suite 301
West Bridgewater, MA 02379

RF Exposure Analysis for Site: **CT390/TVI Ind. Park_FT**

Centerline was contracted to analyze the proposed T-Mobile facility at **26 Commerce Dr, North Branford, CT 06471** for the purpose of determining whether the predictive exposure from the proposed facility is within specified federal limits.

All information used in this report was analyzed as a percentage of the Maximum Permissible Exposure (% MPE) limits as detailed in 47 CFR § 1.1310 as well as Federal Communications Commission (FCC) OET Bulletin 65 Edition 97-01. The FCC MPE limits are typically expressed in units of milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter ($\mu W/cm^2$). The exposure limits vary depending upon the frequencies being utilized. The General Population/Uncontrolled MPE limit (in mW/cm^2) for frequencies between 300 and 1500 is defined as frequency (in MHz) divided by 1500 ($f_{MHz}/1500$). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of 1 mW/cm^2 (1000 $\mu W/cm^2$). The calculated power density at each sample point divided by the limit at each calculated frequency provides a result in % MPE. Summing the calculated % MPE from all contributors provides a cumulative % MPE at a particular sample point. Wireless carriers use different frequency bands with varying MPE limits; therefore, it is useful to report results in terms of % MPE as opposed to power density.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the MPE limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population 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 population 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.

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, 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.

Calculation Methodology

Centerline has performed theoretical modeling of the site using a software tool, RoofMaster®, 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.

Data & Results

The following table details the antennas and operating parameters for the T-Mobile 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 ground level and at the tallest adjacent rooftop level.

The theoretical calculations performed in Roofmaster® determine the cumulative exposure at all sample points at ground level (0-6' spatial average) and the tallest adjacent rooftop level (35-41' spatial average). The results from the highest cumulative sample point at ground level and the tallest adjacent rooftop 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(s) below. The cumulative power density and cumulative % MPE are displayed at the bottom of the table(s) below.

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Maximum Calculated Cumulative Power Density @ Ground Level (0-6' spatial average)
(Location: approximately 440' west northwest of site)

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density ($\mu W/cm^2$)	General Population MPE Limit ($\mu W/cm^2$)	General Population % MPE
T-Mobile A 1	COMMSCOPE VV-65B-R1	1900	16.16	154.00	4.00	35.00	5782.67	0.00000	1000.00	0.00000
T-Mobile A 1	COMMSCOPE VV-65B-R1	1900	16.16	154.00	4.00	40.00	6608.76	0.00000	1000.00	0.00000
T-Mobile A 1	COMMSCOPE VV-65B-R1	1900	16.16	154.00	2.00	10.00	826.10	0.00000	1000.00	0.00000
T-Mobile A 1	COMMSCOPE VV-65B-R1	2100	16.68	154.00	4.00	60.00	11174.07	0.00000	1000.00	0.00000
T-Mobile A 2	RFS APXVAARR24 43-U-NA20	600	13.14	154.00	2.00	30.00	1236.38	0.00000	400.00	0.00000
T-Mobile A 2	RFS APXVAARR24 43-U-NA20	600	13.14	154.00	2.00	40.00	1648.50	0.00000	400.00	0.00000
T-Mobile A 2	RFS APXVAARR24 43-U-NA20	700	13.20	154.00	4.00	40.00	3342.87	0.00000	466.67	0.00000
T-Mobile A 3	ERICSSON SON_AIR6419 NR MACRO	2500	15.55	154.00	1.00	60.00	2153.53	0.00000	1000.00	0.00000
T-Mobile A 3	ERICSSON SON_AIR6419 B41 NR TB	2500	22.05	154.00	2.00	90.00	28858.42	0.30477	1000.00	0.03048
T-Mobile B 4	COMMSCOPE VV-65B-R1	1900	16.16	154.00	4.00	35.00	5782.67	0.00000	1000.00	0.00000
T-Mobile B 4	COMMSCOPE VV-65B-R1	1900	16.16	154.00	4.00	40.00	6608.76	0.00000	1000.00	0.00000
T-Mobile B 4	COMMSCOPE VV-65B-R1	1900	16.16	154.00	2.00	10.00	826.10	0.00000	1000.00	0.00000
T-Mobile B 4	COMMSCOPE VV-65B-R1	2100	16.68	154.00	4.00	60.00	11174.07	0.00000	1000.00	0.00000
T-Mobile B 5	RFS APXVAARR24 43-U-NA20	600	13.14	154.00	2.00	30.00	1236.38	0.00000	400.00	0.00000
T-Mobile B 5	RFS APXVAARR24 43-U-NA20	600	13.14	154.00	2.00	40.00	1648.50	0.00000	400.00	0.00000
T-Mobile B 5	RFS APXVAARR24 43-U-NA20	700	13.20	154.00	4.00	40.00	3342.87	0.00000	466.67	0.00000
T-Mobile B 6	ERICSSON SON_AIR6419 NR MACRO	2500	15.55	154.00	1.00	60.00	2153.53	0.00000	1000.00	0.00000
T-Mobile B 6	ERICSSON SON_AIR6419 B41 NR TB	2500	22.05	154.00	2.00	90.00	28858.42	0.13520	1000.00	0.01352
T-Mobile C 7	COMMSCOPE VV-65B-R1	1900	16.16	154.00	4.00	35.00	5782.67	0.00009	1000.00	0.00001
T-Mobile C 7	COMMSCOPE VV-65B-R1	1900	16.16	154.00	4.00	40.00	6608.76	0.00010	1000.00	0.00001
T-Mobile C 7	COMMSCOPE VV-65B-R1	1900	16.16	154.00	2.00	10.00	826.10	0.00001	1000.00	0.00000
T-Mobile C 7	COMMSCOPE VV-65B-R1	2100	16.68	154.00	4.00	240.00	11174.07	0.00016	1000.00	0.00002
T-Mobile C 8	RFS APXVAARR24 43-U-NA20	600	13.14	154.00	2.00	60.00	1236.38	0.00003	400.00	0.00001
T-Mobile C 8	RFS APXVAARR24 43-U-NA20	600	13.14	154.00	2.00	80.00	1648.50	0.00004	400.00	0.00001
T-Mobile C 8	RFS APXVAARR24 43-U-NA20	700	13.20	154.00	4.00	160.00	3342.87	0.00009	466.67	0.00002
T-Mobile C 9	ERICSSON SON_AIR6419 NR MACRO	2500	15.55	154.00	1.00	60.00	2153.53	0.00015	1000.00	0.00002
T-Mobile C 9	ERICSSON SON_AIR6419 B41 NR TB	2500	22.05	154.00	2.00	180.00	28858.42	17.78146	1000.00	1.77815
AT&T A 10	Ericsson SON_AIR6449	3700	23.45	143.00	1.00	86.75	19198.60	0.00001	1000.00	0.00000
AT&T A 11	CCI TPA65R-BU6D	700	11.75	143.00	4.00	160.00	2393.98	0.00000	466.67	0.00000
AT&T A 11	CCI TPA65R-BU6D	850	12.45	143.00	4.00	160.00	2812.68	0.00000	566.67	0.00000
AT&T A 11	CCI TPA65R-BU6D	1900	14.55	143.00	4.00	160.00	4561.63	0.00000	1000.00	0.00000

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Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (μW/cm²)	General Population MPE Limit (μW/cm²)	General Population % MPE
AT&T A 11	CCI TPA65R-BU6D	2100	15.55	143.00	4.00	160.00	5742.75	0.00000	1000.00	0.00000
AT&T A 12	CCI OPA65R-BU6D	700	11.85	143.00	4.00	160.00	2449.74	0.00000	466.67	0.00000
AT&T B 13	Ericsson SON_AIR6449	3700	23.45	143.00	1.00	86.75	19198.60	0.00000	1000.00	0.00000
AT&T B 14	CCI TPA65R-BU6D	700	11.75	143.00	4.00	160.00	2393.98	0.00000	466.67	0.00000
AT&T B 14	CCI TPA65R-BU6D	850	12.45	143.00	4.00	160.00	2812.68	0.00000	566.67	0.00000
AT&T B 14	CCI TPA65R-BU6D	1900	14.55	143.00	4.00	160.00	4561.63	0.00000	1000.00	0.00000
AT&T B 14	CCI TPA65R-BU6D	2100	15.55	143.00	4.00	160.00	5742.75	0.00000	1000.00	0.00000
AT&T B 15	CCI OPA65R-BU6D	700	11.85	143.00	4.00	160.00	2449.74	0.00000	466.67	0.00000
AT&T C 16	Ericsson SON_AIR6449	3700	23.45	143.00	1.00	86.75	19198.60	0.00060	1000.00	0.00006
AT&T C 17	CCI TPA65R-BU6D	700	11.75	143.00	4.00	160.00	2393.98	0.00010	466.67	0.00002
AT&T C 17	CCI TPA65R-BU6D	850	12.45	143.00	4.00	160.00	2812.68	0.00010	566.67	0.00002
AT&T C 17	CCI TPA65R-BU6D	1900	14.55	143.00	4.00	160.00	4561.63	0.00009	1000.00	0.00001
AT&T C 17	CCI TPA65R-BU6D	2100	15.55	143.00	4.00	160.00	5742.75	0.00009	1000.00	0.00001
AT&T C 18	CCI OPA65R-BU6D	700	11.85	143.00	4.00	160.00	2449.74	0.00011	466.67	0.00002
Verizon A 19	Samsung SON_MT6407	3700	23.45	133.00	4.00	200.00	44261.89	0.00008	1000.00	0.00001
Verizon A 20	COMMSCOPE SBNHH-1D65B	700	12.38	133.00	2.00	80.00	1383.85	0.00000	466.67	0.00000
Verizon A 20	COMMSCOPE SBNHH-1D65B	850	12.67	133.00	2.00	80.00	1479.41	0.00000	566.67	0.00000
Verizon A 20	COMMSCOPE SBNHH-1D65B	1900	15.89	133.00	4.00	160.00	6210.41	0.00000	1000.00	0.00000
Verizon A 21	COMMSCOPE SBNHH-1D65B	700	12.38	133.00	2.00	80.00	1383.85	0.00000	466.67	0.00000
Verizon A 21	COMMSCOPE SBNHH-1D65B	850	12.67	133.00	2.00	80.00	1479.41	0.00000	566.67	0.00000
Verizon A 21	COMMSCOPE SBNHH-1D65B	2100	16.44	133.00	4.00	160.00	7048.88	0.00000	1000.00	0.00000
Verizon A 22	AMPHENOL LPA-80080-6CF-EDIN-0	850	14.00	133.00	3.00	48.00	1205.71	0.00000	566.67	0.00000
Verizon A 23	AMPHENOL LPA-80080-6CF-EDIN-0	850	14.00	133.00	3.00	48.00	1205.71	0.00000	566.67	0.00000
Verizon B 24	Samsung SON_MT6407	3700	23.45	133.00	4.00	200.00	44261.89	0.00011	1000.00	0.00001
Verizon B 25	COMMSCOPE SBNHH-1D65B	700	12.38	133.00	2.00	80.00	1383.85	0.00000	466.67	0.00000
Verizon B 25	COMMSCOPE SBNHH-1D65B	850	12.67	133.00	2.00	80.00	1479.41	0.00000	566.67	0.00000
Verizon B 25	COMMSCOPE SBNHH-1D65B	1900	15.89	133.00	4.00	160.00	6210.41	0.00000	1000.00	0.00000
Verizon B 26	COMMSCOPE SBNHH-1D65B	700	12.38	133.00	2.00	80.00	1383.85	0.00000	466.67	0.00000
Verizon B 26	COMMSCOPE SBNHH-1D65B	850	12.67	133.00	2.00	80.00	1479.41	0.00000	566.67	0.00000
Verizon B 26	COMMSCOPE SBNHH-1D65B	2100	16.44	133.00	4.00	160.00	7048.88	0.00000	1000.00	0.00000
Verizon B 27	AMPHENOL LPA-80080-6CF-EDIN-0	850	14.00	133.00	3.00	48.00	1205.71	0.00000	566.67	0.00000
Verizon B 28	AMPHENOL LPA-80080-6CF-EDIN-0	850	14.00	133.00	3.00	48.00	1205.71	0.00000	566.67	0.00000

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (µW/cm²)	General Population MPE Limit (µW/cm²)	General Population % MPE
Verizon C 29	Samsung SON_MT6407	3700	23.45	133.00	4.00	200.00	44261.89	0.00433	1000.00	0.00043
Verizon C 30	COMMSCOPE SBNHH-1D65B	700	12.38	133.00	2.00	80.00	1383.85	0.00005	466.67	0.00001
Verizon C 30	COMMSCOPE SBNHH-1D65B	850	12.67	133.00	2.00	80.00	1479.41	0.00005	566.67	0.00001
Verizon C 30	COMMSCOPE SBNHH-1D65B	1900	15.89	133.00	4.00	160.00	6210.41	0.00011	1000.00	0.00001
Verizon C 31	COMMSCOPE SBNHH-1D65B	700	12.38	133.00	2.00	80.00	1383.85	0.00005	466.67	0.00001
Verizon C 31	COMMSCOPE SBNHH-1D65B	850	12.67	133.00	2.00	80.00	1479.41	0.00005	566.67	0.00001
Verizon C 31	COMMSCOPE SBNHH-1D65B	2100	16.44	133.00	4.00	160.00	7048.88	0.00011	1000.00	0.00001
Verizon C 32	AMPHENOL LPA-80080-6CF-EDIN-0	850	14.00	133.00	3.00	48.00	1205.71	0.00003	566.67	0.00000
Verizon C 33	AMPHENOL LPA-80080-6CF-EDIN-0	850	14.00	133.00	3.00	48.00	1205.71	0.00003	566.67	0.00000
Dish A 34	JMA MX08FRO665-21	600	11.35	100.00	4.00	120.00	1637.50	0.00000	400.00	0.00000
Dish A 34	JMA MX08FRO665-21	700	12.05	100.00	4.00	120.00	1923.89	0.00000	466.67	0.00000
Dish A 34	JMA MX08FRO665-21	1900	15.75	100.00	4.00	160.00	6013.40	0.00000	1000.00	0.00000
Dish A 34	JMA MX08FRO665-21	2100	16.75	100.00	4.00	160.00	7570.42	0.00000	1000.00	0.00000
Dish B 35	JMA MX08FRO665-21	600	11.35	100.00	4.00	120.00	1637.50	0.00000	400.00	0.00000
Dish B 35	JMA MX08FRO665-21	700	12.05	100.00	4.00	120.00	1923.89	0.00000	466.67	0.00000
Dish B 35	JMA MX08FRO665-21	1900	15.75	100.00	4.00	160.00	6013.40	0.00000	1000.00	0.00000
Dish B 35	JMA MX08FRO665-21	2100	16.75	100.00	4.00	160.00	7570.42	0.00000	1000.00	0.00000
Dish C 36	JMA MX08FRO665-21	600	11.35	100.00	4.00	120.00	1637.50	0.00022	400.00	0.00005
Dish C 36	JMA MX08FRO665-21	700	12.05	100.00	4.00	120.00	1923.89	0.00025	466.67	0.00005
Dish C 36	JMA MX08FRO665-21	1900	15.75	100.00	4.00	160.00	6013.40	0.00015	1000.00	0.00002
Dish C 36	JMA MX08FRO665-21	2100	16.75	100.00	4.00	160.00	7570.42	0.00024	1000.00	0.00002
Town of North Branford A 37	COMMSCOPE DB408-B	450	6.55	83.25	1.00	25.25	114.09	0.00001	300.00	0.00000
Town of North Branford A 38	GENERIC OMNI 9.5FT	450	5.96	83.25	1.00	25.25	99.60	0.00001	300.00	0.00000
Town of North Branford A 39	GENERIC OMNI 9.5FT	450	5.96	83.25	1.00	25.25	99.60	0.00001	300.00	0.00000
Town of North Branford A 40	GENERIC MICROWAVE 4FT	11000	38.65	85.00	1.00	0.10	732.82	0.00000	1000.00	0.00000
							Cumulative Power Density:	**18.22909 µW/cm²**	**Cumulative % MPE:**	**1.82304%**

CENTERLINE

Maximum Calculated Cumulative Power Density @ Tallest Adjacent Rooftop Level (35-41' Spatial Average)
(Location: approximately 350' east southeast of site)

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density ($\mu W/cm^2$)	General Population MPE Limit ($\mu W/cm^2$)	General Population % MPE
T-Mobile A 1	COMMSCOPE VV-65B-R1	1900	16.16	154.00	4.00	35.00	5782.67	0.00019	1000.00	0.00002
T-Mobile A 1	COMMSCOPE VV-65B-R1	1900	16.16	154.00	4.00	40.00	6608.76	0.00022	1000.00	0.00002
T-Mobile A 1	COMMSCOPE VV-65B-R1	1900	16.16	154.00	2.00	10.00	826.10	0.00003	1000.00	0.00000
T-Mobile A 1	COMMSCOPE VV-65B-R1	2100	16.68	154.00	4.00	60.00	11174.07	0.00034	1000.00	0.00003
T-Mobile A 2	RFS APXVAARR24 43-U-NA20	600	13.14	154.00	2.00	30.00	1236.38	0.00006	400.00	0.00002
T-Mobile A 2	RFS APXVAARR24 43-U-NA20	600	13.14	154.00	2.00	40.00	1648.50	0.00009	400.00	0.00002
T-Mobile A 2	RFS APXVAARR24 43-U-NA20	700	13.20	154.00	4.00	40.00	3342.87	0.00019	466.67	0.00004
T-Mobile A 3	ERICSSON SON_AIR6419 NR MACRO	2500	15.55	154.00	1.00	60.00	2153.53	0.00032	1000.00	0.00003
T-Mobile A 3	ERICSSON SON_AIR6419 B41 NR TB	2500	22.05	154.00	2.00	90.00	28858.42	28.11937	1000.00	2.81194
T-Mobile B 4	COMMSCOPE VV-65B-R1	1900	16.16	154.00	4.00	35.00	5782.67	0.00000	1000.00	0.00000
T-Mobile B 4	COMMSCOPE VV-65B-R1	1900	16.16	154.00	4.00	40.00	6608.76	0.00000	1000.00	0.00000
T-Mobile B 4	COMMSCOPE VV-65B-R1	1900	16.16	154.00	2.00	10.00	826.10	0.00000	1000.00	0.00000
T-Mobile B 4	COMMSCOPE VV-65B-R1	2100	16.68	154.00	4.00	60.00	11174.07	0.00000	1000.00	0.00000
T-Mobile B 5	RFS APXVAARR24 43-U-NA20	600	13.14	154.00	2.00	30.00	1236.38	0.00000	400.00	0.00000
T-Mobile B 5	RFS APXVAARR24 43-U-NA20	600	13.14	154.00	2.00	40.00	1648.50	0.00000	400.00	0.00000
T-Mobile B 5	RFS APXVAARR24 43-U-NA20	700	13.20	154.00	4.00	40.00	3342.87	0.00000	466.67	0.00000
T-Mobile B 6	ERICSSON SON_AIR6419 NR MACRO	2500	15.55	154.00	1.00	60.00	2153.53	0.00000	1000.00	0.00000
T-Mobile B 6	ERICSSON SON_AIR6419 B41 NR TB	2500	22.05	154.00	2.00	90.00	28858.42	0.82986	1000.00	0.08299
T-Mobile C 7	COMMSCOPE VV-65B-R1	1900	16.16	154.00	4.00	35.00	5782.67	0.00000	1000.00	0.00000
T-Mobile C 7	COMMSCOPE VV-65B-R1	1900	16.16	154.00	4.00	40.00	6608.76	0.00000	1000.00	0.00000
T-Mobile C 7	COMMSCOPE VV-65B-R1	1900	16.16	154.00	2.00	10.00	826.10	0.00000	1000.00	0.00000
T-Mobile C 7	COMMSCOPE VV-65B-R1	2100	16.68	154.00	4.00	240.00	11174.07	0.00000	1000.00	0.00000
T-Mobile C 8	RFS APXVAARR24 43-U-NA20	600	13.14	154.00	2.00	60.00	1236.38	0.00000	400.00	0.00000
T-Mobile C 8	RFS APXVAARR24 43-U-NA20	600	13.14	154.00	2.00	80.00	1648.50	0.00000	400.00	0.00000
T-Mobile C 8	RFS APXVAARR24 43-U-NA20	700	13.20	154.00	4.00	160.00	3342.87	0.00000	466.67	0.00000
T-Mobile C 9	ERICSSON SON_AIR6419 NR MACRO	2500	15.55	154.00	1.00	60.00	2153.53	0.00000	1000.00	0.00000
T-Mobile C 9	ERICSSON SON_AIR6419 B41 NR TB	2500	22.05	154.00	2.00	180.00	28858.42	0.06295	1000.00	0.00630
AT&T A 10	Ericsson SON_AIR6449	3700	23.45	143.00	1.00	86.75	19198.60	0.00173	1000.00	0.00017
AT&T A 11	CCI TPA65R-BU6D	700	11.75	143.00	4.00	160.00	2393.98	0.00024	466.67	0.00005
AT&T A 11	CCI TPA65R-BU6D	850	12.45	143.00	4.00	160.00	2812.68	0.00024	566.67	0.00004
AT&T A 11	CCI TPA65R-BU6D	1900	14.55	143.00	4.00	160.00	4561.63	0.00020	1000.00	0.00002

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (µW/cm²)	General Population MPE Limit (µW/cm²)	General Population % MPE
AT&T A 11	CCI TPA65R-BU6D	2100	15.55	143.00	4.00	160.00	5742.75	0.00020	1000.00	0.00002
AT&T A 12	CCI OPA65R-BU6D	700	11.85	143.00	4.00	160.00	2449.74	0.00026	466.67	0.00006
AT&T B 13	Ericsson SON_AIR6449	3700	23.45	143.00	1.00	86.75	19198.60	0.00005	1000.00	0.00001
AT&T B 14	CCI TPA65R-BU6D	700	11.75	143.00	4.00	160.00	2393.98	0.00000	466.67	0.00000
AT&T B 14	CCI TPA65R-BU6D	850	12.45	143.00	4.00	160.00	2812.68	0.00000	566.67	0.00000
AT&T B 14	CCI TPA65R-BU6D	1900	14.55	143.00	4.00	160.00	4561.63	0.00000	1000.00	0.00000
AT&T B 14	CCI TPA65R-BU6D	2100	15.55	143.00	4.00	160.00	5742.75	0.00000	1000.00	0.00000
AT&T B 15	CCI OPA65R-BU6D	700	11.85	143.00	4.00	160.00	2449.74	0.00000	466.67	0.00000
AT&T C 16	Ericsson SON_AIR6449	3700	23.45	143.00	1.00	86.75	19198.60	0.00000	1000.00	0.00000
AT&T C 17	CCI TPA65R-BU6D	700	11.75	143.00	4.00	160.00	2393.98	0.00000	466.67	0.00000
AT&T C 17	CCI TPA65R-BU6D	850	12.45	143.00	4.00	160.00	2812.68	0.00000	566.67	0.00000
AT&T C 17	CCI TPA65R-BU6D	1900	14.55	143.00	4.00	160.00	4561.63	0.00000	1000.00	0.00000
AT&T C 17	CCI TPA65R-BU6D	2100	15.55	143.00	4.00	160.00	5742.75	0.00000	1000.00	0.00000
AT&T C 18	CCI OPA65R-BU6D	700	11.85	143.00	4.00	160.00	2449.74	0.00000	466.67	0.00000
Verizon A 19	Samsung SON_MT6407	3700	23.45	133.00	4.00	200.00	44261.89	0.01638	1000.00	0.00164
Verizon A 20	COMMSCOPE SBNHH-1D65B	700	12.38	133.00	2.00	80.00	1383.85	0.00014	466.67	0.00003
Verizon A 20	COMMSCOPE SBNHH-1D65B	850	12.67	133.00	2.00	80.00	1479.41	0.00014	566.67	0.00002
Verizon A 20	COMMSCOPE SBNHH-1D65B	1900	15.89	133.00	4.00	160.00	6210.41	0.00030	1000.00	0.00003
Verizon A 21	COMMSCOPE SBNHH-1D65B	700	12.38	133.00	2.00	80.00	1383.85	0.00014	466.67	0.00003
Verizon A 21	COMMSCOPE SBNHH-1D65B	850	12.67	133.00	2.00	80.00	1479.41	0.00014	566.67	0.00002
Verizon A 21	COMMSCOPE SBNHH-1D65B	2100	16.44	133.00	4.00	160.00	7048.88	0.00022	1000.00	0.00002
Verizon A 22	AMPHENOL LPA-80080-6CF-EDIN-0	850	14.00	133.00	3.00	48.00	1205.71	0.00007	566.67	0.00001
Verizon A 23	AMPHENOL LPA-80080-6CF-EDIN-0	850	14.00	133.00	3.00	48.00	1205.71	0.00007	566.67	0.00001
Verizon B 24	Samsung SON_MT6407	3700	23.45	133.00	4.00	200.00	44261.89	0.00039	1000.00	0.00004
Verizon B 25	COMMSCOPE SBNHH-1D65B	700	12.38	133.00	2.00	80.00	1383.85	0.00000	466.67	0.00000
Verizon B 25	COMMSCOPE SBNHH-1D65B	850	12.67	133.00	2.00	80.00	1479.41	0.00000	566.67	0.00000
Verizon B 25	COMMSCOPE SBNHH-1D65B	1900	15.89	133.00	4.00	160.00	6210.41	0.00000	1000.00	0.00000
Verizon B 26	COMMSCOPE SBNHH-1D65B	700	12.38	133.00	2.00	80.00	1383.85	0.00000	466.67	0.00000
Verizon B 26	COMMSCOPE SBNHH-1D65B	850	12.67	133.00	2.00	80.00	1479.41	0.00000	566.67	0.00000
Verizon B 26	COMMSCOPE SBNHH-1D65B	2100	16.44	133.00	4.00	160.00	7048.88	0.00000	1000.00	0.00000
Verizon B 27	AMPHENOL LPA-80080-6CF-EDIN-0	850	14.00	133.00	3.00	48.00	1205.71	0.00000	566.67	0.00000
Verizon B 28	AMPHENOL LPA-80080-6CF-EDIN-0	850	14.00	133.00	3.00	48.00	1205.71	0.00000	566.67	0.00000

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (µW/cm²)	General Population MPE Limit (µW/cm²)	General Population % MPE
Verizon C 29	Samsung SON_MT6407	3700	23.45	133.00	4.00	200.00	44261.89	0.00021	1000.00	0.00002
Verizon C 30	COMMSCOPE SBNHH-1D65B	700	12.38	133.00	2.00	80.00	1383.85	0.00000	466.67	0.00000
Verizon C 30	COMMSCOPE SBNHH-1D65B	850	12.67	133.00	2.00	80.00	1479.41	0.00000	566.67	0.00000
Verizon C 30	COMMSCOPE SBNHH-1D65B	1900	15.89	133.00	4.00	160.00	6210.41	0.00000	1000.00	0.00000
Verizon C 31	COMMSCOPE SBNHH-1D65B	700	12.38	133.00	2.00	80.00	1383.85	0.00000	466.67	0.00000
Verizon C 31	COMMSCOPE SBNHH-1D65B	850	12.67	133.00	2.00	80.00	1479.41	0.00000	566.67	0.00000
Verizon C 31	COMMSCOPE SBNHH-1D65B	2100	16.44	133.00	4.00	160.00	7048.88	0.00000	1000.00	0.00000
Verizon C 32	AMPHENOL LPA-80080-6CF-EDIN-0	850	14.00	133.00	3.00	48.00	1205.71	0.00000	566.67	0.00000
Verizon C 33	AMPHENOL LPA-80080-6CF-EDIN-0	850	14.00	133.00	3.00	48.00	1205.71	0.00000	566.67	0.00000
Dish A 34	JMA MX08FRO665-21	600	11.35	100.00	4.00	120.00	1637.50	0.00080	400.00	0.00020
Dish A 34	JMA MX08FRO665-21	700	12.05	100.00	4.00	120.00	1923.89	0.00072	466.67	0.00016
Dish A 34	JMA MX08FRO665-21	1900	15.75	100.00	4.00	160.00	6013.40	0.00054	1000.00	0.00005
Dish A 34	JMA MX08FRO665-21	2100	16.75	100.00	4.00	160.00	7570.42	0.00091	1000.00	0.00009
Dish B 35	JMA MX08FRO665-21	600	11.35	100.00	4.00	120.00	1637.50	0.00002	400.00	0.00001
Dish B 35	JMA MX08FRO665-21	700	12.05	100.00	4.00	120.00	1923.89	0.00001	466.67	0.00000
Dish B 35	JMA MX08FRO665-21	1900	15.75	100.00	4.00	160.00	6013.40	0.00000	1000.00	0.00000
Dish B 35	JMA MX08FRO665-21	2100	16.75	100.00	4.00	160.00	7570.42	0.00000	1000.00	0.00000
Dish C 36	JMA MX08FRO665-21	600	11.35	100.00	4.00	120.00	1637.50	0.00000	400.00	0.00000
Dish C 36	JMA MX08FRO665-21	700	12.05	100.00	4.00	120.00	1923.89	0.00000	466.67	0.00000
Dish C 36	JMA MX08FRO665-21	1900	15.75	100.00	4.00	160.00	6013.40	0.00000	1000.00	0.00000
Dish C 36	JMA MX08FRO665-21	2100	16.75	100.00	4.00	160.00	7570.42	0.00000	1000.00	0.00000
Town of North Branford A 37	COMMSCOPE DB408-B	450	6.55	83.25	1.00	25.25	114.09	0.00005	300.00	0.00002
Town of North Branford A 38	GENERIC OMNI 9.5FT	450	5.96	83.25	1.00	25.25	99.60	0.00005	300.00	0.00002
Town of North Branford A 39	GENERIC OMNI 9.5FT	450	5.96	83.25	1.00	25.25	99.60	0.00005	300.00	0.00002
Town of North Branford A 40	GENERIC MICROWAVE 4FT	11000	38.65	85.00	1.00	0.10	732.82	0.00000	1000.00	0.00000
							Cumulative Power Density:	**29.03819 µW/cm²**	**Cumulative % MPE:**	**2.90460%**

Summary

The theoretical calculations performed for this analysis yielded cumulative power density totals in all areas at ground level and at the tallest adjacent rooftop level that are within the allowable federal limits for public exposure to RF energy. Therefore, the site is **compliant** with FCC rules and regulations.

Matt Schulzinger
RF EME Technical Writer
Centerline

SPECIAL CONSTRUCTION NOTE (SBA-PROVIDED ANTENNA MOUNT STRUCTURAL MOD SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE T-MOBILE RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

CT390/TVI IND. PARK_FT

APPROVALS

PROJECT MANAGER:	DATE:	ZONING/SITE ACQ.:	DATE:
CONSTRUCTION:	DATE:	OPERATIONS:	DATE:
RF ENGINEERING:	DATE:	TOWER OWNER:	DATE:

T-MOBILE TECHNICIAN SITE SAFETY NOTES

LOCATION	SPECIAL RESTRICTIONS
SECTOR A:	ACCESS BY CERTIFIED CLIMBER
SECTOR B:	ACCESS BY CERTIFIED CLIMBER
SECTOR C:	ACCESS BY CERTIFIED CLIMBER
SECTOR D:	ACCESS BY CERTIFIED CLIMBER
GPS/LMU:	UNRESTRICTED
RADIO CABINETS:	UNRESTRICTED
PPC DISCONNECT:	UNRESTRICTED
MAIN CIRCUIT D/C:	UNRESTRICTED
NIU/T DEMARC:	UNRESTRICTED
OTHER/SPECIAL:	NONE

26 COMMERCE DRIVE
NORTH BRANFORD, CT 06471
NEW HAVEN COUNTY

SITE NO.: CT11390G

SITE TYPE: 155'± MONOPOLE

PROJECT: ANCHOR UPGRADE
RF DESIGN GUIDELINE: 67D5D998E OUTDOOR

SCOPE OF WORK

REMOVE:
- 6 ANTENNAS
- 3 TMAS
- 2 HYBRID CABLES
- ALL COAX CABLES
- 1 RBS 6131 EQUIPMENT CABINET
- 1 BATTERY CABINET

INSTALL:
- 6 ANTENNAS
- 3 RADIOS
- 3 HYBRID CABLES
- 1 SLACKBOX
- 1 6160 EQUIPMENT CABINET
- 1 B160 BATTERY CABINET
- RAN EQUIPMENT (REFER TO SHEET RF-1)
- 1 125A-2P BREAKER
- 1 25A-1P BREAKER

SITE NOTES

1. THIS IS AN UNMANNED AND RESTRICTED ACCESS TELECOMMUNICATION FACILITY, AND IS NOT FOR HUMAN HABITATION. IT WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
   - ADA COMPLIANCE NOT REQUIRED.
   - POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
   - NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
2. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
3. NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
   - BUILDING CODE: 2022 CONNECTICUT STATE BUILDING CODE
   - ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
   - STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

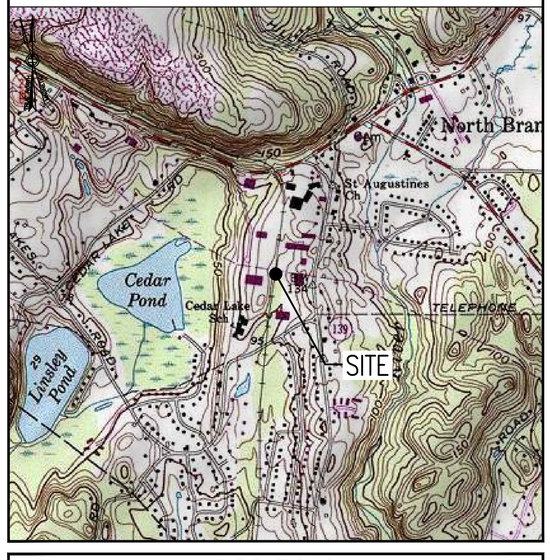
GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE OMNIPOINT REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS, ESTABLISHING AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
12. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
13. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
14. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
15. THE CONTRACTOR SHALL NOTIFY THE PROJECT OWNER'S REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE LESSEE/LICENSEE REPRESENTATIVE.
16. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
17. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK.

AT LEAST 72 HOURS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 811

VICINITY MAP

SCALE: 1" = 1000'-0"



DIRECTIONS

MERGE ONTO I-495 NORTH TOWARD MANSFIELD/MARLBORO. TAKE EXIT 33B FOR I-95 SOUTH TOWARD PROVIDENCE RI. KEEP RIGHT AT FORK TO STAY ON I-95 SOUTH. KEEP LEFT TO STAY ON I-95 SOUTH. TAKE EXIT 57 TOWARD BRANFORD NORTH/US-1. TURN RIGHT ONTO US-1 SOUTH. TURN RIGHT ONTO CT-22 WEST. TURN LEFT ONTO CT-22 WEST/CT-80 WEST. TURN LEFT ONTO COMMERCE DRIVE. SITE IS LOCATED ON THE LEFT HAND SIDE.

SHEET INDEX

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DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE PROJECT OWNER'S REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

PROJECT SUMMARY

SITE NUMBER:	CT11390G
SITE NAME:	CT390/TVI IND. PARK_FT
SBA SITE NUMBER:	CT13610-A
SBA SITE NAME:	ARTEC
SITE ADDRESS:	26 COMMERCE DRIVE NORTH BRANFORD, CT 06471
PROPERTY OWNER:	ARTEC MACHINERY SYSTEMS 26 COMMERCE DRIVE NORTH BRANFORD, CT 06471
TOWER OWNER:	SBA TOWERS V, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	NEW HAVEN
ZONING DISTRICT:	I-2 (INDUSTRIAL)
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	155'±
GROUND ELEVATION:	113'± AMSL
APPLICANT:	T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
ARCHITECT:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
STRUCTURAL ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
SITE CONTROL POINT:	LATITUDE: 41.322167° N41°19'19.80" LONGITUDE: -72.773267° W72°46'23.76"

SPECIAL ZONING NOTE:
BASED ON INFORMATION PROVIDED BY T-MOBILE REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS SUBJECT TO AN ELIGIBLE FACILITY REQUEST, EXPEDITED REVIEW, AND LIMITED/PARTIAL ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW, OR ADMINISTRATIVE REVIEW).

T-MOBILE NORTHEAST LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

CHAPPELL ENGINEERING ASSOCIATES, LLC
Civil ·Structural ·Land Surveying
R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED
PROFESSIONAL CIVIL ENGINEER
5/5/2023

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	05/05/23	ISSUED FOR CONSTRUCTION	CMC
0	04/28/23	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11390G

SITE ADDRESS:
26 COMMERCE DRIVE
NORTH BRANFORD, CT 06471

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

1815.540

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – T–MOBILE
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – T–MOBILE
   OEM – ORIGINAL EQUIPMENT MANUFACTURER

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.

4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL, STATE AND FEDERAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

5. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

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 FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER, T1 CABLES AND 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 AND/OR LANDLORD PRIOR TO CONSTRUCTION.

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 THE OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION AND RETURN DISTURBED AREAS TO ORIGINAL CONDITIONS.

13. THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

14. SUBCONTRACTOR SHALL NOTIFY CHAPPELL ENGINEERING ASSOCIATES, LLC 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS AND POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.

15. CONSTRUCTION SHALL COMPLY WITH ALL T–MOBILE STANDARDS AND SPECIFICATIONS.

16. 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.

17. THE EXISTING CELL SITES ARE 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.

18. IF THE EXISTING 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 TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION.

3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.

4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

5. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.

6. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

7. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

8. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.

9. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.

10. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

11. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE T–MOBILE SPECIFICATION FOR SITE SIGNAGE.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.

2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS

3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.

4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST EARTH.....3 IN.
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 AND LARGER .....2 IN.
   #5 AND SMALLER & WWF .....1½ IN.
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL .....¾ IN.
   BEAMS AND COLUMNS .....1½ IN.

5. A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED EQUAL.

7. CONCRETE CYLINDER TIES ARE NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
   (A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT.
   (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.

8. AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.

9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND T–MOBILE SPECIFICATIONS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM–A–36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".

2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.

3. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾"ø) AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.

4. NON–STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ⅝" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.

5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL

6. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.

2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.

3. AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.

4. COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.

5. AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND–OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL–GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT:

1. HAND OPERATED DOUBLE DRUN, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, T–MOBILE ANTENNA PLATFORM LOCATION AND UTILITY TRENCHWORK.

2. COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.

3. CABLE LADDER RACK:
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY AND/OR ICE BRIDGE, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

1. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.

2. SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.

3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.

4. CABLES SHALL NOT BE ROUTED THROUGH LADDER–STYLE CABLE TRAY RUNGS.

5. EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA, AND MATCH INSTALLATION REQUIREMENTS.

6. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC AND OSHA.

7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).

8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.

9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.

10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.

13. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.

14. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY HARGER (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).

15. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

17. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

18. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.

20. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.

21. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.

23. CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

24. CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

25. WIREWAYS SHALL BE EPOXY–COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

26. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

27. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED, OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

28. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

30. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

31. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.

32. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25937
LICENSED
PROFESSIONAL CIVIL ENGINEER
5/5/2023

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	05/05/23	ISSUED FOR CONSTRUCTION	CMC
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SITE NUMBER:
CT11390G

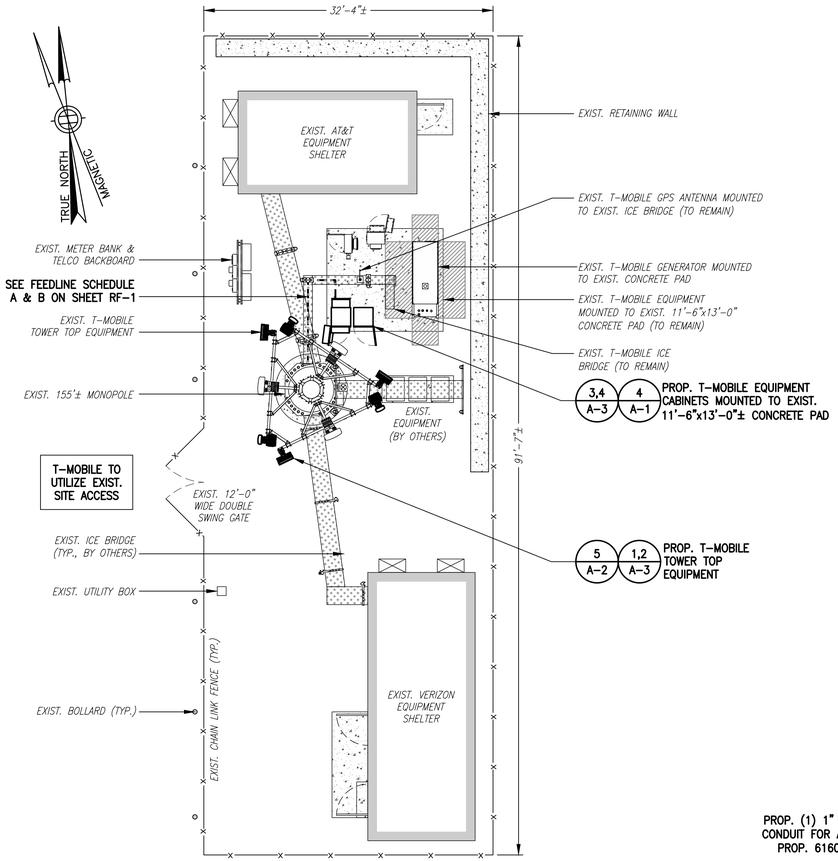
SITE ADDRESS:
26 COMMERCE DRIVE
NORTH BRANFORD, CT 06471

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-1

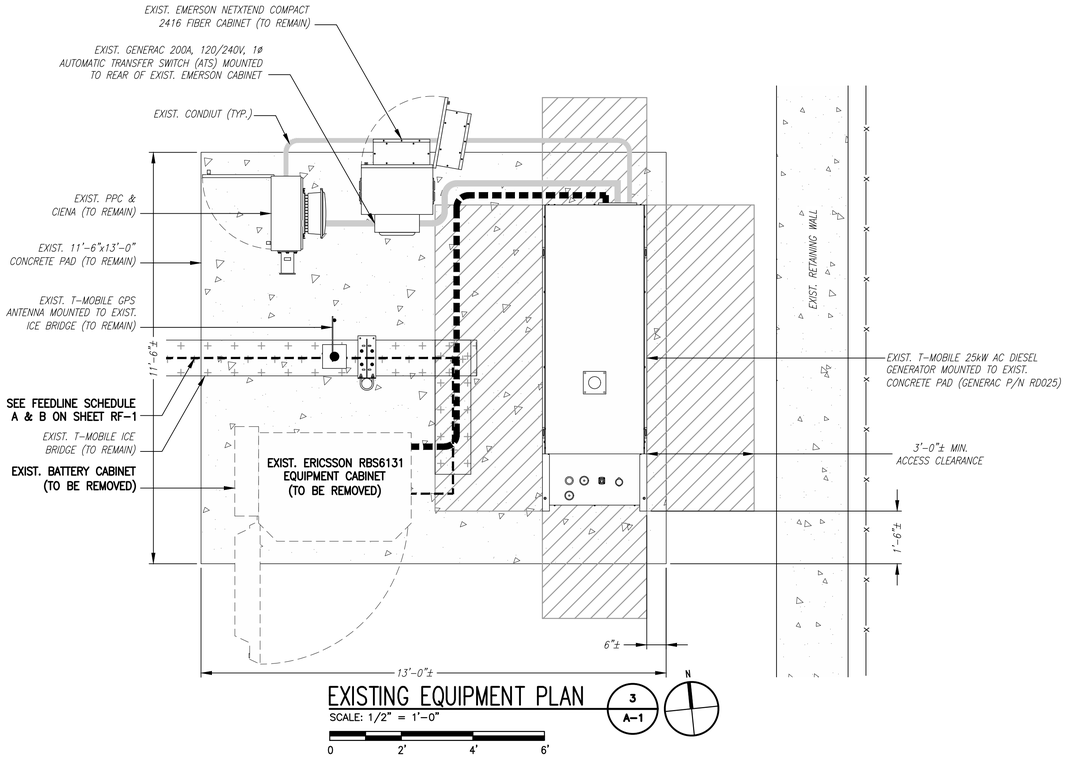
1815.540

SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.

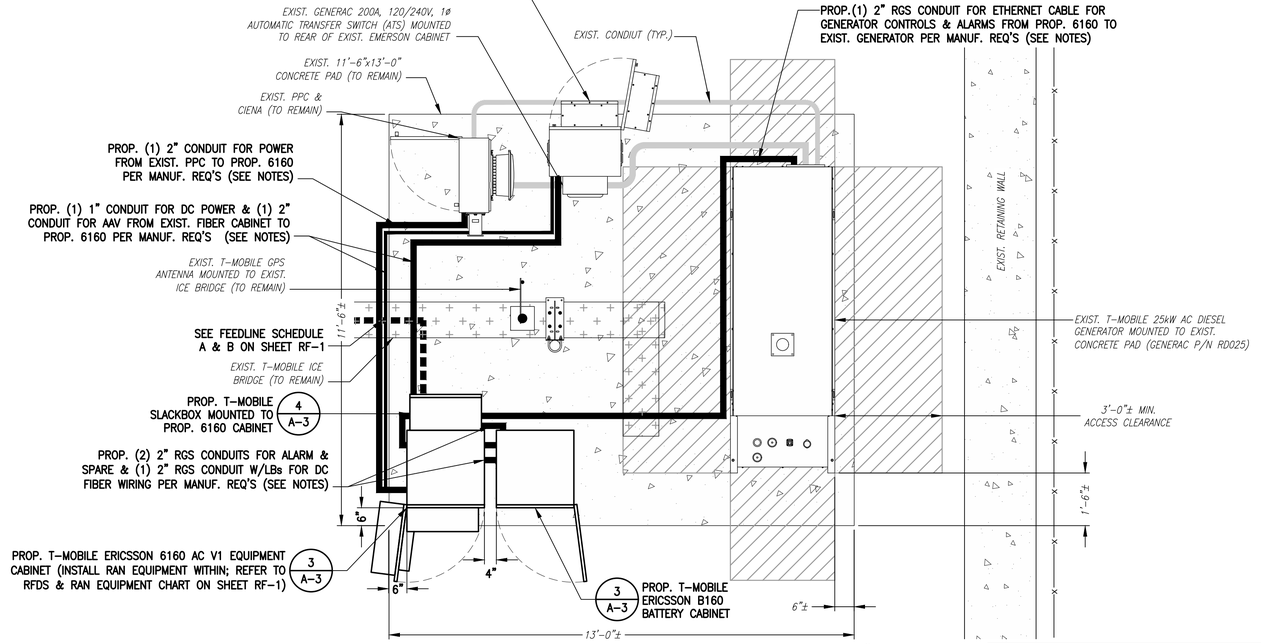


COMPOUND PLAN 1 A-1
SCALE: 1/8" = 1'-0"
0 8' 16' 24'

EXISTING EQUIPMENT PHOTO 2 A-1
SCALE: N.T.S.



EXISTING EQUIPMENT PLAN 3 A-1
SCALE: 1/2" = 1'-0"
0 2' 4' 6'



PROPOSED EQUIPMENT PLAN 4 A-1
SCALE: 1/2" = 1'-0"
0 2' 4' 6'

CONDUIT NOTES:

1. ALL CONDUITS SHALL BE ROUTED UNDERGROUND TO AVOID TRIP HAZARD, WHERE APPLICABLE.
2. ALL UNDERGROUND CONDUITS SHALL BE PVC. ALL ABOVEGROUND CONDUITS SHALL BE RGS.

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SHEET TITLE
COMPOUND PLAN, EQUIPMENT PLANS & PHOTO

SHEET NUMBER
A-1

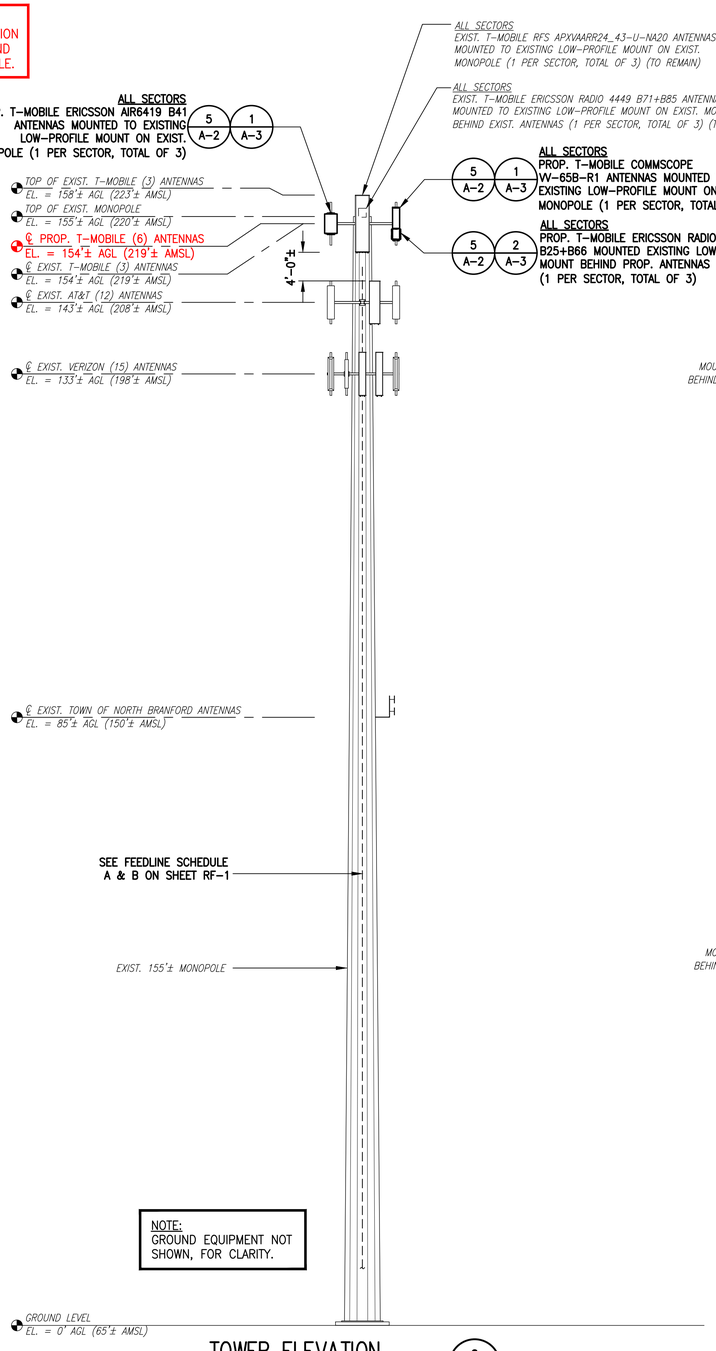
1815.540

SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.

SPECIAL CONSTRUCTION NOTE (SBA-PROVIDED ANTENNA MOUNT STRUCTURAL MOD SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE T-MOBILE RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

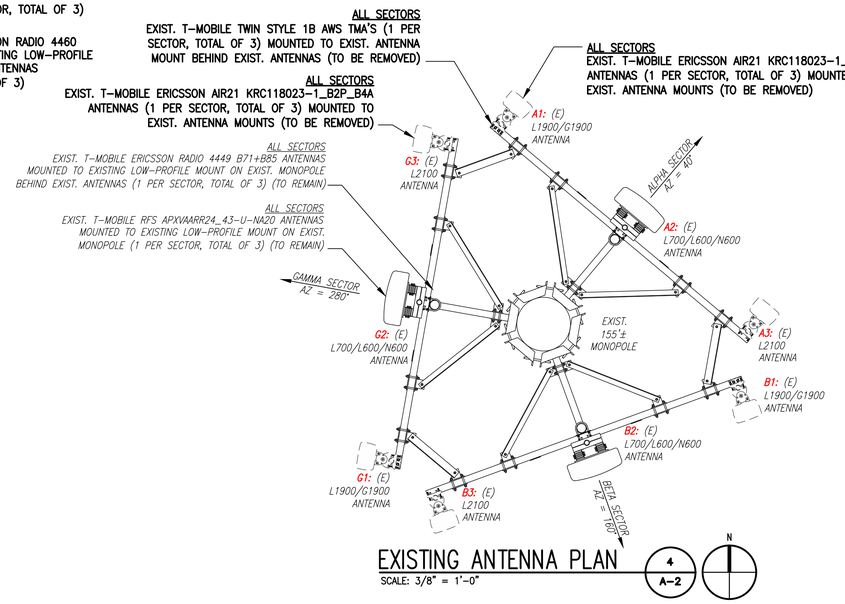
RAD CENTER NOTE:
T-MOBILE ANTENNA AND MOUNT RAD CENTER SHOWN IN ELEVATION ARE ACCORDING TO STRUCTURAL ANALYSIS DONE BY OTHERS AND MAY DIFFER FROM RAD CENTER ON RFDS PROVIDED BY T-MOBILE.

EXISTING TOWER PHOTO (1 / A-2)
SCALE: N.T.S.

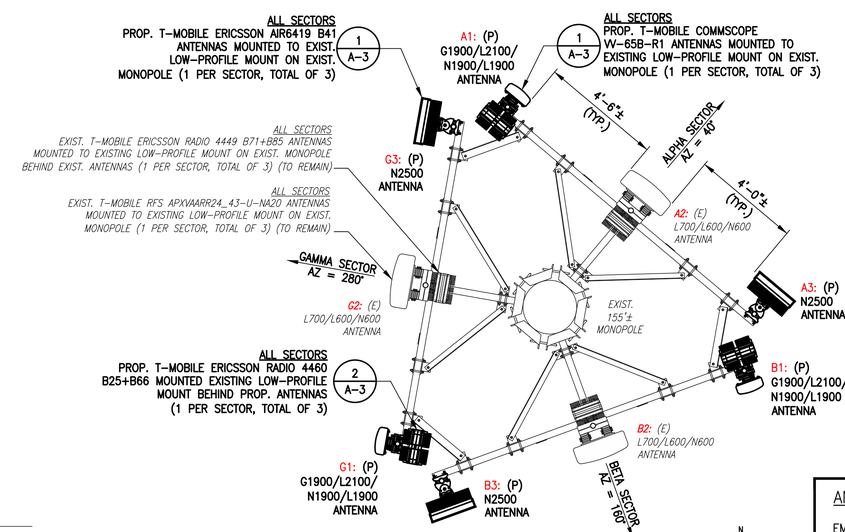


TOWER ELEVATION (2 / A-2)
SCALE: 1" = 10'-0"

EXISTING ANTENNA PHOTO (3 / A-2)
SCALE: N.T.S.



EXISTING ANTENNA PLAN (4 / A-2)
SCALE: 3/8" = 1'-0"



PROPOSED ANTENNA PLAN (5 / A-2)
SCALE: N.T.S.

NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION.

ANTENNA STATUS LEGEND:

EMPTY - EMPTY PIPE

(E) - EXISTING
(P) - INSTALL
(F) - FUTURE

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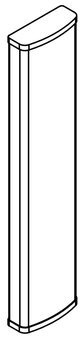
NORTH BRANFORD, CT 06471

SHEET TITLE
TOWER ELEVATION, ANTENNA PLANS & PHOTOS

SHEET NUMBER
A-2

1815.540



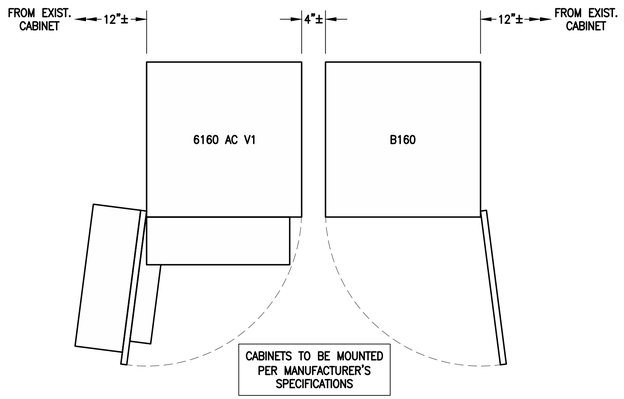
COMMSCOPE VV-65B-R1 ANTENNA
DIMENSIONS: 54.7"H x 12.1"W x 4.6"D
WEIGHT: 23.8 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

ERICSSON M-MIMO AIR6419 B41 ANTENNA
DIMENSIONS: 36.3"H x 20.9"W x 9.0"D
WEIGHT: 83.3 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

ANTENNA DETAILS (1 / A-3)
SCALE: N.T.S.

ERICSSON RADIO 4460 B25+B66
DIMENSIONS: 17.0"H x 15.1"W x 11.9"D
WEIGHT: 104.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

RADIO DETAIL (2 / A-3)
SCALE: N.T.S.



ERICSSON 6160 AC V1
SITE SUPPORT CABINET
DIMENSIONS: 63.25"H x 26.0"W x 34.0"D
WEIGHT: 680.0 lbs
QUANTITY: TOTAL OF 1

ERICSSON B160
BATTERY CABINET
DIMENSIONS: 63.25"H x 26.0"W x 26.0"D
WEIGHT: 1771.0 lbs
QUANTITY: TOTAL OF 1

EQUIPMENT DETAIL (3 / A-3)
SCALE: N.T.S.

SLACKBOX – HOFFMAN 32FH91
NEMA 3R ENCLOSURE
DIMENSIONS: 24.0"H x 24.0"W x 12.0"D
QUANTITY: TOTAL OF 1

SSC DETAILS (4 / A-3)
SCALE: N.T.S.

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SHEET TITLE
SITE DETAILS

SHEET NUMBER
A-3

1815.540

FINAL ANTENNA CONFIGURATION

SECTOR		ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	CABLES
ALPHA	A1	COMMSCOPE V-65B-R1	154'± AGL	40°	0°	2°	L2100/L1900/G1900/N1900	ERICSSON RADIO 4460 B25+B66	PROP. (3) 2" (6x24) HCS FIBER CABLES (60m ±)
	A2	*RFS APXVAARR24_43-U-NA20*	*154'± AGL*	*40°*	*0°*	*2°*	*L700/L600/N600*	*ERICSSON RADIO 4449 B71+B85*	
	A3	ERICSSON M-MIMO AIR6419 B41	154'± AGL	40°	0°	2°	N2500	–	
BETA	B1	COMMSCOPE V-65B-R1	154'± AGL	160°	0°	2°	L2100/L1900/G1900/N1900	ERICSSON RADIO 4460 B25+B66	
	B2	*RFS APXVAARR24_43-U-NA20*	*154'± AGL*	*160°*	*0°*	*2°*	*L700/L600/N600*	*ERICSSON RADIO 4449 B71+B85*	
	B3	ERICSSON M-MIMO AIR6419 B41	154'± AGL	160°	0°	2°	N2500	–	
GAMMA	G1	COMMSCOPE V-65B-R1	154'± AGL	280°	0°	2°	L2100/L1900/G1900/N1900	ERICSSON RADIO 4460 B25+B66	
	G2	*RFS APXVAARR24_43-U-NA20*	*154'± AGL*	*280°*	*0°*	*2°*	*L700/L600/N600*	*ERICSSON RADIO 4449 B71+B85*	
	G3	ERICSSON M-MIMO AIR6419 B41	154'± AGL	280°	0°	2°	N2500	–	

CABLE NOTE: EXISTING (1) 1-⅝" (6x12) HCS FIBER CABLE, (1) 1-¼" (9x18) HCS CABLE, AND ALL COAX CABLES TO BE REMOVED. SEE FEEDLINE SCHEDULE A & B BELOW.

NOTE: RFDS REV6 – 05/03/23

RAD CENTER NOTE:
T-MOBILE ANTENNA RAD CENTER SHOWN IN ABOVE SCHEDULE IS ACCORDING TO RFDS PROVIDED BY T-MOBILE AND MIGHT DIFFER FROM ACTUAL ANTENNA RAD CENTER ON STRUCTURAL ANALYSIS.

FEEDLINE SCHEDULE

SCHEDULE	FEEDLINES		LOCATION
A	*EXISTING TO REMAIN:*	*(1) ½" COAX FOR GPS ANTENNA*	
	EXISTING TO BE REMOVED:	*(1) 1-⅝" (6x12) HCS FIBER CABLE* *(1) 1-¼" (9x18) HCS FIBER CABLE* *ALL COAX CABLES*	
B	PROPOSED:	(3) 2" (6x24) HCS FIBER CABLES (60m±)	ROUTED PER STRUCTURAL ANALYSIS

NOTE:
EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.

RAN EQUIPMENT

CABINET	EXISTING	PROPOSED
ERICSSON 6160 AC V1	*N/A*	(2) BB 6630 (1) DUG20 (1) RBS6601 (1) RP 6651 (1) CSR IXRe V2 (GEN2)

NOTE:
RAN EQUIPMENT IS BASED ON RFDS REV6 DATED 05/03/23.

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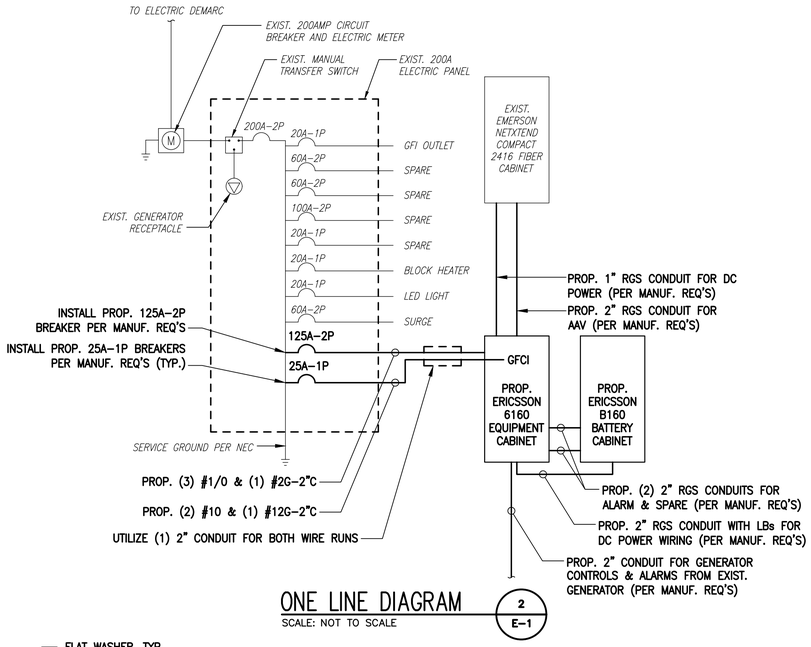
SHEET TITLE
RF DATA

SHEET NUMBER
RF-1

1815.540

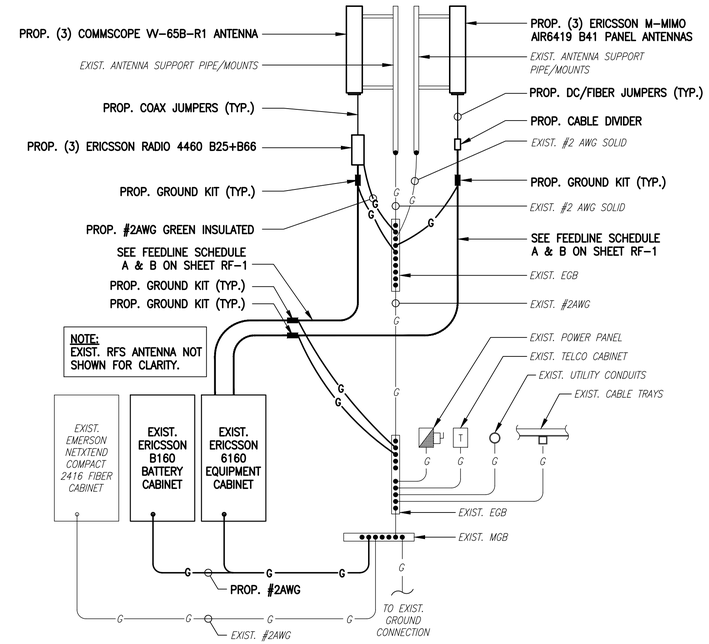
EXISTING POWER PANEL PHOTOS

SCALE: NOT TO SCALE — 1 / E-1



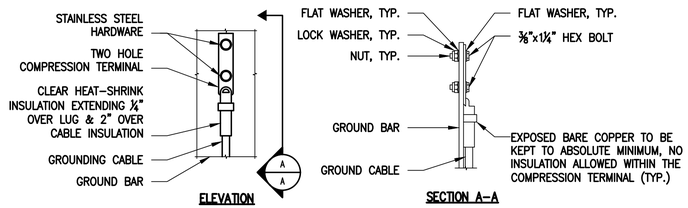
ONE LINE DIAGRAM

SCALE: NOT TO SCALE — 2 / E-1



GROUNDING RISER DIAGRAM

SCALE: NOT TO SCALE — 3 / E-1

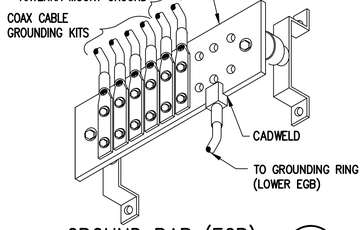


NOTES:

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

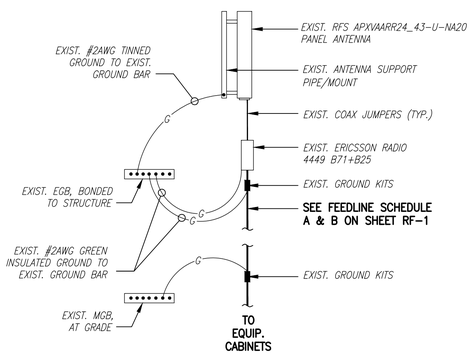
TYPICAL GROUND BAR CONNECTIONS DETAIL

SCALE: NOT TO SCALE — 4 / E-1

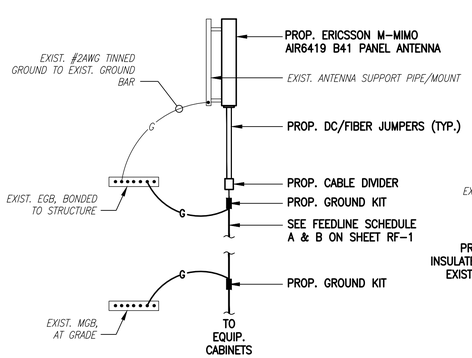


GROUND BAR (EGB)

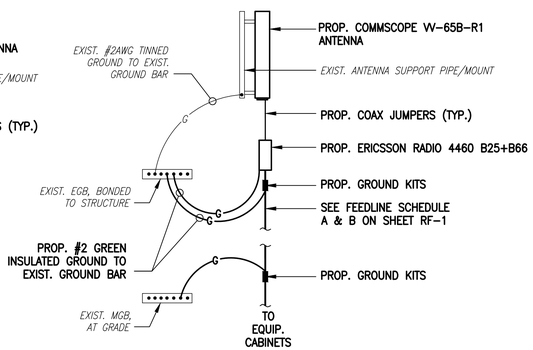
SCALE: NOT TO SCALE — 5 / E-1



L700/L600/N600 ANTENNA



N2500 ANTENNA



L2100/L1900/G1900/N1900 ANTENNA

COAX CABLE CONNECTION AND GROUNDING DETAIL

SCALE: NOT TO SCALE — 6 / E-1

ELECTRICAL AND GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THININSULATION.
8. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
10. WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
12. PPC SUPPLIED BY PROJECT OWNER.
13. GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
15. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
16. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
17. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
18. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
19. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
20. CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXIST. TOWER/ MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.
21. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMNS MINIMUM RESISTANCE REQUIRED.
22. CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.

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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25937
LICENSED PROFESSIONAL CIVIL ENGINEER
5/5/2023

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	05/05/23	ISSUED FOR CONSTRUCTION	CMC
0	04/28/23	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11390G

SITE ADDRESS:
26 COMMERCE DRIVE
NORTH BRANFORD, CT 06471

SHEET TITLE
ELECTRIC & GROUNDING DETAILS & PHOTOS

SHEET NUMBER
E-1

1815.540