smartlink

July 13, 2022

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

Re:	**Notice of Exempt Modification – Antenna and RRU Add**
Property Address:	**26 Commerce Drive, North Branford, CT 06471**
Applicant:	**AT&T Mobility, LLC**

Dear Ms. Bachman:

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

AT&T currently maintains a wireless telecommunications facility consisting of nine (9) wireless telecommunication antennas at an antenna center line height of 143-feet on an existing 155'-foot Monopole, owned by ARTEC Properties LLC at 26 Commerce DR, North Branford, CT 06471-1250. AT&T now intends to remove six (6) 4' Kathrein 7770 Panel Antennas, each currently installed in positions [1+4],and remove three (3) 6' CCI HPA-65R-BUU-H6 Panel Antennas currently installed in position [2]. AT&T then swap these for three (3) 6' CCI TPA65R-BU6DA-K Panel Antennas, and three (3) 6' CCI OPA65R-BU6DA Panel Antennas each to be installed in position [2+4]. As well as adding three (3) 2.5' Ericsson AIR6449 B77D Panel Antennas and three (3) 2.5' ERICSSON AIR6419 B77G Panel Antennas, to be stacked in position [3]. In addition, AT&T intends to remove six (6) Remote Radio Units add one (1) RRUS-4449 B5/B12, one (1) RRUS-8843 B2/B66A and (1) RRUS-4478 B14 in positions [2+4], all sectors, for a total of nine (9) new RRUs. AT&T is also proposing to add (2) Raycap Squids with (4) new DC Power Cables and (1) new fiber line to their equipment configuration. All of the changes will take place on a new antenna mount. This modification/proposal includes B2, B5, and B12 hardware that is both 4G(LTE) and 5GNR capable through remote software configuration and either or both services may be turned on or off at various times

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

Please accept this letter pursuant to Regulation of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-5l0j-72(b) (2). In accordance with R.C.S.A., a copy of this letter is being sent to Eric Knapp – Town Planner and Planning and Zoning Administrator – Town of North Branford and Michael Paulhus – Town Manager – Town of North Branford both at 909 Foxon Road, North Branford, CT 06471. A copy of this letter is being sent to the tower owner SBA at 8051 Congress Ave, Boca Raton, FL 33487, as well as the property owner ARTEC Properties LLC at 26 Commerce DR, North Branford, CT 06471-1250.

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

- **EM-CING-099-120726A** – New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 26 Commerce Drive, North Branford, Connecticut.
- **EM-AT&T-099-180201** – AT&T notice of intent to modify an existing telecommunications facility located at 26 Commerce Drive, North Branford, Connecticut

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

1. The proposed modifications will not result in an increase in the height of the existing tower. AT&T's

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replacement antennas will be installed at the 143-foot level of the 155-foot Monopole.

2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require and extension of the site boundary.
3. The proposed modifications will not increase the noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative worst-case RF emissions calculation for AT&T's modified facility is provided in the RF Emissions Compliance Report, included in Tab 2.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (See Structural Analysis Report included in Tab 3).

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

Sincerely,

Kristina Cottone

CC w/enclosures:
Eric Knapp – Town Planner and Planning and Zoning Administrator – Town of North Branford
Michael Paulhus – Town Manager – Town of North Branford
ARTEC Properties LLC - Property Owner
SBA – Tower Owner

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

26 COMMERCE DR

Location	26 COMMERCE DR	**Mblu**	19/C 13-5/ / /
Acct#	000156	**Owner**	ARTEC PROPERTIES LLC
Assessment	$945,000	**Appraisal**	$1,350,000
PID	1373	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$1,059,400	$290,600	$1,350,000

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$741,600	$203,400	$945,000

Owner of Record

Owner	ARTEC PROPERTIES LLC	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	26 COMMERCE DR NORTH BRANFORD, CT 06471-1250	**Book & Page**	0472/1180
		Sale Date	12/30/2014

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
ARTEC PROPERTIES LLC	$0		0472/1180	12/30/2014
ARTEC MACHINERY CORP	$0		0140/0074	06/17/1982

Building Information

Building 1 : Section 1

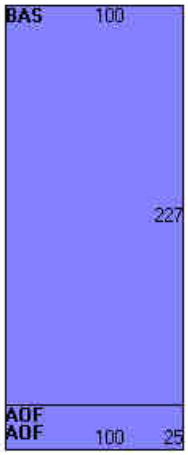
Year Built:	1984
Living Area:	27,700
Replacement Cost:	$1,681,890
Building Percent Good:	56
Replacement Cost Less Depreciation:	$941,900

Building Attributes	
Field	**Description**
Style:	Pre-Eng Mfg
Model	Ind or Comm
Grade	Average
Stories:	1
Occupancy	5.00
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
Struct Class	
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	16.00
% Comn Wall	0.00

Building Photo

(https://images.vgsi.com/photos/NorthBranfordCTPhotos//\00\00\22\32.jpg)

Building Layout



(https://images.vgsi.com/photos/NorthBranfordCTPhotos//Sketches/1373_

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	250.00 S.F.	$2,900	1
A/C	AIR CONDITION	2500.00 UNITS	$3,200	1
LFT2	LIFT-HEAVY	1.00 UNITS	$2,900	1
LDL1	LOAD LEVELERS	2.00 UNITS	$3,500	1

Land

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	$203,400
Appraised Value	$290,600

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
TW1	CELL TOWER			155.00 HEIGHT	$109,300	1
ELCB	ELECTRONIC COMM BLDG			360.00 S.F.	$63,500	1
ELCB	ELECTRONIC COMM BLDG			180.00 S.F.	$31,700	1
FN4	FENCE-8' CHAIN			192.00 L.F.	$3,500	1
MSC15	CONCRETE PAD			9.00 UNIT	$0	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$1,059,400	$290,600	$1,350,000
2019	$787,700	$507,100	$1,294,800
2018	$787,700	$507,100	$1,294,800

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$741,600	$203,400	$945,000
2019	$551,400	$355,000	$906,400
2018	$551,400	$355,000	$906,400

Radio Frequency Safety Survey Report Predictive (RFSSRP) Prepared For AT&T

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[illegible]

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1. Executive Summary

1.1 Site Summary

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TABLE 1: Site Summary	

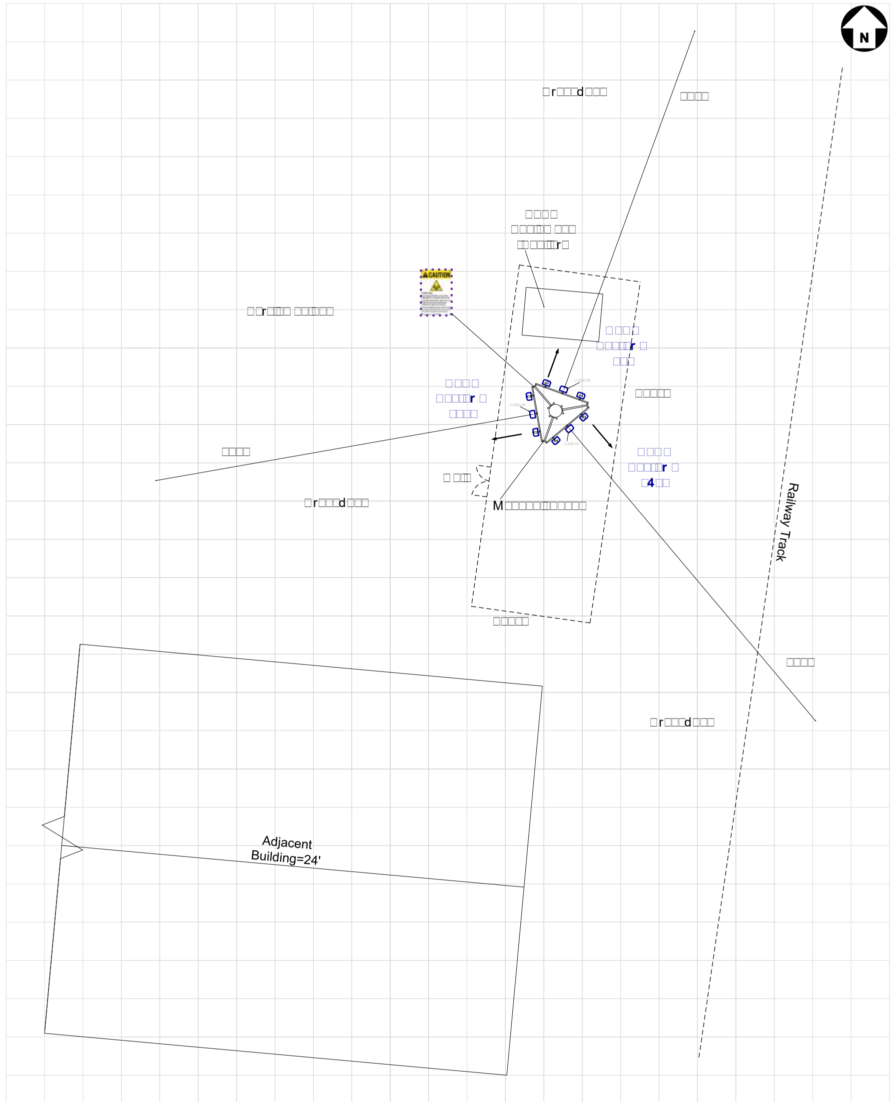
1.2 Signage Summary (Proposed)

AT&T Signage Locations	Sign Type									
	Safety Instructions	Notice Sign 2	Caution Sign 2	Caution Sign 2B	Caution Sign 2C	Caution 7"x7"	Warning Sign 1B	RF Exposure Map	Lock	Barriers
Access Point(s)				1						
Alpha										
Beta										
Gamma										
TABLE 2: Signage Summary (Proposed)										

1.3 List of Documents used to prepare this Report

- *10105782_AE201_220622_CTL02270_REV3_S&S*
- *NEW-ENGLAND_CONNECTICUT_CTV2270_2021-5G-NR-Radio_5G-NR-1SR-CBAND_pn5165_2051A11LGB_10105782_82712_11-06-2021_Final-Approved_v2.00*

2. Site Scale Map



AT&T Antenna	Proposed	Proposed Signage									
Panel		Safety Instructions	Notice 2	Caution 2	Caution 2B	Caution 2C	Caution 7"x7"	Warning 1B	RF Exposure Map	Lock	***Map Scale = 10 ft***
OMNI											

3. Antenna Inventory

Ant ID	Operator	Antenna Mfg	Antenna Model	Antenna Type	FREQ. (MHz)	TECH.	AZ. (0)	HBW (0)	Antenna Gain (dBd)	Antenna Aperture (ft)	Transmitter Power (Watts)	Total Loss (dB)	Total ERP (Watts)	Total EIRP (Watts)
A2	AT&T	CCI	TPA65R-BU6D	Panel	700	LTE(FN)	20	73	12.35	6	120.00	0.5	1837.30	3014.26
A2	AT&T	CCI	TPA65R-BU6D	Panel	1900	LTE/5G	20	66	15.95	6	120.00	0.5	4209.02	6905.28
A2	AT&T	CCI	TPA65R-BU6D	Panel	2100	LTE/5G	20	66	16.25	6	120.00	0.5	4510.05	7399.14
A3-1	AT&T	Ericsson	AIR 6419 B77G^	Panel	3450	5G	20	11	23.5	2.55	108.44*	0	24277.05*	39828.68*
A3-2	AT&T	Ericsson	AIR 6449 B77D^	Panel	3840	5G	20	11	23.5	2.55	108.44*	0	24277.05*	39828.68*
A4	AT&T	CCI	OPA65R-BU6D	Panel	700	LTE(B12)	20	73	12.15	6	120.00	0.5	1754.61	2878.60
A4	AT&T	CCI	OPA65R-BU6D	Panel	850	5G	20	64	13.05	6	120.00	0.5	2158.65	3541.45
B2	AT&T	CCI	TPA65R-BU6D	Panel	700	LTE(FN)	140	73	12.35	6	120.00	0.5	1837.30	3014.26
B2	AT&T	CCI	TPA65R-BU6D	Panel	1900	LTE/5G	140	66	15.95	6	120.00	0.5	4209.02	6905.28
B2	AT&T	CCI	TPA65R-BU6D	Panel	2100	LTE/5G	140	66	16.25	6	120.00	0.5	4510.05	7399.14
B3-1	AT&T	Ericsson	AIR 6419 B77G^	Panel	3450	5G	140	11	23.5	2.55	108.44*	0	24277.05*	39828.68*
B3-2	AT&T	Ericsson	AIR 6449 B77D^	Panel	3840	5G	140	11	23.5	2.55	108.44*	0	24277.05*	39828.68*
B4	AT&T	CCI	OPA65R-BU6D	Panel	700	LTE(B12)	140	73	12.15	6	120.00	0.5	1754.61	2878.60
B4	AT&T	CCI	OPA65R-BU6D	Panel	850	5G	140	64	13.05	6	120.00	0.5	2158.65	3541.45
C2	AT&T	CCI	TPA65R-BU6D	Panel	700	LTE(FN)	260	73	12.35	6	120.00	0.5	1837.30	3014.26
C2	AT&T	CCI	TPA65R-BU6D	Panel	1900	LTE/5G	260	66	15.95	6	120.00	0.5	4209.02	6905.28
C2	AT&T	CCI	TPA65R-BU6D	Panel	2100	LTE/5G	260	66	16.25	6	120.00	0.5	4510.05	7399.14
C3-1	AT&T	Ericsson	AIR 6419 B77G^	Panel	3450	5G	260	11	23.5	2.55	108.44*	0	24277.05*	39828.68*
C3-2	AT&T	Ericsson	AIR 6449 B77D^	Panel	3840	5G	260	11	23.5	2.55	108.44*	0	24277.05*	39828.68*
C4	AT&T	CCI	OPA65R-BU6D	Panel	700	LTE(B12)	260	73	12.15	6	120.00	0.5	1754.61	2878.60
C4	AT&T	CCI	OPA65R-BU6D	Panel	850	5G	260	64	13.05	6	120.00	0.5	2158.65	3541.45

Table 3.1: Antenna Inventory Table

Note: **^ <u>Mechanical Tilt value of "0°" MUST be retained for C-BAND and/or DoD AAS antenna(s) at all times to ensure that "EME (Predictive) Study" shall remain valid.</u>**
* 75% TDD duty Cycle, 1.5dB Power Tolerance & 0.32 Power Reduction factor[1] are used to calculate Transmitter Power & ERP/EiRP

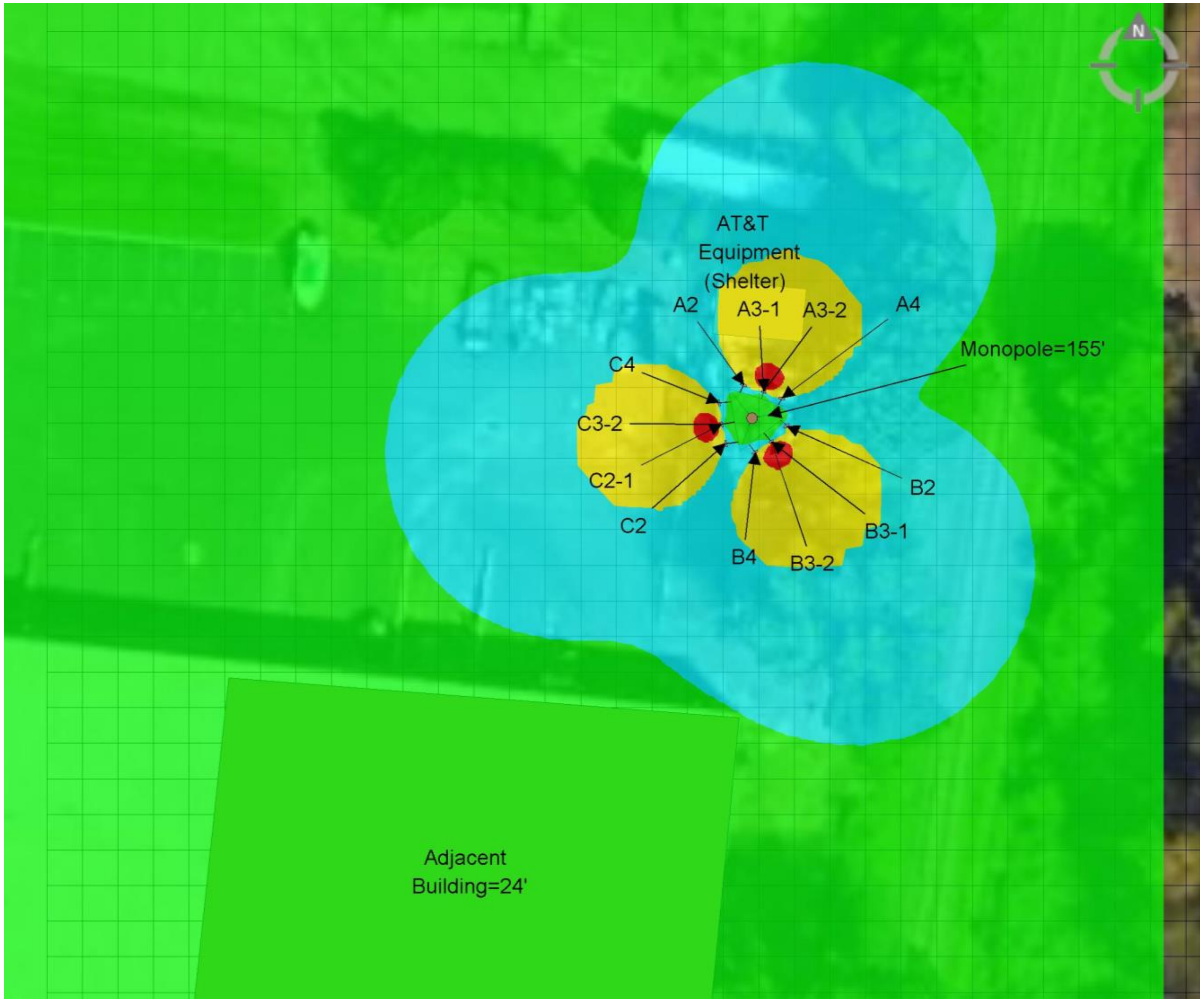
Antenna Heights (Z)

Ant ID	Operator	Antenna Radiation Centerline	Z-Height from Adj. Bldg	Z-Height from Ground
A2	AT&T	143.00	116.00	140.00
A3-1	AT&T	144.78	119.50	143.50
A3-2	AT&T	141.23	115.95	139.95
A4	AT&T	143.00	116.00	140.00
B2	AT&T	143.00	116.00	140.00
B3-1	AT&T	144.78	119.50	143.50
B3-2	AT&T	141.23	115.95	139.95
B4	AT&T	143.00	116.00	140.00
C2	AT&T	143.00	116.00	140.00
C3-1	AT&T	144.78	119.50	143.50
C3-2	AT&T	141.23	115.95	139.95
C4	AT&T	143.00	116.00	140.00

Table 3.2: Antenna Height(s) Summary Table

4. Predicted Emission

4.1 Predictive Cumulative MPE Contribution from All Sources at Antennas Centerline Level (143 ft.)



% of FCC General Public Exposure Limit (Predictive Spatial Average)

Non-Simulated	0-1	1-100	100-500	500-5000	>5000

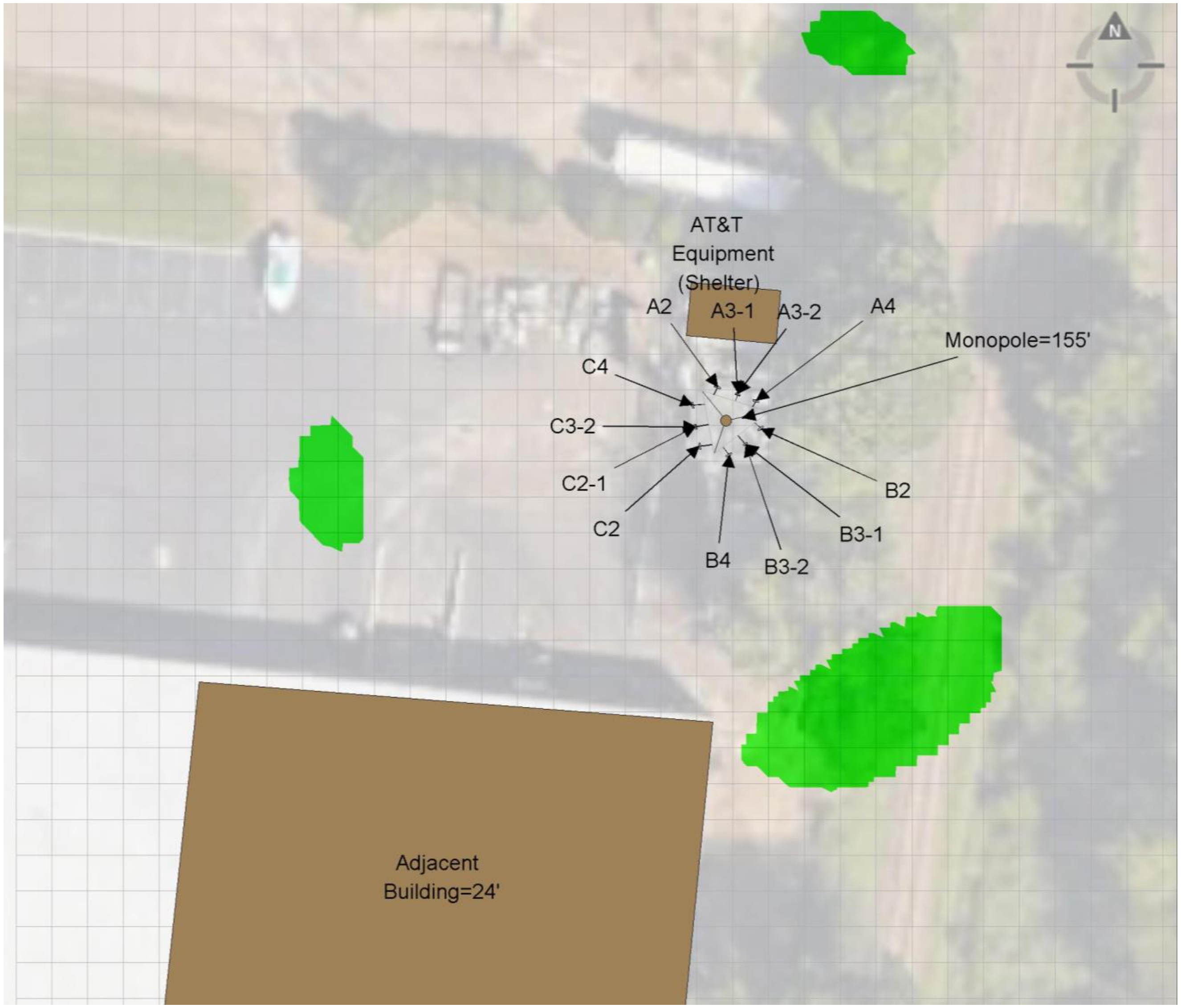
Map Scale = 10 ft

4.2 Predictive Cumulative MPE Contribution from All Sources at Adjacent Building Level (24 ft.)

% of FCC General Public Exposure Limit (Predictive Spatial Average)					
Non-Simulated	0-1	1-100	100-500	500-5000	>5000

Map Scale = 10 ft

4.3 Predictive Cumulative MPE Contribution from All Sources at Ground Level (0 ft.)



% of FCC General Public Exposure Limit (Predictive Spatial Average)

Non-Simulated	0-1	1-100	100-500	500-5000	>5000

Map Scale = 10 ft

5. Statement of Compliance

5.1 Statement of AT&T Mobility Compliance

[illegible] M[illegible] [illegible]r[illegible]r[illegible]d [illegible]r [illegible] comply with the FCC's mandate as defined in OET[illegible]

Recommendations

AT&T Alpha Sector:

- [illegible] R[illegible]r[illegible]d

AT&T Beta Sector:

- [illegible] R[illegible]r[illegible]d

AT&T Gamma Sector:

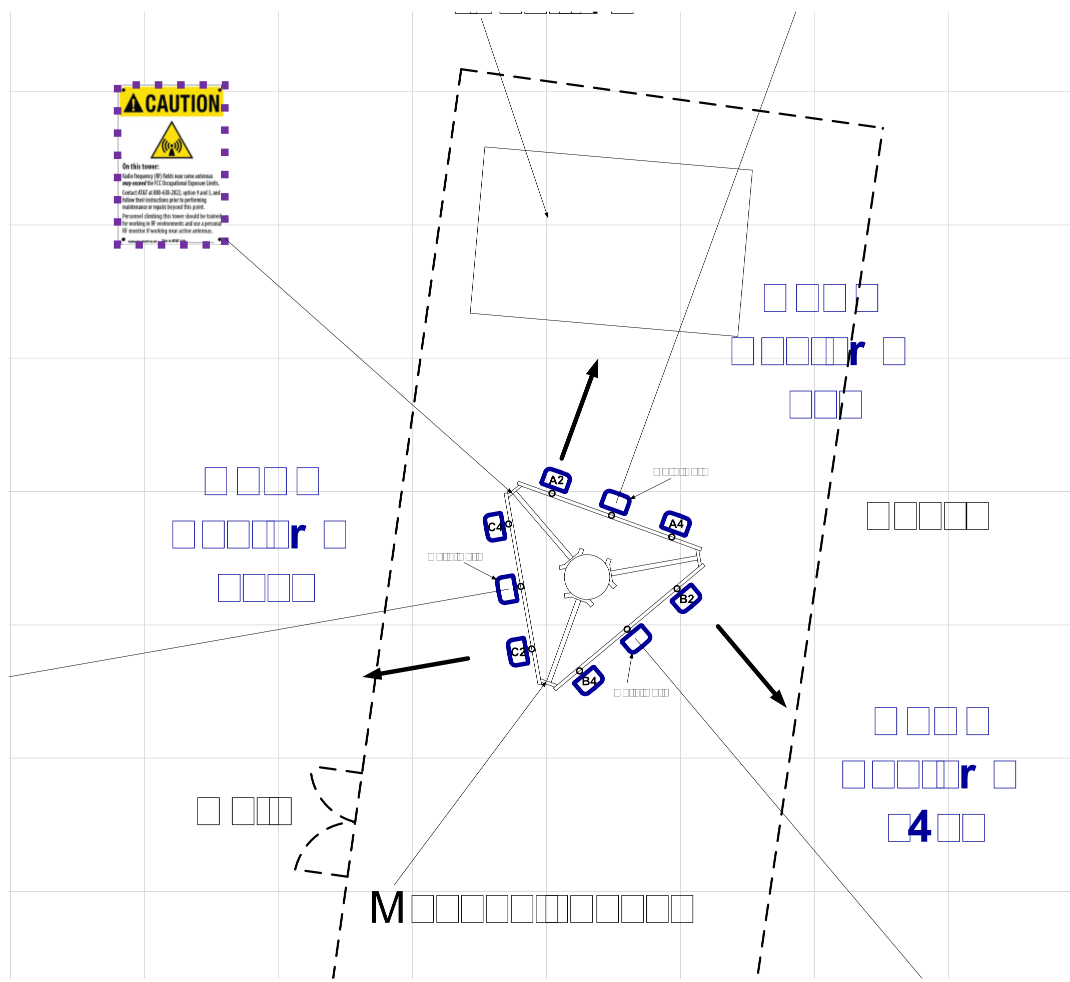
- [illegible] R[illegible]r[illegible]d

Monopole:

- [illegible]d [illegible] M[illegible] at climbing access, facing outwards so approaching people can see as shown in "Recommendations Map – Detailed View" on page [illegible]

Recommendations Map – Detailed View

AT&T Alpha, Beta & Gamma Sectors



AT&T Antenna	Proposed	Proposed Signage									*Map Scale = 10 ft*
Panel OMNI		Safety Instructions	Notice 2	Caution 2	Caution 2B	Caution 2C	Caution 7"x7"	Warning 1B	RF Exposure Map	Lock	

Appendix A – Statement of Limiting Conditions

General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at full power at all times. AT&T has further recommended to assume a 75% duty cycle of maximum radiated power for all LTE & 5G carriers (& consider 100% duty cycle for all UMTS carriers).

*In this site compliance report, it is assumed that Mechanical Tilt value of "0°" MUST be retained for C-BAND and/or DoD AAS**^** antenna(s) at all times to ensure that "EME (Predictive) Study" shall remain valid.*

*AT&T recommended to consider - For C-BAND and/or DoD AAS**^** antenna(s) 75% TDD duty Cycle, 1.5dB Power Tolerance & 0.32 Power Reduction factor**[1]** are used to calculate Transmitter Power & ERP/EiRP.*

AT&T recommended to use worst-case tilts for the simulations.

*[1] **Power Reduction Factor**: IEC Standard 62232: 2017 allows for a statistically conservative power density model to more realistically define the RF exposure area. AT&T recommends a "0.32" factor to calculate the "Actual Maximum" (time averaged) power value, which accounts for "Beam Scanning," "Scheduling," and "RBS Utilization" This recommended value is a conservative figure modelled and supported by other vendors and through measurements published in scientific articles and white papers by IEEE and others. Those publication are listed below:*

1. IEEE Access, Time-Averaged Realistic Maximum Power Levels for the Assessment of RF Exposure for 5G Radio Base Stations Using Massive MIMO (Published Sept. 18, 2017 / BJÖRN THORS, ANDERS FURUSKÄR, DAVIDE COLOMBI, AND CHRISTER TÖRNEVIK)
2. IEEE Explore, A Statistical Approach for RF Exposure Compliance Boundary Assessment in Massive MIMO Systems (Published Jan. 25, 2018 / Paolo Baracca, Andreas Weber, Thorsten Wild, Christophe Grangeat)
3. IEEE Access, In-situ Measurement Methodology for the Assessment of 5G NR Massive MIMO Base Station Exposure at Sub-6 GHz Frequencies (Published Dec. 20, 2019 / SAM AERTS, LEEN VERLOOCK, MATTHIAS VAN DEN BOSSCHE, DAVIDE COLOMBI, LUC MARTENS, CHRISTER TÖRNEVIK AND WOUT JOSEPH)
4. Applied Sciences, Analysis of the Actual Power and EMF Exposure from Base Stations in a Commercial 5G Network (Published July 30, 2020 / Davide Colombi, Paramananda Joshi, Bo Xu, Fatemeh Ghasemifard, Vignesh Narasaraju and Christer Törnevik)
5. Ofcom Technical Report, Electromagnetic Field (EMF) measurements near 5G mobile phone base stations (Published Feb. 21, 2020 / Davide Colombi, Paramananda Joshi, Bo Xu, Fatemeh Ghasemifard, Vignesh Narasaraju and Christer Törnevik)

MobileComm believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor). Thus, at any time, if power density measurements were made, we believe the real time measurements would indicate levels below those depicted in the RF emission diagram(s) in this report. By modelling in this way, MobileComm has conservatively shown exclusion areas – areas that should not be entered without the use of a personal monitor, carriers reducing power, or performing real-time measurements to indicate real-time exposure levels.

Use of Generic Antennas

For the purposes of this report, the use of "Generic" as an antenna model, or "Other Carrier" for an operator means the information about a carrier, their FCC license and/or antenna information was not provided and could not be obtained while on site. In the event of unknown information, MobileComm will use our industry specific knowledge of equipment, antenna models, and transmit power to model the site. Information about similar facilities is used when the service is identified and associated with a particular antenna. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer's published data regarding the antenna's physical characteristics makes more conservative assumptions.

Where the frequency is unknown, MobileComm uses the closest frequency in the antenna's range that corresponds to the highest Maximum Exposure Limit (MPE), resulting in a conservative analysis.

Appendix B – FCC Guidelines and Emissions Threshold Limits

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter (µW/cm2). The general population exposure limit for the 700 and 800 MHz Bands is approximately 467 µW/cm2 and 567 µW/cm2 respectively, and the general population exposure limit for the 1900 MHz PCS and 2100 MHz AWS bands is 1000 µW/cm2. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/Controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure, have been properly trained in RF safety and can exercise control over their exposure. Occupational/Controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure, have been trained in RF safety and can exercise control over his or her exposure by leaving the area or by some other appropriate means. The Occupational/Controlled exposure limits all utilized frequency bands is five (5) times the FCC's General Public / Uncontrolled exposure limit.

Additional details can be found in FCC OET 65.

Table 1: Limits for Maximum Permissible Exposure (MPE)				
(A) Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time $[E]^2$, $[H]^2$, or S (minutes)**
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-I,500	--	--	f/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Public/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time $[E]^2$, $[H]^2$, or S (minutes)**
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-I,500	--	--	f/1,500	30
1,500-100,000	--	--	1.0	30

Appendix C – Rules & Regulations

Explanation of Applicable Rules and Regulations

FCC has set forth guidelines in OET Bulletin 65 for human exposure to radio frequency electromagnetic fields. Currently, there are two different levels of MPE - General Public MPE and Occupational MPE. An individual classified as Occupational can be defined as an individual who has received appropriate RF training and meets the conditions outlined below. General Public is defined as anyone who does not meet the conditions of being Occupational. FCC Rules and Regulations define compliance in terms of total exposure to total RF energy, regardless of location of or proximity to the sources of energy.

It is the responsibility of all licensees to ensure these guidelines are maintained at all times. It is the ongoing responsibility of all licensees composing the site to maintain ongoing compliance with FCC rules and regulations.

A building owner or site manager can use this report as part of an overall RF Health and Safety Policy. It is important for building owners/site managers to identify areas in excess of the General Population MPE and ensure that only persons qualified as Occupational are granted access to those areas.

Occupational Environment Explained

The FCC definition of Occupational exposure limits apply to persons who:

- *are exposed to RF energy as a consequence of their employment;*
- *have been made aware of the possibility of exposure; and*
- *can exercise control over their exposure.*

FCC guidelines go further to state that persons must complete RF Safety Awareness training and must be trained in the use of appropriate personal protective equipment.

In order to consider this site an Occupational Environment, the site must be controlled to prevent access by any individuals classified as the General Public. Compliance is also maintained when any non-occupational individuals (the General Public) are prevented from accessing areas indicated as Red or Yellow in the attached RF Emissions diagram. In addition, a person must be aware of the RF environment into which they are entering. This can be accomplished by an RF Safety Awareness class, and by appropriate written documentation such as this Site Compliance Report.

Appendix D – General Safety Recommendations

The following are general recommendations appropriate for any site with accessible areas in excess of 100% General Public MPE. These recommendations are not specific to this site. These are safety recommendations appropriate for typical site management, building management, and other tenant operations.

1. All individuals needing access to the main site should be instructed to read and obey all posted placards and signs.

2. The site should be routinely inspected and this or similar report updated with the addition of any antennas or upon any changes to the RF environment including:

- *adding new antennas that may have been located on the site*
- *removing of any existing antennas*
- *changes in the radiating power or number of RF emitters*

3. Post the appropriate SAFETY INSTRUCTIONS, NOTICE, CAUTION & WARNING sign at the main site access point(s) and other locations as required. Note: Please refer to RF Exposure Diagrams in the report section above, to inform everyone who has access to this site that beyond posted signs there may be levels in excess of the limits prescribed by the FCC. The signs below are examples of signs meeting FCC guidelines.

4. Ensure that the site door remains locked (or appropriately controlled) to deny access to the general public if deemed as policy by the building/site owner.

5. For a General Public environment the five color levels identified in measured RF emission diagram can be interpreted in the following manner:

- *White represents areas predicted to be greater than or equal to 0% and less than 1% of the MPE general public limits*
- *Green represents areas predicted to be greater than or equal to 1% and less than 100% of the MPE general public limits*
- *Blue represents areas predicted to be greater than or equal to 100% and lesser than 500% of the MPE general public limits.*
- *Yellow represents areas predicted to be greater than or equal to 500% and lesser than 5000% of the MPE general public limits.*
- *Red areas indicates predicted levels greater than or equal to 5000% of the MPE general public limits.*

Appendix E – References

1 - FCC Definition

FCC defines an Occupational or Controlled environment as one where persons are exposed to RF fields as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Typical criteria for an Occupational or Controlled environment is restricted access (i.e. locked doors, gates, etc.) to areas where antennas are located coupled with proper RF warning signage.

FCC defines a site as a General Public or Uncontrolled environment when human exposure to RF fields occurs to the general public or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over the exposure. Typical criteria for a General Public or Uncontrolled environment are unrestricted access (i.e. unlocked or no restrictions) to areas where antennas are located without proper RF warning signage being posted.

2 - Physical Testing measurement procedure and Tools

The Narda Broadband Field Meter NBM-550 can make rapid conformance measurements with evaluation in the time domain when used in conjunction EA5091 probe. This probe is a so-called Shaped Probe, i.e. it is frequency weighted so that it automatically takes account of the FCC Occupational limit values. To collect data, the probe is pointed towards the potential source(s) of EME radiation and moved slowly from ground level up to slightly above head height (approx. 6 ft).

Spatial Average Measurement A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average energy an average sized human body will absorb while present in an electromagnetic field of energy.

3 - Site Safety Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

[illegible] *Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.*

[illegible] *All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a workers understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet based courses).*

[illegible] *Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:*

- *Locked door or gate*
- *Alarmed door*
- *Locked ladder access*
- *Restrictive Barrier at antenna locations (e.g. Chain link with posted RF Sign)*

RF Signage: *Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.*

Assume all antennas are active: *Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.*

Maintain a safe distance from antennas: *There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.*

Review RF emissions Diagram: *Section 4 of this report contains an RF Emissions Diagram that outlines various theoretical Maximum Permissible Exposure (MPE) areas on the rooftop. This analysis is all theoretical and assumes a duty cycle of 75% for each transmitting antenna at full power. This analysis is a worst case scenario. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.*

4 - Definitions

Site Survey: *The determination of whether a site is safe or not with regards to Human Exposure to Radio Frequency Radiation from transmitting antennas.*

Decibel (dB) – *A unit for measuring power or strength of a signal.*

Duty Cycle – *The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 75% corresponds to continuous operation.*

Effective (or Equivalent) Isotropic Radiated Power (EIRP) – *The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna, this product is divided by the cable losses*

Effective Radiated Power (ERP) – *In a given direction, the relative gain of a transmitting antenna with respect to the maximum directivity of a half wave dipole multiplied by the net power accepted by the antenna from the connecting transmitter.*

Gain (of an antenna) (dBd) – *The ratio of the maximum intensity in a given direction to the maximum radiation in the same direction from a reference dipole. Gain is a measure of the relative efficiency of a directional antennas as compared to a reference dipole.*

General Population/Uncontrolled Environment – *Defined by the FCC, as an area where RFR exposure may occur to persons who are unaware of the potential for exposure and who have no control of their exposure. General Population is also referenced as General Public.*

Generic Antenna – *For the purposes of this report, the use of "Generic" as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, MobileComm will use our industry specific knowledge of antenna models to select a worst case scenario antenna to model the site.*

Isotropic Antenna – *An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.*

Maximum Measurement – *This measurement represents the single largest measurement recorded when performing a spatial average measurement.*

[illegible] – *The RMS and peak electric and magnetic field strength, their squares, or the plane-wave equivalent power densities associated with these fields to which a person may be exposed without harmful effect and with acceptable safety factor.*

[illegible] – *Defined by the FCC, as an area where Radio Frequency Radiation (RFR) exposure may occur to persons who are aware of the potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.*

[illegible] – *Electromagnetic waves that are propagated from antennas through space.*

[illegible] – *A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average energy an average sized human body will absorb while present in an electromagnetic field of energy.*

[illegible] – *The radio frequency output power of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load.*

Appendix F – Proprietary Statement

This report was prepared for the use of AT&T Mobility, LLC to meet requirements specified in AT&T’s corporate RF safety guidelines. It was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same locale under like circumstances. The conclusions provided by MobileComm are based solely on the information provided by AT&T Mobility and all observations in this report are valid on the date of the investigation. Any additional information that becomes available concerning the site should be provided to MobileComm so that our conclusions may be revised and modified, if necessary. This report has been prepared in accordance with Standard Conditions for Engagement and authorized proposal, both of which are integral parts of this report. No other warranty, expressed or implied, is made.

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Structural Analysis Report

Client: AT&T

Client Site ID / Name: CTL02270 / North Branford Commerce Dr
Application #: 193675, v3

SBA Site ID / Name: CT13610-A / ARTEC

155 ft Monopole

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

Project number: CT13610-ATT-041322

Analysis Results

Tower	92.3%	Pass
Foundation	48.0%	Pass

Change in tower stress due to mount modification / replacement	5.4%

Prepared by:

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Structural Engineer II
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Reviewed by:

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Senior Manager, Structural Engineering
561-981-7390
SShanubhogue@sbasite.com

April 15, 2022

STATE OF CONNECTICUT
ANANTHA B SHANUBHOGUE
33123
LICENSED
PROFESSIONAL ENGINEER

04/15/22

Tower Geometry.....

Report.....

Foundation Analysis Report.....

[illegible]

[illegible]

Table 1 List of Documents Used

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

[illegible]

Table 2 Code Related Data

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	0.75”
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

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 with (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	6	Powerwave - 7770 - Panel	(3) T-Arm	(12) 1 5/8" (2) 1/2" DC power (1) 3/8" Fiber	AT&T
7		3	Cci - HPA-65R-BUU-H6 - Panel			
8		6	Powerwave - LGP21401 - TMA			
9		6	Powerwave - LGP13519 - Diplexer			
10		6	Ericsson - RRUS 11 - RRU			
11		3	Ericsson - RRUS 32 B2 - RRU			
12		1	Raycap - DC6-48-60-18-8F - OVP			
22	133.0	3	Samsung - MT6407-77A - Panel	(3) T-Arm	(12) 1 5/8" (2) 1 5/8" Hybrid	Verizon
23		6	Andrew - SBNHH-1D65B - Panel			
24		6	Amphenol - LPA-80080-6CF - Panel			
25		3	Samsung - RF4439d-25A - RRU			
26		3	Samsung - RF4440d-13A - RRU			
27		2	Rfs Celwave - DB-T1-6Z-8AB-0Z - OVP			
28	100.0	3	JMA Wireless - MX08FRO665-21 - Panel	Platform w/ Handrail [Commscope MC-PK8-DSH]	(1) 1.6" Hybrid	Dish Wireless
29		3	Fujitsu - TA08025-B605 - RRU			
30		3	Fujitsu - TA08025-B604 - RRU			
31		1	Raycap - RDIDC-9181-PF-48 - OVP			
32	89.75	1	Andrew - DB408 - Whip	(1) T-Arm @ 85'	(6) 7/8"	Town of North Branford
33		2	Sinclair - SD222 - Whip			
34	85.0	1	Radio Waves - SP4-4.7NS RD4 - Dish			

[illegible]

[illegible]

Table 4 Proposed Appurtenances

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
13	143.0	3	Cci - TPA65R-BU6DA-K - Panel	14' Low Pro-Platform with Reinforcement and Handrail System w/ (12) Ant Mount Pipes [illegible] RM[illegible]	(6) 1 5/8" (6) 1/2" DC power (3) 3/8" Fiber	AT&T
14		3	Cci - DMP65R-BU6DA - Panel			
15		3	Ericsson - AIR6449 B77D - Panel			
16		3	Ericsson - AIR6419 B77G - Panel			
17		~~3~~	~~Ericsson - RRUS 32 B2 - RRU~~			
18		3	Ericsson - RRUS 4478 B14 - RRU			
19		3	Ericsson - RRUS [illegible]			
20		3	Ericsson - RRUS 4449 B5/B12 - RRU			
21		3	Raycap - DC6-48-60-18-8F - OVP			

Note: AT&T loading includes FirstNET equipment

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Table 5 Tower Analysis Summary

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	92.3%	62.0%	70.0%
Pass/Fail	Pass	Pass	Pass

□□□□d□□□□□

□□□ r□□□□□ □□ □□□ □□□□d□□□□ □□□□□□□ □r□ □□□□ □ □□□□ □□ □□□□□ □□ □dd□□□□□□□□□r□ □□□□ □r □□□ □□□□d□□□□ □□□□□□□ □□ □r□□d□d □ □□□□ □□□ □□□□□d□□□

Table 6 Foundation Analysis Summary

□r□□□r□□□ □□ □□□□□	M□□ □ □□□□ □□ □	□ □□□□□□ R□□□□
□□□□d□□□□	48.0%	Pass

[illegible]

[illegible] ***sufficient*** [illegible]

[illegible] R[illegible]r[illegible]

[illegible]
are to be installed on existing mounts behind tenant’s antennas unless otherwise noted. No equipment is to be
[illegible]

Assumptions

[illegible]

- [illegible]
- [illegible] maintained in accordance with the manufacturer's [illegible]
- [illegible]
- [illegible]
- [illegible]

Limitations

[illegible]

[illegible]

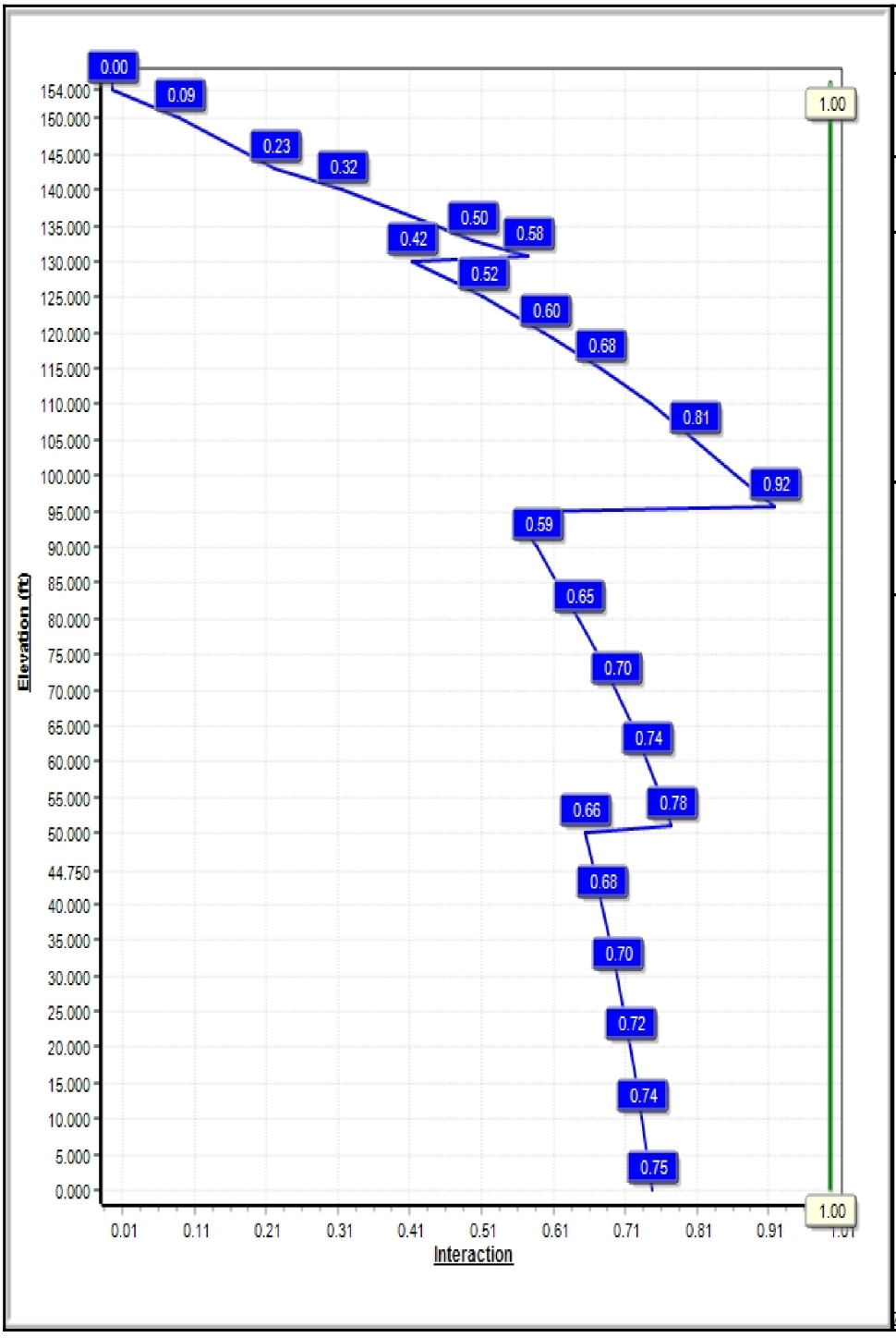
Usage Diagram - Max Ratio 92.30% at 95.8ft

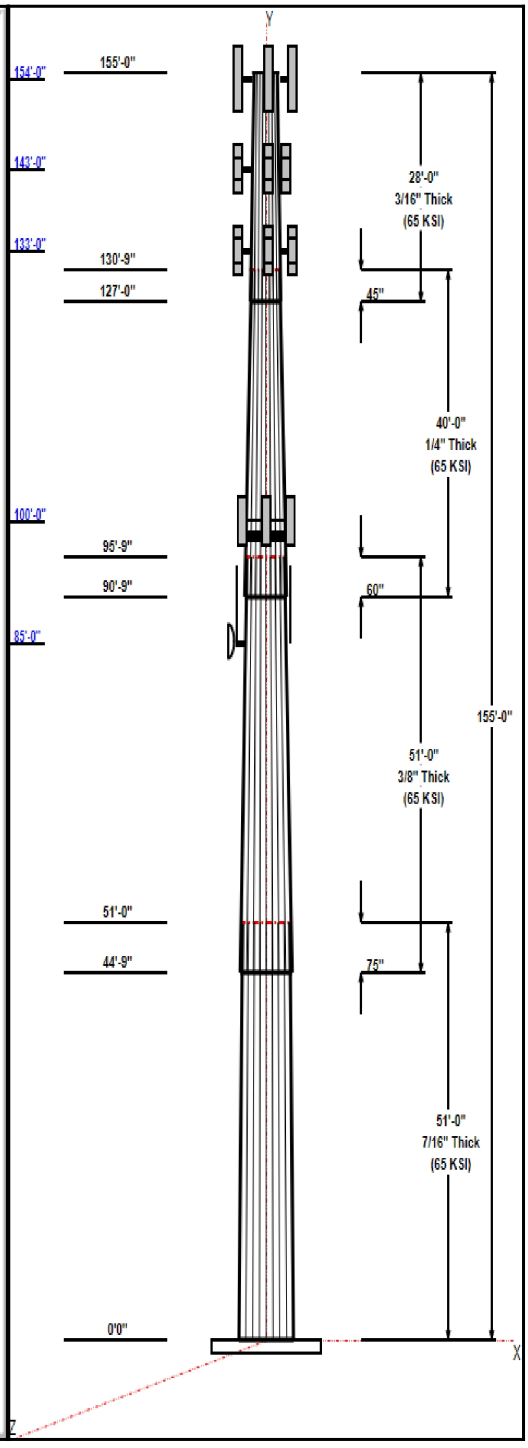
Structure:	CT13610-A	**Code:**	EIA/TIA-222-G	4/15/2022
Site Name:	ARTEC	**Exposure:**	C	
Height:	155.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

Dead Load Factor:	1.20
Wind Load Factor:	1.60

Load Case : 1.2D + 1.6W 101 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

4/15/2022

Shaft Properties

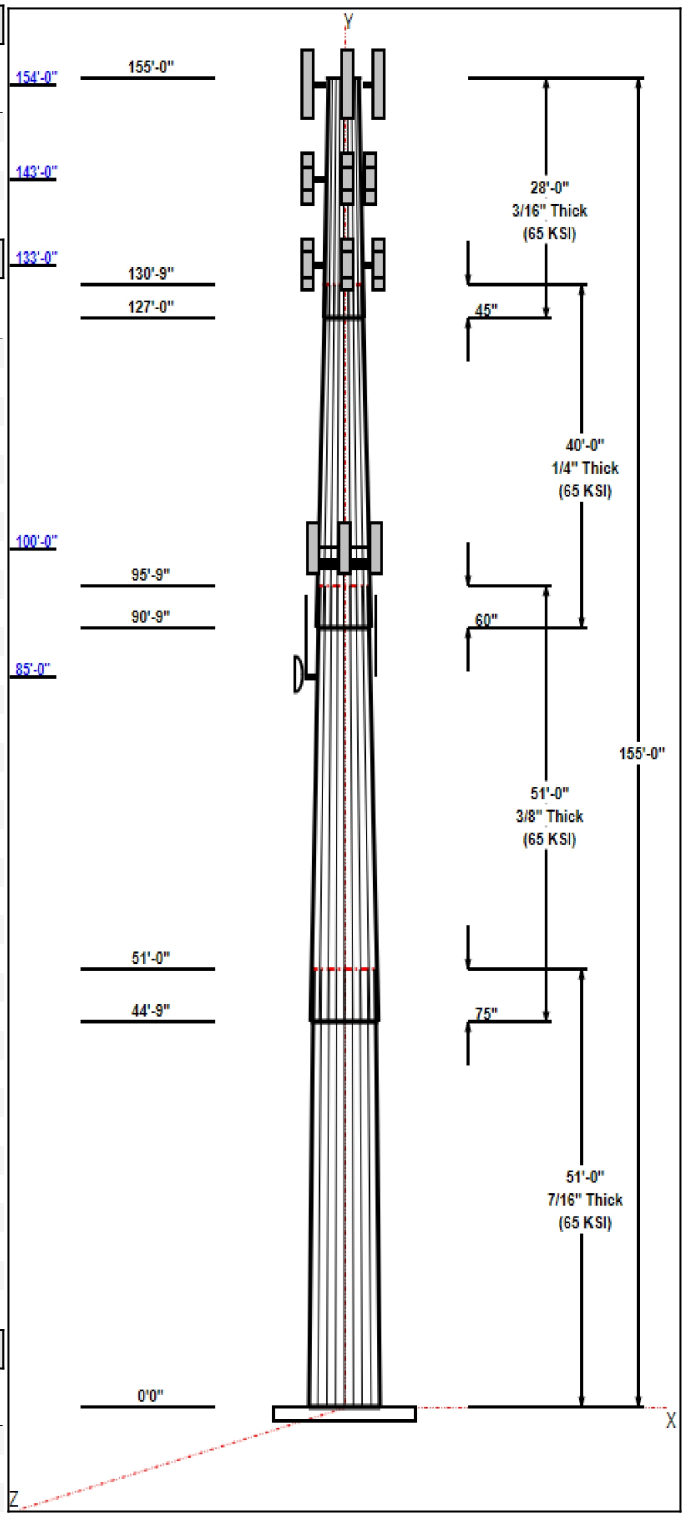
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	51.00	47.71	60.87	0.438		0.25803	65
2	51.00	36.91	50.07	0.375	Slip	0.25803	65
3	40.00	28.38	38.70	0.250	Slip	0.25803	65
4	28.00	22.50	29.72	0.188	Slip	0.25803	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
154.00	154.00	3	Ericsson - Air 21 B2A/B4P	T-Mobile
154.00	154.00	3	Ericsson - Air 21 B4A/B2P	T-Mobile
154.00	154.00	3	RFS -	T-Mobile
154.00	154.00	3	Ericsson - KRY 112 144/1	T-Mobile
154.00	154.00	3	Ericsson - Radio 4449	T-Mobile
154.00	154.00	3	T-Arm	T-Mobile
154.00	154.00	3	Mount Mod	T-Mobile
143.00	143.00	3	Cci - TPA65R-BU6DA-K	AT&T
143.00	143.00	3	Cci - DMP65R-BU6DA	AT&T
143.00	143.00	3	Ericsson - AIR6449 B77D	AT&T
143.00	143.00	3	Ericsson - AIR6419 B77G	AT&T
143.00	143.00	3	Ericsson - RRUS 32 B2	AT&T
143.00	143.00	3	Ericsson - RRUS 4478 B14	AT&T
143.00	143.00	3	Ericsson - RRUS 4426	AT&T
143.00	143.00	3	Ericsson - RRUS 4449	AT&T
143.00	143.00	3	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 5/8" Coax	T-Mobile
0.00	154.00	Inside	1 5/8" 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

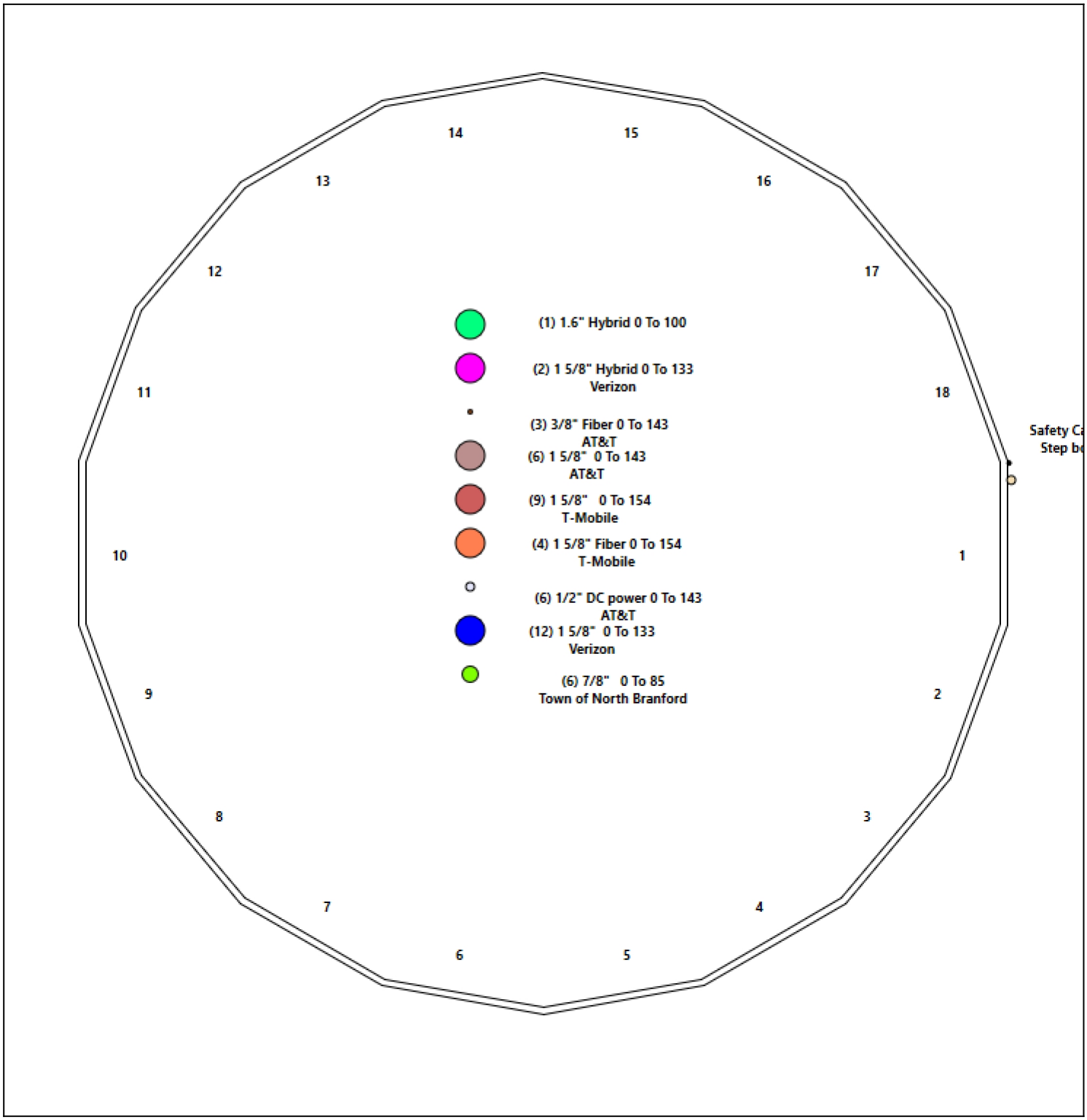
Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 101 mph Wind	5172.7	45.0	56.8
0.9D + 1.6W 101 mph Wind	5118.6	44.9	42.6
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1336.8	11.5	99.7
1.2D + 1.0E	260.3	2.0	56.9
0.9D + 1.0E	257.3	2.0	42.7
1.0D + 1.0W 60 mph Wind	1134.9	9.9	47.4

Structure: CT13610-A - Coax Line Placement

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

4/15/2022



Shaft Properties

Structure:	CT13610-A		**Code:**	TIA-222-G	4/15/2022
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: 1

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-G	4/15/2022
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: 2

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	Ericsson - Air 21 B2A/B4P	3	91.50	6.04	0.85	238.99	7.080	0.86	0.00	0.00
2	154.00	Ericsson - Air 21 B4A/B2P	3	90.30	6.04	0.85	237.82	7.080	0.86	0.00	0.00
3	154.00	RFS - APXVAARR24_43-U-NA20	3	128.00	20.24	0.72	572.64	22.082	0.72	0.00	0.00
4	154.00	Ericsson - KRY 112 144/1	3	11.00	0.35	0.72	19.82	0.588	0.75	0.00	0.00
5	154.00	Ericsson - Radio 4449 B71B12	3	74.00	1.63	0.81	116.06	2.124	0.82	0.00	0.00
6	154.00	T-Arm	3	419.10	8.13	0.75	859.11	14.959	0.75	0.00	0.00
7	154.00	Mount Mod	3	911.72	22.25	1.00	1868.92	40.938	1.00	0.00	0.00
8	143.00	Cci - TPA65R-BU6DA-K	3	69.00	12.70	0.72	353.32	14.131	0.73	0.00	0.00
9	143.00	Cci - DMP65R-BU6DA	3	79.40	12.70	0.72	363.71	14.131	0.73	0.00	0.00
10	143.00	Ericsson - AIR6449 B77D	3	88.00	4.13	0.84	196.28	4.938	0.84	0.00	0.00
11	143.00	Ericsson - AIR6419 B77G	3	66.10	3.79	0.76	158.31	4.555	0.76	0.00	0.00
12	143.00	Ericsson - RRUS 32 B2	3	77.00	1.65	0.75	116.00	2.179	0.71	0.00	0.00
13	143.00	Ericsson - RRUS 4478 B14	3	59.40	2.02	0.81	111.36	2.568	0.82	0.00	0.00
14	143.00	Ericsson - RRUS 4426 B66A	3	48.40	1.64	0.72	87.81	2.131	0.73	0.00	0.00
15	143.00	Ericsson - RRUS 4449 B5/B12	3	73.00	1.64	0.90	118.80	2.131	0.90	0.00	0.00
16	143.00	Raycap - DC6-48-60-18-8F	3	32.80	2.20	1.34	126.25	2.808	1.32	0.00	0.00
17	143.00	RMQLP-4120-H10 + 12 Ant Mount	1	2400.00	37.80	1.00	4901.13	69.314	1.00	0.00	0.00
18	133.00	Samsung - MT6407-77A	3	79.40	4.69	0.75	186.96	5.563	0.75	0.00	0.00
19	133.00	Andrew - SBNHH-1D65B	6	40.00	8.16	0.83	223.00	9.376	0.84	0.00	0.00
20	133.00	Amphenol - LPA-80080-6CF	6	21.00	4.33	1.50	205.07	5.411	1.47	0.00	0.00
21	133.00	Samsung - RF4439d-25A	3	74.70	1.87	0.84	123.34	2.390	0.84	0.00	0.00
22	133.00	Samsung - RF4440d-13A	3	70.33	1.87	0.80	117.58	2.390	0.81	0.00	0.00
23	133.00	Rfs Celwave - DB-T1-6Z-8AB-0Z	2	44.00	4.80	0.71	155.65	5.621	0.72	0.00	0.00
24	133.00	T-Arm	3	419.10	8.13	0.75	852.70	14.859	0.75	0.00	0.00
25	100.00	JMA Wireless - MX08FRO665-21	3	64.50	12.49	0.73	335.25	13.871	0.74	0.00	0.00
26	100.00	Fujitsu - TA08025-B605	3	74.96	1.96	0.80	123.30	2.476	0.81	0.00	0.00
27	100.00	Fujitsu - TA08025-B604	3	63.93	1.96	0.76	110.69	2.476	0.77	0.00	0.00
28	100.00	Raycap - RDIDC-9181-PF-48	1	21.85	2.01	0.78	70.46	2.533	0.79	0.00	0.00
29	100.00	Platform w/ Handrail [Commscope	1	1727.00	22.00	1.00	3463.53	39.697	1.00	0.00	0.00
30	85.00	DB408	1	17.00	2.90	1.00	134.44	11.633	1.00	0.00	4.75
31	85.00	SD222	2	17.00	5.30	1.00	151.21	13.043	1.00	0.00	4.75
32	85.00	SP4-4.7NS RD4	1	60.00	23.14	1.00	282.63	26.192	1.00	0.00	0.00
33	85.00	Pipe Mount	2	60.00	5.00	1.00	107.49	8.298	1.00	0.00	0.00
34	85.00	T-Arm	1	419.10	8.13	1.00	833.72	14.565	1.00	0.00	0.00
		Totals:	**93**	**14,749.87**			**35,268.08**				

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	(9) 1 5/8" Coax	0.00	Inside
0.00	154.00	(4) 1 5/8" Fiber	0.00	Inside
0.00	143.00	(6) 1 5/8" Coax	0.00	Inside
0.00	143.00	(6) 1/2" DC power	0.00	Inside
0.00	143.00	(3) 3/8" Fiber	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	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					
0.00	85.00	(6) 7/8" Coax			0.00	Inside					

Shaft Section Properties

Structure:	CT13610-A		**Code:**	TIA-222-G	4/15/2022
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: 4

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

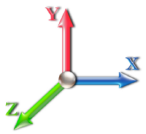
Wind Loading - Shaft

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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	

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



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	21.088	23.20	479.62	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	21.088	23.20	469.46	0.650	0.000	5.00	25.481	16.56	614.7	0.0	1695.0
10.00		1.00	0.85	21.088	23.20	459.29	0.650	0.000	5.00	24.935	16.21	601.5	0.0	1658.4
15.00		1.00	0.85	21.088	23.20	449.13	0.650	0.000	5.00	24.389	15.85	588.4	0.0	1621.8
20.00		1.00	0.90	22.375	24.61	452.16	0.650	0.000	5.00	23.843	15.50	610.3	0.0	1585.2
25.00		1.00	0.95	23.451	25.80	452.19	0.650	0.000	5.00	23.297	15.14	625.0	0.0	1548.7
30.00		1.00	0.98	24.369	26.81	450.02	0.650	0.000	5.00	22.752	14.79	634.3	0.0	1512.1
35.00		1.00	1.01	25.172	27.69	446.28	0.650	0.000	5.00	22.206	14.43	639.5	0.0	1475.5
40.00		1.00	1.04	25.890	28.48	441.33	0.650	0.000	5.00	21.660	14.08	641.5	0.0	1438.9
44.75	Bot - Section 2	1.00	1.07	26.509	29.16	435.74	0.650	0.000	4.75	20.071	13.05	608.7	0.0	1333.1
45.00		1.00	1.07	26.540	29.19	435.43	0.650	0.000	0.25	1.059	0.69	32.1	0.0	129.6
50.00		1.00	1.09	27.135	29.85	428.75	0.650	0.000	5.00	20.885	13.58	648.3	0.0	2556.2
51.00	Top - Section 1	1.00	1.10	27.249	29.97	427.34	0.650	0.000	1.00	4.112	2.67	128.2	0.0	503.1
55.00		1.00	1.12	27.685	30.45	428.20	0.650	0.000	4.00	16.228	10.55	514.0	0.0	924.7
60.00		1.00	1.14	28.197	31.02	420.38	0.650	0.000	5.00	19.794	12.87	638.5	0.0	1127.7
65.00		1.00	1.16	28.676	31.54	412.09	0.650	0.000	5.00	19.248	12.51	631.4	0.0	1096.4
70.00		1.00	1.17	29.127	32.04	403.37	0.650	0.000	5.00	18.702	12.16	623.2	0.0	1065.0
75.00		1.00	1.19	29.553	32.51	394.27	0.650	0.000	5.00	18.156	11.80	613.8	0.0	1033.7
80.00		1.00	1.21	29.958	32.95	384.84	0.650	0.000	5.00	17.610	11.45	603.5	0.0	1002.3
85.00	Appurtenance(s)	1.00	1.22	30.342	33.38	375.11	0.650	0.000	5.00	17.064	11.09	592.3	0.0	971.0
90.00		1.00	1.24	30.710	33.78	365.11	0.650	0.000	5.00	16.519	10.74	580.3	0.0	939.6
90.75	Bot - Section 3	1.00	1.24	30.763	33.84	363.59	0.650	0.000	0.75	2.431	1.58	85.5	0.0	138.2
95.00		1.00	1.25	31.061	34.17	354.85	0.650	0.000	4.25	13.722	8.92	487.6	0.0	1292.0
95.75	Top - Section 2	1.00	1.25	31.113	34.22	353.30	0.650	0.000	0.75	2.381	1.55	84.7	0.0	224.1
100.00	Appurtenance(s)	1.00	1.27	31.399	34.54	349.18	0.650	0.000	4.25	13.258	8.62	476.2	0.0	504.2
105.00		1.00	1.28	31.723	34.89	338.51	0.650	0.000	5.00	15.092	9.81	547.7	0.0	573.8
110.00		1.00	1.29	32.035	35.24	327.64	0.650	0.000	5.00	14.547	9.46	533.1	0.0	552.9
115.00		1.00	1.30	32.336	35.57	316.59	0.650	0.000	5.00	14.001	9.10	517.9	0.0	532.0
120.00		1.00	1.32	32.627	35.89	305.36	0.650	0.000	5.00	13.455	8.75	502.2	0.0	511.1
125.00		1.00	1.33	32.909	36.20	293.98	0.650	0.000	5.00	12.909	8.39	486.0	0.0	490.2
127.00	Bot - Section 4	1.00	1.33	33.019	36.32	289.38	0.650	0.000	2.00	5.011	3.26	189.3	0.0	190.2
130.00		1.00	1.34	33.182	36.50	282.44	0.650	0.000	3.00	7.448	4.84	282.7	0.0	491.6
130.75	Top - Section 3	1.00	1.34	33.222	36.54	280.70	0.650	0.000	0.75	1.831	1.19	69.6	0.0	120.8
133.00	Appurtenance(s)	1.00	1.34	33.341	36.68	279.17	0.650	0.000	2.25	5.420	3.52	206.7	0.0	154.6
135.00		1.00	1.35	33.446	36.79	274.49	0.650	0.000	2.00	4.725	3.07	180.8	0.0	134.8
140.00		1.00	1.36	33.703	37.07	262.69	0.650	0.000	5.00	11.430	7.43	440.7	0.0	326.0
143.00	Appurtenance(s)	1.00	1.36	33.854	37.24	255.55	0.650	0.000	3.00	6.596	4.29	255.5	0.0	188.1
145.00		1.00	1.37	33.953	37.35	250.76	0.650	0.000	2.00	4.288	2.79	166.6	0.0	122.2
150.00		1.00	1.38	34.196	37.62	238.71	0.650	0.000	5.00	10.338	6.72	404.4	0.0	294.6
154.00	Appurtenance(s)	1.00	1.39	34.386	37.83	228.99	0.650	0.000	4.00	7.878	5.12	309.9	0.0	224.4
155.00		1.00	1.39	34.433	37.88	226.55	0.650	0.000	1.00	1.915	1.24	75.4	0.0	54.5
								Totals:	**155.00**			**17,472.3**		**32,338.6**

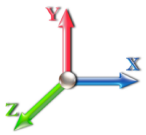
Discrete Appurtenance Forces

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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	

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



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	T-Arm	3	34.386	37.825	0.56	0.75	13.72	1508.76	0.000	0.000	830.30	0.00	0.00
2	154.00	Ericsson - Radio 4449	3	34.386	37.825	0.73	0.90	3.56	266.40	0.000	0.000	215.74	0.00	0.00
3	154.00	Ericsson - KRY 112 144/1	3	34.386	37.825	0.65	0.90	0.68	39.60	0.000	0.000	41.18	0.00	0.00
4	154.00	RFS -	3	34.386	37.825	0.65	0.90	39.35	460.80	0.000	0.000	2381.26	0.00	0.00
5	154.00	Ericsson - Air 21 B4A/B2P	3	34.386	37.825	0.77	0.90	13.86	325.08	0.000	0.000	838.92	0.00	0.00
6	154.00	Ericsson - Air 21 B2A/B4P	3	34.386	37.825	0.77	0.90	13.86	329.40	0.000	0.000	838.92	0.00	0.00
7	154.00	Mount Mod	3	34.386	37.825	1.00	1.00	66.75	3282.19	0.000	0.000	4039.72	0.00	0.00
8	143.00	Ericsson - AIR6449 B77D	3	33.854	37.240	0.63	0.75	7.81	316.80	0.000	0.000	465.09	0.00	0.00
9	143.00	Ericsson - AIR6419 B77G	3	33.854	37.240	0.57	0.75	6.48	237.96	0.000	0.000	386.15	0.00	0.00
10	143.00	Ericsson - RRUS 32 B2	3	33.854	37.240	0.56	0.75	2.78	277.20	0.000	0.000	165.90	0.00	0.00
11	143.00	Cci - DMP65R-BU6DA	3	33.854	37.240	0.54	0.75	20.57	285.84	0.000	0.000	1225.87	0.00	0.00
12	143.00	Cci - TPA65R-BU6DA-K	3	33.854	37.240	0.54	0.75	20.57	248.40	0.000	0.000	1225.87	0.00	0.00
13	143.00	Raycap -	3	33.854	37.240	1.01	0.75	6.63	118.08	0.000	0.000	395.22	0.00	0.00
14	143.00	Ericsson - RRUS 4478	3	33.854	37.240	0.61	0.75	3.68	213.84	0.000	0.000	219.35	0.00	0.00
15	143.00	Ericsson - RRUS 4426	3	33.854	37.240	0.54	0.75	2.66	174.24	0.000	0.000	158.30	0.00	0.00
16	143.00	Ericsson - RRUS 4449	3	33.854	37.240	0.68	0.75	3.32	262.80	0.000	0.000	197.88	0.00	0.00
17	143.00	RMQLP-4120-H10 + 12	1	33.854	37.240	1.00	1.00	37.80	2880.00	0.000	0.000	2252.25	0.00	0.00
18	133.00	T-Arm	3	33.341	36.675	0.56	0.75	13.72	1508.76	0.000	0.000	805.06	0.00	0.00
19	133.00	Samsung - RF4440d-13A	3	33.341	36.675	0.64	0.80	3.59	253.19	0.000	0.000	210.69	0.00	0.00
20	133.00	Samsung - RF4439d-25A	3	33.341	36.675	0.67	0.80	3.77	268.92	0.000	0.000	221.22	0.00	0.00
21	133.00	Amphenol -	6	33.341	36.675	1.20	0.80	31.18	151.20	0.000	0.000	1829.43	0.00	0.00
22	133.00	Andrew - SBNHH-1D65B	6	33.341	36.675	0.66	0.80	32.51	288.00	0.000	0.000	1907.68	0.00	0.00
23	133.00	Samsung - MT6407-77A	3	33.341	36.675	0.60	0.80	8.44	285.84	0.000	0.000	495.38	0.00	0.00
24	133.00	Rfs Celwave -	2	33.341	36.675	0.57	0.80	5.45	105.60	0.000	0.000	319.97	0.00	0.00
25	100.00	Fujitsu - TA08025-B605	3	31.399	34.538	0.60	0.75	3.53	269.86	0.000	0.000	194.96	0.00	0.00
26	100.00	JMA Wireless -	3	31.399	34.538	0.55	0.75	20.51	232.20	0.000	0.000	1133.68	0.00	0.00
27	100.00	Raycap -	1	31.399	34.538	0.58	0.75	1.18	26.22	0.000	0.000	64.98	0.00	0.00
28	100.00	Fujitsu - TA08025-B604	3	31.399	34.538	0.57	0.75	3.35	230.15	0.000	0.000	185.21	0.00	0.00
29	100.00	Platform w/ Handrail	1	31.399	34.538	1.00	1.00	22.00	2072.40	0.000	0.000	1215.75	0.00	0.00
30	85.00	T-Arm	1	30.342	33.377	1.00	1.00	8.13	502.92	0.000	0.000	434.16	0.00	0.00
31	85.00	Pipe Mount	2	30.342	33.377	1.00	1.00	10.00	144.00	0.000	0.000	534.03	0.00	0.00
32	85.00	SP4-4.7NS RD4	1	30.342	33.377	1.00	1.00	23.14	72.00	0.000	0.000	1235.74	0.00	0.00
33	85.00	SD222	2	30.692	33.761	1.00	1.00	10.60	40.80	0.000	4.750	572.59	0.00	2719.78
34	85.00	DB408	1	30.692	33.761	1.00	1.00	2.90	20.40	0.000	4.750	156.65	0.00	744.09
							Totals:		**17,699.84**			**27,395.09**		

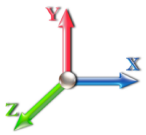
Total Applied Force Summary

Structure:	CT13610-A		**Code:**	TIA-222-G	4/15/2022
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: 7

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



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		614.70	1943.10	0.00	0.00
10.00		601.53	1906.52	0.00	0.00
15.00		588.37	1869.94	0.00	0.00
20.00		610.31	1833.37	0.00	0.00
25.00		625.02	1796.79	0.00	0.00
30.00		634.26	1760.21	0.00	0.00
35.00		639.46	1723.64	0.00	0.00
40.00		641.52	1687.06	0.00	0.00
44.75		608.68	1568.83	0.00	0.00
45.00		32.14	142.00	0.00	0.00
50.00		648.34	2804.33	0.00	0.00
51.00		128.17	552.72	0.00	0.00
55.00		513.97	1123.24	0.00	0.00
60.00		638.49	1375.84	0.00	0.00
65.00		631.44	1344.49	0.00	0.00
70.00		623.18	1313.14	0.00	0.00
75.00		613.84	1281.79	0.00	0.00
80.00		603.53	1250.43	0.00	0.00
85.00	(7) attachments	3525.50	1999.20	0.00	3463.87
90.00		580.33	1169.01	0.00	0.00
90.75		85.54	172.65	0.00	0.00
95.00		487.59	1486.97	0.00	0.00
95.75		84.73	258.49	0.00	0.00
100.00	(11) attachments	3270.80	3530.00	0.00	0.00
105.00		547.72	796.63	0.00	0.00
110.00		533.10	775.73	0.00	0.00
115.00		517.92	754.83	0.00	0.00
120.00		502.21	733.93	0.00	0.00
125.00		485.99	713.03	0.00	0.00
127.00		189.28	279.36	0.00	0.00
130.00		282.71	625.28	0.00	0.00
130.75		69.60	154.26	0.00	0.00
133.00	(26) attachments	5996.17	3116.39	0.00	0.00
135.00		180.79	188.66	0.00	0.00
140.00		440.71	460.68	0.00	0.00
143.00	(28) attachments	6947.33	5284.04	0.00	0.00
145.00		166.56	158.41	0.00	0.00
150.00		404.45	385.05	0.00	0.00
154.00	(21) attachments	9495.93	6508.98	0.00	0.00
155.00		75.43	56.11	0.00	0.00
	Totals:	**44,867.34**	**56,885.13**	**0.00**	**3,463.87**

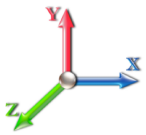
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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	

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



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	21.088	0.00	1.64
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	21.088	0.00	6.24
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	21.088	0.00	1.64
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	21.088	0.00	6.24
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	21.088	0.00	1.64
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	21.088	0.00	6.24
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	22.375	0.00	1.64
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	22.375	0.00	6.24
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	23.451	0.00	1.64
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	23.451	0.00	6.24
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	24.369	0.00	1.64
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	24.369	0.00	6.24
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	25.172	0.00	1.64
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	25.172	0.00	6.24
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	25.890	0.00	1.64
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	25.890	0.00	6.24
44.75	Safety Cable	Yes	4.75	0.000	0.38	0.15	0.00	0.020	0.000	26.509	0.00	1.56
44.75	Step bolts (ladder)	Yes	4.75	0.000	0.63	0.25	0.00	0.020	0.000	26.509	0.00	5.93
45.00	Safety Cable	Yes	0.25	0.000	0.38	0.01	0.00	0.020	0.000	26.540	0.00	0.08
45.00	Step bolts (ladder)	Yes	0.25	0.000	0.63	0.01	0.00	0.020	0.000	26.540	0.00	0.31
50.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	27.135	0.00	1.64
50.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	27.135	0.00	6.24
51.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.021	0.000	27.249	0.00	0.33
51.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.021	0.000	27.249	0.00	1.25
55.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.021	0.000	27.685	0.00	1.31
55.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.021	0.000	27.685	0.00	4.99
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	28.197	0.00	1.64
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	28.197	0.00	6.24
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	28.676	0.00	1.64
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	28.676	0.00	6.24
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	29.127	0.00	1.64
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	29.127	0.00	6.24
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	29.553	0.00	1.64
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	29.553	0.00	6.24
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	29.958	0.00	1.64
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	29.958	0.00	6.24
85.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	30.342	0.00	1.64
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	30.342	0.00	6.24
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	30.710	0.00	1.64
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	30.710	0.00	6.24
90.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.026	0.000	30.763	0.00	0.25
90.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.026	0.000	30.763	0.00	0.94
95.00	Safety Cable	Yes	4.25	0.000	0.38	0.13	0.00	0.026	0.000	31.061	0.00	1.39
95.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	0.22	0.00	0.026	0.000	31.061	0.00	5.30
95.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.027	0.000	31.113	0.00	0.25
95.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.027	0.000	31.113	0.00	0.94
100.00	Safety Cable	Yes	4.25	0.000	0.38	0.13	0.00	0.027	0.000	31.399	0.00	1.39

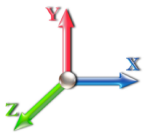
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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 + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



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	31.399	0.00	5.30
105.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	31.723	0.00	1.64
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	31.723	0.00	6.24
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.029	0.000	32.035	0.00	1.64
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.029	0.000	32.035	0.00	6.24
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	32.336	0.00	1.64
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	32.336	0.00	6.24
120.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.031	0.000	32.627	0.00	1.64
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.031	0.000	32.627	0.00	6.24
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	32.909	0.00	1.64
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	32.909	0.00	6.24
127.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.034	0.000	33.019	0.00	0.66
127.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.034	0.000	33.019	0.00	2.50
130.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.034	0.000	33.182	0.00	0.98
130.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.034	0.000	33.182	0.00	3.74
130.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.035	0.000	33.222	0.00	0.25
130.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.035	0.000	33.222	0.00	0.94
133.00	Safety Cable	Yes	2.25	0.000	0.38	0.07	0.00	0.035	0.000	33.341	0.00	0.74
133.00	Step bolts (ladder)	Yes	2.25	0.000	0.63	0.12	0.00	0.035	0.000	33.341	0.00	2.81
135.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.036	0.000	33.446	0.00	0.66
135.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.036	0.000	33.446	0.00	2.50
140.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.037	0.000	33.703	0.00	1.64
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.037	0.000	33.703	0.00	6.24
143.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.038	0.000	33.854	0.00	0.98
143.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.038	0.000	33.854	0.00	3.74
145.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.039	0.000	33.953	0.00	0.66
145.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.039	0.000	33.953	0.00	2.50
150.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.041	0.000	34.196	0.00	1.64
150.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.041	0.000	34.196	0.00	6.24
154.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.043	0.000	34.386	0.00	1.31
154.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.043	0.000	34.386	0.00	4.99
155.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.044	0.000	34.433	0.00	0.33
155.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.044	0.000	34.433	0.00	1.25
									Totals:		**0.0**	**244.2**

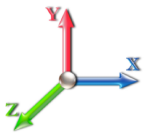
Calculated Forces

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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 + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



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	-56.81	-44.96	0.00	-5172.7	0.00	5172.70	5604.23	2802.12	13924.9	6972.80	0.00	0.000	0.000	0.752
5.00	-54.72	-44.52	0.00	-4947.9	0.00	4947.90	5529.79	2764.90	13444.5	6732.24	0.10	-0.186	0.000	0.745
10.00	-52.67	-44.09	0.00	-4725.2	0.00	4725.29	5453.38	2726.69	12967.3	6493.32	0.40	-0.375	0.000	0.738
15.00	-50.66	-43.66	0.00	-4504.8	0.00	4504.86	5374.99	2687.50	12493.8	6256.19	0.89	-0.569	0.000	0.730
20.00	-48.68	-43.19	0.00	-4286.5	0.00	4286.57	5294.63	2647.32	12024.1	6021.01	1.60	-0.766	0.000	0.721
25.00	-46.74	-42.71	0.00	-4070.6	0.00	4070.61	5212.30	2606.15	11558.7	5787.94	2.51	-0.966	0.000	0.713
30.00	-44.85	-42.20	0.00	-3857.0	0.00	3857.07	5128.00	2564.00	11097.7	5557.14	3.63	-1.171	0.000	0.703
35.00	-42.98	-41.68	0.00	-3646.0	0.00	3646.06	5041.73	2520.86	10641.7	5328.76	4.97	-1.379	0.000	0.693
40.00	-41.16	-41.15	0.00	-3437.6	0.00	3437.65	4953.48	2476.74	10190.8	5102.98	6.52	-1.590	0.000	0.682
44.75	-39.54	-40.57	0.00	-3242.2	0.00	3242.21	4867.82	2433.91	9767.51	4891.01	8.21	-1.795	0.000	0.671
45.00	-39.32	-40.61	0.00	-3232.0	0.00	3232.07	4863.26	2431.63	9745.37	4879.93	8.31	-1.806	0.000	0.671
50.00	-36.44	-39.95	0.00	-3029.0	0.00	3029.02	4771.07	2385.54	9305.74	4659.79	10.31	-2.024	0.000	0.658
51.00	-35.82	-39.87	0.00	-2989.0	0.00	2989.07	3927.98	1963.99	7761.51	3886.53	10.74	-2.069	0.000	0.779
55.00	-34.57	-39.45	0.00	-2829.5	0.00	2829.58	3872.44	1936.22	7486.25	3748.69	12.55	-2.248	0.000	0.764
60.00	-33.05	-38.90	0.00	-2632.3	0.00	2632.35	3801.23	1900.62	7145.52	3578.07	15.04	-2.496	0.000	0.745
65.00	-31.57	-38.34	0.00	-2437.8	0.00	2437.88	3728.06	1864.03	6808.79	3409.45	17.79	-2.746	0.000	0.724
70.00	-30.12	-37.79	0.00	-2246.1	0.00	2246.17	3652.91	1826.46	6476.38	3243.00	20.80	-2.998	0.000	0.701
75.00	-28.71	-37.23	0.00	-2057.2	0.00	2057.24	3575.79	1787.90	6148.62	3078.88	24.08	-3.251	0.000	0.677
80.00	-27.34	-36.68	0.00	-1871.0	0.00	1871.08	3496.70	1748.35	5825.81	2917.23	27.62	-3.504	0.000	0.650
85.00	-25.42	-33.14	0.00	-1684.2	0.00	1684.24	3415.64	1707.82	5508.27	2758.23	31.42	-3.755	0.000	0.618
90.00	-24.21	-32.54	0.00	-1518.5	0.00	1518.53	3332.60	1666.30	5196.32	2602.02	35.48	-4.004	0.000	0.591
90.75	-23.98	-32.50	0.00	-1494.1	0.00	1494.12	3319.98	1659.99	5150.02	2578.84	36.12	-4.043	0.000	0.587
95.00	-22.46	-31.95	0.00	-1356.0	0.00	1356.00	3247.59	1623.80	4890.27	2448.77	39.81	-4.255	0.000	0.561
95.75	-22.14	-31.90	0.00	-1332.0	0.00	1332.04	1911.44	955.72	2922.15	1463.25	40.48	-4.293	0.000	0.923
100.00	-18.73	-28.46	0.00	-1196.4	0.00	1196.47	1878.47	939.23	2786.43	1395.29	44.40	-4.502	0.000	0.868
105.00	-17.82	-27.95	0.00	-1054.1	0.00	1054.18	1837.85	918.92	2627.99	1315.95	49.29	-4.842	0.000	0.812
110.00	-16.94	-27.45	0.00	-914.42	0.00	914.42	1795.26	897.63	2471.18	1237.43	54.54	-5.174	0.000	0.749
115.00	-16.09	-26.95	0.00	-777.17	0.00	777.17	1750.70	875.35	2316.31	1159.88	60.12	-5.494	0.000	0.680
120.00	-15.27	-26.46	0.00	-642.41	0.00	642.41	1704.17	852.08	2163.70	1083.46	66.03	-5.796	0.000	0.603
125.00	-14.53	-25.95	0.00	-510.13	0.00	510.13	1655.66	827.83	2013.66	1008.33	72.25	-6.073	0.000	0.516
127.00	-14.21	-25.76	0.00	-458.23	0.00	458.23	1635.71	817.85	1954.43	978.67	74.81	-6.178	0.000	0.478
130.00	-13.58	-25.43	0.00	-380.95	0.00	380.95	1605.19	802.59	1866.51	934.64	78.73	-6.323	0.000	0.417
130.75	-13.41	-25.36	0.00	-361.87	0.00	361.87	1090.28	545.14	1281.57	641.74	79.73	-6.358	0.000	0.578
133.00	-10.95	-19.07	0.00	-304.80	0.00	304.80	1077.75	538.87	1240.93	621.39	82.74	-6.454	0.000	0.502
135.00	-10.73	-18.90	0.00	-266.66	0.00	266.66	1066.28	533.14	1204.93	603.36	85.46	-6.552	0.000	0.453
140.00	-10.28	-18.44	0.00	-172.14	0.00	172.14	1036.22	518.11	1115.60	558.63	92.43	-6.753	0.000	0.319
143.00	-5.84	-10.92	0.00	-116.83	0.00	116.83	1017.23	508.62	1062.55	532.07	96.69	-6.844	0.000	0.226
145.00	-5.69	-10.74	0.00	-94.99	0.00	94.99	1004.18	502.09	1027.46	514.49	99.57	-6.893	0.000	0.191
150.00	-5.35	-10.30	0.00	-41.28	0.00	41.28	970.18	485.09	940.83	471.12	106.82	-6.976	0.000	0.094
154.00	-0.05	-0.08	0.00	-0.08	0.00	0.08	941.55	470.78	872.83	437.06	112.66	-7.000	0.000	0.000
155.00	0.00	-0.08	0.00	0.00	0.00	0.00	934.20	467.10	856.03	428.65	114.13	-7.000	0.000	0.000

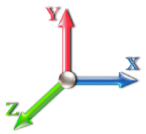
Wind Loading - Shaft

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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	21.088	23.20	479.62	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	21.088	23.20	469.46	0.650	0.000	5.00	25.481	16.56	614.7	0.0	1271.2
10.00		1.00	0.85	21.088	23.20	459.29	0.650	0.000	5.00	24.935	16.21	601.5	0.0	1243.8
15.00		1.00	0.85	21.088	23.20	449.13	0.650	0.000	5.00	24.389	15.85	588.4	0.0	1216.4
20.00		1.00	0.90	22.375	24.61	452.16	0.650	0.000	5.00	23.843	15.50	610.3	0.0	1188.9
25.00		1.00	0.95	23.451	25.80	452.19	0.650	0.000	5.00	23.297	15.14	625.0	0.0	1161.5
30.00		1.00	0.98	24.369	26.81	450.02	0.650	0.000	5.00	22.752	14.79	634.3	0.0	1134.1
35.00		1.00	1.01	25.172	27.69	446.28	0.650	0.000	5.00	22.206	14.43	639.5	0.0	1106.6
40.00		1.00	1.04	25.890	28.48	441.33	0.650	0.000	5.00	21.660	14.08	641.5	0.0	1079.2
44.75	Bot - Section 2	1.00	1.07	26.509	29.16	435.74	0.650	0.000	4.75	20.071	13.05	608.7	0.0	999.8
45.00		1.00	1.07	26.540	29.19	435.43	0.650	0.000	0.25	1.059	0.69	32.1	0.0	97.2
50.00		1.00	1.09	27.135	29.85	428.75	0.650	0.000	5.00	20.885	13.58	648.3	0.0	1917.2
51.00	Top - Section 1	1.00	1.10	27.249	29.97	427.34	0.650	0.000	1.00	4.112	2.67	128.2	0.0	377.3
55.00		1.00	1.12	27.685	30.45	428.20	0.650	0.000	4.00	16.228	10.55	514.0	0.0	693.6
60.00		1.00	1.14	28.197	31.02	420.38	0.650	0.000	5.00	19.794	12.87	638.5	0.0	845.8
65.00		1.00	1.16	28.676	31.54	412.09	0.650	0.000	5.00	19.248	12.51	631.4	0.0	822.3
70.00		1.00	1.17	29.127	32.04	403.37	0.650	0.000	5.00	18.702	12.16	623.2	0.0	798.8
75.00		1.00	1.19	29.553	32.51	394.27	0.650	0.000	5.00	18.156	11.80	613.8	0.0	775.3
80.00		1.00	1.21	29.958	32.95	384.84	0.650	0.000	5.00	17.610	11.45	603.5	0.0	751.7
85.00	Appurtenance(s)	1.00	1.22	30.342	33.38	375.11	0.650	0.000	5.00	17.064	11.09	592.3	0.0	728.2
90.00		1.00	1.24	30.710	33.78	365.11	0.650	0.000	5.00	16.519	10.74	580.3	0.0	704.7
90.75	Bot - Section 3	1.00	1.24	30.763	33.84	363.59	0.650	0.000	0.75	2.431	1.58	85.5	0.0	103.7
95.00		1.00	1.25	31.061	34.17	354.85	0.650	0.000	4.25	13.722	8.92	487.6	0.0	969.0
95.75	Top - Section 2	1.00	1.25	31.113	34.22	353.30	0.650	0.000	0.75	2.381	1.55	84.7	0.0	168.1
100.00	Appurtenance(s)	1.00	1.27	31.399	34.54	349.18	0.650	0.000	4.25	13.258	8.62	476.2	0.0	378.1
105.00		1.00	1.28	31.723	34.89	338.51	0.650	0.000	5.00	15.092	9.81	547.7	0.0	430.4
110.00		1.00	1.29	32.035	35.24	327.64	0.650	0.000	5.00	14.547	9.46	533.1	0.0	414.7
115.00		1.00	1.30	32.336	35.57	316.59	0.650	0.000	5.00	14.001	9.10	517.9	0.0	399.0
120.00		1.00	1.32	32.627	35.89	305.36	0.650	0.000	5.00	13.455	8.75	502.2	0.0	383.3
125.00		1.00	1.33	32.909	36.20	293.98	0.650	0.000	5.00	12.909	8.39	486.0	0.0	367.7
127.00	Bot - Section 4	1.00	1.33	33.019	36.32	289.38	0.650	0.000	2.00	5.011	3.26	189.3	0.0	142.7
130.00		1.00	1.34	33.182	36.50	282.44	0.650	0.000	3.00	7.448	4.84	282.7	0.0	368.7
130.75	Top - Section 3	1.00	1.34	33.222	36.54	280.70	0.650	0.000	0.75	1.831	1.19	69.6	0.0	90.6
133.00	Appurtenance(s)	1.00	1.34	33.341	36.68	279.17	0.650	0.000	2.25	5.420	3.52	206.7	0.0	116.0
135.00		1.00	1.35	33.446	36.79	274.49	0.650	0.000	2.00	4.725	3.07	180.8	0.0	101.1
140.00		1.00	1.36	33.703	37.07	262.69	0.650	0.000	5.00	11.430	7.43	440.7	0.0	244.5
143.00	Appurtenance(s)	1.00	1.36	33.854	37.24	255.55	0.650	0.000	3.00	6.596	4.29	255.5	0.0	141.0
145.00		1.00	1.37	33.953	37.35	250.76	0.650	0.000	2.00	4.288	2.79	166.6	0.0	91.7
150.00		1.00	1.38	34.196	37.62	238.71	0.650	0.000	5.00	10.338	6.72	404.4	0.0	221.0
154.00	Appurtenance(s)	1.00	1.39	34.386	37.83	228.99	0.650	0.000	4.00	7.878	5.12	309.9	0.0	168.3
155.00		1.00	1.39	34.433	37.88	226.55	0.650	0.000	1.00	1.915	1.24	75.4	0.0	40.9
								Totals:	**155.00**			**17,472.3**		**24,254.0**

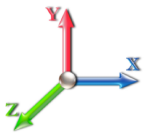
Discrete Appurtenance Forces

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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	T-Arm	3	34.386	37.825	0.56	0.75	13.72	1131.57	0.000	0.000	830.30	0.00	0.00
2	154.00	Ericsson - Radio 4449	3	34.386	37.825	0.73	0.90	3.56	199.80	0.000	0.000	215.74	0.00	0.00
3	154.00	Ericsson - KRY 112 144/1	3	34.386	37.825	0.65	0.90	0.68	29.70	0.000	0.000	41.18	0.00	0.00
4	154.00	RFS -	3	34.386	37.825	0.65	0.90	39.35	345.60	0.000	0.000	2381.26	0.00	0.00
5	154.00	Ericsson - Air 21 B4A/B2P	3	34.386	37.825	0.77	0.90	13.86	243.81	0.000	0.000	838.92	0.00	0.00
6	154.00	Ericsson - Air 21 B2A/B4P	3	34.386	37.825	0.77	0.90	13.86	247.05	0.000	0.000	838.92	0.00	0.00
7	154.00	Mount Mod	3	34.386	37.825	1.00	1.00	66.75	2461.64	0.000	0.000	4039.72	0.00	0.00
8	143.00	Ericsson - AIR6449 B77D	3	33.854	37.240	0.63	0.75	7.81	237.60	0.000	0.000	465.09	0.00	0.00
9	143.00	Ericsson - AIR6419 B77G	3	33.854	37.240	0.57	0.75	6.48	178.47	0.000	0.000	386.15	0.00	0.00
10	143.00	Ericsson - RRUS 32 B2	3	33.854	37.240	0.56	0.75	2.78	207.90	0.000	0.000	165.90	0.00	0.00
11	143.00	Cci - DMP65R-BU6DA	3	33.854	37.240	0.54	0.75	20.57	214.38	0.000	0.000	1225.87	0.00	0.00
12	143.00	Cci - TPA65R-BU6DA-K	3	33.854	37.240	0.54	0.75	20.57	186.30	0.000	0.000	1225.87	0.00	0.00
13	143.00	Raycap -	3	33.854	37.240	1.01	0.75	6.63	88.56	0.000	0.000	395.22	0.00	0.00
14	143.00	Ericsson - RRUS 4478	3	33.854	37.240	0.61	0.75	3.68	160.38	0.000	0.000	219.35	0.00	0.00
15	143.00	Ericsson - RRUS 4426	3	33.854	37.240	0.54	0.75	2.66	130.68	0.000	0.000	158.30	0.00	0.00
16	143.00	Ericsson - RRUS 4449	3	33.854	37.240	0.68	0.75	3.32	197.10	0.000	0.000	197.88	0.00	0.00
17	143.00	RMQLP-4120-H10 + 12	1	33.854	37.240	1.00	1.00	37.80	2160.00	0.000	0.000	2252.25	0.00	0.00
18	133.00	T-Arm	3	33.341	36.675	0.56	0.75	13.72	1131.57	0.000	0.000	805.06	0.00	0.00
19	133.00	Samsung - RF4440d-13A	3	33.341	36.675	0.64	0.80	3.59	189.89	0.000	0.000	210.69	0.00	0.00
20	133.00	Samsung - RF4439d-25A	3	33.341	36.675	0.67	0.80	3.77	201.69	0.000	0.000	221.22	0.00	0.00
21	133.00	Amphenol -	6	33.341	36.675	1.20	0.80	31.18	113.40	0.000	0.000	1829.43	0.00	0.00
22	133.00	Andrew - SBNHH-1D65B	6	33.341	36.675	0.66	0.80	32.51	216.00	0.000	0.000	1907.68	0.00	0.00
23	133.00	Samsung - MT6407-77A	3	33.341	36.675	0.60	0.80	8.44	214.38	0.000	0.000	495.38	0.00	0.00
24	133.00	Rfs Celwave -	2	33.341	36.675	0.57	0.80	5.45	79.20	0.000	0.000	319.97	0.00	0.00
25	100.00	Fujitsu - TA08025-B605	3	31.399	34.538	0.60	0.75	3.53	202.39	0.000	0.000	194.96	0.00	0.00
26	100.00	JMA Wireless -	3	31.399	34.538	0.55	0.75	20.51	174.15	0.000	0.000	1133.68	0.00	0.00
27	100.00	Raycap -	1	31.399	34.538	0.58	0.75	1.18	19.67	0.000	0.000	64.98	0.00	0.00
28	100.00	Fujitsu - TA08025-B604	3	31.399	34.538	0.57	0.75	3.35	172.61	0.000	0.000	185.21	0.00	0.00
29	100.00	Platform w/ Handrail	1	31.399	34.538	1.00	1.00	22.00	1554.30	0.000	0.000	1215.75	0.00	0.00
30	85.00	T-Arm	1	30.342	33.377	1.00	1.00	8.13	377.19	0.000	0.000	434.16	0.00	0.00
31	85.00	Pipe Mount	2	30.342	33.377	1.00	1.00	10.00	108.00	0.000	0.000	534.03	0.00	0.00
32	85.00	SP4-4.7NS RD4	1	30.342	33.377	1.00	1.00	23.14	54.00	0.000	0.000	1235.74	0.00	0.00
33	85.00	SD222	2	30.692	33.761	1.00	1.00	10.60	30.60	0.000	4.750	572.59	0.00	2719.78
34	85.00	DB408	1	30.692	33.761	1.00	1.00	2.90	15.30	0.000	4.750	156.65	0.00	744.09
							Totals:		**13,274.88**			**27,395.09**		

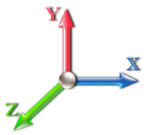
Total Applied Force Summary

Structure:	CT13610-A		**Code:**	TIA-222-G	4/15/2022
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: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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		614.70	1457.32	0.00	0.00
10.00		601.53	1429.89	0.00	0.00
15.00		588.37	1402.46	0.00	0.00
20.00		610.31	1375.03	0.00	0.00
25.00		625.02	1347.59	0.00	0.00
30.00		634.26	1320.16	0.00	0.00
35.00		639.46	1292.73	0.00	0.00
40.00		641.52	1265.30	0.00	0.00
44.75		608.68	1176.62	0.00	0.00
45.00		32.14	106.50	0.00	0.00
50.00		648.34	2103.25	0.00	0.00
51.00		128.17	414.54	0.00	0.00
55.00		513.97	842.43	0.00	0.00
60.00		638.49	1031.88	0.00	0.00
65.00		631.44	1008.37	0.00	0.00
70.00		623.18	984.85	0.00	0.00
75.00		613.84	961.34	0.00	0.00
80.00		603.53	937.83	0.00	0.00
85.00	(7) attachments	3525.50	1499.40	0.00	3463.87
90.00		580.33	876.76	0.00	0.00
90.75		85.54	129.49	0.00	0.00
95.00		487.59	1115.23	0.00	0.00
95.75		84.73	193.87	0.00	0.00
100.00	(11) attachments	3270.80	2647.50	0.00	0.00
105.00		547.72	597.47	0.00	0.00
110.00		533.10	581.80	0.00	0.00
115.00		517.92	566.12	0.00	0.00
120.00		502.21	550.45	0.00	0.00
125.00		485.99	534.77	0.00	0.00
127.00		189.28	209.52	0.00	0.00
130.00		282.71	468.96	0.00	0.00
130.75		69.60	115.70	0.00	0.00
133.00	(26) attachments	5996.17	2337.29	0.00	0.00
135.00		180.79	141.50	0.00	0.00
140.00		440.71	345.51	0.00	0.00
143.00	(28) attachments	6947.33	3963.03	0.00	0.00
145.00		166.56	118.81	0.00	0.00
150.00		404.45	288.79	0.00	0.00
154.00	(21) attachments	9495.93	4881.74	0.00	0.00
155.00		75.43	42.08	0.00	0.00
	Totals:	**44,867.34**	**42,663.85**	**0.00**	**3,463.87**

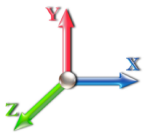
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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	21.088	0.00	1.23
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	21.088	0.00	4.68
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	21.088	0.00	1.23
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	21.088	0.00	4.68
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	21.088	0.00	1.23
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	21.088	0.00	4.68
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	22.375	0.00	1.23
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	22.375	0.00	4.68
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	23.451	0.00	1.23
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	23.451	0.00	4.68
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	24.369	0.00	1.23
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	24.369	0.00	4.68
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	25.172	0.00	1.23
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	25.172	0.00	4.68
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	25.890	0.00	1.23
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	25.890	0.00	4.68
44.75	Safety Cable	Yes	4.75	0.000	0.38	0.15	0.00	0.020	0.000	26.509	0.00	1.17
44.75	Step bolts (ladder)	Yes	4.75	0.000	0.63	0.25	0.00	0.020	0.000	26.509	0.00	4.45
45.00	Safety Cable	Yes	0.25	0.000	0.38	0.01	0.00	0.020	0.000	26.540	0.00	0.06
45.00	Step bolts (ladder)	Yes	0.25	0.000	0.63	0.01	0.00	0.020	0.000	26.540	0.00	0.23
50.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	27.135	0.00	1.23
50.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	27.135	0.00	4.68
51.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.021	0.000	27.249	0.00	0.25
51.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.021	0.000	27.249	0.00	0.94
55.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.021	0.000	27.685	0.00	0.98
55.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.021	0.000	27.685	0.00	3.74
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	28.197	0.00	1.23
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	28.197	0.00	4.68
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	28.676	0.00	1.23
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	28.676	0.00	4.68
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	29.127	0.00	1.23
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	29.127	0.00	4.68
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	29.553	0.00	1.23
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	29.553	0.00	4.68
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	29.958	0.00	1.23
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	29.958	0.00	4.68
85.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	30.342	0.00	1.23
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	30.342	0.00	4.68
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	30.710	0.00	1.23
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	30.710	0.00	4.68
90.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.026	0.000	30.763	0.00	0.18
90.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.026	0.000	30.763	0.00	0.70
95.00	Safety Cable	Yes	4.25	0.000	0.38	0.13	0.00	0.026	0.000	31.061	0.00	1.04
95.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	0.22	0.00	0.026	0.000	31.061	0.00	3.98
95.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.027	0.000	31.113	0.00	0.18
95.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.027	0.000	31.113	0.00	0.70
100.00	Safety Cable	Yes	4.25	0.000	0.38	0.13	0.00	0.027	0.000	31.399	0.00	1.04

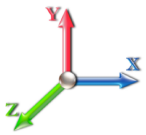
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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 + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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	31.399	0.00	3.98
105.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	31.723	0.00	1.23
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	31.723	0.00	4.68
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.029	0.000	32.035	0.00	1.23
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.029	0.000	32.035	0.00	4.68
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	32.336	0.00	1.23
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	32.336	0.00	4.68
120.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.031	0.000	32.627	0.00	1.23
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.031	0.000	32.627	0.00	4.68
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	32.909	0.00	1.23
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	32.909	0.00	4.68
127.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.034	0.000	33.019	0.00	0.49
127.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.034	0.000	33.019	0.00	1.87
130.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.034	0.000	33.182	0.00	0.74
130.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.034	0.000	33.182	0.00	2.81
130.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.035	0.000	33.222	0.00	0.18
130.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.035	0.000	33.222	0.00	0.70
133.00	Safety Cable	Yes	2.25	0.000	0.38	0.07	0.00	0.035	0.000	33.341	0.00	0.55
133.00	Step bolts (ladder)	Yes	2.25	0.000	0.63	0.12	0.00	0.035	0.000	33.341	0.00	2.11
135.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.036	0.000	33.446	0.00	0.49
135.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.036	0.000	33.446	0.00	1.87
140.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.037	0.000	33.703	0.00	1.23
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.037	0.000	33.703	0.00	4.68
143.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.038	0.000	33.854	0.00	0.74
143.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.038	0.000	33.854	0.00	2.81
145.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.039	0.000	33.953	0.00	0.49
145.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.039	0.000	33.953	0.00	1.87
150.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.041	0.000	34.196	0.00	1.23
150.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.041	0.000	34.196	0.00	4.68
154.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.043	0.000	34.386	0.00	0.98
154.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.043	0.000	34.386	0.00	3.74
155.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.044	0.000	34.433	0.00	0.25
155.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.044	0.000	34.433	0.00	0.94
									Totals:		**0.0**	**183.2**

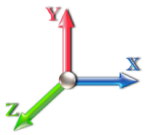
Calculated Forces

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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 + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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	-42.59	-44.94	0.00	-5118.5	0.00	5118.58	5604.23	2802.12	13924.9	6972.80	0.00	0.000	0.000	0.742
5.00	-40.99	-44.45	0.00	-4893.9	0.00	4893.90	5529.79	2764.90	13444.5	6732.24	0.10	-0.184	0.000	0.735
10.00	-39.42	-43.97	0.00	-4671.6	0.00	4671.64	5453.38	2726.69	12967.3	6493.32	0.39	-0.371	0.000	0.727
15.00	-37.87	-43.50	0.00	-4451.7	0.00	4451.77	5374.99	2687.50	12493.8	6256.19	0.88	-0.562	0.000	0.719
20.00	-36.36	-43.00	0.00	-4234.2	0.00	4234.26	5294.63	2647.32	12024.1	6021.01	1.58	-0.757	0.000	0.710
25.00	-34.87	-42.48	0.00	-4019.2	0.00	4019.25	5212.30	2606.15	11558.7	5787.94	2.48	-0.955	0.000	0.701
30.00	-33.42	-41.94	0.00	-3806.8	0.00	3806.87	5128.00	2564.00	11097.7	5557.14	3.59	-1.157	0.000	0.692
35.00	-31.99	-41.39	0.00	-3597.1	0.00	3597.18	5041.73	2520.86	10641.7	5328.76	4.91	-1.362	0.000	0.682
40.00	-30.59	-40.82	0.00	-3390.2	0.00	3390.25	4953.48	2476.74	10190.8	5102.98	6.45	-1.571	0.000	0.671
44.75	-29.36	-40.23	0.00	-3196.3	0.00	3196.34	4867.82	2433.91	9767.51	4891.01	8.11	-1.772	0.000	0.660
45.00	-29.18	-40.26	0.00	-3186.2	0.00	3186.28	4863.26	2431.63	9745.37	4879.93	8.21	-1.783	0.000	0.659
50.00	-27.01	-39.60	0.00	-2985.0	0.00	2985.00	4771.07	2385.54	9305.74	4659.79	10.19	-1.998	0.000	0.647
51.00	-26.52	-39.51	0.00	-2945.4	0.00	2945.40	3927.98	1963.99	7761.51	3886.53	10.61	-2.043	0.000	0.765
55.00	-25.55	-39.06	0.00	-2787.3	0.00	2787.37	3872.44	1936.22	7486.25	3748.69	12.40	-2.219	0.000	0.751
60.00	-24.38	-38.48	0.00	-2592.0	0.00	2592.08	3801.23	1900.62	7145.52	3578.07	14.86	-2.463	0.000	0.731
65.00	-23.24	-37.91	0.00	-2399.6	0.00	2399.67	3728.06	1864.03	6808.79	3409.45	17.57	-2.710	0.000	0.710
70.00	-22.13	-37.33	0.00	-2210.1	0.00	2210.13	3652.91	1826.46	6476.38	3243.00	20.54	-2.958	0.000	0.688
75.00	-21.04	-36.76	0.00	-2023.4	0.00	2023.47	3575.79	1787.90	6148.62	3078.88	23.77	-3.206	0.000	0.664
80.00	-19.98	-36.19	0.00	-1839.6	0.00	1839.68	3496.70	1748.35	5825.81	2917.23	27.26	-3.455	0.000	0.637
85.00	-18.57	-32.66	0.00	-1655.2	0.00	1655.27	3415.64	1707.82	5508.27	2758.23	31.01	-3.702	0.000	0.606
90.00	-17.65	-32.06	0.00	-1491.9	0.00	1491.99	3332.60	1666.30	5196.32	2602.02	35.02	-3.947	0.000	0.579
90.75	-17.46	-32.01	0.00	-1467.9	0.00	1467.94	3319.98	1659.99	5150.02	2578.84	35.64	-3.985	0.000	0.575
95.00	-16.32	-31.47	0.00	-1331.9	0.00	1331.92	3247.59	1623.80	4890.27	2448.77	39.28	-4.193	0.000	0.549
95.75	-16.06	-31.41	0.00	-1308.3	0.00	1308.31	1911.44	955.72	2922.15	1463.25	39.95	-4.231	0.000	0.904
100.00	-13.54	-28.01	0.00	-1174.8	0.00	1174.82	1878.47	939.23	2786.43	1395.29	43.80	-4.436	0.000	0.850
105.00	-12.83	-27.49	0.00	-1034.7	0.00	1034.75	1837.85	918.92	2627.99	1315.95	48.63	-4.770	0.000	0.794
110.00	-12.14	-26.98	0.00	-897.28	0.00	897.28	1795.26	897.63	2471.18	1237.43	53.79	-5.096	0.000	0.733
115.00	-11.48	-26.48	0.00	-762.38	0.00	762.38	1750.70	875.35	2316.31	1159.88	59.29	-5.409	0.000	0.665
120.00	-10.86	-25.98	0.00	-630.01	0.00	630.01	1704.17	852.08	2163.70	1083.46	65.11	-5.705	0.000	0.589
125.00	-10.29	-25.47	0.00	-500.13	0.00	500.13	1655.66	827.83	2013.66	1008.33	71.23	-5.977	0.000	0.503
127.00	-10.05	-25.28	0.00	-449.18	0.00	449.18	1635.71	817.85	1954.43	978.67	73.75	-6.081	0.000	0.466
130.00	-9.58	-24.97	0.00	-373.34	0.00	373.34	1605.19	802.59	1866.51	934.64	77.61	-6.223	0.000	0.406
130.75	-9.44	-24.90	0.00	-354.61	0.00	354.61	1090.28	545.14	1281.57	641.74	78.59	-6.257	0.000	0.563
133.00	-7.75	-18.69	0.00	-298.60	0.00	298.60	1077.75	538.87	1240.93	621.39	81.56	-6.350	0.000	0.489
135.00	-7.58	-18.52	0.00	-261.22	0.00	261.22	1066.28	533.14	1204.93	603.36	84.24	-6.447	0.000	0.441
140.00	-7.24	-18.06	0.00	-168.64	0.00	168.64	1036.22	518.11	1115.60	558.63	91.09	-6.643	0.000	0.310
143.00	-4.10	-10.70	0.00	-114.47	0.00	114.47	1017.23	508.62	1062.55	532.07	95.28	-6.733	0.000	0.220
145.00	-3.99	-10.52	0.00	-93.07	0.00	93.07	1004.18	502.09	1027.46	514.49	98.11	-6.781	0.000	0.185
150.00	-3.74	-10.09	0.00	-40.45	0.00	40.45	970.18	485.09	940.83	471.12	105.24	-6.862	0.000	0.090
154.00	-0.03	-0.08	0.00	-0.08	0.00	0.08	941.55	470.78	872.83	437.06	111.00	-6.886	0.000	0.000
155.00	0.00	-0.08	0.00	0.00	0.00	0.00	934.20	467.10	856.03	428.65	112.43	-6.886	0.000	0.000

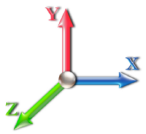
Wind Loading - Shaft

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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: 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	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.242	5.00	26.516	31.82	180.9	473.3	2168.2
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	5.00	26.044	31.25	177.7	497.2	2155.6
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.386	5.00	25.544	30.65	174.3	507.0	2128.9
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	5.00	25.032	30.04	181.2	510.7	2095.9
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.459	5.00	24.513	29.42	186.0	510.7	2059.3
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	5.00	23.990	28.79	189.1	508.3	2020.4
35.00		1.00	1.01	6.169	6.79	0.00	1.200	1.509	5.00	23.463	28.16	191.1	504.2	1979.7
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	5.00	22.934	27.52	192.1	498.8	1937.8
44.75	Bot - Section 2	1.00	1.07	6.497	7.15	0.00	1.200	1.546	4.75	21.295	25.55	182.6	468.1	1801.2
45.00		1.00	1.07	6.504	7.15	0.00	1.200	1.547	0.25	1.123	1.35	9.6	25.0	154.6
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	5.00	22.188	26.63	194.8	492.5	3048.7
51.00	Top - Section 1	1.00	1.10	6.678	7.35	0.00	1.200	1.567	1.00	4.373	5.25	38.5	98.2	601.3
55.00		1.00	1.12	6.785	7.46	0.00	1.200	1.579	4.00	17.280	20.74	154.8	387.7	1312.4
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	5.00	21.121	25.34	192.7	476.1	1603.8
65.00		1.00	1.16	7.028	7.73	0.00	1.200	1.605	5.00	20.586	24.70	191.0	467.0	1563.4
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	5.00	20.050	24.06	188.9	457.6	1522.6
75.00		1.00	1.19	7.243	7.97	0.00	1.200	1.628	5.00	19.513	23.42	186.6	447.7	1481.3
80.00		1.00	1.21	7.342	8.08	0.00	1.200	1.639	5.00	18.976	22.77	183.9	437.4	1439.7
85.00	Appurtenance(s)	1.00	1.22	7.436	8.18	0.00	1.200	1.649	5.00	18.438	22.13	181.0	426.9	1397.8
90.00		1.00	1.24	7.526	8.28	0.00	1.200	1.658	5.00	17.900	21.48	177.8	416.0	1355.6
90.75	Bot - Section 3	1.00	1.24	7.539	8.29	0.00	1.200	1.660	0.75	2.638	3.17	26.3	62.2	200.4
95.00		1.00	1.25	7.612	8.37	0.00	1.200	1.667	4.25	14.903	17.88	149.7	348.6	1640.6
95.75	Top - Section 2	1.00	1.25	7.625	8.39	0.00	1.200	1.669	0.75	2.589	3.11	26.1	61.3	285.3
100.00	Appurtenance(s)	1.00	1.27	7.695	8.46	0.00	1.200	1.676	4.25	14.445	17.33	146.7	338.9	843.1
105.00		1.00	1.28	7.774	8.55	0.00	1.200	1.684	5.00	16.496	19.80	169.3	387.2	961.0
110.00		1.00	1.29	7.851	8.64	0.00	1.200	1.692	5.00	15.957	19.15	165.4	375.4	928.3
115.00		1.00	1.30	7.925	8.72	0.00	1.200	1.699	5.00	15.417	18.50	161.3	363.4	895.4
120.00		1.00	1.32	7.996	8.80	0.00	1.200	1.707	5.00	14.877	17.85	157.0	351.2	862.3
125.00		1.00	1.33	8.065	8.87	0.00	1.200	1.714	5.00	14.337	17.20	152.6	338.9	829.1
127.00	Bot - Section 4	1.00	1.33	8.092	8.90	0.00	1.200	1.716	2.00	5.583	6.70	59.6	133.5	323.8
130.00		1.00	1.34	8.132	8.95	0.00	1.200	1.720	3.00	8.308	9.97	89.2	198.2	689.8
130.75	Top - Section 3	1.00	1.34	8.142	8.96	0.00	1.200	1.721	0.75	2.046	2.46	22.0	49.3	170.1
133.00	Appurtenance(s)	1.00	1.34	8.171	8.99	0.00	1.200	1.724	2.25	6.067	7.28	65.4	145.3	299.9
135.00		1.00	1.35	8.197	9.02	0.00	1.200	1.727	2.00	5.301	6.36	57.4	127.1	261.9
140.00		1.00	1.36	8.260	9.09	0.00	1.200	1.733	5.00	12.874	15.45	140.4	305.0	630.9
143.00	Appurtenance(s)	1.00	1.36	8.297	9.13	0.00	1.200	1.737	3.00	7.465	8.96	81.7	178.3	366.4
145.00		1.00	1.37	8.321	9.15	0.00	1.200	1.739	2.00	4.868	5.84	53.5	116.8	239.0
150.00		1.00	1.38	8.381	9.22	0.00	1.200	1.745	5.00	11.793	14.15	130.5	279.0	573.6
154.00	Appurtenance(s)	1.00	1.39	8.427	9.27	0.00	1.200	1.750	4.00	9.044	10.85	100.6	214.8	439.2
155.00		1.00	1.39	8.439	9.28	0.00	1.200	1.751	1.00	2.207	2.65	24.6	53.2	107.7
								Totals:	**155.00**			**5,333.6**		**45,376.1**

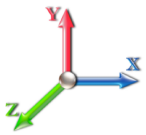
Discrete Appurtenance Forces

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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: 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	T-Arm	3	8.427	9.270	0.56	0.75	25.24	4086.08	0.000	0.000	234.00	0.00	0.00
2	154.00	Ericsson - Radio 4449	3	8.427	9.270	0.74	0.90	4.70	614.57	0.000	0.000	43.59	0.00	0.00
3	154.00	Ericsson - KRY 112 144/1	3	8.427	9.270	0.68	0.90	1.19	99.05	0.000	0.000	11.03	0.00	0.00
4	154.00	RFS -	3	8.427	9.270	0.65	0.90	42.93	2178.71	0.000	0.000	397.93	0.00	0.00
5	154.00	Ericsson - Air 21 B4A/B2P	3	8.427	9.270	0.77	0.90	16.44	1038.53	0.000	0.000	152.40	0.00	0.00
6	154.00	Ericsson - Air 21 B2A/B4P	3	8.427	9.270	0.77	0.90	16.44	1046.37	0.000	0.000	152.40	0.00	0.00
7	154.00	Mount Mod	3	8.427	9.270	1.00	1.00	122.81	8888.97	0.000	0.000	1138.48	0.00	0.00
8	143.00	Ericsson - AIR6449 B77D	3	8.297	9.126	0.63	0.75	9.33	905.63	0.000	0.000	85.18	0.00	0.00
9	143.00	Ericsson - AIR6419 B77G	3	8.297	9.126	0.57	0.75	7.79	712.90	0.000	0.000	71.09	0.00	0.00
10	143.00	Ericsson - RRUS 32 B2	3	8.297	9.126	0.53	0.75	3.48	625.20	0.000	0.000	31.77	0.00	0.00
11	143.00	Cci - DMP65R-BU6DA	3	8.297	9.126	0.55	0.75	23.21	1376.98	0.000	0.000	211.83	0.00	0.00
12	143.00	Cci - TPA65R-BU6DA-K	3	8.297	9.126	0.55	0.75	23.21	1308.37	0.000	0.000	211.83	0.00	0.00
13	143.00	Raycap -	3	8.297	9.126	0.99	0.75	8.34	496.84	0.000	0.000	76.11	0.00	0.00
14	143.00	Ericsson - RRUS 4478	3	8.297	9.126	0.61	0.75	4.74	547.91	0.000	0.000	43.25	0.00	0.00
15	143.00	Ericsson - RRUS 4426	3	8.297	9.126	0.55	0.75	3.50	437.67	0.000	0.000	31.94	0.00	0.00
16	143.00	Ericsson - RRUS 4449	3	8.297	9.126	0.68	0.75	4.32	619.19	0.000	0.000	39.38	0.00	0.00
17	143.00	RMQLP-4120-H10 + 12	1	8.297	9.126	1.00	1.00	69.31	2880.00	0.000	0.000	632.59	0.00	0.00
18	133.00	T-Arm	3	8.171	8.988	0.56	0.75	25.07	4066.87	0.000	0.000	225.38	0.00	0.00
19	133.00	Samsung - RF4440d-13A	3	8.171	8.988	0.65	0.80	4.65	605.92	0.000	0.000	41.76	0.00	0.00
20	133.00	Samsung - RF4439d-25A	3	8.171	8.988	0.67	0.80	4.82	638.93	0.000	0.000	43.30	0.00	0.00
21	133.00	Amphenol -	6	8.171	8.988	1.18	0.80	38.18	1381.62	0.000	0.000	343.18	0.00	0.00
22	133.00	Andrew - SBNHH-1D65B	6	8.171	8.988	0.67	0.80	37.80	1626.01	0.000	0.000	339.78	0.00	0.00
23	133.00	Samsung - MT6407-77A	3	8.171	8.988	0.60	0.80	10.01	285.84	0.000	0.000	90.01	0.00	0.00
24	133.00	Rfs Celwave -	2	8.171	8.988	0.58	0.80	6.48	416.90	0.000	0.000	58.20	0.00	0.00
25	100.00	Fujitsu - TA08025-B605	3	7.695	8.464	0.61	0.75	4.51	639.76	0.000	0.000	38.20	0.00	0.00
26	100.00	JMA Wireless -	3	7.695	8.464	0.55	0.75	23.10	1237.96	0.000	0.000	195.50	0.00	0.00
27	100.00	Raycap -	1	7.695	8.464	0.59	0.75	1.50	96.68	0.000	0.000	12.70	0.00	0.00
28	100.00	Fujitsu - TA08025-B604	3	7.695	8.464	0.58	0.75	4.29	562.20	0.000	0.000	36.31	0.00	0.00
29	100.00	Platform w/ Handrail	1	7.695	8.464	1.00	1.00	39.70	5535.93	0.000	0.000	336.02	0.00	0.00
30	85.00	T-Arm	1	7.436	8.180	1.00	1.00	14.56	1336.64	0.000	0.000	119.13	0.00	0.00
31	85.00	Pipe Mount	2	7.436	8.180	1.00	1.00	16.60	-541.03	0.000	0.000	135.75	0.00	0.00
32	85.00	SP4-4.7NS RD4	1	7.436	8.180	1.00	1.00	26.19	227.13	0.000	0.000	214.25	0.00	0.00
33	85.00	SD222	2	7.522	8.274	1.00	1.00	26.09	227.82	0.000	4.750	215.83	0.00	1025.18
34	85.00	DB408	1	7.522	8.274	1.00	1.00	11.63	111.54	0.000	4.750	96.25	0.00	457.20
							Totals:		**46,319.72**			**6,106.34**		

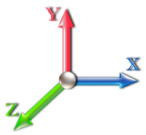
Total Applied Force Summary

Structure:	CT13610-A		**Code:**	TIA-222-G	4/15/2022
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: 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		180.88	2440.25	0.00	0.00
10.00		177.67	2430.76	0.00	0.00
15.00		174.26	2406.07	0.00	0.00
20.00		181.19	2374.66	0.00	0.00
25.00		185.96	2339.36	0.00	0.00
30.00		189.11	2301.48	0.00	0.00
35.00		191.06	2261.75	0.00	0.00
40.00		192.08	2220.61	0.00	0.00
44.75		182.62	2070.60	0.00	0.00
45.00		9.64	168.76	0.00	0.00
50.00		194.77	3332.98	0.00	0.00
51.00		38.54	658.16	0.00	0.00
55.00		154.77	1540.34	0.00	0.00
60.00		192.66	1889.30	0.00	0.00
65.00		190.97	1849.47	0.00	0.00
70.00		188.92	1809.16	0.00	0.00
75.00		186.55	1768.41	0.00	0.00
80.00		183.90	1727.27	0.00	0.00
85.00	(7) attachments	962.19	3047.90	0.00	1482.38
90.00		177.83	1625.27	0.00	0.00
90.75		26.25	240.85	0.00	0.00
95.00		149.75	1870.11	0.00	0.00
95.75		26.06	325.86	0.00	0.00
100.00	(11) attachments	765.45	9145.53	0.00	0.00
105.00		169.28	1225.20	0.00	0.00
110.00		165.36	1192.87	0.00	0.00
115.00		161.27	1160.32	0.00	0.00
120.00		157.03	1127.58	0.00	0.00
125.00		152.63	1094.65	0.00	0.00
127.00		59.63	430.06	0.00	0.00
130.00		89.18	849.35	0.00	0.00
130.75		21.99	210.01	0.00	0.00
133.00	(26) attachments	1207.04	9441.71	0.00	0.00
135.00		57.35	333.11	0.00	0.00
140.00		140.37	809.30	0.00	0.00
143.00	(28) attachments	1516.72	10384.21	0.00	0.00
145.00		53.47	292.80	0.00	0.00
150.00		130.46	708.25	0.00	0.00
154.00	(21) attachments	2230.42	18499.34	0.00	0.00
155.00		24.58	118.17	0.00	0.00
	Totals:	**11,439.90**	**99,721.86**	**0.00**	**1,482.38**

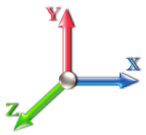
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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: 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	1.19	0.00	0.017	0.000	5.168	0.00	12.93
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.30	0.00	0.017	0.000	5.168	0.00	18.85
10.00	Safety Cable	Yes	5.00	0.000	0.38	1.27	0.00	0.017	0.000	5.168	0.00	14.46
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.37	0.00	0.017	0.000	5.168	0.00	20.46
15.00	Safety Cable	Yes	5.00	0.000	0.38	1.31	0.00	0.017	0.000	5.168	0.00	15.46
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.42	0.00	0.017	0.000	5.168	0.00	21.51
20.00	Safety Cable	Yes	5.00	0.000	0.38	1.35	0.00	0.018	0.000	5.483	0.00	16.21
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.45	0.00	0.018	0.000	5.483	0.00	22.31
25.00	Safety Cable	Yes	5.00	0.000	0.38	1.37	0.00	0.018	0.000	5.747	0.00	16.83
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.48	0.00	0.018	0.000	5.747	0.00	22.95
30.00	Safety Cable	Yes	5.00	0.000	0.38	1.40	0.00	0.018	0.000	5.972	0.00	17.35
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.50	0.00	0.018	0.000	5.972	0.00	23.50
35.00	Safety Cable	Yes	5.00	0.000	0.38	1.42	0.00	0.019	0.000	6.169	0.00	17.80
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.52	0.00	0.019	0.000	6.169	0.00	23.98
40.00	Safety Cable	Yes	5.00	0.000	0.38	1.43	0.00	0.019	0.000	6.345	0.00	18.21
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.54	0.00	0.019	0.000	6.345	0.00	24.40
44.75	Safety Cable	Yes	4.75	0.000	0.38	1.37	0.00	0.020	0.000	6.497	0.00	17.63
44.75	Step bolts (ladder)	Yes	4.75	0.000	0.63	1.47	0.00	0.020	0.000	6.497	0.00	23.53
45.00	Safety Cable	Yes	0.25	0.000	0.38	0.07	0.00	0.020	0.000	6.504	0.00	0.93
45.00	Step bolts (ladder)	Yes	0.25	0.000	0.63	0.08	0.00	0.020	0.000	6.504	0.00	1.24
50.00	Safety Cable	Yes	5.00	0.000	0.38	1.46	0.00	0.020	0.000	6.650	0.00	18.91
50.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.57	0.00	0.020	0.000	6.650	0.00	25.14
51.00	Safety Cable	Yes	1.00	0.000	0.38	0.29	0.00	0.021	0.000	6.678	0.00	3.80
51.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.31	0.00	0.021	0.000	6.678	0.00	5.04
55.00	Safety Cable	Yes	4.00	0.000	0.38	1.18	0.00	0.021	0.000	6.785	0.00	15.38
55.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	1.26	0.00	0.021	0.000	6.785	0.00	20.37
60.00	Safety Cable	Yes	5.00	0.000	0.38	1.49	0.00	0.021	0.000	6.910	0.00	19.51
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.59	0.00	0.021	0.000	6.910	0.00	25.76
65.00	Safety Cable	Yes	5.00	0.000	0.38	1.50	0.00	0.022	0.000	7.028	0.00	19.78
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.60	0.00	0.022	0.000	7.028	0.00	26.04
70.00	Safety Cable	Yes	5.00	0.000	0.38	1.51	0.00	0.023	0.000	7.138	0.00	20.03
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.61	0.00	0.023	0.000	7.138	0.00	26.31
75.00	Safety Cable	Yes	5.00	0.000	0.38	1.52	0.00	0.023	0.000	7.243	0.00	20.27
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.62	0.00	0.023	0.000	7.243	0.00	26.56
80.00	Safety Cable	Yes	5.00	0.000	0.38	1.52	0.00	0.024	0.000	7.342	0.00	20.49
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.63	0.00	0.024	0.000	7.342	0.00	26.79
85.00	Safety Cable	Yes	5.00	0.000	0.38	1.53	0.00	0.025	0.000	7.436	0.00	20.71
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.64	0.00	0.025	0.000	7.436	0.00	27.02
90.00	Safety Cable	Yes	5.00	0.000	0.38	1.54	0.00	0.025	0.000	7.526	0.00	20.91
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.64	0.00	0.025	0.000	7.526	0.00	27.23
90.75	Safety Cable	Yes	0.75	0.000	0.38	0.23	0.00	0.026	0.000	7.539	0.00	3.14
90.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.25	0.00	0.026	0.000	7.539	0.00	4.09
95.00	Safety Cable	Yes	4.25	0.000	0.38	1.32	0.00	0.026	0.000	7.612	0.00	17.94
95.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	1.40	0.00	0.026	0.000	7.612	0.00	23.32
95.75	Safety Cable	Yes	0.75	0.000	0.38	0.23	0.00	0.027	0.000	7.625	0.00	3.17
95.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.25	0.00	0.027	0.000	7.625	0.00	4.12
100.00	Safety Cable	Yes	4.25	0.000	0.38	1.32	0.00	0.027	0.000	7.695	0.00	18.10

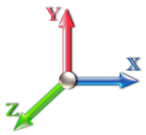
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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

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	1.41	0.00	0.027	0.000	7.695	0.00	23.49
105.00	Safety Cable	Yes	5.00	0.000	0.38	1.56	0.00	0.028	0.000	7.774	0.00	21.48
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.67	0.00	0.028	0.000	7.774	0.00	27.82
110.00	Safety Cable	Yes	5.00	0.000	0.38	1.57	0.00	0.029	0.000	7.851	0.00	21.65
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.67	0.00	0.029	0.000	7.851	0.00	28.00
115.00	Safety Cable	Yes	5.00	0.000	0.38	1.57	0.00	0.030	0.000	7.925	0.00	21.82
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.68	0.00	0.030	0.000	7.925	0.00	28.18
120.00	Safety Cable	Yes	5.00	0.000	0.38	1.58	0.00	0.031	0.000	7.996	0.00	21.98
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.68	0.00	0.031	0.000	7.996	0.00	28.34
125.00	Safety Cable	Yes	5.00	0.000	0.38	1.59	0.00	0.033	0.000	8.065	0.00	22.14
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.69	0.00	0.033	0.000	8.065	0.00	28.51
127.00	Safety Cable	Yes	2.00	0.000	0.38	0.64	0.00	0.034	0.000	8.092	0.00	8.88
127.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.68	0.00	0.034	0.000	8.092	0.00	11.43
130.00	Safety Cable	Yes	3.00	0.000	0.38	0.96	0.00	0.034	0.000	8.132	0.00	13.37
130.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	1.02	0.00	0.034	0.000	8.132	0.00	17.20
130.75	Safety Cable	Yes	0.75	0.000	0.38	0.24	0.00	0.035	0.000	8.142	0.00	3.35
130.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.25	0.00	0.035	0.000	8.142	0.00	4.30
133.00	Safety Cable	Yes	2.25	0.000	0.38	0.72	0.00	0.035	0.000	8.171	0.00	10.07
133.00	Step bolts (ladder)	Yes	2.25	0.000	0.63	0.76	0.00	0.035	0.000	8.171	0.00	12.94
135.00	Safety Cable	Yes	2.00	0.000	0.38	0.64	0.00	0.036	0.000	8.197	0.00	8.97
135.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.68	0.00	0.036	0.000	8.197	0.00	11.53
140.00	Safety Cable	Yes	5.00	0.000	0.38	1.60	0.00	0.037	0.000	8.260	0.00	22.57
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.71	0.00	0.037	0.000	8.260	0.00	28.97
143.00	Safety Cable	Yes	3.00	0.000	0.38	0.96	0.00	0.038	0.000	8.297	0.00	13.59
143.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	1.03	0.00	0.038	0.000	8.297	0.00	17.43
145.00	Safety Cable	Yes	2.00	0.000	0.38	0.64	0.00	0.039	0.000	8.321	0.00	9.09
145.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.68	0.00	0.039	0.000	8.321	0.00	11.64
150.00	Safety Cable	Yes	5.00	0.000	0.38	1.61	0.00	0.041	0.000	8.381	0.00	22.85
150.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.72	0.00	0.041	0.000	8.381	0.00	29.25
154.00	Safety Cable	Yes	4.00	0.000	0.38	1.29	0.00	0.043	0.000	8.427	0.00	18.36
154.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	1.38	0.00	0.043	0.000	8.427	0.00	23.49
155.00	Safety Cable	Yes	1.00	0.000	0.38	0.32	0.00	0.044	0.000	8.439	0.00	4.60
155.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.34	0.00	0.044	0.000	8.439	0.00	5.88
									Totals:		**0.0**	**1,423.6**

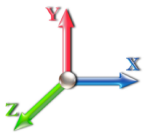
Calculated Forces

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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

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	-99.72	-11.48	0.00	-1336.7	0.00	1336.78	5604.23	2802.12	13924.9	6972.80	0.00	0.000	0.000	0.210
5.00	-97.27	-11.38	0.00	-1279.3	0.00	1279.37	5529.79	2764.90	13444.5	6732.24	0.03	-0.048	0.000	0.208
10.00	-94.83	-11.28	0.00	-1222.4	0.00	1222.46	5453.38	2726.69	12967.3	6493.32	0.10	-0.097	0.000	0.206
15.00	-92.41	-11.19	0.00	-1166.0	0.00	1166.04	5374.99	2687.50	12493.8	6256.19	0.23	-0.147	0.000	0.204
20.00	-90.03	-11.08	0.00	-1110.1	0.00	1110.11	5294.63	2647.32	12024.1	6021.01	0.41	-0.198	0.000	0.201
25.00	-87.68	-10.96	0.00	-1054.7	0.00	1054.72	5212.30	2606.15	11558.7	5787.94	0.65	-0.250	0.000	0.199
30.00	-85.37	-10.84	0.00	-999.90	0.00	999.90	5128.00	2564.00	11097.7	5557.14	0.94	-0.303	0.000	0.197
35.00	-83.10	-10.72	0.00	-945.69	0.00	945.69	5041.73	2520.86	10641.7	5328.76	1.29	-0.357	0.000	0.194
40.00	-80.87	-10.59	0.00	-892.10	0.00	892.10	4953.48	2476.74	10190.8	5102.98	1.69	-0.412	0.000	0.191
44.75	-78.79	-10.43	0.00	-841.81	0.00	841.81	4867.82	2433.91	9767.51	4891.01	2.13	-0.465	0.000	0.188
45.00	-78.62	-10.46	0.00	-839.20	0.00	839.20	4863.26	2431.63	9745.37	4879.93	2.15	-0.468	0.000	0.188
50.00	-75.28	-10.28	0.00	-786.92	0.00	786.92	4771.07	2385.54	9305.74	4659.79	2.67	-0.524	0.000	0.185
51.00	-74.62	-10.27	0.00	-776.64	0.00	776.64	3927.98	1963.99	7761.51	3886.53	2.78	-0.536	0.000	0.219
55.00	-73.07	-10.17	0.00	-735.56	0.00	735.56	3872.44	1936.22	7486.25	3748.69	3.25	-0.583	0.000	0.215
60.00	-71.17	-10.04	0.00	-684.69	0.00	684.69	3801.23	1900.62	7145.52	3578.07	3.90	-0.647	0.000	0.210
65.00	-69.31	-9.91	0.00	-634.49	0.00	634.49	3728.06	1864.03	6808.79	3409.45	4.61	-0.712	0.000	0.205
70.00	-67.50	-9.77	0.00	-584.96	0.00	584.96	3652.91	1826.46	6476.38	3243.00	5.39	-0.778	0.000	0.199
75.00	-65.72	-9.64	0.00	-536.10	0.00	536.10	3575.79	1787.90	6148.62	3078.88	6.24	-0.844	0.000	0.193
80.00	-63.98	-9.50	0.00	-487.93	0.00	487.93	3496.70	1748.35	5825.81	2917.23	7.16	-0.910	0.000	0.186
85.00	-60.94	-8.56	0.00	-438.95	0.00	438.95	3415.64	1707.82	5508.27	2758.23	8.15	-0.975	0.000	0.177
90.00	-59.32	-8.39	0.00	-396.17	0.00	396.17	3332.60	1666.30	5196.32	2602.02	9.20	-1.040	0.000	0.170
90.75	-59.07	-8.39	0.00	-389.88	0.00	389.88	3319.98	1659.99	5150.02	2578.84	9.37	-1.050	0.000	0.169
95.00	-57.20	-8.24	0.00	-354.22	0.00	354.22	3247.59	1623.80	4890.27	2448.77	10.33	-1.106	0.000	0.162
95.75	-56.87	-8.24	0.00	-348.04	0.00	348.04	1911.44	955.72	2922.15	1463.25	10.50	-1.116	0.000	0.268
100.00	-47.73	-7.35	0.00	-313.02	0.00	313.02	1878.47	939.23	2786.43	1395.29	11.52	-1.170	0.000	0.250
105.00	-46.50	-7.23	0.00	-276.27	0.00	276.27	1837.85	918.92	2627.99	1315.95	12.80	-1.259	0.000	0.235
110.00	-45.30	-7.10	0.00	-240.13	0.00	240.13	1795.26	897.63	2471.18	1237.43	14.16	-1.346	0.000	0.219
115.00	-44.13	-6.98	0.00	-204.62	0.00	204.62	1750.70	875.35	2316.31	1159.88	15.62	-1.430	0.000	0.202
120.00	-43.00	-6.85	0.00	-169.73	0.00	169.73	1704.17	852.08	2163.70	1083.46	17.16	-1.510	0.000	0.182
125.00	-41.91	-6.70	0.00	-135.49	0.00	135.49	1655.66	827.83	2013.66	1008.33	18.78	-1.583	0.000	0.160
127.00	-41.47	-6.66	0.00	-122.09	0.00	122.09	1635.71	817.85	1954.43	978.67	19.45	-1.611	0.000	0.150
130.00	-40.62	-6.56	0.00	-102.12	0.00	102.12	1605.19	802.59	1866.51	934.64	20.48	-1.650	0.000	0.135
130.75	-40.41	-6.54	0.00	-97.20	0.00	97.20	1090.28	545.14	1281.57	641.74	20.74	-1.660	0.000	0.189
133.00	-31.01	-5.08	0.00	-82.48	0.00	82.48	1077.75	538.87	1240.93	621.39	21.53	-1.685	0.000	0.162
135.00	-30.67	-5.03	0.00	-72.33	0.00	72.33	1066.28	533.14	1204.93	603.36	22.24	-1.712	0.000	0.149
140.00	-29.87	-4.89	0.00	-47.18	0.00	47.18	1036.22	518.11	1115.60	558.63	24.06	-1.767	0.000	0.113
143.00	-19.53	-3.05	0.00	-32.52	0.00	32.52	1017.23	508.62	1062.55	532.07	25.18	-1.792	0.000	0.080
145.00	-19.24	-3.00	0.00	-26.41	0.00	26.41	1004.18	502.09	1027.46	514.49	25.93	-1.805	0.000	0.071
150.00	-18.54	-2.85	0.00	-11.43	0.00	11.43	970.18	485.09	940.83	471.12	27.84	-1.829	0.000	0.043
154.00	-0.12	-0.03	0.00	-0.03	0.00	0.03	941.55	470.78	872.83	437.06	29.38	-1.835	0.000	0.000
155.00	0.00	-0.02	0.00	0.00	0.00	0.00	934.20	467.10	856.03	428.65	29.76	-1.835	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT13610-A		**Code:**	TIA-222-G	4/15/2022
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 + 1.0E							**Iterations**	21
Gust Response Factor	1.10				**Sds**	0.14		**Ss**	0.18
Dead Load Factor	1.20	**Seismic Load Factor**	1.00		**Sd1**	0.07		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.37		**SA**	0.03	**Seismic Importance Factor**		1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1412.4	0.00	0.03	0.02	19.24	
10.00		1382.0	0.01	0.05	0.03	27.41	
15.00		1351.5	0.02	0.06	0.04	31.01	
20.00		1321.0	0.03	0.07	0.04	32.46	
25.00		1290.5	0.05	0.07	0.04	32.91	
30.00		1260.0	0.07	0.07	0.04	32.99	
35.00		1229.6	0.10	0.07	0.04	32.96	
40.00		1199.1	0.13	0.07	0.03	32.88	
44.75	Bot - Section 2	1110.9	0.16	0.07	0.03	31.00	
45.00		107.99	0.16	0.07	0.03	3.02	
50.00		2130.1	0.20	0.06	0.02	59.83	
51.00	Top - Section 1	419.24	0.20	0.06	0.02	11.76	
55.00		770.62	0.24	0.06	0.02	21.23	
60.00		939.77	0.28	0.05	0.01	24.30	
65.00		913.64	0.33	0.04	0.01	20.51	
70.00		887.52	0.39	0.02	0.01	14.97	
75.00		861.39	0.44	0.00	0.01	7.76	
80.00		835.26	0.50	-0.02	0.01	-0.47	
85.00	Appurtenance(s)	1459.2	0.57	-0.04	0.01	-15.36	
90.00		783.01	0.64	-0.07	0.02	-15.05	
90.75	Bot - Section 3	115.20	0.65	-0.07	0.02	-2.34	
95.00		1076.6	0.71	-0.09	0.03	-27.21	
95.75	Top - Section 2	186.73	0.72	-0.09	0.03	-4.84	
100.00	Appurtenance(s)	2779.1	0.79	-0.11	0.05	-77.65	
105.00		478.19	0.87	-0.12	0.08	-12.90	
110.00		460.78	0.95	-0.12	0.11	-10.31	
115.00		443.36	1.04	-0.10	0.15	-6.30	
120.00		425.94	1.13	-0.05	0.21	-1.08	
125.00		408.53	1.23	0.03	0.28	5.16	
127.00	Bot - Section 4	158.53	1.27	0.08	0.31	3.12	
130.00		409.66	1.33	0.16	0.36	12.84	
130.75	Top - Section 3	100.70	1.34	0.19	0.38	3.47	
133.00	Appurtenance(s)	2513.4	1.39	0.27	0.42	111.27	
135.00		112.31	1.43	0.35	0.47	6.02	
140.00		271.63	1.54	0.61	0.59	21.60	
143.00	Appurtenance(s)	4336.0	1.61	0.81	0.68	420.02	
145.00		101.86	1.65	0.96	0.75	11.12	
150.00		245.51	1.77	1.41	0.93	35.01	
154.00	Appurtenance(s)	5363.8	1.87	1.85	1.09	923.52	
155.00		45.44	1.89	1.98	1.14	8.18	
	Totals:	**41,698.7**				**1,824.0**	**Total Wind:** **44,867.3**

Calculated Forces

Structure:	CT13610-A		**Code:**	TIA-222-G	4/15/2022
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

SBA

Load Case:	1.2D + 1.0E							**Iterations**	21
Gust Response Factor	1.10				**Sds**	0.14		**Ss**	0.18
Dead Load Factor	1.20	**Seismic Load Factor**	1.00		**Sd1**	0.07		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.37		**SA**	0.03	**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	-56.88	-2.00	0.00	-260.30	0.00	260.30	5604.23	2802.12	13924.9	6972.80		0.00	0.00	0.047
5.00	-54.94	-1.99	0.00	-250.30	0.00	250.30	5529.79	2764.90	13444.5	6732.24		0.01	-0.01	0.047
10.00	-53.03	-1.97	0.00	-240.34	0.00	240.34	5453.38	2726.69	12967.3	6493.32		0.02	-0.02	0.047
15.00	-51.16	-1.95	0.00	-230.48	0.00	230.48	5374.99	2687.50	12493.8	6256.19		0.05	-0.03	0.046
20.00	-49.33	-1.92	0.00	-220.73	0.00	220.73	5294.63	2647.32	12024.1	6021.01		0.08	-0.04	0.046
25.00	-47.53	-1.90	0.00	-211.11	0.00	211.11	5212.30	2606.15	11558.7	5787.94		0.13	-0.05	0.046
30.00	-45.77	-1.87	0.00	-201.61	0.00	201.61	5128.00	2564.00	11097.7	5557.14		0.18	-0.06	0.045
35.00	-44.05	-1.85	0.00	-192.25	0.00	192.25	5041.73	2520.86	10641.7	5328.76		0.25	-0.07	0.045
40.00	-42.36	-1.82	0.00	-183.01	0.00	183.01	4953.48	2476.74	10190.8	5102.98		0.33	-0.08	0.044
44.75	-40.79	-1.79	0.00	-174.37	0.00	174.37	4867.82	2433.91	9767.51	4891.01		0.42	-0.09	0.044
45.00	-40.65	-1.79	0.00	-173.92	0.00	173.92	4863.26	2431.63	9745.37	4879.93		0.43	-0.09	0.044
50.00	-37.85	-1.73	0.00	-164.96	0.00	164.96	4771.07	2385.54	9305.74	4659.79		0.53	-0.11	0.043
51.00	-37.29	-1.72	0.00	-163.23	0.00	163.23	3927.98	1963.99	7761.51	3886.53		0.55	-0.11	0.051
55.00	-36.17	-1.71	0.00	-156.34	0.00	156.34	3872.44	1936.22	7486.25	3748.69		0.65	-0.12	0.051
60.00	-34.79	-1.69	0.00	-147.81	0.00	147.81	3801.23	1900.62	7145.52	3578.07		0.78	-0.13	0.050
65.00	-33.45	-1.67	0.00	-139.37	0.00	139.37	3728.06	1864.03	6808.79	3409.45		0.92	-0.15	0.050
70.00	-32.14	-1.66	0.00	-131.00	0.00	131.00	3652.91	1826.46	6476.38	3243.00		1.08	-0.16	0.049
75.00	-30.85	-1.66	0.00	-122.69	0.00	122.69	3575.79	1787.90	6148.62	3078.88		1.26	-0.18	0.048
80.00	-29.60	-1.66	0.00	-114.39	0.00	114.39	3496.70	1748.35	5825.81	2917.23		1.45	-0.19	0.048
85.00	-27.60	-1.66	0.00	-106.08	0.00	106.08	3415.64	1707.82	5508.27	2758.23		1.66	-0.21	0.047
90.00	-26.43	-1.66	0.00	-97.76	0.00	97.76	3332.60	1666.30	5196.32	2602.02		1.88	-0.22	0.046
90.75	-26.26	-1.67	0.00	-96.51	0.00	96.51	3319.98	1659.99	5150.02	2578.84		1.92	-0.22	0.045
95.00	-24.77	-1.66	0.00	-89.43	0.00	89.43	3247.59	1623.80	4890.27	2448.77		2.12	-0.24	0.044
95.75	-24.51	-1.67	0.00	-88.18	0.00	88.18	1911.44	955.72	2922.15	1463.25		2.16	-0.24	0.073
100.00	-20.98	-1.66	0.00	-81.10	0.00	81.10	1878.47	939.23	2786.43	1395.29		2.38	-0.25	0.069
105.00	-20.19	-1.66	0.00	-72.81	0.00	72.81	1837.85	918.92	2627.99	1315.95		2.66	-0.28	0.066
110.00	-19.41	-1.67	0.00	-64.49	0.00	64.49	1795.26	897.63	2471.18	1237.43		2.97	-0.30	0.063
115.00	-18.65	-1.67	0.00	-56.16	0.00	56.16	1750.70	875.35	2316.31	1159.88		3.29	-0.32	0.059
120.00	-17.92	-1.67	0.00	-47.81	0.00	47.81	1704.17	852.08	2163.70	1083.46		3.64	-0.35	0.055
125.00	-17.21	-1.67	0.00	-39.44	0.00	39.44	1655.66	827.83	2013.66	1008.33		4.02	-0.37	0.050
127.00	-16.93	-1.67	0.00	-36.11	0.00	36.11	1635.71	817.85	1954.43	978.67		4.17	-0.38	0.047
130.00	-16.30	-1.65	0.00	-31.11	0.00	31.11	1605.19	802.59	1866.51	934.64		4.41	-0.39	0.043
130.75	-16.15	-1.65	0.00	-29.88	0.00	29.88	1090.28	545.14	1281.57	641.74		4.47	-0.39	0.061
133.00	-13.03	-1.52	0.00	-26.17	0.00	26.17	1077.75	538.87	1240.93	621.39		4.66	-0.40	0.054
135.00	-12.84	-1.51	0.00	-23.14	0.00	23.14	1066.28	533.14	1204.93	603.36		4.83	-0.41	0.050
140.00	-12.38	-1.49	0.00	-15.57	0.00	15.57	1036.22	518.11	1115.60	558.63		5.26	-0.42	0.040
143.00	-7.10	-1.03	0.00	-11.10	0.00	11.10	1017.23	508.62	1062.55	532.07		5.53	-0.43	0.028
145.00	-6.94	-1.02	0.00	-9.04	0.00	9.04	1004.18	502.09	1027.46	514.49		5.72	-0.44	0.024
150.00	-6.56	-0.98	0.00	-3.94	0.00	3.94	970.18	485.09	940.83	471.12		6.18	-0.44	0.015
154.00	-0.06	-0.01	0.00	-0.01	0.00	0.01	941.55	470.78	872.83	437.06		6.55	-0.45	0.000
155.00	0.00	-0.01	0.00	0.00	0.00	0.00	934.20	467.10	856.03	428.65		6.65	-0.45	0.000

Seismic Segment Forces (Factored)

Structure:	CT13610-A		**Code:**	TIA-222-G	4/15/2022
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

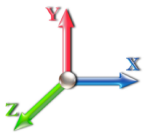
Load Case:	0.9D + 1.0E							**Iterations**	21
Gust Response Factor	1.10				**Sds**	0.14		**Ss**	0.18
Dead Load Factor	0.90	**Seismic Load Factor**	1.00		**Sd1**	0.07		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.37		**SA**	0.03	**Seismic Importance Factor**		1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1412.4	0.00	0.03	0.02	19.24	
10.00		1382.0	0.01	0.05	0.03	27.41	
15.00		1351.5	0.02	0.06	0.04	31.01	
20.00		1321.0	0.03	0.07	0.04	32.46	
25.00		1290.5	0.05	0.07	0.04	32.91	
30.00		1260.0	0.07	0.07	0.04	32.99	
35.00		1229.6	0.10	0.07	0.04	32.96	
40.00		1199.1	0.13	0.07	0.03	32.88	
44.75	Bot - Section 2	1110.9	0.16	0.07	0.03	31.00	
45.00		107.99	0.16	0.07	0.03	3.02	
50.00		2130.1	0.20	0.06	0.02	59.83	
51.00	Top - Section 1	419.24	0.20	0.06	0.02	11.76	
55.00		770.62	0.24	0.06	0.02	21.23	
60.00		939.77	0.28	0.05	0.01	24.30	
65.00		913.64	0.33	0.04	0.01	20.51	
70.00		887.52	0.39	0.02	0.01	14.97	
75.00		861.39	0.44	0.00	0.01	7.76	
80.00		835.26	0.50	-0.02	0.01	-0.47	
85.00	Appurtenance(s)	1459.2	0.57	-0.04	0.01	-15.36	
90.00		783.01	0.64	-0.07	0.02	-15.05	
90.75	Bot - Section 3	115.20	0.65	-0.07	0.02	-2.34	
95.00		1076.6	0.71	-0.09	0.03	-27.21	
95.75	Top - Section 2	186.73	0.72	-0.09	0.03	-4.84	
100.00	Appurtenance(s)	2779.1	0.79	-0.11	0.05	-77.65	
105.00		478.19	0.87	-0.12	0.08	-12.90	
110.00		460.78	0.95	-0.12	0.11	-10.31	
115.00		443.36	1.04	-0.10	0.15	-6.30	
120.00		425.94	1.13	-0.05	0.21	-1.08	
125.00		408.53	1.23	0.03	0.28	5.16	
127.00	Bot - Section 4	158.53	1.27	0.08	0.31	3.12	
130.00		409.66	1.33	0.16	0.36	12.84	
130.75	Top - Section 3	100.70	1.34	0.19	0.38	3.47	
133.00	Appurtenance(s)	2513.4	1.39	0.27	0.42	111.27	
135.00		112.31	1.43	0.35	0.47	6.02	
140.00		271.63	1.54	0.61	0.59	21.60	
143.00	Appurtenance(s)	4336.0	1.61	0.81	0.68	420.02	
145.00		101.86	1.65	0.96	0.75	11.12	
150.00		245.51	1.77	1.41	0.93	35.01	
154.00	Appurtenance(s)	5363.8	1.87	1.85	1.09	923.52	
155.00		45.44	1.89	1.98	1.14	8.18	
	Totals:	**41,698.7**				**1,824.0**	**Total Wind:** **44,867.3**

Calculated Forces

Structure:	CT13610-A		**Code:**	TIA-222-G	4/15/2022
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

SBA

Load Case:	0.9D + 1.0E							**Iterations**	21
Gust Response Factor	1.10			**Sds**	0.14			**Ss**	0.18
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.07			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.37	**SA**	0.03			**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	-42.66	-2.00	0.00	-257.25	0.00	257.25	5604.23	2802.12	13924.9	6972.80		0.00	0.00	0.045
5.00	-41.21	-1.99	0.00	-247.25	0.00	247.25	5529.79	2764.90	13444.5	6732.24		0.00	-0.01	0.044
10.00	-39.78	-1.97	0.00	-237.31	0.00	237.31	5453.38	2726.69	12967.3	6493.32		0.02	-0.02	0.044
15.00	-38.37	-1.94	0.00	-227.48	0.00	227.48	5374.99	2687.50	12493.8	6256.19		0.04	-0.03	0.044
20.00	-37.00	-1.91	0.00	-217.77	0.00	217.77	5294.63	2647.32	12024.1	6021.01		0.08	-0.04	0.043
25.00	-35.65	-1.89	0.00	-208.20	0.00	208.20	5212.30	2606.15	11558.7	5787.94		0.13	-0.05	0.043
30.00	-34.33	-1.86	0.00	-198.76	0.00	198.76	5128.00	2564.00	11097.7	5557.14		0.18	-0.06	0.042
35.00	-33.04	-1.83	0.00	-189.46	0.00	189.46	5041.73	2520.86	10641.7	5328.76		0.25	-0.07	0.042
40.00	-31.77	-1.80	0.00	-180.30	0.00	180.30	4953.48	2476.74	10190.8	5102.98		0.33	-0.08	0.042
44.75	-30.59	-1.77	0.00	-171.74	0.00	171.74	4867.82	2433.91	9767.51	4891.01		0.42	-0.09	0.041
45.00	-30.49	-1.77	0.00	-171.30	0.00	171.30	4863.26	2431.63	9745.37	4879.93		0.42	-0.09	0.041
50.00	-28.38	-1.71	0.00	-162.43	0.00	162.43	4771.07	2385.54	9305.74	4659.79		0.52	-0.10	0.041
51.00	-27.97	-1.70	0.00	-160.72	0.00	160.72	3927.98	1963.99	7761.51	3886.53		0.55	-0.11	0.048
55.00	-27.13	-1.69	0.00	-153.90	0.00	153.90	3872.44	1936.22	7486.25	3748.69		0.64	-0.12	0.048
60.00	-26.09	-1.67	0.00	-145.47	0.00	145.47	3801.23	1900.62	7145.52	3578.07		0.77	-0.13	0.048
65.00	-25.09	-1.65	0.00	-137.14	0.00	137.14	3728.06	1864.03	6808.79	3409.45		0.91	-0.14	0.047
70.00	-24.10	-1.64	0.00	-128.89	0.00	128.89	3652.91	1826.46	6476.38	3243.00		1.07	-0.16	0.046
75.00	-23.14	-1.63	0.00	-120.70	0.00	120.70	3575.79	1787.90	6148.62	3078.88		1.24	-0.17	0.046
80.00	-22.20	-1.64	0.00	-112.54	0.00	112.54	3496.70	1748.35	5825.81	2917.23		1.43	-0.19	0.045
85.00	-20.70	-1.64	0.00	-104.35	0.00	104.35	3415.64	1707.82	5508.27	2758.23		1.64	-0.20	0.044
90.00	-19.82	-1.64	0.00	-96.17	0.00	96.17	3332.60	1666.30	5196.32	2602.02		1.86	-0.22	0.043
90.75	-19.69	-1.64	0.00	-94.94	0.00	94.94	3319.98	1659.99	5150.02	2578.84		1.89	-0.22	0.043
95.00	-18.58	-1.64	0.00	-87.98	0.00	87.98	3247.59	1623.80	4890.27	2448.77		2.09	-0.23	0.042
95.75	-18.38	-1.64	0.00	-86.75	0.00	86.75	1911.44	955.72	2922.15	1463.25		2.13	-0.24	0.069
100.00	-15.74	-1.63	0.00	-79.78	0.00	79.78	1878.47	939.23	2786.43	1395.29		2.35	-0.25	0.066
105.00	-15.14	-1.64	0.00	-71.62	0.00	71.62	1837.85	918.92	2627.99	1315.95		2.62	-0.27	0.063
110.00	-14.56	-1.64	0.00	-63.44	0.00	63.44	1795.26	897.63	2471.18	1237.43		2.92	-0.30	0.059
115.00	-13.99	-1.64	0.00	-55.24	0.00	55.24	1750.70	875.35	2316.31	1159.88		3.25	-0.32	0.056
120.00	-13.44	-1.64	0.00	-47.03	0.00	47.03	1704.17	852.08	2163.70	1083.46		3.59	-0.34	0.051
125.00	-12.90	-1.64	0.00	-38.82	0.00	38.82	1655.66	827.83	2013.66	1008.33		3.96	-0.36	0.046
127.00	-12.69	-1.64	0.00	-35.54	0.00	35.54	1635.71	817.85	1954.43	978.67		4.11	-0.37	0.044
130.00	-12.22	-1.62	0.00	-30.63	0.00	30.63	1605.19	802.59	1866.51	934.64		4.35	-0.38	0.040
130.75	-12.11	-1.62	0.00	-29.42	0.00	29.42	1090.28	545.14	1281.57	641.74		4.41	-0.38	0.057
133.00	-9.77	-1.49	0.00	-25.78	0.00	25.78	1077.75	538.87	1240.93	621.39		4.59	-0.39	0.051
135.00	-9.63	-1.49	0.00	-22.79	0.00	22.79	1066.28	533.14	1204.93	603.36		4.76	-0.40	0.047
140.00	-9.28	-1.47	0.00	-15.35	0.00	15.35	1036.22	518.11	1115.60	558.63		5.19	-0.42	0.036
143.00	-5.32	-1.02	0.00	-10.95	0.00	10.95	1017.23	508.62	1062.55	532.07		5.45	-0.43	0.026
145.00	-5.21	-1.01	0.00	-8.92	0.00	8.92	1004.18	502.09	1027.46	514.49		5.63	-0.43	0.023
150.00	-4.92	-0.97	0.00	-3.89	0.00	3.89	970.18	485.09	940.83	471.12		6.09	-0.44	0.013
154.00	-0.04	-0.01	0.00	-0.01	0.00	0.01	941.55	470.78	872.83	437.06		6.45	-0.44	0.000
155.00	0.00	-0.01	0.00	0.00	0.00	0.00	934.20	467.10	856.03	428.65		6.55	-0.44	0.000

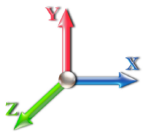
Wind Loading - Shaft

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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: 1.0D + 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	7.442	8.19	284.93	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	278.89	0.650	0.000	5.00	25.481	16.56	135.6	0.0	1412.5
10.00		1.00	0.85	7.442	8.19	272.85	0.650	0.000	5.00	24.935	16.21	132.7	0.0	1382.0
15.00		1.00	0.85	7.442	8.19	266.81	0.650	0.000	5.00	24.389	15.85	129.8	0.0	1351.5
20.00		1.00	0.90	7.896	8.69	268.61	0.650	0.000	5.00	23.843	15.50	134.6	0.0	1321.0
25.00		1.00	0.95	8.276	9.10	268.63	0.650	0.000	5.00	23.297	15.14	137.9	0.0	1290.6
30.00		1.00	0.98	8.600	9.46	267.34	0.650	0.000	5.00	22.752	14.79	139.9	0.0	1260.1
35.00		1.00	1.01	8.883	9.77	265.11	0.650	0.000	5.00	22.206	14.43	141.0	0.0	1229.6
40.00		1.00	1.04	9.137	10.05	262.18	0.650	0.000	5.00	21.660	14.08	141.5	0.0	1199.1
44.75	Bot - Section 2	1.00	1.07	9.355	10.29	258.86	0.650	0.000	4.75	20.071	13.05	134.3	0.0	1110.9
45.00		1.00	1.07	9.366	10.30	258.67	0.650	0.000	0.25	1.059	0.69	7.1	0.0	108.0
50.00		1.00	1.09	9.576	10.53	254.71	0.650	0.000	5.00	20.885	13.58	143.0	0.0	2130.2
51.00	Top - Section 1	1.00	1.10	9.616	10.58	253.86	0.650	0.000	1.00	4.112	2.67	28.3	0.0	419.2
55.00		1.00	1.12	9.770	10.75	254.38	0.650	0.000	4.00	16.228	10.55	113.4	0.0	770.6
60.00		1.00	1.14	9.951	10.95	249.73	0.650	0.000	5.00	19.794	12.87	140.8	0.0	939.8
65.00		1.00	1.16	10.120	11.13	244.80	0.650	0.000	5.00	19.248	12.51	139.3	0.0	913.6
70.00		1.00	1.17	10.279	11.31	239.62	0.650	0.000	5.00	18.702	12.16	137.5	0.0	887.5
75.00		1.00	1.19	10.430	11.47	234.22	0.650	0.000	5.00	18.156	11.80	135.4	0.0	861.4
80.00		1.00	1.21	10.572	11.63	228.62	0.650	0.000	5.00	17.610	11.45	133.1	0.0	835.3
85.00	Appurtenance(s)	1.00	1.22	10.708	11.78	222.84	0.650	0.000	5.00	17.064	11.09	130.6	0.0	809.1
90.00		1.00	1.24	10.838	11.92	216.90	0.650	0.000	5.00	16.519	10.74	128.0	0.0	783.0
90.75	Bot - Section 3	1.00	1.24	10.857	11.94	215.99	0.650	0.000	0.75	2.431	1.58	18.9	0.0	115.2
95.00		1.00	1.25	10.962	12.06	210.80	0.650	0.000	4.25	13.722	8.92	107.5	0.0	1076.7
95.75	Top - Section 2	1.00	1.25	10.980	12.08	209.88	0.650	0.000	0.75	2.381	1.55	18.7	0.0	186.7
100.00	Appurtenance(s)	1.00	1.27	11.081	12.19	207.43	0.650	0.000	4.25	13.258	8.62	105.0	0.0	420.2
105.00		1.00	1.28	11.195	12.31	201.09	0.650	0.000	5.00	15.092	9.81	120.8	0.0	478.2
110.00		1.00	1.29	11.305	12.44	194.64	0.650	0.000	5.00	14.547	9.46	117.6	0.0	460.8
115.00		1.00	1.30	11.412	12.55	188.07	0.650	0.000	5.00	14.001	9.10	114.2	0.0	443.4
120.00		1.00	1.32	11.514	12.67	181.40	0.650	0.000	5.00	13.455	8.75	110.8	0.0	425.9
125.00		1.00	1.33	11.614	12.78	174.64	0.650	0.000	5.00	12.909	8.39	107.2	0.0	408.5
127.00	Bot - Section 4	1.00	1.33	11.653	12.82	171.91	0.650	0.000	2.00	5.011	3.26	41.7	0.0	158.5
130.00		1.00	1.34	11.710	12.88	167.79	0.650	0.000	3.00	7.448	4.84	62.4	0.0	409.7
130.75	Top - Section 3	1.00	1.34	11.724	12.90	166.75	0.650	0.000	0.75	1.831	1.19	15.4	0.0	100.7
133.00	Appurtenance(s)	1.00	1.34	11.766	12.94	165.84	0.650	0.000	2.25	5.420	3.52	45.6	0.0	128.8
135.00		1.00	1.35	11.803	12.98	163.06	0.650	0.000	2.00	4.725	3.07	39.9	0.0	112.3
140.00		1.00	1.36	11.894	13.08	156.05	0.650	0.000	5.00	11.430	7.43	97.2	0.0	271.6
143.00	Appurtenance(s)	1.00	1.36	11.947	13.14	151.81	0.650	0.000	3.00	6.596	4.29	56.3	0.0	156.7
145.00		1.00	1.37	11.982	13.18	148.97	0.650	0.000	2.00	4.288	2.79	36.7	0.0	101.9
150.00		1.00	1.38	12.068	13.27	141.81	0.650	0.000	5.00	10.338	6.72	89.2	0.0	245.5
154.00	Appurtenance(s)	1.00	1.39	12.135	13.35	136.03	0.650	0.000	4.00	7.878	5.12	68.4	0.0	187.0
155.00		1.00	1.39	12.152	13.37	134.58	0.650	0.000	1.00	1.915	1.24	16.6	0.0	45.4
								Totals:	**155.00**			**3,853.8**		**26,948.9**

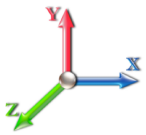
Discrete Appurtenance Forces

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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	

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	T-Arm	3	12.135	13.349	0.56	0.75	13.72	1257.30	0.000	0.000	183.14	0.00	0.00
2	154.00	Ericsson - Radio 4449	3	12.135	13.349	0.73	0.90	3.56	222.00	0.000	0.000	47.59	0.00	0.00
3	154.00	Ericsson - KRY 112 144/1	3	12.135	13.349	0.65	0.90	0.68	33.00	0.000	0.000	9.08	0.00	0.00
4	154.00	RFS -	3	12.135	13.349	0.65	0.90	39.35	384.00	0.000	0.000	525.23	0.00	0.00
5	154.00	Ericsson - Air 21 B4A/B2P	3	12.135	13.349	0.77	0.90	13.86	270.90	0.000	0.000	185.04	0.00	0.00
6	154.00	Ericsson - Air 21 B2A/B4P	3	12.135	13.349	0.77	0.90	13.86	274.50	0.000	0.000	185.04	0.00	0.00
7	154.00	Mount Mod	3	12.135	13.349	1.00	1.00	66.75	2735.16	0.000	0.000	891.03	0.00	0.00
8	143.00	Ericsson - AIR6449 B77D	3	11.947	13.142	0.63	0.75	7.81	264.00	0.000	0.000	102.58	0.00	0.00
9	143.00	Ericsson - AIR6419 B77G	3	11.947	13.142	0.57	0.75	6.48	198.30	0.000	0.000	85.17	0.00	0.00
10	143.00	Ericsson - RRUS 32 B2	3	11.947	13.142	0.56	0.75	2.78	231.00	0.000	0.000	36.59	0.00	0.00
11	143.00	Cci - DMP65R-BU6DA	3	11.947	13.142	0.54	0.75	20.57	238.20	0.000	0.000	270.39	0.00	0.00
12	143.00	Cci - TPA65R-BU6DA-K	3	11.947	13.142	0.54	0.75	20.57	207.00	0.000	0.000	270.39	0.00	0.00
13	143.00	Raycap -	3	11.947	13.142	1.01	0.75	6.63	98.40	0.000	0.000	87.17	0.00	0.00
14	143.00	Ericsson - RRUS 4478	3	11.947	13.142	0.61	0.75	3.68	178.20	0.000	0.000	48.38	0.00	0.00
15	143.00	Ericsson - RRUS 4426	3	11.947	13.142	0.54	0.75	2.66	145.20	0.000	0.000	34.92	0.00	0.00
16	143.00	Ericsson - RRUS 4449	3	11.947	13.142	0.68	0.75	3.32	219.00	0.000	0.000	43.64	0.00	0.00
17	143.00	RMQLP-4120-H10 + 12	1	11.947	13.142	1.00	1.00	37.80	2400.00	0.000	0.000	496.77	0.00	0.00
18	133.00	T-Arm	3	11.766	12.943	0.56	0.75	13.72	1257.30	0.000	0.000	177.57	0.00	0.00
19	133.00	Samsung - RF4440d-13A	3	11.766	12.943	0.64	0.80	3.59	210.99	0.000	0.000	46.47	0.00	0.00
20	133.00	Samsung - RF4439d-25A	3	11.766	12.943	0.67	0.80	3.77	224.10	0.000	0.000	48.79	0.00	0.00
21	133.00	Amphenol -	6	11.766	12.943	1.20	0.80	31.18	126.00	0.000	0.000	403.51	0.00	0.00
22	133.00	Andrew - SBNHH-1D65B	6	11.766	12.943	0.66	0.80	32.51	240.00	0.000	0.000	420.77	0.00	0.00
23	133.00	Samsung - MT6407-77A	3	11.766	12.943	0.60	0.80	8.44	238.20	0.000	0.000	109.26	0.00	0.00
24	133.00	Rfs Celwave -	2	11.766	12.943	0.57	0.80	5.45	88.00	0.000	0.000	70.58	0.00	0.00
25	100.00	Fujitsu - TA08025-B605	3	11.081	12.189	0.60	0.75	3.53	224.88	0.000	0.000	43.00	0.00	0.00
26	100.00	JMA Wireless -	3	11.081	12.189	0.55	0.75	20.51	193.50	0.000	0.000	250.05	0.00	0.00
27	100.00	Raycap -	1	11.081	12.189	0.58	0.75	1.18	21.85	0.000	0.000	14.33	0.00	0.00
28	100.00	Fujitsu - TA08025-B604	3	11.081	12.189	0.57	0.75	3.35	191.79	0.000	0.000	40.85	0.00	0.00
29	100.00	Platform w/ Handrail	1	11.081	12.189	1.00	1.00	22.00	1727.00	0.000	0.000	268.15	0.00	0.00
30	85.00	T-Arm	1	10.708	11.779	1.00	1.00	8.13	419.10	0.000	0.000	95.76	0.00	0.00
31	85.00	Pipe Mount	2	10.708	11.779	1.00	1.00	10.00	120.00	0.000	0.000	117.79	0.00	0.00
32	85.00	SP4-4.7NS RD4	1	10.708	11.779	1.00	1.00	23.14	60.00	0.000	0.000	272.56	0.00	0.00
33	85.00	SD222	2	10.831	11.914	1.00	1.00	10.60	34.00	0.000	4.750	126.29	0.00	599.89
34	85.00	DB408	1	10.831	11.914	1.00	1.00	2.90	17.00	0.000	4.750	34.55	0.00	164.12
							Totals:		**14,749.87**			**6,042.44**		

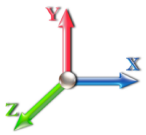
Total Applied Force Summary

Structure:	CT13610-A		**Code:**	TIA-222-G	4/15/2022
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: 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		135.58	1619.25	0.00	0.00
10.00		132.68	1588.77	0.00	0.00
15.00		129.77	1558.29	0.00	0.00
20.00		134.61	1527.81	0.00	0.00
25.00		137.86	1497.33	0.00	0.00
30.00		139.90	1466.85	0.00	0.00
35.00		141.04	1436.37	0.00	0.00
40.00		141.50	1405.89	0.00	0.00
44.75		134.26	1307.36	0.00	0.00
45.00		7.09	118.33	0.00	0.00
50.00		143.00	2336.94	0.00	0.00
51.00		28.27	460.60	0.00	0.00
55.00		113.36	936.04	0.00	0.00
60.00		140.83	1146.53	0.00	0.00
65.00		139.27	1120.41	0.00	0.00
70.00		137.45	1094.28	0.00	0.00
75.00		135.39	1068.15	0.00	0.00
80.00		133.12	1042.03	0.00	0.00
85.00	(7) attachments	777.61	1666.00	0.00	764.01
90.00		128.00	974.18	0.00	0.00
90.75		18.87	143.87	0.00	0.00
95.00		107.55	1239.14	0.00	0.00
95.75		18.69	215.41	0.00	0.00
100.00	(11) attachments	721.43	2941.67	0.00	0.00
105.00		120.81	663.86	0.00	0.00
110.00		117.58	646.44	0.00	0.00
115.00		114.24	629.02	0.00	0.00
120.00		110.77	611.61	0.00	0.00
125.00		107.19	594.19	0.00	0.00
127.00		41.75	232.80	0.00	0.00
130.00		62.36	521.06	0.00	0.00
130.75		15.35	128.55	0.00	0.00
133.00	(26) attachments	1322.56	2596.99	0.00	0.00
135.00		39.88	157.22	0.00	0.00
140.00		97.21	383.90	0.00	0.00
143.00	(28) attachments	1532.35	4403.37	0.00	0.00
145.00		36.74	132.01	0.00	0.00
150.00		89.21	320.87	0.00	0.00
154.00	(21) attachments	2094.48	5424.15	0.00	0.00
155.00		16.64	46.76	0.00	0.00
	Totals:	**9,896.24**	**47,404.27**	**0.00**	**764.01**

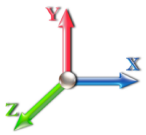
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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: 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	7.442	0.00	1.37
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	7.442	0.00	5.20
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	7.442	0.00	1.37
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	7.442	0.00	5.20
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	7.442	0.00	1.37
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	7.442	0.00	5.20
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	7.896	0.00	1.37
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	7.896	0.00	5.20
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	8.276	0.00	1.37
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	8.276	0.00	5.20
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	8.600	0.00	1.37
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	8.600	0.00	5.20
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	8.883	0.00	1.37
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	8.883	0.00	5.20
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	9.137	0.00	1.37
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	9.137	0.00	5.20
44.75	Safety Cable	Yes	4.75	0.000	0.38	0.15	0.00	0.020	0.000	9.355	0.00	1.30
44.75	Step bolts (ladder)	Yes	4.75	0.000	0.63	0.25	0.00	0.020	0.000	9.355	0.00	4.94
45.00	Safety Cable	Yes	0.25	0.000	0.38	0.01	0.00	0.020	0.000	9.366	0.00	0.07
45.00	Step bolts (ladder)	Yes	0.25	0.000	0.63	0.01	0.00	0.020	0.000	9.366	0.00	0.26
50.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	9.576	0.00	1.37
50.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	9.576	0.00	5.20
51.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.021	0.000	9.616	0.00	0.27
51.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.021	0.000	9.616	0.00	1.04
55.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.021	0.000	9.770	0.00	1.09
55.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.021	0.000	9.770	0.00	4.16
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	9.951	0.00	1.37
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	9.951	0.00	5.20
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	10.120	0.00	1.37
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	10.120	0.00	5.20
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	10.279	0.00	1.37
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	10.279	0.00	5.20
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	10.430	0.00	1.37
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	10.430	0.00	5.20
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	10.572	0.00	1.37
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	10.572	0.00	5.20
85.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	10.708	0.00	1.37
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	10.708	0.00	5.20
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	10.838	0.00	1.37
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	10.838	0.00	5.20
90.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.026	0.000	10.857	0.00	0.20
90.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.026	0.000	10.857	0.00	0.78
95.00	Safety Cable	Yes	4.25	0.000	0.38	0.13	0.00	0.026	0.000	10.962	0.00	1.16
95.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	0.22	0.00	0.026	0.000	10.962	0.00	4.42
95.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.027	0.000	10.980	0.00	0.20
95.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.027	0.000	10.980	0.00	0.78
100.00	Safety Cable	Yes	4.25	0.000	0.38	0.13	0.00	0.027	0.000	11.081	0.00	1.16

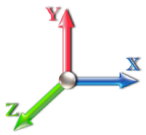
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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

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	11.081	0.00	4.42
105.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	11.195	0.00	1.37
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	11.195	0.00	5.20
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.029	0.000	11.305	0.00	1.37
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.029	0.000	11.305	0.00	5.20
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	11.412	0.00	1.37
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	11.412	0.00	5.20
120.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.031	0.000	11.514	0.00	1.37
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.031	0.000	11.514	0.00	5.20
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	11.614	0.00	1.37
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	11.614	0.00	5.20
127.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.034	0.000	11.653	0.00	0.55
127.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.034	0.000	11.653	0.00	2.08
130.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.034	0.000	11.710	0.00	0.82
130.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.034	0.000	11.710	0.00	3.12
130.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.035	0.000	11.724	0.00	0.20
130.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.035	0.000	11.724	0.00	0.78
133.00	Safety Cable	Yes	2.25	0.000	0.38	0.07	0.00	0.035	0.000	11.766	0.00	0.61
133.00	Step bolts (ladder)	Yes	2.25	0.000	0.63	0.12	0.00	0.035	0.000	11.766	0.00	2.34
135.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.036	0.000	11.803	0.00	0.55
135.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.036	0.000	11.803	0.00	2.08
140.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.037	0.000	11.894	0.00	1.37
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.037	0.000	11.894	0.00	5.20
143.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.038	0.000	11.947	0.00	0.82
143.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.038	0.000	11.947	0.00	3.12
145.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.039	0.000	11.982	0.00	0.55
145.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.039	0.000	11.982	0.00	2.08
150.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.041	0.000	12.068	0.00	1.37
150.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.041	0.000	12.068	0.00	5.20
154.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.043	0.000	12.135	0.00	1.09
154.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.043	0.000	12.135	0.00	4.16
155.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.044	0.000	12.152	0.00	0.27
155.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.044	0.000	12.152	0.00	1.04
									Totals:		**0.0**	**203.5**

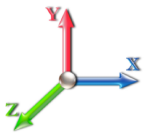
Calculated Forces

Structure:	CT13610-A	**Code:**	TIA-222-G	4/15/2022	
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

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	-47.40	-9.91	0.00	-1134.8	0.00	1134.89	5604.23	2802.12	13924.9	6972.80	0.00	0.000	0.000	0.171
5.00	-45.77	-9.81	0.00	-1085.3	0.00	1085.33	5529.79	2764.90	13444.5	6732.24	0.02	-0.041	0.000	0.170
10.00	-44.18	-9.71	0.00	-1036.2	0.00	1036.28	5453.38	2726.69	12967.3	6493.32	0.09	-0.082	0.000	0.168
15.00	-42.61	-9.61	0.00	-987.74	0.00	987.74	5374.99	2687.50	12493.8	6256.19	0.20	-0.125	0.000	0.166
20.00	-41.08	-9.50	0.00	-939.71	0.00	939.71	5294.63	2647.32	12024.1	6021.01	0.35	-0.168	0.000	0.164
25.00	-39.57	-9.39	0.00	-892.21	0.00	892.21	5212.30	2606.15	11558.7	5787.94	0.55	-0.212	0.000	0.162
30.00	-38.10	-9.27	0.00	-845.28	0.00	845.28	5128.00	2564.00	11097.7	5557.14	0.80	-0.257	0.000	0.160
35.00	-36.66	-9.15	0.00	-798.92	0.00	798.92	5041.73	2520.86	10641.7	5328.76	1.09	-0.302	0.000	0.157
40.00	-35.25	-9.03	0.00	-753.16	0.00	753.16	4953.48	2476.74	10190.8	5102.98	1.43	-0.349	0.000	0.155
44.75	-33.94	-8.90	0.00	-710.26	0.00	710.26	4867.82	2433.91	9767.51	4891.01	1.80	-0.393	0.000	0.152
45.00	-33.81	-8.91	0.00	-708.03	0.00	708.03	4863.26	2431.63	9745.37	4879.93	1.82	-0.396	0.000	0.152
50.00	-31.47	-8.77	0.00	-663.49	0.00	663.49	4771.07	2385.54	9305.74	4659.79	2.26	-0.444	0.000	0.149
51.00	-31.01	-8.75	0.00	-654.72	0.00	654.72	3927.98	1963.99	7761.51	3886.53	2.36	-0.454	0.000	0.176
55.00	-30.07	-8.65	0.00	-619.74	0.00	619.74	3872.44	1936.22	7486.25	3748.69	2.75	-0.493	0.000	0.173
60.00	-28.91	-8.53	0.00	-576.49	0.00	576.49	3801.23	1900.62	7145.52	3578.07	3.30	-0.547	0.000	0.169
65.00	-27.79	-8.40	0.00	-533.85	0.00	533.85	3728.06	1864.03	6808.79	3409.45	3.90	-0.602	0.000	0.164
70.00	-26.69	-8.28	0.00	-491.84	0.00	491.84	3652.91	1826.46	6476.38	3243.00	4.56	-0.657	0.000	0.159
75.00	-25.61	-8.16	0.00	-450.45	0.00	450.45	3575.79	1787.90	6148.62	3078.88	5.28	-0.712	0.000	0.153
80.00	-24.56	-8.03	0.00	-409.67	0.00	409.67	3496.70	1748.35	5825.81	2917.23	6.05	-0.768	0.000	0.147
85.00	-22.90	-7.25	0.00	-368.74	0.00	368.74	3415.64	1707.82	5508.27	2758.23	6.89	-0.823	0.000	0.140
90.00	-21.93	-7.12	0.00	-332.48	0.00	332.48	3332.60	1666.30	5196.32	2602.02	7.78	-0.877	0.000	0.134
90.75	-21.78	-7.11	0.00	-327.13	0.00	327.13	3319.98	1659.99	5150.02	2578.84	7.92	-0.886	0.000	0.133
95.00	-20.54	-7.00	0.00	-296.90	0.00	296.90	3247.59	1623.80	4890.27	2448.77	8.73	-0.932	0.000	0.128
95.75	-20.32	-6.98	0.00	-291.66	0.00	291.66	1911.44	955.72	2922.15	1463.25	8.88	-0.941	0.000	0.210
100.00	-17.38	-6.23	0.00	-261.98	0.00	261.98	1878.47	939.23	2786.43	1395.29	9.73	-0.986	0.000	0.197
105.00	-16.71	-6.12	0.00	-230.83	0.00	230.83	1837.85	918.92	2627.99	1315.95	10.81	-1.061	0.000	0.185
110.00	-16.06	-6.01	0.00	-200.23	0.00	200.23	1795.26	897.63	2471.18	1237.43	11.96	-1.133	0.000	0.171
115.00	-15.43	-5.90	0.00	-170.19	0.00	170.19	1750.70	875.35	2316.31	1159.88	13.18	-1.203	0.000	0.156
120.00	-14.81	-5.79	0.00	-140.68	0.00	140.68	1704.17	852.08	2163.70	1083.46	14.48	-1.270	0.000	0.139
125.00	-14.22	-5.68	0.00	-111.72	0.00	111.72	1655.66	827.83	2013.66	1008.33	15.84	-1.330	0.000	0.119
127.00	-13.98	-5.64	0.00	-100.35	0.00	100.35	1635.71	817.85	1954.43	978.67	16.41	-1.353	0.000	0.111
130.00	-13.46	-5.57	0.00	-83.42	0.00	83.42	1605.19	802.59	1866.51	934.64	17.27	-1.385	0.000	0.098
130.75	-13.33	-5.56	0.00	-79.25	0.00	79.25	1090.28	545.14	1281.57	641.74	17.49	-1.393	0.000	0.136
133.00	-10.77	-4.18	0.00	-66.74	0.00	66.74	1077.75	538.87	1240.93	621.39	18.15	-1.414	0.000	0.117
135.00	-10.61	-4.14	0.00	-58.39	0.00	58.39	1066.28	533.14	1204.93	603.36	18.74	-1.435	0.000	0.107
140.00	-10.23	-4.04	0.00	-37.70	0.00	37.70	1036.22	518.11	1115.60	558.63	20.27	-1.479	0.000	0.077
143.00	-5.86	-2.39	0.00	-25.59	0.00	25.59	1017.23	508.62	1062.55	532.07	21.21	-1.499	0.000	0.054
145.00	-5.73	-2.35	0.00	-20.81	0.00	20.81	1004.18	502.09	1027.46	514.49	21.84	-1.510	0.000	0.046
150.00	-5.41	-2.26	0.00	-9.04	0.00	9.04	970.18	485.09	940.83	471.12	23.43	-1.528	0.000	0.025
154.00	-0.05	-0.02	0.00	-0.02	0.00	0.02	941.55	470.78	872.83	437.06	24.72	-1.533	0.000	0.000
155.00	0.00	-0.02	0.00	0.00	0.00	0.00	934.20	467.10	856.03	428.65	25.04	-1.533	0.000	0.000

Final Analysis Summary

Structure:	CT13610-A		**Code:**	TIA-222-G	4/15/2022
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

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 101 mph Wind	45.0	0.00	56.81	0.00	0.00	5172.70
0.9D + 1.6W 101 mph Wind	44.9	0.00	42.59	0.00	0.00	5118.58
1.2D + 1.0Di + 1.0Wi 50 mph Wind	11.5	0.00	99.72	0.00	0.00	1336.78
1.2D + 1.0E	2.0	0.00	56.88	0.00	0.00	260.30
0.9D + 1.0E	2.0	0.00	42.66	0.00	0.00	257.25
1.0D + 1.0W 60 mph Wind	9.9	0.00	47.40	0.00	0.00	1134.89

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 101 mph Wind	-22.14	-31.90	0.00	-1332.0	0.00	-1332.0	1911.44	955.72	2922.15	1463.25	95.75	0.923
0.9D + 1.6W 101 mph Wind	-16.06	-31.41	0.00	-1308.3	0.00	-1308.3	1911.44	955.72	2922.15	1463.25	95.75	0.904
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-56.87	-8.24	0.00	-348.04	0.00	-348.04	1911.44	955.72	2922.15	1463.25	95.75	0.268
1.2D + 1.0E	-24.51	-1.67	0.00	-88.18	0.00	-88.18	1911.44	955.72	2922.15	1463.25	95.75	0.073
0.9D + 1.0E	-18.38	-1.64	0.00	-86.75	0.00	-86.75	1911.44	955.72	2922.15	1463.25	95.75	0.069
1.0D + 1.0W 60 mph Wind	-20.32	-6.98	0.00	-291.66	0.00	-291.66	1911.44	955.72	2922.15	1463.25	95.75	0.210

Base Plate Summary

Structure:	CT13610-A		**Code:**	TIA-222-G	4/15/2022
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

Reactions

Original Design

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

Analysis (1.2D + 1.6W)

Moment (kip-ft):	5172.70
Axial (kip):	56.81
Shear (kip):	44.96

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):	557.19
Allow Stress (ksi):	67.50
Applied Stress (ksi):	47.25
Stress Ratio:	0.70

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):	156.29
Allowable (kip):	260.00
Ratio:	0.62

Tension

Force (kip):	147.98
Allowable (kip):	260.00
Ratio:	0.58

SBA

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Date: 4/15/2022

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Foundation Info Obtained from: Dr□□ □□□□□ □□□□□□□

Structure Type: Monopole

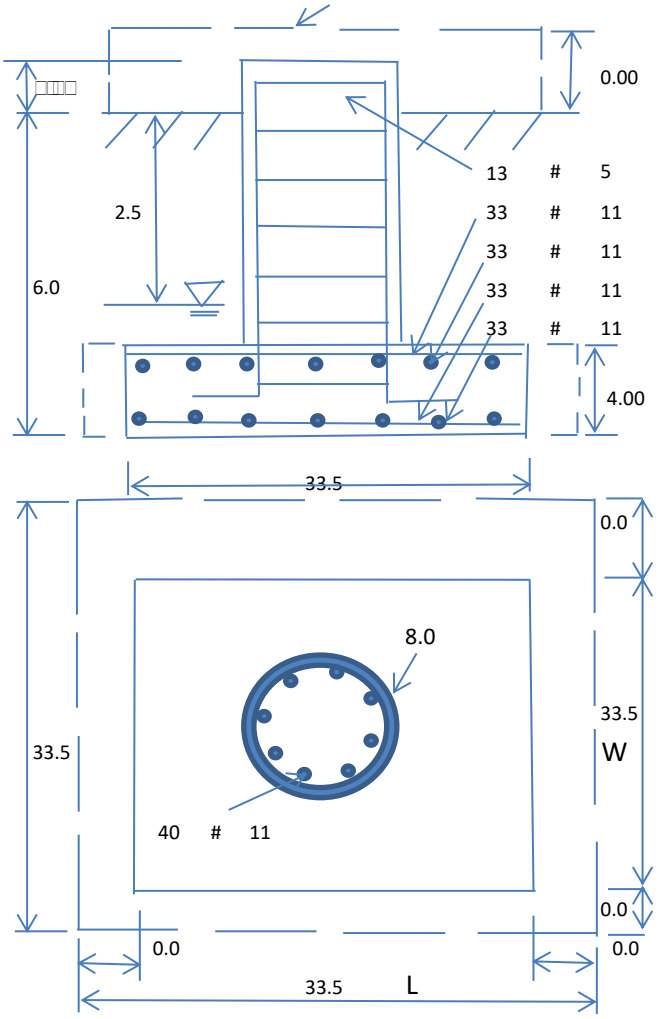
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	56.8	Shear Force (Kips):	45.0
Uplift Force (Kips):	0.0	Moment (Kips-ft):	5172.7
Allowable overstress %:	□□□		

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):	750.47

Check Soil Capacities:

				Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	1578	<	Allowable Factored Soil Bearing (psf): 12000	0.13	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	11408.4	>	Design Factored Momont (kips-ft): 5465	0.48	OK!

Factor of Safety Against Overturning (O. R. Moment/Design Moment): 2.09 OK!

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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		

(1) Concrete Pier:

							Load/ Capacity Ratio	
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	5285.2	0.46	OK!
Calculated Shear Capacity (Kips):	912.1	>	Design Factored Shear (Kips):	45.0	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):	56.8	0.01	OK!
Moment & Axial Strength Combination:	0.46	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):	278.8	0.19	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1463.5	>	One-Way Factored Shear (W-D., Kips)	278.8	0.19	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1397.6	>	One-Way Factored Shear (C-C, Kips):	264.0	0.19	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0029	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0029		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	9916.4	>	Moment at Bottom (L-Dir. K-Ft):	2151.0	0.22	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	9916.4	>	Moment at Bottom (W-Dir. K-Ft):	2151.0	0.22	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	13923.7	>	Moment at Bottom (C-C Dir. K-Ft):	3041.9	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):	765.6	0.08	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	9916.4	>	Moment at the top (W-Dir K-Ft):	765.6	0.08	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	13923.7	>	Moment at the top (C-C Dir. K-Ft):	715.2	0.05	OK!

(3).Check Punching Shear Capacity due to Moment in the Pier:

Moment transferred by punching shear:	2069.1	k-ft.	Max. factored shear stress v_{u_CD}:	3.5	Psi
Max. factored shear stress v_{u_AB}:	7.9	Psi	Factored shear Strength ϕv_n:	164.3	Psi
Max. factored shear stress v_u:	7.9	Psi	Check Usage of Punching Shear Capacity:	0.05	□□□

June 24, 2022

Scope:	**MOUNT ANALYSIS REPORT**
Prepared for:	SmartLink
Carrier:	AT&T
Site Number:	CTL02270
FA Number:	10105782
Site Name:	NORTH BRANFORD COMMERCE DRIVE
Site Address:	26 Commerce Drive North Branford, CT 06471
Latitude/ Longitude:	41.3221669° / -72.7732661°
Structure Type:	MONOPOLE
Mount Type:	Proposed Site Pro 1 RMQLP-4120-H10 Low-Profile Platform
AT&T CONMAT No.:	ANT.44987
Rad Center:	143'-0"

Fullerton Engineering, P.C. is pleased to submit this "Mount Analysis Report" to determine the adequacy of the antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned structure.

Analysis Criteria:

Reference Standard:	TIA-222-H Standard	
Wind Parameters:	Basic Wind Speed:	121 mph (3-Sec gust)
	Ice Wind Speed:	50 mph (3-Sec gust)
	Design Ice Thickness:	1.00 in.
	Risk Category	II
	Exposure Category:	C
	Topographic Feature:	None
	Topographic Method:	Method 2
	Ground Elevation Factor, K_e:	1.0
Seismic Parameters:	S_s:	0.204
	S_1:	0.054
Analysis Software:	RISA-3D (V17)	

Appurtenance Loads:
The antenna mounting system was analyzed with the final loading configuration shown in Page 2 of this report.

Summary of Analysis Result: PASS (MAX STRESS RATIO = 46.2%)

Barbara T. Kotecki, P.E.

Summary:

This structural assessment is in regards to the adequacy of the antenna mounting system for the final loading configuration described below. The purpose was to determine conformance of the antenna mounting system under the applicable codes and standards.

This PE certification completed by Fullerton Engineering, P.C. is inclusive of the antenna mounting system that will support the existing and proposed loading provided by the client.

This certification assumes that all structural members of the antenna mounting system are in good condition and have not been altered from the manufacturer's original design. Prior to installation of new equipment, contractor shall inspect the condition of all relevant members and connectors. The contractor shall be responsible for the means and methods of construction.

Sources:

Reference Document	Date
RFDS Ver. 2.00 provided by AT&T	06/02/2022
RMQLP-4120-H10 Assembly Drawings by Site Pro 1	10/18/2019
Site Visit Photos	02/09/2022

Final Loading Configuration:

Mount Elevation (ft)	Antenna Rad Center (Ft)	QTY.	MANUFACTURER	MODEL	Status
143'-0"	143'-0"	3	CCI	OPA65R-BU6DA	Proposed
		3	Ericsson	AIR6449 B77D + AIR6419 B77G Stacked	
		3	CCI	TPA65R-BU6DA-K	
		3	Ericsson	RRUS-4449 B5/B12	
		3	Ericsson	RRUS-4478 B14	
		3	Ericsson	RRUS-8843 B2/B66A	
		1	Raycap	DC6-48-60-18-8F	
		1	Raycap	DC6-48-60-0-8F	
		1	Raycap	DC6-48-60-18-8F	Existing

Member Component Capacity Table:

Component	% Capacity	Pass / Fail
Face Horizontals	33.7%	Pass
Standoff Members	46.2%	Pass
Mounting Pipes	40.2%	Pass
Mount-to-Tower Connection, Collar Mount Threaded Rods	8.8%	Pass
Structural Rating (max from all components) = 46.2%		**PASS**

FULLERTON
NETWORK INTEGRITY STARTS HERE

Site Number: **CTL02270**
Site Name: NORTH BRANFORD COMMERCE DRIVE
Created By: GO
Checked By: BTK
Date: 6/24/2022
Code: ANSI/TIA-222-H

Base Structure Type	**Type**	Monopole	
Structure Height Above Grade (ft)	**Ht**	155.00	
RAD Center (ft)	**z**	143.00	
Windspeed no ice (mph, 3-sec gust)	**V**	121.00	see wind maps
Windspeed with ice (mph, 3-sec gust)	**Vi**	50.00	see ice maps
Windspeed for maintenance (mph, 3-sec gust)	**Vm**	30.00	Section 16.6
Ice Thickness	**ti**	1.00	see ice maps
Exposure Category (B/C/D)	**Exposure**	C	Section 2.6.5.1.2
Risk Category (I,II,III, IV)	**Cat**	II	Table 2-1
Topographic Feature	**K.1'**	None	Figure 2-1
Crest Height	**H**	5.00	Section 2.6.6.2.1
Length of Feature	**L**	5.00	
Distance from Crest to Tower	**x**	0.00	
Escarpment Downwind?		No	
Height above sea level	**Zs**	122.63	
Exposure Category Coefficient	**zg**	900.00	Table 2-4
Mid-Point of Structure	**Ht.mid**	77.50	
Min Velocity Pressure Coefficient	**Kzmin**	0.85	Table 2-4
Exposure Category Coefficient	**α'**	9.50	Table 2-4
Velocity Pressure Coefficient	**Kz**	1.36	Section 2.6.5.2
Ground Elevation Factor	**Ke**	1.00	Section 2.6.8
Topographic Feature Factor Adjusted for Slope	**K1**	1.00	Figure 2-1
Horizontal Distance Factor	**K2**	1.00	Figure 2-1
Vertical Distance Factor	**K3**	0.00	Figure 2-1
Topographic Factor	**Kzt**	1.00	Section 2.6.6.2.1
Rooftop Wind Speed-Up Factor	**Ks**	1.00	Section 2.6.7
Ice Load Importance Factor	**Iti**	1.00	Table 2-3
Wind Direction Probability Factor	**Kd**	0.95	Table 2-2
Height Escalation Factor	**Kiz**	1.16	Section 2.6.10
Gust Effect Factor	**Gh**	1.00	Section 16.6
Design Ice Thickness	**tiz**	1.16	Section 2.6.10
Ice Density	**ρ.ice**	56.00	lbf/ft^3
Velocity Pressure for Maintenance	**qzm**	2.97	Section 2.6.11.6
Velocity Pressure With Ice	**qzi**	8.26	Section 2.6.11.6
Velocity Pressure No Ice	**qz**	48.37	Section 2.6.11.6

Ka=	0.9

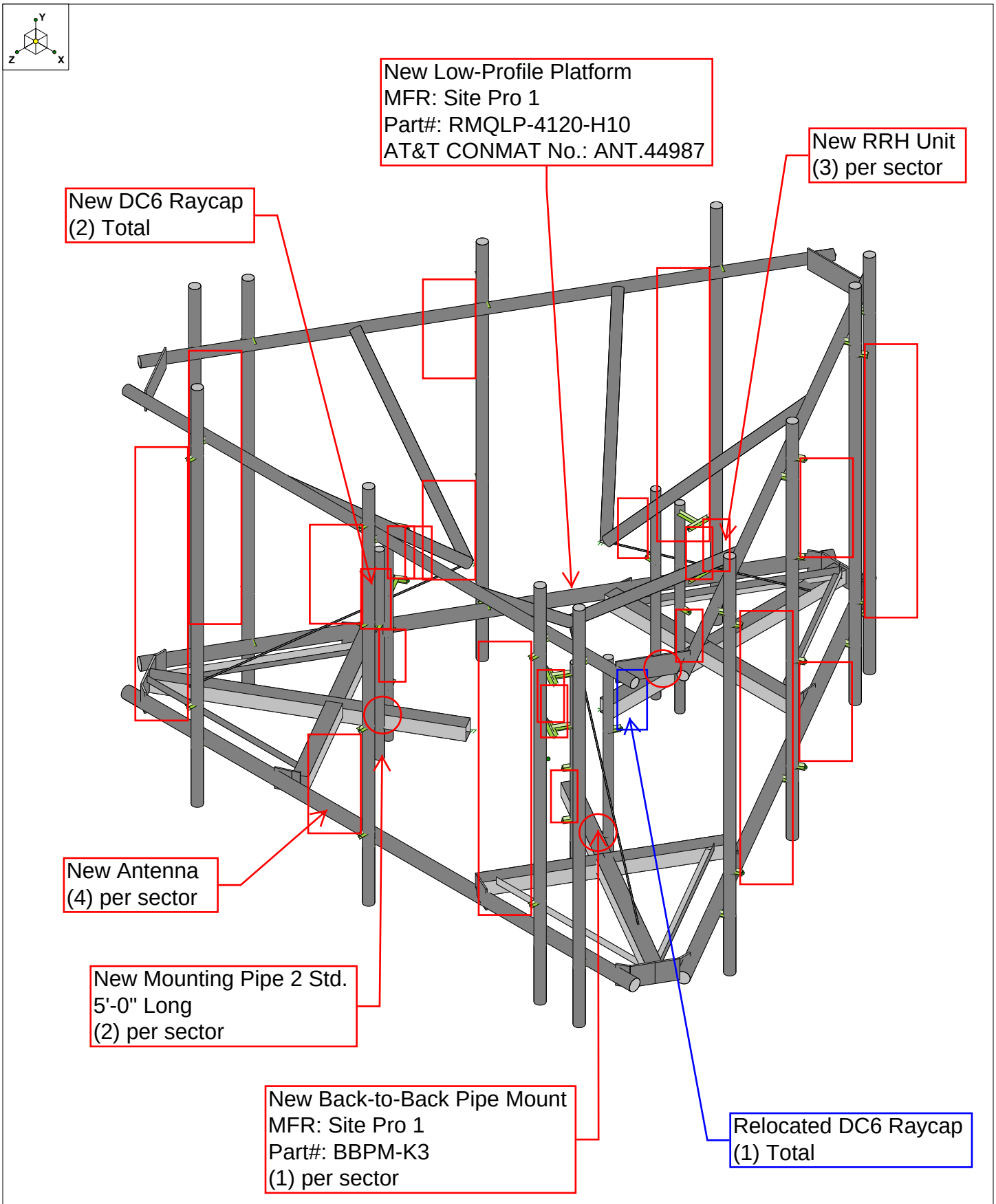
Importance Factor (Earthquake)	I_e	1.00	Table 2-3
Site Class	**Class**	D - Default	
Seismic Design Category	**Cat**	B	
MCE_R Ground Motion (period=0.2s)	S_S	0.204	
MCE_R Ground Motion (period=1.0s)	S_1	0.054	
Seismic Design Value at 0.2s	S_{DS}	0.217	
Long-Period Site Coefficient Fv	**Fv**	0.80	Table 2-12
Seismic Design Value at 1.0s	S_{D1}	0.029	Sec. 2.7.5
Long-period Transition Period (s)	T_L	6	

Sesimic Shear		
R	2.000	See 16.7
$C_{s\text{-calc}}$	0.109	See 2.7.7.1.1
$C_{s\text{-min}}$	0.010	See 2.7.7.1.1
C_S	0.109	See 2.7.7.1.1
A_S	1.000	See 16.7

Rooftop Wind Speed-Up Factor	Ks	No	
Horizontal distance from windward face to center of structure	Xb (ft)	1	Section 2.6.7
Width of windward face of the building	Ws (ft)	100	Section 2.6.7
Height of the parapet wall	Hp (ft)	5	Section 2.6.7
Height of windward face of the building	Hs (ft)	155.00	Section 2.6.7
Height of structure above roof	Zr (ft)	10.00	Section 2.6.7
	H1 (ft)	5.2	Section 2.6.7
	H2 (ft)	105.00	Section 2.6.7

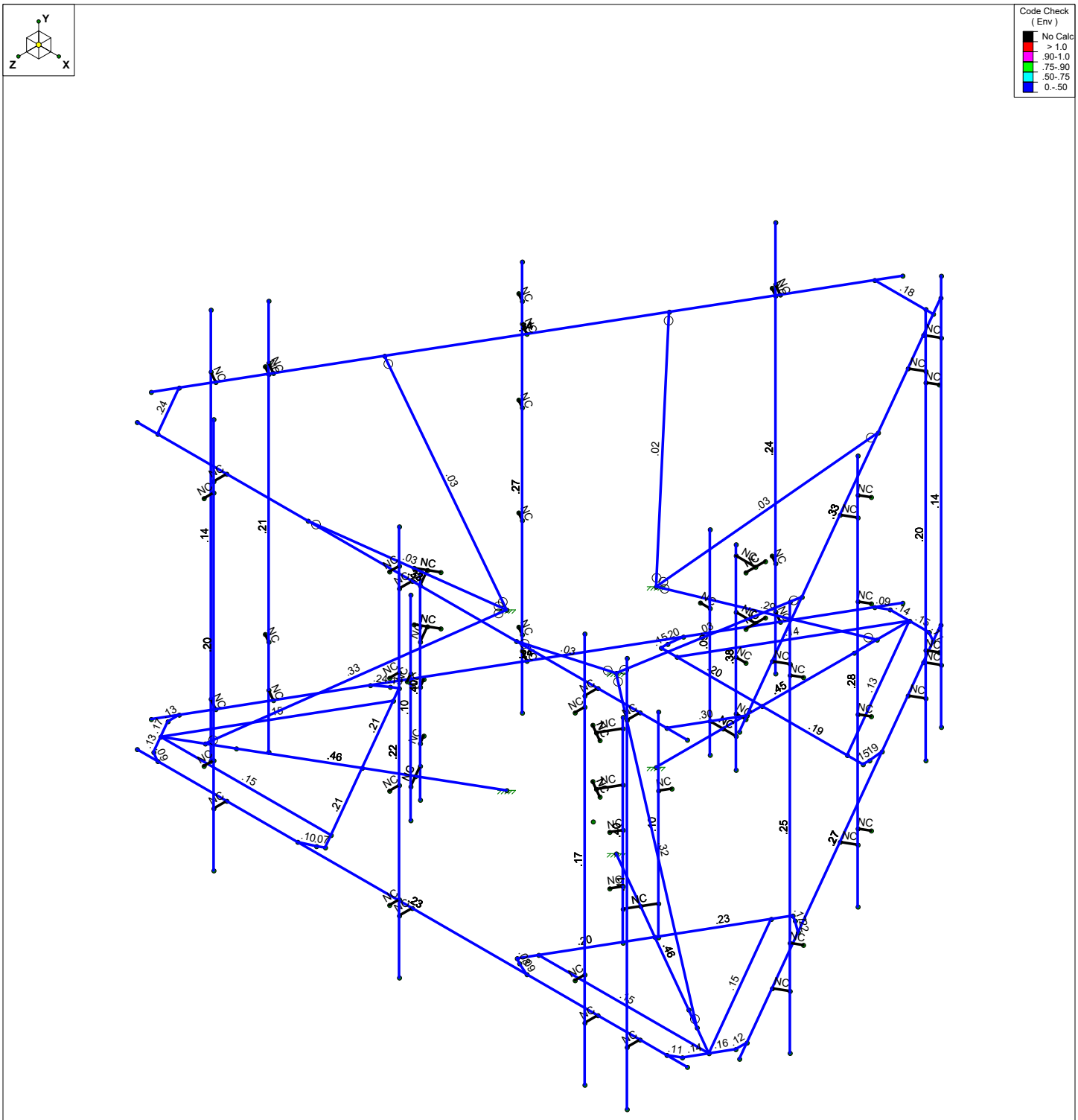
Appurtenance Properties								Loads (force per connection)									
Manufacturer	**Model**	**R/F**	**L**	**W**	**D**	**Weight**	**# Conn**	**Wt**	**Ice Wt**	**F no ice**	**S no ice**	**F ice**	**S ice**	**Fm**	**Sm**	**Eh**	**Ev**	**EPA.F**
CCIAntennas	OPA65R-BU6DA	Flat	71.2	20.7	7.7	79.4	2	39.7	44.5	277	122	54	27	17	8	4	2	13
Ericsson	AIR 6419 B77G	Flat	28.3	16.1	7.9	77	2	38.5	20.3	83	42	17	10	5	3	4	2	4
Ericsson	AIR 6449 B77D	Flat	30.4	15.9	8.1	81.6	2	40.8	21.8	88	47	18	11	5	3	4	2	4
CCIAntennas	TPA65R-BU6DA-K	Flat	71.2	20.7	7.7	69	2	34.5	44.5	277	122	54	27	17	8	4	1	13
Ericsson	RRUS-4449 B5/B12	Flat	15	13.2	9.3	70	2	35.0	14.5	36	25	8	6	2	2	4	2	2
Ericsson	RRUS-8843 B2/B66A	Flat	15	13.2	11.1	75	2	37.5	16.7	36	30	8	7	2	2	4	2	2
Ericsson	RRUS-4478 B14	Flat	16.5	13.4	7.7	44	2	22.0	13.2	40	23	9	6	2	1	2	1	2
Raycap	DC6-48-60-18-8F	Round	17.21	9.7	9.7	32.8	1	32.8	15.4	25	25	6	6	2	2	4	1	1
Raycap	DC6-48-60-0-8F	Round	22.25	9.7	9.7	32.8	1	32.8	15.4	33	33	8	8	2	2	4	1	1

Shape Properties								Loads (force per connection)									
Shape Type	**Shape**	**R/F**	**L**	**W**	**D**	**Wt (plf)**	**# Conn**	**Wt**	**Ice Wt**	**F no ice**	**S no ice**	**F ice**	**S ice**	**Fm**	**Sm**	**Eh**	**Ev**	**EPA.F**
Pipe	Pipe 3 Std.	Round	169	3.5	3.5	7.58	14.0833	106.75	6.6	14	14	4	4	1	1	1	0.3	5
Pipe	Pipe 2½ Std.	Round	169	2.88	2.88	5.80	14.0833	81.68	5.7	13	13	4	4	1	1	1	0.3	4
HSS	HSS4x4x¼	Flat	78	4	4	12.21	6.5	79.37	9.6	26	26	6	6	2	2	1	1	4
HSS	HSS4x4x¼	Flat	31	4	4	12.21	2.58333	31.54	9.6	21	21	6	6	1	1	1	1	1
Angle	L2x2x¼	Flat	52	2	2	3.19	4.33333	13.82	5.6	15	15	4	4	1	1	0.3	0.1	1
Pipe	Pipe 2½ Std.	Round	62	2.88	2.88	5.80	5.16667	29.97	5.7	12	12	3	3	1	1	1	0.3	1
Plate	PL3/8"x6"	Flat	18	6	0.375	7.66	1.5	11.48	10.1	27	3	7	3	2	0.2	1	0.3	1
Plate	PL½"x6"	Flat	12	6	0.5	10.21	1	10.21	10.2	26	4	7	3	2	0.2	1	0.4	1
Solid_Rod	5/16" Dia. Cable	Round	84	0.3125	0.3125	0.15	7	1.05	2.1	1	1	2	2	0.1	0.1	0.02	0.01	0.2
Pipe	Pipe 2½ Std.	Round	120	2.88	2.88	5.80	10	58.00	5.7	13	13	4	4	1	1	1	0.3	3
Pipe	Pipe 2 Std.	Round	60	2.38	2.38	3.66	5	18.30	5.0	10	10	3	3	1	1	0.4	0.2	1



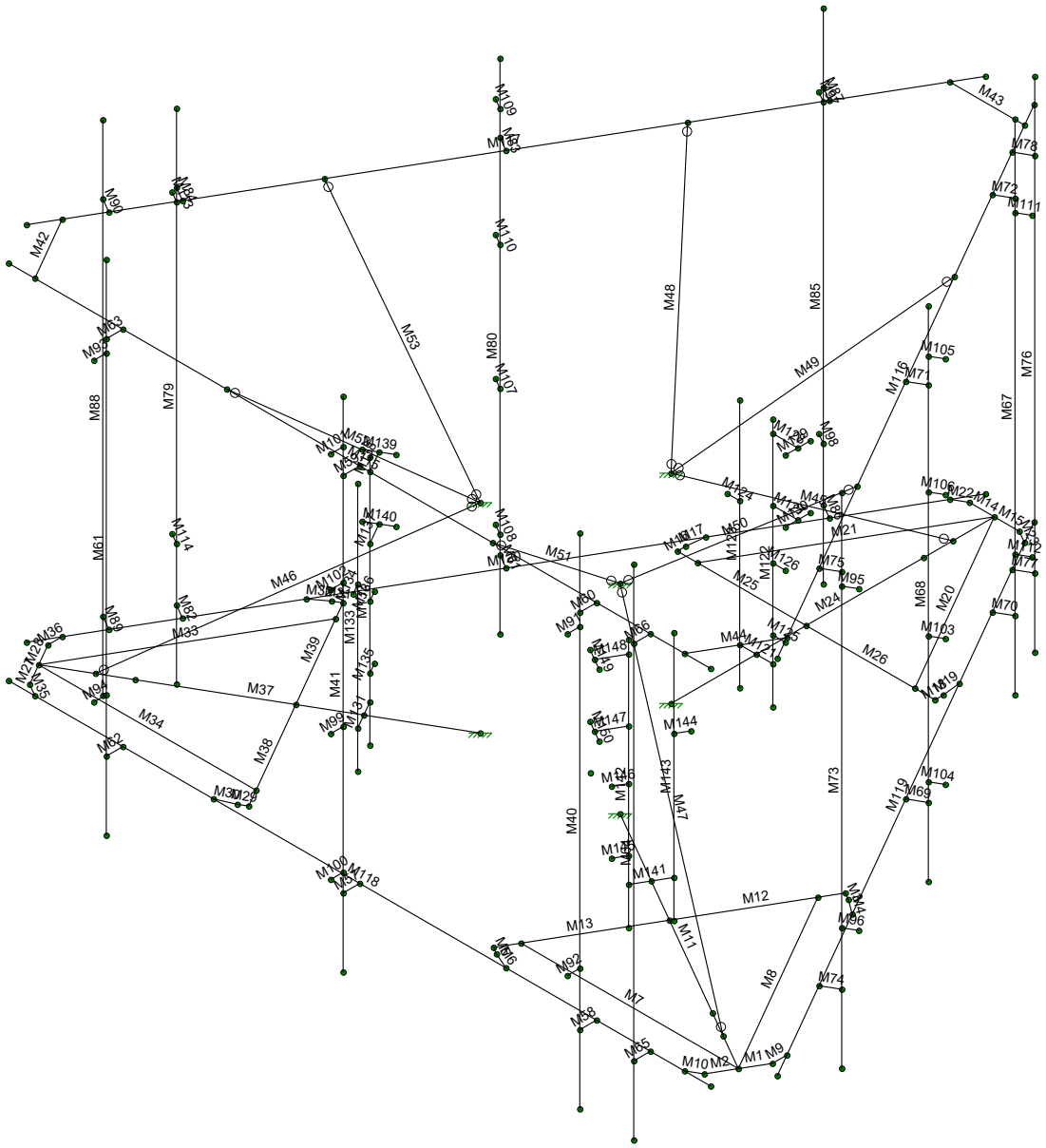
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 1
GO	Mount Analysis	June 24, 2022 at 8:00 AM
CTL02270	3D Render	CTL02270-Mount Analysis.r3d



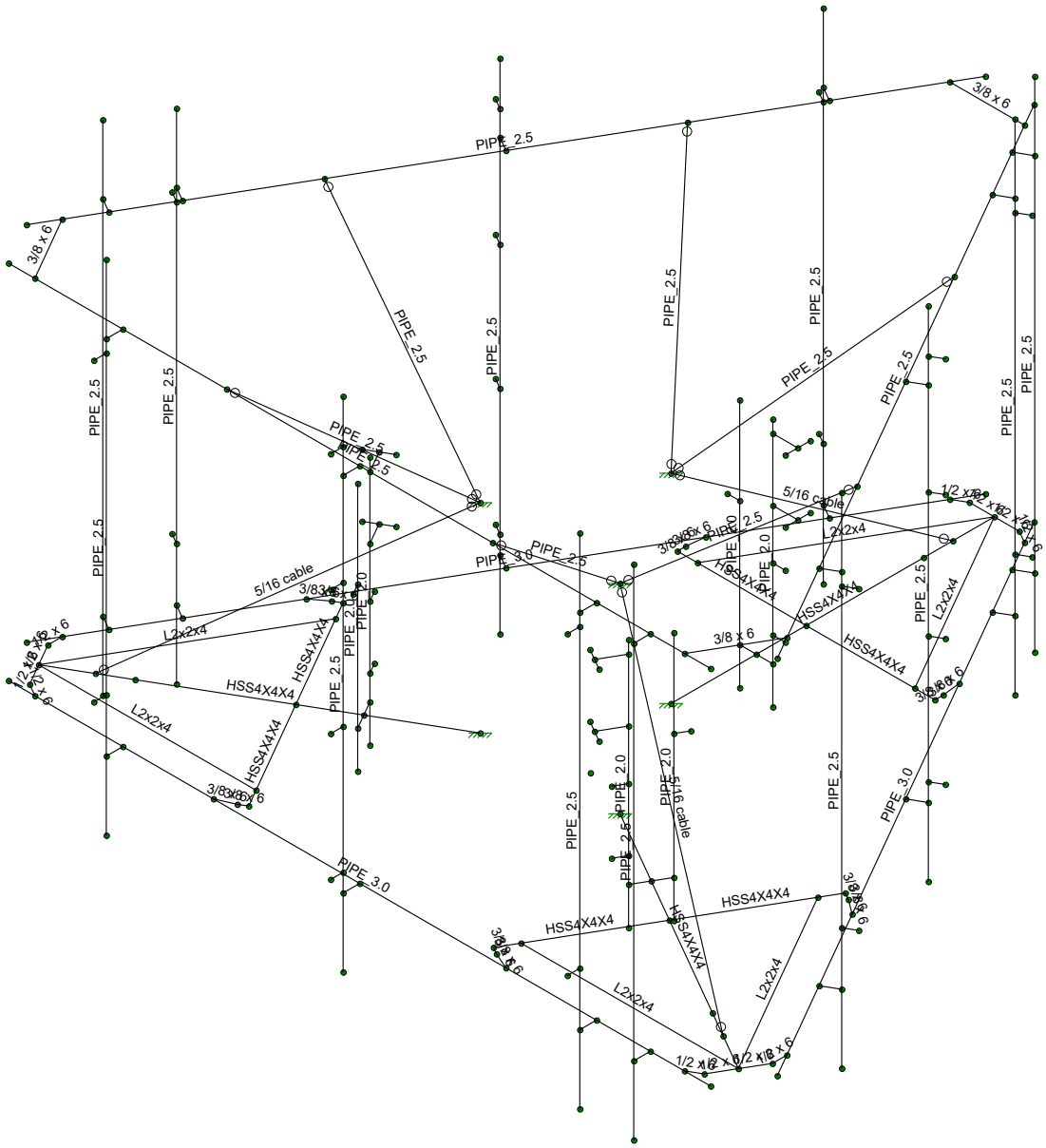
Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 2
GO	Mount Analysis	June 24, 2022 at 8:01 AM
CTL02270	Unity Graphic	CTL02270-Mount Analysis.r3d



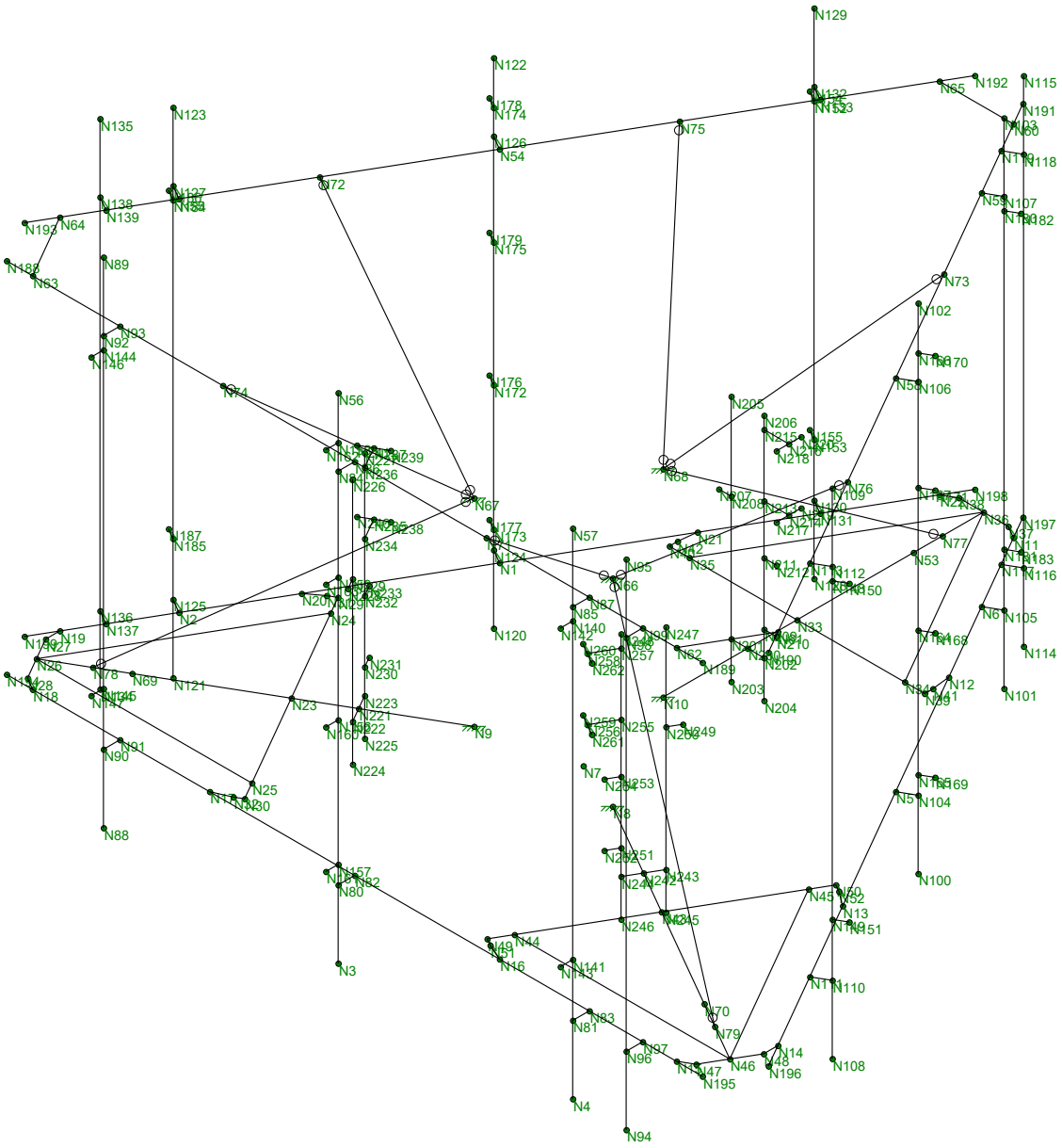
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 3
GO	Mount Analysis	June 24, 2022 at 8:01 AM
CTL02270	Member Label	CTL02270-Mount Analysis.r3d



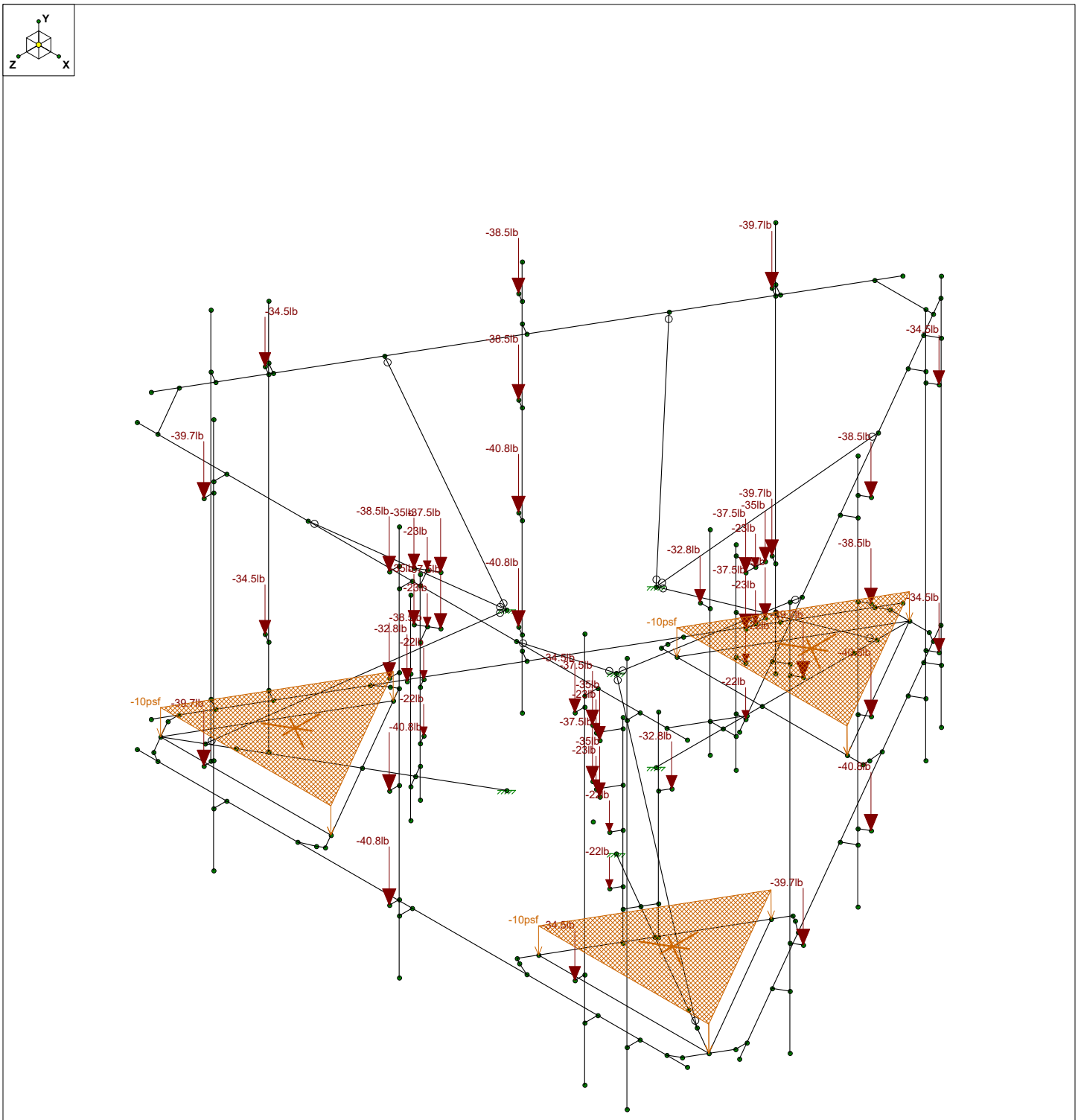
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 4
GO	Mount Analysis	June 24, 2022 at 8:01 AM
CTL02270	Shape	CTL02270-Mount Analysis.r3d



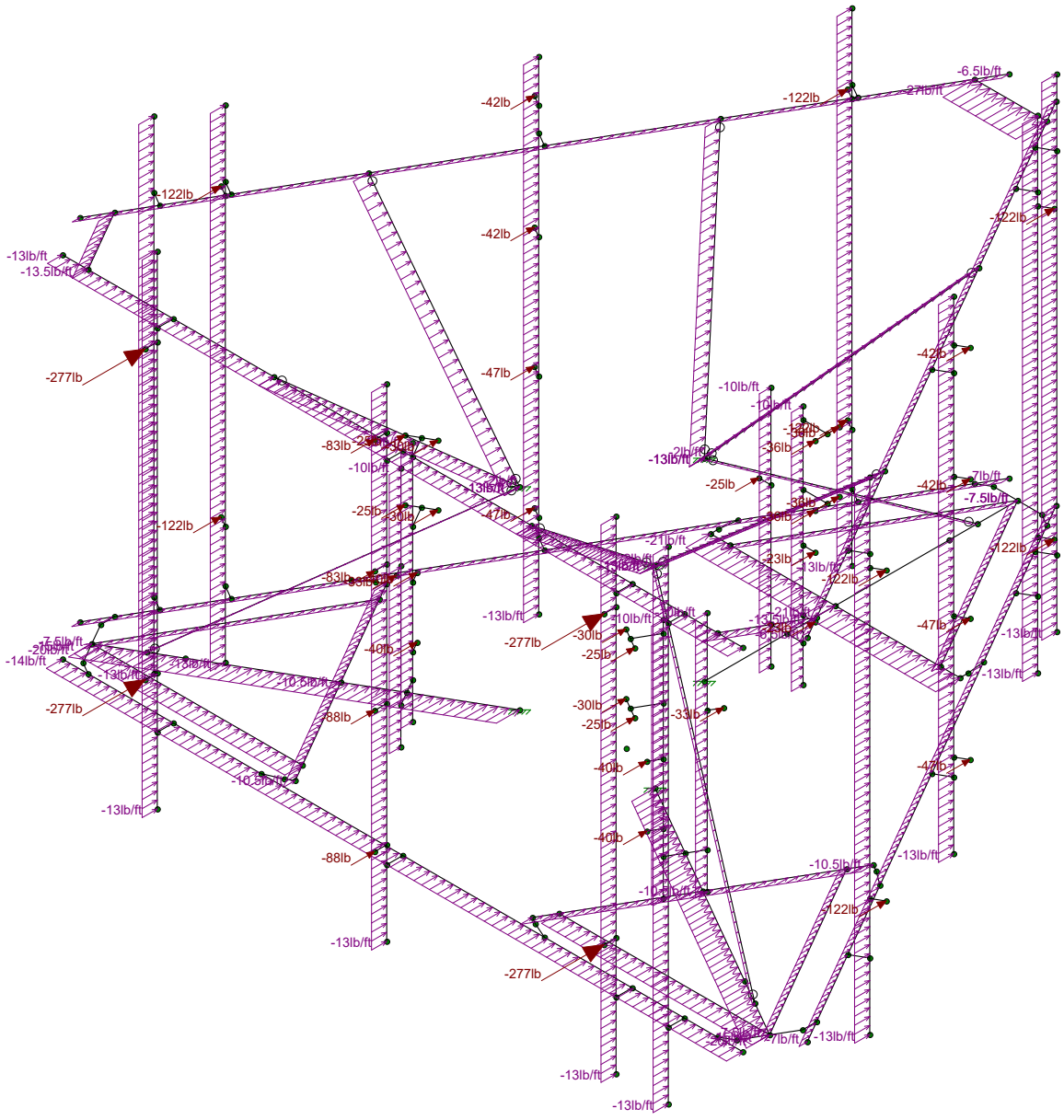
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 5
GO	Mount Analysis	June 24, 2022 at 8:02 AM
CTL02270	Nodes	CTL02270-Mount Analysis.r3d



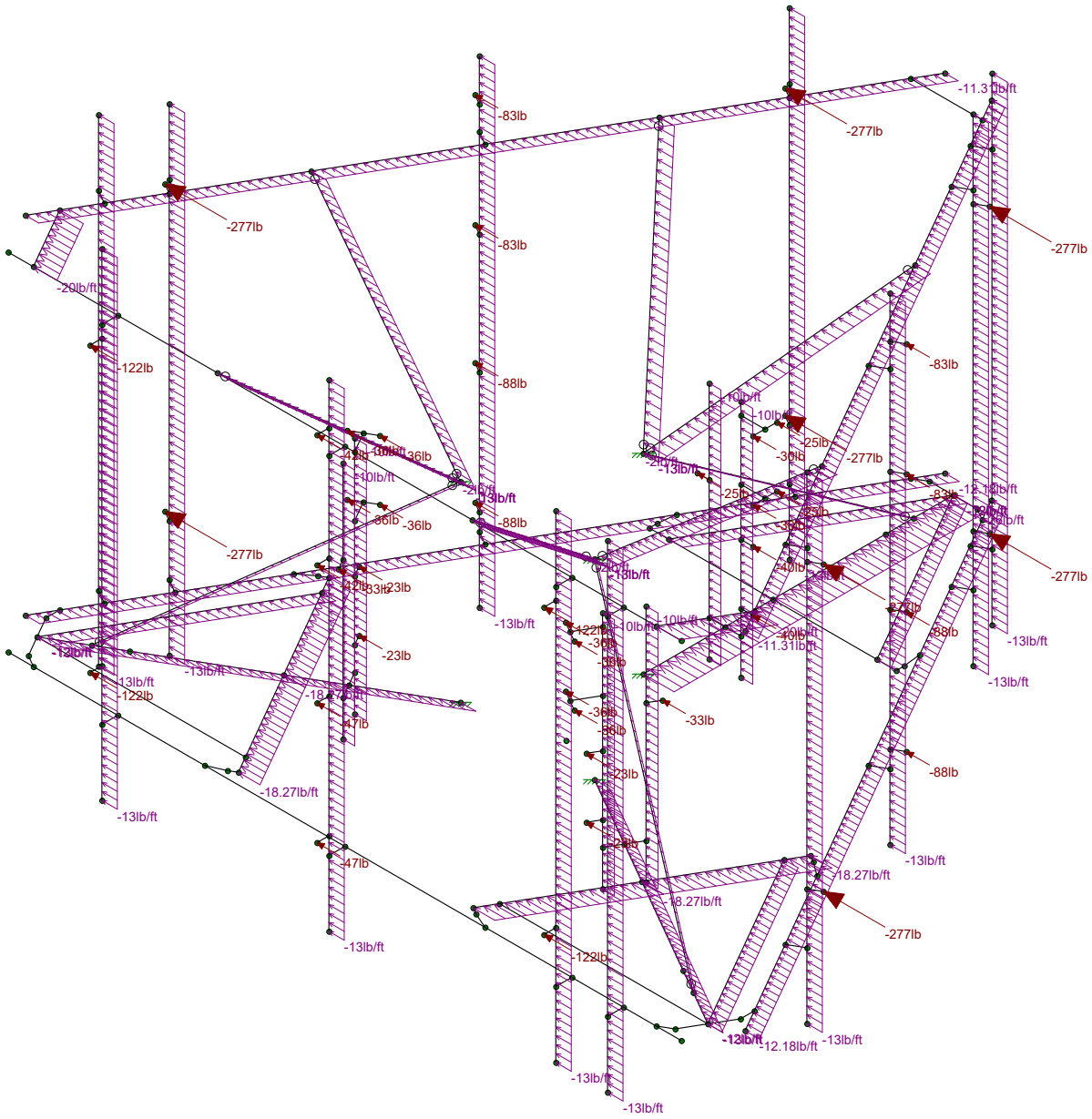
Loads: BLC 1, DL
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 6
GO	Mount Analysis	June 24, 2022 at 8:02 AM
CTL02270	Dead Load	CTL02270-Mount Analysis.r3d



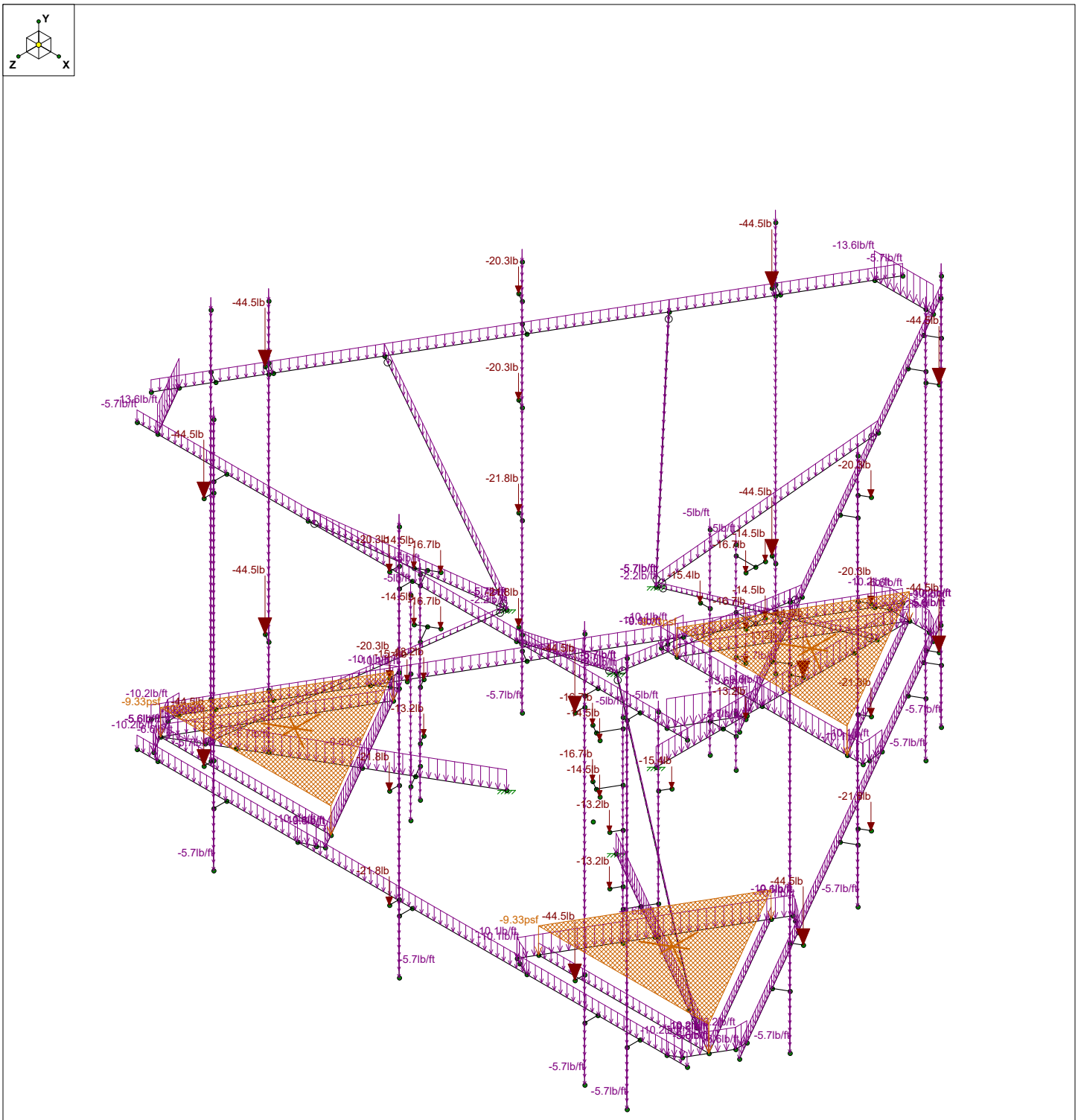
Loads: BLC 3, WL(0)
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 7
GO	Mount Analysis	June 24, 2022 at 8:03 AM
CTL02270	Wind Load (Z-Direction)	CTL02270-Mount Analysis.r3d



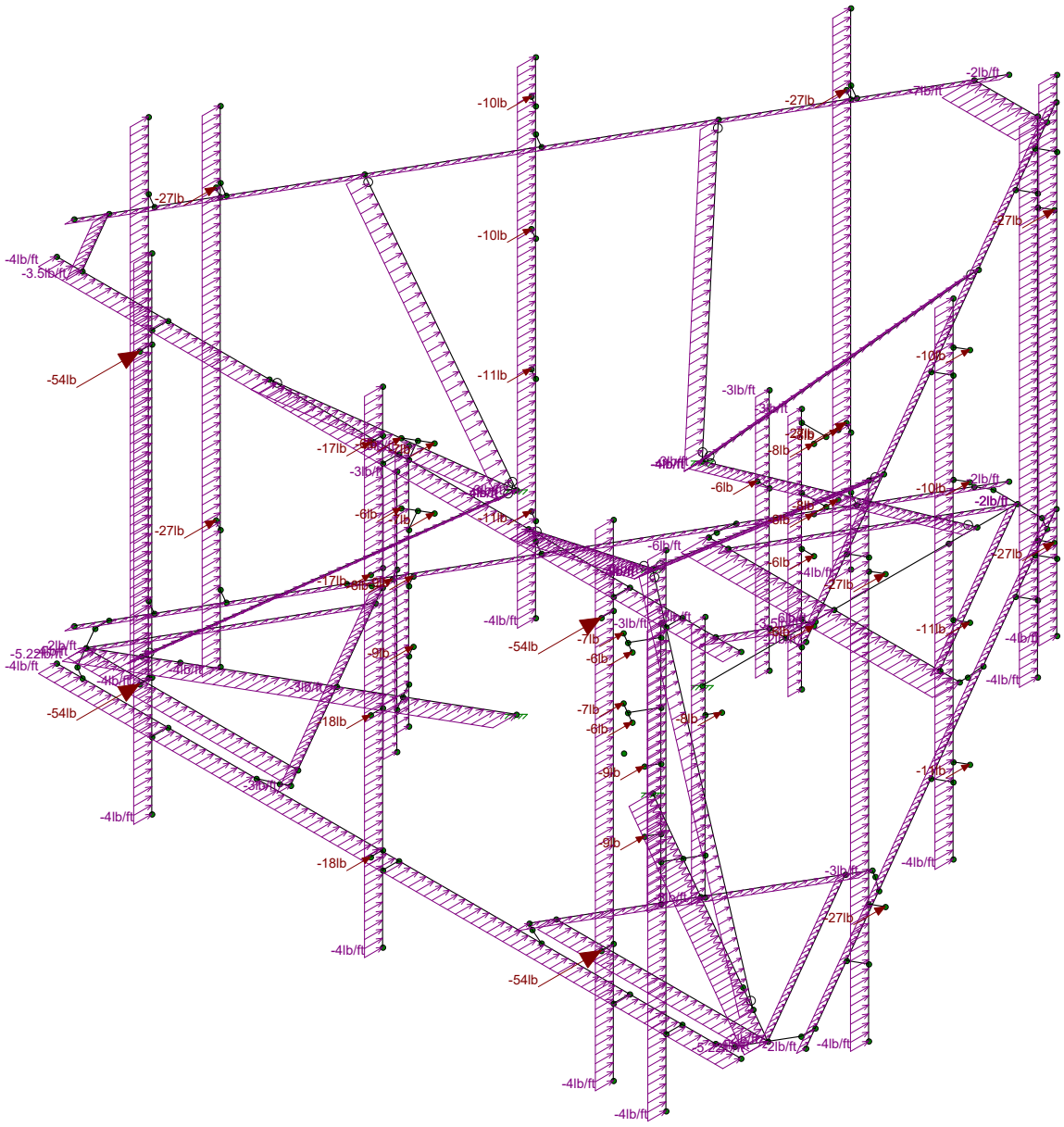
Loads: BLC 4, WL(90)
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 8
GO	Mount Analysis	June 24, 2022 at 8:03 AM
CTL02270	Wind Load (X-Direction)	CTL02270-Mount Analysis.r3d



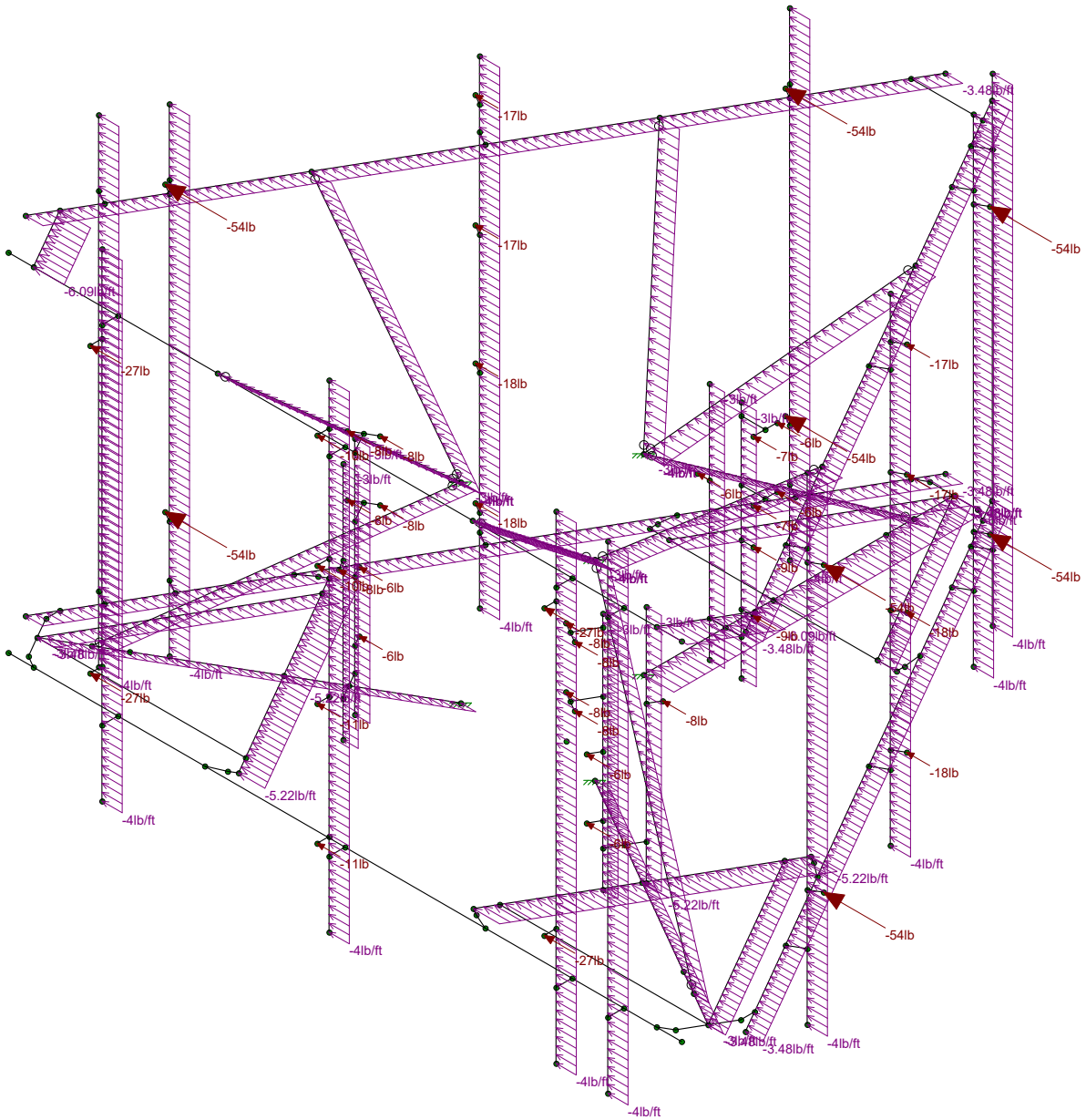
Loads: BLC 2, DLi
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 9
GO	Mount Analysis	June 24, 2022 at 8:04 AM
CTL02270	Ice Load	CTL02270-Mount Analysis.r3d



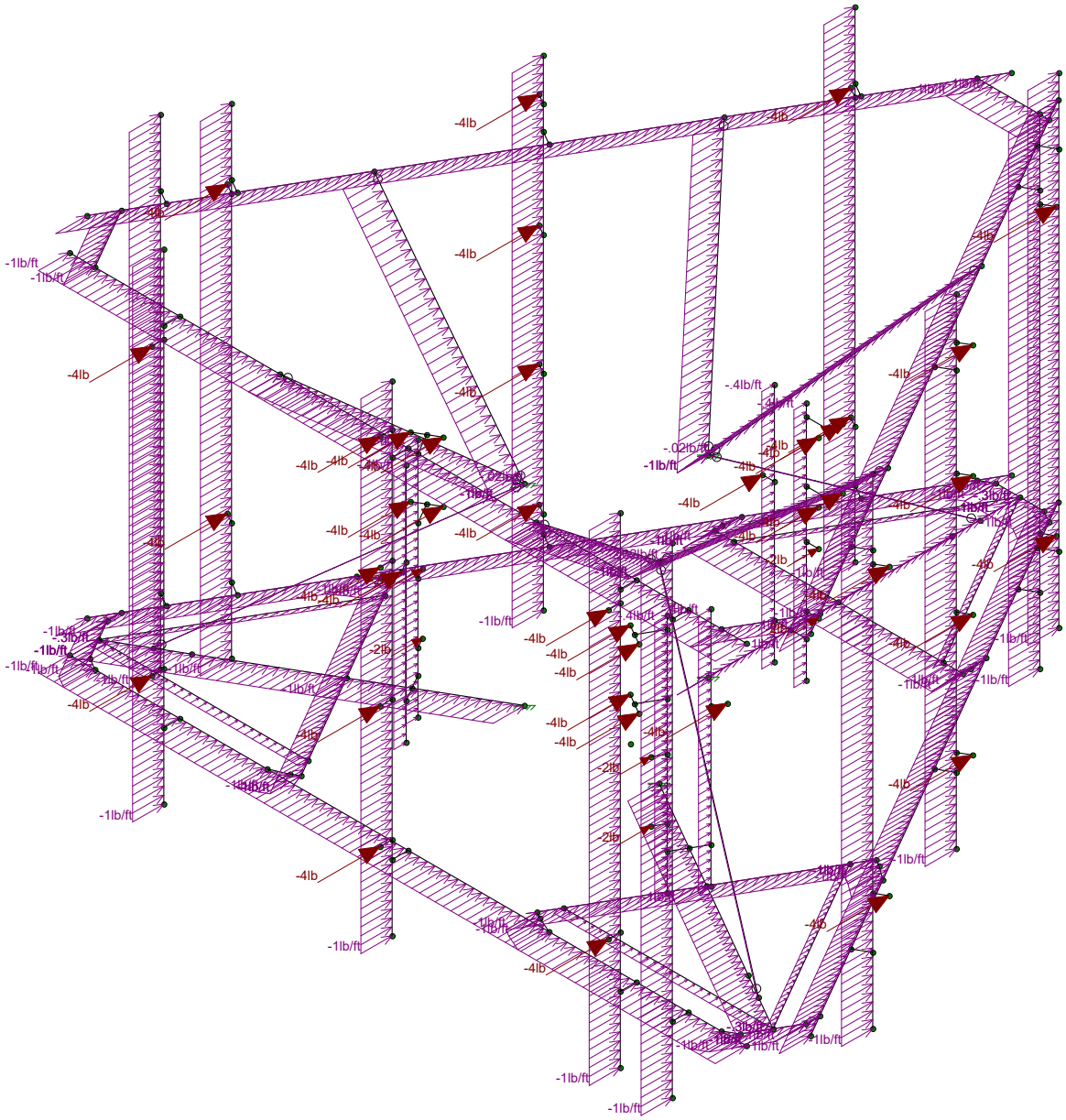
Loads: BLC 5, WL.i(0)
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 10
GO	Mount Analysis	June 24, 2022 at 8:04 AM
CTL02270	Wind Load with Ice (Z-Direction)	CTL02270-Mount Analysis.r3d



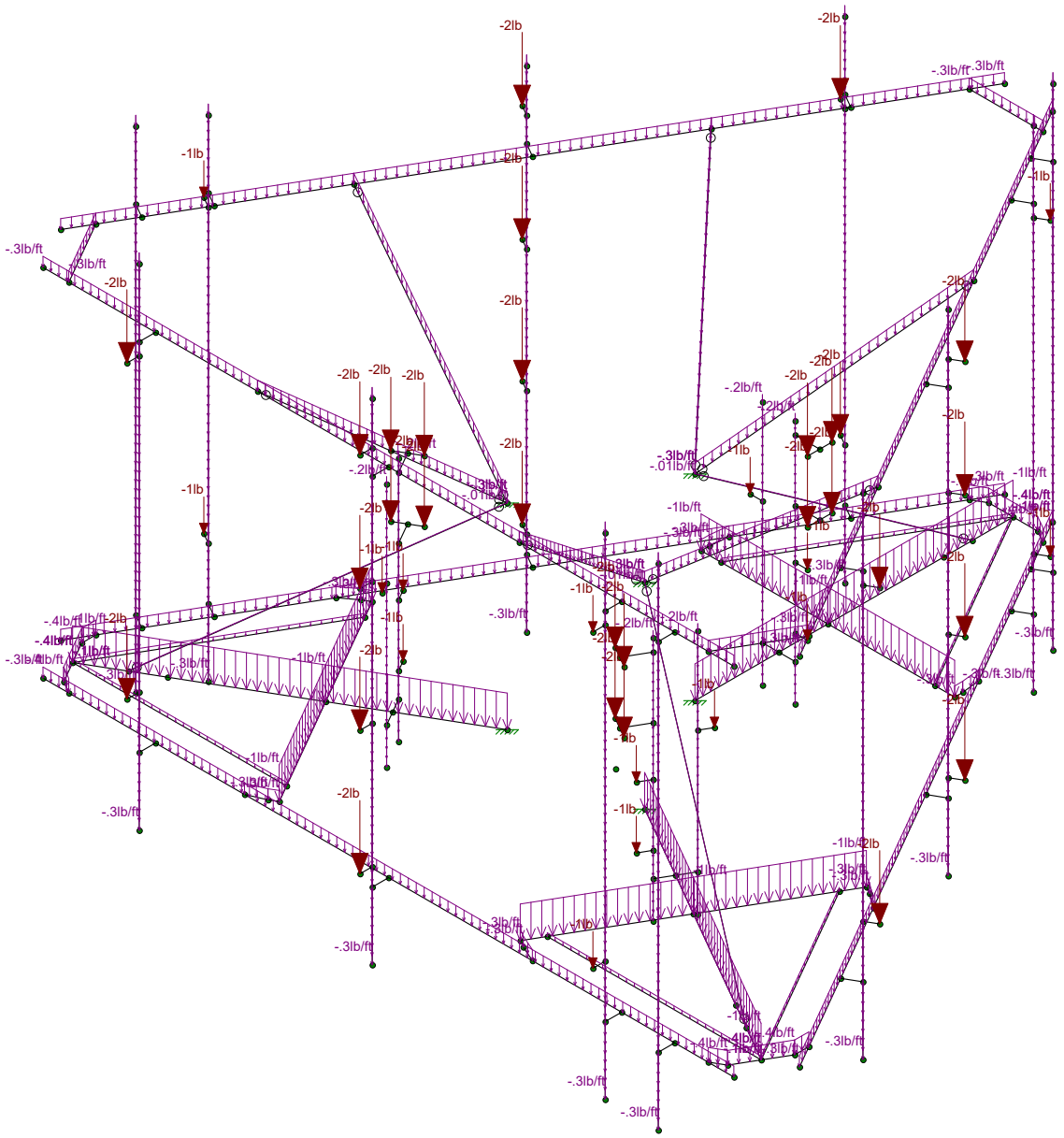
Loads: BLC 6, WL.i(90)
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 11
GO	Mount Analysis	June 24, 2022 at 8:04 AM
CTL02270	Wind Load with Ice (X-Direction)	CTL02270-Mount Analysis.r3d



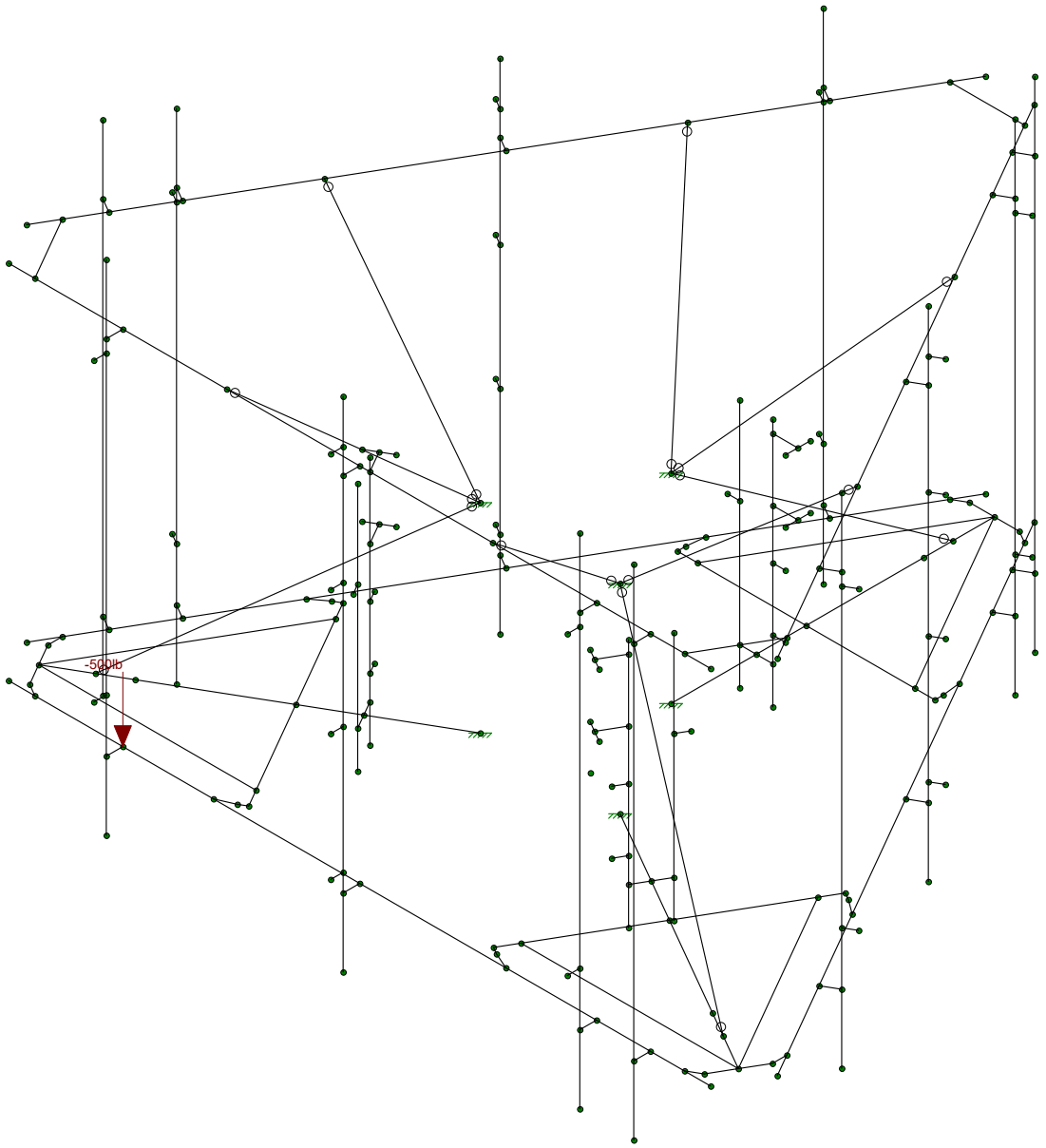
Loads: BLC 8, EH(0)
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 12
GO	Mount Analysis	June 24, 2022 at 8:05 AM
CTL02270	Horizontal Seismic Load	CTL02270-Mount Analysis.r3d



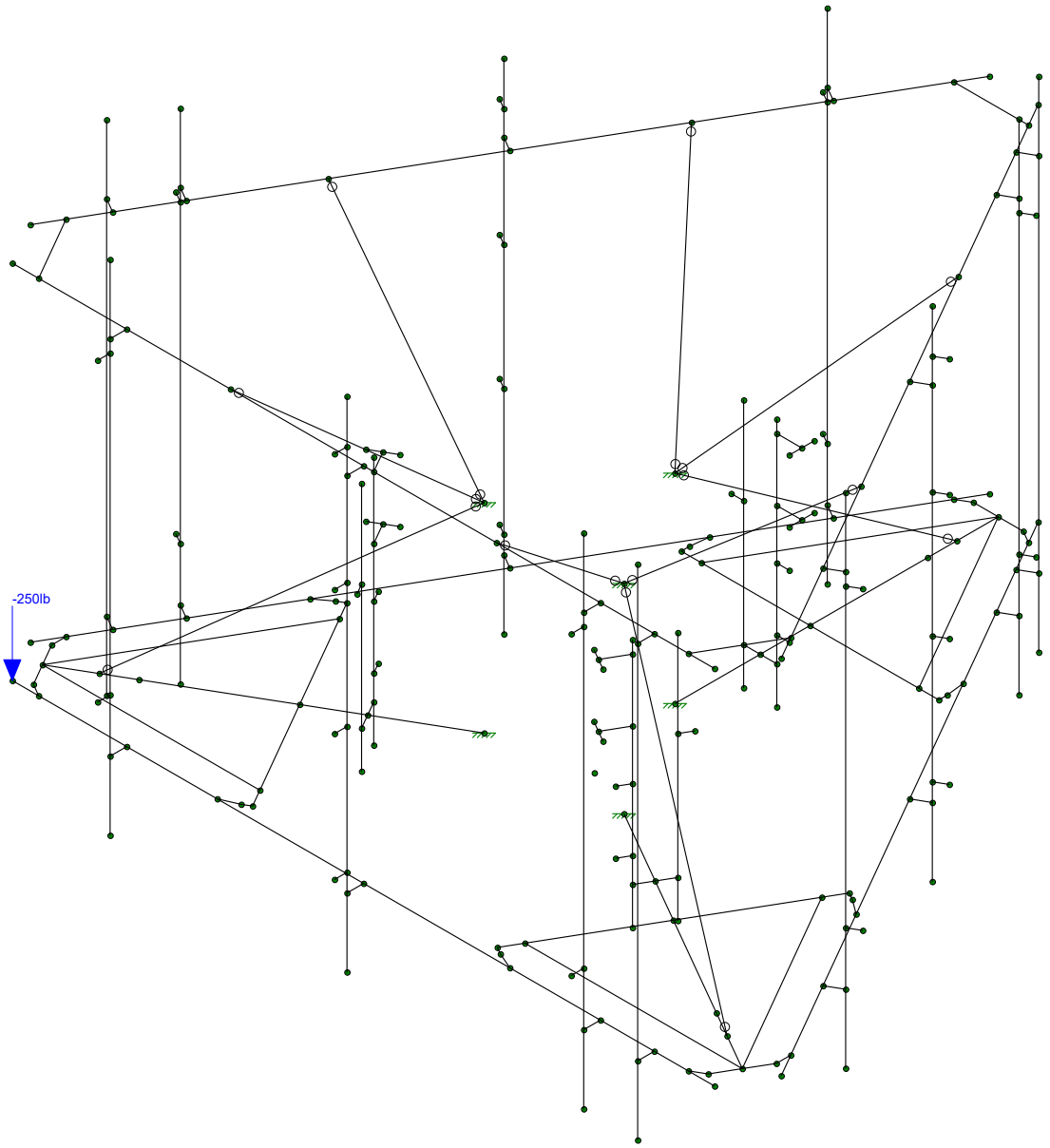
Loads: BLC 10, EV
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 13
GO	Mount Analysis	June 24, 2022 at 8:06 AM
CTL02270	Vertical Seismic Load	CTL02270-Mount Analysis.r3d



Loads: BLC 16, LM4
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 14
GO	Mount Analysis	June 24, 2022 at 8:06 AM
CTL02270	500lb Live Load	CTL02270-Mount Analysis.r3d



Loads: BLC 25, LV1
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 15
GO	Mount Analysis	June 24, 2022 at 8:07 AM
CTL02270	250lb Live Load	CTL02270-Mount Analysis.r3d

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	No
Max Iterations for Wall Stiffness	3
Gravity Acceleration (in/sec^2)	386.4
Wall Mesh Size (in)	12
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Standard Skyline
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 15th(360-16): LRFD
Adjust Stiffness?	No
RISAConnection Code	AISC 15th(360-16): LRFD
Cold Formed Steel Code	None
Wood Code	None
Wood Temperature	< 100F
Concrete Code	None
Masonry Code	None
Aluminum Code	None - Building
Stainless Steel Code	None

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	PCA Load Contour
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	No
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8

(Global) Model Settings, Continued

Seismic Code	ASCE 7-16
Seismic Base Elevation (in)	Not Entered
Add Base Weight?	No
Ct X	.035
Ct Z	.035
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	8.5
R Z	8.5
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	Not Entered
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	1
Cd X	1
Rho Z	1
Rho X	1

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp to...	Lcomp b...	L-torque[i...	Kyy	Kzz	Cb	Func...
1	M1	1/2 x 6	6			Lbyy			.65	.65		Lateral
2	M2	1/2 x 6	6			Lbyy			.65	.65		Lateral
3	M3	3/8 x 6	2			Lbyy			.65	.65		Lateral
4	M4	3/8 x 6	4.366			Lbyy			.65	.65		Lateral
5	M5	3/8 x 6	2			Lbyy			.65	.65		Lateral
6	M6	3/8 x 6	4.366			Lbyy			.65	.65		Lateral
7	M7	L2x2x4	52.309			Lbyy			.65	.65		Lateral
8	M8	L2x2x4	52.309			Lbyy			.65	.65		Lateral
9	M9	1/2 x 6	3.473			Lbyy			.65	.65		Lateral
10	M10	1/2 x 6	3.473			Lbyy			.65	.65		Lateral
11	M11	HSS4X4X4	77.782			Lbyy			.65	.65		Lateral
12	M12	HSS4X4X4	31			Lbyy			.65	.65		Lateral
13	M13	HSS4X4X4	31			Lbyy			.65	.65		Lateral
14	M14	1/2 x 6	5.996			Lbyy			.65	.65		Lateral
15	M15	1/2 x 6	6.004			Lbyy			.65	.65		Lateral
16	M16	3/8 x 6	2			Lbyy			.65	.65		Lateral
17	M17	3/8 x 6	4.366			Lbyy			.65	.65		Lateral
18	M18	3/8 x 6	2			Lbyy			.65	.65		Lateral
19	M19	3/8 x 6	4.366			Lbyy			.65	.65		Lateral
20	M20	L2x2x4	52.311			Lbyy			.65	.65		Lateral
21	M21	L2x2x4	52.307			Lbyy			.65	.65		Lateral
22	M22	1/2 x 6	3.473			Lbyy			.65	.65		Lateral
23	M23	1/2 x 6	3.473			Lbyy			.65	.65		Lateral
24	M24	HSS4X4X4	77.814			Lbyy			.65	.65		Lateral
25	M25	HSS4X4X4	30.996			Lbyy			.65	.65		Lateral
26	M26	HSS4X4X4	31.004			Lbyy			.65	.65		Lateral
27	M27	1/2 x 6	5.989			Lbyy			.65	.65		Lateral
28	M28	1/2 x 6	6.011			Lbyy			.65	.65		Lateral
29	M29	3/8 x 6	2			Lbyy			.65	.65		Lateral
30	M30	3/8 x 6	4.366			Lbyy			.65	.65		Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp to...	Lcomp b...	L-torque[i...	Kyy	Kzz	Cb	Func...
31	M31	3/8 x 6	2			Lbyy			.65	.65		Lateral
32	M32	3/8 x 6	4.366			Lbyy			.65	.65		Lateral
33	M33	L2x2x4	52.315			Lbyy			.65	.65		Lateral
34	M34	L2x2x4	52.304			Lbyy			.65	.65		Lateral
35	M35	1/2 x 6	3.473			Lbyy			.65	.65		Lateral
36	M36	1/2 x 6	3.473			Lbyy			.65	.65		Lateral
37	M37	HSS4X4X4	77.814			Lbyy			.65	.65		Lateral
38	M38	HSS4X4X4	30.989			Lbyy			.65	.65		Lateral
39	M39	HSS4X4X4	31.011			Lbyy			.65	.65		Lateral
40	M40	PIPE_2.5	120	87	87	87	87	87	2.1	2.1		Lateral
41	M41	PIPE_2.5	120	87	87	87	87	87	2.1	2.1		Lateral
42	M42	3/8 x 6	18.031			Lbyy			.65	.65		Lateral
43	M43	3/8 x 6	18.031			Lbyy			.65	.65		Lateral
44	M44	3/8 x 6	18.031			Lbyy			.65	.65		Lateral
45	M45	5/16 cable	83.082			Lbyy			1	1		Lateral
46	M46	5/16 cable	83.083			Lbyy			1	1		Lateral
47	M47	5/16 cable	83.056			Lbyy			1	1		Lateral
48	M48	PIPE_2.5	62.079			Lbyy			1	1		Lateral
49	M49	PIPE_2.5	62.084			Lbyy			1	1		Lateral
50	M50	PIPE_2.5	62.061			Lbyy			1	1		Lateral
51	M51	PIPE_2.5	62.061			Lbyy			1	1		Lateral
52	M52	PIPE_2.5	62.076			Lbyy			1	1		Lateral
53	M53	PIPE_2.5	62.087			Lbyy			1	1		Lateral
54	M54	PIPE_2.0	64.234			Lbyy			1	1		Lateral
55	M55	PIPE_2.0	64.24			Lbyy			1	1		Lateral
56	M56	PIPE_2.0	64.234			Lbyy			1	1		Lateral
57	M61	PIPE_2.5	120	87	87	87	87	87	2.1	2.1		Lateral
58	M64	PIPE_2.5	120	87	87	87	87	87	2.1	2.1		Lateral
59	M67	PIPE_2.5	120	87	87	87	87	87	2.1	2.1		Lateral
60	M68	PIPE_2.5	120	87	87	87	87	87	2.1	2.1		Lateral
61	M73	PIPE_2.5	120	87	87	87	87	87	2.1	2.1		Lateral
62	M76	PIPE_2.5	120	87	87	87	87	87	2.1	2.1		Lateral
63	M79	PIPE_2.5	120	87	87	87	87	87	2.1	2.1		Lateral
64	M80	PIPE_2.5	120	87	87	87	87	87	2.1	2.1		Lateral
65	M85	PIPE_2.5	120	87	87	87	87	87	2.1	2.1		Lateral
66	M88	PIPE_2.5	120	87	87	87	87	87	2.1	2.1		Lateral
67	M115	PIPE_2.5	169			Lbyy			2.1	2.1		Lateral
68	M116	PIPE_2.5	169			Lbyy			2.1	2.1		Lateral
69	M117	PIPE_2.5	169			Lbyy			2.1	2.1		Lateral
70	M118	PIPE_3.0	169			Lbyy			2.1	2.1		Lateral
71	M119	PIPE_3.0	169			Lbyy			2.1	2.1		Lateral
72	M120	PIPE_3.0	169			Lbyy			2.1	2.1		Lateral
73	M122	PIPE_2.0	60			Lbyy			2.1	2.1		Lateral
74	M123	PIPE_2.0	60			Lbyy			2.1	2.1		Lateral
75	M132	PIPE_2.0	60			Lbyy			2.1	2.1		Lateral
76	M133	PIPE_2.0	60			Lbyy			2.1	2.1		Lateral
77	M142	PIPE_2.0	60			Lbyy			2.1	2.1		Lateral
78	M143	PIPE_2.0	60			Lbyy			2.1	2.1		Lateral

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	General				
2	RIGID		72	290.9	0
3	Total General		72	290.9	0
4					

Material Takeoff (Continued)

	Material	Size	Pieces	Length[in]	Weight[K]
5	Hot Rolled Steel				
6	A53 Gr.B	PIPE_2.0	6	360	.104
7	Cable	5/16 cable	3	249.2	0
8	Q235	1/2 x 6	12	56.8	.048
9	Q235	3/8 x 6	15	92.3	.059
10	Q235	HSS4X4X4	9	419.4	.401
11	Q235	L2x2x4	6	313.9	.084
12	Q235	PIPE_2.0	3	192.7	.056
13	Q235	PIPE_2.5	21	2319.4	1.059
14	Q235	PIPE_3.0	3	507	.298
15	Total HR Steel		78	4510.8	2.108

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribu...	Area(M...	Surface...
1	DL	None		-1		51			3	
2	DLi	None				45		75	3	
3	WL(0)	None				49		50		
4	WL(90)	None				45		44		
5	WL.i(0)	None				45		50		
6	WL.i(90)	None				45		44		
7	T	None								
8	EH(0)	None				45		75		
9	EH(90)	None				45		75		
10	EV	None				45		78		
11	WM(0)	None				45		48		
12	WM(90)	None				45		42		
13	LM1	None				1				
14	LM2	None				1				
15	LM3	None				1				
16	LM4	None				1				
17	LM5	None				1				
18	LM6	None				1				
19	LM7	None				1				
20	LM8	None				1				
21	LM9	None				1				
22	LM10	None				1				
23	LM11	None				1				
24	LM12	None				1				
25	LV1	None					1			
26	LV2	None					1			
27	LV3	None					1			
28	LV4	None					1			
29	LV5	None					1			
30	LV6	None					1			
34	BLC 1 Transient Area Loads	None						21		
35	BLC 2 Transient Area Loads	None						21		

Load Combinations

	Description	S...	PD...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4*DL	Y...	Y		1	1.4																		
2	1.2*DL + 1.0* WL(0)	Y...	Y		1	1.2	3	1																
3	1.2*DL + 1.0* WL(30)	Y...	Y		1	1.2	3	.869	4	.5														
4	1.2*DL + 1.0* WL(60)	Y...	Y		1	1.2	3	.5	4	.869														
5	1.2*DL + 1.0*WL(90)	Y...	Y		1	1.2	4	1																

Load Combinations (Continued)

	Description	S...	PD...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
6	1.2*DL + 1.0*WL(120)	Y...	Y		1	1.2	3	-.5	4	.869														
7	1.2*DL +1.0*WL(150)	Y...	Y		1	1.2	3	-.8...	4	.5														
8	1.2*DL + 1.0 * WL(180)	Y...	Y		1	1.2	3	-1																
9	1.2*DL + 1.0* WL(210)	Y...	Y		1	1.2	3	-.8...	4	-.5														
10	1.2*DL + 1.0* WL(240)	Y...	Y		1	1.2	3	-.5	4	-.8...														
11	1.2*DL + 1.0*WL(270)	Y...	Y		1	1.2	4	-1																
12	1.2*DL + 1.0*WL(300)	Y...	Y		1	1.2	3	.5	4	-.8...														
13	1.2*DL +1.0*WL(330)	Y...	Y		1	1.2	3	.869	4	-.5														
14	1.2*DL+1.0*DLi+1.0*WL.i(0)+1.0*T	Y...	Y		1	1.2	2	1	5	1	7	1												
15	1.2*DL+1.0*DLi+1.0*WL.i(30)+1.0*T	Y...	Y		1	1.2	2	1	5	.866	6	.5	7	1										
16	1.2*DL+1.0*DLi+1.0*WL.i(60)+1.0*T	Y...	Y		1	1.2	2	1	5	.5	6	.866	7	1										
17	1.2*DL+1.0*DLi+1.0*WL.i(90)+1.0*T	Y...	Y		1	1.2	2	1	6	1	7	1												
18	1.2*DL+1.0*DLi+1.0*WL.i(120)+1.0*T	Y...	Y		1	1.2	2	1	5	-.5	6	.866	7	1										
19	1.2*DL+1.0*DLi+1.0*WL.i(150)+1.0*T	Y...	Y		1	1.2	2	1	5	-.8...	6	.5	7	1										
20	1.2*DL+1.0*DLi+1.0*WL.i(180)+1.0*T	Y...	Y		1	1.2	2	1	5	-1	7	1												
21	1.2*DL+1.0*DLi+1.0*WL.i(210)+1.0*T	Y...	Y		1	1.2	2	1	5	-.8...	6	-.5	7	1										
22	1.2*DL+1.0*DLi+1.0*WL.i(240)+1.0*T	Y...	Y		1	1.2	2	1	5	-.5	6	-.8...	7	1										
23	1.2*DL+1.0*DLi+1.0*WL.i(270)+1.0*T	Y...	Y		1	1.2	2	1	6	-1	7	1												
24	1.2*DL+1.0*DLi+1.0*WL.i(300)+1.0*T	Y...	Y		1	1.2	2	1	5	.5	6	-.8...	7	1										
25	1.2*DL+1.0*DLi+1.0*WL.i(330)+1.0*T	Y...	Y		1	1.2	2	1	5	.866	6	-.5	7	1										
26	1.2*DL+1.0*EH(0)+1.0*EV(+)	Y...	Y		1	1.2	8	1	10	1														
27	1.2*DL+1.0*EH(0)+1.0*EV(-)	Y...	Y		1	1.2	8	1	10	-1														
28	1.2*DL+1.0*EH(90)+1.0*EV(+)	Y...	Y		1	1.2	9	1	10	1														
29	1.2*DL+1.0*EH(90)+1.0*EV(-)	Y...	Y		1	1.2	9	1	10	-1														
30	1.2*DL+1.0*EH(180)+1.0*EV(+)	Y...	Y		1	1.2	8	-1	10	1														
31	1.2*DL+1.0*EH(180)+1.0*EV(-)	Y...	Y		1	1.2	8	-1	10	-1														
32	1.2*DL+1.0*EH(270)+1.0*EV(+)	Y...	Y		1	1.2	9	-1	10	1														
33	1.2*DL+1.0*EH(270)+1.0*EV(-)	Y...	Y		1	1.2	9	-1	10	-1														
34	0.9*DL+1.0*EH(0)-1.0*EV(+)	Y...	Y		1	.9	8	1	10	-1														
35	0.9*DL+1.0*EH(0)-1.0*EV(-)	Y...	Y		1	.9	8	1	10	1														
36	0.9*DL+1.0*EH(90)-1.0*EV(+)	Y...	Y		1	.9	9	1	10	-1														
37	0.9*DL+1.0*EH(90)-1.0*EV(-)	Y...	Y		1	.9	9	1	10	1														
38	0.9*DL+1.0*EH(180)-1.0*EV(+)	Y...	Y		1	.9	8	-1	10	-1														
39	0.9*DL+1.0*EH(180)-1.0*EV(-)	Y...	Y		1	.9	8	-1	10	1														
40	0.9*DL+1.0*EH(270)-1.0*EV(+)	Y...	Y		1	.9	9	-1	10	-1														
41	0.9*DL+1.0*EH(270)-1.0*EV(-)	Y...	Y		1	.9	9	-1	10	1														
42	1.2*DL+1.5*LM1+1.0*WM(0)	Y...	Y		1	1.2	13	1.5	11	1														
43	1.2*DL+1.5*LM1+1.0*WM(30)	Y...	Y		1	1.2	13	1.5	11	.866	12	.5												
44	1.2*DL+1.5*LM1+1.0*WM(60)	Y...	Y		1	1.2	13	1.5	11	.5	12	.866												
45	1.2*DL+1.5*LM1+1.0*WM(90)	Y...	Y		1	1.2	13	1.5	12	1														
46	1.2*DL+1.5*LM1+1.0*WM(120)	Y...	Y		1	1.2	13	1.5	11	-.5	12	.866												
47	1.2*DL+1.5*LM1+1.0*WM(150)	Y...	Y		1	1.2	13	1.5	11	-.8...	12	.5												
48	1.2*DL+1.5*LM1+1.0*WM(180)	Y...	Y		1	1.2	13	1.5	11	-1														
49	1.2*DL+1.5*LM1+1.0*WM(210)	Y...	Y		1	1.2	13	1.5	11	-.8...	12	-.5												
50	1.2*DL+1.5*LM1+1.0*WM(240)	Y...	Y		1	1.2	13	1.5	11	-.5	12	-.8...												
51	1.2*DL+1.5*LM1+1.0*WM(270)	Y...	Y		1	1.2	13	1.5	12	-1														
52	1.2*DL+1.5*LM1+1.0*WM(300)	Y...	Y		1	1.2	13	1.5	11	.5	12	-.8...												
53	1.2*DL+1.5*LM1+1.0*WM(330)	Y...	Y		1	1.2	13	1.5	11	.866	12	-.5												
54	1.2*DL+1.5*LM2+1.0*WM(0)	Y...	Y		1	1.2	14	1.5	11	1														
55	1.2*DL+1.5*LM2+1.0*WM(30)	Y...	Y		1	1.2	14	1.5	11	.866	12	.5												
56	1.2*DL+1.5*LM2+1.0*WM(60)	Y...	Y		1	1.2	14	1.5	11	.5	12	.866												
57	1.2*DL+1.5*LM2+1.0*WM(90)	Y...	Y		1	1.2	14	1.5	12	1														
58	1.2*DL+1.5*LM2+1.0*WM(120)	Y...	Y		1	1.2	14	1.5	11	-.5	12	.866												
59	1.2*DL+1.5*LM2+1.0*WM(150)	Y...	Y		1	1.2	14	1.5	11	-.8...	12	.5												
60	1.2*DL+1.5*LM2+1.0*WM(180)	Y...	Y		1	1.2	14	1.5	11	-1														
61	1.2*DL+1.5*LM2+1.0*WM(210)	Y...	Y		1	1.2	14	1.5	11	-.8...	12	-.5												
62	1.2*DL+1.5*LM2+1.0*WM(240)	Y...	Y		1	1.2	14	1.5	11	-.5	12	-.8...												

Load Combinations (Continued)

	Description	S...	PD...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
63	1.2*DL+1.5*LM2+1.0*WM(270)	Y...	Y		1	1.2	14	1.5	12	-1														
64	1.2*DL+1.5*LM2+1.0*WM(300)	Y...	Y		1	1.2	14	1.5	11	.5	12	-.8...												
65	1.2*DL+1.5*LM2+1.0*WM(330)	Y...	Y		1	1.2	14	1.5	11	.866	12	-.5												
66	1.2*DL+1.5*LM3+1.0*WM(0)	Y...	Y		1	1.2	15	1.5	11	1														
67	1.2*DL+1.5*LM3+1.0*WM(30)	Y...	Y		1	1.2	15	1.5	11	.866	12	.5												
68	1.2*DL+1.5*LM3+1.0*WM(60)	Y...	Y		1	1.2	15	1.5	11	.5	12	.866												
69	1.2*DL+1.5*LM3+1.0*WM(90)	Y...	Y		1	1.2	15	1.5	12	1														
70	1.2*DL+1.5*LM3+1.0*WM(120)	Y...	Y		1	1.2	15	1.5	11	-.5	12	.866												
71	1.2*DL+1.5*LM3+1.0*WM(150)	Y...	Y		1	1.2	15	1.5	11	-.8...	12	.5												
72	1.2*DL+1.5*LM3+1.0*WM(180)	Y...	Y		1	1.2	15	1.5	11	-1														
73	1.2*DL+1.5*LM3+1.0*WM(210)	Y...	Y		1	1.2	15	1.5	11	-.8...	12	-.5												
74	1.2*DL+1.5*LM3+1.0*WM(240)	Y...	Y		1	1.2	15	1.5	11	-.5	12	-.8...												
75	1.2*DL+1.5*LM3+1.0*WM(270)	Y...	Y		1	1.2	15	1.5	12	-1														
76	1.2*DL+1.5*LM3+1.0*WM(300)	Y...	Y		1	1.2	15	1.5	11	.5	12	-.8...												
77	1.2*DL+1.5*LM3+1.0*WM(330)	Y...	Y		1	1.2	15	1.5	11	.866	12	-.5												
78	1.2*DL+1.5*LM4+1.0*WM(0)	Y...	Y		1	1.2	16	1.5	11	1														
79	1.2*DL+1.5*LM4+1.0*WM(30)	Y...	Y		1	1.2	16	1.5	11	.866	12	.5												
80	1.2*DL+1.5*LM4+1.0*WM(60)	Y...	Y		1	1.2	16	1.5	11	.5	12	.866												
81	1.2*DL+1.5*LM4+1.0*WM(90)	Y...	Y		1	1.2	16	1.5	12	1														
82	1.2*DL+1.5*LM4+1.0*WM(120)	Y...	Y		1	1.2	16	1.5	11	-.5	12	.866												
83	1.2*DL+1.5*LM4+1.0*WM(150)	Y...	Y		1	1.2	16	1.5	11	-.8...	12	.5												
84	1.2*DL+1.5*LM4+1.0*WM(180)	Y...	Y		1	1.2	16	1.5	11	-1														
85	1.2*DL+1.5*LM4+1.0*WM(210)	Y...	Y		1	1.2	16	1.5	11	-.8...	12	-.5												
86	1.2*DL+1.5*LM4+1.0*WM(240)	Y...	Y		1	1.2	16	1.5	11	-.5	12	-.8...												
87	1.2*DL+1.5*LM4+1.0*WM(270)	Y...	Y		1	1.2	16	1.5	12	-1														
88	1.2*DL+1.5*LM4+1.0*WM(300)	Y...	Y		1	1.2	16	1.5	11	.5	12	-.8...												
89	1.2*DL+1.5*LM4+1.0*WM(330)	Y...	Y		1	1.2	16	1.5	11	.866	12	-.5												
90	1.2*DL+1.5*LM5+1.0*WM(0)	Y...	Y		1	1.2	17	1.5	11	1														
91	1.2*DL+1.5*LM5+1.0*WM(30)	Y...	Y		1	1.2	17	1.5	11	.866	12	.5												
92	1.2*DL+1.5*LM5+1.0*WM(60)	Y...	Y		1	1.2	17	1.5	11	.5	12	.866												
93	1.2*DL+1.5*LM5+1.0*WM(90)	Y...	Y		1	1.2	17	1.5	12	1														
94	1.2*DL+1.5*LM5+1.0*WM(120)	Y...	Y		1	1.2	17	1.5	11	-.5	12	.866												
95	1.2*DL+1.5*LM5+1.0*WM(150)	Y...	Y		1	1.2	17	1.5	11	-.8...	12	.5												
96	1.2*DL+1.5*LM5+1.0*WM(180)	Y...	Y		1	1.2	17	1.5	11	-1														
97	1.2*DL+1.5*LM5+1.0*WM(210)	Y...	Y		1	1.2	17	1.5	11	-.8...	12	-.5												
98	1.2*DL+1.5*LM5+1.0*WM(240)	Y...	Y		1	1.2	17	1.5	11	-.5	12	-.8...												
99	1.2*DL+1.5*LM5+1.0*WM(270)	Y...	Y		1	1.2	17	1.5	12	-1														
100	1.2*DL+1.5*LM5+1.0*WM(300)	Y...	Y		1	1.2	17	1.5	11	.5	12	-.8...												
101	1.2*DL+1.5*LM5+1.0*WM(330)	Y...	Y		1	1.2	17	1.5	11	.866	12	-.5												
102	1.2*DL+1.5*LM6+1.0*WM(0)	Y...	Y		1	1.2	18	1.5	11	1														
103	1.2*DL+1.5*LM6+1.0*WM(30)	Y...	Y		1	1.2	18	1.5	11	.866	12	.5												
104	1.2*DL+1.5*LM6+1.0*WM(60)	Y...	Y		1	1.2	18	1.5	11	.5	12	.866												
105	1.2*DL+1.5*LM6+1.0*WM(90)	Y...	Y		1	1.2	18	1.5	12	1														
106	1.2*DL+1.5*LM6+1.0*WM(120)	Y...	Y		1	1.2	18	1.5	11	-.5	12	.866												
107	1.2*DL+1.5*LM6+1.0*WM(150)	Y...	Y		1	1.2	18	1.5	11	-.8...	12	.5												
108	1.2*DL+1.5*LM6+1.0*WM(180)	Y...	Y		1	1.2	18	1.5	11	-1														
109	1.2*DL+1.5*LM6+1.0*WM(210)	Y...	Y		1	1.2	18	1.5	11	-.8...	12	-.5												
110	1.2*DL+1.5*LM6+1.0*WM(240)	Y...	Y		1	1.2	18	1.5	11	-.5	12	-.8...												
111	1.2*DL+1.5*LM6+1.0*WM(270)	Y...	Y		1	1.2	18	1.5	12	-1														
112	1.2*DL+1.5*LM6+1.0*WM(300)	Y...	Y		1	1.2	18	1.5	11	.5	12	-.8...												
113	1.2*DL+1.5*LM6+1.0*WM(330)	Y...	Y		1	1.2	18	1.5	11	.866	12	-.5												
114	1.2*DL+1.5*LM7+1.0*WM(0)	Y...	Y		1	1.2	19	1.5	11	1														
115	1.2*DL+1.5*LM7+1.0*WM(30)	Y...	Y		1	1.2	19	1.5	11	.866	12	.5												
116	1.2*DL+1.5*LM7+1.0*WM(60)	Y...	Y		1	1.2	19	1.5	11	.5	12	.866												
117	1.2*DL+1.5*LM7+1.0*WM(90)	Y...	Y		1	1.2	19	1.5	12	1														
118	1.2*DL+1.5*LM7+1.0*WM(120)	Y...	Y		1	1.2	19	1.5	11	-.5	12	.866												
119	1.2*DL+1.5*LM7+1.0*WM(150)	Y...	Y		1	1.2	19	1.5	11	-.8...	12	.5												

Load Combinations (Continued)

	Description	S...	PD...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
120	1.2*DL+1.5*LM7+1.0*WM(180)	Y...	Y		1	1.2	19	1.5	11	-1														
121	1.2*DL+1.5*LM7+1.0*WM(210)	Y...	Y		1	1.2	19	1.5	11	-.8...	12	-.5												
122	1.2*DL+1.5*LM7+1.0*WM(240)	Y...	Y		1	1.2	19	1.5	11	-.5	12	-.8...												
123	1.2*DL+1.5*LM7+1.0*WM(270)	Y...	Y		1	1.2	19	1.5	12	-1														
124	1.2*DL+1.5*LM7+1.0*WM(300)	Y...	Y		1	1.2	19	1.5	11	.5	12	-.8...												
125	1.2*DL+1.5*LM7+1.0*WM(330)	Y...	Y		1	1.2	19	1.5	11	.866	12	-.5												
126	1.2*DL+1.5*LM8+1.0*WM(0)	Y...	Y		1	1.2	20	1.5	11	1														
127	1.2*DL+1.5*LM8+1.0*WM(30)	Y...	Y		1	1.2	20	1.5	11	.866	12	.5												
128	1.2*DL+1.5*LM8+1.0*WM(60)	Y...	Y		1	1.2	20	1.5	11	.5	12	.866												
129	1.2*DL+1.5*LM8+1.0*WM(90)	Y...	Y		1	1.2	20	1.5	12	1														
130	1.2*DL+1.5*LM8+1.0*WM(120)	Y...	Y		1	1.2	20	1.5	11	-.5	12	.866												
131	1.2*DL+1.5*LM8+1.0*WM(150)	Y...	Y		1	1.2	20	1.5	11	-.8...	12	.5												
132	1.2*DL+1.5*LM8+1.0*WM(180)	Y...	Y		1	1.2	20	1.5	11	-1														
133	1.2*DL+1.5*LM8+1.0*WM(210)	Y...	Y		1	1.2	20	1.5	11	-.8...	12	-.5												
134	1.2*DL+1.5*LM8+1.0*WM(240)	Y...	Y		1	1.2	20	1.5	11	-.5	12	-.8...												
135	1.2*DL+1.5*LM8+1.0*WM(270)	Y...	Y		1	1.2	20	1.5	12	-1														
136	1.2*DL+1.5*LM8+1.0*WM(300)	Y...	Y		1	1.2	20	1.5	11	.5	12	-.8...												
137	1.2*DL+1.5*LM8+1.0*WM(330)	Y...	Y		1	1.2	20	1.5	11	.866	12	-.5												
138	1.2*DL+1.5*LM9+1.0*WM(0)	Y...	Y		1	1.2	21	1.5	11	1														
139	1.2*DL+1.5*LM9+1.0*WM(30)	Y...	Y		1	1.2	21	1.5	11	.866	12	.5												
140	1.2*DL+1.5*LM9+1.0*WM(60)	Y...	Y		1	1.2	21	1.5	11	.5	12	.866												
141	1.2*DL+1.5*LM9+1.0*WM(90)	Y...	Y		1	1.2	21	1.5	12	1														
142	1.2*DL+1.5*LM9+1.0*WM(120)	Y...	Y		1	1.2	21	1.5	11	-.5	12	.866												
143	1.2*DL+1.5*LM9+1.0*WM(150)	Y...	Y		1	1.2	21	1.5	11	-.8...	12	.5												
144	1.2*DL+1.5*LM9+1.0*WM(180)	Y...	Y		1	1.2	21	1.5	11	-1														
145	1.2*DL+1.5*LM9+1.0*WM(210)	Y...	Y		1	1.2	21	1.5	11	-.8...	12	-.5												
146	1.2*DL+1.5*LM9+1.0*WM(240)	Y...	Y		1	1.2	21	1.5	11	-.5	12	-.8...												
147	1.2*DL+1.5*LM9+1.0*WM(270)	Y...	Y		1	1.2	21	1.5	12	-1														
148	1.2*DL+1.5*LM9+1.0*WM(300)	Y...	Y		1	1.2	21	1.5	11	.5	12	-.8...												
149	1.2*DL+1.5*LM9+1.0*WM(330)	Y...	Y		1	1.2	21	1.5	11	.866	12	-.5												
150	1.2*DL+1.5*LM10+1.0*WM(0)	Y...	Y		1	1.2	22	1.5	11	1														
151	1.2*DL+1.5*LM10+1.0*WM(30)	Y...	Y		1	1.2	22	1.5	11	.866	12	.5												
152	1.2*DL+1.5*LM10+1.0*WM(60)	Y...	Y		1	1.2	22	1.5	11	.5	12	.866												
153	1.2*DL+1.5*LM10+1.0*WM(90)	Y...	Y		1	1.2	22	1.5	12	1														
154	1.2*DL+1.5*LM10+1.0*WM(120)	Y...	Y		1	1.2	22	1.5	11	-.5	12	.866												
155	1.2*DL+1.5*LM10+1.0*WM(150)	Y...	Y		1	1.2	22	1.5	11	-.8...	12	.5												
156	1.2*DL+1.5*LM10+1.0*WM(180)	Y...	Y		1	1.2	22	1.5	11	-1														
157	1.2*DL+1.5*LM10+1.0*WM(210)	Y...	Y		1	1.2	22	1.5	11	-.8...	12	-.5												
158	1.2*DL+1.5*LM10+1.0*WM(240)	Y...	Y		1	1.2	22	1.5	11	-.5	12	-.8...												
159	1.2*DL+1.5*LM10+1.0*WM(270)	Y...	Y		1	1.2	22	1.5	12	-1														
160	1.2*DL+1.5*LM10+1.0*WM(300)	Y...	Y		1	1.2	22	1.5	11	.5	12	-.8...												
161	1.2*DL+1.5*LM10+1.0*WM(330)	Y...	Y		1	1.2	22	1.5	11	.866	12	-.5												
162	1.2*DL+1.5*LM11+1.0*WM(0)	Y...	Y		1	1.2	23	1.5	11	1														
163	1.2*DL+1.5*LM11+1.0*WM(30)	Y...	Y		1	1.2	23	1.5	11	.866	12	.5												
164	1.2*DL+1.5*LM11+1.0*WM(60)	Y...	Y		1	1.2	23	1.5	11	.5	12	.866												
165	1.2*DL+1.5*LM11+1.0*WM(90)	Y...	Y		1	1.2	23	1.5	12	1														
166	1.2*DL+1.5*LM11+1.0*WM(120)	Y...	Y		1	1.2	23	1.5	11	-.5	12	.866												
167	1.2*DL+1.5*LM11+1.0*WM(150)	Y...	Y		1	1.2	23	1.5	11	-.8...	12	.5												
168	1.2*DL+1.5*LM11+1.0*WM(180)	Y...	Y		1	1.2	23	1.5	11	-1														
169	1.2*DL+1.5*LM11+1.0*WM(210)	Y...	Y		1	1.2	23	1.5	11	-.8...	12	-.5												
170	1.2*DL+1.5*LM11+1.0*WM(240)	Y...	Y		1	1.2	23	1.5	11	-.5	12	-.8...												
171	1.2*DL+1.5*LM11+1.0*WM(270)	Y...	Y		1	1.2	23	1.5	12	-1														
172	1.2*DL+1.5*LM11+1.0*WM(300)	Y...	Y		1	1.2	23	1.5	11	.5	12	-.8...												
173	1.2*DL+1.5*LM11+1.0*WM(330)	Y...	Y		1	1.2	23	1.5	11	.866	12	-.5												
174	1.2*DL+1.5*LM12+1.0*WM(0)	Y...	Y		1	1.2	24	1.5	11	1														
175	1.2*DL+1.5*LM12+1.0*WM(30)	Y...	Y		1	1.2	24	1.5	11	.866	12	.5												
176	1.2*DL+1.5*LM12+1.0*WM(60)	Y...	Y		1	1.2	24	1.5	11	.5	12	.866												

Load Combinations (Continued)

	Description	S...	PD...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
177	1.2*DL+1.5*LM12+1.0*WM(90)	Y...	Y		1	1.2	24	1.5	12	1														
178	1.2*DL+1.5*LM12+1.0*WM(120)	Y...	Y		1	1.2	24	1.5	11	-.5	12	.866												
179	1.2*DL+1.5*LM12+1.0*WM(150)	Y...	Y		1	1.2	24	1.5	11	-.8...	12	.5												
180	1.2*DL+1.5*LM12+1.0*WM(180)	Y...	Y		1	1.2	24	1.5	11	-1														
181	1.2*DL+1.5*LM12+1.0*WM(210)	Y...	Y		1	1.2	24	1.5	11	-.8...	12	-.5												
182	1.2*DL+1.5*LM12+1.0*WM(240)	Y...	Y		1	1.2	24	1.5	11	-.5	12	-.8...												
183	1.2*DL+1.5*LM12+1.0*WM(270)	Y...	Y		1	1.2	24	1.5	12	-1														
184	1.2*DL+1.5*LM12+1.0*WM(300)	Y...	Y		1	1.2	24	1.5	11	.5	12	-.8...												
185	1.2*DL+1.5*LM12+1.0*WM(330)	Y...	Y		1	1.2	24	1.5	11	.866	12	-.5												
186	1.2*DL+1.5*LV1	Y...	Y		1	1.2	25	1.5																
187	1.2*DL+1.5*LV2	Y...	Y		1	1.2	26	1.5																
188	1.2*DL+1.5*LV3	Y...	Y		1	1.2	27	1.5																
189	1.2*DL+1.5*LV4	Y...	Y		1	1.2	28	1.5																
190	1.2*DL+1.5*LV5	Y...	Y		1	1.2	29	1.5																
191	1.2*DL+1.5*LV6	Y...	Y		1	1.2	30	1.5																
192	1.2*DL+1.5*LV7	Y...	Y		1	1.2	31	1.5																
193	1.2*DL+1.5*LV8	Y...	Y		1	1.2	32	1.5																
194	1.2*DL+1.5*LV9	Y...	Y		1	1.2	33	1.5																

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N9	max	260.321	5	1888.016	18	1601.954	13	1.655	13	1.293	13	2.375	12
2		min	-1936.476	12	-408.444	12	-684.218	7	-2.618	7	-1.29	7	-4.005	5
3	N10	max	1352.62	5	1865.875	14	235.504	2	4.054	2	2.604	11	1.67	11
4		min	-1351.865	11	-99.906	8	-2025.175	8	-1.899	8	-2.617	5	-1.452	5
5	N8	max	1932.086	4	1892.549	22	1616.762	3	1.34	3	1.218	9	3.93	11
6		min	-237.488	11	-406.972	4	-718.017	9	-2.759	8	-1.234	3	-2.517	4
7	N66	max	1051.868	4	1308.997	4	808.089	3	.046	7	.059	8	.043	9
8		min	-2931.78	10	413.911	38	-1822.406	9	-.032	13	-.054	2	-.099	4
9	N67	max	2993.602	6	1305.967	12	732.062	13	.038	121	.059	2	.102	12
10		min	-1095.878	12	414.491	36	-1764.583	7	-.033	3	-.048	8	-.04	7
11	N68	max	625.722	5	1095.189	18	3000.989	2	.025	3	.118	11	.103	5
12		min	-628.273	11	413.933	40	-1019.713	8	-.084	8	-.111	5	-.109	11
13	Totals:	max	7986.655	5	8358.325	14	7327.731	2						
14		min	-7986.675	11	3427.889	38	-7328.198	8						

Stress ratio <1.0, members are adequate

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Ch...	Loc[in]	...	LC	phi*Pn...	phi*Pn...	phi*M...	phi*M...	...	Eqn
1	M37	HSS4X4X4	.462	77.814	6	.191	77.814	y	3	97607...	103122	11.96	11.96	...	H1-1b
2	M11	HSS4X4X4	.456	77.782	10	.190	77.782	y	7	97612...	103122	11.96	11.96	3	H1-1b
3	M24	HSS4X4X4	.449	77.814	12	.213	77.814	z	11	97607...	103122	11.96	11.96	...	H1-1b
4	M132	PIPE_2.0	.402	50.625	4	.073	50.625		6	8922....	32130	1.872	1.872	...	H1-1b
5	M142	PIPE_2.0	.402	50.625	6	.074	50.625		10	8922....	32130	1.872	1.872	...	H1-1b
6	M122	PIPE_2.0	.381	50.625	10	.074	50.625		2	8922....	32130	1.872	1.872	...	H1-1b
7	M117	PIPE_2.5	.337	116.1...	5	.116	142....		11	2600....	49266	3.494	3.494	...	H1-1b
8	M115	PIPE_2.5	.334	116.1...	9	.114	142....		3	2600....	49266	3.494	3.494	...	H1-1b
9	M116	PIPE_2.5	.325	52.812	11	.099	142....		7	2600....	49266	3.494	3.494	...	H1-1b
10	M46	5/16 cable	.325	0	6	.004	83.083		14	15.317	8628....	.045	.045	...	H1-1a*
11	M47	5/16 cable	.321	0	10	.003	83.056		18	15.326	8628....	.045	.045	...	H1-1a*
12	M44	3/8 x 6	.296	0	6	.047	18.031	y	6	38441...	68850	8.606	.538	...	H1-1b
13	M45	5/16 cable	.294	0	2	.004	83.082		22	15.317	8628....	.045	.045	...	H1-1a*
14	M68	PIPE_2.5	.283	17.5	10	.064	17.5		10	9813....	49266	3.494	3.494	1	H1-1b
15	M80	PIPE_2.5	.268	17.5	6	.063	17.5		12	9813....	49266	3.494	3.494	1	H1-1b
16	M119	PIPE_3.0	.266	84.5	11	.082	7.042		10	5111....	63342	5.584	5.584	...	H1-1b

Stress ratio <1.0, members are adequate

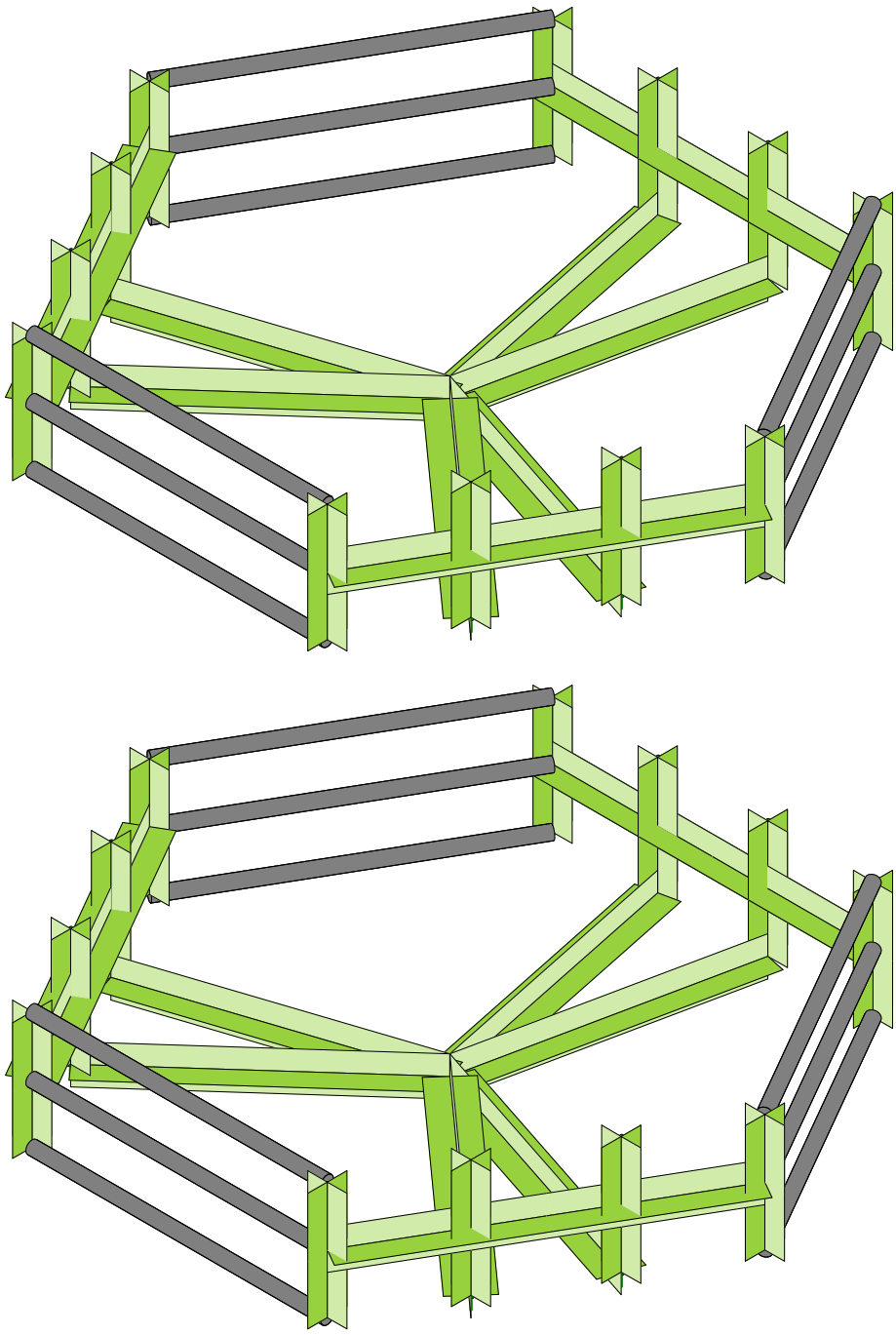
Envelope AISC 15th(360-16): LRFD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[in]	LC	Shear Ch...	Loc[in]	...	LC	phi*Pn...	phi*Pn...	phi*M...	phi*M...	...	Eqn
17	M73	PIPE_2.5	.255	17.5	10	.098	102.5		5	9813....	49266	3.494	3.494	1	H1-1b
18	M32	3/8 x 6	.243	4.366	5	.059	0	y	10	66537...	68850	8.606	.538	...	H1-1b
19	M120	PIPE_3.0	.242	119.7...	6	.083	153....		6	5111....	63342	5.584	5.584	...	H1-1b
20	M85	PIPE_2.5	.240	17.5	13	.098	17.5		10	9813....	49266	3.494	3.494	1	H1-1b
21	M42	3/8 x 6	.237	18.031	10	.039	18.031	y	2	38441...	68850	8.606	.538	...	H1-1b
22	M118	PIPE_3.0	.228	84.5	7	.087	161....		9	5111....	63342	5.584	5.584	...	H1-1b
23	M12	HSS4X4X4	.228	31	11	.048	4.844	z	6	10222...	103122	11.96	11.96	...	H1-1b
24	M4	3/8 x 6	.225	4.366	11	.053	0	y	12	66537...	68850	8.606	.538	...	H1-1b
25	M41	PIPE_2.5	.221	17.5	5	.046	17.5		5	9813....	49266	3.494	3.494	1	H1-1b
26	M79	PIPE_2.5	.214	17.5	6	.095	102.5		11	9813....	49266	3.494	3.494	1	H1-1b
27	M39	HSS4X4X4	.214	0	5	.048	26.166	z	4	10222...	103122	11.96	11.96	...	H1-1b
28	M38	HSS4X4X4	.212	30.989	7	.052	4.842	z	2	10222...	103122	11.96	11.96	...	H1-1b
29	M13	HSS4X4X4	.203	0	9	.053	26.156	z	2	10222...	103122	11.96	11.96	...	H1-1b
30	M67	PIPE_2.5	.200	17.5	3	.090	17.5		6	9813....	49266	3.494	3.494	1	H1-1b
31	M61	PIPE_2.5	.199	17.5	5	.090	102.5		13	9813....	49266	3.494	3.494	1	H1-1b
32	M17	3/8 x 6	.197	4.366	12	.063	0	y	11	66537...	68850	8.606	.538	...	H1-1b
33	M25	HSS4X4X4	.196	30.996	3	.053	4.843	z	10	10222...	103122	11.96	11.96	...	H1-1b
34	M19	3/8 x 6	.193	4.366	3	.070	0	y	5	66537...	68850	8.606	.538	...	H1-1b
35	M26	HSS4X4X4	.189	0	13	.054	26.16	z	6	10222...	103122	11.96	11.96	...	H1-1b
36	M31	3/8 x 6	.185	0	5	.100	0	y	6	68358...	68850	8.606	.538	...	H1-1b
37	M43	3/8 x 6	.184	0	10	.036	18.031	y	10	38441...	68850	8.606	.538	...	H1-1b
38	M28	1/2 x 6	.174	0	5	.109	0	y	6	88540...	91800	11.475	.956	...	H1-1b
39	M3	3/8 x 6	.167	0	11	.086	0	y	10	68358...	68850	8.606	.538	...	H1-1b
40	M40	PIPE_2.5	.167	17.5	11	.087	102.5		3	9813....	49266	3.494	3.494	1	H1-1b
41	M1	1/2 x 6	.163	0	10	.138	0	y	10	88552...	91800	11.475	.956	...	H1-1b
42	M18	3/8 x 6	.154	0	4	.077	0	y	2	68358...	68850	8.606	.538	...	H1-1b
43	M8	L2x2x4	.153	0	11	.009	0	z	22	19679...	28886.4	.653	1.489	...	H2-1
44	M34	L2x2x4	.151	0	7	.009	0	z	18	19681...	28886.4	.653	1.489	...	H2-1
45	M16	3/8 x 6	.150	0	12	.062	0	y	2	68358...	68850	8.606	.538	...	H1-1b
46	M7	L2x2x4	.148	0	9	.009	0	y	21	19679...	28886.4	.653	1.489	...	H2-1
47	M33	L2x2x4	.148	0	5	.009	0	y	18	19677...	28886.4	.653	1.489	...	H2-1
48	M15	1/2 x 6	.146	0	2	.104	0	y	13	88548...	91800	11.475	.956	...	H1-1b
49	M76	PIPE_2.5	.141	17.5	3	.074	17.5		7	9813....	49266	3.494	3.494	1	H1-1b
50	M2	1/2 x 6	.140	0	9	.119	0	y	10	88552...	91800	11.475	.956	...	H1-1b
51	M88	PIPE_2.5	.140	17.5	7	.071	17.5		11	9813....	49266	3.494	3.494	1	H1-1b
52	M14	1/2 x 6	.136	0	2	.122	0	y	2	88557...	91800	11.475	.956	...	H1-1b
53	M21	L2x2x4	.136	0	3	.009	0	z	14	19680...	28886.4	.653	1.489	...	H2-1
54	M36	1/2 x 6	.132	3.473	5	.204	0	y	5	90698...	91800	11.475	.956	...	H1-1b
55	M20	L2x2x4	.130	0	13	.009	0	y	25	19679...	28886.4	.653	1.489	...	H2-1
56	M27	1/2 x 6	.129	0	6	.137	0	y	6	88565...	91800	11.475	.956	...	H1-1b
57	M9	1/2 x 6	.119	3.473	11	.210	0	y	11	90698...	91800	11.475	.956	...	H1-1b
58	M64	PIPE_2.5	.111	17.5	11	.070	17.5		3	9813....	49266	3.494	3.494	1	H1-1b
59	M23	1/2 x 6	.109	3.473	13	.209	0	y	13	90698...	91800	11.475	.956	...	H1-1b
60	M10	1/2 x 6	.108	3.473	9	.236	0	y	9	90698...	91800	11.475	.956	...	H1-1b
61	M143	PIPE_2.0	.100	50.625	13	.013	50.625		10	8922....	32130	1.872	1.872	...	H1-1b
62	M133	PIPE_2.0	.100	50.625	9	.013	50.625		6	8922....	32130	1.872	1.872	...	H1-1b
63	M30	3/8 x 6	.097	4.366	5	.055	0	y	8	66537...	68850	8.606	.538	...	H1-1b
64	M35	1/2 x 6	.090	3.473	7	.218	0	y	7	90698...	91800	11.475	.956	...	H1-1b
65	M22	1/2 x 6	.090	3.473	2	.183	0	y	3	90698...	91800	11.475	.956	...	H1-1b
66	M123	PIPE_2.0	.089	50.625	5	.011	50.625		2	8922....	32130	1.872	1.872	...	H1-1b
67	M6	3/8 x 6	.088	4.366	12	.064	0	y	2	66537...	68850	8.606	.538	...	H1-1b
68	M5	3/8 x 6	.078	0	8	.076	0	y	10	68358...	68850	8.606	.538	...	H1-1b
69	M29	3/8 x 6	.066	0	9	.060	0	z	6	68358...	68850	8.606	.538	...	H1-1b
70	M51	PIPE_2.5	.030	0	3	.040	62.061		4	39829...	49266	3.494	3.494	...	H1-1b*
71	M53	PIPE_2.5	.029	0	11	.023	0		11	39822...	49266	3.494	3.494	...	H1-1b*
72	M52	PIPE_2.5	.028	0	13	.042	0		12	39825...	49266	3.494	3.494	...	H1-1b*
73	M50	PIPE_2.5	.027	0	5	.026	62.061		5	39829...	49266	3.494	3.494	...	H1-1b*

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

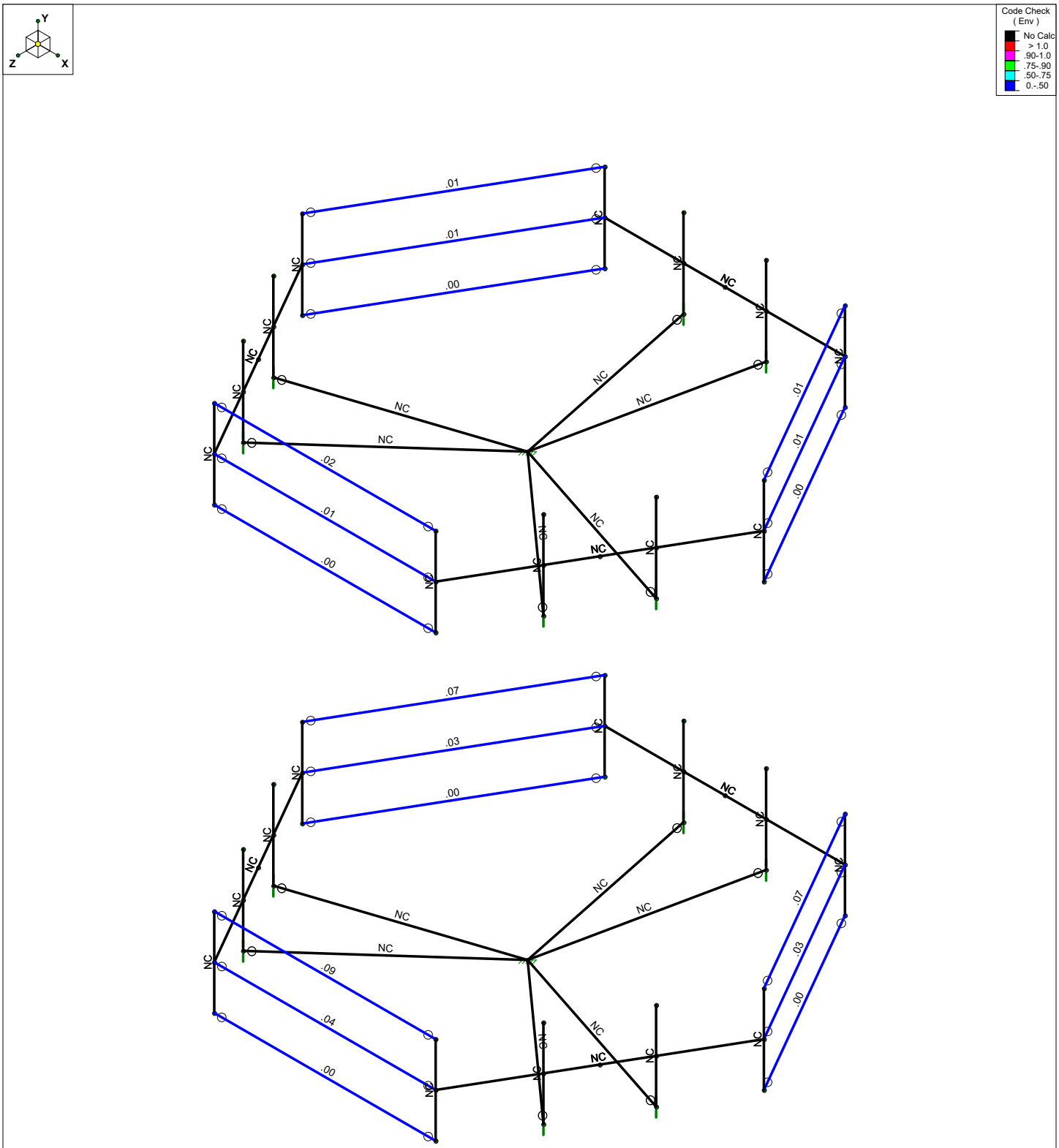
	Member	Shape	Code Check	Loc[in]	LC	Shear Ch...	Loc[in]	...	LC	phi*Pn...	phi*Pn...	phi*M...	phi*M...	...	Eqn
74	M49	PIPE_2.5	.026	0	7	.036	62.084		7	39823...	49266	3.494	3.494	...	H1-1b*
75	M48	PIPE_2.5	.024	0	9	.040	62.079		9	39824...	49266	3.494	3.494	...	H1-1b*

Stress ratio <1.0, members are adequate



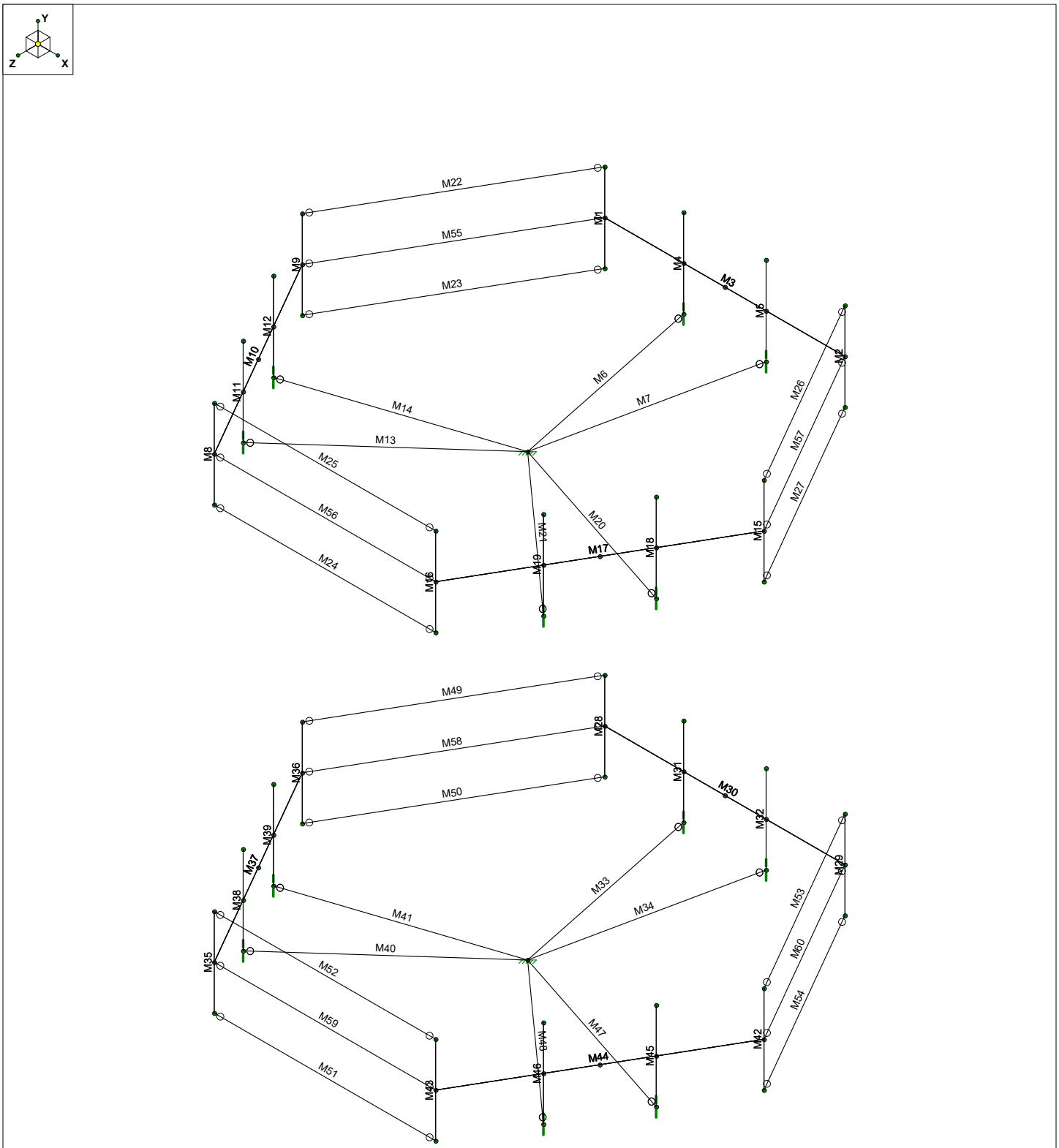
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 1
GO	Collar Mount Analysis	June 24, 2022 at 8:46 AM
CTL02270	3D Render	CTL02270-Collar Mount Analysis.r3d



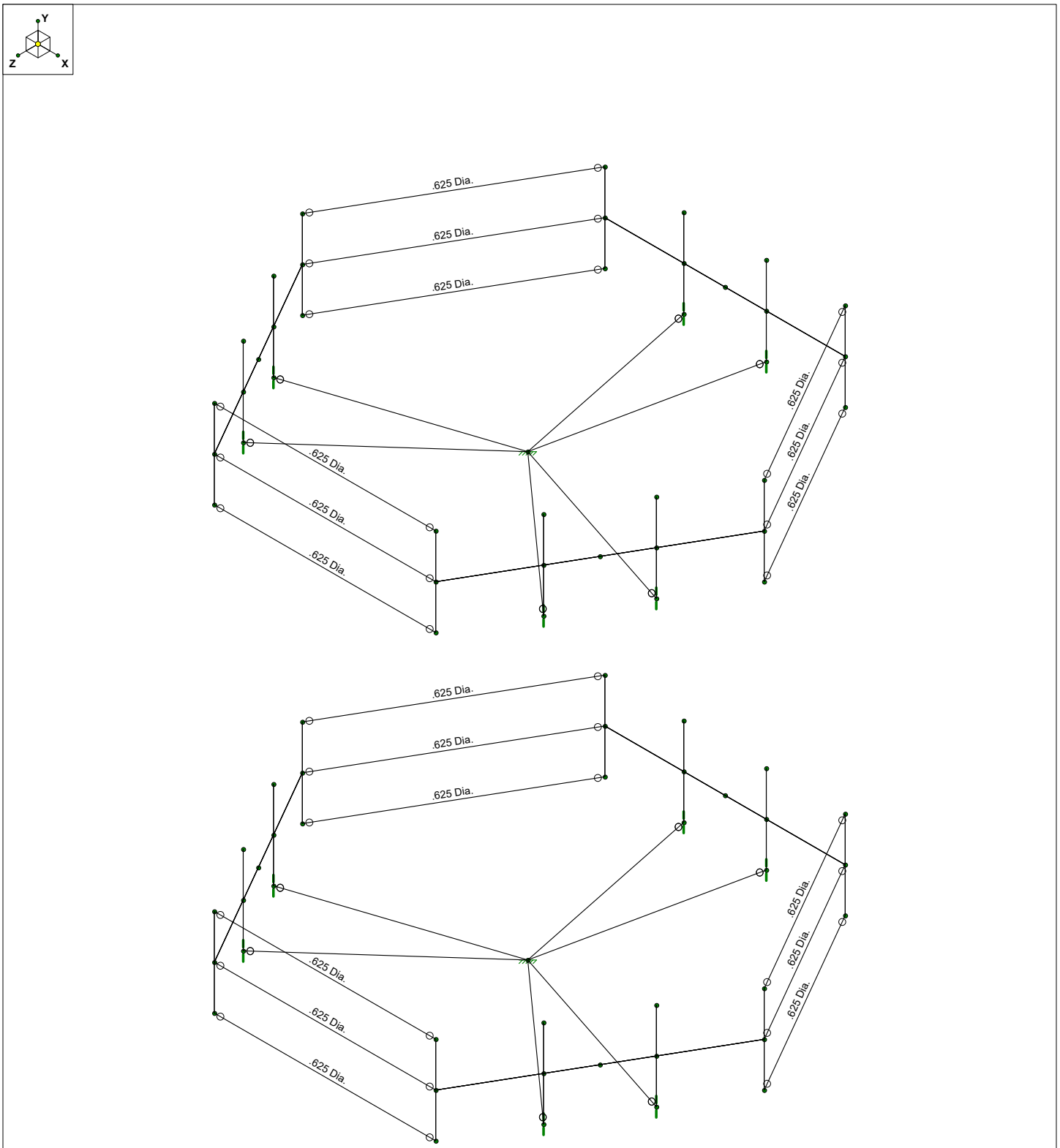
Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 2
GO	Collar Mount Analysis	June 24, 2022 at 8:46 AM
CTL02270	Unity Graphic	CTL02270-Collar Mount Analysis.r3d



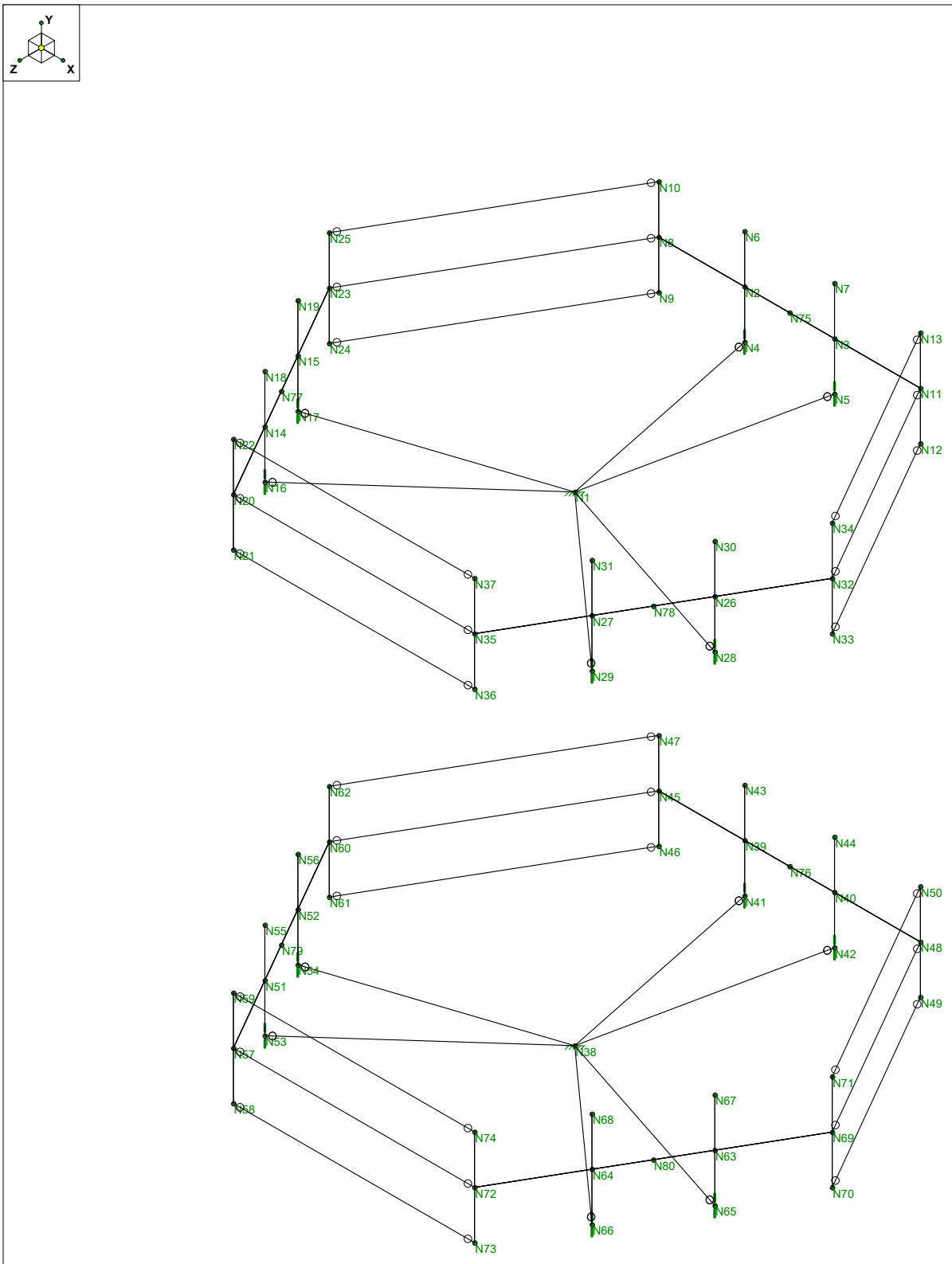
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 3
GO	Collar Mount Analysis	June 24, 2022 at 8:47 AM
CTL02270	Member Label	CTL02270-Collar Mount Analysis.r3d



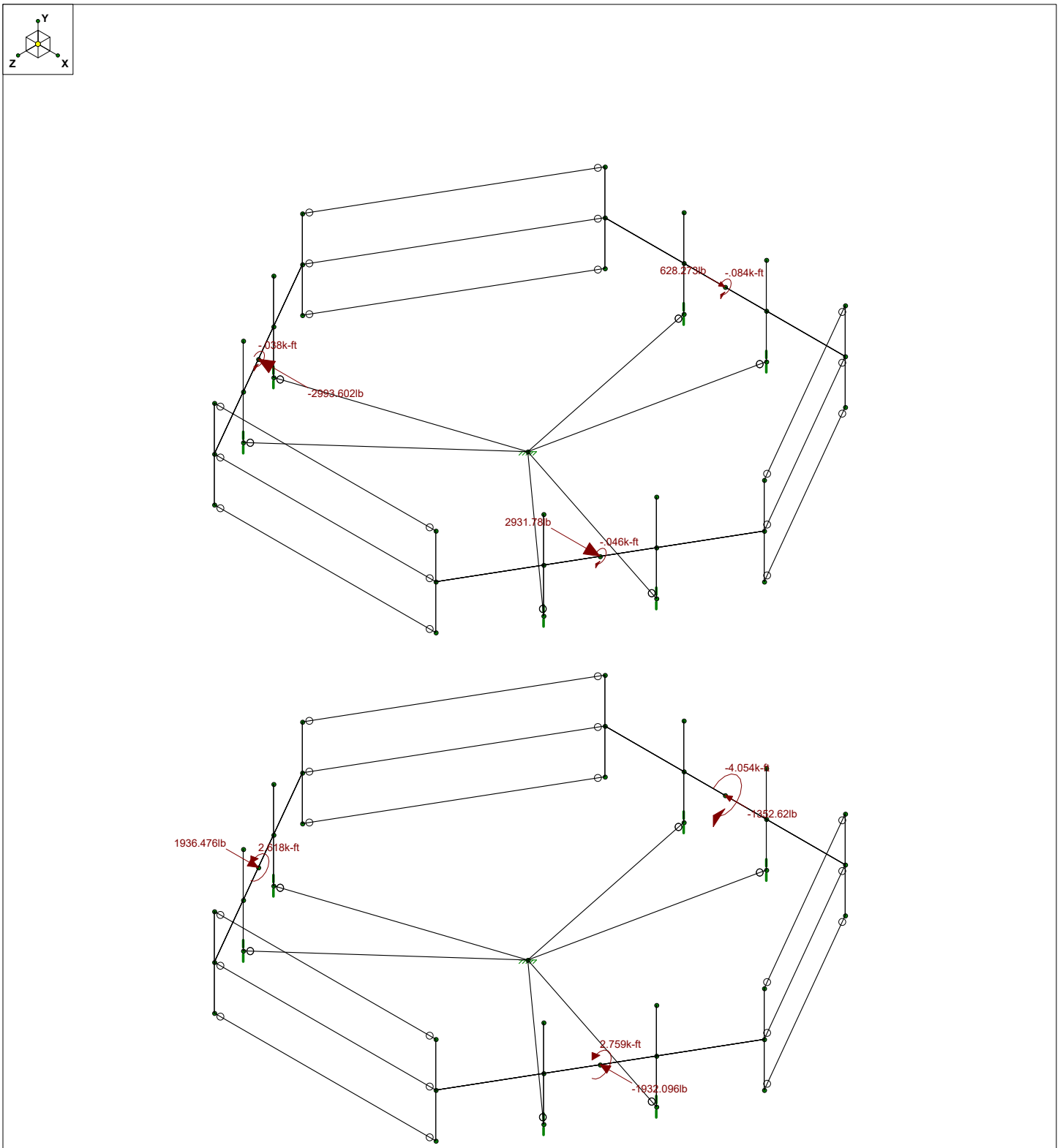
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 4
GO	Collar Mount Analysis	June 24, 2022 at 8:47 AM
CTL02270	Shape	CTL02270-Collar Mount Analysis.r3d



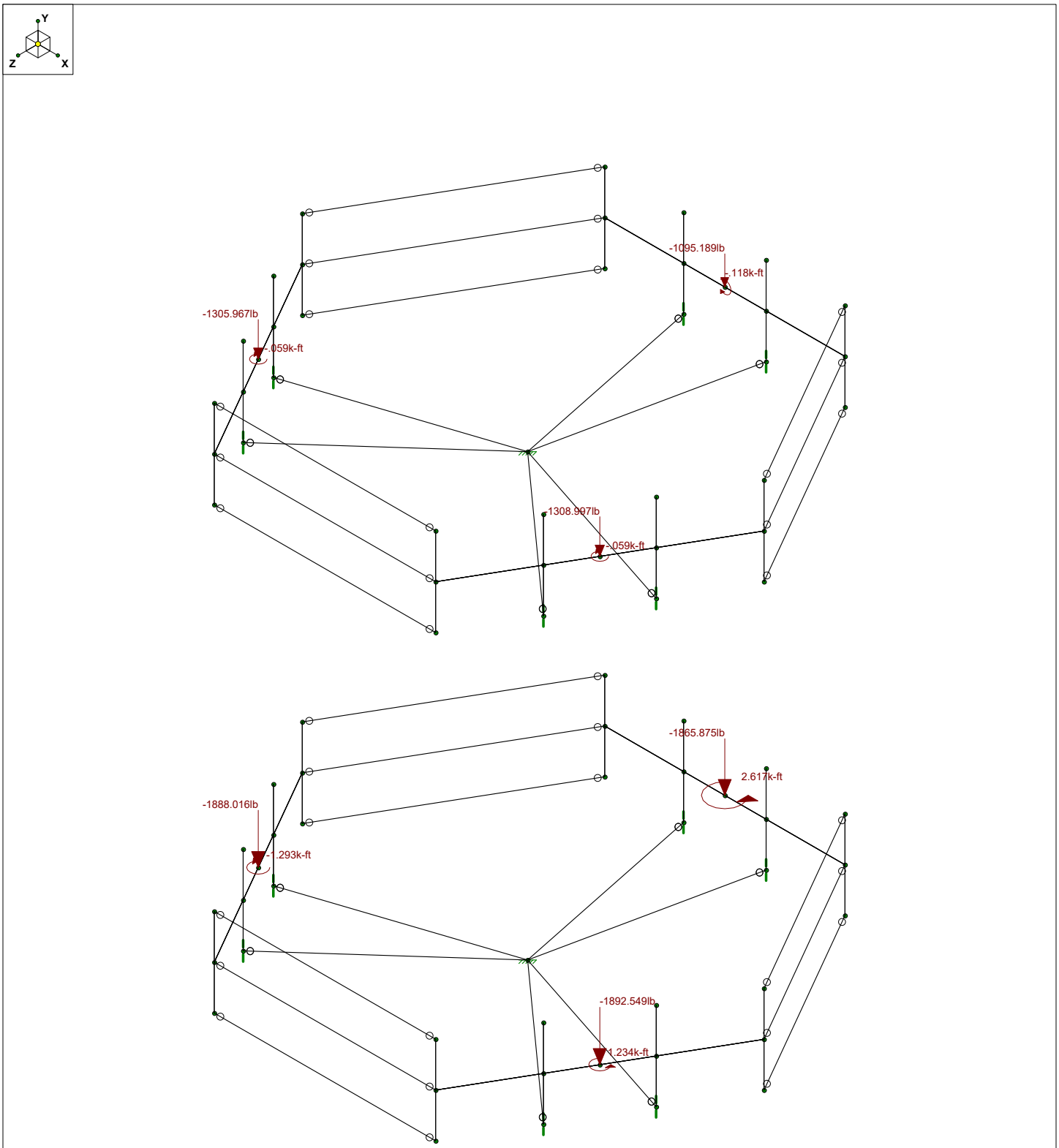
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 5
GO	Collar Mount Analysis	June 24, 2022 at 8:47 AM
CTL02270	Nodes	CTL02270-Collar Mount Analysis.r3d



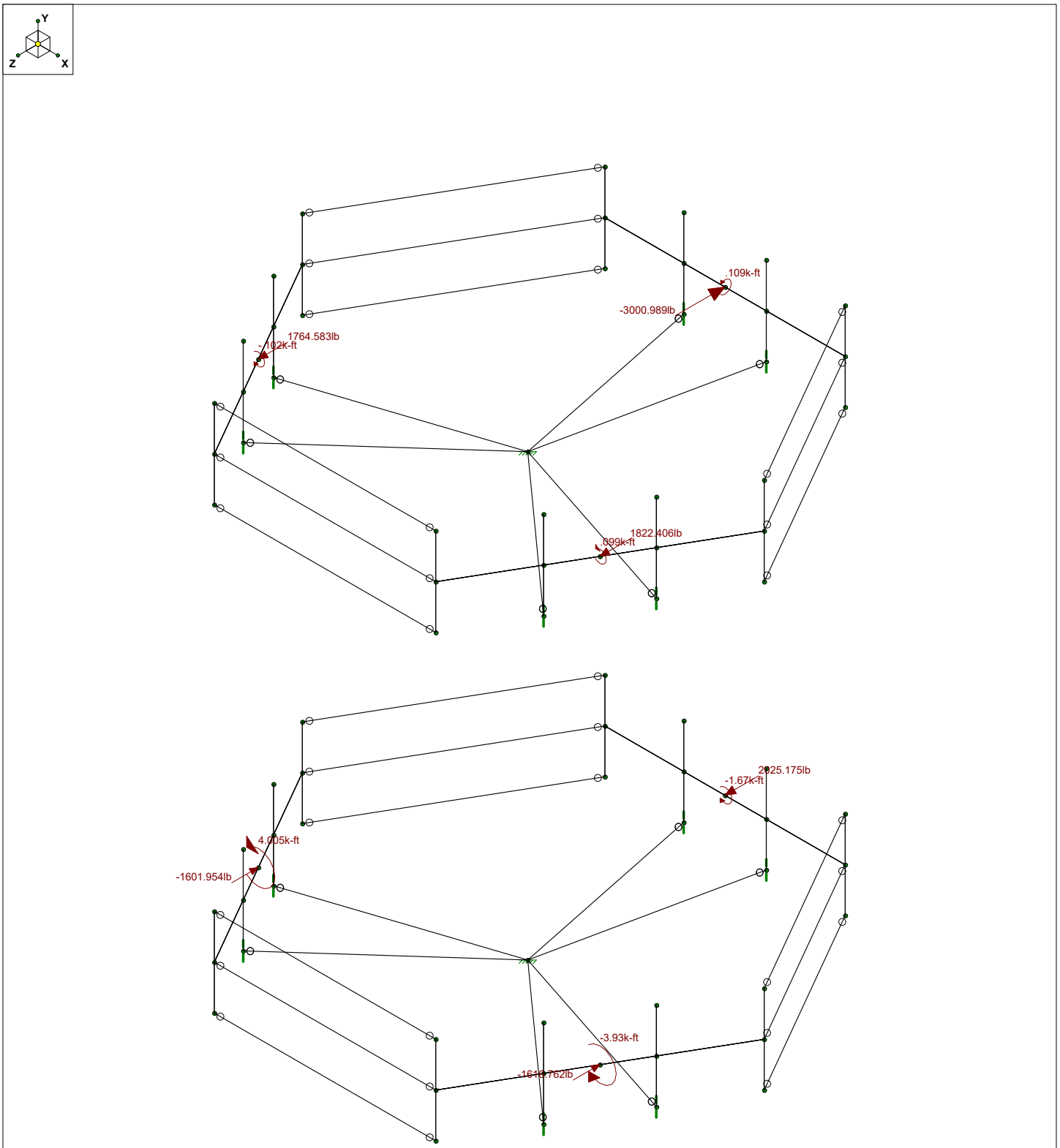
Loads: BLC 1, Max X
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 6
GO	Collar Mount Analysis	June 24, 2022 at 8:48 AM
CTL02270	Max X Reactions	CTL02270-Collar Mount Analysis.r3d



Loads: BLC 2, Max Y
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 7
GO	Collar Mount Analysis	June 24, 2022 at 8:48 AM
CTL02270	Max Y Reactions	CTL02270-Collar Mount Analysis.r3d



Loads: BLC 3, Max Z
Envelope Only Solution

Fullerton Engineering, P.C.		SK - 8
GO	Collar Mount Analysis	June 24, 2022 at 8:48 AM
CTL02270	Max Z Reactions	CTL02270-Collar Mount Analysis.r3d

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (in/sec^2)	386.4
Wall Mesh Size (in)	12
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 15th(360-16): LRFD
Adjust Stiffness?	Yes(Iterative)
RISAConnection Code	AISC 15th(360-16): LRFD
Cold Formed Steel Code	None
Wood Code	None
Wood Temperature	< 100F
Concrete Code	None
Masonry Code	None
Aluminum Code	None - Building
Stainless Steel Code	None

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	Yes
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8

(Global) Model Settings, Continued

Seismic Code	ASCE 7-16
Seismic Base Elevation (in)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	5
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	4
Cd X	4
Rho Z	1
Rho X	1

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp to...	Lcomp b...	L-torque[i...	Kyy	Kzz	Cb	Func...
1	M22	.625 Dia.	15.083			Lbyy			1	1		Lateral
2	M23	.625 Dia.	15.083			Lbyy			1	1		Lateral
3	M24	.625 Dia.	15.083			Lbyy			1	1		Lateral
4	M25	.625 Dia.	15.083			Lbyy			1	1		Lateral
5	M26	.625 Dia.	15.083			Lbyy			1	1		Lateral
6	M27	.625 Dia.	15.083			Lbyy			1	1		Lateral
7	M49	.625 Dia.	15.083			Lbyy			1	1		Lateral
8	M50	.625 Dia.	15.083			Lbyy			1	1		Lateral
9	M51	.625 Dia.	15.083			Lbyy			1	1		Lateral
10	M52	.625 Dia.	15.083			Lbyy			1	1		Lateral
11	M53	.625 Dia.	15.083			Lbyy			1	1		Lateral
12	M54	.625 Dia.	15.083			Lbyy			1	1		Lateral
13	M55	.625 Dia.	15.083			Lbyy			1	1		Lateral
14	M56	.625 Dia.	15.083			Lbyy			1	1		Lateral
15	M57	.625 Dia.	15.083			Lbyy			1	1		Lateral
16	M58	.625 Dia.	15.083			Lbyy			1	1		Lateral
17	M59	.625 Dia.	15.083			Lbyy			1	1		Lateral
18	M60	.625 Dia.	15.083			Lbyy			1	1		Lateral

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	General				
2	RIGID		42	407	0
3	Total General		42	407	0
4					
5	Hot Rolled Steel				
6	SAEJ429 Gr-2	.625 Dia.	18	271.5	.024
7	Total HR Steel		18	271.5	.024

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribu...	Area(M...	Surface...
1	Max X	None				12				
2	Max Y	None		-1		12				
3	Max Z	None				12				

Load Combinations

	Description	S...	PD...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	Max Reactions	Y...	Y		1	1	2	1	3	1														

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N1	max	-566.451	1	0	1	-586	1	0	1	.912	1	0	1
2		min	-566.451	1	0	1	-586	1	0	1	.912	1	0	1
3	N4	max	0	1	-27.899	1	0	1	0	1	0	1	0	1
4		min	0	1	-27.899	1	0	1	0	1	0	1	0	1
5	N5	max	0	1	1127.025	1	0	1	0	1	0	1	0	1
6		min	0	1	1127.025	1	0	1	0	1	0	1	0	1
7	N16	max	0	1	745.517	1	0	1	0	1	0	1	0	1
8		min	0	1	745.517	1	0	1	0	1	0	1	0	1
9	N17	max	0	1	564.387	1	0	1	0	1	0	1	0	1
10		min	0	1	564.387	1	0	1	0	1	0	1	0	1
11	N28	max	0	1	531.452	1	0	1	0	1	0	1	0	1
12		min	0	1	531.452	1	0	1	0	1	0	1	0	1
13	N29	max	0	1	781.482	1	0	1	0	1	0	1	0	1
14		min	0	1	781.482	1	0	1	0	1	0	1	0	1
15	N38	max	1348.24	1	0	1	1193.541	1	0	1	-4.089	1	0	1
16		min	1348.24	1	0	1	1193.541	1	0	1	-4.089	1	0	1
17	N41	max	0	1	-1911.904	1	0	1	0	1	0	1	0	1
18		min	0	1	-1911.904	1	0	1	0	1	0	1	0	1
19	N42	max	0	1	3781.715	1	0	1	0	1	0	1	0	1
20		min	0	1	3781.715	1	0	1	0	1	0	1	0	1
21	N53	max	0	1	2045.047	1	0	1	0	1	0	1	0	1
22		min	0	1	2045.047	1	0	1	0	1	0	1	0	1
23	N54	max	0	1	-153.094	1	0	1	0	1	0	1	0	1
24		min	0	1	-153.094	1	0	1	0	1	0	1	0	1
25	N65	max	0	1	-477.226	1	0	1	0	1	0	1	0	1
26		min	0	1	-477.226	1	0	1	0	1	0	1	0	1
27	N66	max	0	1	2373.712	1	0	1	0	1	0	1	0	1
28		min	0	1	2373.712	1	0	1	0	1	0	1	0	1
29	Totals:	max	781.789	1	9380.213	1	607.542	1						
30		min	781.789	1	9380.213	1	607.542	1						

Stress ratio <1.0, members are adequate

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Ch...	Loc[in]	...	LC	phi*Pn...	phi*Pn...	phi*M...	phi*M...	...	Eqn
1	M52	.625 Dia.	.088	7.542	1	.000	15.083		1	7437....	25402...	.265	.265	...	H1-1b
2	M53	.625 Dia.	.065	7.542	1	.001	15.083		1	7437....	25402...	.265	.265	...	H1-1b
3	M49	.625 Dia.	.065	7.542	1	.001	15.083		1	7437....	25402...	.265	.265	...	H1-1b
4	M59	.625 Dia.	.044	7.542	1	.000	15.083		1	7437....	25402...	.265	.265	...	H1-1b
5	M60	.625 Dia.	.033	7.542	1	.001	0		1	7437....	25402...	.265	.265	...	H1-1b
6	M58	.625 Dia.	.033	7.542	1	.001	15.083		1	7437....	25402...	.265	.265	...	H1-1b
7	M25	.625 Dia.	.015	7.542	1	.000	15.083		1	7437....	25402...	.265	.265	...	H1-1b
8	M22	.625 Dia.	.014	7.542	1	.000	15.083		1	7437....	25402...	.265	.265	...	H1-1b

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Ch...	Loc[in] ...	LC	phi*Pn..	phi*Pn..	phi*M...	phi*M... ...	Eqn
9	M26	.625 Dia.	.014	7.542	1	.000	15.083	1	7437....	25402...	.265	.265 ...	H1-1b
10	M56	.625 Dia.	.008	7.542	1	.000	15.083	1	7437....	25402...	.265	.265 ...	H1-1b
11	M55	.625 Dia.	.007	7.542	1	.000	15.083	1	7437....	25402...	.265	.265 ...	H1-1b
12	M57	.625 Dia.	.007	7.542	1	.000	15.083	1	7437....	25402...	.265	.265 ...	H1-1b
13	M50	.625 Dia.	.001	7.542	1	.001	0	1	7437....	25402...	.265	.265 ...	H1-1b
14	M51	.625 Dia.	.001	7.542	1	.000	15.083	1	7437....	25402...	.265	.265 ...	H1-1b
15	M54	.625 Dia.	.001	7.542	1	.001	0	1	7437....	25402...	.265	.265 ...	H1-1b
16	M24	.625 Dia.	.001	7.542	1	.000	15.083	1	7437....	25402...	.265	.265 ...	H1-1b
17	M27	.625 Dia.	.001	7.542	1	.000	15.083	1	7437....	25402...	.265	.265 ...	H1-1b
18	M23	.625 Dia.	.001	7.542	1	.000	15.083	1	7437....	25402...	.265	.265 ...	H1-1b

Stress ratio <1.0, members are adequate

ANTENNA MOUNT MAPPING CHECKLIST

Mount Detail	
Mount Type	Platform
Mount Model Number	Site Pro 1 RMQLP-4120-H10
If RT, then how is it attached	
If WT, then how is it attached	

Mount Mapping Detail	
Material condition (discoloration, cracks, pitting)	
Mfg. drawing, cutsheet, spec. available?	Yes
Date of mount mapping (if one exists)	
Searched prior OOM for material?	
Photos of installation available?	
Original tower drawings show mounts?	
Searched for previous mapping?	
Is latest mod design (dwgs) available?	
Is the latest structural analysis available?	

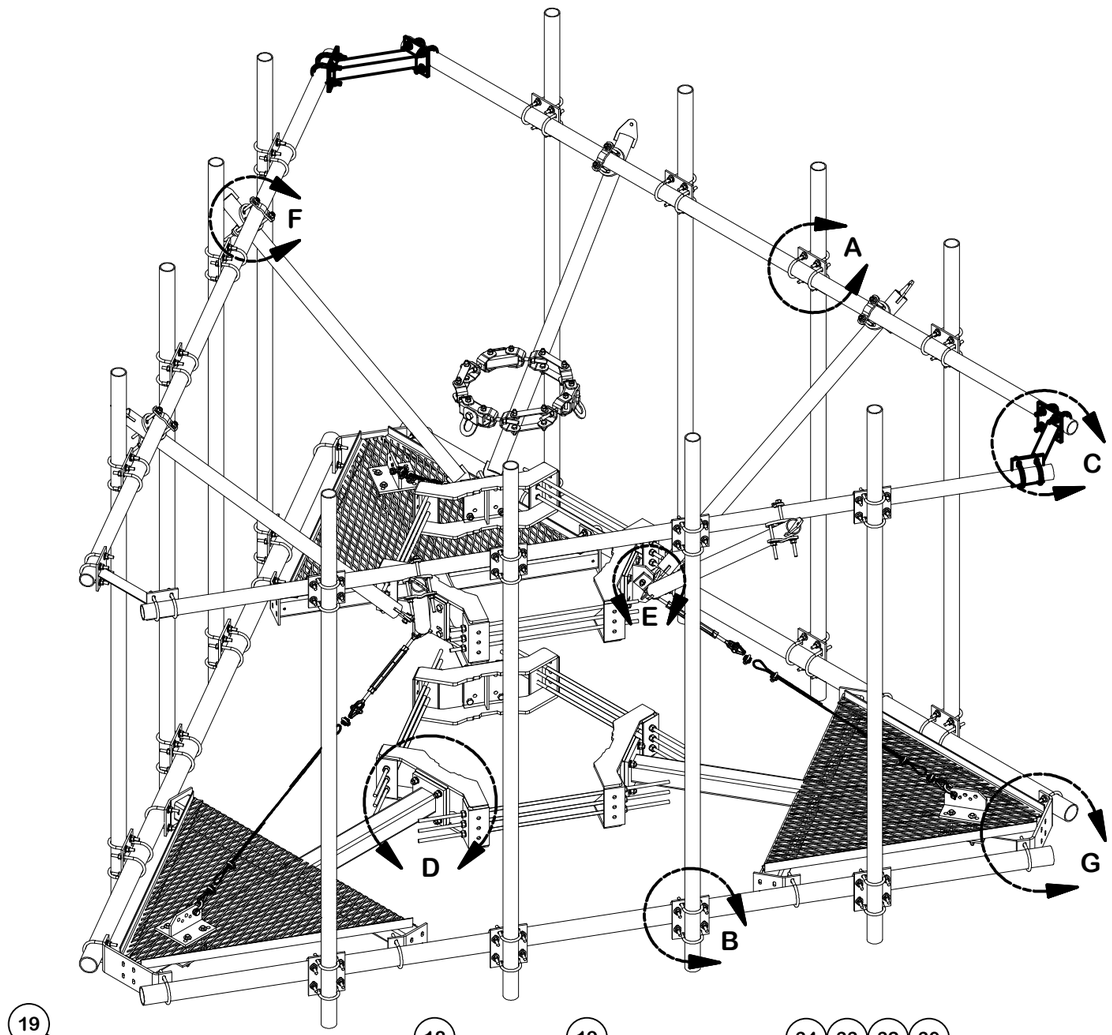
Project Detail	
Market	CONNECTICUT
PACE Project ID	MRCTB055612/MRCTB053251 MRCTB056860/MRCTB055527 MRCTB054801/MRCTB055322 MRCTB054225
Site Name	NORTH BRANFORD COMMERCE DRIVE
City, State	NORTH BRANFORD
RFDS Version Number	2
Initiative (list mult., if applicable)	5GNR Cband + DoD / 4TX4RX / LTE 3C
Tower Owner	
SA Vendor	
A&E firm (for structural analysis)	
A&E firm (for mapping, if different)	
Last amendment date or last site visit	
Is a site audit required on this project	

Site Information	
Original Lease Date	
FA Code	10105782
Tower Type	Monopole
Tower Height (Ft)	155
AT&T Rad Center # 1	143
AT&T Rad Center # 2	

Measurements and Deliverables on sketches	
Pipe / Angle dimenions and lengths	
bolt diameters and lengths	
U-Bolt diameters and lengths	
Steel Grade if indicated	
welds :length and sizes	
appurtenance relative locations	
Grounding Condition	

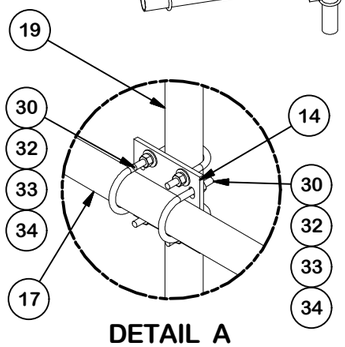
Equipment Detail	Model	Height	Approz Az	mount location
Antennas	CCI OPA65R-BU6DA	143'-0"	20°/140°/260°	A4/B4/C4
Antennas	Ericsson AIR6449	143'-0"	20°/140°/260°	A3/B3/C3
Antennas	Ericsson AIR6419	143'-0"	20°/140°/260°	A3/B3/C3
Antennas	CCI TPA65R-BU6DA-K	143'-0"	20°/140°/260°	A2/B2/C2
RRU	Ericsson RRUS 4449 B5/B12	143'-0"	N/A	Platform Stand-off
RRU	Ericsson RRUS 4478 B14	143'-0"	N/A	Platform Stand-off
RRU	Ericsson RRUS 4426 B66	143'-0"	N/A	Platform Stand-off
TMA				
Coax				
RET (not imbedded in antenna)				
DC Cable				
Fiber Cable				
Squid	Raycap DC6-48-60-18-8F	143'-0"	N/A	Platform Stand-off
Squid	Raycap DC6-48-60-0-8F	143'-0"	N/A	Platform Stand-off

Comments

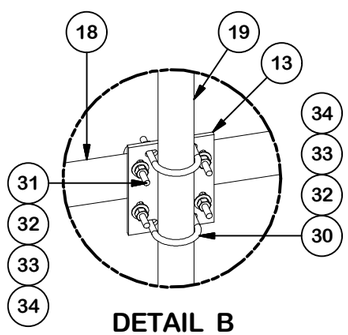


PARTS LIST

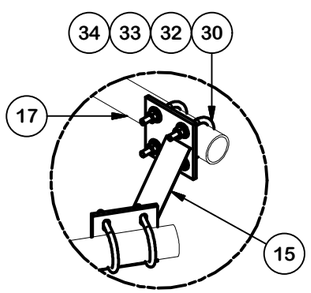
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	6	X-LWRM	RING MOUNT WELDMENT		68.81	412.85
2	3	X-SV196L	LONG PLATFORM WELDMENT		230.94	692.81
3	6	X-TBW	T-BRACKET WELDMENT		13.60	81.60
4	6	SHCM-T	CHAIN MOUNT TIGHTENER BRACKET	3 in	1.86	11.15
5	6	X-VSKL	LONG SUPPORT WELDMENT FOR VSK REINFORCEMENTS		37.05	222.33
6	6	X-127594	FLAT DISK CLAMP PLATE 4" CENTERS (GALV.)		2.51	15.04
7	12	X-100064	CLAMP (4" V-CLAMP) GALVANIZED		0.92	11.06
8	3	320751-I	1/2" CHAIN SHACKLE		0.76	2.29
9	3	320601-I	5/8" TURNBUCKLE		2.63	7.89
10	6	320777-I	5/16" THIMBLE		0.06	0.36
11	12	320152-I	5/16" WIRE ROPE CLIP		1.32	15.78
12	3	AC516-10	5/16" AIRECRAFT CABLE		1.25	3.76
13	15	SCX4	CROSSOVER PLATE	8 1/2 in	6.02	90.32
14	12	SCX2	CROSSOVER PLATE	7 in	4.80	57.56
15	3	X-AHCP	ANGLE HANDRAIL CORNER PLATE		12.92	38.76
17	3	P30174	2-7/8" O.D. x 174" SCH. 40 PIPE	174 in	84.20	252.59
18	3	P3174	3-1/2" X 174" SCH 40 GALVANIZED PIPE	174 in	109.97	329.90
19	12	P30120	2-7/8" x 120" (2-1/2" SCH. 40) GALVANIZED PIPE	120 in	58.07	696.79
20	18	G58R-48	5/8" x 48" THREADED ROD (HDG.)		4.18	75.27
20	18	G58R-24	5/8" x 24" THREADED ROD (HDG.)		2.09	37.63
21	12	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	3.75
22	12	A58234	5/8" x 2-3/4" HDG A325 HEX BOLT	2 3/4 in	0.36	4.27
23	12	A58FW	5/8" HDG A325 FLATWASHER		0.03	0.41
24	60	G58LW	5/8" HDG LOCKWASHER		0.03	1.57
25	60	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	7.79
26	6	G12112	1/2" x 1-1/2" HDG HEX BOLT GR5	1/2 in	0.15	0.89
27	3	G12212	1/2" x 2-1/2" HDG HEX BOLT GR5	2 1/2 in	0.20	0.61
28	12	G1204	1/2" x 4" HDG HEX BOLT GR5 FULL THREAD	4 in	0.27	3.24
29	24	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	5 1/2 in	0.41	9.83
30	84	X-UB1300	1/2" X 3" X 5" X 2" U-BOLT (HDG.)		0.70	58.53
31	36	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.83	29.82
32	288	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	9.82
33	285	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	3.96
34	285	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	20.41
35	1	HALO40	5,000 LB. MAINTENANCE TIE-OFF POINT		41.12	41.12
					TOTAL WT. #	3249.41



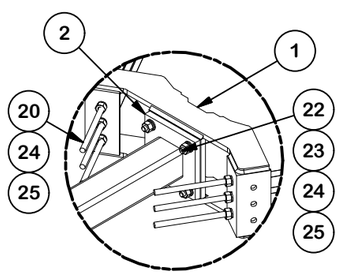
DETAIL A



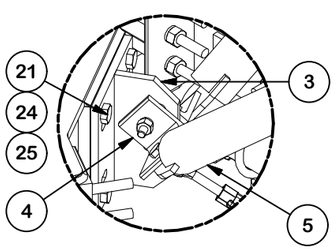
DETAIL B



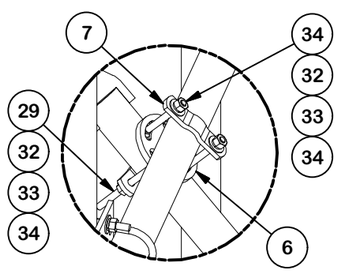
DETAIL C



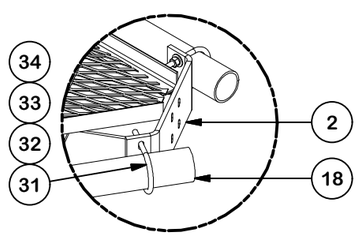
DETAIL D



DETAIL E



DETAIL F



DETAIL G

TOLERANCE NOTES

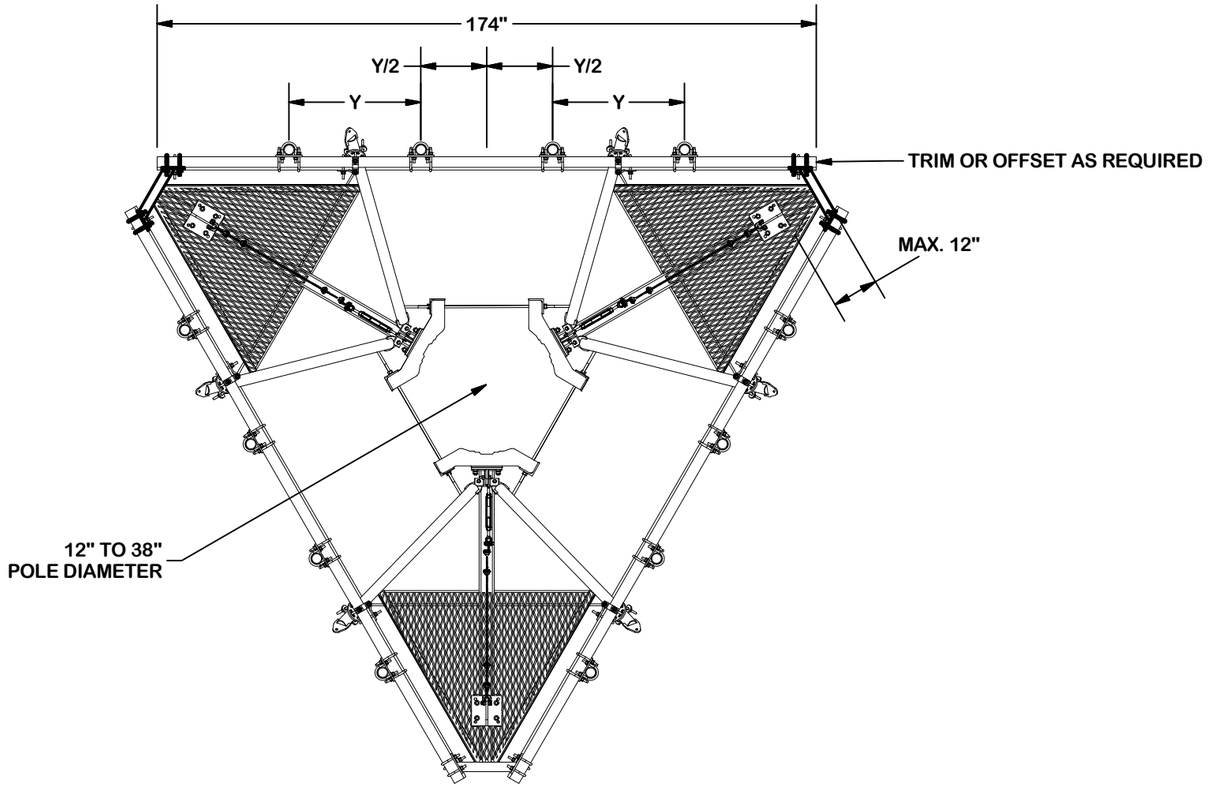
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES (± 0.030")
DRILLED AND GAS CUT HOLES (± 0.030") - NO CONING OF HOLES
LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES
BENDS AND ANGLES ARE ± 1/2 DEGREE
ALL OTHER MACHINING (± 0.030")
ALL OTHER ASSEMBLY (± 0.060")

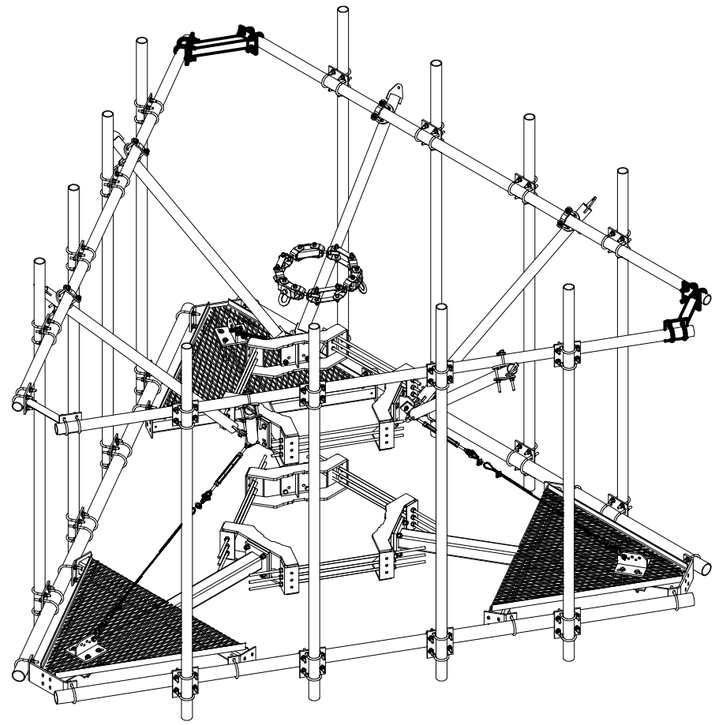
DESCRIPTION
14' 6" LOW PROFILE PLATFORM
WITH TWELVE 2-7/8" ANTENNA MOUTING
PIPES, REINFORCED HANDRAIL, AND CABLE

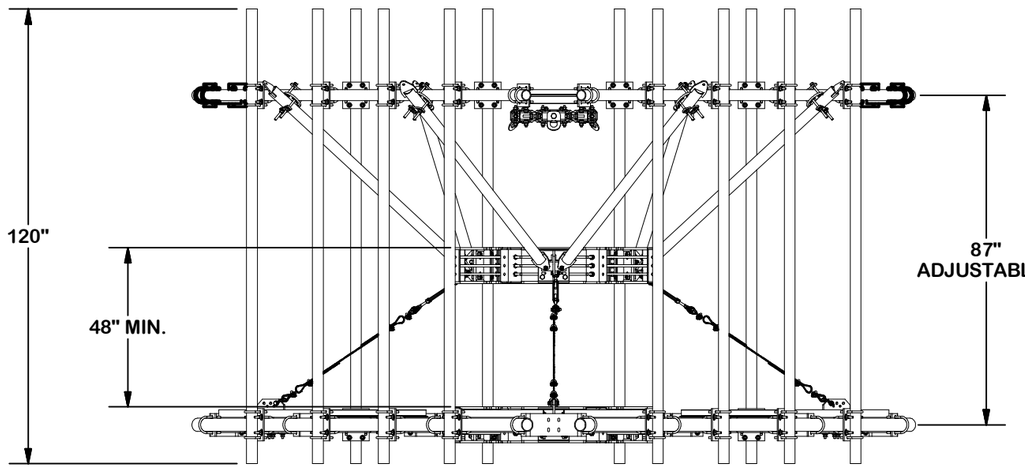
SITE PRO 1
A valmont COMPANY
Engineering Support Team: 1-888-753-7446
Locations:
New York, NY
Atlanta, GA
Los Angeles, CA
Plymouth, IN
Salem, OR
Dallas, TX
Tampa, FL

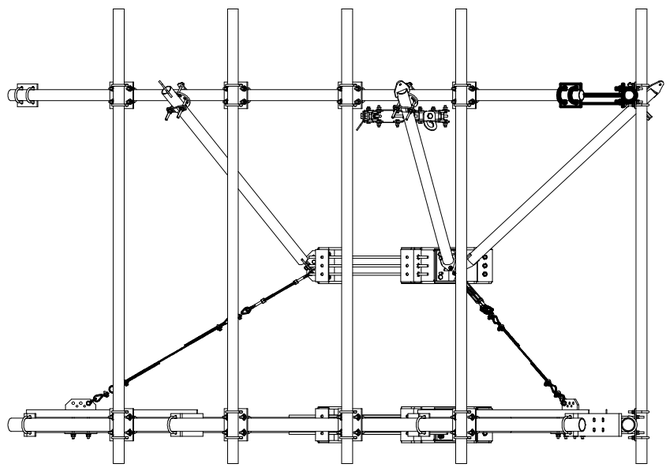
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
	CSL 10/17/2019	10/18/2019	RMQLP-4120-H10

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
87	02	CUSTOMER	BMC 10/18/2019	RMQLP-4120-H10









TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES (± 0.030")
DRILLED AND GAS CUT HOLES (± 0.030") - NO CONING OF HOLES
LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES
BENDS AND ANGLES ARE ± 1/2 DEGREE
ALL OTHER MACHINING (± 0.030")
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A valmont COMPANY
Engineering
Support Team:
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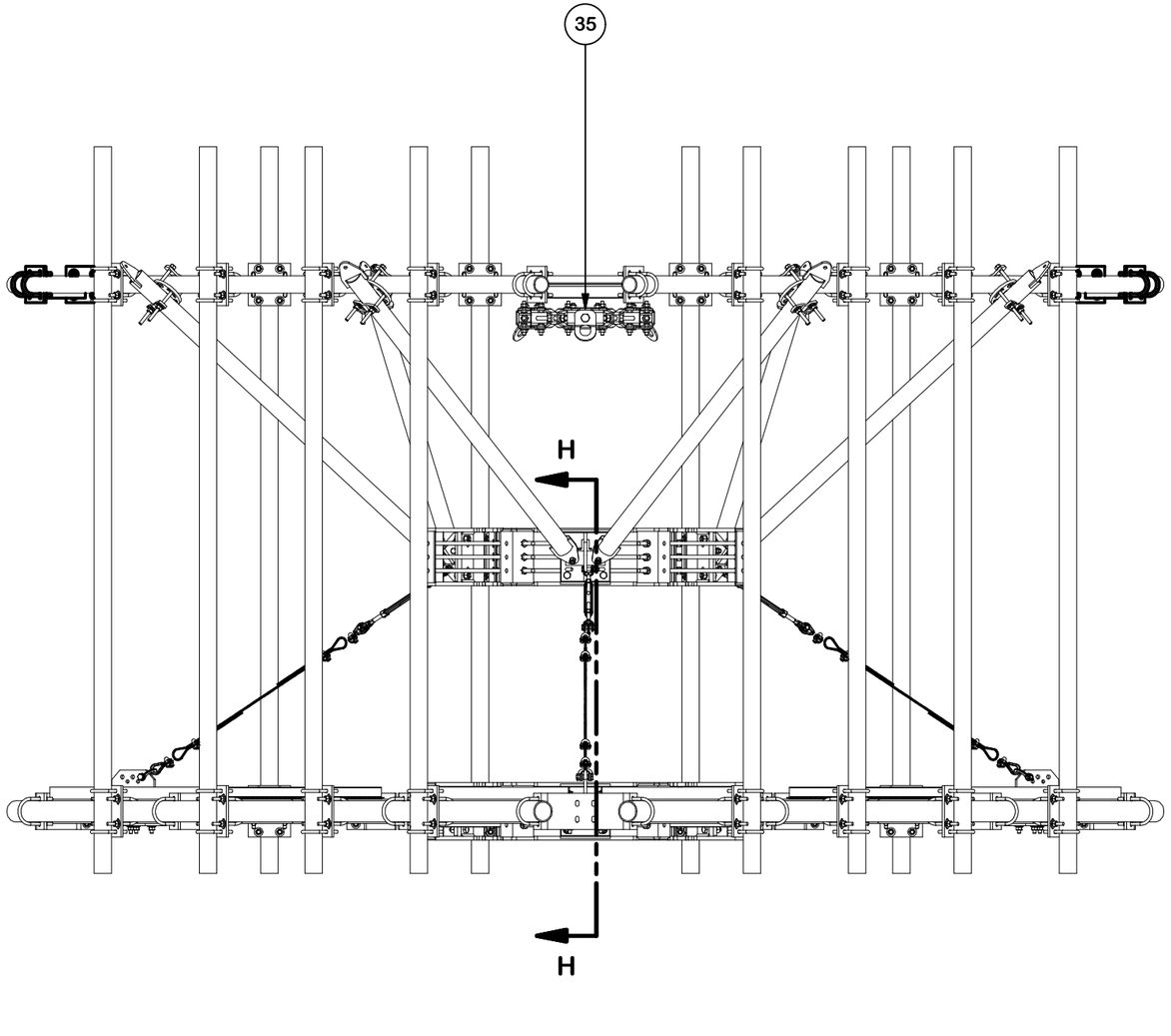
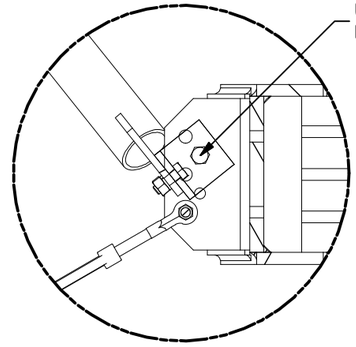
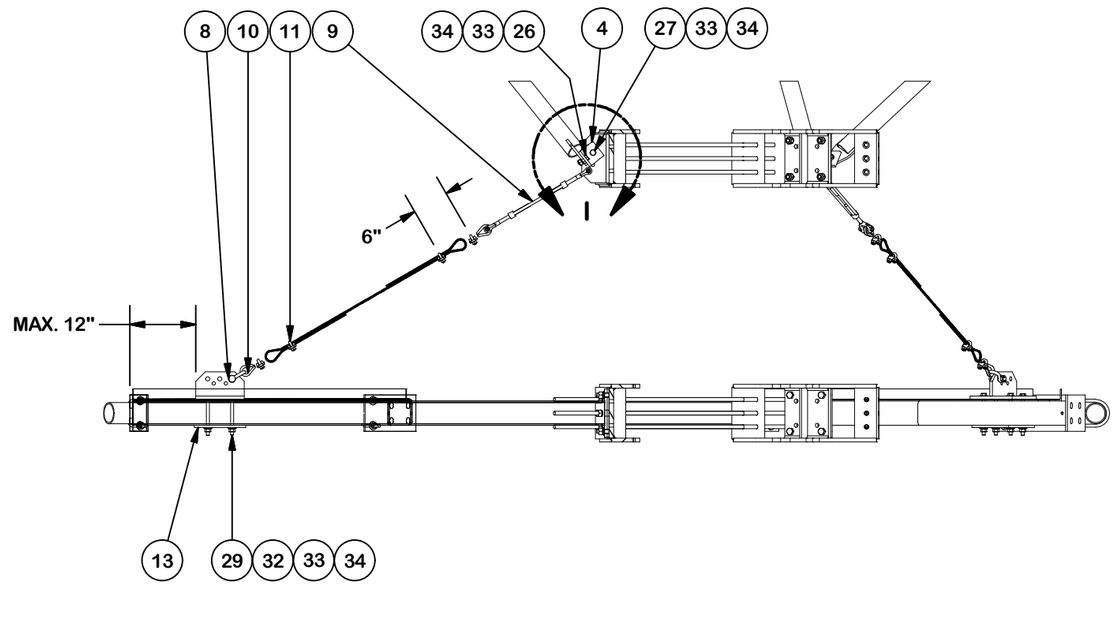
CPD NO.		DRAWN BY	ENG. APPROVAL	PART NO.	
		CSL 10/17/2019	10/18/2019	RMQLP-4120-H10	
CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.	
87	02	CUSTOMER	BMC 10/18/2019	RMQLP-4120-H10	





DETAIL I



SECTION H-H

NOTE:
SOME OBJECTS ARE TRANSPARENT FOR CLARITY

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES (± 0.030")
DRILLED AND GAS CUT HOLES (± 0.030") - NO CONING OF HOLES
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DESCRIPTION
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PIPES, REINFORCED HANDRAIL, AND CABLE

SITE PRO 1
A valmont COMPANY
Engineering
Support Team:
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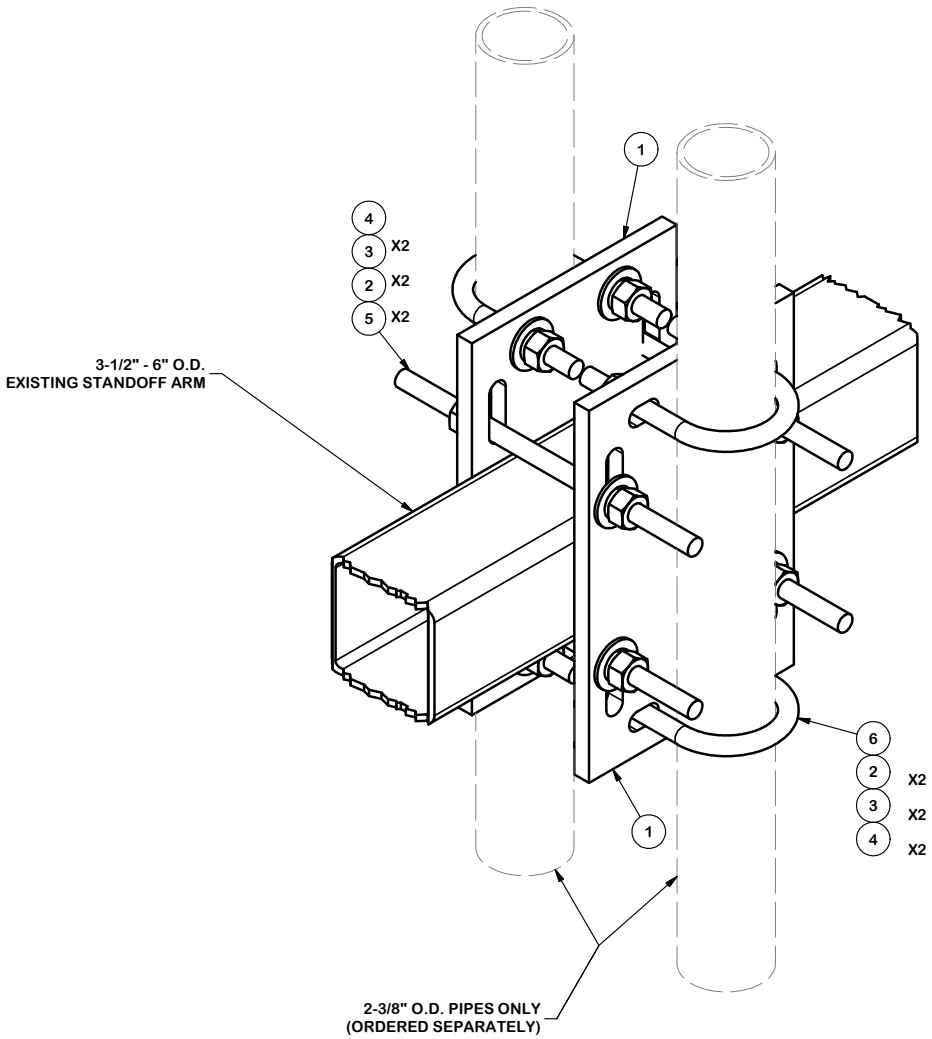
Tampa, FL

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
	CSL 10/17/2019	10/18/2019	RMQLP-4120-H10

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
87	02	CUSTOMER	BMC 10/18/2019	RMQLP-4120-H10



PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	SCX6	CROSSOVER PLATE	11 in	10.62	21.23
2	16	G12FW	1/2" HDG USS FLATWASHER		0.03	0.54
3	16	G12LW	1/2" HDG LOCKWASHER		0.01	0.22
4	16	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	1.14
5	4	G12R-10	1/2" x 10" THREADED ROD (HDG.)		3.23	12.91
6	4	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.66	2.63
					TOTAL WT. #	38.67

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES *(± 0.030")*
DRILLED AND GAS CUT HOLES *(± 0.030")* - NO CONING OF HOLES
LASER CUT EDGES AND HOLES *(± 0.010")* - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING *(± 0.030")*
ALL OTHER ASSEMBLY *(± 0.060")*

DESCRIPTION: BACK TO BACK PIPE MOUNT 2-3/8" PIPES

SITE PRO 1 — A valmont COMPANY

Engineering Support Team: 1-888-753-7446

Locations: New York, NY; Atlanta, GA; Los Angeles, CA; Plymouth, IN; Salem, OR; Dallas, TX

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.	PAGE
	CEK 4/26/2013		BBPM-K3	1 OF 1

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	03	CUSTOMER	BMC 4/26/2013	BBPM-K3

Kristina Cottone

From: TrackingUpdates@fedex.com
Sent: Friday, July 15, 2022 10:02 AM
To: Kristina Cottone
Subject: FedEx Shipment 777375932912: Your package has been delivered

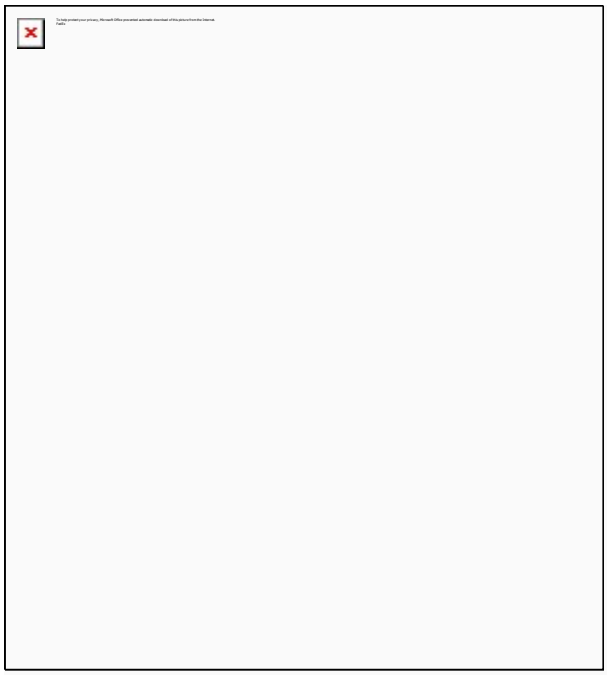
Hi. Your package was delivered Fri, 07/15/2022 at 9:58am.

Delivered to 26 COMMERCE DR, NORTH BRANFORD, CT 06471

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER	777375932912
FROM	Smartlink LLC 85 Rangeway Road Building 3 Suite 102 NORTH BILLERICA, MA, US, 01862
TO	ARTEC Properties LLC ATTN: ARTEC Properties LLC 26 Commerce Drive NORTH BRANFORD, CT, US, 06471

REFERENCE	CTL02270 - North Branford
SHIPPER REFERENCE	CTL02270 - North Branford
SHIP DATE	Wed 7/13/2022 06:35 PM
PACKAGING TYPE	FedEx Envelope
ORIGIN	NORTH BILLERICA, MA, US, 01862
DESTINATION	NORTH BRANFORD, CT, US, 06471
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx 2Day



FOLLOW FEDEX

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 9:01 AM CDT 07/15/2022.

Kristina Cottone

From: TrackingUpdates@fedex.com
Sent: Friday, July 15, 2022 10:16 AM
To: Kristina Cottone
Subject: FedEx Shipment 777375747986: Your package has been delivered

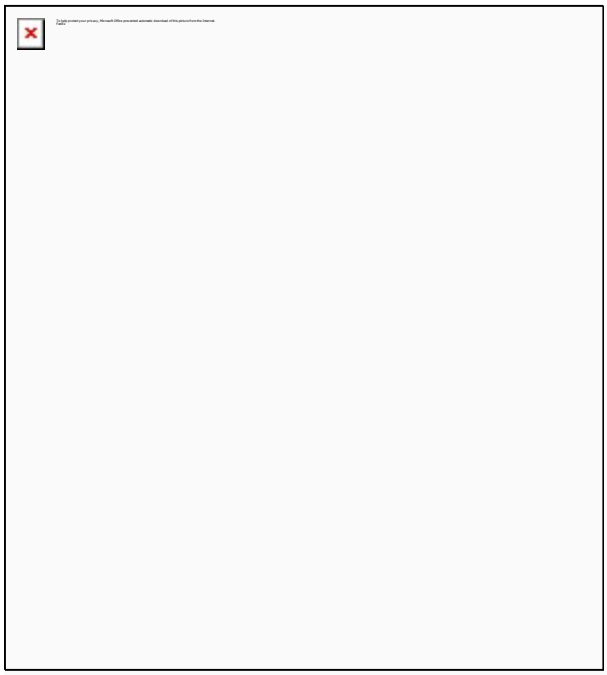
Hi. Your package was delivered Fri, 07/15/2022 at 10:13am.

Delivered to 8051 CONGRESS AVE, BOCA RATON, FL 33487
Received by C.MILLER

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER	777375747986
FROM	Smartlink LLC 85 Rangeway Road Building 3 Suite 102 NORTH BILLERICA, MA, US, 01862
TO	SBA ATTN: George O'Neil

	8051 Congress Ave BOCA RATON, FL, US, 33487
REFERENCE	CTL02270 - North Branford
SHIPPER REFERENCE	CTL02270 - North Branford
SHIP DATE	Wed 7/13/2022 06:35 PM
DELIVERED TO	Mailroom
PACKAGING TYPE	FedEx Envelope
ORIGIN	NORTH BILLERICA, MA, US, 01862
DESTINATION	BOCA RATON, FL, US, 33487
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx 2Day



FOLLOW FEDEX

Kristina Cottone

From: TrackingUpdates@fedex.com
Sent: Friday, July 15, 2022 1:54 PM
To: Kristina Cottone
Subject: FedEx Shipment 777375180761: Your package has been delivered

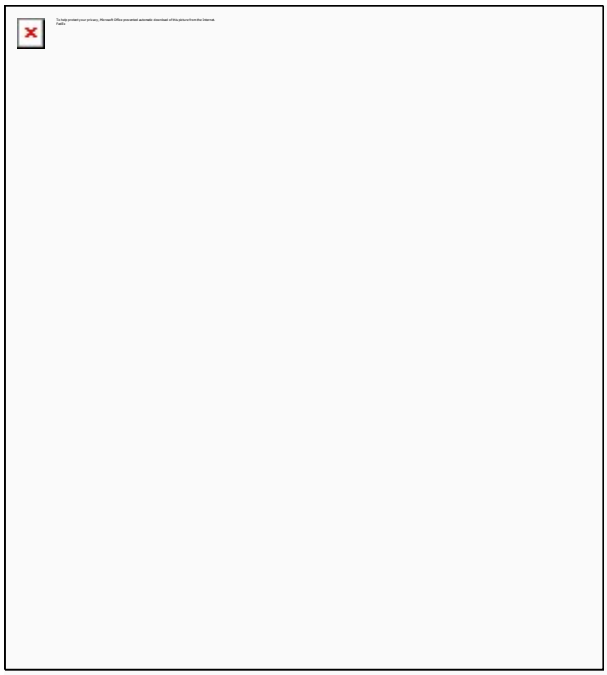
Hi. Your package was delivered Fri, 07/15/2022 at 1:50pm.

Delivered to 909 FOXON RD, NORTH BRANFORD, CT 06471

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER	777375180761
FROM	Smartlink LLC 85 Rangeway Road Building 3 Suite 102 NORTH BILLERICA, MA, US, 01862
TO	Town of North Branford ATTN:Michael Paulhus Town Manager 909 Foxon Road NORTH BRANFORD, CT, US, 06471

REFERENCE	CTL02270- North Branford
SHIPPER REFERENCE	CTL02270- North Branford
SHIP DATE	Wed 7/13/2022 06:35 PM
PACKAGING TYPE	FedEx Envelope
ORIGIN	NORTH BILLERICA, MA, US, 01862
DESTINATION	NORTH BRANFORD, CT, US, 06471
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx 2Day



FOLLOW FEDEX

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 12:53 PM CDT 07/15/2022.

Kristina Cottone

From: TrackingUpdates@fedex.com
Sent: Friday, July 15, 2022 1:54 PM
To: Kristina Cottone
Subject: FedEx Shipment 777375109794: Your package has been delivered

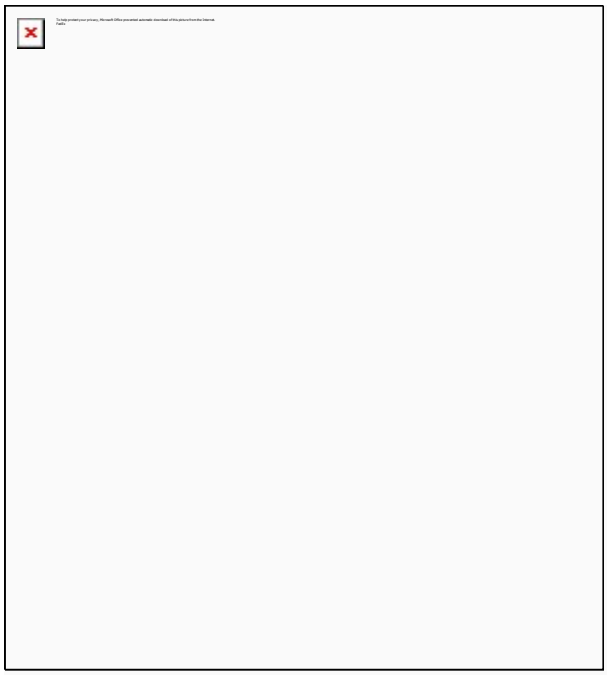
Hi. Your package was delivered Fri, 07/15/2022 at 1:50pm.

Delivered to 909 FOXON RD, NORTH BRANFORD, CT 06471

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER	777375109794
FROM	Smartlink LLC 85 Rangeway Road Building 3 Suite 102 NORTH BILLERICA, MA, US, 01862
TO	Town of North Branford ATTN: Eric Knapp - Town Plan. 909 Foxon Road NORTH BRANFORD, CT, US, 06471

REFERENCE	CTL02270- North Branford
SHIPPER REFERENCE	CTL02270- North Branford
SHIP DATE	Wed 7/13/2022 06:35 PM
PACKAGING TYPE	FedEx Envelope
ORIGIN	NORTH BILLERICA, MA, US, 01862
DESTINATION	NORTH BRANFORD, CT, US, 06471
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx 2Day



FOLLOW FEDEX

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 12:53 PM CDT 07/15/2022.

PROJECT:	5GNR CBAND + DoD/4TX4RX/LTE3C
SITE NUMBER:	CTL02270
FA NUMBER:	10105782
USID:	82712
PTN NUMBER:	2051A11LGB/2051A11N9S/2051A11M3Z/2051A11LKQ /2051A11N9R/2051A11PA1
PACE NUMBER:	MRCTB055612/MRCTB053251/MRCTB056860/ MRCTB055527/MRCTB054801/MRCTB055322/MRCTB054225
SBA#:	CT13610
SITE NAME:	NORTH BRANFORD
SITE ADDRESS:	26 COMMERCE DRIVE NORTH BRANFORD, CT 06471

at&t
550 COCHITUATE ROAD
SUITE 550 13 AND 14
FRAMINGHAM, MA 01701

smartlink
1362 MELLON ROAD
SUITE 140
HANOVER, MD 21076

FULLERTON
1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
COA# PEC.0001899
www.FullertonEngineering.com

PROJECT INFORMATION

SITE NAME:	NORTH BRANFORD
SITE NUMBER:	CTL02270
SITE ADDRESS:	26 COMMERCE DRIVE NORTH BRANFORD, CT 06471
FA NUMBER:	10105782
PTN NUMBER:	2051A11LGB/2051A11N9S/2051A11M3Z/2051A11LKQ /2051A11N9R/2051A11PA1
PACE NUMBER:	MRCTB055612/MRCTB053251/MRCTB056860/ MRCTB055527/MRCTB054801/MRCTB055322/MRCTB054225
USID NUMBER:	82712
SBA NUMBER:	CT13610
APPLICANT:	AT&T WIRELESS 550 COCHITUATE ROAD SUITE 550 13 AND 14 FRAMINGHAM, MA 01701
TOWER OWNER:	SBA COMMUNICATIONS CORPORATION 8051 CONGRESS AVENUE BOCA RATON, FL 33487
JURISDICTION:/ ZONING:	TOWN OF NORTH BRANFORD
COUNTY:	NEW HAVEN
SITE COORDINATES FROM	(RFDS)
LATITUDE:	41.3221669°
LONGITUDE:	-72.7732661°
GROUND ELEV.:	146'
PROPOSED USE:	TELECOMMUNICATIONS FACILITY
AT&T RF MANAGER:	DEEPAK RATHORE
PHONE:	(860) 965-3068
EMAIL:	dr701e@att.com

PROJECT CONSULTANTS

PROJECT MANAGER:	SMARTLINK
ADDRESS:	85 RANGEWAY ROAD, SUITE 102 NORTH BILLERICA, MA 01862
CONTACT:	SHARON KEEFE (978) 930-3918
EMAIL:	Sharon.Keefe@smartlinkllc.com
SITE AQUISITION:	SMARTLINK
ADDRESS:	85 RANGEWAY ROAD, SUITE 102 NORTH BILLERICA, MA 01862
CONTACT:	KRISTINA COTTONE (978) 551-8627
EMAIL:	Kristina.Cottone@smartlinkllc.com
ENGINEER/ARCHITECT:	FULLERTON ENGINEERING, P.C.
ADDRESS:	1100 E. WOODFIELD ROAD, SUITE 500 SCHAUMBURG, IL 60173
CONTACT:	KIP HITTER (847) 908-8400
EMAIL:	KHitter@FullertonEngineering.com
CONSTRUCTION:	SMARTLINK
ADDRESS:	85 RANGEWAY ROAD, SUITE 102 NORTH BILLERICA, MA 01862
CONTACT:	KRISTINA COTTONE (978) 551-8627
EMAIL:	kristina.cottone@smartlinkgroup.com

SCOPE OF WORK

PROJECT SCOPE HEREIN BASED ON RFDS ID # 4846446, VERSION 2.00 LAST UPDATED 06/02/2022.

EXISTING TOWER EQUIPMENT TO BE REMOVED:
(3) SECTOR MOUNTS
(6) LGP21401 TMAS
(6) POWERWAVE 7770 ANTENNAS
(3) CCI HPA-65R-BUU-H6 ANTENNAS
(3) RRUS-11 B12
(3) RRUS-32 B2

EXISTING TOWER EQUIPMENT TO REMAIN:
(1) DC6-48-60-18-8F RAYCAP
(1) FIBER AND (2) POWER CABLES
(6) 1 5/8" COAX CABLES

NEW TOWER EQUIPMENT TO BE INSTALLED:
(1) LOW PROFILE ANTENNA PLATFORM SITE PRO 1 RMQLP-4120-H10
(3) CCI OPA65R-BU6DA ANTENNAS
(3) CCI TPA65R-BU6DA-K ANTENNAS
(3) ERICSSON AIR6419 B77G STACKED ANTENNAS
(3) ERICSSON AIR6449 B77D STACKED ANTENNAS
(3) RRUS-4449 B5/B12
(3) RRUS-8843 B2/B66A
(3) RRUS-4478 B14
(2) DC6-48-60-18-8F RAYCAP
(6) Y-CABLES
(2) 18 PAIR FIBER & (4) 6AWG6 DC POWER CABLES

GROUND EQUIPMENT TO BE REMOVED:
DECOMMISSION EXISTING UMTS

GROUND EQUIPMENT TO BE INSTALLED:
(1) NEW RBS 6648 AND XCEDE CABLES
(1) NEW RBS 6630 AND IDLE CABLES
(5) NEW RECTIFIERS IN EXISTING POWER PLANT
(1) NEW BATTERY RACK W/ 3 STRINGS
(1) NEW INDOOR DC12

- CONTRACTOR SHALL FURNISH ALL MATERIAL WITH THE EXCEPTION OF AT&T SUPPLIED MATERIAL.
- ALL MATERIAL SHALL BE INSTALLED BY THE CONTRACTOR, UNLESS STATED OTHERWISE.

SITE LOCATION MAP

NO SCALE

DIRECTIONS

SCAN QR CODE FOR LINK TO SITE LOCATION MAP

APPLICABLE BUILDING CODES AND STANDARDS

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES.

BUILDING CODE: 2015 INTERNATIONAL BUILDING CODE
2018 CONNECTICUT STATE BUILDING CODE SUPPLEMENT

ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE

- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
- ADA ACCESS REQUIREMENTS ARE NOT REQUIRED.
- THIS FACILITY DOES NOT REQUIRE POTABLE WATER AND WILL NOT PRODUCE ANY SEWAGE

DRAWING INDEX

NOTE: DRAWING SCALES ARE FOR 11"x17" SHEETS UNLESS OTHERWISE NOTED

REV	DATE	DESCRIPTION	BY
0	03/04/22	90% REVIEW	SM
1	04/05/22	FINAL	SM
2	5/25/22	FOR CONSTRUCTION	KC
3	06/07/22	FOR CONSTRUCTION	SM

I HEREBY CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.

SITE NAME
NORTH BRANFORD

SITE NUMBER:
CTL02270

SITE ADDRESS
26 COMMERCE DRIVE
NORTH BRANFORD, CT 06471

SHEET NAME
TITLE SHEET

SHEET NUMBER
T1

PROJECT# 2021.0215.0008

GENERAL CONSTRUCTION

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR/CM – SMARTLINK
   OWNER – AT&T WIRELESS
2. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND AT&T PROJECT SPECIFICATIONS.
3. GENERAL CONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
4. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. GENERAL CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF WORK.
5. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.
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. PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE ENGINEER PRIOR TO PROCEEDING.
10. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFIRM TO ALL OSHA REQUIREMENTS AND THE LOCAL JURISDICTION.
11. GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES.
12. ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.
13. SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH UL LISTED MATERIALS APPROVED BY LOCAL JURISDICTION. CONTRACTOR SHALL KEEP AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DEBRIS.
14. WORK PREVIOUSLY COMPLETED IS REPRESENTED BY LIGHT SHADED LINES AND NOTES. THE SCOPE OF WORK FOR THIS PROJECT IS REPRESENTED BY DARK SHADED LINES AND NOTES. CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEVIATE FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
15. CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
16. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
17. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
18. GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND CONTRACTORS TO THE SITE AND/OR BUILDING.
19. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION.
20. THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.
21. THE GENERAL CONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2–A OT 2–A:10–B:C AND SHALL BE WITHIN 25 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.
22. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS SHALL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, AND D) TRENCHING & EXCAVATION.
23. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE RESPONSIBLE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
24. THE AREAS OF THE OWNER'S 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.
25. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL.
26. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUNDING. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
27. THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE–APPROVED BY THE LOCAL JURISDICTION.
28. ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
29. ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.
30. CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS–BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
31. CONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION.
32. THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE, AND IS NOT FOR HUMAN HABITAT (NO HANDICAP ACCESS REQUIRED).
33. OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH, BY AT&T TECHNICIANS.
34. NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.
35. ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST REVISION AT&T MOBILITY GROUNDING STANDARD "TECHNICAL SPECIFICATION FOR CONSTRUCTION OF GSM/GPRS WIRELESS SITES" AND "TECHNICAL SPECIFICATION FOR FACILITY GROUNDING". IN CASE OF A CONFLICT BETWEEN THE CONSTRUCTION SPECIFICATION AND THE DRAWINGS, THE DRAWINGS SHALL GOVERN.
36. CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION. IF CONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY.
37. CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
38. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
39. NO WHITE STROBE LIGHTS ARE PERMITTED. LIGHTING IF REQUIRED, WILL MEET FAA STANDARDS AND REQUIREMENTS.

ANTENNA MOUNTING

40. DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CURRENT ANSI/TIA–222 OR APPLICABLE LOCAL CODES.
41. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT–DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS NOTED OTHERWISE.
42. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC–COATING (HOT–DIP) ON IRON AND STEEL HARDWARE", UNLESS NOTED OTHERWISE.
43. DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.
44. ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH LOCK NUTS, DOUBLE NUTS AND SHALL BE TORQUED TO MANUFACTURER'S RECOMMENDATIONS.
45. CONTRACTOR SHALL INSTALL ANTENNA PER MANUFACTURER'S RECOMMENDATION FOR INSTALLATION AND GROUNDING.
46. ALL UNUSED PORTS ON ANY ANTENNAS SHALL BE TERMINATED WITH A 50–OHM LOAD TO ENSURE ANTENNAS PERFORM AS DESIGNED.
47. PRIOR TO SETTING ANTENNA AZIMUTHS AND DOWNTILTS, ANTENNA CONTRACTOR SHALL CHECK THE ANTENNA MOUNT FOR TIGHTNESS AND ENSURE THAT THEY ARE PLUMB. ANTENNA AZIMUTHS SHALL BE SET FROM TRUE NORTH AND BE ORIENTED WITHIN +/– 5% AS DEFINED BY THE RFDS. ANTENNA DOWNTILTS SHALL BE WITHIN +/– 0.5% AS DEFINED BY THE RFDS. REFER TO ND–00246.
48. JUMPERS FROM THE TMA'S MUST TERMINATE TO OPPOSITE POLARIZATION'S IN EACH SECTOR.
49. CONTRACTOR SHALL RECORD THE SERIAL #, SECTOR, AND POSITION OF EACH ACTUATOR INSTALLED AT THE ANTENNAS AND PROVIDE THE INFORMATION TO AT&T.
50. TMA'S SHALL BE MOUNTED ON PIPE DIRECTLY BEHIND ANTENNAS AS CLOSE TO ANTENNA AS FEASIBLE IN A VERTICAL POSITION.

TORQUE REQUIREMENTS

51. ALL RF CONNECTIONS SHALL BE TIGHTENED BY A TORQUE WRENCH.
52. ALL RF CONNECTIONS, GROUNDING HARDWARE AND ANTENNA HARDWARE SHALL HAVE A TORQUE MARK INSTALLED IN A CONTINUOUS STRAIGHT LINE FROM BOTH SIDES OF THE CONNECTION.
    A. RF CONNECTION BOTH SIDES OF THE CONNECTOR.
    B. GROUNDING AND ANTENNA HARDWARE ON THE NUT SIDE STARTING FROM THE THREADS TO THE SOLID SURFACE. EXAMPLE OF SOLID SURFACE: GROUND BAR, ANTENNA BRACKET METAL.

FIBER & POWER CABLE MOUNTING

53. THE FIBER OPTIC TRUNK CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY. WHEN INSTALLING FIBER OPTIC TRUNK CABLES INTO A CABLE TRAY SYSTEM, THEY SHALL BE INSTALLED INTO AN INTER DUCT AND A PARTITION BARRIER SHALL BE INSTALLED BETWEEN THE 600 VOLT CABLES AND THE INTER DUCT IN ORDER TO SEGREGATE CABLE TYPES. OPTIC FIBER TRUNK CABLES SHALL HAVE APPROVED CABLE RESTRAINTS EVERY (60) SIXTY FEET AND SECURELY FASTENED TO THE CABLE TRAY SYSTEM. NFPA 70 (NEC) ARTICLE 770 RULES SHALL APPLY.
54. THE TYPE TC–ER CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET. AN EXCEPTION; WHERE TYPE TC–ER CABLES ARE NOT SUBJECT TO PHYSICAL DAMAGE, CABLES SHALL BE PERMITTED TO MAKE A TRANSITION BETWEEN CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY WHICH ARE SERVING UTILIZATION EQUIPMENT OR DEVICES, A DISTANCE (6) SIX FEET SHALL NOT BE EXCEEDED WITHOUT CONTINUOUS SUPPORTING. NFPA 70 (NEC) ARTICLES 336 AND 392 RULES SHALL APPLY.
55. WHEN INSTALLING OPTIC FIBER TRUNK CABLES OR TYPE TC–ER CABLES INTO CONDUITS, NFPA 70 (NEC) ARTICLE 300 RULES SHALL APPLY.

COAXIAL CABLE NOTES

62. TYPES AND SIZES OF THE ANTENNA CABLE ARE BASED ON ESTIMATED LENGTHS. PRIOR TO

    ORDERING CABLE, CONTRACTOR SHALL VERIFY ACTUAL LENGTH BASED ON CONSTRUCTION LAYOUT AND NOTIFY THE PROJECT MANAGER IF ACTUAL LENGTHS EXCEED ESTIMATED LENGTHS.
63. CONTRACTOR SHALL VERIFY THE DOWN–TILT OF EACH ANTENNA WITH A DIGITAL LEVEL.
64. CONTRACTOR SHALL CONFIRM COAX COLOR CODING PRIOR TO CONSTRUCTION.
65. ALL JUMPERS TO THE ANTENNAS FROM THE MAIN TRANSMISSION LINE SHALL BE 1/2" DIA. LDF AND SHALL NOT EXCEED 6'–0".
66. ALL COAXIAL CABLE SHALL BE SECURED TO THE DESIGNED SUPPORT STRUCTURE, IN AN APPROVED MANNER, AT DISTANCES NOT TO EXCEED 4'–0" OC.
67. CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS REGARDING BOTH THE INSTALLATION AND GROUNDING OF ALL COAXIAL CABLES, CONNECTORS, ANTENNAS, AND ALL OTHER EQUIPMENT.
68. CONTRACTOR SHALL GROUND ALL EQUIPMENT. INCLUDING ANTENNAS, RET MOTORS, TMA'S, COAX CABLES, AND RET CONTROL CABLES AS A COMPLETE SYSTEM. GROUNDING SHALL BE EXECUTED BY QUALIFIED WIREMEN IN COMPLIANCE WITH MANUFACTURER'S SPECIFICATION AND RECOMMENDATION.
69. CONTRACTOR SHALL PROVIDE STRAIN–RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES, COAX CABLES, AND RET CONTROL CABLES. CABLE STRAIN–RELIEFS AND CABLE SUPPORTS SHALL BE APPROVED FOR THE PURPOSE. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
70. CONTRACTOR TO VERIFY THAT EXISTING COAX HANGERS ARE STACKABLE SNAP IN HANGERS. IF EXISTING HANGERS ARE NOT STACKABLE SNAP IN HANGERS THE CONTRACTOR SHALL REPLACE EXISTING HANGERS WITH NEW SNAP IN HANGERS IF APPLICABLE.

GENERAL CABLE AND EQUIPMENT NOTES

71. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ANTENNA, TMAS, DIPLEXERS, AND COAX CONFIGURATION, MAKE AND MODELS PRIOR TO INSTALLATION.
72. ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S RECOMMENDATIONS.
73. CONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.
74. ALL OUTDOOR RF CONNECTORS/CONNECTIONS SHALL BE WEATHERPROOFED, EXCEPT THE RET CONNECTORS, USING BUTYL TAPE AFTER INSTALLATION AND FINAL CONNECTIONS ARE MADE. BUTYL TAPE SHALL HAVE A MINIMUM OF ONE–HALF TAPE WIDTH OVERLAP ON EACH TURN AND EACH LAYER SHALL BE WRAPPED THREE TIMES. WEATHERPROOFING SHALL BE SMOOTH WITHOUT BUCKLING. BUTYL BLEEDING IS NOT ALLOWED.
75. IF REQUIRED TO PAINT ANTENNAS AND/OR COAX:
    A. TEMPERATURE SHALL BE ABOVE 50° F.
    B. PAINT COLOR MUST BE APPROVED BY BUILDING OWNER/LANDLORD.
    C. FOR REGULATED TOWERS, FAA/FCC APPROVED PAINT IS REQUIRED.
    D. DO NOT PAINT OVER COLOR CODING OR ON EQUIPMENT MODEL NUMBERS
76. ALL CABLES SHALL BE GROUNDED WITH COAXIAL CABLE GROUND KITS. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS.
    A. GROUNDING AT THE ANTENNA LEVEL.
    B. GROUNDING AT MID LEVEL, TOWERS WHICH ARE OVER 200'–0", ADDITIONAL CABLE GROUNDING REQUIRED.
    C. GROUNDING AT BASE OF TOWER PRIOR TO TURNING HORIZONTAL.
    D. GROUNDING OUTSIDE THE EQUIPMENT SHELTER AT ENTRY PORT.
    E. GROUNDING INSIDE THE EQUIPMENT SHELTER AT THE ENTRY PORT.
77. ALL PROPOSED GROUND BAR DOWNLEADS ARE TO BE TERMINATED TO THE EXISTING ADJACENT GROUND BAR DOWNLEADS A MINIMUM DISTANCE OF 4'–0" BELOW GROUND BAR. TERMINATIONS MAY BE EXOTHERMIC OR COMPRESSION.

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550 COCHITUATE ROAD
SUITE 550 13 AND 14
FRAMINGHAM, MA 01701

smartlink
1362 MELLON ROAD
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1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
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www.FullertonEngineering.com

REV	DATE	DESCRIPTION	BY
0	03/04/22	90% REVIEW	SM
1	04/05/22	FINAL	SM
2	5/25/22	FOR CONSTRUCTION	KC
3	06/07/22	FOR CONSTRUCTION	SM

I HEREBY CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.

STATE OF CONNECTICUT · BARBARA T. KOTECKI · 33711 · LICENSED PROFESSIONAL ENGINEER

Jun 10 2022

SITE NAME
NORTH BRANFORD

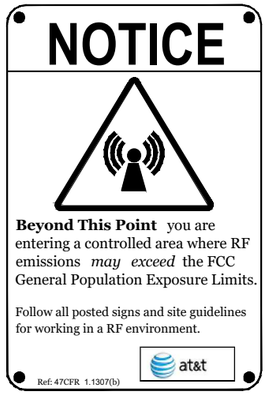
SITE NUMBER:
CTL02270

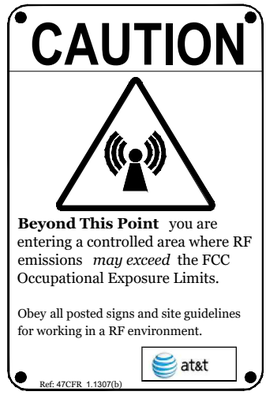
SITE ADDRESS
26 COMMERCE DRIVE
NORTH BRANFORD, CT 06471

SHEET NAME
NOTES AND SPECIFICATIONS

SHEET NUMBER
SP1

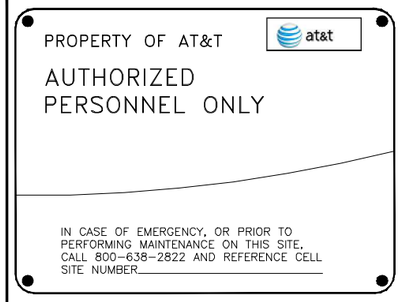
PROJECT# 2021.0215.0008





ALERTING SIGNS

ALERTING SIGN



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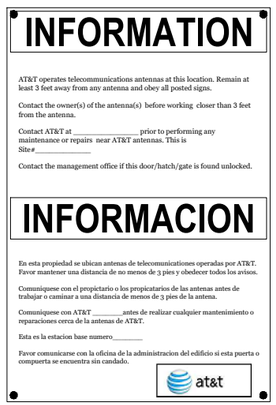
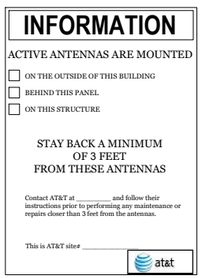


INFO SIGN #1



INFO SIGN #2

INFO SIGN #3

ALERTING SIGN
(FOR CELL SITE BATTERIES)

ALERTING SIGN
(FOR DIESEL FUEL)

ALERTING SIGN
(FOR PROPANE)

GENERAL SIGNAGE GUIDELINES

STRUCTURE TYPE	INFO SIGN #1	INFO SIGN #2	INFO SIGN #3	INFO SIGN #4	STRIPING	NOTICE SIGN	CAUTION SIGN
TOWERS							
MONOPOLE/MONOPINE/MONOPALM	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	CLIMBING SIDE OF THE TOWER	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS			AT THE HEIGHT OF THE FIRST CLIMBING STEP, MIN 9 FT ABOVE GROUND
SEC TOWERS/TOWERS WITH HIGH VOLTAGE	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	CLIMBING SIDE OF THE TOWER	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS			
LIGHT POLES/FLAG POLES	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA AND LESS THAN 9FT ABOVE GROUND	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS			
UTILITY WOOD POLES (JPA)	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA AND LESS THAN 9FT ABOVE GROUND	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS		IF GP MAX VALUE OF MPE AT ANTENNA LEVEL IS: 0-99%; NOTICE SIGN; OVER 99%: CAUTION SIGN AT NO LESS THAN 3FT BELOW ANTENNA AND 9FT ABOVE GROUND	
MICROCELLS MOUNTED ON NON-JPA POLES	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA AND LESS THAN 9FT ABOVE GROUND	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS		NOTICE OR CAUTION SIGN AT NO LESS THAN 9FT ABOVE GROUND: ONLY IF THE EXPOSURE EXCEEDS 90% OF THE GENERAL PUBLIC EXPOSURE AT EXPOSURE AT 6FT ABOVE GROUND OR AT OUTSIDE OF SURFACE OF ADJACENT BUILDING	
TOWERS							
AT ALL ACCESS POINTS TO THE ROOF	X			X			
ON ANTENNAS	X		X	X			
CONCEALED ANTENNAS	X	X		X			
ANTENNAS MOUNTED FACING OUTSIDE THE BUILDING	X	X		X			
ANTENNAS ON SUPPORT STRUCTURE	X	X		X			
ROOFVIEW GRAPH							
RADIATION AREA IS WITHIN 3FT FROM ANTENNA	X	ADJACENT TO EACH ANTENNA		X		EITHER NOTICE OR CAUTION SIGN (BASED ON ROOFVIEW RESULTS) AT ANTENNA /BARRIER	
RADIATION AREA IS BEYOND 3FT FROM ANTENNA	X	ADJACENT TO EACH ANTENNA		X	DIAGONAL, YELLOW STRIPING AS TO ROOFVIEW GRAPH		
CHURCH STEEPLES	ACCESS TO STEEPLE	ADJACENT TO ANTENNAS IF ANTENNAS ARE CONCEALED	ON BACKSIDE OF ANTENNAS	ACCESS TO STEEPLE			CAUTION SIGN AT THE ANTENNAS
WATER STATIONS	ACCESS TO LADDER	ADJACENT TO ANTENNAS IF ANTENNAS ARE CONCEALED	ON BACKSIDE OF ANTENNAS	ACCESS TO LADDER			CAUTION SIGN BESIDE INFO SIGN #1, MIN. 9FT ABOVE GROUND

NOTES FOR ROOFTOP SITES:

1. EITHER NOTICE OR CAUTION SIGNS NEED TO BE POSTED AT EACH SECTOR AS CLOSE AS POSSIBLE TO: THE OUTER EDGE OF THE STRIPED OFF AREA OR THE OUTER ANTENNAS OF THE SECTOR
2. IF ROOFVIEWS SHOWS: ONLY BLUE = NOTICE SIGN, BLUE AND YELLOW = CAUTION SIGN, ONLY YELLOW = CAUTION SIGN TO BE INSTALLED
3. SHOULD THE REQUIRED STRIPING AREAS INTERFERE WITH ANY STRUCTURE OR EQUIPMENT (A/C, VENTS, ROOF HATCH, DOORS, OTHER ANTENNAS, DISHES, ETC.). PLEASE NOTIFY AT&T TO MODIFY THE STRIPING AREA, PRIOR TO STARTING THE WORK.

SIGNAGE GUIDELINES CHART

at&t
550 COCHITUATE ROAD
SUITE 550 13 AND 14
FRAMINGHAM, MA 01701

smartlink
1362 MELLON ROAD
SUITE 140
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TEL: 847-908-8400
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www.FullertonEngineering.com

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Jun 10 2022

SITE NAME
NORTH BRANFORD

SITE NUMBER:
CTL02270

SITE ADDRESS
26 COMMERCE DRIVE
NORTH BRANFORD, CT 06471

SHEET NAME
NOTES AND SPECIFICATIONS

SHEET NUMBER
SP2

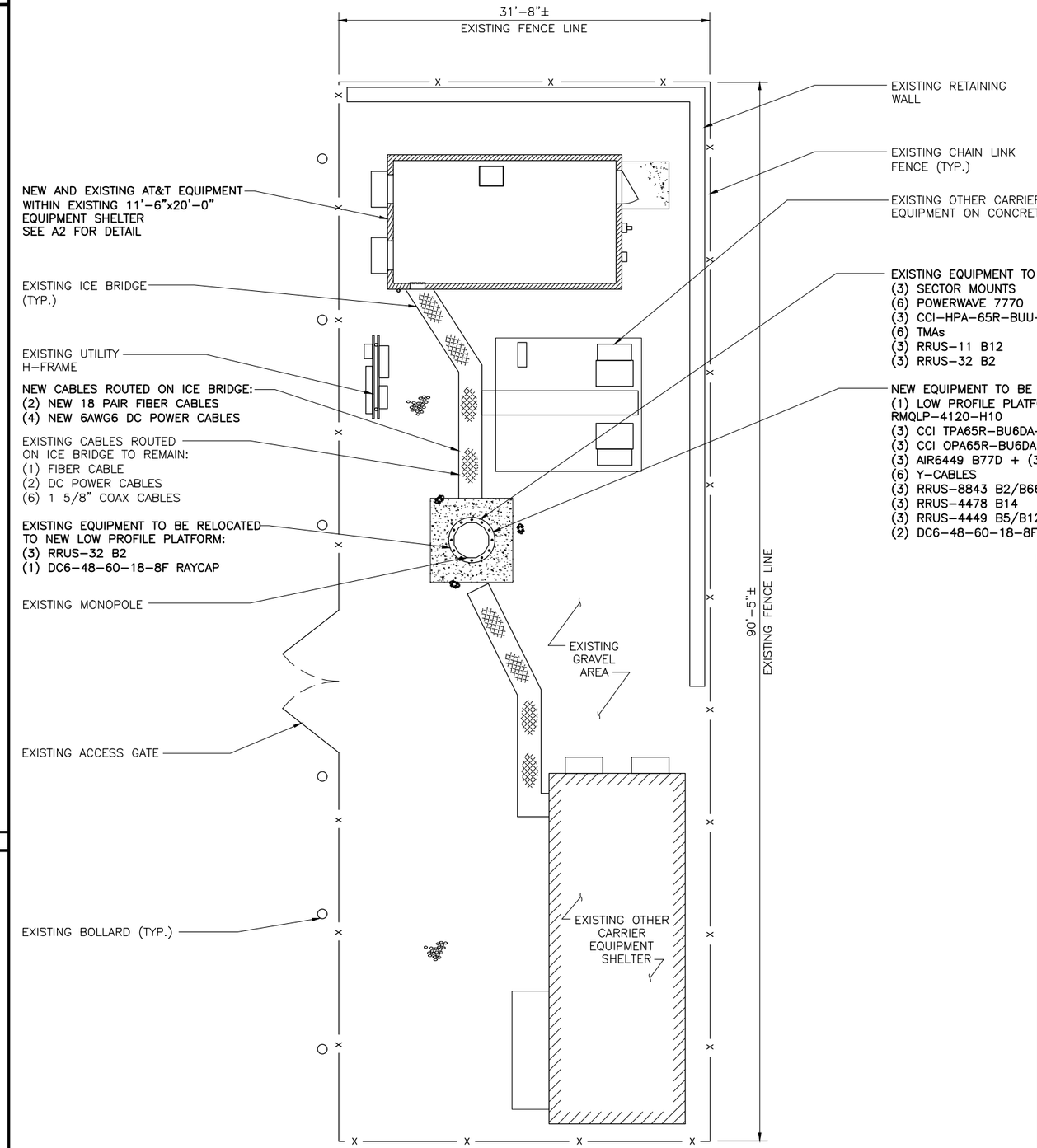
PROJECT# 2021.0215.0008

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AGL	ABOVE GRADE LEVEL
AMSL	ABOVE MEAN SEA LEVEL
APPROX	APPROXIMATE
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
BTS	BASE TRANSMISSION STATION
℄	CENTERLINE
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CND	CONDUIT
DWG	DRAWING
FT	FOOT(FEET)
EGB	EQUIPMENT GROUND BAR
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
ELEV	ELEVATION
EQUIP	EQUIPMENT
(E)	EXISTING
EXT	EXTERIOR
FND	FOUNDATION
F	FIBER
FIF	FACILITY INTERFACE FRAME
GA	GAUGE
GALV	GALVANIZED
GPS	GLOBAL POSITIONING SYSTEM
GND	GROUND
GSM	GLOBAL SYSTEM FOR MOBILE COMMUNICATION
LTE	LONG TERM EVOLUTION
MAX	MAXIMUM
MCPA	MULTI-CARRIER POWER AMPLIFIER
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MTS	MANUAL TRANSFER SWITCH
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
OE/OT	OVERHEAD ELECTRIC/TELCO
PPC	POWER PROTECTION CABINET
PL	PROPERY LINE
RBS	RADIO BASED STATION
RET	REMOTE ELECTRIC TILT
RRU	REMOTE RADIO UNIT
RGS	RIGID GALVANIZED STEEL
IN	INCH(ES)
INT	INTERIOR
LB(S), #	POUND(S)
SF	SQUARE FOOT
STL	STEEL
TMA	TOWER MOUNTED AMPLIFIER
TYP	TYPICAL
UE/UT	UNDERGROUND ELECTRIC/TELCO
UNO	UNLESS NOTED OTHERWISE
UMTS	UNIVERSAL MOBILE TELE-COMMUNICATION SYSTEM
VIF	VERIFY IN FIELD
W/	WITH
XFMR	TRANSFORMER

SYMBOLS

- REVISION
- WORK POINT
- UTILITY POLE
- COMPRESSED STONE
- BRICK
- CONCRETE
- EARTH
- GRAVEL
- MASONRY
- STEEL
- CENTERLINE
- PROPERTY LINE
- LEASE LINE
- EASEMENT LINE
- CHAIN LINK FENCE
- WOOD FENCE
- UE — BELOW GRADE ELECTRIC
- UT — BELOW GRADE TELEPHONE
- OE/OT — OVERHEAD ELECTRIC/TELEPHONE
- SECTION REFERENCE (A, S-1)



COMPOUND PLAN — 0 2' 4' 8' 16' — SCALE: 3/32" = 1'-0" — 1

SITE PHOTO 1 — SCALE: N.T.S. — 2

SITE PHOTO 2 — SCALE: N.T.S. — 3

at&t
550 COCHITUATE ROAD
SUITE 550 13 AND 14
FRAMINGHAM, MA 01701

smartlink
1362 MELLON ROAD
SUITE 140
HANOVER, MD 21076

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1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
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REV	DATE	DESCRIPTION	BY
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1	04/05/22	FINAL	SM
2	5/25/22	FOR CONSTRUCTION	KC
3	06/07/22	FOR CONSTRUCTION	SM

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STATE OF CONNECTICUT — BARBARA T. KOTECKI — 33711 — LICENSED PROFESSIONAL ENGINEER

Jun 10 2022

SITE NAME
NORTH BRANFORD

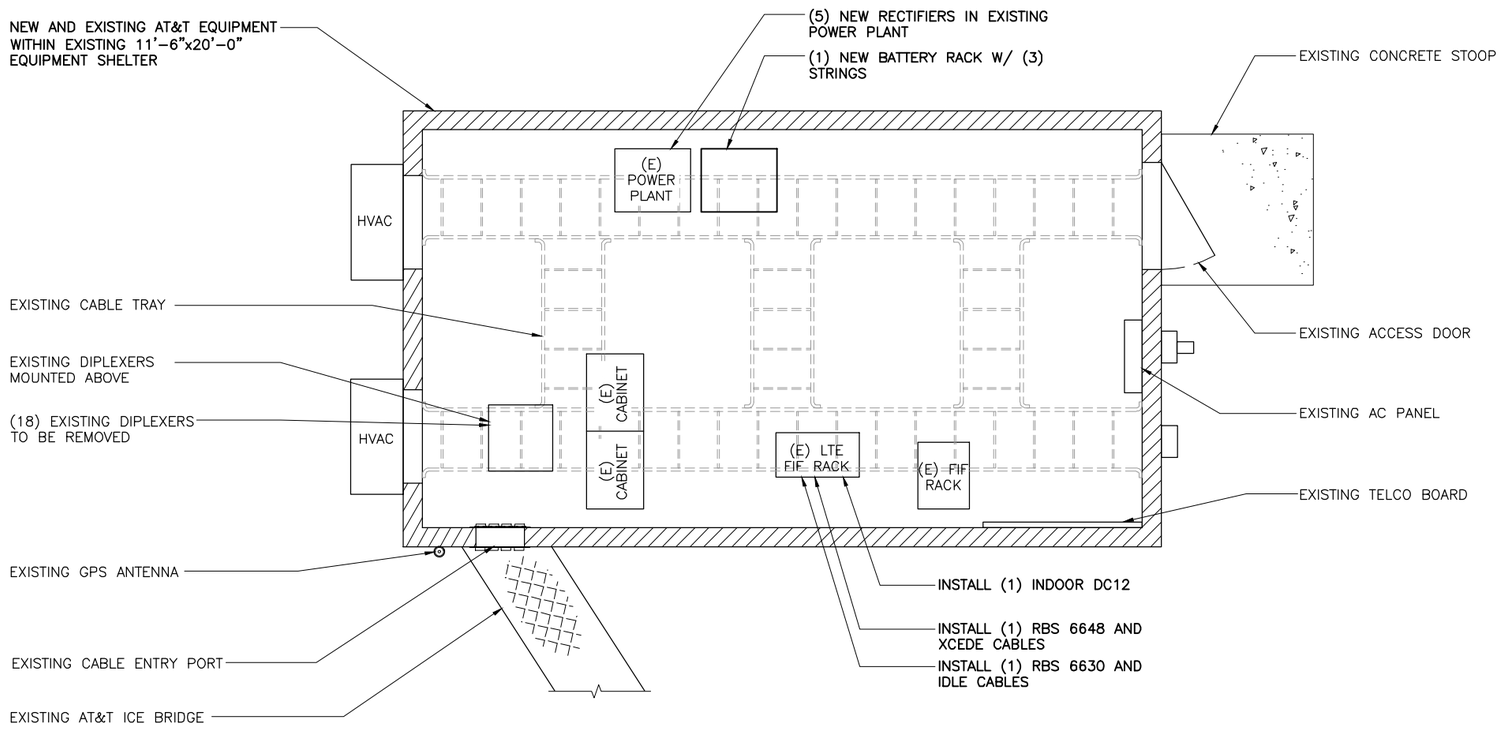
SITE NUMBER:
CTL02270

SITE ADDRESS
26 COMMERCE DRIVE
NORTH BRANFORD, CT 06471

SHEET NAME
COMPOUND PLAN

SHEET NUMBER
A1

PROJECT# 2021.0215.0008



EQUIPMENT PLAN

0 1' 2' 4' 6'

SCALE: 1/4" = 1'-0"

1

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33711
PROFESSIONAL ENGINEER
LICENSED

Jun 10 2022

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SITE ADDRESS

26 COMMERCE DRIVE
NORTH BRANFORD, CT 06471

SHEET NAME

EQUIPMENT PLAN

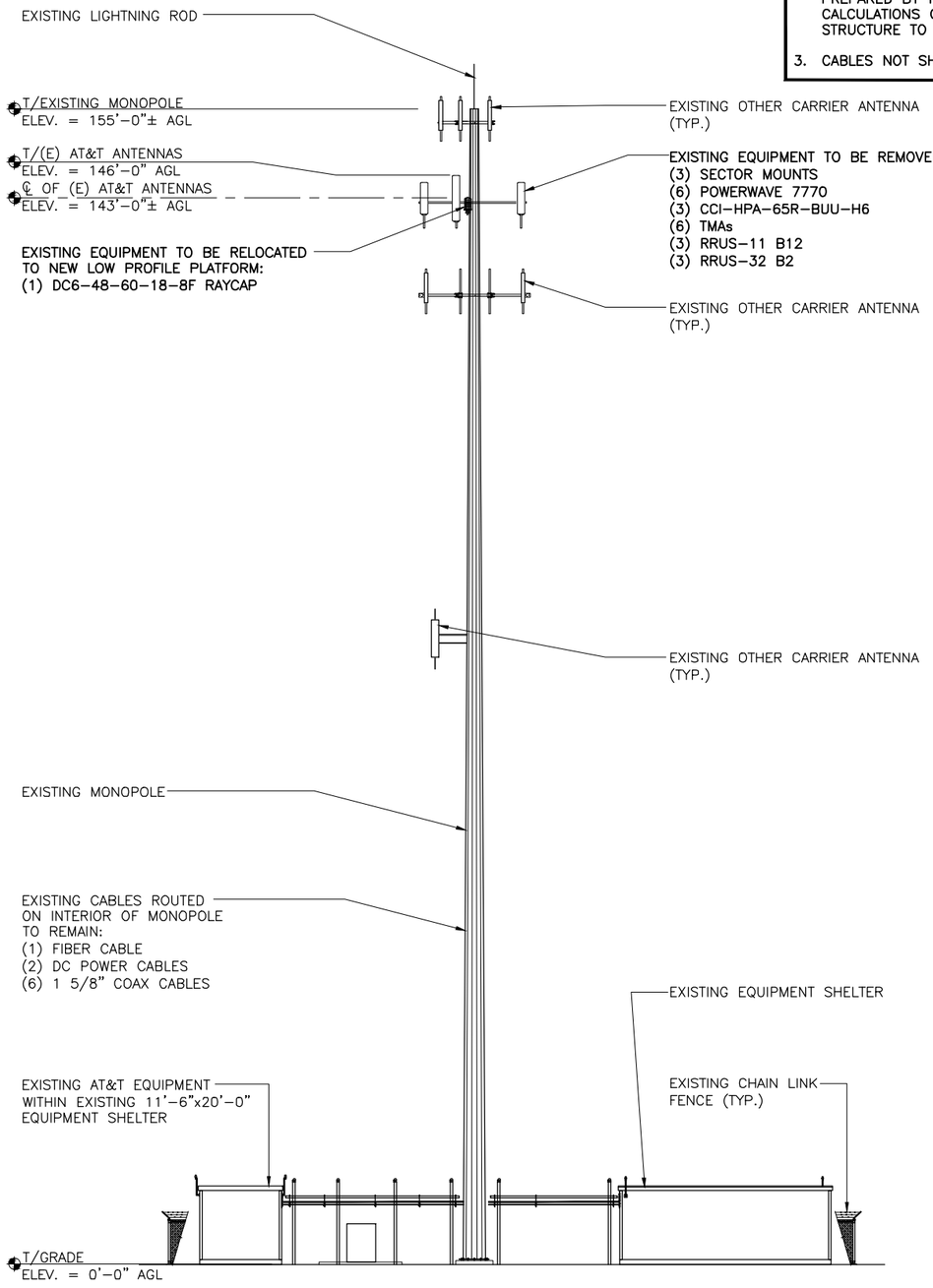
SHEET NUMBER

A2

PROJECT# 2021.0215.0008

NOTES:

1. CALCULATIONS FOR THE STRUCTURE WERE PREPARED BY OTHERS AND THOSE CALCULATIONS CERTIFY THE CAPACITY OF THE STRUCTURE TO SUPPORT THE NEW EQUIPMENT
2. CALCULATIONS FOR THE ANTENNA MOUNTS WERE PREPARED BY FULLERTON AND THOSE CALCULATIONS CERTIFY THE CAPACITY OF THE STRUCTURE TO SUPPORT THE NEW EQUIPMENT
3. CABLES NOT SHOWN FOR CLARITY



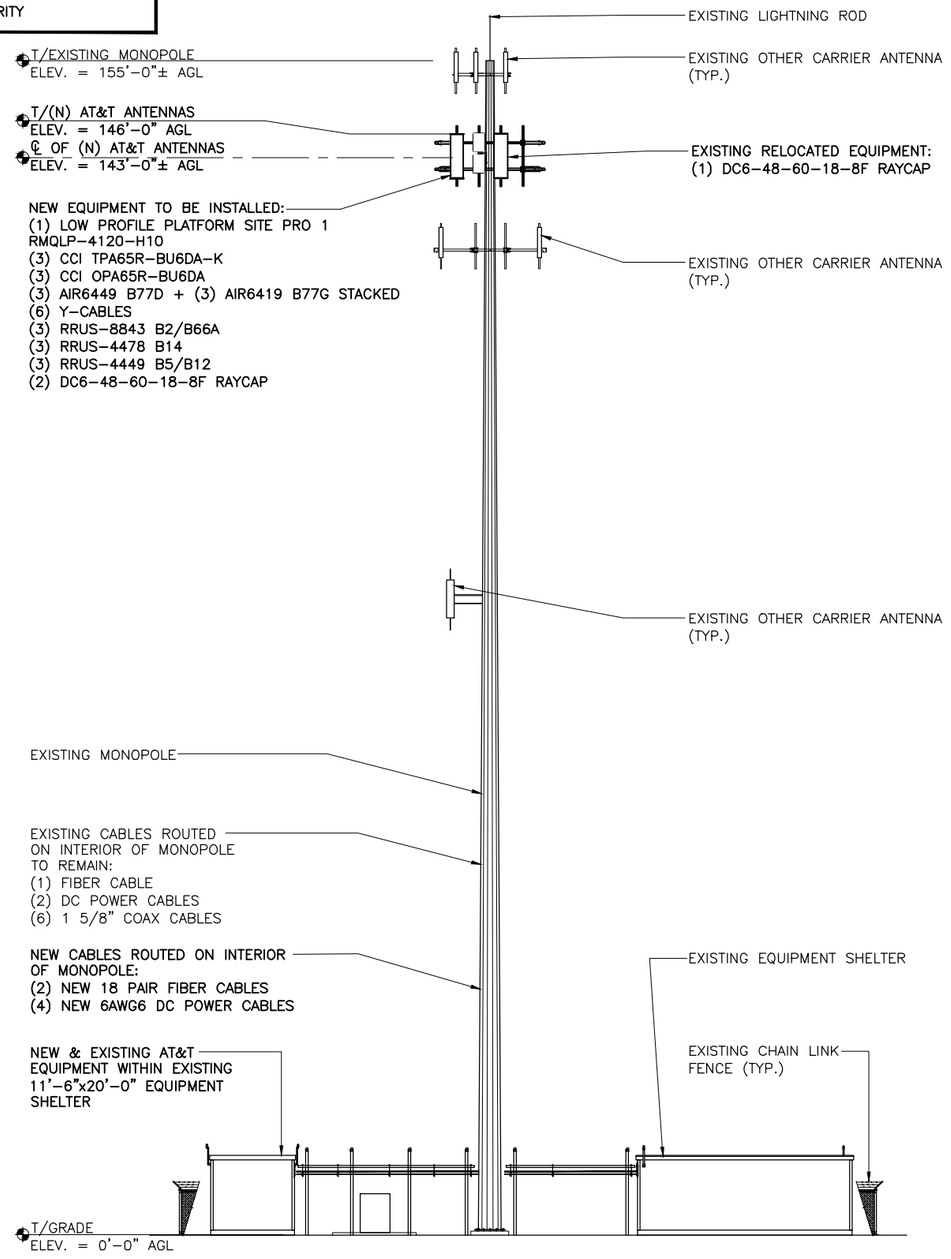
EXISTING ELEVATION

0 4' 8' 16' 24' SCALE: 1/16" = 1'-0"

1

NOTES:

1. 3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNAS
2. 6 FEET MINIMUM SEPARATION BETWEEN 700DE & 700BC
3. 4 FEET MINIMUM INTERSECTOR SEPARATION BETWEEN ANTENNAS EDGE TO EDGE



NEW ELEVATION

0 4' 8' 16' 24' SCALE: 1/16" = 1'-0"

2

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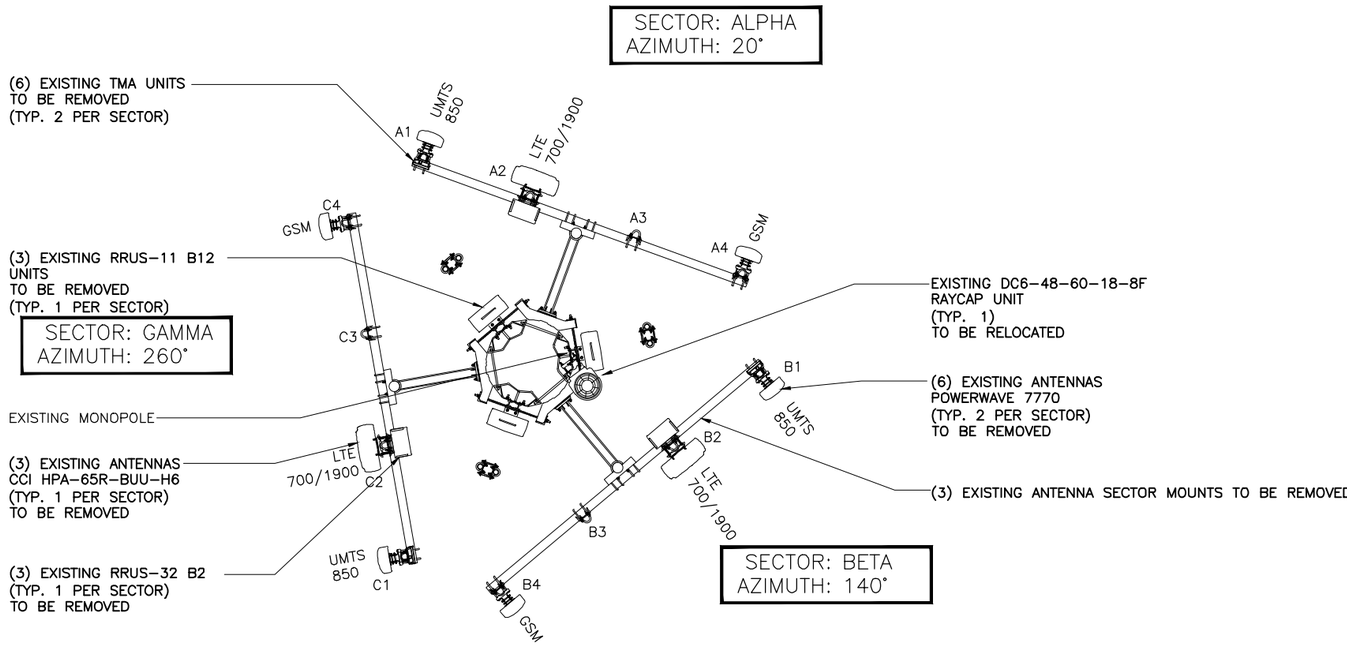
SITE ADDRESS
26 COMMERCE DRIVE
NORTH BRANFORD, CT 06471

SHEET NAME
ELEVATIONS

SHEET NUMBER
A3

PROJECT# 2021.0215.0008

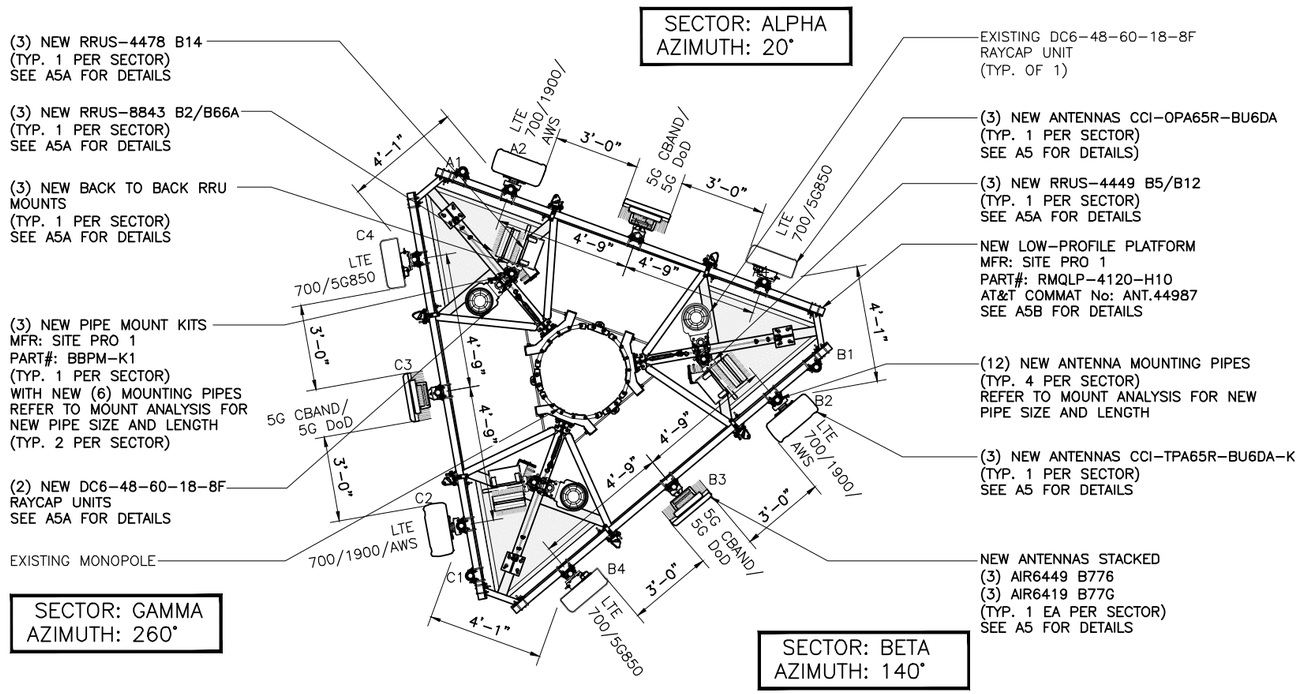


EXISTING ANTENNA PLAN

0 1' 2' 4' 8'

SCALE: 3/16" = 1'-0"

1



NOTES:

1. 3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNAS
2. 6 FEET MINIMUM SEPARATION BETWEEN 700DE & 700BC
3. 4 FEET MINIMUM INTERSECTOR SEPARATION BETWEEN ANTENNAS EDGE TO EDGE

FINAL ANTENNA PLAN

0 1' 2' 4' 8'

SCALE: 3/16" = 1'-0"

2

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SITE NUMBER:
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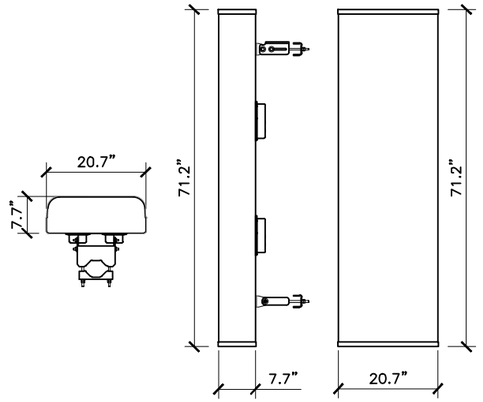
SITE ADDRESS
26 COMMERCE DRIVE
NORTH BRANFORD, CT 06471

SHEET NAME
ANTENNA PLANS

SHEET NUMBER
A4

PROJECT# 2021.0215.0008



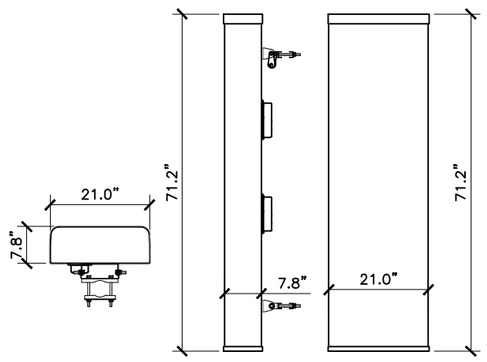
PLAN VIEW SIDE VIEW FRONT VIEW

CCI – TPA65R–BU6DA–K

MULTI–BAND TWELVE ANTENNA

FREQUENCY RANGE	4 LOW x 698–896 MHz 8 HIGH 1695–2400 MHz
ANTENNA WEIGHT	69 Lbs

ANTENNA SPEC SCALE: N.T.S. 1



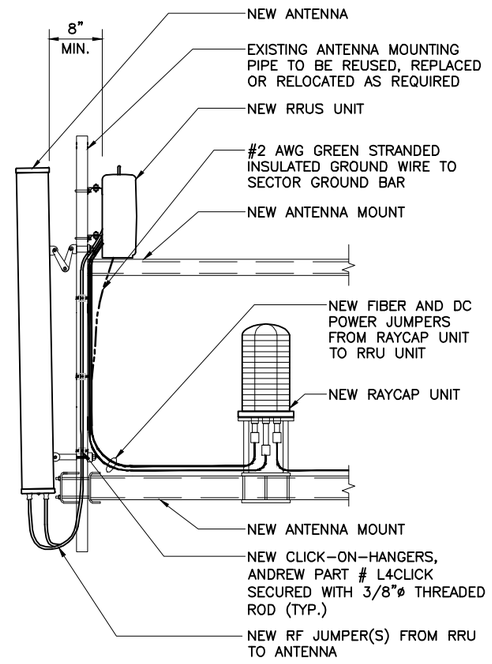
PLAN VIEW SIDE VIEW FRONT VIEW

CCI – OPA65R–BU6DA

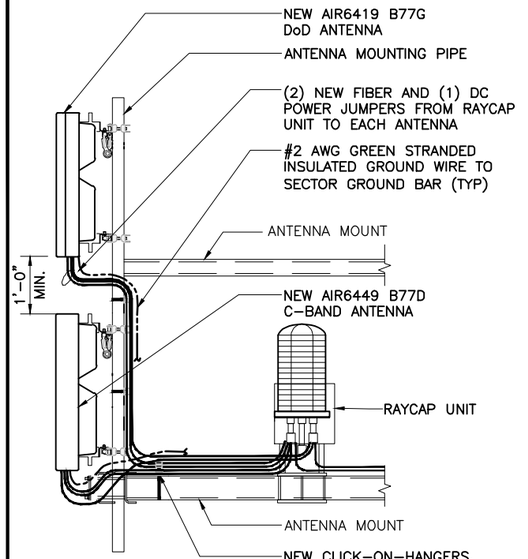
MULTI–BAND EIGHT–PORT ANTENNA

FREQUENCY RANGE	4 x 698–896 MHz 4 x 1695–2400 MHz
ANTENNA	63.2 Lbs
BRACKET	12 Lbs
TOTAL WEIGHT	75.2 Lbs

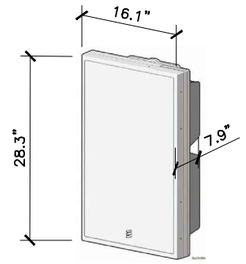
ANTENNA SPEC SCALE: N.T.S. 2

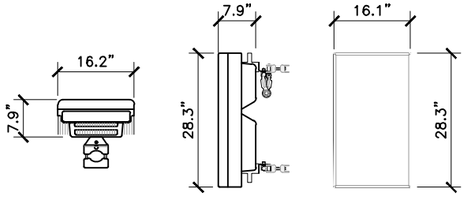


ANTENNA SCHEMATIC SCALE: N.T.S. 3



ANTENNA SCHEMATIC SCALE: N.T.S. 4





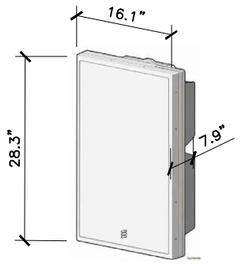
PLAN VIEW SIDE VIEW FRONT VIEW

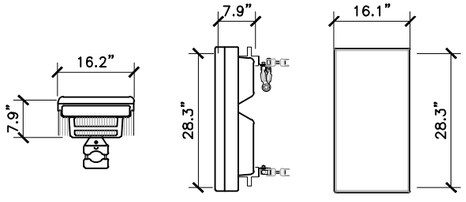
ERICSSON – AIR6419 B77G

MASSIVE MIMO MID–BAND

WEIGHT W/ HARDWARE 77 Lbs

ANTENNA SPEC SCALE: N.T.S. 5





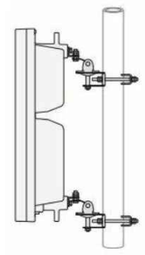
PLAN VIEW SIDE VIEW FRONT VIEW

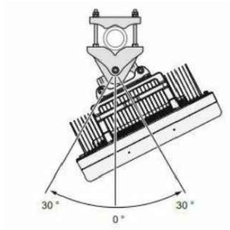
ERICSSON – AIR6419 B77G

MASSIVE MIMO MID–BAND

WEIGHT W/ HARDWARE 77 Lbs

ANTENNA SPEC SCALE: N.T.S. 6



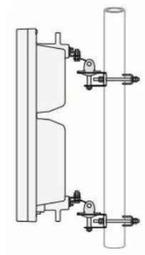


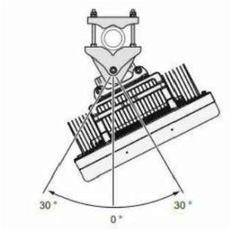
Pole	Circular	Square	90° Angle
Minimum outer dimension	Ø76 mm	50 × 50 mm	50 × 50 mm
Maximum outer dimension	Ø114 mm	80 × 80 mm	80 × 80 mm

ERICSSON – AIR 6449 B77D MOUNT

BRACKET SUPPORTING AIR WITH TILTING +/–20 DEGREE AND RIGHT/LEFT 30 DEGREE

MOUNT SPEC SCALE: N.T.S. 7





Pole	Circular	Square	90° Angle
Minimum outer dimension	Ø76 mm	50 × 50 mm	50 × 50 mm
Maximum outer dimension	Ø114 mm	80 × 80 mm	80 × 80 mm

ERICSSON – AIR 6419 B77G MOUNT

BRACKET SUPPORTING AIR WITH TILTING +/–20 DEGREE AND RIGHT/LEFT 30 DEGREE

MOUNT SPEC SCALE: N.T.S. 8

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STATE OF CONNECTICUT
BARBARA T. KOTECKI
33711
LICENSED PROFESSIONAL ENGINEER

Jun 10 2022

SITE NAME

NORTH BRANFORD

SITE NUMBER:

CTL02270

SITE ADDRESS

26 COMMERCE DRIVE
NORTH BRANFORD, CT 06471

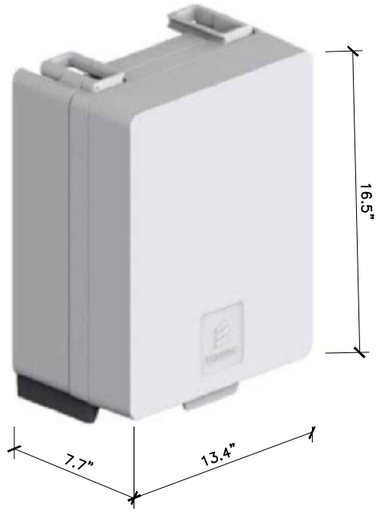
SHEET NAME

EQUIPMENT DETAILS

SHEET NUMBER

A5

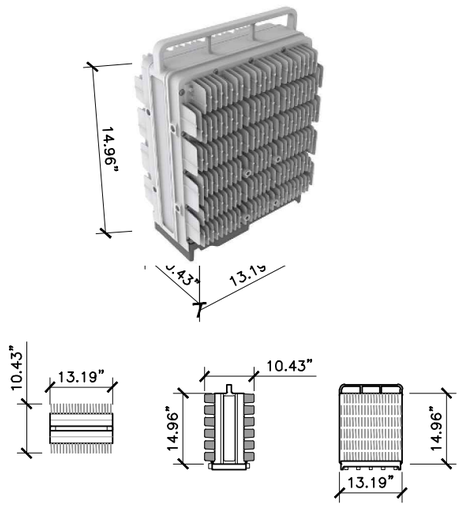
PROJECT# 2021.0215.0008



ERICSSON – RRUS 4478 B14

FREQUENCY RANGE	TX	758–768 MHz
	RX	788–798 MHz
TOTAL WEIGHT		59.9 Lbs

RRU SPEC SCALE: N.T.S. 1

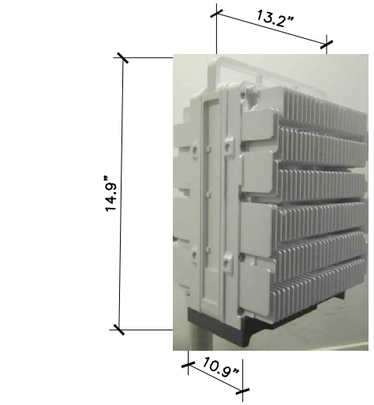


PLAN VIEW SIDE VIEW FRONT VIEW

ERICSSON
RADIO 4449 DUAL B5 & B12
AISG TMA & RET SUPPORT
4TX/4RX PER BAND (B5 & B12)

WEIGHT	~73 Lbs

RRU SPEC SCALE: N.T.S. 2



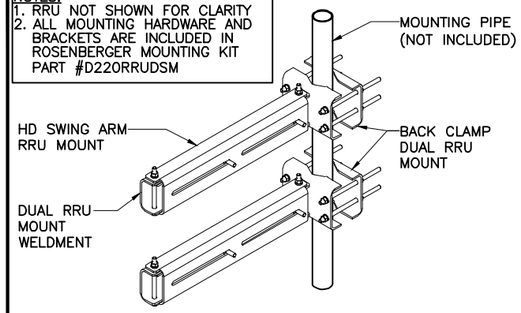
PLAN VIEW SIDE VIEW FRONT VIEW

ERICSSON –RRUS 8843 B2, B66A

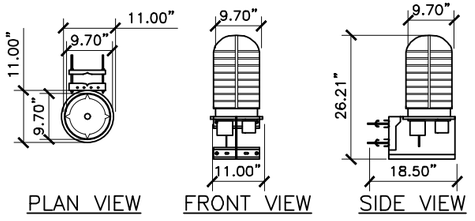
FREQUENCY RANGE	B2 TX	1930–1990 MHz
	B66A TX	2110–2180 MHz
	B2 RX	1850–1910 MHz
	B66A RX	1710–1780 MHz
TOTAL WEIGHT		72 Lbs

RRU SPEC SCALE: N.T.S. 3

NOTES:
1. RRU NOT SHOWN FOR CLARITY
2. ALL MOUNTING HARDWARE AND BRACKETS ARE INCLUDED IN ROSENBERGER MOUNTING KIT PART #D220RRUDSM



RRH MOUNT DETAIL SCALE: N.T.S. 4



PLAN VIEW FRONT VIEW SIDE VIEW

RAYCAP – DC6–48–60–18–8F
TOWER DC OVER VOLTAGE PROTECTION POWER CONNECTION SOLUTION

UNIT WEIGHT	32.8 Lbs

RAYCAP SPEC SCALE: N.T.S. 5

NOT USED SCALE: N.T.S. 6

NOT USED SCALE: N.T.S. 7

NOT USED SCALE: N.T.S. 8

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Jun 10 2022

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NORTH BRANFORD

SITE NUMBER:
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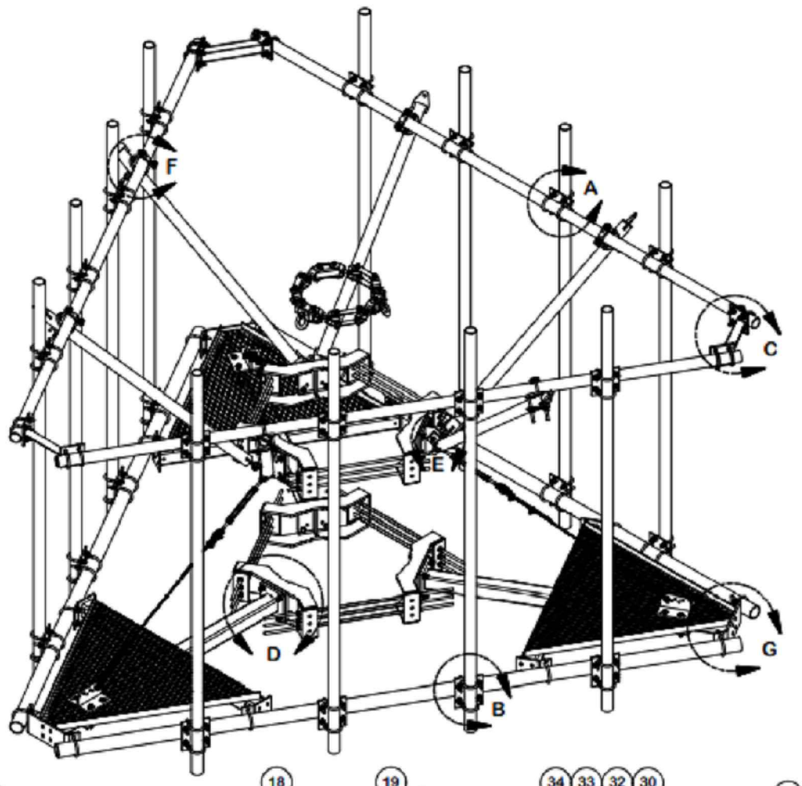
SITE ADDRESS
26 COMMERCE DRIVE
NORTH BRANFORD, CT 06471

SHEET NAME
RRU DETAILS

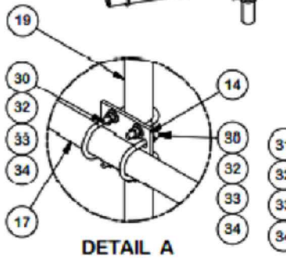
SHEET NUMBER
A5A

PROJECT# 2021.0215.0008



PARTS LIST

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	6	X-LWRM	RING MOUNT WELDMENT		68.81	412.85
2	3	X-SV196L	LONG PLATFORM WELDMENT		230.94	692.81
3	6	X-TBW	T-BRACKET WELDMENT		13.60	81.60
4	6	SHCM-T	CHAIN MOUNT TIGHTENER BRACKET	3 in	1.86	11.15
5	6	X-VSKL	LONG SUPPORT WELDMENT FOR VSK REINFORCEMENTS		37.05	222.33
6	6	X-127594	FLAT DISK CLAMP PLATE 4" CENTERS (GALV.)		2.51	15.04
7	12	X-100064	CLAMP (4" V-CLAMP) GALVANIZED		0.92	11.06
8	3	320751-I	1/2" CHAIN SHACKLE		0.76	2.29
9	3	320601-I	5/8" TURNBUCKLE		2.63	7.89
10	6	320777-I	5/16" THIMBLE		0.06	0.36
11	12	320152-I	5/16" WIRE ROPE CLIP		1.32	15.78
12	3	AC516-10	5/16" AIRECRAFT CABLE		1.25	3.76
13	15	SCX4	CROSSOVER PLATE	8 1/2 in	6.02	90.32
14	12	SCX2	CROSSOVER PLATE	7 in	4.80	57.56
15	3	X-AHCP	ANGLE HANDRAIL CORNER PLATE		12.92	38.76
17	3	P30174	2-7/8" O.D. x 174" SCH. 40 PIPE	174 in	84.20	252.59
18	3	P3174	3-1/2" X 174" SCH 40 GALVANIZED PIPE	174 in	109.97	329.90
19	12	P30120	2-7/8" x 120" (2-1/2" SCH. 40) GALVANIZED PIPE	120 in	58.07	696.79
20	18	G58R-48	5/8" x 48" THREADED ROD (HDG.)		4.18	75.27
20	18	G58R-24	5/8" x 24" THREADED ROD (HDG.)		2.09	37.63
21	12	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	3.75
22	12	A58234	5/8" x 2-3/4" HDG A325 HEX BOLT	2 3/4 in	0.36	4.27
23	12	A58FW	5/8" HDG A325 FLATWASHER		0.03	0.41
24	60	G58LW	5/8" HDG LOCKWASHER		0.03	1.57
25	60	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	7.79
26	6	G12112	1/2" x 1-1/2" HDG HEX BOLT GR5	1/2 in	0.15	0.89
27	3	G12212	1/2" x 2-1/2" HDG HEX BOLT GR5	2 1/2 in	0.20	0.61
28	12	G1204	1/2" x 4" HDG HEX BOLT GR5 FULL THREAD	4 in	0.27	3.24
29	24	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	5 1/2 in	0.41	9.83
30	84	X-UB1300	1/2" X 3" X 5" X 2" U-BOLT (HDG.)		0.67	56.19
31	36	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.83	29.82
32	288	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	9.82
33	285	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	3.96
34	285	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	20.41
35	1	HALO40	5,000 LB. MAINTENANCE TIE-OFF POINT		41.12	41.12
					TOTAL WT. #	3249.41



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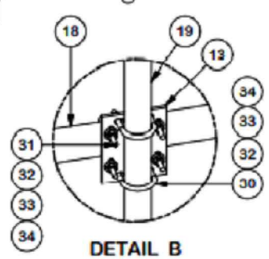

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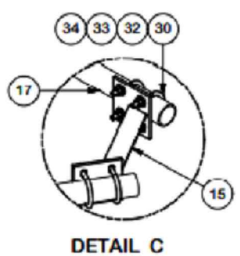

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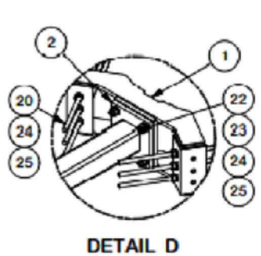
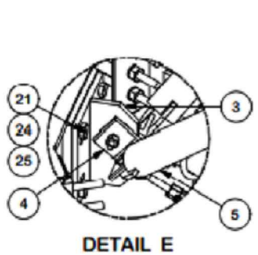
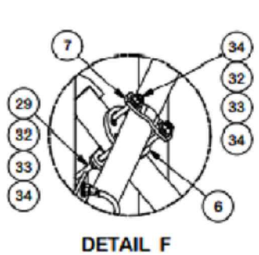


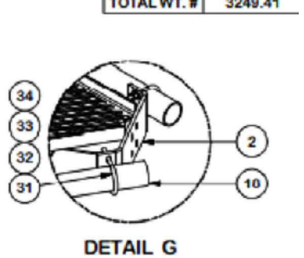
DETAIL D



DETAIL E



DETAIL F



DETAIL G

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES (± 0.030")
DRILLED AND GAS CUT HOLES (± 0.030") - NO CONING OF HOLES
LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES
BENDS AND ANGLES ARE ± 1/2 DEGREE
ALL OTHER MACHINING (± 0.030")
ALL OTHER ASSEMBLY (± 0.060")

DESCRIPTION
14' 6" LOW PROFILE PLATFORM
WITH TWELVE 2-7/8" ANTENNA MOUTING
PIPES, REINFORCED HANDRAIL, AND CABLE

SITE PRO 1 — A valmont COMPANY
Engineering Support Team: 1-888-753-7446
Locations: New York, NY; Atlanta, GA; Los Angeles, CA; Plymouth, IN; Salem, OR; Dallas, TX; Tampa, FL

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
	CSL 10/17/2019	10/18/2019	RMQLP-4120-H10

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
87	02	CUSTOMER	BMC 10/18/2019	RMQLP-4120-H10

PAGE 1 OF 3

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STATE OF CONNECTICUT
BARBARA T. KOTECKI
33711
LICENSED PROFESSIONAL ENGINEER

Jun 10 2022

SITE NAME
NORTH BRANFORD

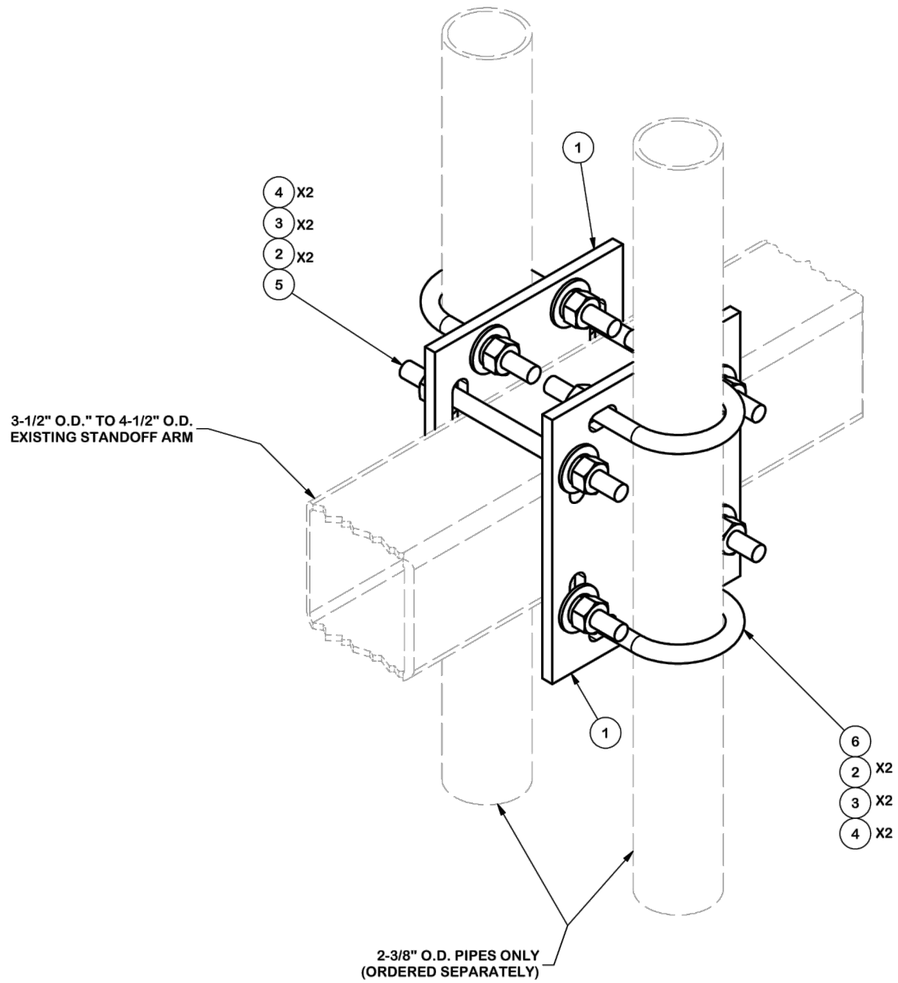
SITE NUMBER:
CTL02270

SITE ADDRESS
26 COMMERCE DRIVE
NORTH BRANFORD, CT 06471

SHEET NAME
EQUIPMENT DETAILS

SHEET NUMBER
A5B

PROJECT# 2021.0215.0008



PARTS LIST

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	SCX4	CROSSOVER PLATE	8 1/2 in	6.02	12.04
2	16	G12FW	1/2" HDG USS FLATWASHER		0.03	0.55
3	16	G12LW	1/2" HDG LOCKWASHER		0.01	0.22
4	16	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	1.15
5	4	G12R-8	1/2" x 8" THREADED ROD (HDG.)		0.35	1.41
6	4	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.63	2.50
					TOTAL WT. #	17.87

TOLERANCE NOTES

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SAWED, SHEARED AND GAS CUT EDGES *(± 0.030")*
DRILLED AND GAS CUT HOLES *(± 0.030")* - NO CONING OF HOLES
LASER CUT EDGES AND HOLES *(± 0.010")* - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING *(± 0.030")*
ALL OTHER ASSEMBLY *(± 0.060")*

DESCRIPTION: BACK TO BACK PIPE MOUNT				
CPD NO.	DRAWN BY: CEK 1/17/2013	ENG. APPROVAL	PART NO.: BBPM-K1	PAGE 1 OF 1
CLASS: 81 / SUB: 03	DRAWING USAGE: CUSTOMER	CHECKED BY: BMC 1/18/2013	DWG. NO.: BBPM-K1	

SITE PRO 1 — A valmont COMPANY
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STATE OF CONNECTICUT · BARBARA T. KOTECKI · 33711 · REGISTERED PROFESSIONAL ENGINEER

Jun 10 2022

SITE NAME
NORTH BRANFORD

SITE NUMBER:
CTL02270

SITE ADDRESS
26 COMMERCE DRIVE
NORTH BRANFORD, CT 06471

SHEET NAME
EQUIPMENT DETAILS

SHEET NUMBER
A5C

PROJECT# 2021.0215.0008

FINAL ANTENNA CONFIGURATION AND CABLE SCHEDULE
SUPPLIED BY AT&T WIRELESS, FROM RF CONFIG. DATED (06/02/22), V2.0 FINAL

SECTOR	ANTENNA NUMBER	ANTENNA STATUS & TYPE	ANTENNA MODEL NUMBER	ANTENNA VENDOR	TMA/RRU UNIT	AZIMUTH	ANTENNA CL FROM GROUND	CABLE FEEDER TYPE	CABLE FEEDER LENGTH	RAYCAP UNIT
ALPHA	A-1	-	-	-	-	-	-	1-5/8"ø LDF7-50A	200'-0"	(1) (E) DC6-48-60-18-8F UNIT
								1-5/8"ø LDF7-50A	200'-0"	
	A-2	(N) LTE 700/ 1900/AWS	TPA65R-BU6DA-K	CCI	(1) NEW 4478 B14 UNIT (1) NEW 8843 B2/B66A UNIT (1) NEW Y-CABLE	20°	143'-0"	SEE ANTENNA A-4 FOR CABLE TYPE AND LENGTH		
	A-3	(N) 5G DoD/5G CBAND	AIR6449 B77D + AIR6419 B77G STACKED	ERICSSON	-	20°	143'-0"	SEE ANTENNA A-4 FOR CABLE TYPE AND LENGTH		
	A-4	(N) LTE 700/5G 850	OPA65R-BU6DA	CCI	(1) NEW 4449 B5/B12 UNIT (1) NEW Y-CABLE	20°	143'-0"	(1) EXISTING FIBER CABLE	200'-0"	
								(2) EXISTING DC POWER CABLES	200'-0"	
BETA	B-1	-	-	-	-	-	-	1-5/8"ø LDF7-50A	200'-0"	(1) NEW DC6-48-60-18-8F UNIT
								1-5/8"ø LDF7-50A	200'-0"	
	B-2	(N) LTE 700/ 1900/AWS	TPA65R-BU6DA-K	CCI	(1) NEW 4478 B14 UNIT (1) NEW 8843 B2/B66A UNIT (1) NEW Y-CABLE	140°	143'-0"	SEE ANTENNA B-4 FOR CABLE TYPE AND LENGTH		
	B-3	(N) 5G DoD/5G CBAND	AIR6449 B77D + AIR6419 B77G STACKED	ERICSSON	-	140°	143'-0"	SEE ANTENNA B-4 FOR CABLE TYPE AND LENGTH		
	B-4	(N) LTE 700/5G 850	OPA65R-BU6DA	CCI	(1) NEW 4449 B5/B12 UNIT (1) NEW Y-CABLE	140°	143'-0"	(1) NEW 18 PAIR FIBER CABLE	200'-0"	
								(2) NEW 6AWG6 DC POWER CABLES	200'-0"	
GAMMA	C-1	-	-	-	-	-	-	1-5/8"ø LDF7-50A	200'-0"	(1) NEW DC6-48-60-18-8F UNIT
								1-5/8"ø LDF7-50A	200'-0"	
	C-2	(N) LTE 700/ 1900/AWS	TPA65R-BU6DA-K	CCI	(1) NEW 4478 B14 UNIT (1) NEW 8843 B2/B66A UNIT (1) NEW Y-CABLE	260°	143'-0"	SEE ANTENNA C-4 FOR CABLE TYPE AND LENGTH		
	C-3	(N) 5G DoD/5G CBAND	AIR6449 B77D + AIR6419 B77G STACKED	ERICSSON	-	260°	143'-0"	SEE ANTENNA C-4 FOR CABLE TYPE AND LENGTH		
	C-4	(N) LTE 700/5G 850	OPA65R-BU6DA	CCI	(1) NEW 4449 B5/B12 UNIT (1) NEW Y-CABLE	260°	143'-0"	(1) NEW 18 PAIR FIBER CABLE	200'-0"	
								(2) NEW 6AWG6 DC POWER CABLES	200'-0"	

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STATE OF CONNECTICUT
BARBARA T. KOTECKI
33711
REGISTERED PROFESSIONAL ENGINEER

Jun 10 2022

SITE NAME
NORTH BRANFORD

SITE NUMBER:
CTL02270

SITE ADDRESS
26 COMMERCE DRIVE
NORTH BRANFORD, CT 06471

SHEET NAME
ANTENNA & CABLE CONFIGURATION

SHEET NUMBER
A6

1. CONTRACTOR IS TO REFER TO AT&T'S MOST CURRENT RADIO FREQUENCY DATA SHEET (RFDS) PRIOR TO CONSTRUCTION.
2. THE SIZE, HEIGHT, AND DIRECTION OF THE ANTENNAS SHALL BE ADJUSTED TO ACHIEVE THE AZIMUTHS SPECIFIED AND LIMIT SHADOWING AND TO MEET THE SYSTEM REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY THE HEIGHT OF THE ANTENNA WITH THE AT&T WIRELESS PROJECT MANAGER.
4. VERIFY TYPE AND SIZE OF TOWER LEG PRIOR TO ORDERING ANY ANTENNA MOUNT.
5. UNLESS NOTED OTHERWISE THE CONTRACTOR MUST PROVIDE ALL MATERIAL NECESSARY.
6. ANTENNA AZIMUTHS ARE DEGREES OFF OF TRUE NORTH, BEARING CLOCKWISE, IN WHICH ANTENNA FACE IS DIRECTED. ALL ANTENNAS (AND SUPPORTING STRUCTURES AS PRACTICAL) SHALL BE ACCURATELY ORIENTED IN THE SPECIFIED DIRECTION.
7. CONTRACTOR SHALL VERIFY ALL RF INFORMATION PRIOR TO CONSTRUCTION.
8. SWEEP TEST SHALL BE PERFORMED BY GENERAL CONTRACTOR AND SUBMITTED TO AT&T WIRELESS CONSTRUCTION SPECIALIST. TEST SHALL BE PERFORMED PER AT&T WIRELESS STANDARDS.
9. CABLE LENGTHS WERE DETERMINED BASED ON THE DESIGN DRAWING. CONTRACTOR TO VERIFY ACTUAL LENGTH DURING PRE-CONSTRUCTION WALK.
10. CONTRACTOR TO USE ROSENBERGER FIBER LINE HANGER COMPONENTS (OR ENGINEER APPROVED EQUAL).

ANTENNA AND CABLING NOTES

SCALE: N.T.S. | 1

RF, DC, & COAX CABLE MARKING LOCATIONS TABLE	
NO	LOCATIONS
1	EACH TOP-JUMPER SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS.
2	EACH MAIN COAX SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS NEAR THE TOP-JUMPER CONNECTION AND WITH (1) SET OF 3/4" WIDE COLOR BANDS JUST PRIOR TO ENTERING THE BTS OR TRANSMITTER BUILDING.
3	CABLE ENTRY PORT ON THE INTERIOR OF THE SHELTER.
4	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.
5	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.

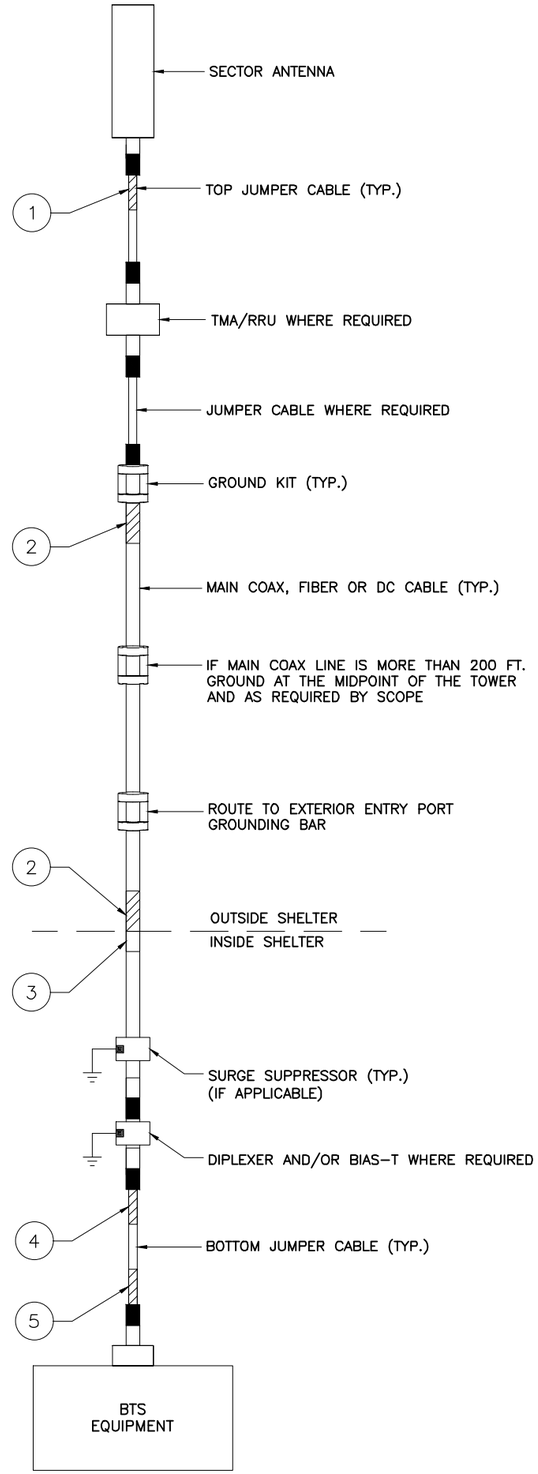
CABLE MARKING DIAGRAM

SCALE: N.T.S. | 2

1. THE ANTENNA SYSTEM COAX SHALL BE LABELED WITH VINYL TAPE.
2. THE STANDARD IS BASED ON EIGHT COLORED TAPES-RED, BLUE, GREEN, YELLOW, ORANGE, BROWN, WHITE, AND VIOLET. THESE TAPES MUST BE 3/4" WIDE & UV RESISTANT SUCH AS SCOTCH 35 VINYL ELECTRICAL COLOR CODING TAPE AND SHOULD BE READILY AVAILABLE TO THE ELECTRICIAN OR CONTRACTOR ON SITE.
3. USING COLOR BANDS ON THE CABLES, MARK ALL RF CABLE BY SECTOR AND CABLE NUMBER AS SHOWN ON "CABLE COLOR CHART".
4. WHEN AN EXISTING COAXIAL LINE THAT IS INTENDED TO BE A SHARED LINE BETWEEN TECHNOLOGIES IS ENCOUNTERED, THE CONTRACTOR SHALL REMOVE THE EXISTING COLOR CODING SCHEME AND REPLACE IT WITH THE COLOR CODING STANDARD. IN THE ABSENCE OF AN EXISTING COLOR CODING AND TAGGING SCHEME, OR WHEN INSTALLING PROPOSED COAXIAL CABLES, THIS GUIDELINE SHALL BE IMPLEMENTED AT THAT SITE REGARDLESS OF TECHNOLOGY.
5. ALL COLOR CODE TAPE SHALL BE 3M-35 AND SHALL BE INSTALLED USING A MINIMUM OF (3) THREE WRAPS OF TAPE AND SHALL BE NEATLY TRIMMED AND SMOOTHED OUT SO AS TO AVOID UNRAVELING.
6. ALL COLOR BANDS INSTALLED AT THE TOP OF THE TOWER SHALL BE A MINIMUM OF 3" WIDE, AND SHALL HAVE A MINIMUM OF 3/4" OF SPACE BETWEEN EACH COLOR.
7. ALL COLOR CODES SHALL BE INSTALLED SO AS TO ALIGN NEATLY WITH ONE ANOTHER FROM SIDE-TO-SIDE.
8. IF EXISTING CABLES AT THE SITE ALREADY HAVE A COLOR CODING SCHEME AND THEY ARE NOT INTENDED TO BE REUSED OR SHARED WITH THE NEW TECHNOLOGY, THE EXISTING COLOR CODING SCHEME SHALL REMAIN UNTOUCHED.

CABLE MARKING NOTES

SCALE: N.T.S. | 3



CABLE COLOR CODING DIAGRAM

SCALE: N.T.S. | 4

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STATE OF CONNECTICUT · BARBARA T. KOTECKI · 33711 · LICENSED PROFESSIONAL ENGINEER

Jun 10 2022

SITE NAME
NORTH BRANFORD

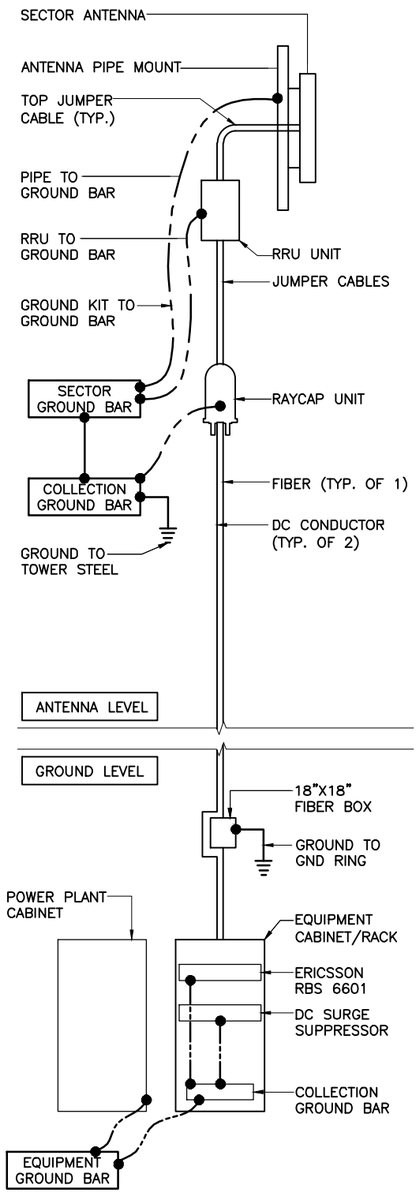
SITE NUMBER:
CTL02270

SITE ADDRESS
26 COMMERCE DRIVE
NORTH BRANFORD, CT 06471

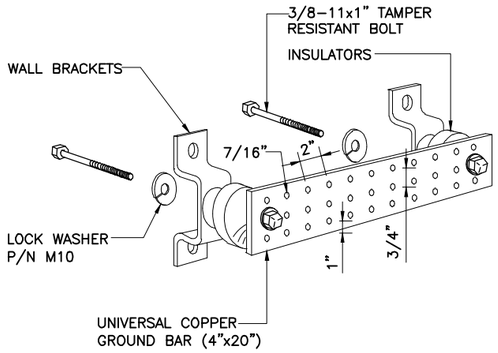
SHEET NAME
CABLE NOTES AND COLOR CODING

SHEET NUMBER
A7

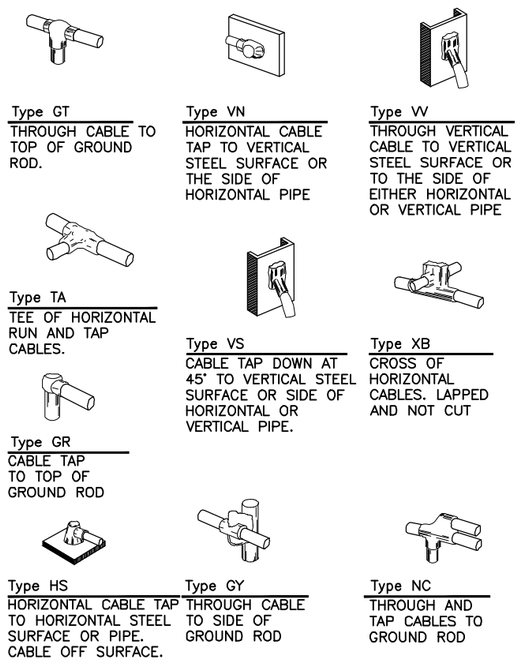
PROJECT# 2021.0215.0008



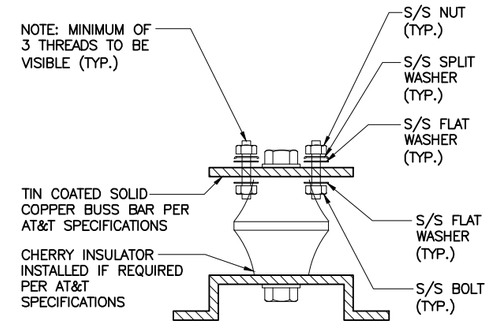
GROUNDING SCHEMATIC SCALE: N.T.S. 1



GROUND BAR DETAIL SCALE: N.T.S. 2



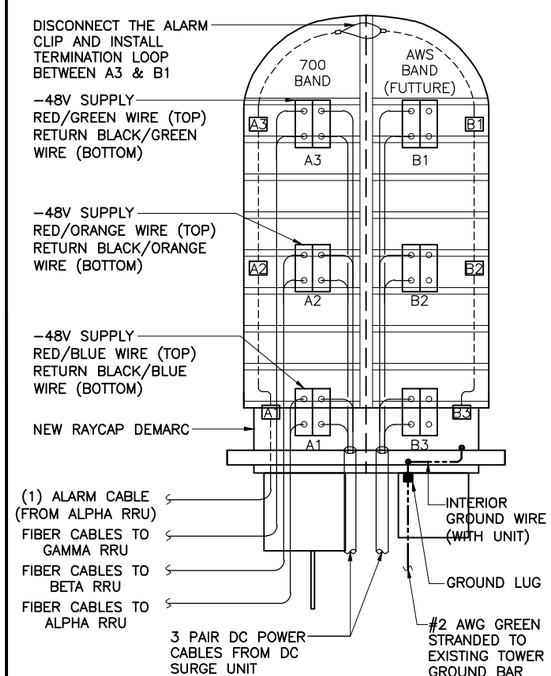
EXOTHERMIC WELD DETAILS SCALE: N.T.S. 4



NOTES:

1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING SPLIT WASHERS.
2. COAT WIRE END WITH ANTI-OXIDATION COMPOUND PRIOR TO INSERTION INTO LUG BARREL AND CRIMPING.
3. APPLY ANTI-OXIDATION COMPOUND BETWEEN ALL LUGS AND BUSS BARS PRIOR TO MATING AND BOLTING.

LUG DETAIL SCALE: N.T.S. 3



RAYCAP DC POWER AND ALARM DET. SCALE: N.T.S. 5

NOT USED SCALE: N.T.S. 6

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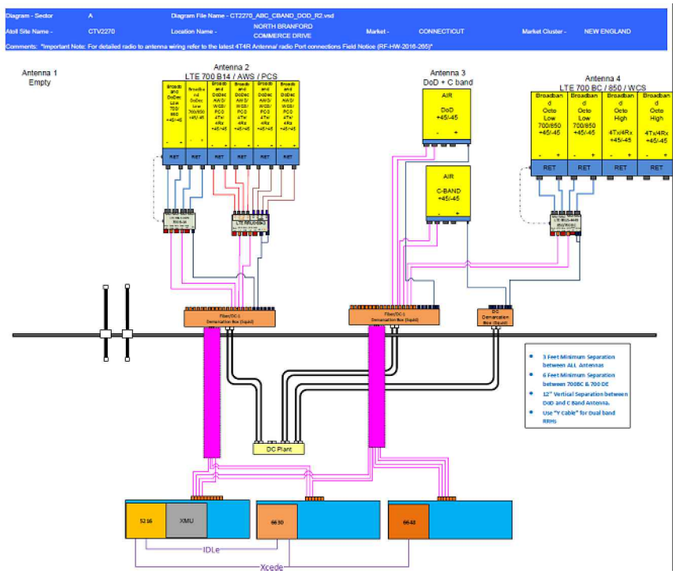
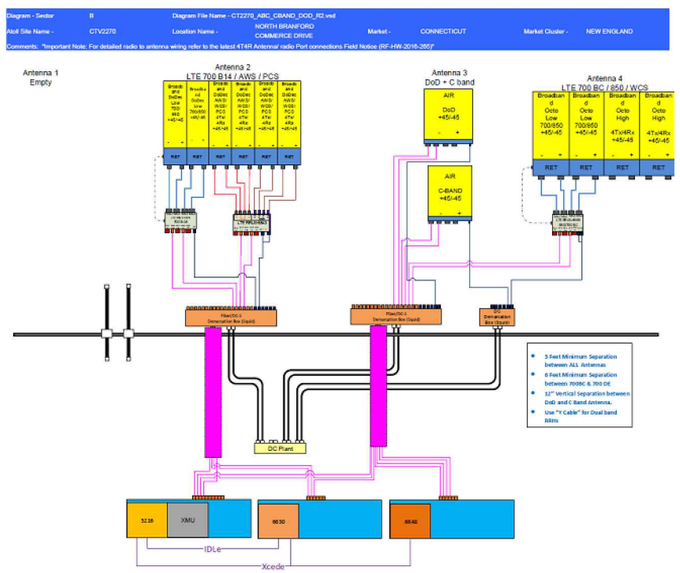
NORTH BRANFORD, CT 06471

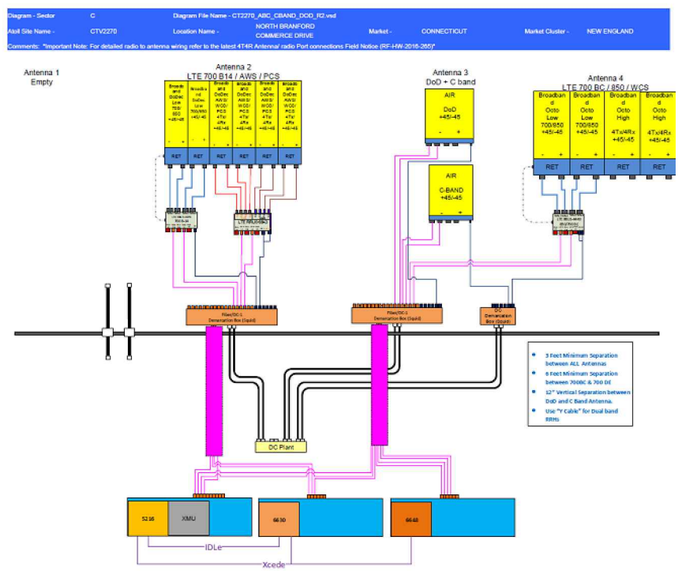
SHEET NAME
GROUNDING DETAILS

SHEET NUMBER
A8

PROJECT# 2021.0215.0008







*BASED ON RFDS V2.0 FINAL, DATED (06/02/22)

PLUMBING DIAGRAMS

SCALE: N.T.S.

1

at&t

550 COCHITUATE ROAD
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SUITE 140
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REV	DATE	DESCRIPTION	BY
0	03/04/22	90% REVIEW	SM
1	04/05/22	FINAL	SM
2	5/25/22	FOR CONSTRUCTION	KC
3	06/07/22	FOR CONSTRUCTION	SM

I HEREBY CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.

STATE OF CONNECTICUT
BARBARA T. KOTECKI
33711
LICENSED
PROFESSIONAL ENGINEER

Jun 10 2022

SITE NAME

NORTH BRANFORD

SITE NUMBER:

CTL02270

SITE ADDRESS

26 COMMERCE DRIVE
NORTH BRANFORD, CT 06471

SHEET NAME

PLUMBING DIAGRAMS

SHEET NUMBER

A9

PROJECT# 2021.0215.0008