



# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: [siting.council@ct.gov](mailto:siting.council@ct.gov)

[www.ct.gov/csc](http://www.ct.gov/csc)

January 14, 2018

Rodney Joujoute  
Real Estate Specialist  
Smartlink, LLC  
85 Rangeway Road, Building No. 3, Suite 102  
North Billerica, MA 01862

RE: **EM-AT&T-089-181127** – AT&T notice of intent to modify an existing telecommunications facility located at 723 Farmington Avenue, New Britain, Connecticut.

Dear Mr. Joujoute:

The Connecticut Siting Council (Council) received a notice of intent to modify the above-referenced facility on November 27, 2018. On November 30, 2018, the Council issued a letter (enclosed) stating that the above referenced request for exempt modification was incomplete and recommended that Smartlink provide a mount analysis for the proposed equipment that is stamped and signed by a professional engineer duly licensed in the State of Connecticut. On December 5, 2018, the Council received a Mount Structural Analysis, a Structural Analysis Report and Construction drawings. The Council issued a second incomplete letter recommending that Smartlink provide a mount analysis and construction drawings that are consistent with condition No. 2 of the Council's Decision and order for Docket No. 303 as listed below:

- Panel antennas shall be installed on the monopole using a flush or T-arm mounting configuration. T-arm antenna mounts shall be designed to reduce the visual profile of the antenna configuration to the greatest extent possible without compromising coverage objectives.

On January 13, 2019, Smartlink provided a Mount Structural Analysis, a Structural Analysis Report and construction drawings that all indicate a platform antenna mount. This is inconsistent with the above referenced approval condition and the previous approved AT&T exempt modification request which indicates the equipment are mounted on T-arm mounts. Please see link for EM-AT&T-089-150921 below:

[https://www.ct.gov/csc/lib/csc/ems/newbritain/farmingtonave/att\\_cing/em-cing-089-150921\\_filing\\_farmingtonave.pdf](https://www.ct.gov/csc/lib/csc/ems/newbritain/farmingtonave/att_cing/em-cing-089-150921_filing_farmingtonave.pdf)

Therefore, the request for exempt modification remains incomplete at this time. The Council recommends that Smartlink provide a mount analysis and construction drawings that indicate T-arm antenna mounts or submit a motion to reopen Docket No. 303 to modify the T-arm antenna mount condition on or before February 18, 2019. If additional time is needed to gather the requested information, please submit a written request for an extension of time prior to February 19, 2019.

This notice of incompleteness shall have the effect of tolling the Federal Communications Commission (FCC) 60-day timeframe in accordance with Paragraph 217 of the FCC Wireless Infrastructure Report and Order issued on October 21, 2014 (FCC 14-153).

Thank you for your attention to this matter. Should you have any questions, please feel free to contact me at 860-827-2951.

Sincerely,

Melanie Bachman  
Executive Director

MAB/FOC/in

c: The Honorable Erin Stewart, Mayor, City of New Britain  
Sergio Lupo, Director of License Permit & Inspections, City of New Britain  
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CONNECTICUT SITING COUNCIL

Affirmative Action / Equal Opportunity Employer



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December 5, 2018

Rodney Joujoute  
Real Estate Specialist  
Smartlink, LLC  
85 Rangeway Road, Building No. 3, Suite 102  
North Billerica, MA 01862

RE: **EM-AT&T-089-181127** – AT&T notice of intent to modify an existing telecommunications facility located at 723 Farmington Avenue, New Britain, Connecticut.

Dear Mr. Joujoute:

The Connecticut Siting Council (Council) received a notice of intent to modify the above-referenced facility on November 27, 2018. On November 30, 2018, the Council issued a letter (enclosed) stating that the above referenced request for exempt modification was incomplete because the Construction Drawings provided showed an existing antenna platform mount which is inconsistent with condition No. 2 of the Council's Decision and Order for Docket No. 303, the Structural Analysis (SA) Report provided and the last Council approved AT&T exempt modification request for this facility. The Council requested that Smartlink provide a mount analysis for the proposed equipment that is stamped and signed by a professional engineer duly licensed in the State of Connecticut and, if applicable, an updated SA Report accounting for any required antenna mount modifications and a Construction Drawing that is consistent with the SA Report.

On November 5, 2018, the Council received a Mount Structural Analysis, a SA Report and construction drawings. Staff observed that although the SA indicated T-arm mounts, the Construction Drawings and the Mount Analysis both indicate existing platform mounts which is still inconsistent with condition No. 2 of the Council's Decision and Order for Docket No. 303 and the last Council approved AT&T exempt modification request for this facility. Please see links below:

<https://www.ct.gov/csc/lib/csc/old-docs/do303.pdf>

[https://www.ct.gov/csc/lib/csc/ems/newbritain/farmingtonave/att\\_cing/em-cing-089-150921\\_filing\\_farmingtonave.pdf](https://www.ct.gov/csc/lib/csc/ems/newbritain/farmingtonave/att_cing/em-cing-089-150921_filing_farmingtonave.pdf)

Therefore, the exempt modification request is incomplete at this time. The Council recommends that Smartlink provide a mount analysis and construction drawings that are consistent with the Council's approval condition referenced above on or before January 14, 2019. If additional time is needed to gather the requested information, please submit a written request for an extension of time prior to January 14, 2019.

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January 13, 2019

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

**Re:**  
**Property Address:**  
**Applicant:**

**Notice of Exempt Modification – Antenna Swap and RRU Add  
723 Farmington Ave, New Britain, CT 06051  
AT&T Mobility, LLC**

Dear Ms. Bachman:

I am submitting the attached revised structural analysis prepared on January 4<sup>th</sup>, 2019 by SBA communications Corps( Structure owner), subcontractor. The revision in the Structural Analysis is to reflect and match the Construction Drawings and Mount analysis that illustrate platform mounts being on the existing structure. This submission includes all the exhibits as requested by the Connecticut Siting Council's letter dated December 5<sup>th</sup>, 2018. Please feel free to reach out if you have any questions.

Sincerely,

Rodney Joujoute

CC w/enclosures:

Mayor of New Britain – Erin E. Stewart  
Property Owner- 88 Polish Falcons Alliance of America  
Structure Owner – SBA Communications  
David Zajac – Zoning Enforcement Office/Building Inspector





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[https://www.ct.gov/csc/lib/csc/ems/newbritain/farmingtonave/att\\_cing/em-cing-089-150921\\_filing\\_farmingtonave.pdf](https://www.ct.gov/csc/lib/csc/ems/newbritain/farmingtonave/att_cing/em-cing-089-150921_filing_farmingtonave.pdf)

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**Tower Engineering Solutions**

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

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**Structural Analysis Report**

**Existing 119 ft SABRE Monopole**

**Customer Name: SBA Communications Corp**

**Customer Site Number: CT08558-B**

**Customer Site Name: New Britain 3, CT**

**Carrier Name: AT&T (App#: 92331, V2)**

**Carrier Site ID / Name: CT1028 / New Britain Farmington Avenue**

**Site Location: 723 Farmington Ave**

**New Britain, Connecticut**

**Hartford County**

**Latitude: 41.698414**

**Longitude: -72.785944**



**Analysis Result:**

**Max Structural Usage: 86.7% [Pass]**

**Max Foundation Usage: 81.0% [Pass]**

**Additional Usage Caused by New Mount/Mount Modification: +1.6%**

**Report Prepared By : Dipika Dhungana**



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## **Structural Analysis Report**

**Existing 119 ft SABRE Monopole**

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**Customer Site Number: CT08558-B**

**Customer Site Name: New Britain 3, CT**

**Carrier Name: AT&T (App#: 92331, V2)**

**Carrier Site ID / Name: CT1028 / New Britain Farmington Avenue**

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**Hartford County**

**Latitude: 41.698414**

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### **Analysis Result:**

**Max Structural Usage: 86.7% [Pass]**

**Max Foundation Usage: 81.0% [Pass]**

**Additional Usage Caused by New Mount/Mount Modification: +1.6%**

**Report Prepared By : Dipika Dhungana**



## Introduction

The purpose of this report is to summarize the analysis results on the 119 ft SABRE Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

## Sources of Information

<b>Tower Drawings</b>	Original Tower drawings by Sabre, Job# 06-08008, dated 08/1/2005
<b>Foundation Drawing</b>	Original Foundation drawings by Sabre, Job# 06-08008, dated 08/1/2005
<b>Geotechnical Report</b>	Geotechnical Report prepared by DR. Clarence Welti, dated 07/7/2005
<b>Modification Drawings</b>	N/A

## Analysis Criteria

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

<b>Wind Speed Used in the Analysis:</b>	Ultimate Design Wind Speed $V_{ult} = 125$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 97.0$ mph (3-Sec. Gust)
<b>Wind Speed with Ice:</b>	50 mph (3-Sec. Gust) with 1" radial ice concurrent
<b>Operational Wind Speed:</b>	60 mph + 0" Radial ice
<b>Standard/Codes:</b>	ANSI/TIA/EIA 222-G / 2015 IBC / 2018 Connecticut State Building Code
<b>Exposure Category:</b>	C
<b>Structure Class:</b>	II
<b>Topographic Category:</b>	1
<b>Crest Height:</b>	0 ft
<b>Seismic Parameters:</b>	$S_S = 0.192$ , $S_1 = 0.055$

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

## Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	118.0	3	Kathrein 800 10735V01 Panels	(3) T-Arms	(12) 1 5/8" (1) 1 5/8" Hybrid <sup>1</sup>	Verizon <sup>1</sup>
2		3	Antel BXA-171063-12BF Panels			
3		3	Antel BXA-171063-8BF Panels			
4		3	Antel BXA-70063-6BF Panels			
5		1	RFS DB-T1-6Z-8AB-OZ Dist. Box			
6		6	RFS FD9R6004/2C-3L Diplexers			
7		3	ALU RRH2x40-AWS RRU's			
8	108.0	3	ALU 1900MHz RRU's	(3) T-Arms	(4) 1-1/4" Hybrid (3) 1/2" (6) 5/16"	Clearwire/ Sprint
9		3	ALU 800 MHz Filters			
10		3	ALU 800 MHz RRU's			
11		3	Kathrein 840 10054 Panels			
12		4	RFS ACU-A20-N RET's			
13		2	RFS APXVSP18-C-A20 Panels			
14		3	RFS APXVTM14-C-120 Panels			
15		2	DragonwaveHorizon ODU Radios			
16		1	Powerwave P40-16-XLPP-RR-A Panels			
17		3	ALU TD-RRH8x20-25 RRU's			
18	2	Andrew VHLP2.5 Dishes	(3) Commscope T-Arms	(12) 1 5/8" (3) 3/4" DC (1) 3/8" Fiber	AT&T	
-	3	Cci Antennas OPA-65R-LCUU-H6 - Panel				
-	6	Powerwave 7770 - Panel				
-	9	Powerwave LGP 21401 TMA				
-	6	Ericsson RRUS11				
-	3	Ericsson RRUS A2				
-	3	Ericsson RRU-12				
-	6	Powerwave LGP 13519 Diplexer				
-	1	Raycap DC6-48-60-18-8F	(3) T-Arm	(11) 1 5/8" (3) 1-1/4" Hybrid	T-Mobile	
28	3	Ericsson AIR 21 B2A/B4P - Panel				
29	3	Ericsson AIR32 KRD901146-1_B66A-Panel				
30	3	RFS APXVAARR24_43-U-NA20 - Panel				
31	3	Ericsson KRY 112 144/2				
32	3	Ericsson Radio 4449 B71 + B12	(3) T-Arms	(6) 1-5/8"	Metro PCS <sup>2</sup>	
33	78.0	3				RFS APXV18-206517S-C Panels

<sup>1</sup>Verizon (1)1-5/8" Hybrid cable of Verizon is installed outside the pole shaft.

<sup>2</sup>Metro PCS is leased but not installed.

**Proposed Carrier’s Final Configuration of Antennas, Mounts and Transmission Lines**

Information pertaining to the proposed carrier’s final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
19	98.0	3	Cci OPA-65R-LCUU-H6 - Panel	Low Profile Platform	(12) 1 5/8" (4) 3/4" DC Power (2) 3/8" Fiber	AT&T
20		3	Powerwave 7770 w/Mount Pipe - Panel			
21		9	Powerwave LGP21402 TMA			
22		3	Ericsson RRUS 11 RRU			
23		6	Powerwave LGP13519 Diplexer			
24		2	Raycap DC6-48-60-0-8F COVP			
25		3	Ericsson RRUS 8843 B25/B66A RRU			
26		3	Ericsson RRUS 32 RRU			
27		3	Quintel QS66512-2 - Panel			

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



## **Analysis Results**

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	<b>86.7%</b>	<b>71.0%</b>	<b>62.0%</b>
Pass/Fail	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>

## **Foundations**

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	2505.1	28.0	62.6

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

## **Operational Condition (Rigidity):**

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.2058 degrees under the operational wind speed as specified in the Analysis Criteria.

## **Conclusions**

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

## Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

## Usage Diagram - Max Ratio 86.68% at 0.0ft

**Structure:** CT08558-B-SBA  
**Site Name:** New Britain 3, CT  
**Height:** 119.00 (ft)  
**Base Elev:** 0.000 (ft)

**Code:** EIA/TIA-222-G  
**Exposure:** C  
**Gh:** 1.1

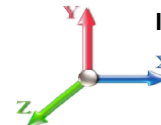
1/4/2019



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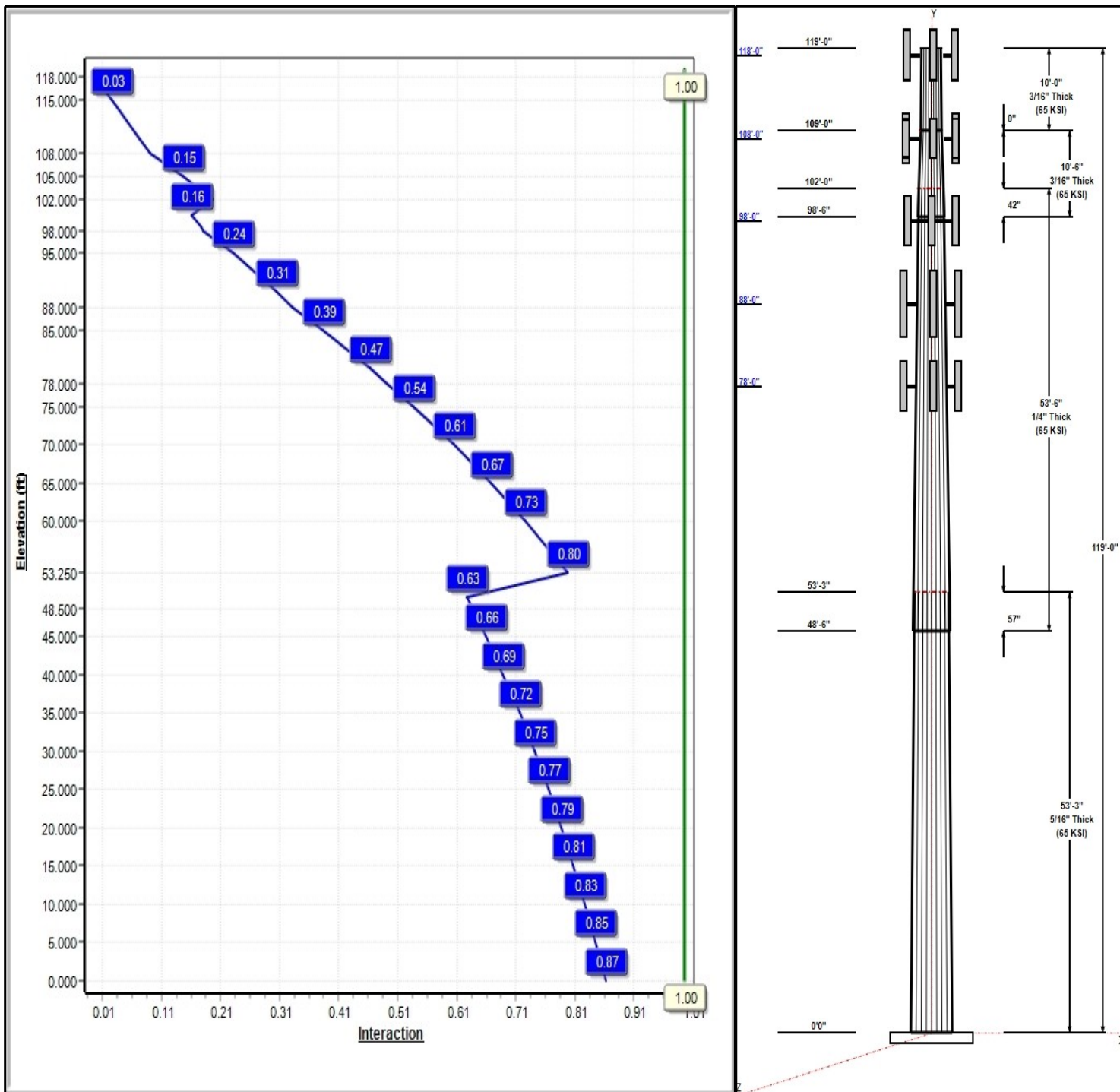
**Dead Load Factor:** 1.20  
**Wind Load Factor:** 1.60

**Load Case : 1.2D + 1.6W 97 mph Wind**



**Iterations:** 23

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## Structure: CT08558-B-SBA

**Type:** Tapered  
**Site Name:** New Britain 3, CT  
**Height:** 119.00 (ft)  
**Base Elev:** 0.00 (ft)

**Base Shape:** 18 Sided  
**Taper:** 0.22164

1/4/2019

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### Shaft Properties

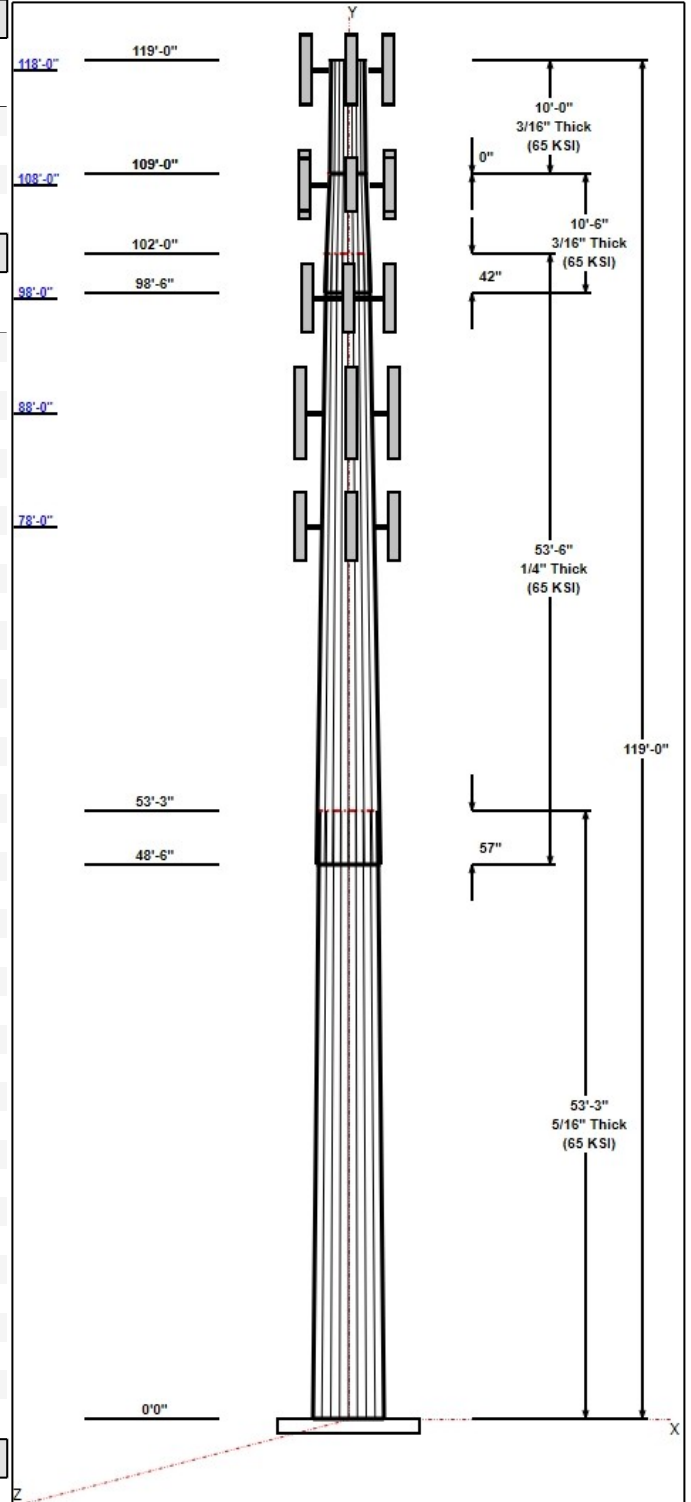
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.25	35.70	47.50	0.313		0.22164	65
2	53.50	25.39	37.25	0.250	Slip	0.22164	65
3	10.50	24.22	26.54	0.188	Slip	0.22164	65
4	10.00	22.00	24.22	0.188	Butt	0.22164	65

### Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
118.00	118.00	3	800 10735V01	Verizon
118.00	118.00	3	BXA-171063-12BF	Verizon
118.00	118.00	3	BXA-171063-8BF	Verizon
118.00	118.00	3	BXA-70063-6BF	Verizon
118.00	118.00	1	DB-T1-6Z-8AB-0Z	Verizon
118.00	118.00	6	RFS FD9R6004/2C-3L	Verizon
118.00	118.00	3	RRH2x40-AWS	Verizon
118.00	118.00	3	T-Arm	Verizon
108.00	108.00	3	1900MHz RRH	Clearwire
108.00	108.00	3	800 MHz Filters	Clearwire
108.00	108.00	3	800 MHz	Clearwire
108.00	108.00	3	840 10054	Clearwire
108.00	108.00	4	ACU-A20-N	Clearwire
108.00	108.00	2	APXVSP18-C-A20	Clearwire
108.00	108.00	3	APXVTM14-C-120	Clearwire
108.00	108.00	2	Horizon	Clearwire
108.00	108.00	1	P40-16-XLPP-RR-A	Clearwire
108.00	108.00	3	TD-RRH8x20-25	Clearwire
108.00	108.00	2	VHLP2.5	Clearwire
108.00	108.00	3	T-Arm	Clearwire
98.00	98.00	3	Cci OPA-65R-LCUU-H6	AT&T
98.00	98.00	3	Powerwave 7770 w/Mount	AT&T
98.00	98.00	9	Powerwave LGP21402	AT&T
98.00	98.00	3	Ericsson RRUS 11	AT&T
98.00	98.00	6	Powerwave LGP13519	AT&T
98.00	98.00	2	Raycap DC6-48-60-0-8F	AT&T
98.00	98.00	3	Quintel QS66512-2	AT&T
98.00	98.00	1	Low Profile	AT&T
98.00	98.00	3	Ericsson RRUS 8843	AT&T
98.00	98.00	3	Ericsson RRUS 32	AT&T
88.00	88.00	3	AIR32	T-Mobile
88.00	88.00	3	APXVAARR24_43-U-NA20	T-Mobile
88.00	88.00	3	KRY 112 144/2	T-Mobile
88.00	88.00	3	4449 B71 + B12	T-Mobile
88.00	88.00	3	T-Arm	T-Mobile
88.00	88.00	3	AIR 21 B2A/B4P	T-Mobile
78.00	78.00	3	APXV18-206517S-C	Metro PCS
78.00	78.00	3	T-Arm	Metro PCS

### Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	118.00	Inside	1 5/8" Coax	Verizon
0.00	118.00	Outside	1 5/8" Hybrid	Verizon
0.00	108.00	Inside	1-1/4" Hybrid	Clearwire/Sprint
0.00	108.00	Inside	1/2" Coax	Clearwire/Sprint



**Structure: CT08558-B-SBA**

**Type:** Tapered  
**Site Name:** New Britain 3, CT  
**Height:** 119.00 (ft)  
**Base Elev:** 0.00 (ft)

**Base Shape:** 18 Sided  
**Taper:** 0.22164

1/4/2019

Page: 3



0.00	108.00	Inside	5/16" Coax	Clearwire/Sprint
0.00	98.00	Inside	1 5/8" Coax	AT&T
0.00	98.00	Inside	3/4" DC Power	AT&T
0.00	98.00	Inside	3/8" Fiber	AT&T
0.00	88.00	Inside	1 5/8" Coax	T-Mobile
0.00	88.00	Inside	1-1/4" Hybrid	T-Mobile
0.00	78.00	Inside	1 5/8" Coax	Pocket

**Anchor Bolts**

Qty	Specifications	Grade (ksi)	Arrangement
12	2.25" 18J	75.0	Cluster

**Base Plate**

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	52.0	60.0	Clipped

**Reactions**

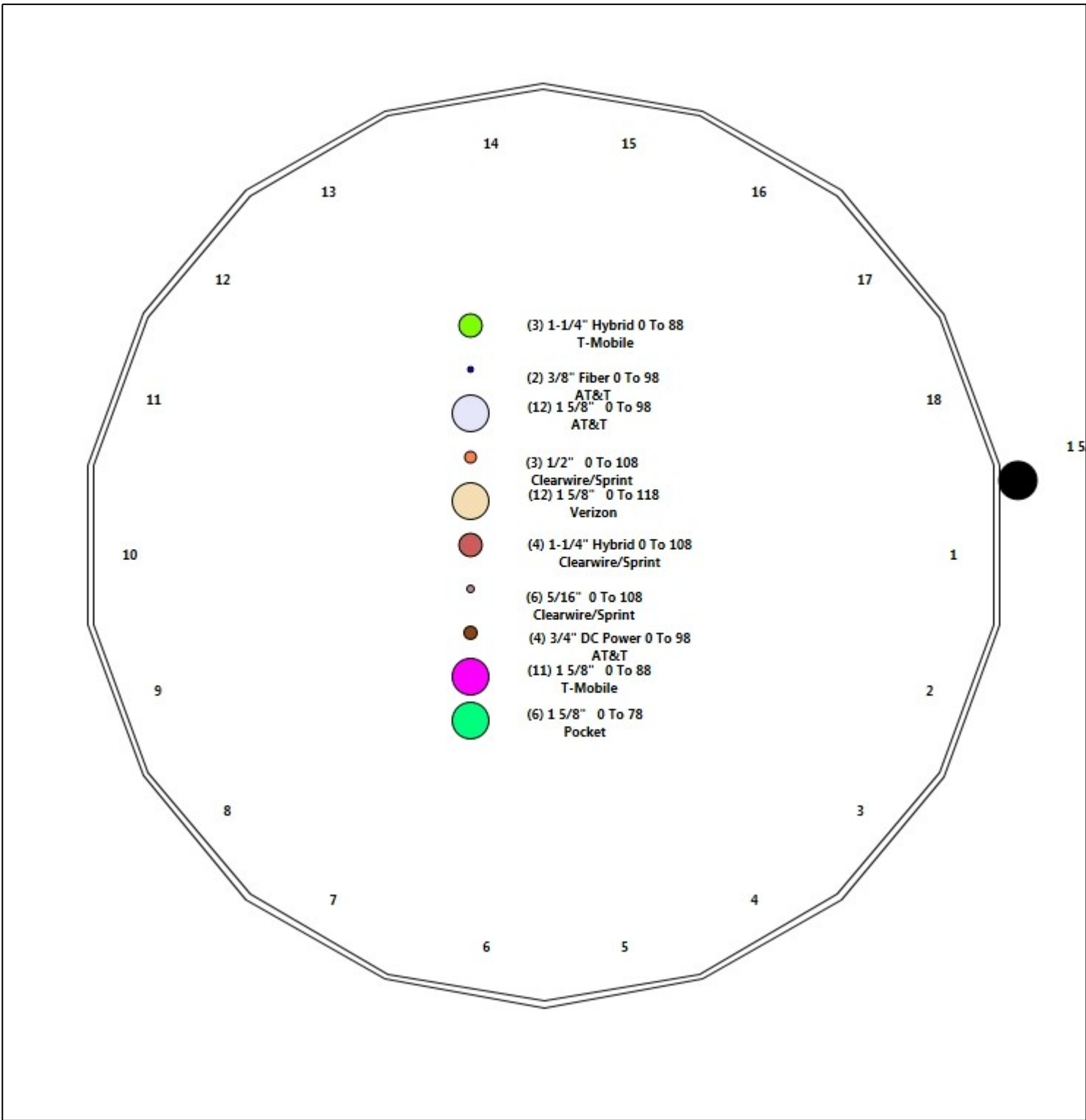
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 97 mph Wind	2505.1	28.0	34.0
0.9D + 1.6W 97 mph Wind	2480.7	28.0	25.5
1.2D + 1.0Di + 1.0Wi 50 mph Wind	734.6	8.1	62.6
1.2D + 1.0E	71.0	0.8	34.0
0.9D + 1.0E	70.2	0.8	25.5
1.0D + 1.0W 60 mph Wind	595.9	6.7	28.4

# Structure: CT08558-B-SBA - Coax Line Placement

**Type:** Monopole  
**Site Name:** New Britain 3, CT  
**Height:** 119.00 (ft)

1/4/2019

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## Shaft Properties

<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	53.250	0.3125	65		0.00	7,420
2	18	53.500	0.2500	65	Slip	57.00	4,488
3	18	10.500	0.1875	65	Slip	42.00	536
4	18	10.000	0.1875	65	Flange	0.00	464
<b>Total Shaft Weight:</b>							<b>12,908</b>

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Taper
1	47.50	0.00	46.80	13166.65	25.39	152.00	35.70	53.25	35.10	5552.15	18.73	114.2	0.221639
2	37.25	48.50	29.36	5078.18	24.86	149.00	25.39	102.00	19.95	1593.41	16.50	101.5	0.221639
3	26.54	98.50	15.68	1376.54	23.55	141.57	24.22	109.00	14.30	1043.15	21.36	129.1	0.221639
4	24.22	109.0	14.30	1043.15	21.36	129.15	22.00	119.00	12.98	780.30	19.28	117.3	0.221639

## Load Summary

<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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### Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	118.00	800 10735V01	3	28.70	8.62	0.66	228.34	12.466	0.66	0.00	0.00
2	118.00	BXA-171063-12BF	3	15.00	4.74	0.84	138.58	7.798	0.84	0.00	0.00
3	118.00	BXA-171063-8BF	3	10.50	2.94	0.84	95.82	5.099	0.84	0.00	0.00
4	118.00	BXA-70063-6BF	3	17.00	7.57	0.70	201.47	11.168	0.70	0.00	0.00
5	118.00	DB-T1-6Z-8AB-0Z	1	18.90	4.80	0.71	216.23	5.960	0.71	0.00	0.00
6	118.00	RFS FD9R6004/2C-3L	6	3.10	0.36	1.00	13.55	0.937	1.00	0.00	0.00
7	118.00	RRH2x40-AWS	3	44.00	2.16	0.67	123.05	3.524	0.67	0.00	0.00
8	118.00	T-Arm	3	400.00	10.00	0.75	763.49	21.359	0.75	0.00	0.00
9	108.00	1900MHz RRH	3	44.00	3.80	0.67	184.85	5.593	0.67	0.00	0.00
10	108.00	800 MHz Filters	3	64.00	2.40	0.67	163.61	3.844	0.67	0.00	0.00
11	108.00	800 MHz	3	53.00	2.49	0.67	148.43	3.966	0.67	0.00	0.00
12	108.00	840 10054	3	35.00	4.59	0.61	143.73	6.748	0.61	0.00	0.00
13	108.00	ACU-A20-N	4	1.00	0.14	0.67	6.54	0.523	0.67	0.00	0.00
14	108.00	APXVSP18-C-A20	2	57.00	8.02	0.83	280.02	11.625	0.83	0.00	0.00
15	108.00	APXVTM14-C-120	3	56.00	6.34	0.79	275.27	7.803	0.79	0.00	0.00
16	108.00	Horizon	2	10.60	0.43	1.00	39.67	1.090	1.00	0.00	0.00
17	108.00	P40-16-XLPP-RR-A	1	53.00	9.08	1.00	336.69	10.719	1.00	0.00	0.00
18	108.00	TD-RRH8x20-25	3	70.00	4.05	0.67	221.31	5.123	0.67	0.00	0.00
19	108.00	VHLP2.5	2	47.60	8.43	1.00	270.41	10.632	1.00	0.00	0.00
20	108.00	T-Arm	3	350.00	8.00	0.75	665.25	17.007	0.75	0.00	0.00
21	98.00	Cci OPA-65R-LCUU-H6	3	80.00	9.66	0.79	390.45	11.434	0.79	0.00	0.00
22	98.00	Powerwave 7770 w/Mount Pipe	3	27.00	5.54	0.72	173.04	8.268	0.72	0.00	0.00
23	98.00	Powerwave LGP21402 TMA	9	14.10	1.29	1.00	46.05	2.358	1.00	0.00	0.00
24	98.00	Ericsson RRUS 11	3	44.00	2.52	0.67	123.67	3.329	0.67	0.00	0.00
25	98.00	Powerwave LGP13519 Diplexer	6	5.30	0.34	1.00	17.44	0.920	1.00	0.00	0.00
26	98.00	Raycap DC6-48-60-0-8F	2	31.80	0.92	1.00	110.80	1.480	1.00	0.00	0.00
27	98.00	Quintel QS66512-2	3	111.00	8.13	0.92	415.64	9.820	0.92	0.00	0.00
28	98.00	Low Profile Platform-Round	1	1500.00	22.00	1.00	3172.49	44.567	1.00	0.00	0.00
29	98.00	Ericsson RRUS 8843 B25/B66A	3	75.00	1.65	0.67	177.07	2.358	0.67	0.00	0.00
30	98.00	Ericsson RRUS 32	3	53.00	2.74	0.67	173.05	3.691	0.67	0.00	0.00
31	88.00	AIR32 KRD901146-1_B66A	3	132.20	6.51	0.87	376.67	8.012	0.87	0.00	0.00
32	88.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	674.18	22.666	0.75	0.00	0.00
33	88.00	KRY 112 144/2	3	11.00	0.41	0.70	24.63	1.011	0.75	0.00	0.00
34	88.00	4449 B71 + B12	3	50.00	2.57	0.67	132.07	3.386	0.67	0.00	0.00
35	88.00	T-Arm	3	350.00	8.00	0.75	658.86	16.824	0.75	0.00	0.00
36	88.00	AIR 21 B2A/B4P	3	91.00	6.09	0.86	315.55	7.501	0.86	0.00	0.00
37	78.00	APXV18-206517S-C	3	26.40	5.17	0.74	142.36	8.136	0.74	0.00	0.00
38	78.00	T-Arm	3	350.00	8.00	0.75	655.15	16.719	0.75	0.00	0.00
<b>Totals:</b>			<b>117</b>	<b>10,194.60</b>			<b>29,110.40</b>				

### Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	118.00	(12) 1 5/8" Coax	0.00	Inside
0.00	118.00	(1) 1 5/8" Hybrid	0.00	Outside
0.00	108.00	(4) 1-1/4" Hybrid	0.00	Inside

## Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice		Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)		
0.00	108.00	(3) 1/2" Coax		0.00						
0.00	108.00	(6) 5/16" Coax		0.00						
0.00	98.00	(12) 1 5/8" Coax		0.00						
0.00	98.00	(4) 3/4" DC Power		0.00						
0.00	98.00	(2) 3/8" Fiber		0.00						
0.00	88.00	(11) 1 5/8" Coax		0.00						
0.00	88.00	(3) 1-1/4" Hybrid		0.00						
0.00	78.00	(6) 1 5/8" Coax		0.00						



## Shaft Section Properties

<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Increment Length:** 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in <sup>3</sup> )	Weight (lb)
0.00		0.3125	47.500	46.802	13166.7	25.39	152.00	71.5	546.0	0.0
5.00		0.3125	46.392	45.703	12260.6	24.77	148.45	72.3	520.5	786.9
10.00		0.3125	45.284	44.604	11397.1	24.14	144.91	73.0	495.7	768.2
15.00		0.3125	44.175	43.505	10575.2	23.52	141.36	73.7	471.5	749.5
20.00		0.3125	43.067	42.406	9793.7	22.89	137.82	74.5	447.9	730.8
25.00		0.3125	41.959	41.307	9051.7	22.26	134.27	75.2	424.9	712.1
30.00		0.3125	40.851	40.208	8348.2	21.64	130.72	75.9	402.5	693.4
35.00		0.3125	39.743	39.108	7682.1	21.01	127.18	76.7	380.7	674.7
40.00		0.3125	38.634	38.009	7052.4	20.39	123.63	77.4	359.5	656.0
45.00		0.3125	37.526	36.910	6458.1	19.76	120.08	78.2	339.0	637.3
48.50	Bot - Section 2	0.3125	36.751	36.141	6062.6	19.33	117.60	78.7	324.9	435.0
50.00		0.3125	36.418	35.811	5898.2	19.14	116.54	78.9	319.0	332.8
53.25	Top - Section 1	0.2500	36.198	28.524	4656.9	24.12	144.79	0.0	0.0	710.7
55.00		0.2500	35.810	28.216	4507.8	23.85	143.24	73.4	247.9	168.9
60.00		0.2500	34.702	27.336	4099.4	23.06	138.81	74.3	232.7	472.6
65.00		0.2500	33.593	26.457	3716.4	22.28	134.37	75.2	217.9	457.6
70.00		0.2500	32.485	25.578	3358.0	21.50	129.94	76.1	203.6	442.7
75.00		0.2500	31.377	24.698	3023.4	20.72	125.51	77.0	189.8	427.7
78.00		0.2500	30.712	24.171	2833.8	20.25	122.85	77.6	181.7	249.4
80.00		0.2500	30.269	23.819	2711.9	19.94	121.08	77.9	176.5	163.3
85.00		0.2500	29.161	22.940	2422.5	19.16	116.64	78.9	163.6	397.8
88.00		0.2500	28.496	22.412	2259.2	18.69	113.98	79.4	156.2	231.5
90.00		0.2500	28.053	22.061	2154.5	18.38	112.21	79.8	151.3	151.3
95.00		0.2500	26.944	21.181	1907.0	17.59	107.78	80.7	139.4	367.9
98.00		0.2500	26.279	20.654	1768.0	17.12	105.12	81.3	132.5	213.5
98.50	Bot - Section 3	0.2500	26.169	20.566	1745.5	17.05	104.67	81.4	131.4	35.1
100.00		0.2500	25.836	20.302	1679.2	16.81	103.34	81.6	128.0	183.8
102.00	Top - Section 2	0.1875	25.768	15.223	1258.5	22.82	137.43	0.0	0.0	241.5
105.00		0.1875	25.103	14.827	1162.9	22.20	133.88	75.3	91.2	153.4
108.00		0.1875	24.438	14.432	1072.3	21.57	130.34	76.0	86.4	149.3
109.00	Top - Section 3	0.1875	24.216	14.300	1043.1	21.36	129.15	76.3	84.8	48.9
109.00	Bot - Section 4	0.1875	24.216	14.300	1043.1	21.36	129.15	76.3	84.8	
110.00		0.1875	23.995	14.168	1014.5	21.15	127.97	76.5	83.3	48.4
115.00		0.1875	22.887	13.508	879.4	20.11	122.06	77.7	75.7	235.4
118.00		0.1875	22.222	13.113	804.3	19.49	118.52	78.5	71.3	135.9
119.00		0.1875	22.000	12.981	780.3	19.28	117.33	78.7	69.9	44.4

**12908.1**

## Wind Loading - Shaft

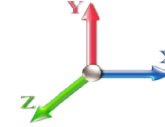
<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.6W 97 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	19.450	21.40	359.45	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	19.450	21.40	351.07	0.650	0.000	5.00	19.863	12.91	442.0	0.0	944.3
10.00		1.00	0.85	19.450	21.40	342.68	0.650	0.000	5.00	19.394	12.61	431.5	0.0	921.9
15.00		1.00	0.85	19.450	21.40	334.29	0.650	0.000	5.00	18.925	12.30	421.1	0.0	899.4
20.00		1.00	0.90	20.638	22.70	335.71	0.650	0.000	5.00	18.456	12.00	435.7	0.0	877.0
25.00		1.00	0.95	21.630	23.79	334.84	0.650	0.000	5.00	17.987	11.69	445.1	0.0	854.6
30.00		1.00	0.98	22.477	24.72	332.32	0.650	0.000	5.00	17.518	11.39	450.4	0.0	832.1
35.00		1.00	1.01	23.218	25.54	328.59	0.650	0.000	5.00	17.049	11.08	452.9	0.0	809.7
40.00		1.00	1.04	23.880	26.27	323.95	0.650	0.000	5.00	16.580	10.78	453.0	0.0	787.2
45.00		1.00	1.07	24.479	26.93	318.58	0.650	0.000	5.00	16.112	10.47	451.2	0.0	764.8
48.50	Bot - Section 2	1.00	1.09	24.869	27.36	314.47	0.650	0.000	3.50	10.999	7.15	312.9	0.0	522.0
50.00		1.00	1.09	25.029	27.53	312.62	0.650	0.000	1.50	4.707	3.06	134.8	0.0	399.4
53.25	Top - Section 1	1.00	1.11	25.363	27.90	308.48	0.650	0.000	3.25	10.054	6.53	291.7	0.0	852.8
55.00		1.00	1.12	25.536	28.09	310.50	0.650	0.000	1.75	5.332	3.47	155.8	0.0	202.7
60.00		1.00	1.14	26.008	28.61	303.66	0.650	0.000	5.00	14.917	9.70	443.8	0.0	567.1
65.00		1.00	1.16	26.450	29.09	296.45	0.650	0.000	5.00	14.448	9.39	437.2	0.0	549.1
70.00		1.00	1.17	26.866	29.55	288.92	0.650	0.000	5.00	13.979	9.09	429.6	0.0	531.2
75.00		1.00	1.19	27.259	29.98	281.09	0.650	0.000	5.00	13.510	8.78	421.3	0.0	513.2
78.00	Appurtenance(s)	1.00	1.20	27.485	30.23	276.28	0.650	0.000	3.00	7.881	5.12	247.8	0.0	299.3
80.00		1.00	1.21	27.632	30.39	273.01	0.650	0.000	2.00	5.160	3.35	163.1	0.0	196.0
85.00		1.00	1.22	27.987	30.79	264.70	0.650	0.000	5.00	12.572	8.17	402.5	0.0	477.3
88.00	Appurtenance(s)	1.00	1.23	28.192	31.01	259.61	0.650	0.000	3.00	7.318	4.76	236.0	0.0	277.8
90.00		1.00	1.24	28.325	31.16	256.18	0.650	0.000	2.00	4.785	3.11	155.1	0.0	181.6
95.00		1.00	1.25	28.650	31.51	247.46	0.650	0.000	5.00	11.634	7.56	381.3	0.0	441.4
98.00	Appurtenance(s)	1.00	1.26	28.838	31.72	242.15	0.650	0.000	3.00	6.756	4.39	222.9	0.0	256.2
98.50	Bot - Section 3	1.00	1.26	28.869	31.76	241.26	0.650	0.000	0.50	1.110	0.72	36.6	0.0	42.1
100.00		1.00	1.27	28.961	31.86	238.57	0.650	0.000	1.50	3.348	2.18	110.9	0.0	220.6
102.00	Top - Section 2	1.00	1.27	29.082	31.99	234.97	0.650	0.000	2.00	4.398	2.86	146.3	0.0	289.8
105.00		1.00	1.28	29.260	32.19	232.99	0.650	0.000	3.00	6.457	4.20	216.1	0.0	184.1
108.00	Appurtenance(s)	1.00	1.29	29.434	32.38	227.50	0.650	0.000	3.00	6.288	4.09	211.7	0.0	179.2
109.00	Top - Section 3	1.00	1.29	29.491	32.44	225.65	0.650	0.000	1.00	2.059	1.34	69.5	0.0	58.7
110.00		1.00	1.29	29.548	32.50	223.80	0.650	0.000	1.00	2.040	1.33	69.0	0.0	58.1
115.00		1.00	1.30	29.826	32.81	214.47	0.650	0.000	5.00	9.918	6.45	338.4	0.0	282.5
118.00	Appurtenance(s)	1.00	1.31	29.988	32.99	208.80	0.650	0.000	3.00	5.726	3.72	196.4	0.0	163.1
119.00		1.00	1.31	30.041	33.05	206.90	0.650	0.000	1.00	1.871	1.22	64.3	0.0	53.3
<b>Totals:</b>									<b>119.00</b>			<b>9,877.9</b>		<b>15,489.7</b>

## Discrete Appurtenance Forces

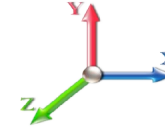
<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.6W 97 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.60



**Iterations** 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa 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	118.00	RRH2x40-AWS	3	29.988	32.986	0.60	0.90	3.91	158.40	0.000	0.000	206.23	0.00	0.00
2	118.00	RFS FD9R6004/2C-3L	6	29.988	32.986	0.90	0.90	1.94	22.32	0.000	0.000	102.60	0.00	0.00
3	118.00	DB-T1-6Z-8AB-OZ	1	29.988	32.986	0.64	0.90	3.07	22.68	0.000	0.000	161.88	0.00	0.00
4	118.00	BXA-70063-6BF	3	29.988	32.986	0.63	0.90	14.31	61.20	0.000	0.000	755.12	0.00	0.00
5	118.00	BXA-171063-8BF	3	29.988	32.986	0.76	0.90	6.67	37.80	0.000	0.000	351.92	0.00	0.00
6	118.00	BXA-171063-12BF	3	29.988	32.986	0.76	0.90	10.75	54.00	0.000	0.000	567.38	0.00	0.00
7	118.00	800 10735V01	3	29.988	32.986	0.59	0.90	15.36	103.32	0.000	0.000	810.72	0.00	0.00
8	118.00	T-Arm	3	29.988	32.986	0.56	0.75	16.88	1440.00	0.000	0.000	890.63	0.00	0.00
9	108.00	840 10054	3	29.434	32.377	0.49	0.80	6.72	126.00	0.000	0.000	348.11	0.00	0.00
10	108.00	ACU-A20-N	4	29.434	32.377	0.54	0.80	0.30	4.80	0.000	0.000	15.55	0.00	0.00
11	108.00	APXVSPP18-C-A20	2	29.434	32.377	0.66	0.80	10.65	136.80	0.000	0.000	551.74	0.00	0.00
12	108.00	800 MHz	3	29.434	32.377	0.54	0.80	4.00	190.80	0.000	0.000	207.42	0.00	0.00
13	108.00	800 MHz Filters	3	29.434	32.377	0.54	0.80	3.86	230.40	0.000	0.000	199.92	0.00	0.00
14	108.00	VHLP2.5	2	29.434	32.377	1.00	1.00	16.86	114.24	0.000	0.000	873.41	0.00	0.00
15	108.00	APXVTM14-C-120	3	29.434	32.377	0.63	0.80	12.02	201.60	0.000	0.000	622.71	0.00	0.00
16	108.00	Horizon	2	29.434	32.377	0.80	0.80	0.69	25.44	0.000	0.000	35.64	0.00	0.00
17	108.00	P40-16-XLPP-RR-A	1	29.434	32.377	0.80	0.80	7.26	63.60	0.000	0.000	376.30	0.00	0.00
18	108.00	TD-RRH8x20-25	3	29.434	32.377	0.54	0.80	6.51	252.00	0.000	0.000	337.37	0.00	0.00
19	108.00	T-Arm	3	29.434	32.377	0.56	0.75	13.50	1260.00	0.000	0.000	699.35	0.00	0.00
20	108.00	1900MHz RRH	3	29.434	32.377	0.54	0.80	6.11	158.40	0.000	0.000	316.54	0.00	0.00
21	98.00	Powerwave LGP13519	6	28.838	31.722	0.80	0.80	1.63	38.16	0.000	0.000	82.83	0.00	0.00
22	98.00	Cci OPA-65R-LCUU-H6	3	28.838	31.722	0.63	0.80	18.32	288.00	0.000	0.000	929.59	0.00	0.00
23	98.00	Powerwave 7770 w/Mount	3	28.838	31.722	0.58	0.80	9.57	97.20	0.000	0.000	485.88	0.00	0.00
24	98.00	Powerwave LGP21402	9	28.838	31.722	0.80	0.80	9.29	152.28	0.000	0.000	471.41	0.00	0.00
25	98.00	Ericsson RRUS 11	3	28.838	31.722	0.54	0.80	4.05	158.40	0.000	0.000	205.67	0.00	0.00
26	98.00	Ericsson RRUS 32	3	28.838	31.722	0.54	0.80	4.41	190.80	0.000	0.000	223.62	0.00	0.00
27	98.00	Quintel QS66512-2	3	28.838	31.722	0.74	0.80	17.95	399.60	0.000	0.000	911.10	0.00	0.00
28	98.00	Low Profile	1	28.838	31.722	1.00	1.00	22.00	1800.00	0.000	0.000	1116.60	0.00	0.00
29	98.00	Ericsson RRUS 8843	3	28.838	31.722	0.54	0.80	2.65	270.00	0.000	0.000	134.66	0.00	0.00
30	98.00	Raycap DC6-48-60-0-8F	2	28.838	31.722	0.80	0.80	1.47	76.32	0.000	0.000	74.71	0.00	0.00
31	88.00	KRY 112 144/2	3	28.192	31.011	0.56	0.80	0.69	39.60	0.000	0.000	34.18	0.00	0.00
32	88.00	AIR32	3	28.192	31.011	0.70	0.80	13.59	475.92	0.000	0.000	674.44	0.00	0.00
33	88.00	APXVAARR24_43-U-NA2	3	28.192	31.011	0.56	0.80	34.00	460.80	0.000	0.000	1687.15	0.00	0.00
34	88.00	T-Arm	3	28.192	31.011	0.56	0.75	13.50	1260.00	0.000	0.000	669.84	0.00	0.00
35	88.00	4449 B71 + B12	3	28.192	31.011	0.54	0.80	4.13	180.00	0.000	0.000	205.05	0.00	0.00
36	88.00	AIR 21 B2A/B4P	3	28.192	31.011	0.69	0.80	12.57	327.60	0.000	0.000	623.68	0.00	0.00
37	78.00	T-Arm	3	27.485	30.233	0.56	0.75	13.50	1260.00	0.000	0.000	653.04	0.00	0.00
38	78.00	APXV18-206517S-C	3	27.485	30.233	0.59	0.80	9.18	95.04	0.000	0.000	444.16	0.00	0.00

**Totals:** 12,233.52

**18,058.13**

## Total Applied Force Summary

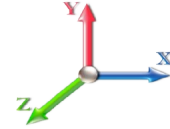
<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.6W 97 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		441.96	1262.92	0.00	0.00
10.00		431.53	1240.48	0.00	0.00
15.00		421.10	1218.03	0.00	0.00
20.00		435.73	1195.59	0.00	0.00
25.00		445.09	1173.15	0.00	0.00
30.00		450.45	1150.71	0.00	0.00
35.00		452.85	1128.27	0.00	0.00
40.00		452.96	1105.83	0.00	0.00
45.00		451.20	1083.39	0.00	0.00
48.50		312.92	745.02	0.00	0.00
50.00		134.78	494.94	0.00	0.00
53.25		291.71	1059.91	0.00	0.00
55.00		155.75	314.23	0.00	0.00
60.00		443.81	885.68	0.00	0.00
65.00		437.17	867.73	0.00	0.00
70.00		429.63	849.78	0.00	0.00
75.00		421.29	831.82	0.00	0.00
78.00	(6) attachments	1345.00	1845.52	0.00	0.00
80.00		163.12	308.42	0.00	0.00
85.00		402.52	758.48	0.00	0.00
88.00	(18) attachments	4130.36	3190.39	0.00	0.00
90.00		155.06	259.73	0.00	0.00
95.00		381.32	636.76	0.00	0.00
98.00	(36) attachments	4858.94	3844.20	0.00	0.00
98.50		36.64	53.09	0.00	0.00
100.00		110.92	253.66	0.00	0.00
102.00		146.33	333.81	0.00	0.00
105.00		216.13	250.14	0.00	0.00
108.00	(32) attachments	4795.78	3009.37	0.00	0.00
109.00		69.45	74.96	0.00	0.00
110.00		68.95	74.42	0.00	0.00
115.00		338.39	364.01	0.00	0.00
118.00	(25) attachments	4042.90	2111.66	0.00	0.00
119.00		64.30	53.27	0.00	0.00
<b>Totals:</b>		<b>27,936.05</b>	<b>34,029.38</b>	<b>0.00</b>	<b>0.00</b>



## Linear Appurtenance Segment Forces (Factored)

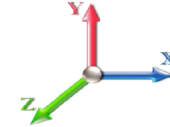
<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.6W 97 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	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.450	0.00	6.60
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.450	0.00	6.60
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.450	0.00	6.60
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.638	0.00	6.60
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.630	0.00	6.60
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.477	0.00	6.60
35.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.218	0.00	6.60
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.880	0.00	6.60
45.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.479	0.00	6.60
48.50	1 5/8" Hybrid	Yes	3.50	0.000	0.00	0.00	0.00	0.000	0.000	24.869	0.00	4.62
50.00	1 5/8" Hybrid	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	25.029	0.00	1.98
53.25	1 5/8" Hybrid	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	25.363	0.00	4.29
55.00	1 5/8" Hybrid	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	25.536	0.00	2.31
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.008	0.00	6.60
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.450	0.00	6.60
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.866	0.00	6.60
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.259	0.00	6.60
78.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	27.485	0.00	3.96
80.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.632	0.00	2.64
85.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.987	0.00	6.60
88.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	28.192	0.00	3.96
90.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.325	0.00	2.64
95.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.650	0.00	6.60
98.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	28.838	0.00	3.96
98.50	1 5/8" Hybrid	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	28.869	0.00	0.66
100.00	1 5/8" Hybrid	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	28.961	0.00	1.98
102.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.082	0.00	2.64
105.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	29.260	0.00	3.96
108.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	29.434	0.00	3.96
109.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.491	0.00	1.32
110.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.548	0.00	1.32
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.826	0.00	6.60
118.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	29.988	0.00	3.96
<b>Totals:</b>											<b>0.0</b>	<b>155.8</b>

## Calculated Forces

<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

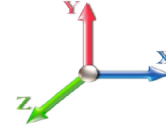


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**Load Case:** 1.2D + 1.6W 97 mph Wind

**Iterations** 23

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.60



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-33.96	-28.01	0.00	-2505.1	0.00	2505.10	3013.27	1506.63	5849.73	2929.21	0.00	0.000	0.000	0.867
5.00	-32.57	-27.72	0.00	-2365.0	0.00	2365.03	2972.75	1486.38	5634.65	2821.52	0.14	-0.263	0.000	0.850
10.00	-31.21	-27.43	0.00	-2226.4	0.00	2226.42	2930.78	1465.39	5420.60	2714.33	0.56	-0.529	0.000	0.831
15.00	-29.87	-27.13	0.00	-2089.2	0.00	2089.29	2887.35	1443.68	5207.78	2607.76	1.26	-0.799	0.000	0.812
20.00	-28.55	-26.81	0.00	-1953.6	0.00	1953.63	2842.47	1421.24	4996.39	2501.91	2.24	-1.071	0.000	0.791
25.00	-27.26	-26.48	0.00	-1819.5	0.00	1819.56	2796.14	1398.07	4786.62	2396.87	3.51	-1.345	0.000	0.769
30.00	-26.00	-26.12	0.00	-1687.1	0.00	1687.19	2748.35	1374.17	4578.69	2292.75	5.07	-1.620	0.000	0.746
35.00	-24.76	-25.75	0.00	-1556.5	0.00	1556.59	2699.10	1349.55	4372.78	2189.64	6.91	-1.897	0.000	0.720
40.00	-23.55	-25.38	0.00	-1427.8	0.00	1427.82	2648.40	1324.20	4169.10	2087.65	9.05	-2.173	0.000	0.693
45.00	-22.38	-24.97	0.00	-1300.9	0.00	1300.95	2596.25	1298.12	3967.85	1986.88	11.47	-2.448	0.000	0.664
48.50	-21.59	-24.68	0.00	-1213.5	0.00	1213.55	2558.87	1279.44	3828.53	1917.11	13.34	-2.642	0.000	0.642
50.00	-21.05	-24.57	0.00	-1176.5	0.00	1176.53	2542.63	1271.32	3769.24	1887.42	14.18	-2.726	0.000	0.632
53.25	-19.95	-24.27	0.00	-1096.6	0.00	1096.69	1874.80	937.40	2771.76	1387.94	16.10	-2.904	0.000	0.801
55.00	-19.55	-24.17	0.00	-1054.2	0.00	1054.21	1862.74	931.37	2724.01	1364.03	17.19	-3.001	0.000	0.784
60.00	-18.56	-23.78	0.00	-933.35	0.00	933.35	1827.31	913.65	2588.34	1296.09	20.50	-3.314	0.000	0.731
65.00	-17.60	-23.38	0.00	-814.44	0.00	814.44	1790.42	895.21	2453.92	1228.78	24.13	-3.618	0.000	0.673
70.00	-16.67	-22.98	0.00	-697.53	0.00	697.53	1752.08	876.04	2320.96	1162.21	28.08	-3.907	0.000	0.610
75.00	-15.79	-22.56	0.00	-582.62	0.00	582.62	1712.28	856.14	2189.66	1096.46	32.31	-4.178	0.000	0.541
78.00	-14.00	-21.11	0.00	-514.94	0.00	514.94	1687.70	843.85	2111.76	1057.45	34.99	-4.333	0.000	0.496
80.00	-13.65	-20.97	0.00	-472.72	0.00	472.72	1671.02	835.51	2060.22	1031.64	36.82	-4.432	0.000	0.467
85.00	-12.86	-20.54	0.00	-367.89	0.00	367.89	1628.32	814.16	1932.84	967.86	41.58	-4.653	0.000	0.389
88.00	-10.00	-16.18	0.00	-306.27	0.00	306.27	1601.99	801.00	1857.49	930.12	44.54	-4.771	0.000	0.336
90.00	-9.72	-16.02	0.00	-273.91	0.00	273.91	1584.15	792.08	1807.72	905.20	46.56	-4.844	0.000	0.309
95.00	-9.09	-15.61	0.00	-193.79	0.00	193.79	1538.53	769.27	1685.06	843.78	51.71	-4.999	0.000	0.236
98.00	-5.68	-10.43	0.00	-146.97	0.00	146.97	1510.46	755.23	1612.73	807.56	54.88	-5.075	0.000	0.186
98.50	-5.62	-10.39	0.00	-141.76	0.00	141.76	1505.73	752.87	1600.77	801.57	55.41	-5.087	0.000	0.181
100.00	-5.37	-10.26	0.00	-126.16	0.00	126.16	1491.46	745.73	1565.06	783.69	57.01	-5.120	0.000	0.165
102.00	-5.05	-10.09	0.00	-105.64	0.00	105.64	1021.50	510.75	1074.26	537.93	59.16	-5.159	0.000	0.202
105.00	-4.81	-9.86	0.00	-75.36	0.00	75.36	1004.76	502.38	1028.99	515.26	62.42	-5.207	0.000	0.151
108.00	-2.25	-4.81	0.00	-45.78	0.00	45.78	987.50	493.75	984.13	492.79	65.70	-5.252	0.000	0.095
109.00	-2.18	-4.73	0.00	-40.97	0.00	40.97	981.63	490.81	969.27	485.35	66.80	-5.263	0.000	0.087
109.00	-2.18	-4.73	0.00	-40.97	0.00	40.97	981.63	490.81	969.27	485.35	66.80	-5.263	0.000	0.087
110.00	-2.11	-4.66	0.00	-36.24	0.00	36.24	975.70	487.85	954.46	477.94	67.90	-5.274	0.000	0.078
115.00	-1.78	-4.29	0.00	-12.94	0.00	12.94	945.18	472.59	881.23	441.27	73.44	-5.308	0.000	0.031
118.00	-0.05	-0.07	0.00	-0.07	0.00	0.07	926.18	463.09	838.01	419.63	76.77	-5.315	0.000	0.000
119.00	0.00	-0.06	0.00	0.00	0.00	0.00	919.72	459.86	823.73	412.48	77.88	-5.315	0.000	0.000

## Wind Loading - Shaft

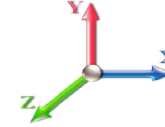
<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.6W 97 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	19.450	21.40	359.45	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	19.450	21.40	351.07	0.650	0.000	5.00	19.863	12.91	442.0	0.0	708.2
10.00		1.00	0.85	19.450	21.40	342.68	0.650	0.000	5.00	19.394	12.61	431.5	0.0	691.4
15.00		1.00	0.85	19.450	21.40	334.29	0.650	0.000	5.00	18.925	12.30	421.1	0.0	674.6
20.00		1.00	0.90	20.638	22.70	335.71	0.650	0.000	5.00	18.456	12.00	435.7	0.0	657.8
25.00		1.00	0.95	21.630	23.79	334.84	0.650	0.000	5.00	17.987	11.69	445.1	0.0	640.9
30.00		1.00	0.98	22.477	24.72	332.32	0.650	0.000	5.00	17.518	11.39	450.4	0.0	624.1
35.00		1.00	1.01	23.218	25.54	328.59	0.650	0.000	5.00	17.049	11.08	452.9	0.0	607.3
40.00		1.00	1.04	23.880	26.27	323.95	0.650	0.000	5.00	16.580	10.78	453.0	0.0	590.4
45.00		1.00	1.07	24.479	26.93	318.58	0.650	0.000	5.00	16.112	10.47	451.2	0.0	573.6
48.50	Bot - Section 2	1.00	1.09	24.869	27.36	314.47	0.650	0.000	3.50	10.999	7.15	312.9	0.0	391.5
50.00		1.00	1.09	25.029	27.53	312.62	0.650	0.000	1.50	4.707	3.06	134.8	0.0	299.5
53.25	Top - Section 1	1.00	1.11	25.363	27.90	308.48	0.650	0.000	3.25	10.054	6.53	291.7	0.0	639.6
55.00		1.00	1.12	25.536	28.09	310.50	0.650	0.000	1.75	5.332	3.47	155.8	0.0	152.0
60.00		1.00	1.14	26.008	28.61	303.66	0.650	0.000	5.00	14.917	9.70	443.8	0.0	425.3
65.00		1.00	1.16	26.450	29.09	296.45	0.650	0.000	5.00	14.448	9.39	437.2	0.0	411.9
70.00		1.00	1.17	26.866	29.55	288.92	0.650	0.000	5.00	13.979	9.09	429.6	0.0	398.4
75.00		1.00	1.19	27.259	29.98	281.09	0.650	0.000	5.00	13.510	8.78	421.3	0.0	384.9
78.00	Appurtenance(s)	1.00	1.20	27.485	30.23	276.28	0.650	0.000	3.00	7.881	5.12	247.8	0.0	224.5
80.00		1.00	1.21	27.632	30.39	273.01	0.650	0.000	2.00	5.160	3.35	163.1	0.0	147.0
85.00		1.00	1.22	27.987	30.79	264.70	0.650	0.000	5.00	12.572	8.17	402.5	0.0	358.0
88.00	Appurtenance(s)	1.00	1.23	28.192	31.01	259.61	0.650	0.000	3.00	7.318	4.76	236.0	0.0	208.3
90.00		1.00	1.24	28.325	31.16	256.18	0.650	0.000	2.00	4.785	3.11	155.1	0.0	136.2
95.00		1.00	1.25	28.650	31.51	247.46	0.650	0.000	5.00	11.634	7.56	381.3	0.0	331.1
98.00	Appurtenance(s)	1.00	1.26	28.838	31.72	242.15	0.650	0.000	3.00	6.756	4.39	222.9	0.0	192.2
98.50	Bot - Section 3	1.00	1.26	28.869	31.76	241.26	0.650	0.000	0.50	1.110	0.72	36.6	0.0	31.6
100.00		1.00	1.27	28.961	31.86	238.57	0.650	0.000	1.50	3.348	2.18	110.9	0.0	165.5
102.00	Top - Section 2	1.00	1.27	29.082	31.99	234.97	0.650	0.000	2.00	4.398	2.86	146.3	0.0	217.3
105.00		1.00	1.28	29.260	32.19	232.99	0.650	0.000	3.00	6.457	4.20	216.1	0.0	138.0
108.00	Appurtenance(s)	1.00	1.29	29.434	32.38	227.50	0.650	0.000	3.00	6.288	4.09	211.7	0.0	134.4
109.00	Top - Section 3	1.00	1.29	29.491	32.44	225.65	0.650	0.000	1.00	2.059	1.34	69.5	0.0	44.0
110.00		1.00	1.29	29.548	32.50	223.80	0.650	0.000	1.00	2.040	1.33	69.0	0.0	43.6
115.00		1.00	1.30	29.826	32.81	214.47	0.650	0.000	5.00	9.918	6.45	338.4	0.0	211.9
118.00	Appurtenance(s)	1.00	1.31	29.988	32.99	208.80	0.650	0.000	3.00	5.726	3.72	196.4	0.0	122.3
119.00		1.00	1.31	30.041	33.05	206.90	0.650	0.000	1.00	1.871	1.22	64.3	0.0	40.0
<b>Totals:</b>								<b>119.00</b>			<b>9,877.9</b>	<b>11,617.3</b>		

## Discrete Appurtenance Forces

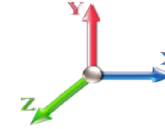
<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.6W 97 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.60



**Iterations** 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa 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	118.00	RRH2x40-AWS	3	29.988	32.986	0.60	0.90	3.91	118.80	0.000	0.000	206.23	0.00	0.00
2	118.00	RFS FD9R6004/2C-3L	6	29.988	32.986	0.90	0.90	1.94	16.74	0.000	0.000	102.60	0.00	0.00
3	118.00	DB-T1-6Z-8AB-OZ	1	29.988	32.986	0.64	0.90	3.07	17.01	0.000	0.000	161.88	0.00	0.00
4	118.00	BXA-70063-6BF	3	29.988	32.986	0.63	0.90	14.31	45.90	0.000	0.000	755.12	0.00	0.00
5	118.00	BXA-171063-8BF	3	29.988	32.986	0.76	0.90	6.67	28.35	0.000	0.000	351.92	0.00	0.00
6	118.00	BXA-171063-12BF	3	29.988	32.986	0.76	0.90	10.75	40.50	0.000	0.000	567.38	0.00	0.00
7	118.00	800 10735V01	3	29.988	32.986	0.59	0.90	15.36	77.49	0.000	0.000	810.72	0.00	0.00
8	118.00	T-Arm	3	29.988	32.986	0.56	0.75	16.88	1080.00	0.000	0.000	890.63	0.00	0.00
9	108.00	840 10054	3	29.434	32.377	0.49	0.80	6.72	94.50	0.000	0.000	348.11	0.00	0.00
10	108.00	ACU-A20-N	4	29.434	32.377	0.54	0.80	0.30	3.60	0.000	0.000	15.55	0.00	0.00
11	108.00	APXVSPP18-C-A20	2	29.434	32.377	0.66	0.80	10.65	102.60	0.000	0.000	551.74	0.00	0.00
12	108.00	800 MHz	3	29.434	32.377	0.54	0.80	4.00	143.10	0.000	0.000	207.42	0.00	0.00
13	108.00	800 MHz Filters	3	29.434	32.377	0.54	0.80	3.86	172.80	0.000	0.000	199.92	0.00	0.00
14	108.00	VHLP2.5	2	29.434	32.377	1.00	1.00	16.86	85.68	0.000	0.000	873.41	0.00	0.00
15	108.00	APXVTM14-C-120	3	29.434	32.377	0.63	0.80	12.02	151.20	0.000	0.000	622.71	0.00	0.00
16	108.00	Horizon	2	29.434	32.377	0.80	0.80	0.69	19.08	0.000	0.000	35.64	0.00	0.00
17	108.00	P40-16-XLPP-RR-A	1	29.434	32.377	0.80	0.80	7.26	47.70	0.000	0.000	376.30	0.00	0.00
18	108.00	TD-RRH8x20-25	3	29.434	32.377	0.54	0.80	6.51	189.00	0.000	0.000	337.37	0.00	0.00
19	108.00	T-Arm	3	29.434	32.377	0.56	0.75	13.50	945.00	0.000	0.000	699.35	0.00	0.00
20	108.00	1900MHz RRH	3	29.434	32.377	0.54	0.80	6.11	118.80	0.000	0.000	316.54	0.00	0.00
21	98.00	Powerwave LGP13519	6	28.838	31.722	0.80	0.80	1.63	28.62	0.000	0.000	82.83	0.00	0.00
22	98.00	Cci OPA-65R-LCUU-H6	3	28.838	31.722	0.63	0.80	18.32	216.00	0.000	0.000	929.59	0.00	0.00
23	98.00	Powerwave 7770 w/Mount	3	28.838	31.722	0.58	0.80	9.57	72.90	0.000	0.000	485.88	0.00	0.00
24	98.00	Powerwave LGP21402	9	28.838	31.722	0.80	0.80	9.29	114.21	0.000	0.000	471.41	0.00	0.00
25	98.00	Ericsson RRUS 11	3	28.838	31.722	0.54	0.80	4.05	118.80	0.000	0.000	205.67	0.00	0.00
26	98.00	Ericsson RRUS 32	3	28.838	31.722	0.54	0.80	4.41	143.10	0.000	0.000	223.62	0.00	0.00
27	98.00	Quintel QS66512-2	3	28.838	31.722	0.74	0.80	17.95	299.70	0.000	0.000	911.10	0.00	0.00
28	98.00	Low Profile	1	28.838	31.722	1.00	1.00	22.00	1350.00	0.000	0.000	1116.60	0.00	0.00
29	98.00	Ericsson RRUS 8843	3	28.838	31.722	0.54	0.80	2.65	202.50	0.000	0.000	134.66	0.00	0.00
30	98.00	Raycap DC6-48-60-0-8F	2	28.838	31.722	0.80	0.80	1.47	57.24	0.000	0.000	74.71	0.00	0.00
31	88.00	KRY 112 144/2	3	28.192	31.011	0.56	0.80	0.69	29.70	0.000	0.000	34.18	0.00	0.00
32	88.00	AIR32	3	28.192	31.011	0.70	0.80	13.59	356.94	0.000	0.000	674.44	0.00	0.00
33	88.00	APXVAARR24_43-U-NA2	3	28.192	31.011	0.56	0.80	34.00	345.60	0.000	0.000	1687.15	0.00	0.00
34	88.00	T-Arm	3	28.192	31.011	0.56	0.75	13.50	945.00	0.000	0.000	669.84	0.00	0.00
35	88.00	4449 B71 + B12	3	28.192	31.011	0.54	0.80	4.13	135.00	0.000	0.000	205.05	0.00	0.00
36	88.00	AIR 21 B2A/B4P	3	28.192	31.011	0.69	0.80	12.57	245.70	0.000	0.000	623.68	0.00	0.00
37	78.00	T-Arm	3	27.485	30.233	0.56	0.75	13.50	945.00	0.000	0.000	653.04	0.00	0.00
38	78.00	APXV18-206517S-C	3	27.485	30.233	0.59	0.80	9.18	71.28	0.000	0.000	444.16	0.00	0.00

**Totals:** 9,175.14

**18,058.13**



## Total Applied Force Summary

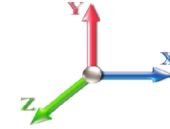
<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.6W 97 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		441.96	947.19	0.00	0.00
10.00		431.53	930.36	0.00	0.00
15.00		421.10	913.53	0.00	0.00
20.00		435.73	896.70	0.00	0.00
25.00		445.09	879.86	0.00	0.00
30.00		450.45	863.03	0.00	0.00
35.00		452.85	846.20	0.00	0.00
40.00		452.96	829.37	0.00	0.00
45.00		451.20	812.54	0.00	0.00
48.50		312.92	558.76	0.00	0.00
50.00		134.78	371.21	0.00	0.00
53.25		291.71	794.93	0.00	0.00
55.00		155.75	235.67	0.00	0.00
60.00		443.81	664.26	0.00	0.00
65.00		437.17	650.80	0.00	0.00
70.00		429.63	637.33	0.00	0.00
75.00		421.29	623.87	0.00	0.00
78.00	(6) attachments	1345.00	1384.14	0.00	0.00
80.00		163.12	231.31	0.00	0.00
85.00		402.52	568.86	0.00	0.00
88.00	(18) attachments	4130.36	2392.79	0.00	0.00
90.00		155.06	194.80	0.00	0.00
95.00		381.32	477.57	0.00	0.00
98.00	(36) attachments	4858.94	2883.15	0.00	0.00
98.50		36.64	39.82	0.00	0.00
100.00		110.92	190.24	0.00	0.00
102.00		146.33	250.36	0.00	0.00
105.00		216.13	187.60	0.00	0.00
108.00	(32) attachments	4795.78	2257.03	0.00	0.00
109.00		69.45	56.22	0.00	0.00
110.00		68.95	55.81	0.00	0.00
115.00		338.39	273.00	0.00	0.00
118.00	(25) attachments	4042.90	1583.75	0.00	0.00
119.00		64.30	39.96	0.00	0.00
	<b>Totals:</b>	<b>27,936.05</b>	<b>25,522.04</b>	<b>0.00</b>	<b>0.00</b>

## Linear Appurtenance Segment Forces (Factored)

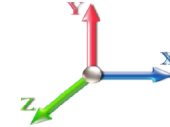
<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.6W 97 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	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.450	0.00	4.95
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.450	0.00	4.95
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.450	0.00	4.95
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.638	0.00	4.95
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.630	0.00	4.95
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.477	0.00	4.95
35.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.218	0.00	4.95
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.880	0.00	4.95
45.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.479	0.00	4.95
48.50	1 5/8" Hybrid	Yes	3.50	0.000	0.00	0.00	0.00	0.000	0.000	24.869	0.00	3.47
50.00	1 5/8" Hybrid	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	25.029	0.00	1.49
53.25	1 5/8" Hybrid	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	25.363	0.00	3.22
55.00	1 5/8" Hybrid	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	25.536	0.00	1.73
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.008	0.00	4.95
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.450	0.00	4.95
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.866	0.00	4.95
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.259	0.00	4.95
78.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	27.485	0.00	2.97
80.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.632	0.00	1.98
85.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.987	0.00	4.95
88.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	28.192	0.00	2.97
90.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.325	0.00	1.98
95.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.650	0.00	4.95
98.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	28.838	0.00	2.97
98.50	1 5/8" Hybrid	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	28.869	0.00	0.50
100.00	1 5/8" Hybrid	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	28.961	0.00	1.49
102.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.082	0.00	1.98
105.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	29.260	0.00	2.97
108.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	29.434	0.00	2.97
109.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.491	0.00	0.99
110.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.548	0.00	0.99
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.826	0.00	4.95
118.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	29.988	0.00	2.97
<b>Totals:</b>											<b>0.0</b>	<b>116.8</b>

## Calculated Forces

<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

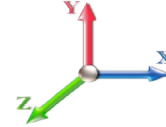


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**Load Case:** 0.9D + 1.6W 97 mph Wind

**Iterations** 23

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.60



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	-25.46	-27.99	0.00	-2480.7	0.00	2480.72	3013.27	1506.63	5849.73	2929.21	0.00	0.000	0.000	0.856
5.00	-24.38	-27.66	0.00	-2340.7	0.00	2340.75	2972.75	1486.38	5634.65	2821.52	0.14	-0.260	0.000	0.838
10.00	-23.33	-27.33	0.00	-2202.4	0.00	2202.45	2930.78	1465.39	5420.60	2714.33	0.55	-0.524	0.000	0.820
15.00	-22.30	-27.01	0.00	-2065.7	0.00	2065.79	2887.35	1443.68	5207.78	2607.76	1.25	-0.790	0.000	0.800
20.00	-21.28	-26.66	0.00	-1930.7	0.00	1930.76	2842.47	1421.24	4996.39	2501.91	2.22	-1.059	0.000	0.780
25.00	-20.29	-26.29	0.00	-1797.4	0.00	1797.49	2796.14	1398.07	4786.62	2396.87	3.47	-1.330	0.000	0.758
30.00	-19.31	-25.91	0.00	-1666.0	0.00	1666.05	2748.35	1374.17	4578.69	2292.75	5.01	-1.602	0.000	0.734
35.00	-18.36	-25.52	0.00	-1536.5	0.00	1536.51	2699.10	1349.55	4372.78	2189.64	6.84	-1.875	0.000	0.709
40.00	-17.43	-25.12	0.00	-1408.9	0.00	1408.92	2648.40	1324.20	4169.10	2087.65	8.95	-2.148	0.000	0.682
45.00	-16.53	-24.70	0.00	-1283.3	0.00	1283.33	2596.25	1298.12	3967.85	1986.88	11.34	-2.419	0.000	0.653
48.50	-15.93	-24.40	0.00	-1196.8	0.00	1196.87	2558.87	1279.44	3828.53	1917.11	13.19	-2.610	0.000	0.631
50.00	-15.51	-24.29	0.00	-1160.2	0.00	1160.27	2542.63	1271.32	3769.24	1887.42	14.02	-2.693	0.000	0.621
53.25	-14.68	-23.99	0.00	-1081.3	0.00	1081.34	1874.80	937.40	2771.76	1387.94	15.92	-2.869	0.000	0.788
55.00	-14.36	-23.88	0.00	-1039.3	0.00	1039.35	1862.74	931.37	2724.01	1364.03	16.99	-2.964	0.000	0.770
60.00	-13.60	-23.47	0.00	-919.98	0.00	919.98	1827.31	913.65	2588.34	1296.09	20.26	-3.273	0.000	0.718
65.00	-12.86	-23.06	0.00	-802.64	0.00	802.64	1790.42	895.21	2453.92	1228.78	23.85	-3.572	0.000	0.661
70.00	-12.14	-22.65	0.00	-687.34	0.00	687.34	1752.08	876.04	2320.96	1162.21	27.74	-3.857	0.000	0.599
75.00	-11.47	-22.23	0.00	-574.10	0.00	574.10	1712.28	856.14	2189.66	1096.46	31.93	-4.125	0.000	0.531
78.00	-10.14	-20.81	0.00	-507.43	0.00	507.43	1687.70	843.85	2111.76	1057.45	34.57	-4.277	0.000	0.486
80.00	-9.86	-20.65	0.00	-465.82	0.00	465.82	1671.02	835.51	2060.22	1031.64	36.38	-4.375	0.000	0.458
85.00	-9.27	-20.23	0.00	-362.55	0.00	362.55	1628.32	814.16	1932.84	967.86	41.08	-4.592	0.000	0.381
88.00	-7.19	-15.93	0.00	-301.85	0.00	301.85	1601.99	801.00	1857.49	930.12	44.00	-4.709	0.000	0.329
90.00	-6.98	-15.78	0.00	-269.98	0.00	269.98	1584.15	792.08	1807.72	905.20	45.99	-4.781	0.000	0.303
95.00	-6.51	-15.37	0.00	-191.10	0.00	191.10	1538.53	769.27	1685.06	843.78	51.07	-4.933	0.000	0.231
98.00	-4.05	-10.28	0.00	-144.98	0.00	144.98	1510.46	755.23	1612.73	807.56	54.20	-5.009	0.000	0.182
98.50	-4.01	-10.24	0.00	-139.84	0.00	139.84	1505.73	752.87	1600.77	801.57	54.72	-5.020	0.000	0.177
100.00	-3.82	-10.12	0.00	-124.48	0.00	124.48	1491.46	745.73	1565.06	783.69	56.30	-5.052	0.000	0.162
102.00	-3.58	-9.95	0.00	-104.24	0.00	104.24	1021.50	510.75	1074.26	537.93	58.43	-5.091	0.000	0.198
105.00	-3.40	-9.73	0.00	-74.38	0.00	74.38	1004.76	502.38	1028.99	515.26	61.64	-5.139	0.000	0.148
108.00	-1.59	-4.75	0.00	-45.20	0.00	45.20	987.50	493.75	984.13	492.79	64.88	-5.183	0.000	0.093
109.00	-1.54	-4.67	0.00	-40.45	0.00	40.45	981.63	490.81	969.27	485.35	65.96	-5.194	0.000	0.085
109.00	-1.54	-4.67	0.00	-40.45	0.00	40.45	981.63	490.81	969.27	485.35	65.96	-5.194	0.000	0.085
110.00	-1.48	-4.60	0.00	-35.78	0.00	35.78	975.70	487.85	954.46	477.94	67.05	-5.205	0.000	0.076
115.00	-1.24	-4.24	0.00	-12.78	0.00	12.78	945.18	472.59	881.23	441.27	72.52	-5.239	0.000	0.030
118.00	-0.03	-0.07	0.00	-0.07	0.00	0.07	926.18	463.09	838.01	419.63	75.81	-5.245	0.000	0.000
119.00	0.00	-0.06	0.00	0.00	0.00	0.00	919.72	459.86	823.73	412.48	76.90	-5.245	0.000	0.000

## Wind Loading - Shaft

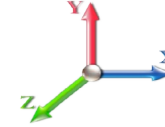
<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**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	1.656	5.00	21.243	25.49	144.9	498.4	1442.7
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.775	5.00	20.873	25.05	142.4	523.1	1445.0
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.848	5.00	20.465	24.56	139.6	532.8	1432.2
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.902	5.00	20.041	24.05	145.1	535.7	1412.7
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.945	5.00	19.608	23.53	148.8	534.8	1389.4
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.981	5.00	19.169	23.00	151.1	531.4	1363.5
35.00		1.00	1.01	6.169	6.79	0.00	1.200	2.012	5.00	18.726	22.47	152.5	526.0	1335.7
40.00		1.00	1.04	6.345	6.98	0.00	1.200	2.039	5.00	18.279	21.94	153.1	519.3	1306.5
45.00		1.00	1.07	6.504	7.15	0.00	1.200	2.063	5.00	17.831	21.40	153.1	511.4	1276.2
48.50	Bot - Section 2	1.00	1.09	6.608	7.27	0.00	1.200	2.079	3.50	12.212	14.65	106.5	353.7	875.8
50.00		1.00	1.09	6.650	7.32	0.00	1.200	2.085	1.50	5.228	6.27	45.9	152.7	552.1
53.25	Top - Section 1	1.00	1.11	6.739	7.41	0.00	1.200	2.098	3.25	11.190	13.43	99.5	327.0	1179.8
55.00		1.00	1.12	6.785	7.46	0.00	1.200	2.105	1.75	5.945	7.13	53.2	174.9	377.6
60.00		1.00	1.14	6.910	7.60	0.00	1.200	2.123	5.00	16.686	20.02	152.2	489.5	1056.6
65.00		1.00	1.16	7.028	7.73	0.00	1.200	2.140	5.00	16.231	19.48	150.6	478.8	1028.0
70.00		1.00	1.17	7.138	7.85	0.00	1.200	2.156	5.00	15.776	18.93	148.6	467.6	998.8
75.00		1.00	1.19	7.243	7.97	0.00	1.200	2.171	5.00	15.319	18.38	146.5	456.0	969.2
78.00	Appurtenance(s)	1.00	1.20	7.303	8.03	0.00	1.200	2.180	3.00	8.971	10.76	86.5	269.3	568.6
80.00		1.00	1.21	7.342	8.08	0.00	1.200	2.185	2.00	5.889	7.07	57.1	177.6	373.5
85.00		1.00	1.22	7.436	8.18	0.00	1.200	2.198	5.00	14.404	17.29	141.4	431.6	908.9
88.00	Appurtenance(s)	1.00	1.23	7.491	8.24	0.00	1.200	2.206	3.00	8.421	10.11	83.3	254.4	532.2
90.00		1.00	1.24	7.526	8.28	0.00	1.200	2.211	2.00	5.522	6.63	54.9	167.5	349.1
95.00		1.00	1.25	7.612	8.37	0.00	1.200	2.223	5.00	13.487	16.18	135.5	405.9	847.3
98.00	Appurtenance(s)	1.00	1.26	7.662	8.43	0.00	1.200	2.230	3.00	7.871	9.44	79.6	238.8	495.0
98.50	Bot - Section 3	1.00	1.26	7.671	8.44	0.00	1.200	2.231	0.50	1.295	1.55	13.1	39.7	81.7
100.00		1.00	1.27	7.695	8.46	0.00	1.200	2.234	1.50	3.907	4.69	39.7	119.4	340.0
102.00	Top - Section 2	1.00	1.27	7.727	8.50	0.00	1.200	2.239	2.00	5.145	6.17	52.5	157.0	446.7
105.00		1.00	1.28	7.774	8.55	0.00	1.200	2.245	3.00	7.580	9.10	77.8	230.6	414.7
108.00	Appurtenance(s)	1.00	1.29	7.821	8.60	0.00	1.200	2.252	3.00	7.414	8.90	76.5	225.7	404.9
109.00	Top - Section 3	1.00	1.29	7.836	8.62	0.00	1.200	2.254	1.00	2.434	2.92	25.2	74.7	133.3
110.00		1.00	1.29	7.851	8.64	0.00	1.200	2.256	1.00	2.416	2.90	25.0	74.1	132.2
115.00		1.00	1.30	7.925	8.72	0.00	1.200	2.266	5.00	11.806	14.17	123.5	356.7	639.2
118.00	Appurtenance(s)	1.00	1.31	7.968	8.76	0.00	1.200	2.272	3.00	6.861	8.23	72.2	208.9	372.0
119.00		1.00	1.31	7.982	8.78	0.00	1.200	2.274	1.00	2.250	2.70	23.7	69.1	122.3
<b>Totals:</b>									<b>119.00</b>			<b>3,400.9</b>		<b>26,603.8</b>

## Discrete Appurtenance Forces

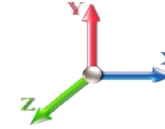
<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**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)	CaAa 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	118.00	RRH2x40-AWS	3	7.968	8.765	0.60	0.90	6.38	343.34	0.000	0.000	55.88	0.00	0.00
2	118.00	RFS FD9R6004/2C-3L	6	7.968	8.765	0.90	0.90	5.06	71.21	0.000	0.000	44.35	0.00	0.00
3	118.00	DB-T1-6Z-8AB-OZ	1	7.968	8.765	0.64	0.90	3.81	220.01	0.000	0.000	33.38	0.00	0.00
4	118.00	BXA-70063-6BF	3	7.968	8.765	0.63	0.90	21.11	492.80	0.000	0.000	184.99	0.00	0.00
5	118.00	BXA-171063-8BF	3	7.968	8.765	0.76	0.90	11.56	237.36	0.000	0.000	101.35	0.00	0.00
6	118.00	BXA-171063-12BF	3	7.968	8.765	0.76	0.90	17.69	343.13	0.000	0.000	155.01	0.00	0.00
7	118.00	800 10735V01	3	7.968	8.765	0.59	0.90	22.21	572.95	0.000	0.000	194.70	0.00	0.00
8	118.00	T-Arm	3	7.968	8.765	0.56	0.75	36.04	2290.46	0.000	0.000	315.90	0.00	0.00
9	108.00	840 10054	3	7.821	8.603	0.49	0.80	9.88	379.88	0.000	0.000	84.99	0.00	0.00
10	108.00	ACU-A20-N	4	7.821	8.603	0.54	0.80	1.12	21.77	0.000	0.000	9.64	0.00	0.00
11	108.00	APXVSP18-C-A20	2	7.821	8.603	0.66	0.80	15.44	483.84	0.000	0.000	132.80	0.00	0.00
12	108.00	800 MHz	3	7.821	8.603	0.54	0.80	6.38	413.78	0.000	0.000	54.86	0.00	0.00
13	108.00	800 MHz Filters	3	7.821	8.603	0.54	0.80	6.18	462.93	0.000	0.000	53.17	0.00	0.00
14	108.00	VHLP2.5	2	7.821	8.603	1.00	1.00	21.26	461.07	0.000	0.000	182.93	0.00	0.00
15	108.00	APXVTM14-C-120	3	7.821	8.603	0.63	0.80	14.79	859.41	0.000	0.000	127.28	0.00	0.00
16	108.00	Horizon	2	7.821	8.603	0.80	0.80	1.74	70.78	0.000	0.000	15.00	0.00	0.00
17	108.00	P40-16-XLPP-RR-A	1	7.821	8.603	0.80	0.80	8.57	347.29	0.000	0.000	73.77	0.00	0.00
18	108.00	TD-RRH8x20-25	3	7.821	8.603	0.54	0.80	8.24	705.92	0.000	0.000	70.86	0.00	0.00
19	108.00	T-Arm	3	7.821	8.603	0.56	0.75	28.70	1995.74	0.000	0.000	246.89	0.00	0.00
20	108.00	1900MHz RRH	3	7.821	8.603	0.54	0.80	8.99	487.34	0.000	0.000	77.38	0.00	0.00
21	98.00	Powerwave LGP13519	6	7.662	8.429	0.80	0.80	4.42	94.77	0.000	0.000	37.23	0.00	0.00
22	98.00	Cci OPA-65R-LCUU-H6	3	7.662	8.429	0.63	0.80	21.68	1219.36	0.000	0.000	182.73	0.00	0.00
23	98.00	Powerwave 7770 w/Mount	3	7.662	8.429	0.58	0.80	14.29	437.23	0.000	0.000	120.42	0.00	0.00
24	98.00	Powerwave LGP21402	9	7.662	8.429	0.80	0.80	16.98	375.89	0.000	0.000	143.09	0.00	0.00
25	98.00	Ericsson RRUS 11	3	7.662	8.429	0.54	0.80	5.35	354.22	0.000	0.000	45.12	0.00	0.00
26	98.00	Ericsson RRUS 32	3	7.662	8.429	0.54	0.80	5.94	550.96	0.000	0.000	50.03	0.00	0.00
27	98.00	Quintel QS66512-2	3	7.662	8.429	0.74	0.80	21.68	1313.53	0.000	0.000	182.76	0.00	0.00
28	98.00	Low Profile	1	7.662	8.429	1.00	1.00	44.57	3172.49	0.000	0.000	375.64	0.00	0.00
29	98.00	Ericsson RRUS 8843	3	7.662	8.429	0.54	0.80	3.79	576.21	0.000	0.000	31.96	0.00	0.00
30	98.00	Raycap DC6-48-60-0-8F	2	7.662	8.429	0.80	0.80	2.37	198.92	0.000	0.000	19.95	0.00	0.00
31	88.00	KRY 112 144/2	3	7.491	8.240	0.60	0.80	1.82	71.19	0.000	0.000	14.99	0.00	0.00
32	88.00	AIR32	3	7.491	8.240	0.70	0.80	16.73	1209.32	0.000	0.000	137.84	0.00	0.00
33	88.00	APXVAARR24_43-U-NA2	3	7.491	8.240	0.60	0.80	40.80	2099.33	0.000	0.000	336.16	0.00	0.00
34	88.00	T-Arm	3	7.491	8.240	0.56	0.75	28.39	1976.57	0.000	0.000	233.94	0.00	0.00
35	88.00	4449 B71 + B12	3	7.491	8.240	0.54	0.80	5.45	382.70	0.000	0.000	44.87	0.00	0.00
36	88.00	AIR 21 B2A/B4P	3	7.491	8.240	0.69	0.80	15.48	1001.24	0.000	0.000	127.58	0.00	0.00
37	78.00	T-Arm	3	7.303	8.033	0.56	0.75	28.21	1965.46	0.000	0.000	226.63	0.00	0.00
38	78.00	APXV18-206517S-C	3	7.303	8.033	0.59	0.80	14.45	363.12	0.000	0.000	116.07	0.00	0.00

**Totals: 28,623.52**

**4,642.14**



## Total Applied Force Summary

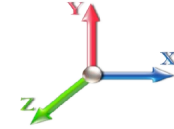
<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**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		144.91	1792.60	0.00	0.00
10.00		142.39	1798.32	0.00	0.00
15.00		139.61	1787.72	0.00	0.00
20.00		145.06	1769.91	0.00	0.00
25.00		148.75	1747.90	0.00	0.00
30.00		151.11	1723.12	0.00	0.00
35.00		152.49	1696.34	0.00	0.00
40.00		153.10	1668.03	0.00	0.00
45.00		153.09	1638.51	0.00	0.00
48.50		106.51	1129.72	0.00	0.00
50.00		45.89	661.02	0.00	0.00
53.25		99.54	1416.08	0.00	0.00
55.00		53.25	504.90	0.00	0.00
60.00		152.20	1420.95	0.00	0.00
65.00		150.57	1392.87	0.00	0.00
70.00		148.65	1364.25	0.00	0.00
75.00		146.46	1335.17	0.00	0.00
78.00	(6) attachments	429.18	3116.93	0.00	0.00
80.00		57.07	505.14	0.00	0.00
85.00		141.39	1238.35	0.00	0.00
88.00	(18) attachments	978.64	7470.34	0.00	0.00
90.00		54.86	446.77	0.00	0.00
95.00		135.52	1091.77	0.00	0.00
98.00	(36) attachments	1268.52	8935.41	0.00	0.00
98.50		13.12	97.69	0.00	0.00
100.00		39.68	387.88	0.00	0.00
102.00		52.47	510.69	0.00	0.00
105.00		77.78	510.71	0.00	0.00
108.00	(32) attachments	1206.11	7190.83	0.00	0.00
109.00		25.18	159.68	0.00	0.00
110.00		25.04	158.60	0.00	0.00
115.00		123.50	771.34	0.00	0.00
118.00	(25) attachments	1157.74	5022.64	0.00	0.00
119.00		23.71	122.35	0.00	0.00
<b>Totals:</b>		<b>8,043.09</b>	<b>62,584.52</b>	<b>0.00</b>	<b>0.00</b>

## Linear Appurtenance Segment Forces (Factored)

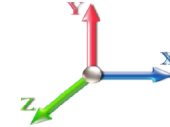
<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**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	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	37.90
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	41.32
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	43.52
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.483	0.00	45.17
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.747	0.00	46.51
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.972	0.00	47.65
35.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.169	0.00	48.64
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.345	0.00	49.52
45.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.504	0.00	50.31
48.50	1 5/8" Hybrid	Yes	3.50	0.000	0.00	0.00	0.00	0.000	0.000	6.608	0.00	35.58
50.00	1 5/8" Hybrid	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	6.650	0.00	15.31
53.25	1 5/8" Hybrid	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	6.739	0.00	33.46
55.00	1 5/8" Hybrid	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	6.785	0.00	18.10
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.910	0.00	52.32
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.028	0.00	52.90
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.138	0.00	53.44
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.243	0.00	53.95
78.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	7.303	0.00	32.55
80.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.342	0.00	21.77
85.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.436	0.00	54.89
88.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	7.491	0.00	33.09
90.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.526	0.00	22.13
95.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.612	0.00	55.75
98.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	7.662	0.00	33.59
98.50	1 5/8" Hybrid	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	7.671	0.00	5.60
100.00	1 5/8" Hybrid	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	7.695	0.00	16.84
102.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.727	0.00	22.52
105.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	7.774	0.00	33.92
108.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	7.821	0.00	34.05
109.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.836	0.00	11.37
110.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.851	0.00	11.38
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.925	0.00	57.26
118.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	7.968	0.00	34.48
<b>Totals:</b>											<b>0.0</b>	<b>1,206.8</b>

## Calculated Forces

<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

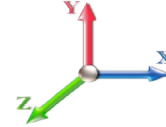


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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Iterations** 23

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-62.58	-8.09	0.00	-734.63	0.00	734.63	3013.27	1506.63	5849.73	2929.21	0.00	0.000	0.000	0.272
5.00	-60.78	-8.02	0.00	-694.20	0.00	694.20	2972.75	1486.38	5634.65	2821.52	0.04	-0.077	0.000	0.267
10.00	-58.97	-7.96	0.00	-654.09	0.00	654.09	2930.78	1465.39	5420.60	2714.33	0.16	-0.155	0.000	0.261
15.00	-57.17	-7.89	0.00	-614.31	0.00	614.31	2887.35	1443.68	5207.78	2607.76	0.37	-0.235	0.000	0.255
20.00	-55.39	-7.81	0.00	-574.85	0.00	574.85	2842.47	1421.24	4996.39	2501.91	0.66	-0.315	0.000	0.249
25.00	-53.63	-7.73	0.00	-535.78	0.00	535.78	2796.14	1398.07	4786.62	2396.87	1.03	-0.395	0.000	0.243
30.00	-51.90	-7.64	0.00	-497.13	0.00	497.13	2748.35	1374.17	4578.69	2292.75	1.49	-0.476	0.000	0.236
35.00	-50.19	-7.54	0.00	-458.93	0.00	458.93	2699.10	1349.55	4372.78	2189.64	2.03	-0.558	0.000	0.228
40.00	-48.52	-7.44	0.00	-421.21	0.00	421.21	2648.40	1324.20	4169.10	2087.65	2.66	-0.639	0.000	0.220
45.00	-46.87	-7.33	0.00	-384.00	0.00	384.00	2596.25	1298.12	3967.85	1986.88	3.37	-0.721	0.000	0.211
48.50	-45.74	-7.24	0.00	-358.35	0.00	358.35	2558.87	1279.44	3828.53	1917.11	3.92	-0.778	0.000	0.205
50.00	-45.07	-7.21	0.00	-347.50	0.00	347.50	2542.63	1271.32	3769.24	1887.42	4.17	-0.803	0.000	0.202
53.25	-43.65	-7.12	0.00	-324.06	0.00	324.06	1874.80	937.40	2771.76	1387.94	4.74	-0.855	0.000	0.257
55.00	-43.14	-7.11	0.00	-311.59	0.00	311.59	1862.74	931.37	2724.01	1364.03	5.06	-0.884	0.000	0.252
60.00	-41.71	-7.00	0.00	-276.04	0.00	276.04	1827.31	913.65	2588.34	1296.09	6.03	-0.976	0.000	0.236
65.00	-40.31	-6.89	0.00	-241.04	0.00	241.04	1790.42	895.21	2453.92	1228.78	7.10	-1.066	0.000	0.219
70.00	-38.94	-6.77	0.00	-206.61	0.00	206.61	1752.08	876.04	2320.96	1162.21	8.27	-1.152	0.000	0.200
75.00	-37.60	-6.64	0.00	-172.77	0.00	172.77	1712.28	856.14	2189.66	1096.46	9.52	-1.232	0.000	0.180
78.00	-34.49	-6.16	0.00	-152.86	0.00	152.86	1687.70	843.85	2111.76	1057.45	10.31	-1.278	0.000	0.165
80.00	-33.98	-6.12	0.00	-140.54	0.00	140.54	1671.02	835.51	2060.22	1031.64	10.85	-1.308	0.000	0.157
85.00	-32.74	-5.98	0.00	-109.94	0.00	109.94	1628.32	814.16	1932.84	967.86	12.25	-1.373	0.000	0.134
88.00	-25.29	-4.83	0.00	-92.00	0.00	92.00	1601.99	801.00	1857.49	930.12	13.13	-1.409	0.000	0.115
90.00	-24.85	-4.78	0.00	-82.34	0.00	82.34	1584.15	792.08	1807.72	905.20	13.72	-1.431	0.000	0.107
95.00	-23.76	-4.63	0.00	-58.44	0.00	58.44	1538.53	769.27	1685.06	843.78	15.25	-1.477	0.000	0.085
98.00	-14.86	-3.13	0.00	-44.54	0.00	44.54	1510.46	755.23	1612.73	807.56	16.19	-1.500	0.000	0.065
98.50	-14.76	-3.12	0.00	-42.97	0.00	42.97	1505.73	752.87	1600.77	801.57	16.34	-1.504	0.000	0.063
100.00	-14.37	-3.07	0.00	-38.29	0.00	38.29	1491.46	745.73	1565.06	783.69	16.82	-1.514	0.000	0.059
102.00	-13.86	-3.01	0.00	-32.14	0.00	32.14	1021.50	510.75	1074.26	537.93	17.45	-1.526	0.000	0.073
105.00	-13.35	-2.92	0.00	-23.11	0.00	23.11	1004.76	502.38	1028.99	515.26	18.42	-1.541	0.000	0.058
108.00	-6.20	-1.52	0.00	-14.34	0.00	14.34	987.50	493.75	984.13	492.79	19.39	-1.554	0.000	0.035
109.00	-6.04	-1.49	0.00	-12.82	0.00	12.82	981.63	490.81	969.27	485.35	19.72	-1.558	0.000	0.033
109.00	-6.04	-1.49	0.00	-12.82	0.00	12.82	981.63	490.81	969.27	485.35	19.72	-1.558	0.000	0.033
110.00	-5.88	-1.47	0.00	-11.32	0.00	11.32	975.70	487.85	954.46	477.94	20.04	-1.561	0.000	0.030
115.00	-5.11	-1.32	0.00	-3.99	0.00	3.99	945.18	472.59	881.23	441.27	21.68	-1.572	0.000	0.014
118.00	-0.12	-0.03	0.00	-0.03	0.00	0.03	926.18	463.09	838.01	419.63	22.67	-1.574	0.000	0.000
119.00	0.00	-0.02	0.00	0.00	0.00	0.00	919.72	459.86	823.73	412.48	23.00	-1.574	0.000	0.000

## Seismic Segment Forces (Factored)

<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

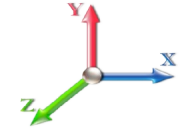


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**Load Case:** 1.2D + 1.0E

**Iterations** 20

<b>Gust Response Factor</b> 1.10	<b>Sds</b> 0.13	<b>Ss</b> 0.19
<b>Dead Load Factor</b> 1.20	<b>Seismic Load Factor</b> 1.00	<b>Sd1</b> 0.04
<b>Wind Load Factor</b> 0.00	<b>Structure Frequency</b> 0.40	<b>SA</b> 0.01
	<b>Seismic Importance Factor</b> 1.00	<b>S1</b> 0.06



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		786.94	0.00	0.04	0.02	13.91	
10.00		768.24	0.01	0.06	0.03	17.72	
15.00		749.54	0.03	0.07	0.04	18.87	
20.00		730.84	0.05	0.07	0.04	19.14	
25.00		712.14	0.08	0.07	0.04	19.24	
30.00		693.44	0.12	0.07	0.03	19.36	
35.00		674.74	0.16	0.07	0.03	19.45	
40.00		656.04	0.21	0.06	0.02	19.14	
45.00		637.33	0.27	0.05	0.01	17.80	
48.50	Bot - Section 2	435.01	0.31	0.04	0.01	10.96	
50.00		332.81	0.33	0.04	0.01	7.78	
53.25	Top - Section 1	710.69	0.38	0.02	0.01	12.54	
55.00		168.94	0.40	0.02	0.01	2.29	
60.00		472.58	0.48	-0.01	0.01	-0.75	
65.00		457.62	0.56	-0.04	0.01	-8.02	
70.00		442.66	0.65	-0.07	0.02	-12.72	
75.00		427.70	0.75	-0.10	0.04	-14.25	
78.00	Appurtenance(s)	1378.6	0.81	-0.11	0.06	-45.61	
80.00		163.30	0.85	-0.12	0.07	-5.19	
85.00		397.78	0.96	-0.12	0.11	-9.88	
88.00	Appurtenance(s)	2518.0	1.03	-0.10	0.15	-45.94	
90.00		151.33	1.08	-0.08	0.18	-1.94	
95.00		367.85	1.20	0.01	0.26	1.52	
98.00	Appurtenance(s)	3105.8	1.28	0.10	0.32	51.98	
98.50	Bot - Section 3	35.06	1.29	0.11	0.33	0.67	
100.00		183.85	1.33	0.17	0.37	4.81	
102.00	Top - Section 2	241.47	1.39	0.26	0.42	8.80	
105.00		153.38	1.47	0.43	0.51	8.20	
108.00	Appurtenance(s)	2452.7	1.56	0.65	0.61	177.61	
109.00	Top - Section 3	48.88	1.59	0.73	0.65	3.87	
110.00		48.43	1.61	0.83	0.69	4.17	
115.00		235.44	1.77	1.38	0.92	29.31	
118.00	Appurtenance(s)	1718.9	1.86	1.82	1.08	258.31	
119.00		44.39	1.89	1.98	1.14	7.07	
<b>Totals:</b>		<b>23,102.7</b>				<b>610.2</b>	<b>Total Wind: 27,936.0</b>

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

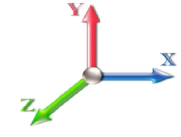
## Calculated Forces

<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 1.2D + 1.0E						<b>Iterations</b> 20
<b>Gust Response Factor</b>	1.10			<b>Sds</b>	0.13	<b>Ss</b> 0.19
<b>Dead Load Factor</b>	1.20	<b>Seismic Load Factor</b>	1.00	<b>Sd1</b>	0.04	<b>S1</b> 0.06
<b>Wind Load Factor</b>	0.00	<b>Structure Frequency</b>	0.40	<b>SA</b>	0.01	<b>Seismic Importance Factor</b> 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	-34.03	-0.76	0.00	-70.97	0.00	70.97	3013.27	1506.63	5849.73	2929.21	0.00	0.00	0.00	0.036
5.00	-32.77	-0.75	0.00	-67.19	0.00	67.19	2972.75	1486.38	5634.65	2821.52	0.00	-0.01	0.035	
10.00	-31.53	-0.73	0.00	-63.46	0.00	63.46	2930.78	1465.39	5420.60	2714.33	0.02	-0.02	0.034	
15.00	-30.31	-0.72	0.00	-59.80	0.00	59.80	2887.35	1443.68	5207.78	2607.76	0.04	-0.02	0.033	
20.00	-29.11	-0.70	0.00	-56.22	0.00	56.22	2842.47	1421.24	4996.39	2501.91	0.06	-0.03	0.033	
25.00	-27.94	-0.69	0.00	-52.71	0.00	52.71	2796.14	1398.07	4786.62	2396.87	0.10	-0.04	0.032	
30.00	-26.79	-0.67	0.00	-49.29	0.00	49.29	2748.35	1374.17	4578.69	2292.75	0.14	-0.05	0.031	
35.00	-25.66	-0.65	0.00	-45.94	0.00	45.94	2699.10	1349.55	4372.78	2189.64	0.20	-0.05	0.030	
40.00	-24.55	-0.64	0.00	-42.68	0.00	42.68	2648.40	1324.20	4169.10	2087.65	0.26	-0.06	0.030	
45.00	-23.47	-0.62	0.00	-39.51	0.00	39.51	2596.25	1298.12	3967.85	1986.88	0.33	-0.07	0.029	
48.50	-22.73	-0.61	0.00	-37.34	0.00	37.34	2558.87	1279.44	3828.53	1917.11	0.38	-0.08	0.028	
50.00	-22.23	-0.60	0.00	-36.43	0.00	36.43	2542.63	1271.32	3769.24	1887.42	0.41	-0.08	0.028	
53.25	-21.17	-0.59	0.00	-34.47	0.00	34.47	1874.80	937.40	2771.76	1387.94	0.46	-0.09	0.036	
55.00	-20.86	-0.59	0.00	-33.44	0.00	33.44	1862.74	931.37	2724.01	1364.03	0.50	-0.09	0.036	
60.00	-19.97	-0.59	0.00	-30.50	0.00	30.50	1827.31	913.65	2588.34	1296.09	0.59	-0.10	0.034	
65.00	-19.10	-0.59	0.00	-27.54	0.00	27.54	1790.42	895.21	2453.92	1228.78	0.70	-0.11	0.033	
70.00	-18.25	-0.59	0.00	-24.58	0.00	24.58	1752.08	876.04	2320.96	1162.21	0.82	-0.12	0.032	
75.00	-17.42	-0.60	0.00	-21.60	0.00	21.60	1712.28	856.14	2189.66	1096.46	0.95	-0.13	0.030	
78.00	-15.57	-0.59	0.00	-19.82	0.00	19.82	1687.70	843.85	2111.76	1057.45	1.03	-0.13	0.028	
80.00	-15.27	-0.59	0.00	-18.63	0.00	18.63	1671.02	835.51	2060.22	1031.64	1.09	-0.14	0.027	
85.00	-14.51	-0.59	0.00	-15.67	0.00	15.67	1628.32	814.16	1932.84	967.86	1.24	-0.15	0.025	
88.00	-11.32	-0.59	0.00	-13.89	0.00	13.89	1601.99	801.00	1857.49	930.12	1.33	-0.15	0.022	
90.00	-11.06	-0.59	0.00	-12.72	0.00	12.72	1584.15	792.08	1807.72	905.20	1.40	-0.16	0.021	
95.00	-10.42	-0.58	0.00	-9.79	0.00	9.79	1538.53	769.27	1685.06	843.78	1.56	-0.16	0.018	
98.00	-6.58	-0.52	0.00	-8.03	0.00	8.03	1510.46	755.23	1612.73	807.56	1.67	-0.17	0.014	
98.50	-6.52	-0.52	0.00	-7.77	0.00	7.77	1505.73	752.87	1600.77	801.57	1.69	-0.17	0.014	
100.00	-6.27	-0.52	0.00	-6.99	0.00	6.99	1491.46	745.73	1565.06	783.69	1.74	-0.17	0.013	
102.00	-5.94	-0.51	0.00	-5.96	0.00	5.96	1021.50	510.75	1074.26	537.93	1.81	-0.17	0.017	
105.00	-5.69	-0.50	0.00	-4.44	0.00	4.44	1004.76	502.38	1028.99	515.26	1.92	-0.17	0.014	
108.00	-2.68	-0.31	0.00	-2.95	0.00	2.95	987.50	493.75	984.13	492.79	2.03	-0.18	0.009	
109.00	-2.60	-0.31	0.00	-2.64	0.00	2.64	981.63	490.81	969.27	485.35	2.07	-0.18	0.008	
109.00	-2.60	-0.31	0.00	-2.64	0.00	2.64	981.63	490.81	969.27	485.35	2.07	-0.18	0.008	
110.00	-2.53	-0.30	0.00	-2.33	0.00	2.33	975.70	487.85	954.46	477.94	2.10	-0.18	0.007	
115.00	-2.16	-0.27	0.00	-0.82	0.00	0.82	945.18	472.59	881.23	441.27	2.29	-0.18	0.004	
118.00	-0.05	-0.01	0.00	-0.01	0.00	0.01	926.18	463.09	838.01	419.63	2.41	-0.18	0.000	
119.00	0.00	-0.01	0.00	0.00	0.00	0.00	919.72	459.86	823.73	412.48	2.44	-0.18	0.000	



## Seismic Segment Forces (Factored)

<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.0E

**Iterations** 20

<b>Gust Response Factor</b> 1.10	<b>Sds</b> 0.13	<b>Ss</b> 0.19	
<b>Dead Load Factor</b> 0.90	<b>Seismic Load Factor</b> 1.00	<b>Sd1</b> 0.04	
<b>Wind Load Factor</b> 0.00	<b>Structure Frequency</b> 0.40	<b>SA</b> 0.01	

**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		786.94	0.00	0.04	0.02	13.91	
10.00		768.24	0.01	0.06	0.03	17.72	
15.00		749.54	0.03	0.07	0.04	18.87	
20.00		730.84	0.05	0.07	0.04	19.14	
25.00		712.14	0.08	0.07	0.04	19.24	
30.00		693.44	0.12	0.07	0.03	19.36	
35.00		674.74	0.16	0.07	0.03	19.45	
40.00		656.04	0.21	0.06	0.02	19.14	
45.00		637.33	0.27	0.05	0.01	17.80	
48.50	Bot - Section 2	435.01	0.31	0.04	0.01	10.96	
50.00		332.81	0.33	0.04	0.01	7.78	
53.25	Top - Section 1	710.69	0.38	0.02	0.01	12.54	
55.00		168.94	0.40	0.02	0.01	2.29	
60.00		472.58	0.48	-0.01	0.01	-0.75	
65.00		457.62	0.56	-0.04	0.01	-8.02	
70.00		442.66	0.65	-0.07	0.02	-12.72	
75.00		427.70	0.75	-0.10	0.04	-14.25	
78.00	Appurtenance(s)	1378.6	0.81	-0.11	0.06	-45.61	
80.00		163.30	0.85	-0.12	0.07	-5.19	
85.00		397.78	0.96	-0.12	0.11	-9.88	
88.00	Appurtenance(s)	2518.0	1.03	-0.10	0.15	-45.94	
90.00		151.33	1.08	-0.08	0.18	-1.94	
95.00		367.85	1.20	0.01	0.26	1.52	
98.00	Appurtenance(s)	3105.8	1.28	0.10	0.32	51.98	
98.50	Bot - Section 3	35.06	1.29	0.11	0.33	0.67	
100.00		183.85	1.33	0.17	0.37	4.81	
102.00	Top - Section 2	241.47	1.39	0.26	0.42	8.80	
105.00		153.38	1.47	0.43	0.51	8.20	
108.00	Appurtenance(s)	2452.7	1.56	0.65	0.61	177.61	
109.00	Top - Section 3	48.88	1.59	0.73	0.65	3.87	
110.00		48.43	1.61	0.83	0.69	4.17	
115.00		235.44	1.77	1.38	0.92	29.31	
118.00	Appurtenance(s)	1718.9	1.86	1.82	1.08	258.31	
119.00		44.39	1.89	1.98	1.14	7.07	
<b>Totals:</b>		<b>23,102.7</b>				<b>610.2</b>	<b>Total Wind: 27,936.0</b>

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

## Calculated Forces

<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	<b>1/4/2019</b>
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.0E

**Iterations** 20

**Gust Response Factor** 1.10

**Sds** 0.13

**Ss** 0.19

**Dead Load Factor** 0.90

**Seismic Load Factor** 1.00

**Sd1** 0.04

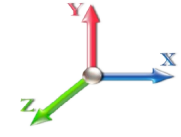
**S1** 0.06

**Wind Load Factor** 0.00

**Structure Frequency** 0.40

**SA** 0.01

**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	-25.52	-0.75	0.00	-70.23	0.00	70.23	3013.27	1506.63	5849.73	2929.21	0.00	0.00	0.00	0.032
5.00	-24.57	-0.74	0.00	-66.46	0.00	66.46	2972.75	1486.38	5634.65	2821.52	0.00	-0.01	0.032	0.032
10.00	-23.64	-0.73	0.00	-62.74	0.00	62.74	2930.78	1465.39	5420.60	2714.33	0.02	-0.01	0.031	0.031
15.00	-22.73	-0.71	0.00	-59.09	0.00	59.09	2887.35	1443.68	5207.78	2607.76	0.04	-0.02	0.031	0.031
20.00	-21.83	-0.70	0.00	-55.52	0.00	55.52	2842.47	1421.24	4996.39	2501.91	0.06	-0.03	0.030	0.030
25.00	-20.95	-0.68	0.00	-52.04	0.00	52.04	2796.14	1398.07	4786.62	2396.87	0.10	-0.04	0.029	0.029
30.00	-20.09	-0.66	0.00	-48.64	0.00	48.64	2748.35	1374.17	4578.69	2292.75	0.14	-0.05	0.029	0.029
35.00	-19.24	-0.65	0.00	-45.33	0.00	45.33	2699.10	1349.55	4372.78	2189.64	0.20	-0.05	0.028	0.028
40.00	-18.42	-0.63	0.00	-42.10	0.00	42.10	2648.40	1324.20	4169.10	2087.65	0.26	-0.06	0.027	0.027
45.00	-17.60	-0.61	0.00	-38.97	0.00	38.97	2596.25	1298.12	3967.85	1986.88	0.33	-0.07	0.026	0.026
48.50	-17.04	-0.60	0.00	-36.83	0.00	36.83	2558.87	1279.44	3828.53	1917.11	0.38	-0.08	0.026	0.026
50.00	-16.67	-0.59	0.00	-35.93	0.00	35.93	2542.63	1271.32	3769.24	1887.42	0.40	-0.08	0.026	0.026
53.25	-15.88	-0.58	0.00	-34.00	0.00	34.00	1874.80	937.40	2771.76	1387.94	0.46	-0.08	0.033	0.033
55.00	-15.64	-0.58	0.00	-32.98	0.00	32.98	1862.74	931.37	2724.01	1364.03	0.49	-0.09	0.033	0.033
60.00	-14.98	-0.58	0.00	-30.08	0.00	30.08	1827.31	913.65	2588.34	1296.09	0.59	-0.10	0.031	0.031
65.00	-14.33	-0.58	0.00	-27.17	0.00	27.17	1790.42	895.21	2453.92	1228.78	0.69	-0.11	0.030	0.030
70.00	-13.69	-0.58	0.00	-24.25	0.00	24.25	1752.08	876.04	2320.96	1162.21	0.81	-0.12	0.029	0.029
75.00	-13.07	-0.58	0.00	-21.33	0.00	21.33	1712.28	856.14	2189.66	1096.46	0.94	-0.13	0.027	0.027
78.00	-11.68	-0.58	0.00	-19.58	0.00	19.58	1687.70	843.85	2111.76	1057.45	1.02	-0.13	0.025	0.025
80.00	-11.45	-0.58	0.00	-18.41	0.00	18.41	1671.02	835.51	2060.22	1031.64	1.08	-0.14	0.025	0.025
85.00	-10.88	-0.58	0.00	-15.49	0.00	15.49	1628.32	814.16	1932.84	967.86	1.22	-0.14	0.023	0.023
88.00	-8.49	-0.58	0.00	-13.74	0.00	13.74	1601.99	801.00	1857.49	930.12	1.32	-0.15	0.020	0.020
90.00	-8.29	-0.58	0.00	-12.59	0.00	12.59	1584.15	792.08	1807.72	905.20	1.38	-0.15	0.019	0.019
95.00	-7.82	-0.58	0.00	-9.70	0.00	9.70	1538.53	769.27	1685.06	843.78	1.54	-0.16	0.017	0.017
98.00	-4.93	-0.52	0.00	-7.97	0.00	7.97	1510.46	755.23	1612.73	807.56	1.65	-0.16	0.013	0.013
98.50	-4.89	-0.52	0.00	-7.71	0.00	7.71	1505.73	752.87	1600.77	801.57	1.66	-0.17	0.013	0.013
100.00	-4.70	-0.51	0.00	-6.94	0.00	6.94	1491.46	745.73	1565.06	783.69	1.72	-0.17	0.012	0.012
102.00	-4.45	-0.50	0.00	-5.91	0.00	5.91	1021.50	510.75	1074.26	537.93	1.79	-0.17	0.015	0.015
105.00	-4.26	-0.49	0.00	-4.41	0.00	4.41	1004.76	502.38	1028.99	515.26	1.89	-0.17	0.013	0.013
108.00	-2.01	-0.31	0.00	-2.93	0.00	2.93	987.50	493.75	984.13	492.79	2.00	-0.17	0.008	0.008
109.00	-1.95	-0.30	0.00	-2.62	0.00	2.62	981.63	490.81	969.27	485.35	2.04	-0.18	0.007	0.007
109.00	-1.95	-0.30	0.00	-2.62	0.00	2.62	981.63	490.81	969.27	485.35	2.04	-0.18	0.007	0.007
110.00	-1.90	-0.30	0.00	-2.32	0.00	2.32	975.70	487.85	954.46	477.94	2.08	-0.18	0.007	0.007
115.00	-1.62	-0.27	0.00	-0.82	0.00	0.82	945.18	472.59	881.23	441.27	2.26	-0.18	0.004	0.004
118.00	-0.04	-0.01	0.00	-0.01	0.00	0.01	926.18	463.09	838.01	419.63	2.38	-0.18	0.000	0.000
119.00	0.00	-0.01	0.00	0.00	0.00	0.00	919.72	459.86	823.73	412.48	2.41	-0.18	0.000	0.000

## Wind Loading - Shaft

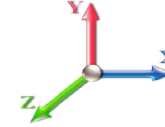
<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	<b>1/4/2019</b>
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 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	222.34	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	217.15	0.650	0.000	5.00	19.863	12.91	105.7	0.0	786.9
10.00		1.00	0.85	7.442	8.19	211.97	0.650	0.000	5.00	19.394	12.61	103.2	0.0	768.2
15.00		1.00	0.85	7.442	8.19	206.78	0.650	0.000	5.00	18.925	12.30	100.7	0.0	749.5
20.00		1.00	0.90	7.896	8.69	207.65	0.650	0.000	5.00	18.456	12.00	104.2	0.0	730.8
25.00		1.00	0.95	8.276	9.10	207.12	0.650	0.000	5.00	17.987	11.69	106.4	0.0	712.1
30.00		1.00	0.98	8.600	9.46	205.56	0.650	0.000	5.00	17.518	11.39	107.7	0.0	693.4
35.00		1.00	1.01	8.883	9.77	203.25	0.650	0.000	5.00	17.049	11.08	108.3	0.0	674.7
40.00		1.00	1.04	9.137	10.05	200.38	0.650	0.000	5.00	16.580	10.78	108.3	0.0	656.0
45.00		1.00	1.07	9.366	10.30	197.06	0.650	0.000	5.00	16.112	10.47	107.9	0.0	637.3
48.50	Bot - Section 2	1.00	1.09	9.515	10.47	194.52	0.650	0.000	3.50	10.999	7.15	74.8	0.0	435.0
50.00		1.00	1.09	9.576	10.53	193.37	0.650	0.000	1.50	4.707	3.06	32.2	0.0	332.8
53.25	Top - Section 1	1.00	1.11	9.704	10.67	190.81	0.650	0.000	3.25	10.054	6.53	69.8	0.0	710.7
55.00		1.00	1.12	9.770	10.75	192.06	0.650	0.000	1.75	5.332	3.47	37.2	0.0	168.9
60.00		1.00	1.14	9.951	10.95	187.83	0.650	0.000	5.00	14.917	9.70	106.1	0.0	472.6
65.00		1.00	1.16	10.120	11.13	183.37	0.650	0.000	5.00	14.448	9.39	104.5	0.0	457.6
70.00		1.00	1.17	10.279	11.31	178.71	0.650	0.000	5.00	13.979	9.09	102.7	0.0	442.7
75.00		1.00	1.19	10.430	11.47	173.87	0.650	0.000	5.00	13.510	8.78	100.7	0.0	427.7
78.00	Appurtenance(s)	1.00	1.20	10.516	11.57	170.89	0.650	0.000	3.00	7.881	5.12	59.3	0.0	249.4
80.00		1.00	1.21	10.572	11.63	168.88	0.650	0.000	2.00	5.160	3.35	39.0	0.0	163.3
85.00		1.00	1.22	10.708	11.78	163.73	0.650	0.000	5.00	12.572	8.17	96.3	0.0	397.8
88.00	Appurtenance(s)	1.00	1.23	10.787	11.87	160.59	0.650	0.000	3.00	7.318	4.76	56.4	0.0	231.5
90.00		1.00	1.24	10.838	11.92	158.46	0.650	0.000	2.00	4.785	3.11	37.1	0.0	151.3
95.00		1.00	1.25	10.962	12.06	153.07	0.650	0.000	5.00	11.634	7.56	91.2	0.0	367.9
98.00	Appurtenance(s)	1.00	1.26	11.034	12.14	149.78	0.650	0.000	3.00	6.756	4.39	53.3	0.0	213.5
98.50	Bot - Section 3	1.00	1.26	11.046	12.15	149.23	0.650	0.000	0.50	1.110	0.72	8.8	0.0	35.1
100.00		1.00	1.27	11.081	12.19	147.57	0.650	0.000	1.50	3.348	2.18	26.5	0.0	183.8
102.00	Top - Section 2	1.00	1.27	11.127	12.24	145.34	0.650	0.000	2.00	4.398	2.86	35.0	0.0	241.5
105.00		1.00	1.28	11.195	12.31	144.12	0.650	0.000	3.00	6.457	4.20	51.7	0.0	153.4
108.00	Appurtenance(s)	1.00	1.29	11.262	12.39	140.72	0.650	0.000	3.00	6.288	4.09	50.6	0.0	149.3
109.00	Top - Section 3	1.00	1.29	11.284	12.41	139.58	0.650	0.000	1.00	2.059	1.34	16.6	0.0	48.9
110.00		1.00	1.29	11.305	12.44	138.43	0.650	0.000	1.00	2.040	1.33	16.5	0.0	48.4
115.00		1.00	1.30	11.412	12.55	132.66	0.650	0.000	5.00	9.918	6.45	80.9	0.0	235.4
118.00	Appurtenance(s)	1.00	1.31	11.474	12.62	129.16	0.650	0.000	3.00	5.726	3.72	47.0	0.0	135.9
119.00		1.00	1.31	11.494	12.64	127.98	0.650	0.000	1.00	1.871	1.22	15.4	0.0	44.4
<b>Totals:</b>									<b>119.00</b>			<b>2,362.1</b>		<b>12,908.1</b>

## Discrete Appurtenance Forces

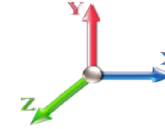
<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 22

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa 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	118.00	RRH2x40-AWS	3	11.474	12.621	0.60	0.90	3.91	132.00	0.000	0.000	49.32	0.00	0.00
2	118.00	RFS FD9R6004/2C-3L	6	11.474	12.621	0.90	0.90	1.94	18.60	0.000	0.000	24.54	0.00	0.00
3	118.00	DB-T1-6Z-8AB-OZ	1	11.474	12.621	0.64	0.90	3.07	18.90	0.000	0.000	38.71	0.00	0.00
4	118.00	BXA-70063-6BF	3	11.474	12.621	0.63	0.90	14.31	51.00	0.000	0.000	180.57	0.00	0.00
5	118.00	BXA-171063-8BF	3	11.474	12.621	0.76	0.90	6.67	31.50	0.000	0.000	84.16	0.00	0.00
6	118.00	BXA-171063-12BF	3	11.474	12.621	0.76	0.90	10.75	45.00	0.000	0.000	135.68	0.00	0.00
7	118.00	800 10735V01	3	11.474	12.621	0.59	0.90	15.36	86.10	0.000	0.000	193.87	0.00	0.00
8	118.00	T-Arm	3	11.474	12.621	0.56	0.75	16.88	1200.00	0.000	0.000	212.98	0.00	0.00
9	108.00	840 10054	3	11.262	12.388	0.49	0.80	6.72	105.00	0.000	0.000	83.24	0.00	0.00
10	108.00	ACU-A20-N	4	11.262	12.388	0.54	0.80	0.30	4.00	0.000	0.000	3.72	0.00	0.00
11	108.00	APXVSP18-C-A20	2	11.262	12.388	0.66	0.80	10.65	114.00	0.000	0.000	131.94	0.00	0.00
12	108.00	800 MHz	3	11.262	12.388	0.54	0.80	4.00	159.00	0.000	0.000	49.60	0.00	0.00
13	108.00	800 MHz Filters	3	11.262	12.388	0.54	0.80	3.86	192.00	0.000	0.000	47.81	0.00	0.00
14	108.00	VHLP2.5	2	11.262	12.388	1.00	1.00	16.86	95.20	0.000	0.000	208.86	0.00	0.00
15	108.00	APXVTM14-C-120	3	11.262	12.388	0.63	0.80	12.02	168.00	0.000	0.000	148.91	0.00	0.00
16	108.00	Horizon	2	11.262	12.388	0.80	0.80	0.69	21.20	0.000	0.000	8.52	0.00	0.00
17	108.00	P40-16-XLPP-RR-A	1	11.262	12.388	0.80	0.80	7.26	53.00	0.000	0.000	89.99	0.00	0.00
18	108.00	TD-RRH8x20-25	3	11.262	12.388	0.54	0.80	6.51	210.00	0.000	0.000	80.68	0.00	0.00
19	108.00	T-Arm	3	11.262	12.388	0.56	0.75	13.50	1050.00	0.000	0.000	167.24	0.00	0.00
20	108.00	1900MHz RRH	3	11.262	12.388	0.54	0.80	6.11	132.00	0.000	0.000	75.70	0.00	0.00
21	98.00	Powerwave LGP13519	6	11.034	12.137	0.80	0.80	1.63	31.80	0.000	0.000	19.81	0.00	0.00
22	98.00	Cci OPA-65R-LCUU-H6	3	11.034	12.137	0.63	0.80	18.32	240.00	0.000	0.000	222.30	0.00	0.00
23	98.00	Powerwave 7770 w/Mount	3	11.034	12.137	0.58	0.80	9.57	81.00	0.000	0.000	116.19	0.00	0.00
24	98.00	Powerwave LGP21402	9	11.034	12.137	0.80	0.80	9.29	126.90	0.000	0.000	112.73	0.00	0.00
25	98.00	Ericsson RRUS 11	3	11.034	12.137	0.54	0.80	4.05	132.00	0.000	0.000	49.18	0.00	0.00
26	98.00	Ericsson RRUS 32	3	11.034	12.137	0.54	0.80	4.41	159.00	0.000	0.000	53.48	0.00	0.00
27	98.00	Quintel QS66512-2	3	11.034	12.137	0.74	0.80	17.95	333.00	0.000	0.000	217.87	0.00	0.00
28	98.00	Low Profile	1	11.034	12.137	1.00	1.00	22.00	1500.00	0.000	0.000	267.02	0.00	0.00
29	98.00	Ericsson RRUS 8843	3	11.034	12.137	0.54	0.80	2.65	225.00	0.000	0.000	32.20	0.00	0.00
30	98.00	Raycap DC6-48-60-0-8F	2	11.034	12.137	0.80	0.80	1.47	63.60	0.000	0.000	17.87	0.00	0.00
31	88.00	KRY 112 144/2	3	10.787	11.865	0.56	0.80	0.69	33.00	0.000	0.000	8.17	0.00	0.00
32	88.00	AIR32	3	10.787	11.865	0.70	0.80	13.59	396.60	0.000	0.000	161.28	0.00	0.00
33	88.00	APXVAARR24_43-U-NA2	3	10.787	11.865	0.56	0.80	34.00	384.00	0.000	0.000	403.45	0.00	0.00
34	88.00	T-Arm	3	10.787	11.865	0.56	0.75	13.50	1050.00	0.000	0.000	160.18	0.00	0.00
35	88.00	4449 B71 + B12	3	10.787	11.865	0.54	0.80	4.13	150.00	0.000	0.000	49.03	0.00	0.00
36	88.00	AIR 21 B2A/B4P	3	10.787	11.865	0.69	0.80	12.57	273.00	0.000	0.000	149.14	0.00	0.00
37	78.00	T-Arm	3	10.516	11.568	0.56	0.75	13.50	1050.00	0.000	0.000	156.16	0.00	0.00
38	78.00	APXV18-206517S-C	3	10.516	11.568	0.59	0.80	9.18	79.20	0.000	0.000	106.21	0.00	0.00

**Totals:** 10,194.60

**4,318.29**

## Total Applied Force Summary

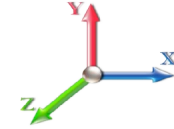
<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 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		105.69	1052.43	0.00	0.00
10.00		103.19	1033.73	0.00	0.00
15.00		100.70	1015.03	0.00	0.00
20.00		104.20	996.33	0.00	0.00
25.00		106.44	977.63	0.00	0.00
30.00		107.72	958.93	0.00	0.00
35.00		108.29	940.23	0.00	0.00
40.00		108.32	921.53	0.00	0.00
45.00		107.90	902.82	0.00	0.00
48.50		74.83	620.85	0.00	0.00
50.00		32.23	412.45	0.00	0.00
53.25		69.76	883.25	0.00	0.00
55.00		37.25	261.86	0.00	0.00
60.00		106.13	738.07	0.00	0.00
65.00		104.54	723.11	0.00	0.00
70.00		102.74	708.15	0.00	0.00
75.00		100.75	693.19	0.00	0.00
78.00	(6) attachments	321.63	1537.93	0.00	0.00
80.00		39.01	257.02	0.00	0.00
85.00		96.26	632.07	0.00	0.00
88.00	(18) attachments	987.70	2658.66	0.00	0.00
90.00		37.08	216.44	0.00	0.00
95.00		91.19	530.63	0.00	0.00
98.00	(36) attachments	1161.93	3203.50	0.00	0.00
98.50		8.76	44.24	0.00	0.00
100.00		26.53	211.38	0.00	0.00
102.00		34.99	278.18	0.00	0.00
105.00		51.68	208.45	0.00	0.00
108.00	(32) attachments	1146.83	2507.81	0.00	0.00
109.00		16.61	62.46	0.00	0.00
110.00		16.49	62.01	0.00	0.00
115.00		80.92	303.34	0.00	0.00
118.00	(25) attachments	966.79	1759.72	0.00	0.00
119.00		15.38	44.39	0.00	0.00
	<b>Totals:</b>	<b>6,680.42</b>	<b>28,357.82</b>	<b>0.00</b>	<b>0.00</b>

## Linear Appurtenance Segment Forces (Factored)

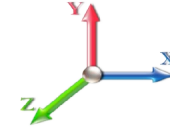
<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 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	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	5.50
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	5.50
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	5.50
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.896	0.00	5.50
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.276	0.00	5.50
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.600	0.00	5.50
35.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.883	0.00	5.50
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.137	0.00	5.50
45.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.366	0.00	5.50
48.50	1 5/8" Hybrid	Yes	3.50	0.000	0.00	0.00	0.00	0.000	0.000	9.515	0.00	3.85
50.00	1 5/8" Hybrid	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	9.576	0.00	1.65
53.25	1 5/8" Hybrid	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	9.704	0.00	3.58
55.00	1 5/8" Hybrid	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	9.770	0.00	1.93
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.951	0.00	5.50
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.120	0.00	5.50
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.279	0.00	5.50
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.430	0.00	5.50
78.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	10.516	0.00	3.30
80.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.572	0.00	2.20
85.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.708	0.00	5.50
88.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	10.787	0.00	3.30
90.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.838	0.00	2.20
95.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.962	0.00	5.50
98.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	11.034	0.00	3.30
98.50	1 5/8" Hybrid	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	11.046	0.00	0.55
100.00	1 5/8" Hybrid	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	11.081	0.00	1.65
102.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.127	0.00	2.20
105.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	11.195	0.00	3.30
108.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	11.262	0.00	3.30
109.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	11.284	0.00	1.10
110.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	11.305	0.00	1.10
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.412	0.00	5.50
118.00	1 5/8" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	11.474	0.00	3.30
<b>Totals:</b>											<b>0.0</b>	<b>129.8</b>



## Calculated Forces

<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

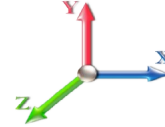


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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Iterations** 22

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-28.35	-6.70	0.00	-595.89	0.00	595.89	3013.27	1506.63	5849.73	2929.21	0.00	0.000	0.000	0.213
5.00	-27.29	-6.62	0.00	-562.42	0.00	562.42	2972.75	1486.38	5634.65	2821.52	0.03	-0.063	0.000	0.209
10.00	-26.25	-6.54	0.00	-529.32	0.00	529.32	2930.78	1465.39	5420.60	2714.33	0.13	-0.126	0.000	0.204
15.00	-25.23	-6.47	0.00	-496.61	0.00	496.61	2887.35	1443.68	5207.78	2607.76	0.30	-0.190	0.000	0.199
20.00	-24.23	-6.39	0.00	-464.27	0.00	464.27	2842.47	1421.24	4996.39	2501.91	0.53	-0.255	0.000	0.194
25.00	-23.24	-6.30	0.00	-432.33	0.00	432.33	2796.14	1398.07	4786.62	2396.87	0.84	-0.320	0.000	0.189
30.00	-22.28	-6.21	0.00	-400.82	0.00	400.82	2748.35	1374.17	4578.69	2292.75	1.21	-0.385	0.000	0.183
35.00	-21.33	-6.12	0.00	-369.74	0.00	369.74	2699.10	1349.55	4372.78	2189.64	1.64	-0.451	0.000	0.177
40.00	-20.40	-6.03	0.00	-339.12	0.00	339.12	2648.40	1324.20	4169.10	2087.65	2.15	-0.516	0.000	0.170
45.00	-19.50	-5.93	0.00	-308.97	0.00	308.97	2596.25	1298.12	3967.85	1986.88	2.73	-0.582	0.000	0.163
48.50	-18.87	-5.86	0.00	-288.20	0.00	288.20	2558.87	1279.44	3828.53	1917.11	3.17	-0.628	0.000	0.158
50.00	-18.46	-5.84	0.00	-279.41	0.00	279.41	2542.63	1271.32	3769.24	1887.42	3.37	-0.648	0.000	0.155
53.25	-17.57	-5.77	0.00	-260.44	0.00	260.44	1874.80	937.40	2771.76	1387.94	3.83	-0.690	0.000	0.197
55.00	-17.31	-5.74	0.00	-250.35	0.00	250.35	1862.74	931.37	2724.01	1364.03	4.09	-0.713	0.000	0.193
60.00	-16.56	-5.65	0.00	-221.65	0.00	221.65	1827.31	913.65	2588.34	1296.09	4.87	-0.787	0.000	0.180
65.00	-15.83	-5.55	0.00	-193.42	0.00	193.42	1790.42	895.21	2453.92	1228.78	5.74	-0.860	0.000	0.166
70.00	-15.12	-5.45	0.00	-165.67	0.00	165.67	1752.08	876.04	2320.96	1162.21	6.67	-0.928	0.000	0.151
75.00	-14.43	-5.35	0.00	-138.40	0.00	138.40	1712.28	856.14	2189.66	1096.46	7.68	-0.993	0.000	0.135
78.00	-12.89	-5.01	0.00	-122.33	0.00	122.33	1687.70	843.85	2111.76	1057.45	8.32	-1.029	0.000	0.123
80.00	-12.63	-4.98	0.00	-112.31	0.00	112.31	1671.02	835.51	2060.22	1031.64	8.75	-1.053	0.000	0.116
85.00	-12.00	-4.88	0.00	-87.42	0.00	87.42	1628.32	814.16	1932.84	967.86	9.89	-1.105	0.000	0.098
88.00	-9.36	-3.84	0.00	-72.79	0.00	72.79	1601.99	801.00	1857.49	930.12	10.59	-1.134	0.000	0.084
90.00	-9.14	-3.81	0.00	-65.10	0.00	65.10	1584.15	792.08	1807.72	905.20	11.07	-1.151	0.000	0.078
95.00	-8.61	-3.71	0.00	-46.08	0.00	46.08	1538.53	769.27	1685.06	843.78	12.30	-1.188	0.000	0.060
98.00	-5.43	-2.48	0.00	-34.96	0.00	34.96	1510.46	755.23	1612.73	807.56	13.05	-1.206	0.000	0.047
98.50	-5.39	-2.47	0.00	-33.72	0.00	33.72	1505.73	752.87	1600.77	801.57	13.17	-1.209	0.000	0.046
100.00	-5.18	-2.44	0.00	-30.01	0.00	30.01	1491.46	745.73	1565.06	783.69	13.56	-1.216	0.000	0.042
102.00	-4.90	-2.40	0.00	-25.13	0.00	25.13	1021.50	510.75	1074.26	537.93	14.07	-1.226	0.000	0.052
105.00	-4.69	-2.34	0.00	-17.93	0.00	17.93	1004.76	502.38	1028.99	515.26	14.84	-1.237	0.000	0.039
108.00	-2.21	-1.14	0.00	-10.90	0.00	10.90	987.50	493.75	984.13	492.79	15.62	-1.248	0.000	0.024
109.00	-2.15	-1.13	0.00	-9.75	0.00	9.75	981.63	490.81	969.27	485.35	15.88	-1.251	0.000	0.022
109.00	-2.15	-1.13	0.00	-9.75	0.00	9.75	981.63	490.81	969.27	485.35	15.88	-1.251	0.000	0.022
110.00	-2.08	-1.11	0.00	-8.63	0.00	8.63	975.70	487.85	954.46	477.94	16.15	-1.253	0.000	0.020
115.00	-1.78	-1.02	0.00	-3.08	0.00	3.08	945.18	472.59	881.23	441.27	17.46	-1.261	0.000	0.009
118.00	-0.04	-0.02	0.00	-0.02	0.00	0.02	926.18	463.09	838.01	419.63	18.26	-1.263	0.000	0.000
119.00	0.00	-0.02	0.00	0.00	0.00	0.00	919.72	459.86	823.73	412.48	18.52	-1.263	0.000	0.000

## Final Analysis Summary

<b>Structure:</b> CT08558-B-SBA	<b>Code:</b> EIA/TIA-222-G	<b>1/4/2019</b>	
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C		
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00		
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock		
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II	<b>Page:</b> 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 97 mph Wind	28.0	0.00	33.96	0.00	0.00	2505.10
0.9D + 1.6W 97 mph Wind	28.0	0.00	25.46	0.00	0.00	2480.72
1.2D + 1.0Di + 1.0Wi 50 mph Wind	8.1	0.00	62.58	0.00	0.00	734.63
1.2D + 1.0E	0.8	0.00	34.03	0.00	0.00	70.97
0.9D + 1.0E	0.8	0.00	25.52	0.00	0.00	70.23
1.0D + 1.0W 60 mph Wind	6.7	0.00	28.35	0.00	0.00	595.89

### 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 97 mph Wind	-33.96	-28.01	0.00	-2505.1	0.00	-2505.1	3013.27	1506.6	5849.73	2929.21	0.00	0.867
0.9D + 1.6W 97 mph Wind	-25.46	-27.99	0.00	-2480.7	0.00	-2480.7	3013.27	1506.6	5849.73	2929.21	0.00	0.856
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-62.58	-8.09	0.00	-734.63	0.00	-734.63	3013.27	1506.6	5849.73	2929.21	0.00	0.272
1.2D + 1.0E	-21.17	-0.59	0.00	-34.47	0.00	-34.47	1874.80	937.40	2771.76	1387.94	53.25	0.036
0.9D + 1.0E	-15.88	-0.58	0.00	-34.00	0.00	-34.00	1874.80	937.40	2771.76	1387.94	53.25	0.033
1.0D + 1.0W 60 mph Wind	-28.35	-6.70	0.00	-595.89	0.00	-595.89	3013.27	1506.6	5849.73	2929.21	0.00	0.213

## Base Plate Summary

<b>Structure:</b> CT08558-B-SB	<b>Code:</b> EIA/TIA-222-G	1/4/2019
<b>Site Name:</b> New Britain 3, CT	<b>Exposure:</b> C	
<b>Height:</b> 119.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> B - Competent Rock	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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Reactions	Base Plate	Anchor Bolts
Original Design	<b>Yield (ksi):</b> 60.00	<b>Bolt Circle:</b> 54.00
<b>Moment (kip-ft):</b> 2356.00	<b>Width (in):</b> 52.00	<b>Number Bolts:</b> 12.00
<b>Axial (kip):</b> 27.50	<b>Style:</b> Clipped	<b>Bolt Type:</b> 2.25" 18J
<b>Shear (kip):</b> 24.70	<b>Polygon Sides:</b> 4.00	<b>Bolt Diameter (in):</b> 2.25
Analysis	<b>Clip Length (in):</b> 9.00	<b>Yield (ksi):</b> 75.00
<b>Moment (kip-ft):</b> 2505.10	<b>Effective Len (in):</b> 9.84	<b>Ultimate (ksi):</b> 100.00
<b>Axial (kip):</b> 62.58	<b>Moment (kip-in):</b> 620.03	<b>Arrangement:</b> Clustered
<b>Shear (kip):</b> 28.01	<b>Allow Stress (ksi):</b> 81.00	<b>Cluster Dist (in):</b> 6.00
	<b>Applied Stress (ksi):</b> 0.00	<b>Start Angle (deg):</b> 45.00
<b>Moment Design %:</b> 106.33	<b>Stress Ratio:</b> 0.62	<b>Compression</b>
		<b>Force (kip):</b> 190.78
		<b>Allowable (kip):</b> 260.00
		<b>Ratio:</b> 0.75
		<b>Tension</b>
		<b>Force (kip):</b> 180.35
		<b>Allowable (kip):</b> 260.00
		<b>Ratio:</b> 0.71



Pier Foundation Design For Monopole			Date
			1/4/2019
Customer Name:	AT&T	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	119
Site Number:	CT08558-B-SBA	Engineer Name:	J. Chen
Engr. Number:	67088	Engineer Login ID:	

**Foundation Info Obtained from:** Drawings/Calculations

**Structure Type:** Monopole

**Analysis or Design?** Analysis

**Base Reactions (Factored):**

Axial Load (Kips):	62.6	Shear Force (Kips):	28.0
Uplift Force (Kips):	0.0	Moment (Kips-ft):	2505.1

**Foundation Geometries:**

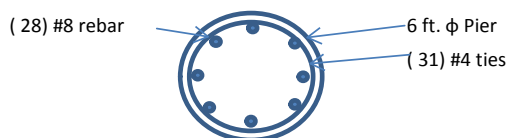
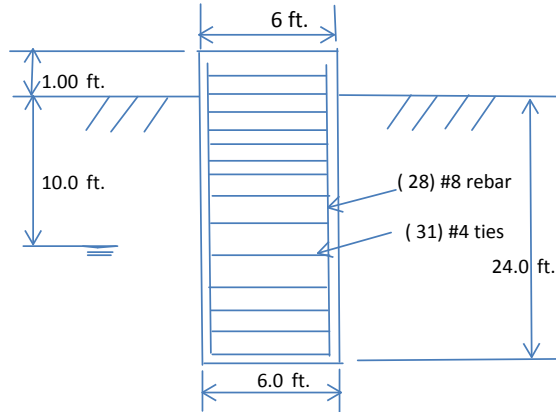
Diameter of Pier (ft.):	6.0	Depth of Base B. G. S. :	24.0 ft.
Pier Height A. G. (ft.):	1.00		

**Material Properties and Rebar Info:**

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000 ksi
Vertical bar yield (ksi)	60	Tie steel yield strength:	60 ksi
Vertical Rebar Size #:	8	Tie / Stirrup Size #:	4
Qty. of Vertical Rebars:	28	Tie Spacing:	12.0 in.
Concrete Cover (in.):	3	Concrete unit weight:	150.0 pcf

**Soil Design Parameters:**

Water Table B.G.S. (ft):	10.0	Unit weight of water:	62.4 psf
Ratio of Uplift/Axial Skin Friction:	1.0	Pullout failure Angle:	30 (°)
Skin Frictions are to be obtained from:	Soil Report		



**Monopole Pier Foundation**

Sand  
5000

Depth of Layers (ft)		$\gamma_{soil}$	$\phi$	Cohesion	Ultimate Skin Friction (psf)	Ultimate Bearing (psf)	Soil Types						
Top	Bottom	(pcf)	(°)	(psf)									
0.0	2.0	135	0	0	0	0	Sand						
2.0	10.0	135	34	0	0	0	Sand						
10.0	25.0	137	34	0	0	0	Sand						
25.0	30.0	137	34	0	0	0	Sand						

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

**Foundation Analysis and Design:**

Uplift Strength Reduction Factor:	0.75	Soil Bearing Strength Reduction Factor:	0.75
Total Dry Soil Volume from Conical Failure (cu. Ft.):	5907	Dry Soil Weight from Conical Failure:	797 Kips
Total Buoyant Soil Volume from Conical Failure (cu. Ft.):	2024	Buoyant Soil Weight from Conical Failure (Kips):	193 Kips
Total Dry Concrete Volume (cu. Ft.):	311	Total Dry Concrete Weight:	46.7 Kips
Total Buoyant Concrete Volume (cu. Ft.):	395.8	Total Buoyant Concrete Weight:	34.68 Kips
Total Effective Concrete Weight (Kips):	81.3	Total Effective Soil Weight:	990.1 Kips
Total Effective Vertical Load on Base (Kips):	68.1		

**Check Soil Capacities:**

Allowable Foundation Overturning Resistance (kips-ft.):	6311.7	>	Design Factored Moment (kips-ft):	2970	Usage	0.47	OK!
Factor of Safety of Passive Soil Resistance against Moment:	2.13	OK!					

**Check the capacities of Reinforcing Concrete:**

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

Reinforcing Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	0.79	Tie / Stirrup Area (sq. in./each):	0.20	Usage	
Calculated Moment Capacity (Mn,Kips-Ft):	3222.1	>	Design Factored Moment (Mu, K-Ft):	2624.5	0.81 OK!
Calculated Shear Capacity (Kips):	740.7	>	Design Factored Shear (Kips):	241.1	0.33 OK!
Calculated Tension Capacity (Tn, Kips):	1194.5	>	Design Factored Tension (Tu Kips):	0.0	0.00 OK!
Calculated Compression Capacity (Pn, Kips):	7159	>	Design Factored Axial Load (Pu Kips):	62.6	0.01 OK!
Moment & Axial Strength Combination:	0.81	OK!	Max. Allowable Tie/Stirrup Spacing:	12.00	in.
Pier Reinforcement Ratio:	0.005	Reinforcement Ratio is satisfied per ACI			

# INFINIGY®

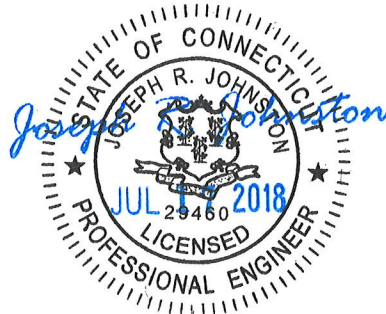
FROM ZERO TO INFINIGY  
the solutions are endless

## Mount Analysis Report

July 17, 2018

Site Name	New Britian Farmington Ave.
Site Number	CTL01028
FA Number	10065751
PTN Number	2051A0GJ8B/ 2051A0GH4P/ 2051A0GH67/ 2051A0GH9Y
PACE Number	MRCTB031093/ MRCTB032077/ MRCTB031563/ MRCTB032052
Infinigy Job Number	499-006
Client	Smartlink
Proposed Carrier	AT&T
Site Location	723 Farmington Avenue New Britain, CT 06053 41° 41' 53.97" N NAD83 72° 47' 10.30" W NAD83
Mount Type	Platform
Mount Usage	<b>81.2%</b>
Overall Result	<b>Pass</b>

Upon reviewing the results of this analysis, it is our opinion that the mount meets the specified TIA code requirements. The antenna mounts are therefore deemed adequate to support the existing and proposed loading as listed in this report.



Brenden Archer  
Structural Engineer I

AZ CA CO FL GA IL MD NC NH NJ NY TN TX WA

INFINIGY®



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Calculations.....	Appended

## **Introduction**

Infinigy Engineering has been requested to perform a mount analysis on the existing AT&T antenna supporting structures. All supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. The antenna mounts were analyzed using RISA 3D v. 16.0.5 software.

## **Supporting Documentation**

<b>RFDS</b>	AT&T RFDS ID #2282467, dated June 13, 2018
<b>Construction Drawings</b>	AT&T FA #10065751, dated April 27, 2015
<b>Previous Analysis</b>	Destek Engineering, dated May 13, 2015

## **Analysis Code Requirements**

Wind Speed	97 mph (3-Second Gust, $V_{asd}$ )/ 125 mph (3-Second Gust, $V_{ult}$ )
Wind Speed w/ ice	50 mph (3-Second Gust) w/ 1" ice
TIA Revision	ANSI/TIA-222-G
Adopted IBC	2012 IBC
Structure Class	II
Exposure Category	B
Topographic Category	1
Calculated Crest Height	0 ft

## **Conclusion**

Upon reviewing the results of this analysis, it is our opinion that the mount meets the specified TIA code requirements. The antenna mounts are therefore deemed adequate to support the existing and proposed loading as listed in this report.

If you have any questions, require additional information, or actual conditions differ from those as detailed in this report please contact me via the information below:

Brenden Archer  
Structural Engineer I | Infinigy  
1033 Watervliet Shaker Road, Albany, NY 12205  
(O) (518) 690-0790  
[barcher@infinigy.com](mailto:barcher@infinigy.com) | [www.infinigy.com](http://www.infinigy.com)

**Final Loading Configuration**

Mount CL (ft)	Rad. HT (ft)	Vert O/S (ft)	Horiz. O/S (ft)	Qty.	Appurtenance	Carrier
98.0	98.0	0.0	0.0	3	Powerwave 7770	AT&T
			4.0	3	Quintel QS66512-2	
			8.0	3	CCI OPA-65R-LCUU-H6	
			8.0	3	Ericsson RRUS-11	
			8.0	3	Ericsson RRUS-32	
			4.0	3	Ericsson RRUS-8843 B25/B66A	
			0.0	6	Powerwave LGP 21401	
			4.0	6	Kaelus DBCT108F1V92-1	
			--	2	Raycap DC6-48-60-18-8F	

**Structure Usages**

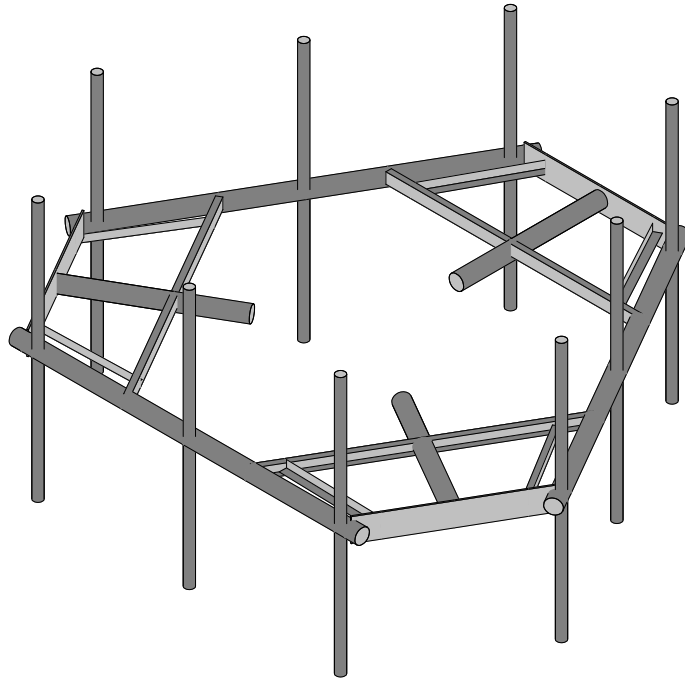
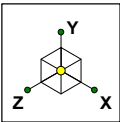
Mount Pipe	37.9%	Pass
Standoff	81.2%	Pass
Horizontal	62.2%	Pass
<b>Result</b>	<b>81.2%</b>	<b>Pass</b>

**Assumptions and Limitations**

Our structural calculations are completed assuming all information provided to Infinigy Engineering is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition of “like new” and all members, connections, anchors, and masonry to be free of corrosion and/or structural defects. The structure owner and/or contractor shall verify the structure’s condition prior to installation of any proposed equipment. If actual conditions differ from those described in this report Infinigy Engineering should be notified immediately to complete a revised evaluation.

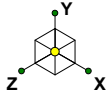
Our evaluation is completed using standard TIA, AISC, ACI, and ASCE methods and procedures. Our structural results are proprietary and should not be used by others as their own. Infinigy Engineering is not responsible for decisions made by others that are or are not based on our supplied assumptions and conclusions.

This report is an evaluation of the rooftop mounted equipment and/or antenna supporting structures to be proposed or modified as shown in the referenced construction drawings. Applicable building element adequacy to support these structures is also evaluated when the applied forces increase significantly based on engineering judgment.

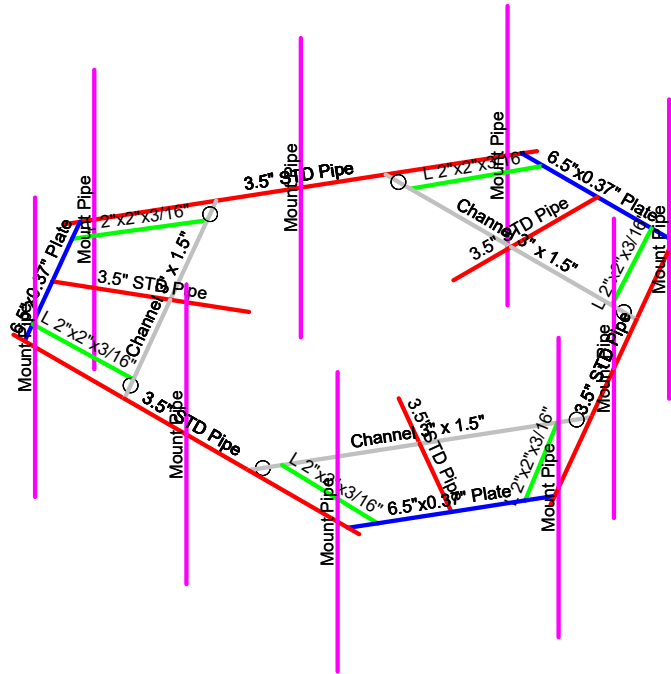


Envelope Only Solution

Infinigy Engineering, PLLC	CTL01028	Existing Configuration
BDA		July 17, 2018 at 10:31 AM
499-006		Existing_CTL01028.r3d



Section Sets	
<span style="color: blue;">■</span>	6.5"x0.37" Plate
<span style="color: green;">■</span>	L 2"x2"x3/16"
<span style="color: red;">■</span>	3.5" STD Pipe
<span style="color: gray;">■</span>	Channel 3" x 1.5"
<span style="color: magenta;">■</span>	Mount Pipe



Envelope Only Solution

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BDA

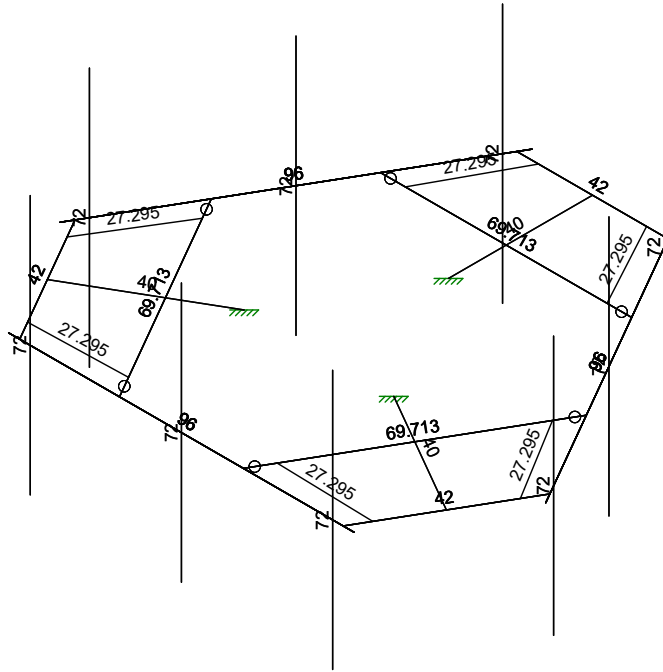
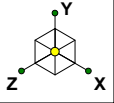
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CTL01028

Existing Configuration

July 17, 2018 at 10:31 AM

Existing\_CTL01028.r3d



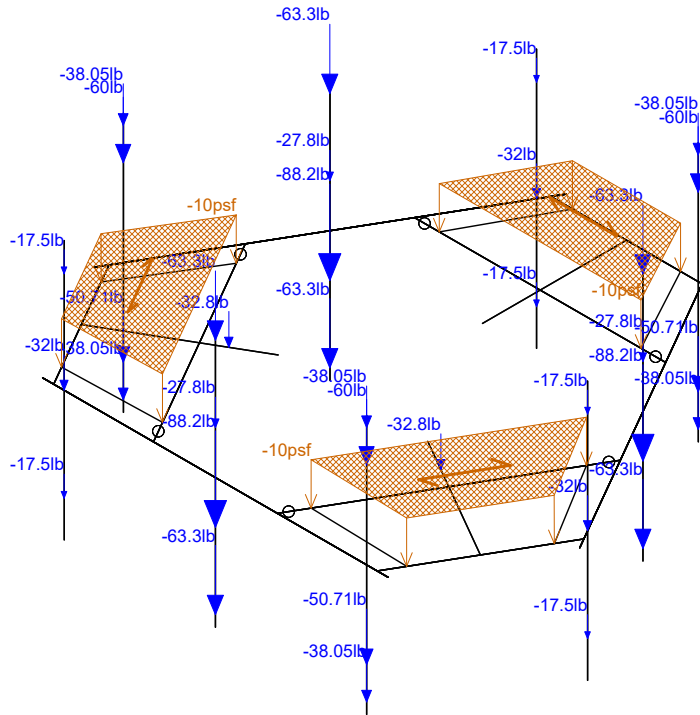
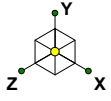
Member Length (in) Displayed  
Envelope Only Solution

Infinigy Engineering, PLLC  
BDA  
499-006

CTL01028

Existing Configuration  
July 17, 2018 at 10:31 AM  
Existing\_CTL01028.r3d



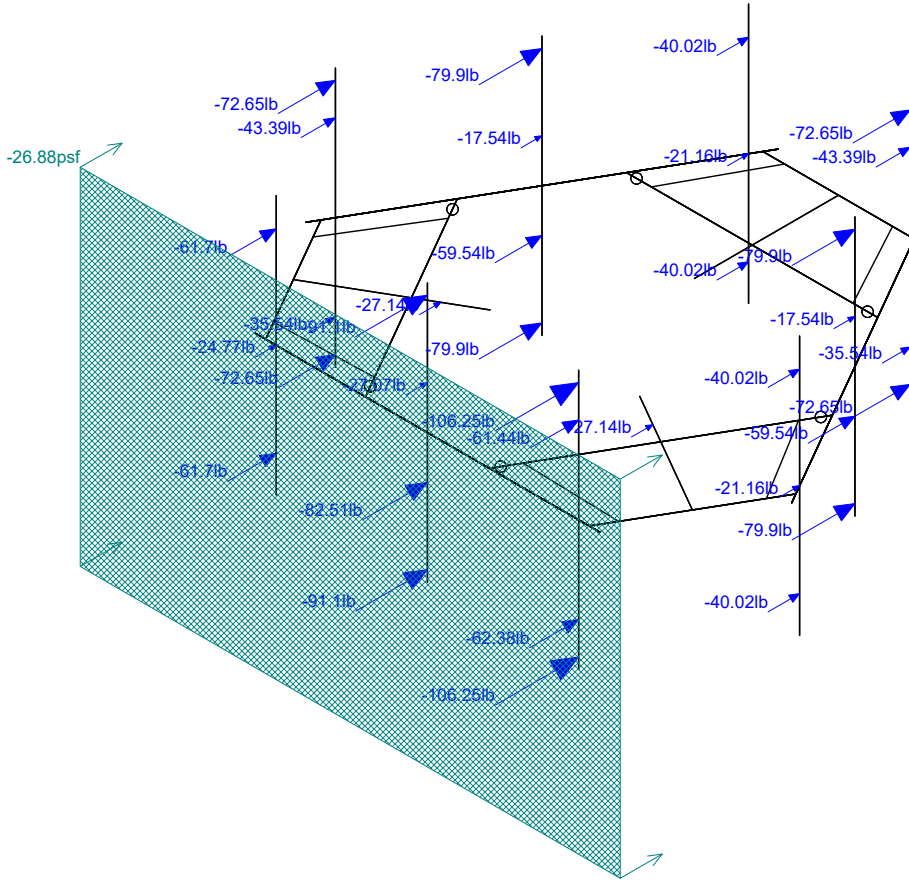
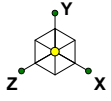


Loads: BLC 1, Self Weight  
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Existing Configuration  
July 17, 2018 at 10:32 AM  
Existing\_CTL01028.r3d



Loads: BLC 2, Wind Load AZI 000  
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BDA

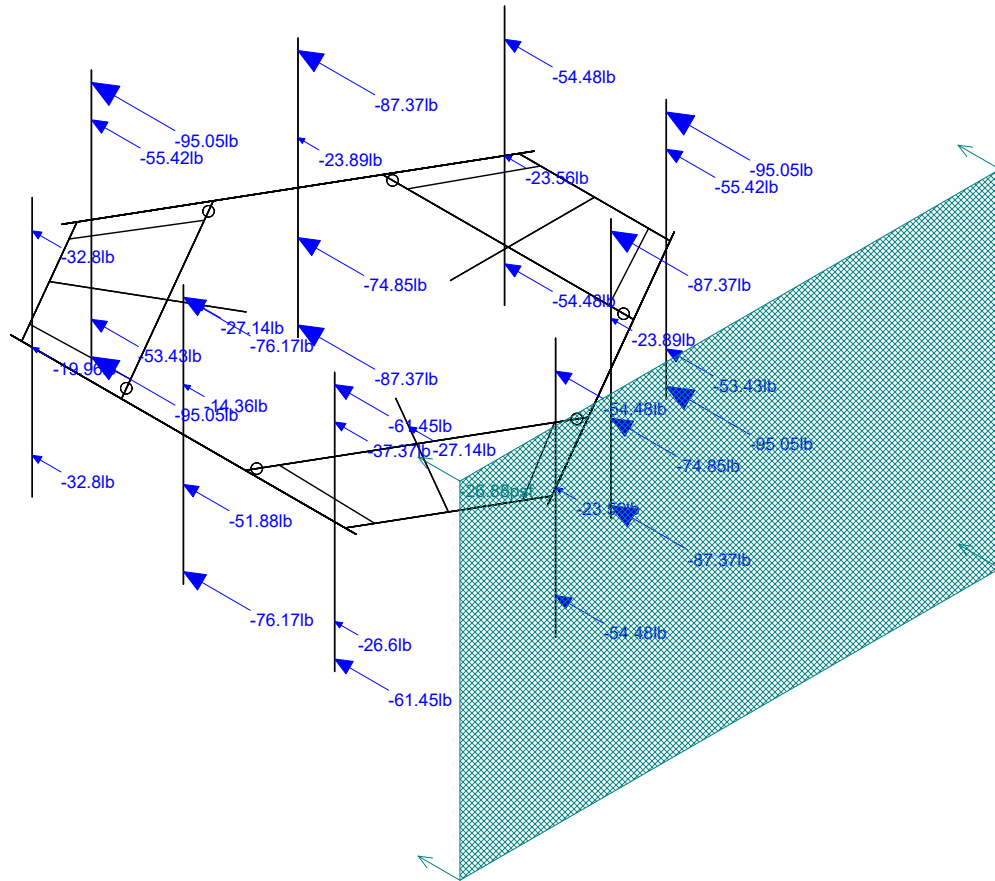
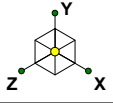
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CTL01028

Existing Configuration

July 17, 2018 at 10:32 AM

Existing\_CTL01028.r3d

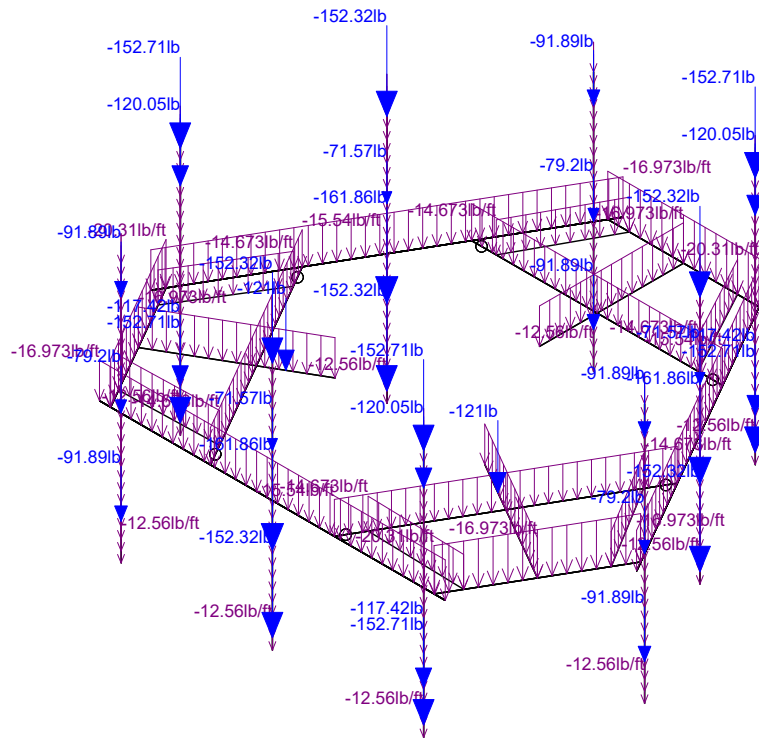
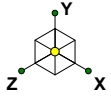


Loads: BLC 3, Wind Load AZI 090  
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BDA  
499-006

CTL01028

Existing Configuration  
July 17, 2018 at 10:32 AM  
Existing\_CTL01028.r3d



Loads: BLC 4, Ice Weight  
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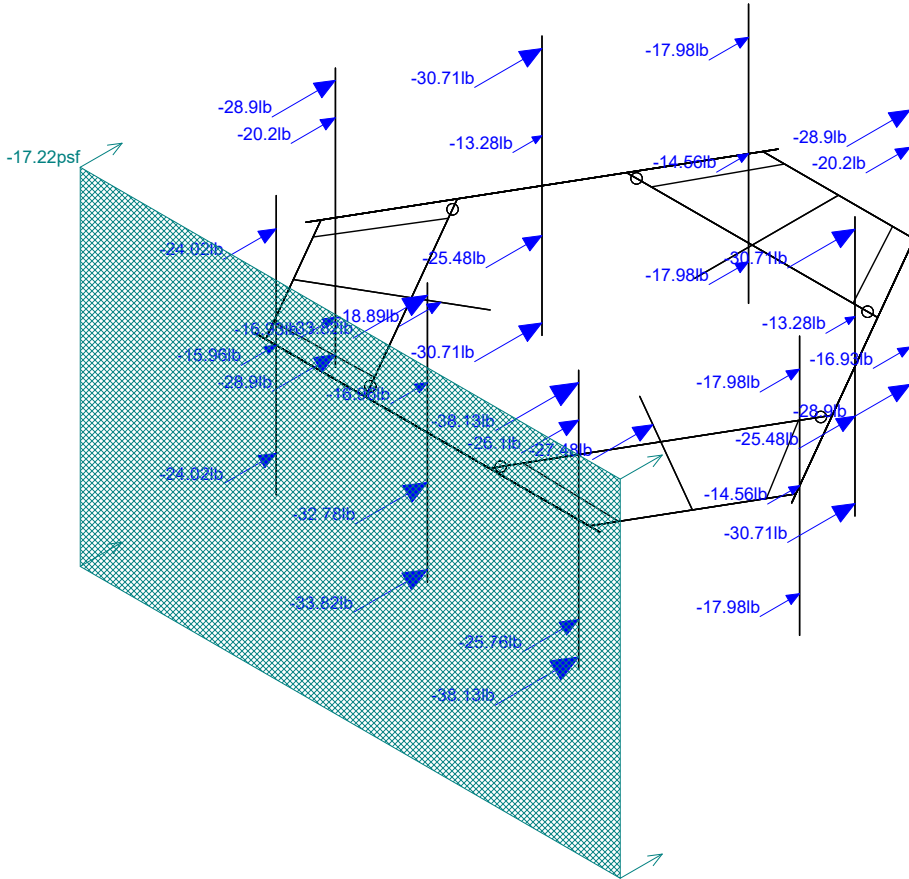
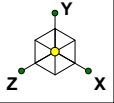
499-006

CTL01028

Existing Configuration

July 17, 2018 at 10:32 AM

Existing\_CTL01028.r3d



Loads: BLC 5, Wind + Ice Load AZI 000  
Envelope Only Solution

Infinigy Engineering, PLLC

BDA

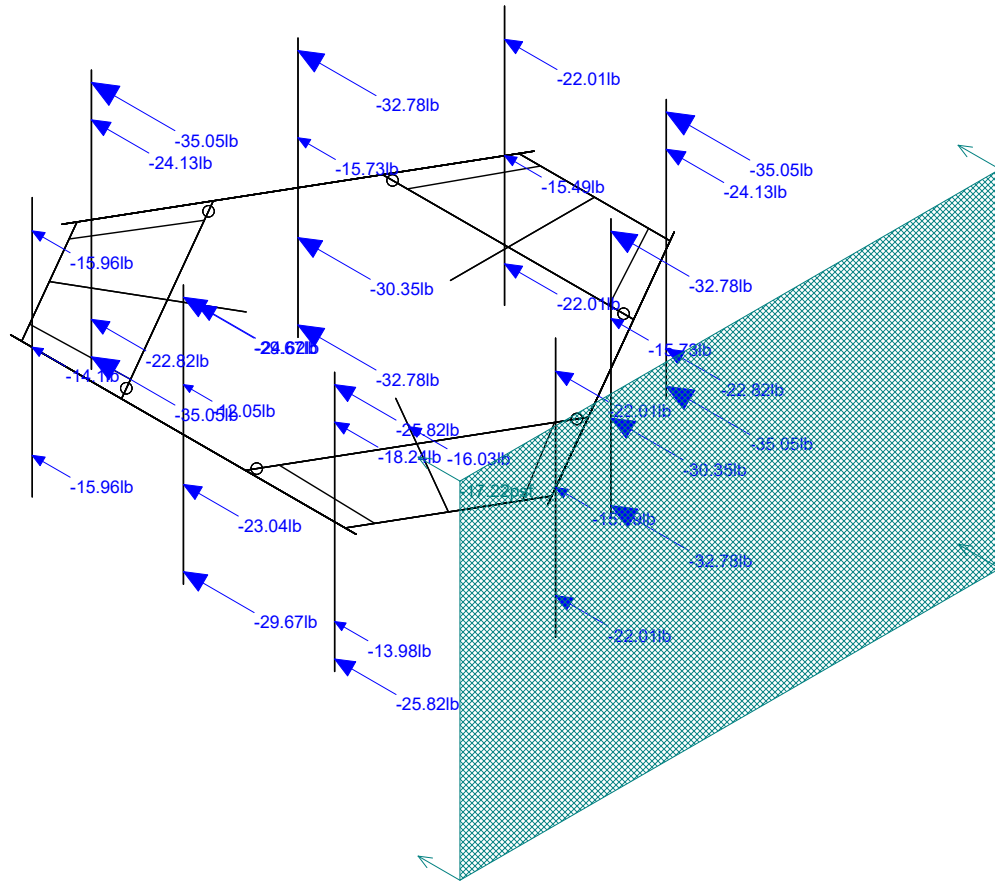
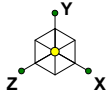
499-006

CTL01028

Existing Configuration

July 17, 2018 at 10:32 AM

Existing\_CTL01028.r3d



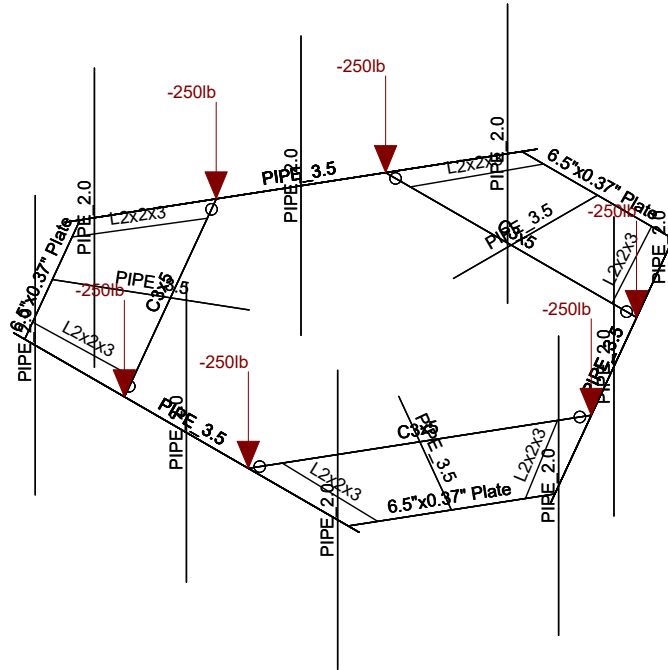
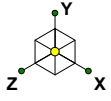
Loads: BLC 6, Wind + Ice Load AZI 090  
Envelope Only Solution

Infinigy Engineering, PLLC
BDA
499-006

CTL01028

Existing Configuration
July 17, 2018 at 10:32 AM
Existing_CTL01028.r3d





Loads: BLC 7, Service Live 1  
Envelope Only Solution

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BDA

499-006

CTL01028

SK - 1

July 17, 2018 at 10:32 AM

Existing\_CTL01028.r3d

Site Name: CTL01028  
 Client: Smartlink  
 Carrier: AT&T  
 Engineer: BDA  
 Date: 7/17/2018



Site Information Inputs:

Adopted Building Code: 2012 IBC  
 Structure Load Standard: TIA-222-G  
 Antenna Load Standard: TIA-222-G  
 Structure Risk Category: II  
 Structure Type: Mount - T-Arm  
 Number of Sectors: 3  
 Structure Shape 1: Round

Rooftop Inputs:

Rooftop Wind Speed-Up?: No

Wind Loading Inputs:

Design Wind Velocity: 97 mph (nominal 3-second gust)  
 Wind Centerline 1 ( $z_1$ ): 98.0 ft  
 Side Face Angle ( $\theta$ ): 60 degrees  
 Exposure Category: B  
 Topographic Category: 1

Wind with No Ice		
$q_z$ (psf)	Gh	$F_{ST}$ (psf)
22.40	1.00	26.88

Wind with Ice		
$q_z$ (psf)	Gh	$F_{ST}$ (psf)
5.97	1.00	17.22

Ice Loading Inputs:

Is Ice Loading Needed?: Yes  
 Ice Wind Velocity: 50 mph (nominal 3-second gust)  
 Base Ice Thickness: 1.00 in

Input Appurtenance Information and Load Placements:

Appurtenance Name	Elevation (ft)	Total Quantity	$K_a$	Front Shape	Side Shape	$q_z$ (psf)	EPA ( $ft^2$ )	Fz (lbs)	Fx (lbs)	Fz(60) (lbs)	Fx(30) (lbs)
Powerwave 7770	98.0	3	1.00	Flat	Flat	22.40	5.51	123.40	65.60	80.05	108.95
Quintel QS66512-2	98.0	3	1.00	Flat	Flat	22.40	8.13	182.20	152.33	159.80	174.74
CCI OPA-65R-LCUU-H6	98.0	3	1.00	Flat	Flat	22.40	9.49	212.51	122.90	145.30	190.10
Powerwave LGP-21401	98.0	6	1.00	Flat	Flat	22.40	0.55	12.38	9.98	10.58	11.78
Kaelus DBCT108F1V92-1	98.0	6	1.00	Flat	Flat	22.40	0.60	13.54	7.18	8.77	11.95
Ericsson RRUS 11	98.0	3	1.00	Flat	Flat	22.40	2.78	62.38	26.60	35.54	53.43
Ericsson RRUS 32	98.0	3	1.00	Flat	Flat	22.40	2.74	61.44	37.37	43.39	55.42
Ericsson RRUS 8843-B25/B66A	98.0	3	1.00	Flat	Flat	22.40	3.68	82.51	51.88	59.54	74.85
Raycap DC6-48-60-18-8F	98.0	2	1.00	Round	Round	22.40	1.21	27.14	27.14	27.14	27.14

## Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
1	M1	N5	N6			Channel 3" x 1.5"	Beam	None	A36 Gr.36	Typical
2	M2	N3	N1			3.5" STD Pipe	Beam	None	A53 Gr.B	Typical
3	M3	N9	N12			L 2"x2"x3/16"	Beam	None	A36 Gr.36	Typical
4	M4	N10	N11			L 2"x2"x3/16"	Beam	None	A36 Gr.36	Typical
5	M5	N8	N7			6.5"x0.37" Plate	Beam	None	A36 Gr.36	Typical
6	M6	N17	N18			Channel 3" x 1.5"	Beam	None	A36 Gr.36	Typical
7	M7	N15	N13			3.5" STD Pipe	Beam	None	A53 Gr.B	Typical
8	M8	N21	N24			L 2"x2"x3/16"	Beam	None	A36 Gr.36	Typical
9	M9	N22	N23			L 2"x2"x3/16"	Beam	None	A36 Gr.36	Typical
10	M10	N20	N19			6.5"x0.37" Plate	Beam	None	A36 Gr.36	Typical
11	M11	N29	N30			Channel 3" x 1.5"	Beam	None	A36 Gr.36	Typical
12	M12	N27	N25			3.5" STD Pipe	Beam	None	A53 Gr.B	Typical
13	M13	N33	N36			L 2"x2"x3/16"	Beam	None	A36 Gr.36	Typical
14	M14	N34	N35			L 2"x2"x3/16"	Beam	None	A36 Gr.36	Typical
15	M15	N32	N31			6.5"x0.37" Plate	Beam	None	A36 Gr.36	Typical
16	M16	N44	N45			3.5" STD Pipe	Beam	None	A53 Gr.B	Typical
17	M17	N47	N48			3.5" STD Pipe	Beam	None	A53 Gr.B	Typical
18	M18	N50	N51			3.5" STD Pipe	Beam	None	A53 Gr.B	Typical
19	MP1	N59	N56			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
20	MP2	N58	N55			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
21	MP3	N60	N57			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
22	MP4	N69	N66			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
23	MP5	N68	N65			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
24	MP6	N70	N67			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
25	MP7	N79	N76			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
26	MP8	N78	N75			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
27	MP9	N80	N77			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical

## Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	Hot Rolled Steel				
2	A36 Gr.36	6.5"x0.37" Plate	3	126	0
3	A36 Gr.36	C3x5	3	209.1	0
4	A36 Gr.36	L2x2x3	6	163.8	0
5	A53 Gr.B	PIPE 2.0	9	648	.2
6	A53 Gr.B	PIPE 3.5	6	408	.3
7	Total HR Steel		27	1554.9	.7

## Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(...
1	Self Weight	DL		-1			35	3	
2	Wind Load AZI 000	WLZ					35	1	
3	Wind Load AZI 090	WLX					35	1	
4	Ice Weight	OL1					35	27	
5	Wind + Ice Load AZI 000	OL2					35	1	
6	Wind + Ice Load AZI 090	OL3					35	1	
7	Service Live 1	LL				6			
8	BLC 1 Transient Area Loads	None						9	
9	BLC 2 Transient Area Loads	None						25	
10	BLC 3 Transient Area Loads	None						24	
11	BLC 5 Transient Area Loads	None						25	
12	BLC 6 Transient Area Loads	None						24	

## Load Combinations

	Description	S..P...	S..B..Fa...	BLC	Fac...	BLCFa...	B..F...	B..F...	B..F...	B..F...	B..F...	B..F...	B..F...	B..F...
1	1.4D	Y.. Y	DL 1.4											
2	1.2D + 1.6W AZI 000	Y.. Y	DL 1.2 WLZ 1.6											
3	1.2D + 1.6W AZI 030	Y.. Y	DL 1.2 WLZ 1.3...W... .8											
4	1.2D + 1.6W AZI 060	Y.. Y	DL 1.2 WLZ .8 W... 1.3...											
5	1.2D + 1.6W AZI 090	Y.. Y	DL 1.2 W... 1.6											
6	1.2D + 1.6W AZI 120	Y.. Y	DL 1.2 WLZ -.8 W... 1.3...											
7	1.2D + 1.6W AZI 150	Y.. Y	DL 1.2 WLZ -1.3...W... .8											
8	1.2D + 1.6W AZI 180	Y.. Y	DL 1.2 WLZ -1.6											
9	1.2D + 1.6W AZI 210	Y.. Y	DL 1.2 WLZ -1.3...W... -.8											
10	1.2D + 1.6W AZI 240	Y.. Y	DL 1.2 WLZ -.8 W... -1...											
11	1.2D + 1.6W AZI 270	Y.. Y	DL 1.2 W... -1.6											
12	1.2D + 1.6W AZI 300	Y.. Y	DL 1.2 WLZ .8 W... -1...											
13	1.2D + 1.6W AZI 330	Y.. Y	DL 1.2 WLZ 1.3...W... -.8											
14	0.9D + 1.6W AZI 000	Y.. Y	DL .9 WLZ 1.6											
15	0.9D + 1.6W AZI 030	Y.. Y	DL .9 WLZ 1.3...W... .8											
16	0.9D + 1.6W AZI 060	Y.. Y	DL .9 WLZ .8 W... 1.3...											
17	0.9D + 1.6W AZI 090	Y.. Y	DL .9 W... 1.6											
18	0.9D + 1.6W AZI 120	Y.. Y	DL .9 WLZ -.8 W... 1.3...											
19	0.9D + 1.6W AZI 150	Y.. Y	DL .9 WLZ -1.3...W... .8											
20	0.9D + 1.6W AZI 180	Y.. Y	DL .9 WLZ -1.6											
21	0.9D + 1.6W AZI 210	Y.. Y	DL .9 WLZ -1.3...W... -.8											
22	0.9D + 1.6W AZI 240	Y.. Y	DL .9 WLZ -.8 W... -1...											
23	0.9D + 1.6W AZI 270	Y.. Y	DL .9 W... -1.6											
24	0.9D + 1.6W AZI 300	Y.. Y	DL .9 WLZ .8 W... -1...											
25	0.9D + 1.6W AZI 330	Y.. Y	DL .9 WLZ 1.3...W... -.8											
26	1.2D + 1.0Di	Y.. Y	DL 1.2 OL1 1											
27	1.2D + 1.0Di + 1.0Wi AZI 000	Y.. Y	DL 1.2 OL1 1 OL2 1											
28	1.2D + 1.0Di + 1.0Wi AZI 030	Y.. Y	DL 1.2 OL1 1 OL2 .866 ... .5											
29	1.2D + 1.0Di + 1.0Wi AZI 060	Y.. Y	DL 1.2 OL1 1 OL2 .5 ... .8...											
30	1.2D + 1.0Di + 1.0Wi AZI 090	Y.. Y	DL 1.2 OL1 1 ... 1											
31	1.2D + 1.0Di + 1.0Wi AZI 120	Y.. Y	DL 1.2 OL1 1 OL2 -.5 ... .8...											
32	1.2D + 1.0Di + 1.0Wi AZI 150	Y.. Y	DL 1.2 OL1 1 OL2 -.866... .5											
33	1.2D + 1.0Di + 1.0Wi AZI 180	Y.. Y	DL 1.2 OL1 1 OL2 -.1											
34	1.2D + 1.0Di + 1.0Wi AZI 210	Y.. Y	DL 1.2 OL1 1 OL2 -.866... -.5											
35	1.2D + 1.0Di + 1.0Wi AZI 240	Y.. Y	DL 1.2 OL1 1 OL2 -.5 ... -...											
36	1.2D + 1.0Di + 1.0Wi AZI 270	Y.. Y	DL 1.2 OL1 1 ... -1											
37	1.2D + 1.0Di + 1.0Wi AZI 300	Y.. Y	DL 1.2 OL1 1 OL2 .5 ... -...											
38	1.2D + 1.0Di + 1.0Wi AZI 330	Y.. Y	DL 1.2 OL1 1 OL2 .866 ... -.5											
39	1.2D + 1.5L + 1.0WL (30 mph) AZI 000	Y.. Y	DL 1.2 LL 1.5 WLZ .111											
40	1.2D + 1.5L + 1.0WL (30 mph) AZI 030	Y.. Y	DL 1.2 LL 1.5 WLZ .096... .0...											
41	1.2D + 1.5L + 1.0WL (30 mph) AZI 060	Y.. Y	DL 1.2 LL 1.5 WLZ .056... .0...											
42	1.2D + 1.5L + 1.0WL (30 mph) AZI 090	Y.. Y	DL 1.2 LL 1.5 ... .1...											
43	1.2D + 1.5L + 1.0WL (30 mph) AZI 120	Y.. Y	DL 1.2 LL 1.5 WLZ -.056... .0...											
44	1.2D + 1.5L + 1.0WL (30 mph) AZI 150	Y.. Y	DL 1.2 LL 1.5 WLZ -.096... .0...											
45	1.2D + 1.5L + 1.0WL (30 mph) AZI 180	Y.. Y	DL 1.2 LL 1.5 WLZ -.111											
46	1.2D + 1.5L + 1.0WL (30 mph) AZI 210	Y.. Y	DL 1.2 LL 1.5 WLZ -.096... -...											
47	1.2D + 1.5L + 1.0WL (30 mph) AZI 240	Y.. Y	DL 1.2 LL 1.5 WLZ -.056... -...											
48	1.2D + 1.5L + 1.0WL (30 mph) AZI 270	Y.. Y	DL 1.2 LL 1.5 ... -...											
49	1.2D + 1.5L + 1.0WL (30 mph) AZI 300	Y.. Y	DL 1.2 LL 1.5 WLZ .056... -...											
50	1.2D + 1.5L + 1.0WL (30 mph) AZI 330	Y.. Y	DL 1.2 LL 1.5 WLZ .096... -...											

## Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N25	max	1181.772	4	3110.189	37	1832.555	3	-702.62	20	2248.815	15	-1302.248	17
2		min	-1180.47	22	728.938	18	-1829.463	21	-3077.713	27	-2251.783	9	-5637.002	36
3	N1	max	1124.452	6	3110.202	29	1984.353	25	-763.08	20	2409.005	19	5477.741	30
4		min	-1122.494	24	728.933	22	-1985.937	7	-3351.801	27	-2412.838	13	1272.692	23
5	N13	max	2403.389	17	2950.184	33	487.705	2	6288.638	33	2521.171	23	163.229	30
6		min	-2406.143	11	699.472	14	-489.655	20	1469.144	14	-2524.336	5	12.465	23
7	Totals:	max	4189.896	5	9157.232	36	4195.168	2						
8		min	-4189.896	11	2207.814	17	-4195.168	20						

## Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear Che...	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*P...	phi*M...	phi*M.....	Eqn
1	M2	PIPE_3.5	.812	40	27	.158	40		38	77476.331	78750	7953...	7953...	1 H1-1b
2	M12	PIPE_3.5	.811	40	34	.157	40		34	77476.331	78750	7953...	7953...	1 H1-1b
3	M7	PIPE_3.5	.795	40	30	.151	40		30	77476.331	78750	7953...	7953...	1 H1-1b
4	M11	C3x5	.622	34.856	30	.222	63.177	y	37	37027.882	47628	981.2...	4020...	1 H1-1b
5	M1	C3x5	.616	34.856	34	.223	63.177	y	29	37027.882	47628	981.2...	4020...	1 H1-1b
6	M6	C3x5	.614	34.856	38	.222	63.177	y	33	37027.882	47628	981.2...	4020...	1 H1-1b
7	MP3	PIPE_2.0	.379	36	8	.031	36		20	20866.733	32130	1871...	1871...	H1-1b
8	MP9	PIPE_2.0	.342	36	5	.028	36		5	20866.733	32130	1871...	1871...	H1-1b
9	MP6	PIPE_2.0	.342	36	11	.028	36		11	20866.733	32130	1871...	1871...	H1-1b
10	MP2	PIPE_2.0	.307	36	8	.031	36		20	20866.733	32130	1871...	1871...	H1-1b
11	MP8	PIPE_2.0	.292	36	5	.030	36		17	20866.733	32130	1871...	1871...	H1-1b
12	MP5	PIPE_2.0	.292	36	11	.030	36		23	20866.733	32130	1871...	1871...	H1-1b
13	M15	6.5"x0.3...	.283	21	12	.141	21	y	32	3513.807	77922	600.6...	7077...	H1-1b
14	M5	6.5"x0.3...	.261	21	3	.142	21	y	36	3513.807	77922	600.6...	7116...	H1-1b
15	M13	L2x2x3	.260	0	11	.040	0	y	30	18051.765	23392...	557.7...	1239...	H2-1
16	M10	6.5"x0.3...	.244	21	8	.141	21	y	27	3513.807	77922	600.6...	7120...	H1-1b
17	M3	L2x2x3	.231	0	3	.040	0	y	34	18051.765	23392...	557.7...	1239...	H2-1
18	M8	L2x2x3	.215	0	8	.039	0	y	38	18051.765	23392...	557.7...	1239...	H2-1
19	M4	L2x2x3	.179	0	11	.043	0	y	29	18051.765	23392...	557.7...	1239...	H2-1
20	M18	PIPE_3.5	.164	31	12	.053	90		31	76140.771	78750	7953...	7953...	1 H1-1b
21	M9	L2x2x3	.160	0	2	.043	0	y	33	18051.765	23392...	557.7...	1239...	H2-1
22	M17	PIPE_3.5	.155	31	8	.053	90		38	76140.771	78750	7953...	7953...	1 H1-1b
23	MP1	PIPE_2.0	.144	36	2	.013	36		2	20866.733	32130	1871...	1871...	H1-1b
24	M16	PIPE_3.5	.142	31	4	.053	90		34	76140.771	78750	7953...	7953...	1 H1-1b
25	M14	L2x2x3	.130	0	7	.043	0	y	37	18051.765	23392...	557.7...	1239...	H2-1
26	MP4	PIPE_2.0	.130	36	5	.012	36		5	20866.733	32130	1871...	1871...	H1-1b
27	MP7	PIPE_2.0	.130	36	5	.012	36		11	20866.733	32130	1871...	1871...	H1-1b

## Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	6.5"x0.37" Plate	6.5"x0.37" Plate	Beam	None	A36 Gr.36	Typical	2.405	.027	8.468	.106
2	L 2"x2"x3/16"	L2x2x3	Beam	None	A36 Gr.36	Typical	.722	.271	.271	.009
3	3.5" STD Pipe	PIPE_3.5	Beam	None	A53 Gr.B	Typical	2.5	4.52	4.52	9.04
4	Channel 3" x 1.5"	C3x5	Beam	None	A36 Gr.36	Typical	1.47	.241	1.85	.043
5	Mount Pipe	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25

## Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N25	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N13	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

## Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat..	Analysis ...	Inactive	Seismic...
1	M1	BenPIN	BenPIN				Yes				None
2	M2						Yes				None
3	M3						Yes				None
4	M4						Yes				None
5	M5						Yes				None
6	M6	BenPIN	BenPIN				Yes				None
7	M7						Yes				None
8	M8						Yes				None
9	M9						Yes				None
10	M10						Yes				None
11	M11	BenPIN	BenPIN				Yes				None
12	M12						Yes				None
13	M13						Yes				None
14	M14						Yes				None
15	M15						Yes				None
16	M16						Yes				None
17	M17						Yes				None
18	M18						Yes				None
19	MP1						Yes				None
20	MP2						Yes				None
21	MP3						Yes				None
22	MP4						Yes				None
23	MP5						Yes				None
24	MP6						Yes				None
25	MP7						Yes				None
26	MP8						Yes				None
27	MP9						Yes				None

## Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torg...	Kyy	Kzz	Cb	Function
1	M1	Channel 3" ...	69.713	28	28	28	28	28				Lateral
2	M2	3.5" STD Pi...	40	24	24	24	24	24				Lateral
3	M3	L 2"x2"x3/16"	27.295			Lbyy						Lateral
4	M4	L 2"x2"x3/16"	27.295			Lbyy						Lateral
5	M5	6.5"x0.37" ...	42			Lbyy						Lateral
6	M6	Channel 3" ...	69.713	28	28	28	28	28				Lateral
7	M7	3.5" STD Pi...	40	24	24	24	24	24				Lateral
8	M8	L 2"x2"x3/16"	27.295			Lbyy						Lateral
9	M9	L 2"x2"x3/16"	27.295			Lbyy						Lateral
10	M10	6.5"x0.37" ...	42			Lbyy						Lateral
11	M11	Channel 3" ...	69.713	28	28	28	28	28				Lateral
12	M12	3.5" STD Pi...	40	24	24	24	24	24				Lateral
13	M13	L 2"x2"x3/16"	27.295			Lbyy						Lateral
14	M14	L 2"x2"x3/16"	27.295			Lbyy						Lateral
15	M15	6.5"x0.37" ...	42			Lbyy						Lateral
16	M16	3.5" STD Pi...	96	34.5	34.5	34.5	34.5	34.5				Lateral
17	M17	3.5" STD Pi...	96	34.5	34.5	34.5	34.5	34.5				Lateral
18	M18	3.5" STD Pi...	96	34.5	34.5	34.5	34.5	34.5				Lateral
19	MP1	Mount Pipe	72			Lbyy						Lateral
20	MP2	Mount Pipe	72			Lbyy						Lateral
21	MP3	Mount Pipe	72			Lbyy						Lateral
22	MP4	Mount Pipe	72			Lbyy						Lateral
23	MP5	Mount Pipe	72			Lbyy						Lateral
24	MP6	Mount Pipe	72			Lbyy						Lateral

## Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
25	MP7	Mount Pipe	72			Lbyy						Lateral
26	MP8	Mount Pipe	72			Lbyy						Lateral
27	MP9	Mount Pipe	72			Lbyy						Lateral

## Joint Loads and Enforced Displacements (BLC 7 : Service Live 1)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in.rad), (lb*s^...
1	N30	L	Y	-250
2	N29	L	Y	-250
3	N18	L	Y	-250
4	N17	L	Y	-250
5	N6	L	Y	-250
6	N5	L	Y	-250

## Member Point Loads (BLC 1 : Self Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-17.5	10
2	MP2	Y	-63.3	3
3	MP3	Y	-38.05	3
4	MP1	Y	-32	36
5	MP2	Y	-27.8	48
6	MP3	Y	-50.71	12
7	MP3	Y	-60	60
8	MP2	Y	-88.2	24
9	M2	Y	-32.8	30
10	MP1	Y	-17.5	64
11	MP2	Y	-63.3	69
12	MP3	Y	-38.05	69
13	MP4	Y	-17.5	10
14	MP5	Y	-63.3	3
15	MP6	Y	-38.05	3
16	MP4	Y	-32	36
17	MP5	Y	-27.8	48
18	MP6	Y	-50.71	12
19	MP6	Y	-60	60
20	MP5	Y	-88.2	24
21	M12	Y	-32.8	30
22	MP4	Y	-17.5	64
23	MP5	Y	-63.3	69
24	MP6	Y	-38.05	69
25	MP7	Y	-17.5	10
26	MP8	Y	-63.3	3
27	MP9	Y	-38.05	3
28	MP7	Y	-32	36
29	MP8	Y	-27.8	48
30	MP9	Y	-50.71	12
31	MP9	Y	-60	60
32	MP8	Y	-88.2	24
33	MP7	Y	-17.5	64
34	MP8	Y	-63.3	69
35	MP9	Y	-38.05	69

## Member Point Loads (BLC 2 : Wind Load AZI 000)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
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### Member Point Loads (BLC 2 : Wind Load AZI 000) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	Z	-61.7	10
2	MP2	Z	-91.1	3
3	MP3	Z	-106.25	3
4	MP1	Z	-24.77	36
5	MP2	Z	-27.07	48
6	MP3	Z	-62.38	12
7	MP3	Z	-61.44	60
8	MP2	Z	-82.51	24
9	M2	Z	-27.14	30
10	MP1	Z	-61.7	64
11	MP2	Z	-91.1	69
12	MP3	Z	-106.25	69
13	MP4	Z	-40.02	10
14	MP5	Z	-79.9	3
15	MP6	Z	-72.65	3
16	MP4	Z	-21.16	36
17	MP5	Z	-17.54	48
18	MP6	Z	-35.54	12
19	MP6	Z	-43.39	60
20	MP5	Z	-59.54	24
21	M12	Z	-27.14	30
22	MP4	Z	-40.02	64
23	MP5	Z	-79.9	69
24	MP6	Z	-72.65	69
25	MP7	Z	-40.02	10
26	MP8	Z	-79.9	3
27	MP9	Z	-72.65	3
28	MP7	Z	-21.16	36
29	MP8	Z	-17.54	48
30	MP9	Z	-35.54	12
31	MP9	Z	-43.39	60
32	MP8	Z	-59.54	24
33	MP7	Z	-40.02	64
34	MP8	Z	-79.9	69
35	MP9	Z	-72.65	69

### Member Point Loads (BLC 3 : Wind Load AZI 090)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-32.8	10
2	MP2	X	-76.17	3
3	MP3	X	-61.45	3
4	MP1	X	-19.96	36
5	MP2	X	-14.36	48
6	MP3	X	-26.6	12
7	MP3	X	-37.37	60
8	MP2	X	-51.88	24
9	M2	X	-27.14	30
10	MP1	X	-32.8	64
11	MP2	X	-76.17	69
12	MP3	X	-61.45	69
13	MP4	X	-54.48	10
14	MP5	X	-87.37	3
15	MP6	X	-95.05	3
16	MP4	X	-23.56	36
17	MP5	X	-23.89	48
18	MP6	X	-53.43	12

### Member Point Loads (BLC 3 : Wind Load AZI 090) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
19	MP6	X	-55.42	60
20	MP5	X	-74.85	24
21	M12	X	-27.14	30
22	MP4	X	-54.48	64
23	MP5	X	-87.37	69
24	MP6	X	-95.05	69
25	MP7	X	-54.48	10
26	MP8	X	-87.37	3
27	MP9	X	-95.05	3
28	MP7	X	-23.56	36
29	MP8	X	-23.89	48
30	MP9	X	-53.43	12
31	MP9	X	-55.42	60
32	MP8	X	-74.85	24
33	MP7	X	-54.48	64
34	MP8	X	-87.37	69
35	MP9	X	-95.05	69

### Member Point Loads (BLC 4 : Ice Weight)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	Y	-91.89	10
2	MP2	Y	-152.32	3
3	MP3	Y	-152.71	3
4	MP1	Y	-79.2	36
5	MP2	Y	-71.57	48
6	MP3	Y	-117.42	12
7	MP3	Y	-120.05	60
8	MP2	Y	-161.86	24
9	M2	Y	-121	30
10	MP1	Y	-91.89	64
11	MP2	Y	-152.32	69
12	MP3	Y	-152.71	69
13	MP4	Y	-91.89	10
14	MP5	Y	-152.32	3
15	MP6	Y	-152.71	3
16	MP4	Y	-79.2	36
17	MP5	Y	-71.57	48
18	MP6	Y	-117.42	12
19	MP6	Y	-120.05	60
20	MP5	Y	-161.86	24
21	M12	Y	-121	30
22	MP4	Y	-91.89	64
23	MP5	Y	-152.32	69
24	MP6	Y	-152.71	69
25	MP7	Y	-91.89	10
26	MP8	Y	-152.32	3
27	MP9	Y	-152.71	3
28	MP7	Y	-79.2	36
29	MP8	Y	-71.57	48
30	MP9	Y	-117.42	12
31	MP9	Y	-120.05	60
32	MP8	Y	-161.86	24
33	MP7	Y	-91.89	64
34	MP8	Y	-152.32	69
35	MP9	Y	-152.71	69

## Member Point Loads (BLC 5 : Wind + Ice Load AZI 000)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	Z	-24.02	10
2	MP2	Z	-33.82	3
3	MP3	Z	-38.13	3
4	MP1	Z	-15.96	36
5	MP2	Z	-16.96	48
6	MP3	Z	-25.76	12
7	MP3	Z	-26.1	60
8	MP2	Z	-32.78	24
9	M2	Z	-27.48	30
10	MP1	Z	-24.02	64
11	MP2	Z	-33.82	69
12	MP3	Z	-38.13	69
13	MP4	Z	-17.98	10
14	MP5	Z	-30.71	3
15	MP6	Z	-28.9	3
16	MP4	Z	-14.56	36
17	MP5	Z	-13.28	48
18	MP6	Z	-16.93	12
19	MP6	Z	-20.2	60
20	MP5	Z	-25.48	24
21	M12	Z	-18.89	30
22	MP4	Z	-17.98	64
23	MP5	Z	-30.71	69
24	MP6	Z	-28.9	69
25	MP7	Z	-17.98	10
26	MP8	Z	-30.71	3
27	MP9	Z	-28.9	3
28	MP7	Z	-14.56	36
29	MP8	Z	-13.28	48
30	MP9	Z	-16.93	12
31	MP9	Z	-20.2	60
32	MP8	Z	-25.48	24
33	MP7	Z	-17.98	64
34	MP8	Z	-30.71	69
35	MP9	Z	-28.9	69

## Member Point Loads (BLC 6 : Wind + Ice Load AZI 090)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-15.96	10
2	MP2	X	-29.67	3
3	MP3	X	-25.82	3
4	MP1	X	-14.1	36
5	MP2	X	-12.05	48
6	MP3	X	-13.98	12
7	MP3	X	-18.24	60
8	MP2	X	-23.04	24
9	M2	X	-16.03	30
10	MP1	X	-15.96	64
11	MP2	X	-29.67	69
12	MP3	X	-25.82	69
13	MP4	X	-22.01	10
14	MP5	X	-32.78	3
15	MP6	X	-35.05	3
16	MP4	X	-15.49	36
17	MP5	X	-15.73	48
18	MP6	X	-22.82	12

## Member Point Loads (BLC 6 : Wind + Ice Load AZI 090) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
19	MP6	X	-24.13	60
20	MP5	X	-30.35	24
21	M12	X	-24.62	30
22	MP4	X	-22.01	64
23	MP5	X	-32.78	69
24	MP6	X	-35.05	69
25	MP7	X	-22.01	10
26	MP8	X	-32.78	3
27	MP9	X	-35.05	3
28	MP7	X	-15.49	36
29	MP8	X	-15.73	48
30	MP9	X	-22.82	12
31	MP9	X	-24.13	60
32	MP8	X	-30.35	24
33	MP7	X	-22.01	64
34	MP8	X	-32.78	69
35	MP9	X	-35.05	69

## Member Distributed Loads (BLC 4 : Ice Weight)

	Member Label	Direction	Start Magnitude[lb/ft.F.psf]	End Magnitude[lb/ft.F.psf]	Start Location[in...]	End Location[in...]
1	M1	Y	-15.54	-15.54	0	%100
2	M2	Y	-16.973	-16.973	0	%100
3	M3	Y	-14.673	-14.673	0	%100
4	M4	Y	-14.673	-14.673	0	%100
5	M5	Y	-20.31	-20.31	0	%100
6	M6	Y	-15.54	-15.54	0	%100
7	M7	Y	-16.973	-16.973	0	%100
8	M8	Y	-14.673	-14.673	0	%100
9	M9	Y	-14.673	-14.673	0	%100
10	M10	Y	-20.31	-20.31	0	%100
11	M11	Y	-15.54	-15.54	0	%100
12	M12	Y	-16.973	-16.973	0	%100
13	M13	Y	-14.673	-14.673	0	%100
14	M14	Y	-14.673	-14.673	0	%100
15	M15	Y	-20.31	-20.31	0	%100
16	M16	Y	-16.973	-16.973	0	%100
17	M17	Y	-16.973	-16.973	0	%100
18	M18	Y	-16.973	-16.973	0	%100
19	MP1	Y	-12.56	-12.56	0	%100
20	MP2	Y	-12.56	-12.56	0	%100
21	MP3	Y	-12.56	-12.56	0	%100
22	MP4	Y	-12.56	-12.56	0	%100
23	MP5	Y	-12.56	-12.56	0	%100
24	MP6	Y	-12.56	-12.56	0	%100
25	MP7	Y	-12.56	-12.56	0	%100
26	MP8	Y	-12.56	-12.56	0	%100
27	MP9	Y	-12.56	-12.56	0	%100

## Member Distributed Loads (BLC 8 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft.F.psf]	End Magnitude[lb/ft.F.psf]	Start Location[in...]	End Location[in...]
1	M2	Y	-18.202	-18.202	0	23.596
2	M3	Y	-8.033	-8.033	.498	27.295
3	M4	Y	-8.033	-8.033	.498	27.295
4	M7	Y	-18.202	-18.202	0	23.596
5	M8	Y	-8.033	-8.033	.498	27.295

### Member Distributed Loads (BLC 8 : BLC 1 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft.F,psf]	End Magnitude[lb/ft.F,psf]	Start Location[in...]	End Location[in...]
6	M9	Y	-8.033	-8.033	.498	27.295
7	M12	Y	-18.202	-18.202	0	23.596
8	M13	Y	-8.033	-8.033	.498	27.295
9	M14	Y	-8.033	-8.033	.498	27.295

### Member Distributed Loads (BLC 9 : BLC 2 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft.F,psf]	End Magnitude[lb/ft.F,psf]	Start Location[in...]	End Location[in...]
1	M1	Z	-3.36	-3.36	0	69.713
2	M2	Z	-7.76	-7.76	0	40
3	M3	Z	-4.478	-4.478	0	27.295
4	M4	Z	-2.345	-2.345	0	27.295
5	M5	Z	-7.28	-7.28	0	42
6	M6	Z	-6.72	-6.72	0	69.713
7	M8	Z	-2.134	-2.134	0	27.295
8	M9	Z	-2.134	-2.134	0	27.295
9	M10	Z	-14.56	-14.56	0	42
10	M11	Z	-3.36	-3.36	0	69.713
11	M12	Z	-7.76	-7.76	0	40
12	M13	Z	-2.345	-2.345	0	27.295
13	M14	Z	-4.478	-4.478	0	27.295
14	M15	Z	-7.28	-7.28	3.851	42
15	M16	Z	-8.96	-8.96	0	96
16	M17	Z	-4.48	-4.48	0	96
17	M18	Z	-4.48	-4.48	0	89.074
18	MP1	Z	-5.331	-5.331	0	72
19	MP2	Z	-5.331	-5.331	0	72
20	MP3	Z	-5.331	-5.331	0	72
21	MP4	Z	-5.331	-5.331	0	72
22	MP5	Z	-5.331	-5.331	0	72
23	MP6	Z	-5.331	-5.331	0	72
24	MP7	Z	-5.331	-5.331	0	72
25	MP8	Z	-5.331	-5.331	0	72

### Member Distributed Loads (BLC 10 : BLC 3 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft.F,psf]	End Magnitude[lb/ft.F,psf]	Start Location[in...]	End Location[in...]
1	M1	X	-5.82	-5.82	0	69.713
2	M2	X	-4.48	-4.48	0	40
3	M3	X	-.122	-.122	0	27.295
4	M4	X	-3.817	-3.817	0	27.295
5	M5	X	-12.609	-12.609	0	42
6	M7	X	-8.96	-8.96	0	40
7	M8	X	-3.939	-3.939	0	27.295
8	M9	X	-3.939	-3.939	0	27.295
9	M11	X	-5.82	-5.82	0	69.713
10	M12	X	-4.48	-4.48	0	40
11	M13	X	-3.817	-3.817	0	27.295
12	M14	X	-.122	-.122	0	27.295
13	M15	X	-12.609	-12.609	0	42
14	M17	X	-7.76	-7.76	0	96
15	M18	X	-7.76	-7.76	0	96
16	MP1	X	-5.331	-5.331	0	72
17	MP2	X	-5.331	-5.331	0	72
18	MP3	X	-5.331	-5.331	0	72
19	MP4	X	-5.331	-5.331	0	72
20	MP5	X	-5.331	-5.331	0	72
21	MP6	X	-5.331	-5.331	0	72

### Member Distributed Loads (BLC 10 : BLC 3 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in...	End Location[in...
22	MP7	X	-5.331	-5.331	0	72
23	MP8	X	-5.331	-5.331	0	72
24	MP9	X	-5.331	-5.331	0	72

### Member Distributed Loads (BLC 11 : BLC 5 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in...	End Location[in...
1	M1	Z	-2.153	-2.153	0	69.713
2	M2	Z	-4.971	-4.971	0	40
3	M3	Z	-2.869	-2.869	0	27.295
4	M4	Z	-1.502	-1.502	0	27.295
5	M5	Z	-4.664	-4.664	0	42
6	M6	Z	-4.305	-4.305	0	69.713
7	M8	Z	-1.367	-1.367	0	27.295
8	M9	Z	-1.367	-1.367	0	27.295
9	M10	Z	-9.327	-9.327	0	42
10	M11	Z	-2.153	-2.153	0	69.713
11	M12	Z	-4.971	-4.971	0	40
12	M13	Z	-1.502	-1.502	0	27.295
13	M14	Z	-2.869	-2.869	0	27.295
14	M15	Z	-4.664	-4.664	3.851	42
15	M16	Z	-5.74	-5.74	0	96
16	M17	Z	-2.87	-2.87	0	96
17	M18	Z	-2.87	-2.87	0	89.074
18	MP1	Z	-3.415	-3.415	0	72
19	MP2	Z	-3.415	-3.415	0	72
20	MP3	Z	-3.415	-3.415	0	72
21	MP4	Z	-3.415	-3.415	0	72
22	MP5	Z	-3.415	-3.415	0	72
23	MP6	Z	-3.415	-3.415	0	72
24	MP7	Z	-3.415	-3.415	0	72
25	MP8	Z	-3.415	-3.415	0	72

### Member Distributed Loads (BLC 12 : BLC 6 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in...	End Location[in...
1	M1	X	-3.728	-3.728	0	69.713
2	M2	X	-2.87	-2.87	0	40
3	M3	X	-.078	-.078	0	27.295
4	M4	X	-2.446	-2.446	0	27.295
5	M5	X	-8.078	-8.078	0	42
6	M7	X	-5.74	-5.74	0	40
7	M8	X	-2.524	-2.524	0	27.295
8	M9	X	-2.524	-2.524	0	27.295
9	M11	X	-3.728	-3.728	0	69.713
10	M12	X	-2.87	-2.87	0	40
11	M13	X	-2.446	-2.446	0	27.295
12	M14	X	-.078	-.078	0	27.295
13	M15	X	-8.078	-8.078	0	42
14	M17	X	-4.971	-4.971	0	96
15	M18	X	-4.971	-4.971	0	96
16	MP1	X	-3.415	-3.415	0	72
17	MP2	X	-3.415	-3.415	0	72
18	MP3	X	-3.415	-3.415	0	72
19	MP4	X	-3.415	-3.415	0	72
20	MP5	X	-3.415	-3.415	0	72
21	MP6	X	-3.415	-3.415	0	72
22	MP7	X	-3.415	-3.415	0	72

**Member Distributed Loads (BLC 12 : BLC 6 Transient Area Loads) (Continued)**

	Member Label	Direction	Start Magnitude[lb/ft.F.psf]	End Magnitude[lb/ft.F.psf]	Start Location[in...	End Location[in...
23	MP8	X	-3.415	-3.415	0	72
24	MP9	X	-3.415	-3.415	0	72

**Member Area Loads (BLC 1 : Self Weight)**

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N9	N10	N11	N12	Y	A-B	-10
2	N21	N22	N23	N24	Y	A-B	-10
3	N33	N34	N35	N36	Y	A-B	-10

**Member Area Loads (BLC 2 : Wind Load AZI 000)**

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N38A	N41	N42	N39	Z	Open Structure	-26.88

**Member Area Loads (BLC 3 : Wind Load AZI 090)**

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N39	N42	N43	N40	X	Open Structure	-26.88

**Member Area Loads (BLC 5 : Wind + Ice Load AZI 000)**

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N38A	N41	N42	N39	Z	Open Structure	-17.22

**Member Area Loads (BLC 6 : Wind + Ice Load AZI 090)**

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N39	N42	N43	N40	X	Open Structure	-17.22



SHEET INDEX

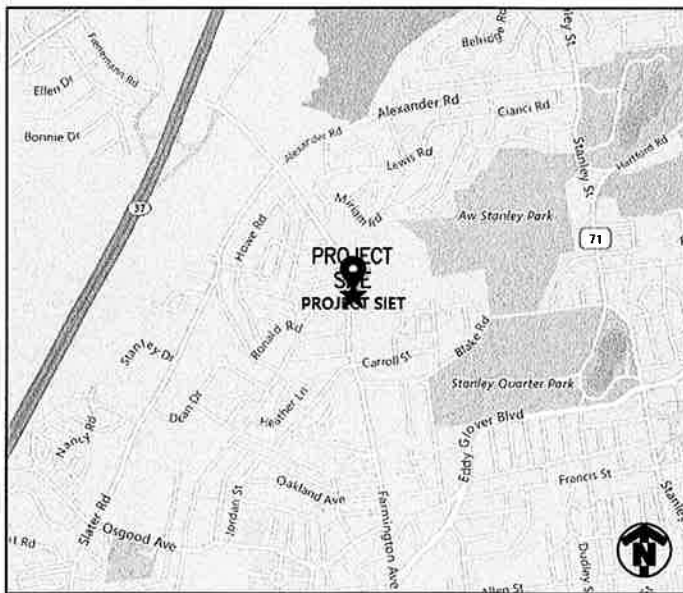
NO.	DESCRIPTION
T1	TITLE SHEET
C1	GENERAL NOTES
C2	OVERALL & ENLARGED SITE PLAN
C3	ELEVATION VIEW
C4	ANTENNA ORIENTATION PLAN
C5	EQUIPMENT DETAILS
C6	PLUMBING DIAGRAM
C7	GROUNDING DETAILS

DRIVING DIRECTIONS

FROM 550 COCHITUATE RD.:

GET ON I-90 WEST/MASSACHUSETTS TURNPIKE. HEAD SOUTHWEST. TURN LEFT TOWARD MCCALL CONN. TURN LEFT ONTO MCCALL CONN. CONTINUE ONTO BURR STREET. TURN LEFT ONTO COCHITUATE ROAD. USE THE RIGHT LANE TO TAKE THE RAMP TO I-90 EAST/MASSPIKE WEST/SPRINGFIELD/BOSTON. KEEP LEFT AT THE FORK, FOLLOW SIGNS FOR I-90 WEST/MASSACHUSETTS TURNPIKE/WORCESTER/SPRINGFIELD AND MERGE ONTO I-90 WEST/MASSACHUSETTS TURNPIKE. FOLLOW I-90 WEST/MASSACHUSETTS TURNPIKE AND I-84 TO FIENEMANN ROAD IN FARMINGTON. TAKE EXIT 37 FROM I-84. MERGE ONTO I-90 WEST/MASSACHUSETTS TURNPIKE. USE THE RIGHT 2 LANES TO TAKE EXIT 9 FOR I-84 TOWARD US-20/HARTFORD/NEW YORK CITY. CONTINUE I-84. KEEP RIGHT TO STAY ON I-84. TAKE EXIT TO STAY ON I-84. TAKE EXIT 37 FOR FIENEMANN ROAD. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR CENTRAL CONN STATE UNIVERSITY AND MERGE ONTO FIENEMANN ROAD. CONTINUE ON FIENEMANN ROAD TO YOUR DESTINATION IN NEW BRITAIN. MERGE ONTO FIENEMANN ROAD. CONTINUE ONTO FARMINGTON AVE. TURN LEFT.

LOCATION MAP



PROJECT  
**LTE 3C/4C/5C/RETROFIT**  
 SITE NAME  
**NEW BRITAIN FARMINGTON AVE.**

CELL SITE ID  
**CTL01028**  
 FA SITE NUMBER  
**10065751**  
 PAGE ID  
 MRCTB031093/MRCTB032077/  
 MRCTB031563/MRCTB032052  
 SITE ADDRESS  
 723 FARMINGTON AVENUE  
 NEW BRITAIN, CT 06503  
 STRUCTURE TYPE  
**MONOPOLE**

PROJECT TEAM

<p>PROJECT MANAGER</p>	<p>1033 Watervliet Shaker Rd                  Albany, NY 12205                  Office # (518) 690-0790                  Fax # (518) 690-0793</p> <p>ENGINEER</p>
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**SCOPE OF WORK (PER LTE RFDS, DATED: 6/13/2018, V2.00):**

- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED.
- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
- FACILITY HAS NO PLUMBING OR REFRIGERANTS.
- THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS.
- ALL NEW MATERIAL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. EQUIPMENT, ANTENNAS/RRU AND CABLES FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.

**TOWER SCOPE**

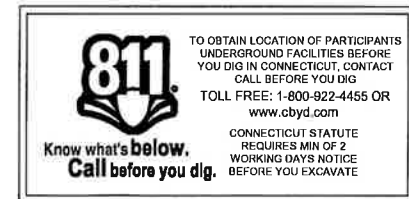
- REMOVE (3) PANEL ANTENNAS
- INSTALL (3) PANEL ANTENNAS
- REMOVE (3) RRUS-12 W/A2
- INSTALL (3) B25/B66A 8843
- INSTALL (3) RRUS-32
- INSTALL (1) DC6 SQUID W/(1) FIBER CABLE AND (2) DC CABLES

**GROUND SCOPE**

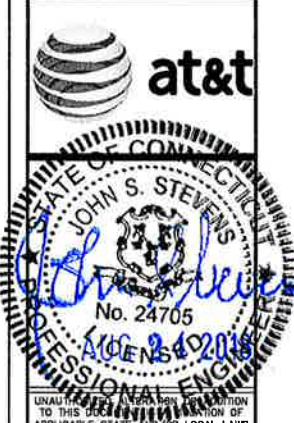
- SWAP DUS W/ 5216
- ADD 2ND XMU
- ADD RBS 6630
- INSTALL (3) 4478 B5
- INSTALL (1) DC12-48-60-RM

PROJECT SUMMARY

SITE NAME: NEW BRITAIN FARMINGTON AVE.  
 CELL SITE ID: CTL01028  
 FA SITE #: 10065751  
 SITE ADDRESS: 723 FARMINGTON AVENUE  
 NEW BRITAIN, CT 06503  
 COUNTY: HARTFORD  
 SITE COORDINATES:  
 LATITUDE: 41.6983250° N (NAD 83)  
 LONGITUDE: 72.7861931° W (NAD 83)  
 ELEVATION: ±315' (AMSL)  
 RAD CENTER: ±98' (AGL)  
 LANDLORD: SBA COMMUNICATIONS CORP.  
 8051 CONGRESS AVE.  
 BOCA RATON, FL 33487  
 SITE ID#: CT08558-S  
 APPLICANT: AT&T MOBILITY  
 550 COCHITUATE RD.  
 FRAMINGHAM, MA 01701  
 CLIENT REPRESENTATIVE: SMARTLINK, LLC  
 85 RANGEWAY RD. SUITE 102  
 NORTH BILLERICA, MA 01862  
 CONTACT: ED WEISSMAN  
 (917) 528-1857  
 ENGINEER: INFINIGY  
 1033 WATERVLIET SHAKER ROAD  
 ALBANY, NY 12205  
 CONTACT: ALEX WELLER  
 (518) 690-0790  
 BUILDING CODE: CT BUILDING CODE  
 UNIFORM BUILDING CODE  
 BUILDING OFFICIALS & CODE ADMINISTRATORS  
 UNIFORM MECHANICAL CODE  
 UNIFORM PLUMBING CODE  
 LOCAL BUILDING CODE  
 CITY/COUNTY ORDINANCES  
 ELECTRICAL CODE: NATIONAL ELECTRICAL CODE (LATEST EDITION)



**INFINIGY**  
 1033 Watervliet Shaker Rd  
 Albany, NY 12205  
 Office # (518) 690-0790  
 Fax # (518) 690-0793

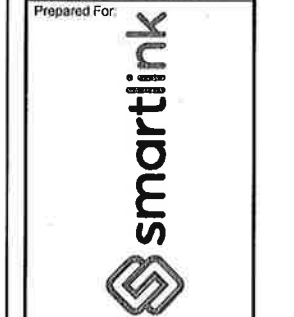


No.	Submital / Revision	App'd	Date
2	REVISED FOR PERMIT	BMW	08/23/18
1	ISSUED FOR PERMIT	BMW	07/25/18
0	ISSUED FOR REVIEW	BMW	07/10/18

Drawn: BMW Date: 07/10/18  
 Designed: ASW Date: 07/10/18  
 Checked: ADJ Date: 07/10/18

Project Number: 499-006

Project Title:  
**NEW BRITAIN FARMINGTON AVE.**  
**CTL01028**  
**FA# 10065751**  
 723 FARMINGTON AVENUE  
 NEW BRITAIN, CT 06503



Drawing Scale: AS NOTED  
 Date: 08/23/18  
**CD**

Drawing Title  
**TITLE PAGE**  
 Drawing Number  
**T1**



# GENERAL NOTES

## PART 1 – GENERAL REQUIREMENTS

- 1.1 THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
- A. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
  - B. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
  - C. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC").
  - D. AND NFPA 101 (LIFE SAFETY CODE).
  - E. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM).
  - F. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE).
- 1.2 DEFINITIONS:
- A: WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
  - B: COMPANY: AT&T CORPORATION
  - C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.
  - D: CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.
  - E: THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.
- 1.3 POINT OF CONTACT: COMMUNICATION BETWEEN THE COMPANY AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE COMPANY SITE DEVELOPMENT SPECIALIST OR OTHER PROJECT COORDINATOR APPOINTED TO MANAGE THE PROJECT FOR THE COMPANY.
- 1.4 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.
- 1.5 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES, AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.
- A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.
- 1.6 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.
- 1.7 NOTICE TO PROCEED:
- A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED.
  - B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE AT&T WITH AN OPERATIONAL WIRELESS FACILITY.

## PART 2 – EXECUTION

- 2.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE, POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.
- 2.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.
- 2.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HERewith, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.

- 2.4 COMPANY FURNISHED MATERIAL AND EQUIPMENT: ALL HANDLING, STORAGE AND INSTALLATION OF COMPANY FURNISHED MATERIAL AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
- A. CONTRACTOR SHALL PROCURE ALL OTHER REQUIRED WORK RELATED MATERIALS NOT PROVIDED BY AT&T TO SUCCESSFULLY CONSTRUCT A WIRELESS FACILITY.
- 2.5 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.
- 2.6 EXISTING CONDITIONS: NOTIFY THE COMPANY REPRESENTATIVE OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

## PART 3 – RECEIPT OF MATERIAL & EQUIPMENT

- 3.1 RECEIPT OF MATERIAL AND EQUIPMENT: CONTRACTOR IS RESPONSIBLE FOR AT&T PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:
- A. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
  - B. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
  - C. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
  - D. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO AT&T OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
  - E. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
  - F. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

## PART 4 – GENERAL REQUIREMENTS FOR CONSTRUCTION

- 4.1 CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.
- 4.2 EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.
- 4.3 CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
- A. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
  - B. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.
- 4.4 CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION.
- 4.5 CONDUCT TESTING AS REQUIRED HEREIN.

## PART 5 – TESTS AND INSPECTIONS

- 5.1 TESTS AND INSPECTIONS:
- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
  - B. CONTRACTOR SHALL COORDINATE TEST AND INSPECTION SCHEDULES WITH COMPANY'S REPRESENTATIVE WHO MUST BE ON SITE TO WITNESS SUCH TESTS AND INSPECTIONS.
  - C. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
  - D. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
  - E. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.

- F. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
- G. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

## PART 6 – TRENCHING AND BACKFILLING

- 6.1 TRENCHING AND BACKFILLING: THE CONTRACTOR SHALL PERFORM ALL EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED, TO THE DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS OTHERWISE SPECIFIED.
- A. PROTECTION OF EXISTING UTILITIES: THE CONTRACTOR SHALL CHECK WITH THE LOCAL UTILITIES AND THE RESPECTIVE UTILITY LOCATOR COMPANIES PRIOR TO STARTING EXCAVATION OPERATIONS IN EACH RESPECTIVE AREA TO ASCERTAIN THE LOCATIONS OF KNOWN UTILITY LINES. THE LOCATIONS, NUMBER AND TYPES OF EXISTING UTILITY LINES DETAILED ON THE CONSTRUCTION DRAWINGS ARE APPROXIMATE AND DO NOT REPRESENT EXACT INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL LINES DAMAGED DURING EXCAVATION AND ALL ASSOCIATED OPERATIONS. ALL UTILITY LINES UNCOVERED DURING THE EXCAVATION OPERATIONS, SHALL BE PROTECTED FROM DAMAGE DURING EXCAVATION AND ASSOCIATED OPERATIONS. ALL REPAIRS SHALL BE APPROVED BY THE UTILITY COMPANY.
  - B. HAND DIGGING: UNLESS APPROVED IN WRITING OTHERWISE, ALL DIGGING WITHIN AN EXISTING CELL SITE COMPOUND IS TO BE DONE BY HAND.
  - C. DURING EXCAVATION, MATERIAL SUITABLE FOR BACKFILLING SHALL BE STOCKPILED IN AN ORDERLY MANNER A SUFFICIENT DISTANCE FROM THE BANKS OF THE TRENCH TO AVOID OVERLOADING AND TO PREVENT SLIDES OR CAVE-INS. ALL EXCAVATED MATERIALS NOT REQUIRED OR SUITABLE FOR BACKFILL SHALL BE REMOVED AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
  - D. GRADING SHALL BE DONE AS MAY BE NECESSARY TO PREVENT SURFACE WATER FROM FLOWING INTO TRENCHES OR OTHER EXCAVATIONS, AND ANY WATER ACCUMULATING THEREIN SHALL BE REMOVED BY PUMPING OR BY OTHER APPROVED METHOD.
  - E. SHEETING AND SHORING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF PERSONNEL. UNLESS OTHERWISE INDICATED, EXCAVATION SHALL BE BY OPEN CUT, EXCEPT THAT SHORT SECTIONS OF A TRENCH MAY BE TUNNELED IF, THE CONDUIT CAN BE SAFELY AND PROPERLY INSTALLED AND BACKFILL CAN BE PROPERLY TAMPED IN SUCH TUNNEL SECTIONS. EARTH EXCAVATION SHALL COMPRISE ALL MATERIALS AND SHALL INCLUDE CLAY, SILT, SAND, MUCK, GRAVEL, HARDPAN, LOOSE SHALE, AND LOOSE STONE.
  - F. TRENCHES SHALL BE OF NECESSARY WIDTH FOR THE PROPER LAYING OF THE CONDUIT OR CABLE, AND THE BANKS SHALL BE AS NEARLY VERTICAL AS PRACTICABLE. THE BOTTOM OF THE TRENCHES SHALL BE ACCURATELY GRADED TO PROVIDE UNIFORM BEARING AND SUPPORT FOR EACH SECTION OF THE CONDUIT OR CABLE ON UNDISTURBED SOIL AT EVERY POINT ALONG ITS ENTIRE LENGTH. EXCEPT WHERE ROCK IS ENCOUNTERED, CARE SHALL BE TAKEN NOT TO EXCAVATE BELOW THE DEPTHS INDICATED. WHERE ROCK EXCAVATIONS ARE NECESSARY, THE ROCK SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF 6 INCHES BELOW THE TRENCH DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR SPECIFIED. OVER DEPTHS IN THE ROCK EXCAVATION AND UNAUTHORIZED OVER DEPTHS SHALL BE THOROUGHLY BACK FILLED AND TAMPED TO THE APPROPRIATE GRADE. WHENEVER WET OR OTHERWISE UNSTABLE SOIL THAT IS INCAPABLE OF PROPERLY SUPPORTING THE CONDUIT OR CABLE IS ENCOUNTERED IN THE BOTTOM OF THE TRENCH, SUCH SOLID SHALL BE REMOVED TO A MINIMUM OVER DEPTH OF 6 INCHES AND THE TRENCH BACKFILLED TO THE PROPER GRADE WITH EARTH OF OTHER SUITABLE MATERIAL, AS HEREINAFTER SPECIFIED.
  - G. BACKFILLING OF TRENCHES. TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL SPECIFIED TESTS HAVE BEEN PERFORMED AND ACCEPTED. WHERE COMPACTED BACKFILL IS NOT INDICATED THE TRENCHES SHALL BE CAREFULLY BACKFILLED WITH SELECT MATERIAL SUCH AS EXCAVATED SOILS THAT ARE FREE OF ROOTS, SOD, RUBBISH OR STONES, DEPOSITED IN 6 INCH LAYERS AND THOROUGHLY AND CAREFULLY RAMMED UNTIL THE CONDUIT OR CABLE HAS A COVER OF NOT LESS THAN 1 FOOT. THE REMAINDER OF THE BACKFILL MATERIAL SHALL BE GRANULAR IN NATURE AND SHALL NOT CONTAIN ROOTS, SOD, RUBBING, OR STONES OF 2-1/2 INCH MAXIMUM DIMENSION. BACKFILL SHALL BE CAREFULLY PLACED IN THE TRENCH AND IN 1 FOOT LAYERS AND EACH LAYER TAMPED. SETTLING THE BACKFILL WITH WATER WILL BE PERMITTED. THE SURFACE SHALL BE GRADED TO A REASONABLE UNIFORMITY AND THE MOUNDING OVER THE TRENCHES LEFT IN A UNIFORM AND NEAT CONDITION.

SYMBOL	DESCRIPTION
	CIRCUIT BREAKER
	NON-FUSIBLE DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
	SURFACE MOUNTED PANEL BOARD
	TRANSFORMER
	KILOWATT HOUR METER
	JUNCTION BOX
	PULL BOX TO NEC/TELCO STANDARDS
	UNDERGROUND UTILITIES
	EXOTHERMIC WELD CONNECTION
	MECHANICAL CONNECTION
	GROUND ROD
	GROUND ROD WITH INSPECTION SLEEVE
	GROUND BAR
	120AC DUPLEX RECEPTACLE
	GROUND CONDUCTOR
	DC POWER AND FIBER OPTIC TRUNK CABLES
	DC POWER CABLES

REPRESENTS DETAIL NUMBER  
 REF. DRAWING NUMBER

## ABBREVIATIONS

CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
MIGB	MASTER ISOLATED GROUND BAR
SST	SELF SUPPORTING TOWER
GPS	GLOBAL POSITIONING SYSTEM
TYP.	TYPICAL
DWG	DRAWING
BCW	BARE COPPER WIRE
BFG	BELOW FINISH GRADE
PVC	POLYVINYL CHLORIDE
CAB	CABINET
C	CONDUIT
SS	STAINLESS STEEL
G	GROUND
AWG	AMERICAN WIRE GAUGE
RGS	RIGID GALVANIZED STEEL
AHJ	AUTHORITY HAVING JURISDICTION
TLNA	TOWER TOP LOW NOISE AMPLIFIER
UNO	UNLESS NOTED OTHERWISE
EMT	ELECTRICAL METALLIC TUBING
AGL	ABOVE GROUND LEVEL

**INFINIGY**  
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 Fax # (518) 860-0793



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Designed: ASW		Date: 07/10/18	
Checked: AD		Date: 07/10/18	

Project Number:  
499-006

Project Title:  
**NEW BRITAIN FARMINGTON AVE.**  
**CTL01028**  
**FA# 10065751**  
 723 FARMINGTON AVENUE  
 NEW BRITAIN, CT 06503

Prepared For:



Drawing Scale:  
AS NOTED

Date:  
08/23/18

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Drawing Title:  
**GENERAL NOTES**

Drawing Number:  
**C1**





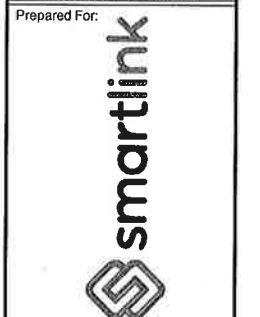
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Drawn: BWW Date: 07/10/18  
 Designed: ASW Date: 07/19/18  
 Checked: AJP Date: 07/19/18

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 499-006

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**NEW BRITAIN FARMINGTON AVE.**  
 CTL01028  
 FA# 10065751  
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 NEW BRITAIN, CT 06503



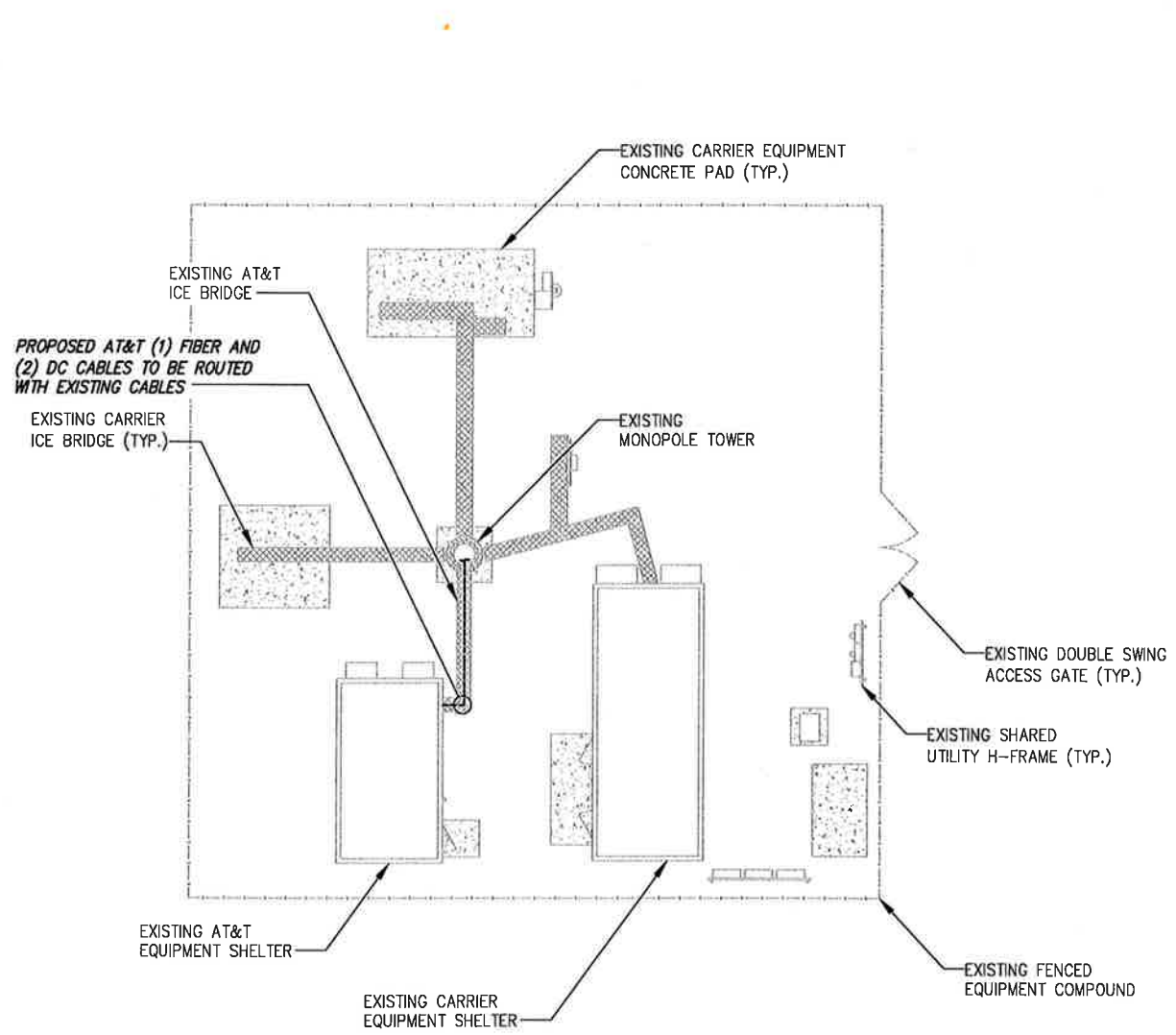
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Date:  
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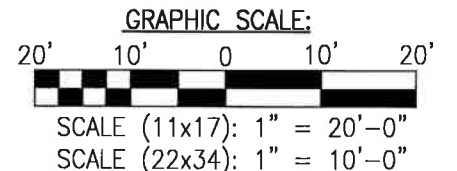
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**OVERALL & ENLARGED SITE PLAN**

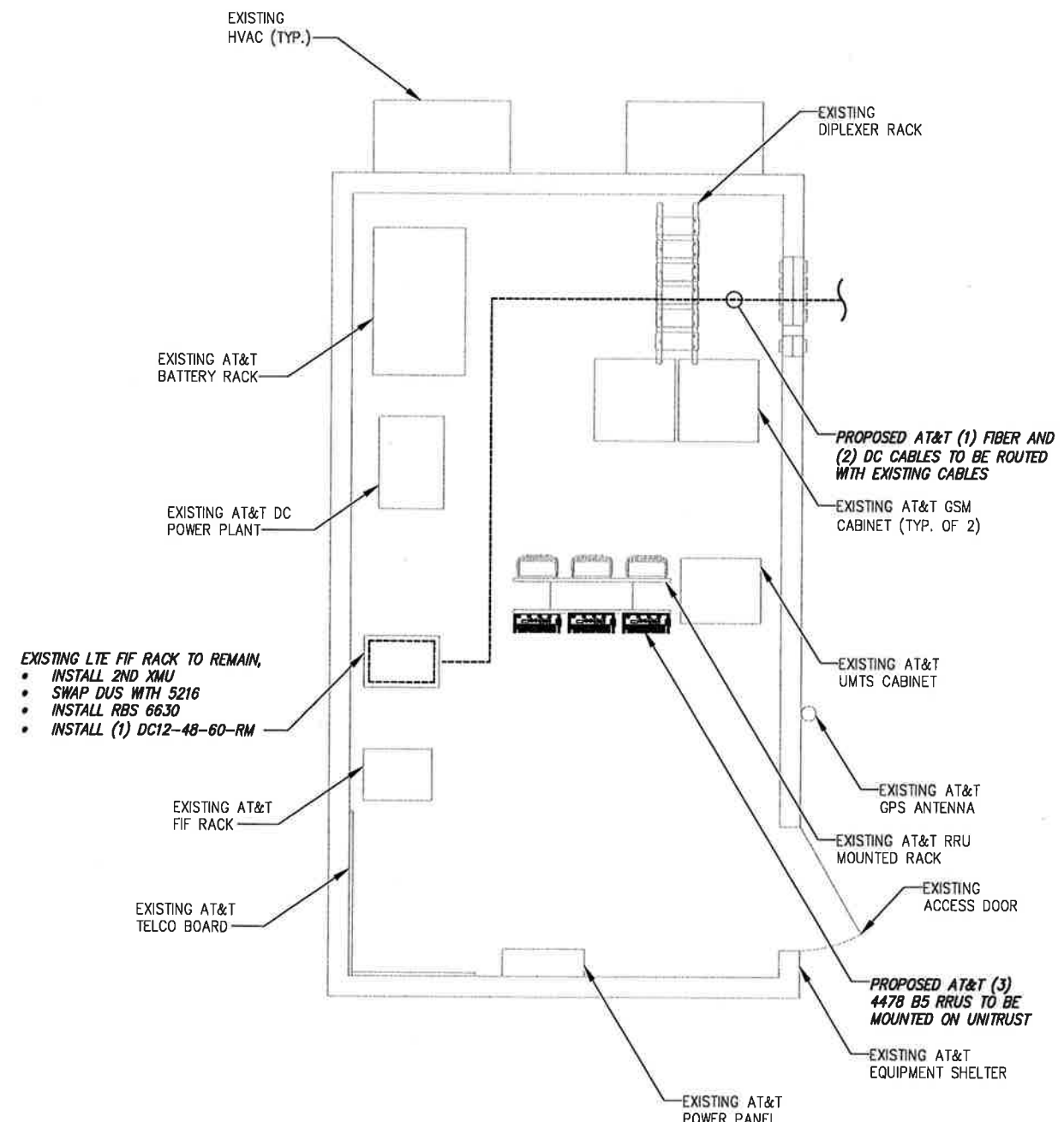
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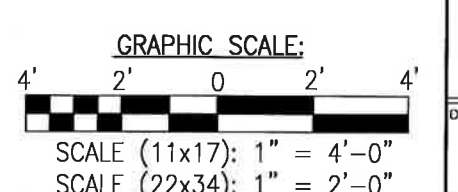
**1 OVERALL COMPOUND PLAN**  
 SCALE: AS NOTED



BASEMAPPING PREPARED FROM A SITE WALK PERFORMED BY INFINIGY ENGINEERING ON 05/22/18 AND PROVIDED INFORMATION, AND DOES NOT REPRESENT AN ACTUAL FIELD SURVEY.



**2 ENLARGED EQUIPMENT PLAN**  
 SCALE: AS NOTED

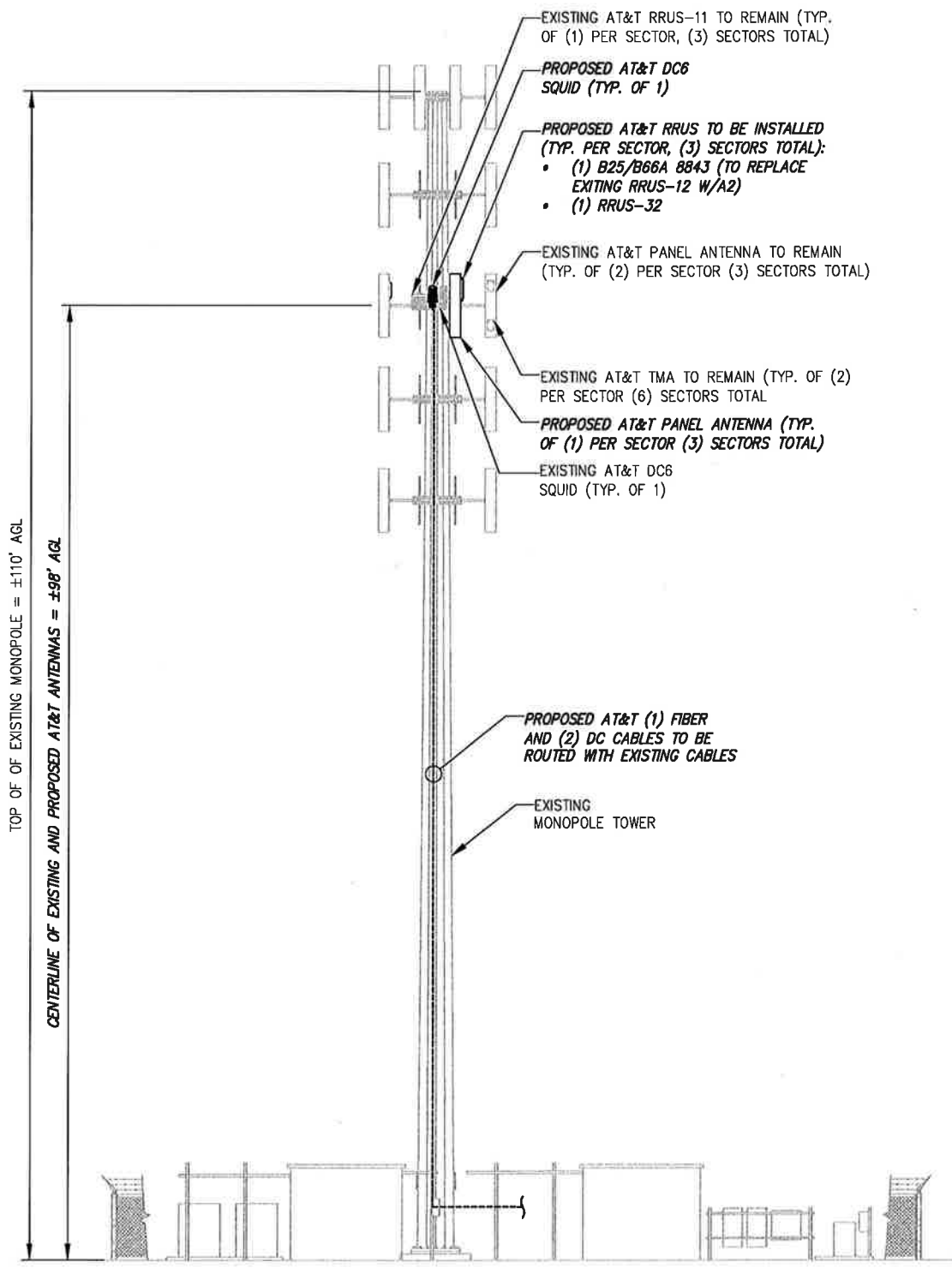


**NOTE:**

- INFINIGY ENGINEERING HAS NOT EVALUATED THE TOWER LOADING FOR THIS SITE, AND ASSUMES NO RESPONSIBILITY REGARDING ITS STRUCTURAL INTEGRITY REGARDING ITS EXISTING OR PROPOSED LOADING. FINAL INSTALLATION TO COMPLY WITH RESULTS OF PASSING STRUCTURAL ANALYSIS.
- FOR ADDITIONAL INFORMATION PERTAINING TO THE ANTENNA MOUNT, SEE MOUNT ANALYSIS, COMPLETED BY INFINIGY, DATED 07/17/18.

**SEPARATION NOTE:**

- 3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNA
- 6 FEET MINIMUM SEPARATION BETWEEN 700BC & 700 DE



FINAL ANTENNA CONFIGURATION & CABLE SCHEDULE BASED ON LTE RFDS DATED 6/13/18, V 2.00

SECTOR	ANTENNA POSITION	ANTENNA STATUS & TECHNOLOGY	ANTENNA MANF/MODEL	TMA/DIPLEXER	RRUS	AZIMUTH	ANTENNA HEIGHT	CABLE FEEDER		RAYCAP UNIT
								TYPE	LENGTH	
ALPHA	A-1	(E) UMTS 850/1900	POWERWAVE 7770	(2) (E) LGP21401	--	30°	±98'	(2) (E) 1-5/8" COAX CABLES	±120'	(1) (E) DC6 'SQUID' (1) (P) DC6 'SQUID'
	A-2	(P) LTE 850/1900 /AWS/5G	QUINTEL QS66512-2	(2) (P) DBCT108F1V92-1	(1) (P) 4478 B5 (GROUND) (1) (P) B25/B66A 8843	30°	±98'	(2) (E) 1-5/8" COAX CABLES (1) (P) FIBER CABLE (2) (P) DC CABLES	±120'	
	A-3	--	--	--	--	--	--	--	--	
	A-4	(E) LTE 700/WCS	CCI OPA-65R-LCUU-H6	--	--	(1) (E) RRUS-11 (1) (P) RRUS-32	30°	±98'	(1) (E) FIBER CABLE (2) (E) DC CABLES	
BETA	B-1	(E) UMTS 850/1900	POWERWAVE 7770	(2) (E) LGP21401	--	160°	±98'	(2) (E) 1-5/8" COAX CABLES	±120'	
	B-2	(P) LTE 850/1900 /AWS/5G	QUINTEL QS66512-2	(2) (P) DBCT108F1V92-1	(1) (P) 4478 B5 (GROUND) (1) (P) B25/B66A 8843	160°	±98'	(2) (E) 1-5/8" COAX CABLES SEE A-2 FOR FIBER/DC INFORMATION	±120'	
	B-3	--	--	--	--	--	--	--	--	
	B-4	(E) LTE 700/WCS	CCI OPA-65R-LCUU-H6	--	--	(1) (E) RRUS-11 (1) (P) RRUS-32	160°	±98'	SEE A-2 FOR FIBER/DC INFORMATION	
GAMMA	G-1	(E) UMTS 850/1900	POWERWAVE 7770	(2) (E) LGP21401	--	270°	±98'	(2) (E) 1-5/8" COAX CABLES	±120'	
	G-2	(P) LTE 850/1900 /AWS/5G	QUINTEL QS66512-2	(2) (P) DBCT108F1V92-1	(1) (P) 4478 B5 (GROUND) (1) (P) B25/B66A 8843	270°	±98'	(2) (E) 1-5/8" COAX CABLES SEE A-2 FOR FIBER/DC INFORMATION	±120'	
	G-3	--	--	--	--	--	--	--	--	
	G-4	(E) LTE 700/WCS	CCI OPA-65R-LCUU-H6	--	--	(1) (E) RRUS-11 (1) (P) RRUS-32	270°	±98'	SEE A-2 FOR FIBER/DC INFORMATION	

1 ELEVATION VIEW  
NOT TO SCALE

2 AT&T ANTENNA SCHEDULE  
NOT TO SCALE

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Fax # (518) 660-0750

**at&t**

STATE OF CONNECTICUT  
JOHN S. STEVENS  
No. 24705  
Professional Engineer  
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Drawn: BMM Date: 07/10/18  
Designed: ASW Date: 07/10/18  
Checked: A.D. Date: 07/10/18  
Project Number: 499-006  
Project Title: NEW BRITAIN FARMINGTON AVE. CTL01028 FA# 10065751 723 FARMINGTON AVENUE NEW BRITAIN, CT 06503  
Prepared For: smartlink

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Date: 08/23/18  
Drawing Title: ELEVATION VIEW  
Drawing Number: G3

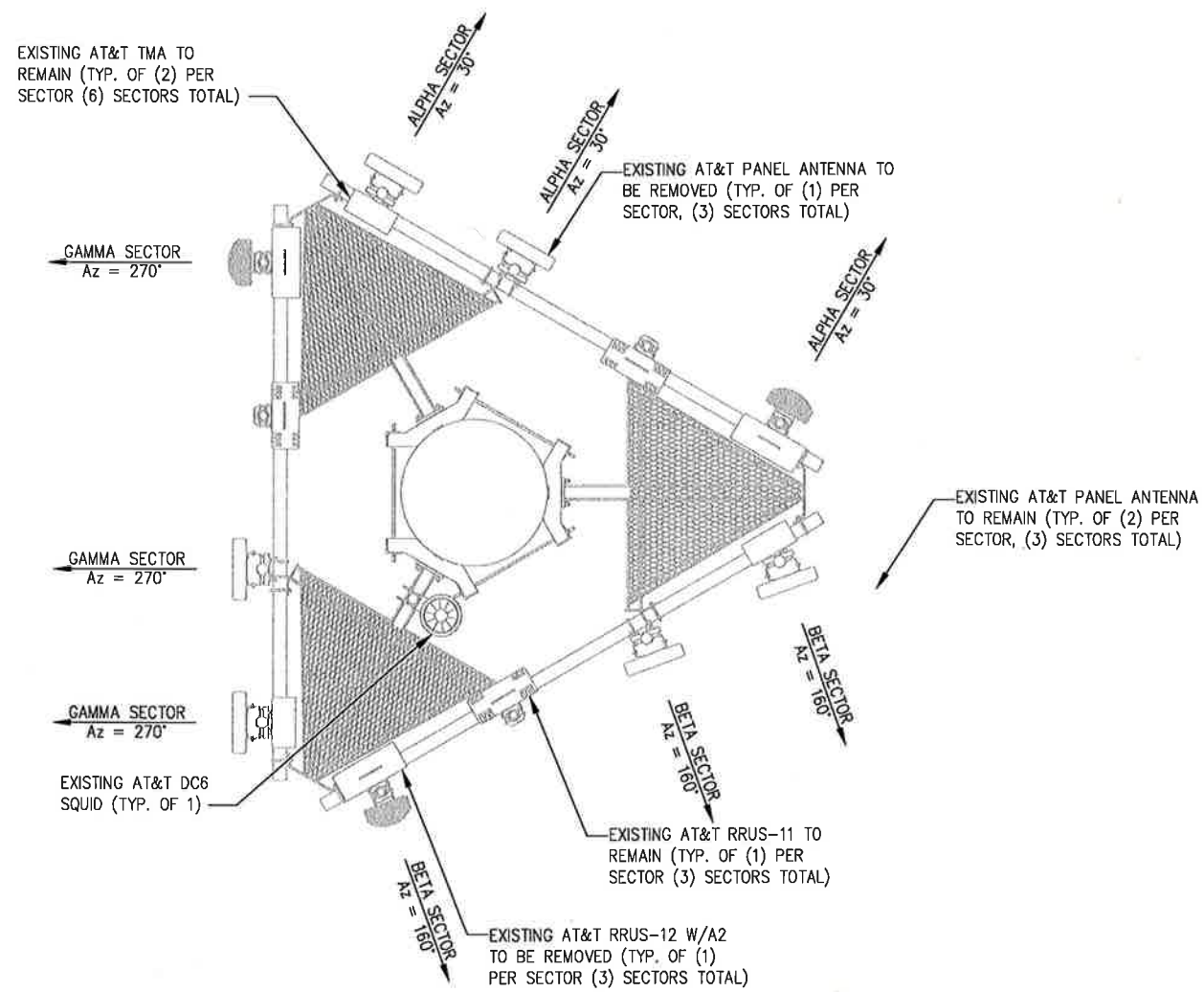


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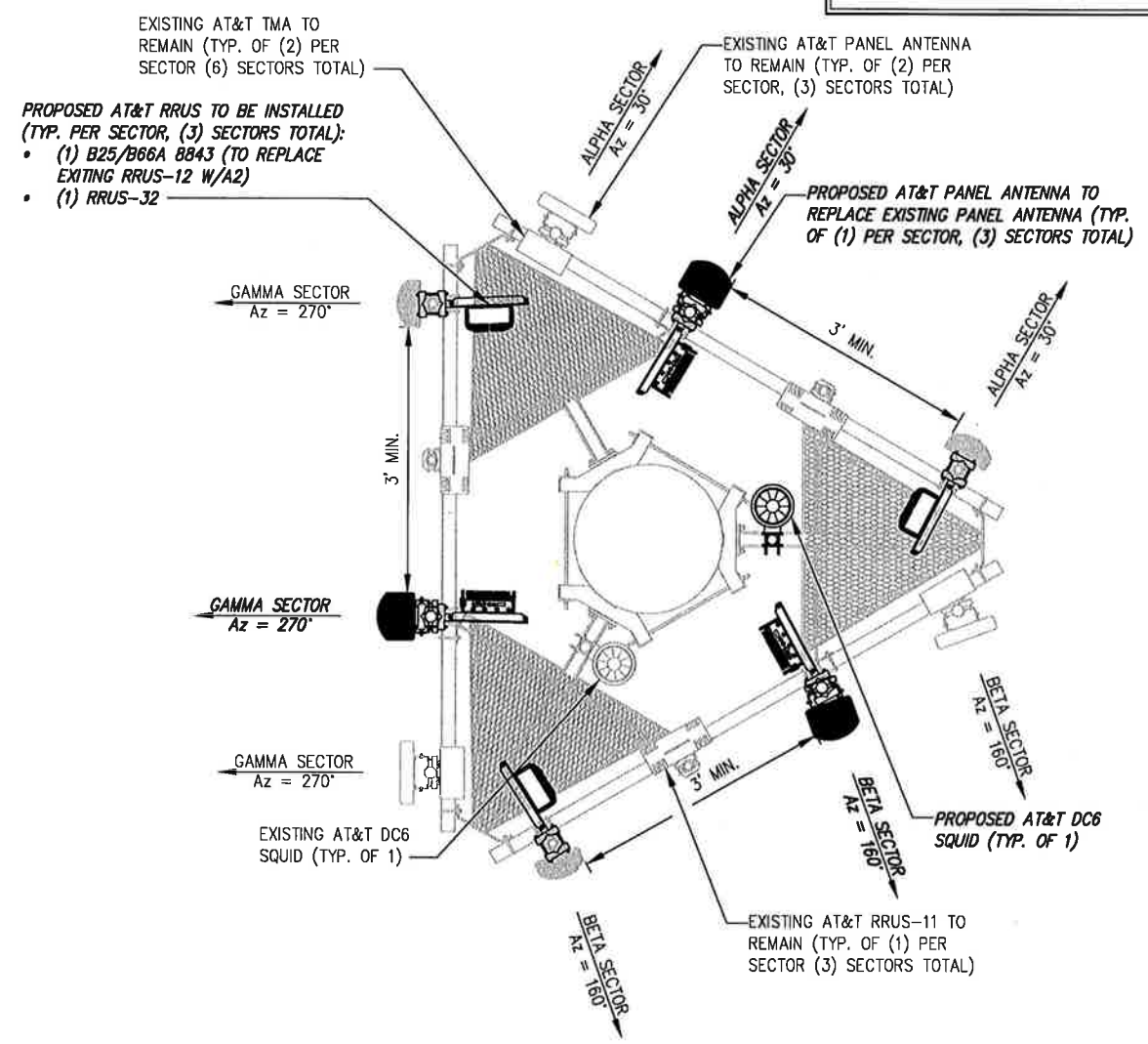
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- FOR ADDITIONAL INFORMATION PERTAINING TO THE ANTENNA MOUNT, SEE MOUNT ANALYSIS, COMPLETED BY INFINIGY, DATED 07/17/18.

**SEPARATION NOTE:**

- 3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNA
- 6 FEET MINIMUM SEPARATION BETWEEN 700BC & 700 DE



**1 ANTENNA ORIENTATION PLAN (EXISTING)**  
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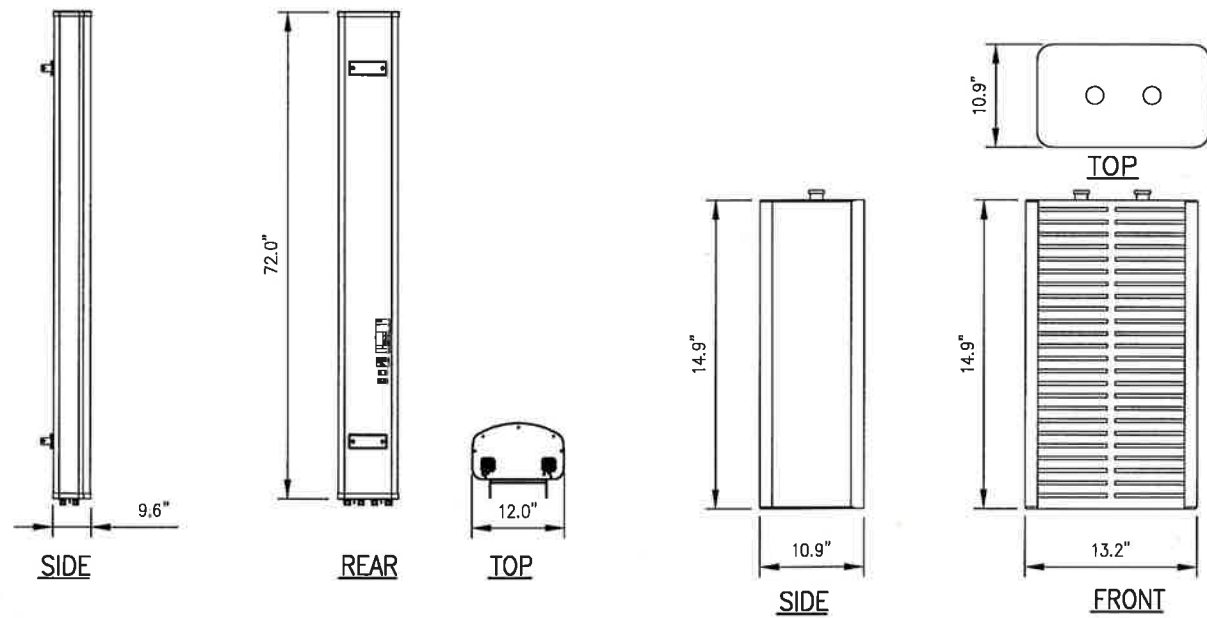
**2 ANTENNA ORIENTATION PLAN (PROPOSED)**  
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Albany, NY 12205  
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**at&t**

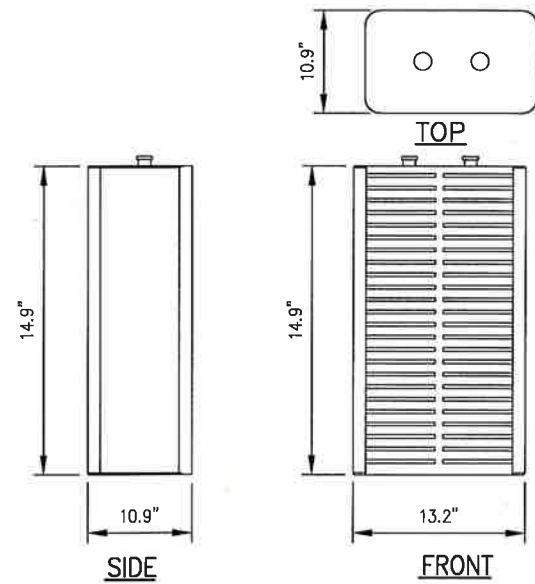
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JOHN S. STEVENS  
No. 24705  
LICENSED PROFESSIONAL ENGINEER  
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Checked:	AJD	Date:	07/25/18
Project Number: 499-006			
Project Title: NEW BRITAIN FARMINGTON AVE. CTL01028 FA# 10065751 723 FARMINGTON AVENUE NEW BRITAIN, CT 06503			
Prepared For: <b>smartlink</b>			
Drawing Scale: AS NOTED	<b>CD</b>		
Date: 08/23/18			
Drawing Title: <b>ANTENNA ORIENTATION PLAN</b>			
Drawing Number: <b>C4</b>			



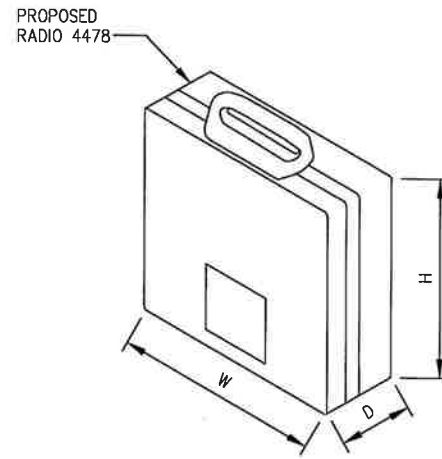
<b>QUINTEL MODEL NO.:</b>	<b>QS66512-2</b>
RADOME MATERIAL:	FIBERGLASS
RADOME COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD:	(72.0"x12.0"x9.6")
WEIGHT, W/	111.0 LBS
PRE-MOUNTED BRACKETS:	7-16 DIN FEMALE
CONNECTOR:	

**1** ANTENNA DETAIL  
NOT TO SCALE



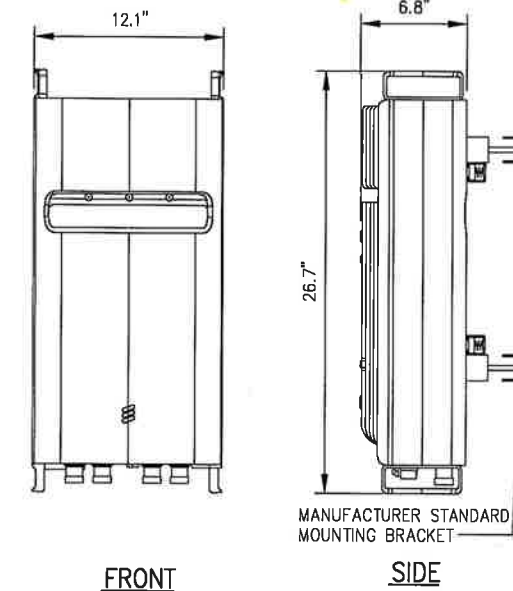
<b>RADIO B25/B66A 8843 SPECIFICATIONS</b>
• HxWxD, (INCHES) : 14.9"x13.2"x10.9"
• WEIGHT (LBS) : 72.0
• COLOR : GRAY

**2** ERICSSON RADIO B25/B66A 8843 DETAIL  
NOT TO SCALE



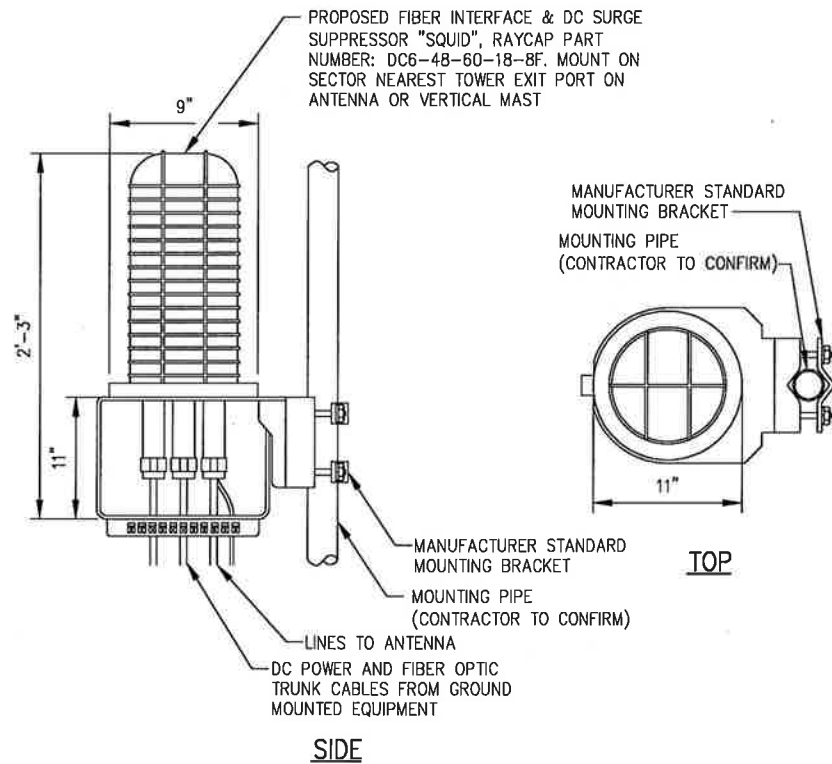
<b>RADIO 4478 SPECIFICATIONS</b>
• HxWxD, (INCHES) : 18.1"x13.4"x8.26"
• WEIGHT (LBS) : 59.5
• COLOR : GRAY

**3** ERICSSON RADIO 4478 DETAIL  
NOT TO SCALE

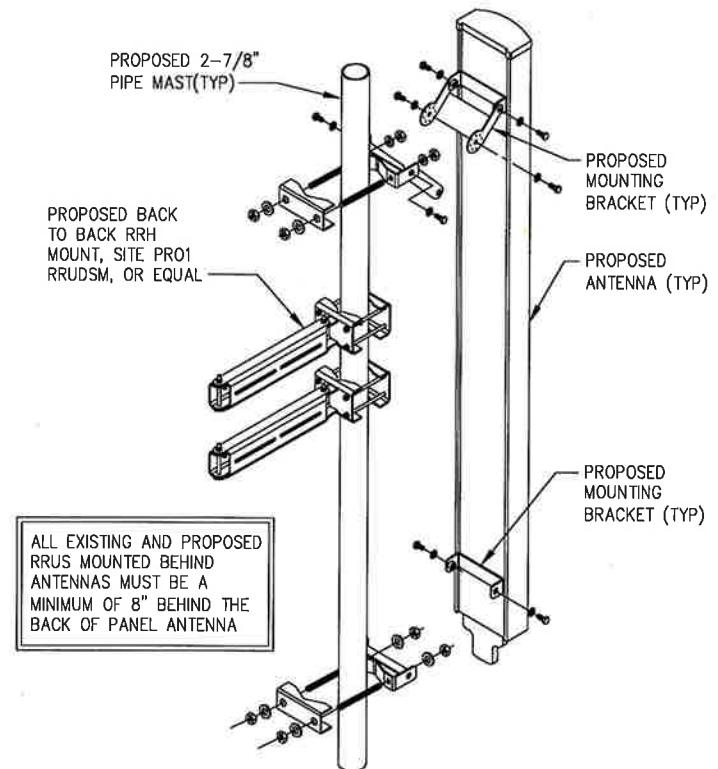


<b>RRUS-32 SPECIFICATIONS</b>
• HxWxD, (INCHES) : 26.7"x12.1"x6.8"
• WEIGHT (LBS) : 50.8
• COLOR : GRAY

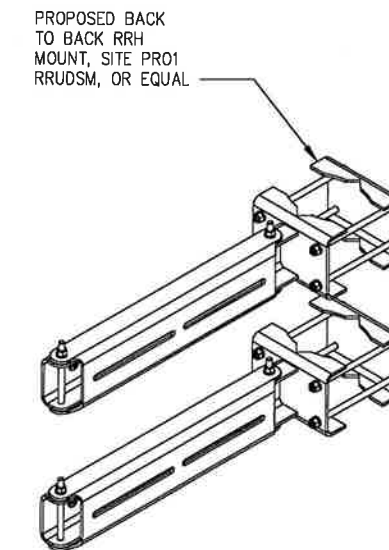
**4** ERICSSON RRUS-32 DETAIL  
NOT TO SCALE



**5** SQUID DETAIL  
NOT TO SCALE



**6** MOUNTING DETAIL  
NOT TO SCALE



**5** BACK TO BACK RRH MOUNT DETAIL  
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**INFINIGY**

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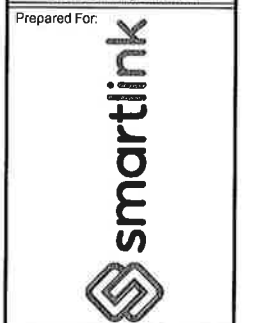
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Drawn: BWM Date: 07/10/18  
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Project Number: 499-006

Project Title:  
**NEW BRITAIN FARMINGTON AVE.**  
**CTL01028**  
**FA# 10065751**  
723 FARMINGTON AVENUE  
NEW BRITAIN, CT 06503

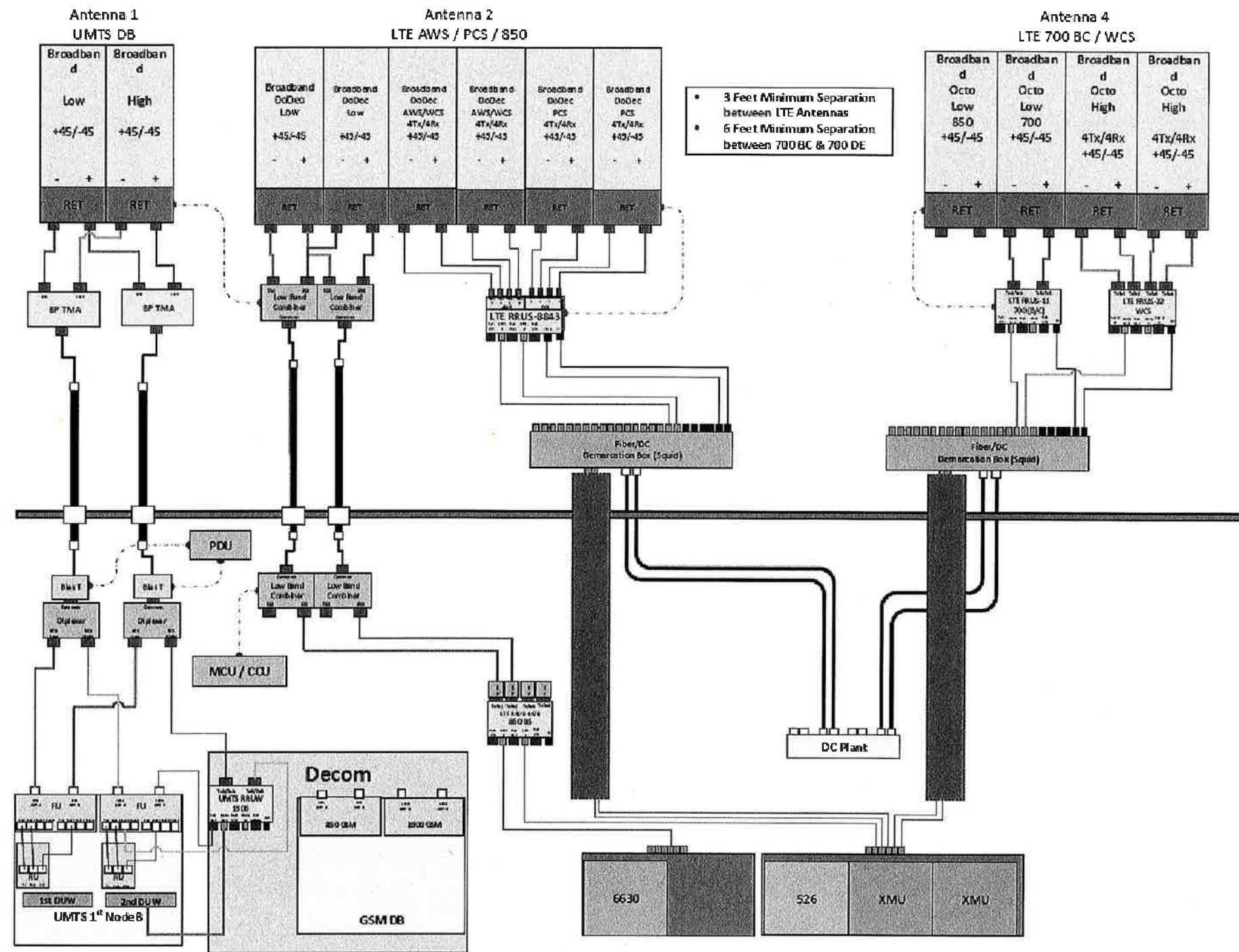


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Date: 08/23/18

Drawing Title: **EQUIPMENT DETAILS**

Drawing Number: **C5**





- 3 Feet Minimum Separation between LTE Antennas
- 6 Feet Minimum Separation between 700 BC & 700 DE

ALPHA/BETA/GAMMA

1 PLUMBING DIAGRAM (FINAL CONFIGURATION)  
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Albany, NY 12205  
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Fax # (518) 690-0793



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Project Number: 499-006  
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723 FARMINGTON AVENUE NEW BRITAIN, CT 06563



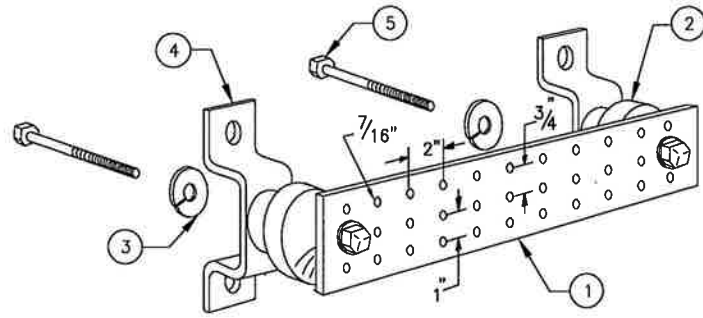
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Date: 09/23/18  
**CD**

Drawing Title: **PLUMBING DIAGRAM**

Drawing Number: **C6**

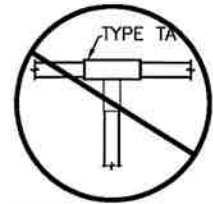
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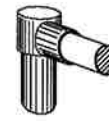


**LEGEND**

- 1 - SOLID TINNED COPPER GROUND BAR, 1/4"x 4"x 20" MIN., NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
- 2 - INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4
- 3 - 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8
- 4 - WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056
- 5 - 5/8-11 X 1" H.H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1
- 6 - GROUND BAR SHALL BE SIZED TO ACCOMMODATE ALL GROUNDING CONNECTIONS REQUIRED PLUS PROVIDE 50% SPARE CAPACITY
- 7 - GROUND BARS SHALL NEITHER BE FIELD FABRICATED NOR NEW HOLES DRILLED
- 8 - GROUND LUGS SHALL MATCH THE HOLE SPACING ON THE BAR
- 9 - HARDWARE DIAMETER SHALL BE MINIMUM 3/8"



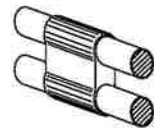
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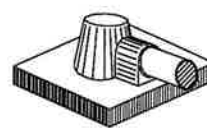
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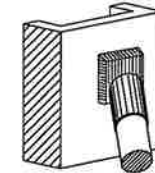
TYPE SV



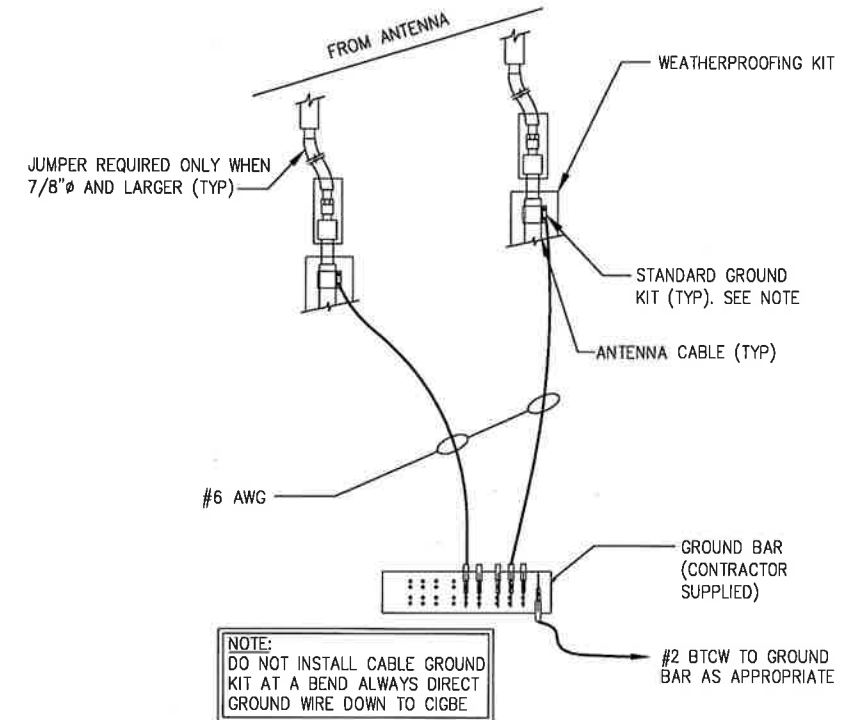
TYPE PH



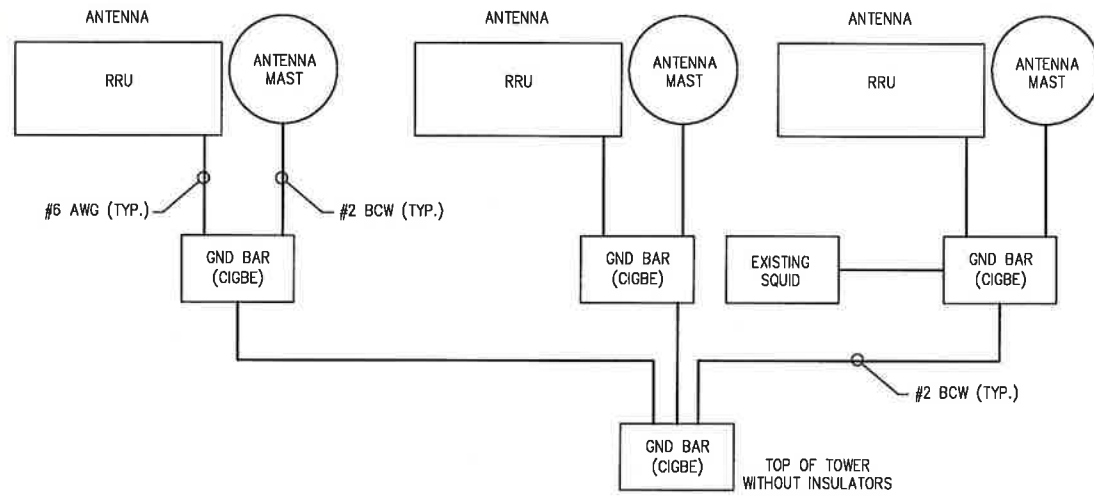
TYPE KA



TYPE VS



NOTE:  
DO NOT INSTALL CABLE GROUND KIT AT A BEND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE



**INFINIGY**  
1033 Watervliet Shaker Rd  
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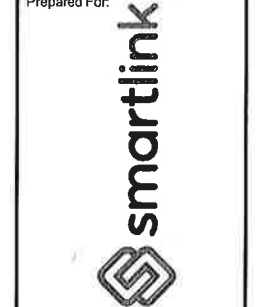


No.	Submittal / Revision	App'd	Date
2	REVISED FOR PERMIT	BWM	08/23/18
1	ISSUED FOR PERMIT	BWM	07/25/18
0	ISSUED FOR REVIEW	BWM	07/10/18

Drawn: BWM Date: 07/19/18  
Designed: ASW Date: 07/19/18  
Checked: AD Date: 07/19/18

Project Number: 489-006

Project Title:  
**NEW BRITAIN FARMINGTON AVE.**  
CTL01028  
FA# 10065751  
723 FARMINGTON AVENUE  
NEW BRITAIN, CT 06503



Drawing Scale: AS NOTED  
Date: 08/23/18

**CD**

Drawing Title:  
**GROUNDING DETAILS**

Drawing Number:  
**C7**