



Mike Gentile, Site Acquisition
c/o New Cingular Wireless, PCS LLC (AT&T)
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767
Mobile: (508) 844-9813
mgentile@clinellc.com

April 9, 2018

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

**RE: Notice of Exempt Modification // Site Number: CT2313
3 Edmond Road, Newtown, CT 06470 (Site Name: NEWTOWN EDMOND ROAD)
N 41.42083333 // W -73.29847222**

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC (“AT&T”) currently maintains nine (9) antennas at the 120-foot level of the existing 140-foot monopole tower at 3 Edmond Road, Newtown, CT 06470. The tower is owned by SBA Communications, LLC. The property is also owned by SBA Communications, LLC. AT&T now intends to replace six (6) antennas at the same 120-foot height for its LTE upgrade. These antennas would be installed at the 120-foot level of the tower. AT&T also intends to install six (6) remote radio units at the 120-foot level of the tower, as well as six (6) diplexers, one (1) raycap, and two (2) DC cables.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Daniel C Rosenthal, First Selectman for the Town of Newtown, CT. Please note that copies of this filings are also being sent to SBA Communications, LLC, the tower owner, and SBA Commnunications, LLC, the property owner. A copy has also been sent to the building/zoning department for the Town of Newtown, CT.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

Please note, the number of antennas will not increase during this modification.

Attached to accommodate this filing are construction drawings dated January 1, 2018 by Hudson Design Engineering, a structural analysis dated March 1, 2018 by Tower Engineering Professionals and an Emissions Analysis Report dated February 26, 2018 by Centerline Communications, LLC.

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading as shown in the attached structural analysis by Tower Engineering Solutions, dated March 1, 2018

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

Sincerely,

Mike Gentile, Site Acquisition
c/o New Cingular Wireless, PCS LLC (AT&T)
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767
Mobile: (508) 844-9813
mgentile@centerlincommunications.com

Attachments

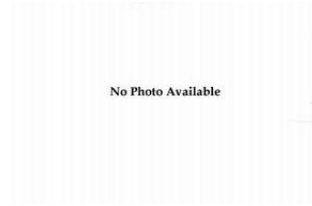
cc: Daniel Rosenthal, First Selectman, Town of Newtown - as elected official
Building / Planning and Development, Town of Newtown CT – as permitting jurisdiction
Carla Shorter, SBA Communications, LLC - as tower owner
Carla Shorter, SBA Communications, LLC - as property owner



Property Information

Property Location	3 EDMOND ROAD
Owner	SBA INFRASTRUCTURE LLC
Co-Owner	ATTN: TAX DEPT-CT13060-A
Mailing Address	8051 CONGRESS AVENUE BOCA RATON FL 33487
Land Use	4310 CELL SITE
Land Class	I
Zoning Code	M-5
Census Tract	
Sub Lot	
Neighborhood	
Acreage	0
Utilities	Well,Septic
Lot Setting/Desc	
Survey Map	
TC Survey Numbers	

Photo



Sketch

Primary Construction Details

Year Built	
Stories	
Building Style	
Building Use	
Building Condition	
Floors	
Total Rooms	

Bedrooms	
Full Bathrooms	
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	
Roof Cover	

Exterior Walls	
Interior Walls	
Heating Type	
Heating Fuel	
AC Type	
Gross Bldg Area	
Total Living Area	



Town of Newtown, CT

Property Listing Report

Map Block Lot **27-6-11-C**

Account

00927598C

Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings		
Extras		
Outbuildings		
Land		
Total		

Outbuilding and Extra Items

Type	Description
Fence	200 L.F.
Cellular Shed	160 S.F.
Cell Tower	1 Units
Cell Tower	1 Units

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area		0

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
SBA INFRASTRUCTURE LLC	987/ 191	4/26/2011	
5K ENTERPRISE INC	0890/0525	10/20/2006	

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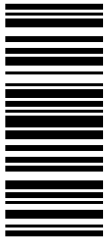
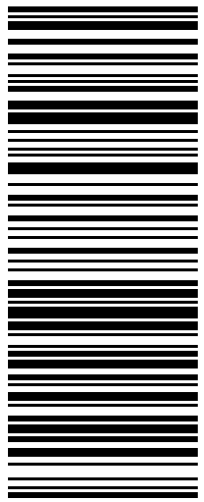
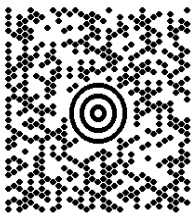

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 36 NEW STATE HWY
 RAYNHAM MA 02767-5423

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 SOUTH EASTON MA 02375-1946

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BRENDALASK-LEWIS 315-867-3236 CENTERLINE COMMUNICATIONS, LLC 763 EATONVILLE ROAD HERKIMER NY 13350 SHIP TO: ATTN: MELANIE BACHMAN CONNECTICUT SITING COUNCIL 10 FRANKLIN SQUARE NEW BRITAIN CT 06051	1 LBS DWT: 12,12,1	1 OF 1	CT 067 9-06 	UPS GROUND TRACKING #: 1Z 9Y4 503 03 3687 8259 	 BILLING: P/P 
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XOL18.03.09 NV45 97.0A.01/2018

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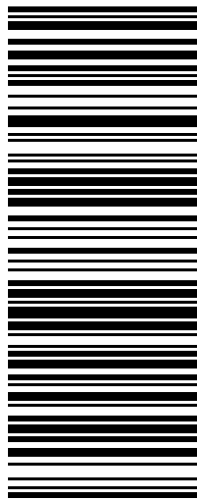

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<p>BRENDA BLASK-LEWIS 315-867-3236 CENTERLINE COMMUNICATIONS, LLC 763 EATONVILLE ROAD HERKIMER NY 13350</p> <p>SHIP TO: ATTN: DANIEL ROSENTH. FIRST SELECT TOWN OF NEWTOWN NEWTOWN MUNICIPAL CENTER 3 PRIMROSE STREET NEWTOWN CT 06470</p>	<p>1 LBS</p> <p>DWT: 12,12,1</p> <p>1 OF 1</p>	<p>CT 068 0-02</p> 	<p>UPS GROUND</p> <p>TRACKING #: 1Z 9Y4 503 03 2376 8035</p> 	<p>BILLING: P/P</p>  <p>XOL 18.03.09 NV45 97.0A.01/2018</p>
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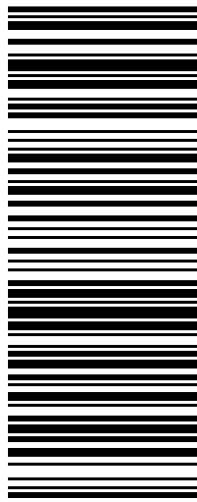

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BRENDA BLASK-LEWIS 315-867-3236 CENTERLINE COMMUNICATIONS, LLC 763 EATONVILLE ROAD HERKIMER NY 13350 SHIP TO: ATTN: BUILDING/ZONING/PLANNING TOWN OF NEWTOWN NEWTOWN MUNICIPAL CENTER 3 PRIMROSE STREET NEWTOWN CT 06470	1 LBS 1 OF 1 DWT: 12,12,1	CT 068 0-02 	UPS GROUND TRACKING #: 1Z 9Y4 503 03 2222 6649 	BILLING: P/P  <small>XOL18.03.09 NV45 97.0A.01/2018</small>
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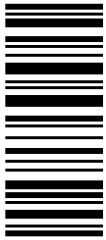
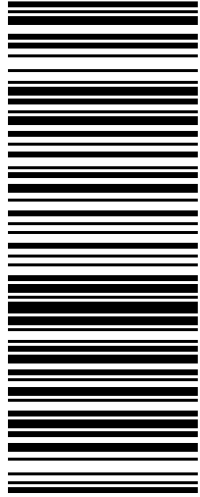
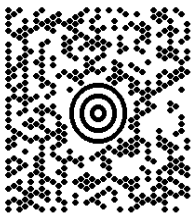

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<p>BRENDA BLASK-LEWIS 315-867-3236 CENTERLINE COMMUNICATIONS, LLC 763 EATONVILLE ROAD HERKIMER NY 13350</p> <p>SHIP TO: CARLA SHORTER 5612269476 SBA COMMUNICATIONS CORPORATION 8051 CONGRESS AVENUE BOCA RATON FL 33487</p>	<p>1 LBS</p> <p>DWT: 12,12,1</p> <p>FL 332 6-07</p> 	<p>UPS GROUND</p> <p>TRACKING #: 1Z 9Y4 503 03 1708 2251</p> 	<p>1 OF 1</p>  <p>BILLING: P/P</p>  <p>XOL 18.03.09 NV45 97.0A.01/2018</p>
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Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
8445 Freeport Parkway, Suite 375, Irving, Texas 75063

Structural Analysis Report

Existing 139 ft Sabre Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT13060-A

Customer Site Name: Newtown 2

Carrier Name: AT&T

Carrier Site ID / Name: CT2313 / Newton-Edmund Road

Site Location: 3 Edmund Road

Newtown, Connecticut

Fairfield County

Latitude: 41.420899

Longitude: -73.298102

Analysis Result:

Max Structural Usage: 51.9% [Pass]

Max Foundation Usage: 42.0% [Pass]

Additional Usage Caused by New Mount/Mount Modification: N/A



Report Prepared by: Matthew Baker



Tower Engineering Solutions

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Report Prepared by: Matthew Baker

Introduction

The purpose of this report is to summarize the analysis results on the 139 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

Tower Drawings	Sabre Job #06-07285, dated 07/28/05
Foundation Drawing	Sabre Job #06-07285, dated 07/28/05
Geotechnical Report	Jaworski Geotech, Inc. Project #04125G, dated 01/30/04
Modification Drawings	N/A

Analysis Criteria

The feasibility/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.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 120.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 93.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / 2012 IBC / 2016 Connecticut State Building Code
Exposure Category:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_S = 0.208$, $S_1 = 0.066$

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	138.5	-	-	Low Profile Platform	-	-
2	128.0	3	Ericsson - AIR21 B2A B4P - Panel	Low Profile Platform	(13) 1 5/8"	T-Mobile
3		3	Ericsson - AIR21 B4A B2P - Panel			
4		3	Ericsson - KRY 112 114-1 Double TMA			
-	119.0	9	Powerwave - 7770 - Panel	Low Profile Platform	(12) 1 5/8" (1) 1/2" Fiber (2) 3/4" DC (1) 2" Innerduct	AT&T
-		3	Powerwave - P65-16-XLH-RR - Panel			
-		9	Powerwave - LGP21401 - TMA			
-		3	Powerwave - TT19-08BP-111-001 - TMA			
-		6	Ericsson - RRUS-11 - RRU			
-		1	Raycap - DC6-48-60-18-8F - SP			

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
5	119.0	6	Powerwave - 7770 - Panel	Low Profile Platform	(12) 1 5/8" (2) 1/2" Fiber (4) 3/4" DC (1) 2" Innerduct	AT&T
6		3	Quintel - QS66512-2 - Panel			
7		3	Cci - HPA-65R-BUU-H6 - Panel			
8		9	Powerwave - LGP21401 - TMA			
9		3	Powerwave - TT19-08BP-111-001 - TMA			
10		6	Kaelus - DBC0061F1V51-2 - Diplexer			
11		3	Ericsson - RRUS 32 B30 - RRU			
12		3	Ericsson - RRUS-11 - RRU			
13		3	Ericsson - RRUS-32 B2 - RRU			
14		2	Raycap - DC6-48-60-18-8F - SP			

All transmission lines are considered running inside of the pole shafts.

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	Flange
Max. Usage:	51.9%	47.5%	37.2%	12.8%
Pass/Fail	Pass	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Original Design Reactions	1882.0	17.2	32.9
Analysis Reactions	1689.1	17.0	32.6
Factored Reactions*	2540.7	23.2	44.4
% of Design Reactions	66.5%	73.2%	73.4%

* Per section 15.5.1 of the TIA-222-G standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

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 0.9028 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 analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.
3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.
4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.
5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.
6. 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.
7. 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.
8. 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.
9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 51.90% at 0.0ft

Structure: CT13060-A-SBA
Site Name: Newtown 2
Height: 139.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-G
Exposure: B
Gh: 1.1

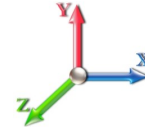
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Page: 1

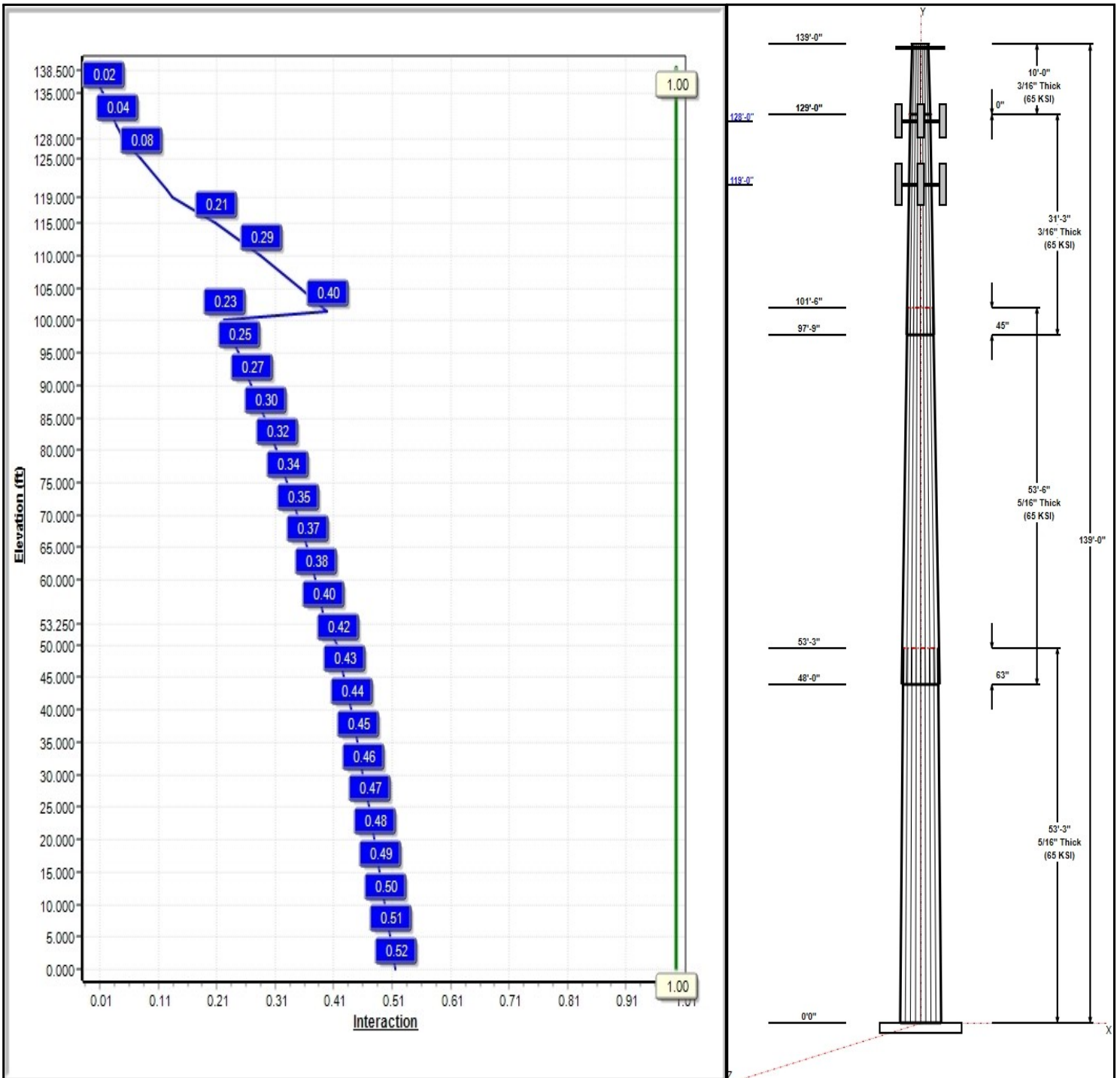
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 93 mph Wind



Iterations: 24

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Structure: CT13060-A-SBA

Type: Tapered
Site Name: Newtown 2
Height: 139.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23496

3/1/2018

Page: 2



Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.25	39.00	51.51	0.313		0.23496	65
2	53.50	28.29	40.86	0.313	Slip	0.23496	65
3	31.25	22.20	29.54	0.188	Slip	0.23496	65
4	10.00	19.85	22.20	0.188	Butt	0.23496	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
138.50	138.50	1	Low Profile Platform	-
128.00	128.00	1	Low Profile Platform	T-Mobile
128.00	128.00	3	Ericsson - AIR21 B2A B4P	T-Mobile
128.00	128.00	3	Ericsson - AIR21 B4A B2P	T-Mobile
128.00	128.00	3	Ericsson - KRY 112 114-1	T-Mobile
119.00	119.00	1	Low Profile Platform	AT&T
119.00	119.00	6	Powerwave - 7770	AT&T
119.00	119.00	3	Quintel - QS66512-2	AT&T
119.00	119.00	3	Cci - HPA-65R-BUU-H6	AT&T
119.00	119.00	9	Powerwave - LGP21401 -	AT&T
119.00	119.00	3	Powerwave -	AT&T
119.00	119.00	6	Kaelus -	AT&T
119.00	119.00	3	Ericsson - RRUS 32 B30 -	AT&T
119.00	119.00	3	Ericsson - RRUS-11 -	AT&T
119.00	119.00	3	Ericsson - RRUS-32 B2 -	AT&T
119.00	119.00	2	Raycap -	AT&T

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	128.00	Inside	1 5/8" Coax	T-Mobile
0.00	119.00	Inside	1 5/8" Coax	AT&T
0.00	119.00	Inside	1/2" Fiber	AT&T
0.00	119.00	Inside	2" Innerduct	AT&T
0.00	119.00	Inside	3/4" DC	AT&T

Anchor Bolts

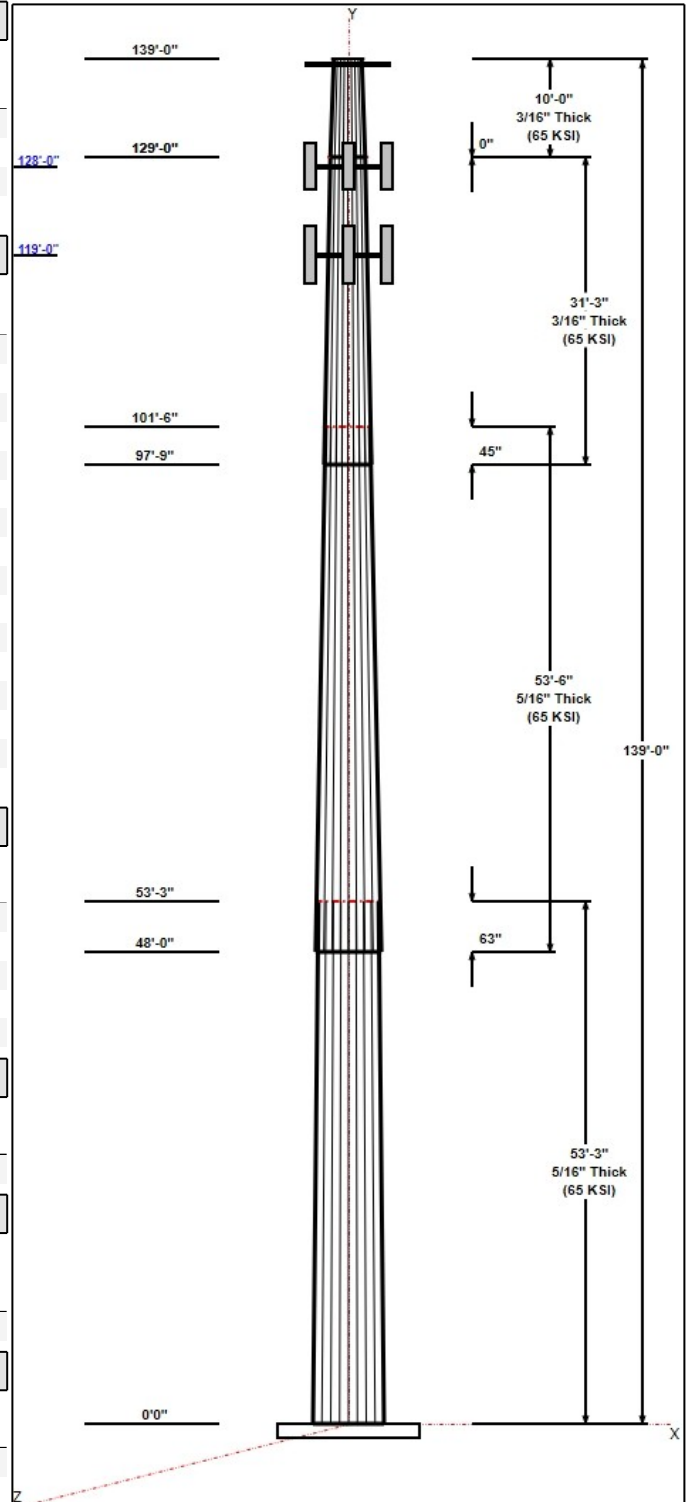
Qty	Specifications	Grade (ksi)	Arrangement
12	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	56.0	60.0	Clipped

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 93 mph Wind	1689.1	17.0	32.6



Structure: CT13060-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Newtown 2
Height: 139.00 (ft)

3/1/2018

Page: 3



Shaft Properties

Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	53.250	0.3125	65		0.00	8,077
2	18	53.500	0.3125	65	Slip	63.00	6,186
3	18	31.250	0.1875	65	Slip	45.00	1,625
4	18	10.000	0.1875	65	Flange	0.00	422
Total Shaft Weight:							16,310

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	51.51	0.00	50.78	16816.70	27.65	164.83	39.00	53.25	38.37	7255.12	20.59	124.7	0.234964
2	40.86	48.00	40.21	8351.83	21.64	130.74	28.29	101.50	27.75	2743.10	14.55	90.52	0.234964
3	29.54	97.75	17.47	1901.87	26.37	157.56	22.20	129.00	13.10	801.92	19.47	118.4	0.234964
4	22.20	129.0	13.10	801.92	19.47	118.40	19.85	139.00	11.70	571.56	17.26	105.8	0.234964

Load Summary

Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	138.50	Low Profile Platform	1	1800.00	37.20	1.00	3358.21	66.827	1.00	0.00	0.00
2	128.00	Low Profile Platform	1	1650.00	33.40	1.00	3067.15	59.792	1.00	0.00	0.00
3	128.00	Ericsson - AIR21 B2A B4P	3	91.50	6.09	0.85	249.87	7.165	0.87	0.00	0.00
4	128.00	Ericsson - AIR21 B4A B2P	3	90.40	6.09	0.85	248.73	7.165	0.87	0.00	0.00
5	128.00	Ericsson - KRY 112 114-1 Double	3	11.00	0.41	0.50	21.61	0.878	0.50	0.00	0.00
6	119.00	Low Profile Platform	1	1800.00	40.20	1.00	3334.75	73.105	1.00	0.00	0.00
7	119.00	Powerwave - 7770	6	35.00	5.50	0.77	163.94	6.517	0.79	0.00	0.00
8	119.00	Quintel - QS66512-2	3	111.00	8.13	0.92	320.88	9.378	0.93	0.00	0.00
9	119.00	Cci - HPA-65R-BUU-H6	3	51.00	9.66	0.83	285.26	10.984	0.85	0.00	0.00
10	119.00	Powerwave - LGP21401 - TMA	9	14.10	1.29	0.50	38.53	2.107	0.50	0.00	0.00
11	119.00	Powerwave - TT19-08BP-111-001 -	3	16.00	0.64	0.50	35.78	1.219	0.50	0.00	0.00
12	119.00	Kaelus - DBC0061F1V51-2 -	6	25.40	0.43	0.50	39.61	0.709	0.50	0.00	0.00
13	119.00	Ericsson - RRUS 32 B30 - RRU	3	60.00	2.74	0.67	141.85	3.675	0.67	0.00	0.00
14	119.00	Ericsson - RRUS-11 - RRU	3	51.00	2.52	0.67	121.62	3.139	0.67	0.00	0.00
15	119.00	Ericsson - RRUS-32 B2 - RRU	3	53.00	2.74	0.67	125.30	3.675	0.67	0.00	0.00
16	119.00	Raycap - DC6-48-60-18-8F - SP	2	31.80	0.92	1.00	92.21	1.348	1.00	0.00	0.00
Totals:			53	7,407.60			16,165.29				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	128.00	(13) 1 5/8" Coax	0.00	Inside
0.00	119.00	(12) 1 5/8" Coax	0.00	Inside
0.00	119.00	(2) 1/2" Fiber	0.00	Inside
0.00	119.00	(1) 2" Innerduct	0.00	Inside
0.00	119.00	(4) 3/4" DC	0.00	Inside

Shaft Section Properties

Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in ³)	Weight (lb)
0.00		0.3125	51.510	50.780	16816.7	27.65	164.83	68.9	643.0	0.0
5.00		0.3125	50.335	49.614	15685.4	26.99	161.07	69.7	613.8	854.0
10.00		0.3125	49.160	48.449	14606.0	26.33	157.31	70.4	585.2	834.2
15.00		0.3125	47.986	47.284	13577.3	25.67	153.55	71.2	557.3	814.4
20.00		0.3125	46.811	46.119	12598.1	25.00	149.79	72.0	530.1	794.6
25.00		0.3125	45.636	44.954	11667.1	24.34	146.03	72.8	503.5	774.7
30.00		0.3125	44.461	43.788	10783.1	23.68	142.28	73.6	477.7	754.9
35.00		0.3125	43.286	42.623	9945.0	23.01	138.52	74.3	452.5	735.1
40.00		0.3125	42.111	41.458	9151.5	22.35	134.76	75.1	428.0	715.3
45.00		0.3125	40.937	40.293	8401.3	21.69	131.00	75.9	404.2	695.4
48.00	Bot - Section 2	0.3125	40.232	39.593	7971.5	21.29	128.74	76.4	390.3	407.8
50.00		0.3125	39.762	39.127	7693.3	21.02	127.24	76.7	381.1	540.0
53.25	Top - Section 1	0.3125	39.623	38.990	7612.5	20.95	126.79	0.0	0.0	863.9
55.00		0.3125	39.212	38.582	7376.1	20.71	125.48	77.0	370.5	231.0
60.00		0.3125	38.037	37.417	6727.8	20.05	121.72	77.8	348.4	646.5
65.00		0.3125	36.862	36.252	6118.6	19.39	117.96	78.6	326.9	626.7
70.00		0.3125	35.688	35.086	5547.3	18.73	114.20	79.4	306.2	606.9
75.00		0.3125	34.513	33.921	5012.8	18.06	110.44	80.2	286.1	587.0
80.00		0.3125	33.338	32.756	4513.8	17.40	106.68	80.9	266.7	567.2
85.00		0.3125	32.163	31.591	4049.0	16.74	102.92	81.7	248.0	547.4
90.00		0.3125	30.988	30.425	3617.3	16.07	99.16	82.5	229.9	527.6
95.00		0.3125	29.813	29.260	3217.4	15.41	95.40	82.5	212.6	507.7
97.75	Bot - Section 3	0.3125	29.167	28.619	3010.6	15.05	93.34	82.5	203.3	270.8
100.00		0.3125	28.639	28.095	2848.1	14.75	91.64	82.5	195.9	349.7
101.50	Top - Section 2	0.1875	28.661	16.945	1735.7	25.54	152.86	0.0	0.0	229.5
105.00		0.1875	27.839	16.455	1589.6	24.77	148.47	72.3	112.5	198.9
110.00		0.1875	26.664	15.756	1395.5	23.66	142.21	73.6	103.1	274.0
115.00		0.1875	25.489	15.057	1217.8	22.56	135.94	74.9	94.1	262.1
119.00		0.1875	24.549	14.498	1087.1	21.68	130.93	75.9	87.2	201.1
120.00		0.1875	24.314	14.358	1056.0	21.45	129.68	76.2	85.5	49.1
125.00		0.1875	23.139	13.659	909.1	20.35	123.41	77.5	77.4	238.3
128.00		0.1875	22.435	13.239	827.9	19.69	119.65	78.2	72.7	137.3
129.00	Top - Section 3	0.1875	22.200	13.100	801.9	19.47	118.40	78.5	71.1	44.8
129.00	Bot - Section 4	0.1875	22.200	13.100	801.9	19.47	118.40	78.5	71.1	
130.00		0.1875	21.965	12.960	776.5	19.25	117.14	78.8	69.6	44.3
135.00		0.1875	20.790	12.261	657.5	18.14	110.88	80.1	62.3	214.5
138.50		0.1875	19.967	11.771	581.9	17.37	106.49	81.0	57.4	143.1
139.00		0.1875	19.850	11.701	571.6	17.26	105.87	81.1	56.7	20.0

16310.0

Wind Loading - Shaft

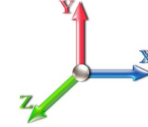
Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 24

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	0.70	14.724	16.20	339.15	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	14.724	16.20	331.41	0.650	0.000	5.00	21.545	14.00	362.9	0.0	1024.9
10.00		1.00	0.70	14.724	16.20	323.68	0.650	0.000	5.00	21.048	13.68	354.5	0.0	1001.1
15.00		1.00	0.70	14.724	16.20	315.94	0.650	0.000	5.00	20.551	13.36	346.2	0.0	977.3
20.00		1.00	0.70	14.724	16.20	308.21	0.650	0.000	5.00	20.054	13.04	337.8	0.0	953.5
25.00		1.00	0.70	14.724	16.20	300.47	0.650	0.000	5.00	19.557	12.71	329.4	0.0	929.7
30.00		1.00	0.70	14.736	16.21	292.86	0.650	0.000	5.00	19.060	12.39	321.3	0.0	905.9
35.00		1.00	0.73	15.400	16.94	291.47	0.650	0.000	5.00	18.563	12.07	327.0	0.0	882.1
40.00		1.00	0.76	15.999	17.60	289.02	0.650	0.000	5.00	18.066	11.74	330.7	0.0	858.3
45.00		1.00	0.79	16.546	18.20	285.73	0.650	0.000	5.00	17.569	11.42	332.6	0.0	834.5
48.00	Bot - Section 2	1.00	0.80	16.854	18.54	283.41	0.650	0.000	3.00	10.303	6.70	198.6	0.0	489.3
50.00		1.00	0.81	17.052	18.76	281.74	0.650	0.000	2.00	6.875	4.47	134.1	0.0	647.9
53.25	Top - Section 1	1.00	0.83	17.362	19.10	278.82	0.650	0.000	3.25	11.002	7.15	218.5	0.0	1036.7
55.00		1.00	0.83	17.523	19.28	281.65	0.650	0.000	1.75	5.837	3.79	117.0	0.0	277.2
60.00		1.00	0.85	17.964	19.76	276.63	0.650	0.000	5.00	16.342	10.62	335.8	0.0	775.8
65.00		1.00	0.87	18.380	20.22	271.17	0.650	0.000	5.00	15.845	10.30	333.2	0.0	752.0
70.00		1.00	0.89	18.773	20.65	265.32	0.650	0.000	5.00	15.348	9.98	329.6	0.0	728.2
75.00		1.00	0.91	19.147	21.06	259.13	0.650	0.000	5.00	14.851	9.65	325.3	0.0	704.5
80.00		1.00	0.93	19.503	21.45	252.62	0.650	0.000	5.00	14.354	9.33	320.2	0.0	680.7
85.00		1.00	0.94	19.844	21.83	245.84	0.650	0.000	5.00	13.857	9.01	314.6	0.0	656.9
90.00		1.00	0.96	20.170	22.19	238.80	0.650	0.000	5.00	13.359	8.68	308.3	0.0	633.1
95.00		1.00	0.97	20.484	22.53	231.53	0.650	0.000	5.00	12.862	8.36	301.4	0.0	609.3
97.75	Bot - Section 3	1.00	0.98	20.652	22.72	227.44	0.650	0.000	2.75	6.862	4.46	162.1	0.0	325.0
100.00		1.00	0.99	20.787	22.87	224.04	0.650	0.000	2.25	5.574	3.62	132.6	0.0	419.6
101.50	Top - Section 2	1.00	0.99	20.875	22.96	221.76	0.650	0.000	1.50	3.660	2.38	87.4	0.0	275.4
105.00		1.00	1.00	21.079	23.19	219.31	0.650	0.000	3.50	8.367	5.44	201.8	0.0	238.7
110.00		1.00	1.02	21.361	23.50	211.45	0.650	0.000	5.00	11.530	7.49	281.8	0.0	328.8
115.00		1.00	1.03	21.634	23.80	203.43	0.650	0.000	5.00	11.033	7.17	273.1	0.0	314.6
119.00	Appurtenance(s)	1.00	1.04	21.846	24.03	196.88	0.650	0.000	4.00	8.468	5.50	211.6	0.0	241.4
120.00		1.00	1.04	21.898	24.09	195.23	0.650	0.000	1.00	2.067	1.34	51.8	0.0	58.9
125.00		1.00	1.05	22.155	24.37	186.89	0.650	0.000	5.00	10.039	6.53	254.4	0.0	286.0
128.00	Appurtenance(s)	1.00	1.06	22.306	24.54	181.81	0.650	0.000	3.00	5.785	3.76	147.6	0.0	164.8
129.00	Top - Section 3	1.00	1.06	22.356	24.59	180.10	0.650	0.000	1.00	1.888	1.23	48.3	0.0	53.8
130.00		1.00	1.07	22.405	24.65	178.39	0.650	0.000	1.00	1.869	1.21	47.9	0.0	53.2
135.00		1.00	1.08	22.648	24.91	169.77	0.650	0.000	5.00	9.045	5.88	234.3	0.0	257.5
138.50	Appurtenance(s)	1.00	1.08	22.814	25.10	163.65	0.650	0.000	3.50	6.035	3.92	157.5	0.0	171.7
139.00		1.00	1.09	22.838	25.12	162.77	0.650	0.000	0.50	0.842	0.55	22.0	0.0	24.0
Totals:									139.00			8,593.3		19,572.0

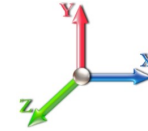
Discrete Appurtenance Forces

Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 8
	Struct Class: II	



Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 24

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	138.50	Low Profile Platform	1	22.814	25.095	1.00	1.00	37.20	2160.00	0.000	0.000	1493.68	0.00	0.00
2	128.00	Ericsson - KRY 112 114-1	3	22.306	24.536	0.40	0.80	0.49	39.60	0.000	0.000	19.32	0.00	0.00
3	128.00	Ericsson - AIR21 B4A	3	22.306	24.536	0.68	0.80	12.48	325.44	0.000	0.000	490.03	0.00	0.00
4	128.00	Ericsson - AIR21 B2A	3	22.306	24.536	0.68	0.80	12.48	329.40	0.000	0.000	490.03	0.00	0.00
5	128.00	Low Profile Platform	1	22.306	24.536	1.00	1.00	33.40	1980.00	0.000	0.000	1311.23	0.00	0.00
6	119.00	Ericsson - RRUS-32 B2 -	3	21.846	24.031	0.54	0.80	4.41	190.80	0.000	0.000	169.40	0.00	0.00
7	119.00	Low Profile Platform	1	21.846	24.031	1.00	1.00	40.20	2160.00	0.000	0.000	1545.65	0.00	0.00
8	119.00	Raycap -	2	21.846	24.031	0.80	0.80	1.47	76.32	0.000	0.000	56.60	0.00	0.00
9	119.00	Ericsson - RRUS 32 B30 -	3	21.846	24.031	0.54	0.80	4.41	216.00	0.000	0.000	169.40	0.00	0.00
10	119.00	Ericsson - RRUS-11 -	3	21.846	24.031	0.54	0.80	4.05	183.60	0.000	0.000	155.80	0.00	0.00
11	119.00	Kaelus -	6	21.846	24.031	0.40	0.80	1.03	182.88	0.000	0.000	39.68	0.00	0.00
12	119.00	Powerwave -	3	21.846	24.031	0.40	0.80	0.77	57.60	0.000	0.000	29.53	0.00	0.00
13	119.00	Powerwave - LGP21401 -	9	21.846	24.031	0.40	0.80	4.64	152.28	0.000	0.000	178.56	0.00	0.00
14	119.00	Cci - HPA-65R-BUU-H6	3	21.846	24.031	0.67	0.80	19.34	183.60	0.000	0.000	743.43	0.00	0.00
15	119.00	Quintel - QS66512-2	3	21.846	24.031	0.73	0.80	17.91	399.60	0.000	0.000	688.70	0.00	0.00
16	119.00	Powerwave - 7770	6	21.846	24.031	0.61	0.80	20.22	252.00	0.000	0.000	777.53	0.00	0.00
Totals:									8,889.12			8,358.56		

Total Applied Force Summary

Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

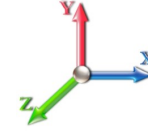


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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

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		362.91	1193.88	0.00	0.00
10.00		354.54	1170.09	0.00	0.00
15.00		346.17	1146.30	0.00	0.00
20.00		337.79	1122.51	0.00	0.00
25.00		329.42	1098.72	0.00	0.00
30.00		321.32	1074.93	0.00	0.00
35.00		327.03	1051.14	0.00	0.00
40.00		330.65	1027.35	0.00	0.00
45.00		332.56	1003.56	0.00	0.00
48.00		198.65	590.71	0.00	0.00
50.00		134.11	715.56	0.00	0.00
53.25		218.52	1146.54	0.00	0.00
55.00		117.01	336.31	0.00	0.00
60.00		335.84	944.84	0.00	0.00
65.00		333.16	921.05	0.00	0.00
70.00		329.61	897.26	0.00	0.00
75.00		325.28	873.47	0.00	0.00
80.00		320.25	849.68	0.00	0.00
85.00		314.56	825.89	0.00	0.00
90.00		308.27	802.10	0.00	0.00
95.00		301.42	778.31	0.00	0.00
97.75		162.13	417.93	0.00	0.00
100.00		132.56	495.64	0.00	0.00
101.50		87.41	326.15	0.00	0.00
105.00		201.75	356.99	0.00	0.00
110.00		281.75	497.85	0.00	0.00
115.00		273.05	483.57	0.00	0.00
119.00	(42) attachments	4765.93	4431.26	0.00	0.00
120.00		51.79	75.14	0.00	0.00
125.00		254.44	367.12	0.00	0.00
128.00	(10) attachments	2458.21	2887.86	0.00	0.00
129.00		48.30	53.78	0.00	0.00
130.00		47.89	53.20	0.00	0.00
135.00		234.34	257.46	0.00	0.00
138.50	(1) attachments	1651.20	2331.73	0.00	0.00
139.00		22.01	23.96	0.00	0.00
Totals:		16,951.82	32,629.82	0.00	0.00

Calculated Forces

Structure: CT13060-A-SBA
Site Name: Newtown 2
Height: 139.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

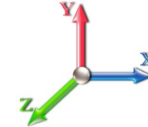
Code: EIA/TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

3/1/2018
 Page: 10



Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 24

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	-32.61	-16.99	0.00	-1689.1	0.00	1689.12	3147.71	1573.86	6633.45	3321.65	0.00	0.000	0.000	0.519
5.00	-31.37	-16.70	0.00	-1604.1	0.00	1604.17	3110.30	1555.15	6403.28	3206.40	0.07	-0.139	0.000	0.511
10.00	-30.16	-16.42	0.00	-1520.6	0.00	1520.65	3071.25	1535.62	6173.46	3091.32	0.30	-0.281	0.000	0.502
15.00	-28.98	-16.14	0.00	-1438.5	0.00	1438.55	3030.56	1515.28	5944.24	2976.54	0.67	-0.425	0.000	0.493
20.00	-27.82	-15.86	0.00	-1357.8	0.00	1357.85	2988.24	1494.12	5715.85	2862.17	1.19	-0.572	0.000	0.484
25.00	-26.68	-15.59	0.00	-1278.5	0.00	1278.53	2944.28	1472.14	5488.53	2748.34	1.87	-0.720	0.000	0.474
30.00	-25.57	-15.32	0.00	-1200.5	0.00	1200.56	2898.69	1449.34	5262.51	2635.17	2.71	-0.872	0.000	0.465
35.00	-24.49	-15.05	0.00	-1123.9	0.00	1123.94	2851.46	1425.73	5038.05	2522.77	3.70	-1.025	0.000	0.454
40.00	-23.43	-14.76	0.00	-1048.7	0.00	1048.71	2802.60	1401.30	4815.37	2411.26	4.86	-1.180	0.000	0.443
45.00	-22.40	-14.45	0.00	-974.91	0.00	974.91	2752.10	1376.05	4594.71	2300.77	6.18	-1.338	0.000	0.432
48.00	-21.79	-14.27	0.00	-931.55	0.00	931.55	2721.01	1360.51	4463.39	2235.01	7.05	-1.434	0.000	0.425
50.00	-21.06	-14.15	0.00	-903.00	0.00	903.00	2699.97	1349.98	4376.32	2191.41	7.67	-1.500	0.000	0.420
53.25	-19.90	-13.93	0.00	-857.01	0.00	857.01	2693.71	1346.85	4350.71	2178.59	8.73	-1.606	0.000	0.401
55.00	-19.54	-13.84	0.00	-832.63	0.00	832.63	2675.00	1337.50	4274.96	2140.66	9.32	-1.664	0.000	0.396
60.00	-18.57	-13.53	0.00	-763.43	0.00	763.43	2620.47	1310.24	4060.32	2033.18	11.15	-1.818	0.000	0.383
65.00	-17.62	-13.21	0.00	-695.80	0.00	695.80	2564.30	1282.15	3848.53	1927.13	13.14	-1.972	0.000	0.368
70.00	-16.71	-12.89	0.00	-629.75	0.00	629.75	2506.50	1253.25	3639.84	1822.63	15.28	-2.126	0.000	0.352
75.00	-15.81	-12.58	0.00	-565.28	0.00	565.28	2447.06	1223.53	3434.48	1719.79	17.59	-2.279	0.000	0.335
80.00	-14.94	-12.26	0.00	-502.39	0.00	502.39	2385.98	1192.99	3232.68	1618.74	20.06	-2.431	0.000	0.317
85.00	-14.10	-11.95	0.00	-441.09	0.00	441.09	2323.27	1161.64	3034.69	1519.60	22.69	-2.579	0.000	0.296
90.00	-13.29	-11.64	0.00	-381.35	0.00	381.35	2258.93	1129.46	2840.75	1422.49	25.47	-2.724	0.000	0.274
95.00	-12.50	-11.32	0.00	-323.17	0.00	323.17	2173.88	1086.94	2628.05	1315.98	28.39	-2.862	0.000	0.251
97.75	-12.08	-11.15	0.00	-292.05	0.00	292.05	2126.27	1063.14	2513.60	1258.67	30.06	-2.937	0.000	0.238
100.00	-11.58	-11.00	0.00	-266.96	0.00	266.96	2087.31	1043.66	2421.85	1212.73	31.46	-2.996	0.000	0.226
101.50	-11.25	-10.91	0.00	-250.46	0.00	250.46	1088.23	544.12	1274.83	638.36	32.41	-3.035	0.000	0.403
105.00	-10.88	-10.71	0.00	-212.27	0.00	212.27	1070.27	535.14	1217.34	609.58	34.67	-3.119	0.000	0.359
110.00	-10.37	-10.43	0.00	-158.70	0.00	158.70	1043.23	521.61	1135.83	568.76	38.02	-3.285	0.000	0.289
115.00	-9.89	-10.15	0.00	-106.54	0.00	106.54	1014.55	507.27	1055.24	528.40	41.54	-3.420	0.000	0.212
119.00	-5.75	-5.13	0.00	-65.94	0.00	65.94	990.42	495.21	991.60	496.54	44.44	-3.501	0.000	0.139
120.00	-5.67	-5.08	0.00	-60.82	0.00	60.82	984.23	492.11	975.83	488.64	45.18	-3.518	0.000	0.130
125.00	-5.32	-4.80	0.00	-35.43	0.00	35.43	952.28	476.14	897.82	449.58	48.90	-3.582	0.000	0.084
128.00	-2.59	-2.17	0.00	-21.02	0.00	21.02	932.32	466.16	851.79	426.53	51.16	-3.609	0.000	0.052
129.00	-2.54	-2.12	0.00	-18.85	0.00	18.85	925.54	462.77	836.59	418.92	51.91	-3.616	0.000	0.048
129.00	-2.54	-2.12	0.00	-18.85	0.00	18.85	925.54	462.77	836.59	418.92	51.91	-3.616	0.000	0.048
130.00	-2.49	-2.07	0.00	-16.73	0.00	16.73	918.69	459.34	821.46	411.34	52.67	-3.622	0.000	0.043
135.00	-2.24	-1.82	0.00	-6.38	0.00	6.38	883.47	441.73	746.98	374.05	56.47	-3.643	0.000	0.020
138.50	-0.02	-0.02	0.00	-0.01	0.00	0.01	857.84	428.92	696.10	348.57	59.15	-3.648	0.000	0.000
139.00	0.00	-0.02	0.00	0.00	0.00	0.00	854.11	427.06	688.92	344.97	59.53	-3.648	0.000	0.000

Wind Loading - Shaft

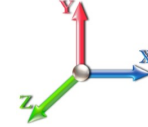
Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 24

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	0.70	14.724	16.20	339.15	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	14.724	16.20	331.41	0.650	0.000	5.00	21.545	14.00	362.9	0.0	768.6
10.00		1.00	0.70	14.724	16.20	323.68	0.650	0.000	5.00	21.048	13.68	354.5	0.0	750.8
15.00		1.00	0.70	14.724	16.20	315.94	0.650	0.000	5.00	20.551	13.36	346.2	0.0	733.0
20.00		1.00	0.70	14.724	16.20	308.21	0.650	0.000	5.00	20.054	13.04	337.8	0.0	715.1
25.00		1.00	0.70	14.724	16.20	300.47	0.650	0.000	5.00	19.557	12.71	329.4	0.0	697.3
30.00		1.00	0.70	14.736	16.21	292.86	0.650	0.000	5.00	19.060	12.39	321.3	0.0	679.4
35.00		1.00	0.73	15.400	16.94	291.47	0.650	0.000	5.00	18.563	12.07	327.0	0.0	661.6
40.00		1.00	0.76	15.999	17.60	289.02	0.650	0.000	5.00	18.066	11.74	330.7	0.0	643.7
45.00		1.00	0.79	16.546	18.20	285.73	0.650	0.000	5.00	17.569	11.42	332.6	0.0	625.9
48.00	Bot - Section 2	1.00	0.80	16.854	18.54	283.41	0.650	0.000	3.00	10.303	6.70	198.6	0.0	367.0
50.00		1.00	0.81	17.052	18.76	281.74	0.650	0.000	2.00	6.875	4.47	134.1	0.0	486.0
53.25	Top - Section 1	1.00	0.83	17.362	19.10	278.82	0.650	0.000	3.25	11.002	7.15	218.5	0.0	777.5
55.00		1.00	0.83	17.523	19.28	281.65	0.650	0.000	1.75	5.837	3.79	117.0	0.0	207.9
60.00		1.00	0.85	17.964	19.76	276.63	0.650	0.000	5.00	16.342	10.62	335.8	0.0	581.9
65.00		1.00	0.87	18.380	20.22	271.17	0.650	0.000	5.00	15.845	10.30	333.2	0.0	564.0
70.00		1.00	0.89	18.773	20.65	265.32	0.650	0.000	5.00	15.348	9.98	329.6	0.0	546.2
75.00		1.00	0.91	19.147	21.06	259.13	0.650	0.000	5.00	14.851	9.65	325.3	0.0	528.3
80.00		1.00	0.93	19.503	21.45	252.62	0.650	0.000	5.00	14.354	9.33	320.2	0.0	510.5
85.00		1.00	0.94	19.844	21.83	245.84	0.650	0.000	5.00	13.857	9.01	314.6	0.0	492.7
90.00		1.00	0.96	20.170	22.19	238.80	0.650	0.000	5.00	13.359	8.68	308.3	0.0	474.8
95.00		1.00	0.97	20.484	22.53	231.53	0.650	0.000	5.00	12.862	8.36	301.4	0.0	457.0
97.75	Bot - Section 3	1.00	0.98	20.652	22.72	227.44	0.650	0.000	2.75	6.862	4.46	162.1	0.0	243.7
100.00		1.00	0.99	20.787	22.87	224.04	0.650	0.000	2.25	5.574	3.62	132.6	0.0	314.7
101.50	Top - Section 2	1.00	0.99	20.875	22.96	221.76	0.650	0.000	1.50	3.660	2.38	87.4	0.0	206.6
105.00		1.00	1.00	21.079	23.19	219.31	0.650	0.000	3.50	8.367	5.44	201.8	0.0	179.0
110.00		1.00	1.02	21.361	23.50	211.45	0.650	0.000	5.00	11.530	7.49	281.8	0.0	246.6
115.00		1.00	1.03	21.634	23.80	203.43	0.650	0.000	5.00	11.033	7.17	273.1	0.0	235.9
119.00	Appurtenance(s)	1.00	1.04	21.846	24.03	196.88	0.650	0.000	4.00	8.468	5.50	211.6	0.0	181.0
120.00		1.00	1.04	21.898	24.09	195.23	0.650	0.000	1.00	2.067	1.34	51.8	0.0	44.2
125.00		1.00	1.05	22.155	24.37	186.89	0.650	0.000	5.00	10.039	6.53	254.4	0.0	214.5
128.00	Appurtenance(s)	1.00	1.06	22.306	24.54	181.81	0.650	0.000	3.00	5.785	3.76	147.6	0.0	123.6
129.00	Top - Section 3	1.00	1.06	22.356	24.59	180.10	0.650	0.000	1.00	1.888	1.23	48.3	0.0	40.3
130.00		1.00	1.07	22.405	24.65	178.39	0.650	0.000	1.00	1.869	1.21	47.9	0.0	39.9
135.00		1.00	1.08	22.648	24.91	169.77	0.650	0.000	5.00	9.045	5.88	234.3	0.0	193.1
138.50	Appurtenance(s)	1.00	1.08	22.814	25.10	163.65	0.650	0.000	3.50	6.035	3.92	157.5	0.0	128.8
139.00		1.00	1.09	22.838	25.12	162.77	0.650	0.000	0.50	0.842	0.55	22.0	0.0	18.0
Totals:									139.00			8,593.3		14,679.0

Discrete Appurtenance Forces

Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 12
	Struct Class: II	



Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

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	138.50	Low Profile Platform	1	22.814	25.095	1.00	1.00	37.20	1620.00	0.000	0.000	1493.68	0.00	0.00
2	128.00	Ericsson - KRY 112 114-1	3	22.306	24.536	0.40	0.80	0.49	29.70	0.000	0.000	19.32	0.00	0.00
3	128.00	Ericsson - AIR21 B4A	3	22.306	24.536	0.68	0.80	12.48	244.08	0.000	0.000	490.03	0.00	0.00
4	128.00	Ericsson - AIR21 B2A	3	22.306	24.536	0.68	0.80	12.48	247.05	0.000	0.000	490.03	0.00	0.00
5	128.00	Low Profile Platform	1	22.306	24.536	1.00	1.00	33.40	1485.00	0.000	0.000	1311.23	0.00	0.00
6	119.00	Ericsson - RRUS-32 B2 -	3	21.846	24.031	0.54	0.80	4.41	143.10	0.000	0.000	169.40	0.00	0.00
7	119.00	Low Profile Platform	1	21.846	24.031	1.00	1.00	40.20	1620.00	0.000	0.000	1545.65	0.00	0.00
8	119.00	Raycap -	2	21.846	24.031	0.80	0.80	1.47	57.24	0.000	0.000	56.60	0.00	0.00
9	119.00	Ericsson - RRUS 32 B30 -	3	21.846	24.031	0.54	0.80	4.41	162.00	0.000	0.000	169.40	0.00	0.00
10	119.00	Ericsson - RRUS-11 -	3	21.846	24.031	0.54	0.80	4.05	137.70	0.000	0.000	155.80	0.00	0.00
11	119.00	Kaelus -	6	21.846	24.031	0.40	0.80	1.03	137.16	0.000	0.000	39.68	0.00	0.00
12	119.00	Powerwave -	3	21.846	24.031	0.40	0.80	0.77	43.20	0.000	0.000	29.53	0.00	0.00
13	119.00	Powerwave - LGP21401 -	9	21.846	24.031	0.40	0.80	4.64	114.21	0.000	0.000	178.56	0.00	0.00
14	119.00	Cci - HPA-65R-BUU-H6	3	21.846	24.031	0.67	0.80	19.34	137.70	0.000	0.000	743.43	0.00	0.00
15	119.00	Quintel - QS66512-2	3	21.846	24.031	0.73	0.80	17.91	299.70	0.000	0.000	688.70	0.00	0.00
16	119.00	Powerwave - 7770	6	21.846	24.031	0.61	0.80	20.22	189.00	0.000	0.000	777.53	0.00	0.00
Totals:									6,666.84			8,358.56		

Total Applied Force Summary

Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

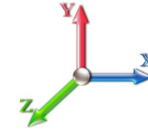


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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

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		362.91	895.41	0.00	0.00
10.00		354.54	877.57	0.00	0.00
15.00		346.17	859.72	0.00	0.00
20.00		337.79	841.88	0.00	0.00
25.00		329.42	824.04	0.00	0.00
30.00		321.32	806.19	0.00	0.00
35.00		327.03	788.35	0.00	0.00
40.00		330.65	770.51	0.00	0.00
45.00		332.56	752.67	0.00	0.00
48.00		198.65	443.04	0.00	0.00
50.00		134.11	536.67	0.00	0.00
53.25		218.52	859.91	0.00	0.00
55.00		117.01	252.24	0.00	0.00
60.00		335.84	708.63	0.00	0.00
65.00		333.16	690.79	0.00	0.00
70.00		329.61	672.95	0.00	0.00
75.00		325.28	655.10	0.00	0.00
80.00		320.25	637.26	0.00	0.00
85.00		314.56	619.42	0.00	0.00
90.00		308.27	601.58	0.00	0.00
95.00		301.42	583.73	0.00	0.00
97.75		162.13	313.45	0.00	0.00
100.00		132.56	371.73	0.00	0.00
101.50		87.41	244.61	0.00	0.00
105.00		201.75	267.74	0.00	0.00
110.00		281.75	373.39	0.00	0.00
115.00		273.05	362.68	0.00	0.00
119.00	(42) attachments	4765.93	3323.45	0.00	0.00
120.00		51.79	56.35	0.00	0.00
125.00		254.44	275.34	0.00	0.00
128.00	(10) attachments	2458.21	2165.90	0.00	0.00
129.00		48.30	40.33	0.00	0.00
130.00		47.89	39.90	0.00	0.00
135.00		234.34	193.09	0.00	0.00
138.50	(1) attachments	1651.20	1748.79	0.00	0.00
139.00		22.01	17.97	0.00	0.00
Totals:		16,951.82	24,472.36	0.00	0.00

Calculated Forces

Structure: CT13060-A-SBA

Code: EIA/TIA-222-G

3/1/2018

Site Name: Newtown 2

Exposure: B



Height: 139.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

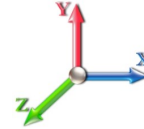
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Load Case: 0.9D + 1.6W 93 mph Wind

Iterations 24

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	-24.45	-16.98	0.00	-1672.0	0.00	1672.04	3147.71	1573.86	6633.45	3321.65	0.00	0.000	0.000	0.511
5.00	-23.52	-16.67	0.00	-1587.1	0.00	1587.14	3110.30	1555.15	6403.28	3206.40	0.07	-0.138	0.000	0.503
10.00	-22.60	-16.37	0.00	-1503.7	0.00	1503.77	3071.25	1535.62	6173.46	3091.32	0.29	-0.278	0.000	0.494
15.00	-21.70	-16.08	0.00	-1421.9	0.00	1421.91	3030.56	1515.28	5944.24	2976.54	0.66	-0.420	0.000	0.485
20.00	-20.82	-15.78	0.00	-1341.5	0.00	1341.54	2988.24	1494.12	5715.85	2862.17	1.18	-0.565	0.000	0.476
25.00	-19.96	-15.50	0.00	-1262.6	0.00	1262.62	2944.28	1472.14	5488.53	2748.34	1.85	-0.712	0.000	0.466
30.00	-19.12	-15.21	0.00	-1185.1	0.00	1185.14	2898.69	1449.34	5262.51	2635.17	2.68	-0.861	0.000	0.456
35.00	-18.30	-14.92	0.00	-1109.0	0.00	1109.07	2851.46	1425.73	5038.05	2522.77	3.66	-1.013	0.000	0.446
40.00	-17.49	-14.62	0.00	-1034.4	0.00	1034.46	2802.60	1401.30	4815.37	2411.26	4.80	-1.166	0.000	0.435
45.00	-16.72	-14.31	0.00	-961.34	0.00	961.34	2752.10	1376.05	4594.71	2300.77	6.11	-1.321	0.000	0.424
48.00	-16.26	-14.13	0.00	-918.40	0.00	918.40	2721.01	1360.51	4463.39	2235.01	6.97	-1.417	0.000	0.417
50.00	-15.71	-14.00	0.00	-890.15	0.00	890.15	2699.97	1349.98	4376.32	2191.41	7.58	-1.481	0.000	0.412
53.25	-14.83	-13.78	0.00	-844.64	0.00	844.64	2693.71	1346.85	4350.71	2178.59	8.62	-1.586	0.000	0.393
55.00	-14.56	-13.68	0.00	-820.53	0.00	820.53	2675.00	1337.50	4274.96	2140.66	9.21	-1.643	0.000	0.389
60.00	-13.83	-13.36	0.00	-752.11	0.00	752.11	2620.47	1310.24	4060.32	2033.18	11.02	-1.794	0.000	0.375
65.00	-13.11	-13.04	0.00	-685.30	0.00	685.30	2564.30	1282.15	3848.53	1927.13	12.98	-1.946	0.000	0.361
70.00	-12.42	-12.72	0.00	-620.08	0.00	620.08	2506.50	1253.25	3639.84	1822.63	15.10	-2.098	0.000	0.345
75.00	-11.74	-12.40	0.00	-556.47	0.00	556.47	2447.06	1223.53	3434.48	1719.79	17.38	-2.249	0.000	0.328
80.00	-11.09	-12.09	0.00	-494.46	0.00	494.46	2385.98	1192.99	3232.68	1618.74	19.81	-2.398	0.000	0.310
85.00	-10.45	-11.77	0.00	-434.03	0.00	434.03	2323.27	1161.64	3034.69	1519.60	22.40	-2.544	0.000	0.290
90.00	-9.84	-11.46	0.00	-375.17	0.00	375.17	2258.93	1129.46	2840.75	1422.49	25.14	-2.686	0.000	0.268
95.00	-9.25	-11.15	0.00	-317.87	0.00	317.87	2173.88	1086.94	2628.05	1315.98	28.03	-2.823	0.000	0.246
97.75	-8.93	-10.98	0.00	-287.22	0.00	287.22	2126.27	1063.14	2513.60	1258.67	29.68	-2.896	0.000	0.233
100.00	-8.56	-10.84	0.00	-262.51	0.00	262.51	2087.31	1043.66	2421.85	1212.73	31.06	-2.955	0.000	0.221
101.50	-8.31	-10.75	0.00	-246.26	0.00	246.26	1088.23	544.12	1274.83	638.36	31.99	-2.993	0.000	0.394
105.00	-8.03	-10.55	0.00	-208.65	0.00	208.65	1070.27	535.14	1217.34	609.58	34.21	-3.075	0.000	0.350
110.00	-7.64	-10.27	0.00	-155.92	0.00	155.92	1043.23	521.61	1135.83	568.76	37.53	-3.239	0.000	0.282
115.00	-7.28	-9.99	0.00	-104.59	0.00	104.59	1014.55	507.27	1055.24	528.40	40.99	-3.371	0.000	0.205
119.00	-4.24	-5.03	0.00	-64.65	0.00	64.65	990.42	495.21	991.60	496.54	43.85	-3.450	0.000	0.135
120.00	-4.18	-4.98	0.00	-59.62	0.00	59.62	984.23	492.11	975.83	488.64	44.58	-3.467	0.000	0.126
125.00	-3.92	-4.71	0.00	-34.71	0.00	34.71	952.28	476.14	897.82	449.58	48.24	-3.530	0.000	0.081
128.00	-1.91	-2.13	0.00	-20.58	0.00	20.58	932.32	466.16	851.79	426.53	50.47	-3.556	0.000	0.050
129.00	-1.87	-2.08	0.00	-18.45	0.00	18.45	925.54	462.77	836.59	418.92	51.21	-3.563	0.000	0.046
129.00	-1.87	-2.08	0.00	-18.45	0.00	18.45	925.54	462.77	836.59	418.92	51.21	-3.563	0.000	0.046
130.00	-1.84	-2.03	0.00	-16.37	0.00	16.37	918.69	459.34	821.46	411.34	51.96	-3.569	0.000	0.042
135.00	-1.66	-1.78	0.00	-6.24	0.00	6.24	883.47	441.73	746.98	374.05	55.71	-3.590	0.000	0.019
138.50	-0.02	-0.02	0.00	-0.01	0.00	0.01	857.84	428.92	696.10	348.57	58.34	-3.594	0.000	0.000
139.00	0.00	-0.02	0.00	0.00	0.00	0.00	854.11	427.06	688.92	344.97	58.72	-3.594	0.000	0.000

Wind Loading - Shaft

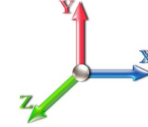
Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 24

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	0.70	4.256	4.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	4.256	4.68	0.00	1.200	1.242	5.00	22.580	27.10	126.9	401.3	1426.2
10.00		1.00	0.70	4.256	4.68	0.00	1.200	1.331	5.00	22.157	26.59	124.5	421.0	1422.1
15.00		1.00	0.70	4.256	4.68	0.00	1.200	1.386	5.00	21.706	26.05	121.9	428.7	1406.0
20.00		1.00	0.70	4.256	4.68	0.00	1.200	1.427	5.00	21.243	25.49	119.3	431.1	1384.6
25.00		1.00	0.70	4.256	4.68	0.00	1.200	1.459	5.00	20.773	24.93	116.7	430.4	1360.1
30.00		1.00	0.70	4.260	4.69	0.00	1.200	1.486	5.00	20.298	24.36	114.1	427.6	1333.5
35.00		1.00	0.73	4.451	4.90	0.00	1.200	1.509	5.00	19.820	23.78	116.5	423.3	1305.5
40.00		1.00	0.76	4.625	5.09	0.00	1.200	1.529	5.00	19.340	23.21	118.1	418.0	1276.3
45.00		1.00	0.79	4.783	5.26	0.00	1.200	1.547	5.00	18.858	22.63	119.1	411.7	1246.2
48.00 Bot - Section 2		1.00	0.80	4.872	5.36	0.00	1.200	1.557	3.00	11.081	13.30	71.3	244.5	733.9
50.00		1.00	0.81	4.929	5.42	0.00	1.200	1.564	2.00	7.396	8.88	48.1	164.3	812.3
53.25 Top - Section 1		1.00	0.83	5.018	5.52	0.00	1.200	1.574	3.25	11.854	14.22	78.5	263.9	1300.6
55.00		1.00	0.83	5.065	5.57	0.00	1.200	1.579	1.75	6.298	7.56	42.1	141.2	418.3
60.00		1.00	0.85	5.193	5.71	0.00	1.200	1.592	5.00	17.669	21.20	121.1	395.2	1171.0
65.00		1.00	0.87	5.313	5.84	0.00	1.200	1.605	5.00	17.182	20.62	120.5	386.7	1138.7
70.00		1.00	0.89	5.426	5.97	0.00	1.200	1.617	5.00	16.695	20.03	119.6	377.8	1106.0
75.00		1.00	0.91	5.534	6.09	0.00	1.200	1.628	5.00	16.208	19.45	118.4	368.5	1073.0
80.00		1.00	0.93	5.637	6.20	0.00	1.200	1.639	5.00	15.719	18.86	117.0	359.0	1039.6
85.00		1.00	0.94	5.736	6.31	0.00	1.200	1.649	5.00	15.231	18.28	115.3	349.1	1006.0
90.00		1.00	0.96	5.830	6.41	0.00	1.200	1.658	5.00	14.741	17.69	113.4	339.0	972.1
95.00		1.00	0.97	5.921	6.51	0.00	1.200	1.667	5.00	14.252	17.10	111.4	328.7	937.9
97.75 Bot - Section 3		1.00	0.98	5.970	6.57	0.00	1.200	1.672	2.75	7.629	9.15	60.1	177.6	502.6
100.00		1.00	0.99	6.008	6.61	0.00	1.200	1.676	2.25	6.203	7.44	49.2	144.9	564.5
101.50 Top - Section 2		1.00	0.99	6.034	6.64	0.00	1.200	1.678	1.50	4.080	4.90	32.5	95.7	371.1
105.00		1.00	1.00	6.093	6.70	0.00	1.200	1.684	3.50	9.349	11.22	75.2	217.9	456.6
110.00		1.00	1.02	6.174	6.79	0.00	1.200	1.692	5.00	12.940	15.53	105.5	300.4	629.2
115.00		1.00	1.03	6.253	6.88	0.00	1.200	1.699	5.00	12.449	14.94	102.8	289.3	603.8
119.00 Appurtenance(s)		1.00	1.04	6.315	6.95	0.00	1.200	1.705	4.00	9.605	11.53	80.1	224.2	465.6
120.00		1.00	1.04	6.330	6.96	0.00	1.200	1.707	1.00	2.352	2.82	19.7	55.6	114.5
125.00		1.00	1.05	6.404	7.04	0.00	1.200	1.714	5.00	11.467	13.76	96.9	266.6	552.6
128.00 Appurtenance(s)		1.00	1.06	6.448	7.09	0.00	1.200	1.718	3.00	6.644	7.97	56.5	155.8	320.6
129.00 Top - Section 3		1.00	1.06	6.462	7.11	0.00	1.200	1.719	1.00	2.175	2.61	18.6	51.5	105.3
130.00		1.00	1.07	6.476	7.12	0.00	1.200	1.720	1.00	2.155	2.59	18.4	51.0	104.2
135.00		1.00	1.08	6.546	7.20	0.00	1.200	1.727	5.00	10.484	12.58	90.6	243.4	500.8
138.50 Appurtenance(s)		1.00	1.08	6.594	7.25	0.00	1.200	1.731	3.50	7.045	8.45	61.3	164.6	336.3
139.00		1.00	1.09	6.601	7.26	0.00	1.200	1.732	0.50	0.987	1.18	8.6	23.4	47.4
Totals:									139.00			3,129.6		29,544.9

Discrete Appurtenance Forces

Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 24

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	138.50	Low Profile Platform	1	6.594	7.254	1.00	1.00	66.83	3718.21	0.000	0.000	484.75	0.00	0.00
2	128.00	Ericsson - KRY 112 114-1	3	6.448	7.092	0.40	0.80	1.05	62.13	0.000	0.000	7.47	0.00	0.00
3	128.00	Ericsson - AIR21 B4A	3	6.448	7.092	0.70	0.80	14.94	687.33	0.000	0.000	105.99	0.00	0.00
4	128.00	Ericsson - AIR21 B2A	3	6.448	7.092	0.70	0.80	14.94	691.41	0.000	0.000	105.99	0.00	0.00
5	128.00	Low Profile Platform	1	6.448	7.092	1.00	1.00	59.79	3247.15	0.000	0.000	424.06	0.00	0.00
6	119.00	Ericsson - RRUS-32 B2 -	3	6.315	6.946	0.54	0.80	5.91	355.21	0.000	0.000	41.04	0.00	0.00
7	119.00	Low Profile Platform	1	6.315	6.946	1.00	1.00	73.10	3994.75	0.000	0.000	507.79	0.00	0.00
8	119.00	Raycap -	2	6.315	6.946	0.80	0.80	2.16	161.74	0.000	0.000	14.98	0.00	0.00
9	119.00	Ericsson - RRUS 32 B30 -	3	6.315	6.946	0.54	0.80	5.91	408.76	0.000	0.000	41.04	0.00	0.00
10	119.00	Ericsson - RRUS-11 -	3	6.315	6.946	0.54	0.80	5.05	347.46	0.000	0.000	35.06	0.00	0.00
11	119.00	Kaelus -	6	6.315	6.946	0.40	0.80	1.70	247.12	0.000	0.000	11.81	0.00	0.00
12	119.00	Powerwave -	3	6.315	6.946	0.40	0.80	1.46	99.53	0.000	0.000	10.16	0.00	0.00
13	119.00	Powerwave - LGP21401 -	9	6.315	6.946	0.40	0.80	7.58	308.24	0.000	0.000	52.68	0.00	0.00
14	119.00	Cci - HPA-65R-BUU-H6	3	6.315	6.946	0.68	0.80	22.33	714.18	0.000	0.000	155.10	0.00	0.00
15	119.00	Quintel - QS66512-2	3	6.315	6.946	0.74	0.80	20.82	872.34	0.000	0.000	144.61	0.00	0.00
16	119.00	Powerwave - 7770	6	6.315	6.946	0.63	0.80	24.74	1235.66	0.000	0.000	171.86	0.00	0.00
Totals:									17,151.21			2,314.40		

Total Applied Force Summary

Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 24

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		126.85	1595.18	0.00	0.00
10.00		124.48	1591.12	0.00	0.00
15.00		121.94	1575.02	0.00	0.00
20.00		119.34	1553.60	0.00	0.00
25.00		116.70	1529.08	0.00	0.00
30.00		114.13	1502.52	0.00	0.00
35.00		116.46	1474.48	0.00	0.00
40.00		118.06	1445.31	0.00	0.00
45.00		119.06	1415.25	0.00	0.00
48.00		71.26	835.26	0.00	0.00
50.00		48.12	879.89	0.00	0.00
53.25		78.53	1410.44	0.00	0.00
55.00		42.10	477.47	0.00	0.00
60.00		121.10	1340.07	0.00	0.00
65.00		120.49	1307.76	0.00	0.00
70.00		119.58	1275.06	0.00	0.00
75.00		118.40	1242.01	0.00	0.00
80.00		116.97	1208.65	0.00	0.00
85.00		115.32	1175.00	0.00	0.00
90.00		113.45	1141.10	0.00	0.00
95.00		111.39	1106.97	0.00	0.00
97.75		60.11	595.51	0.00	0.00
100.00		49.19	640.56	0.00	0.00
101.50		32.50	421.80	0.00	0.00
105.00		75.19	574.89	0.00	0.00
110.00		105.46	798.22	0.00	0.00
115.00		102.76	772.85	0.00	0.00
119.00	(42) attachments	1266.20	9345.79	0.00	0.00
120.00		19.65	130.74	0.00	0.00
125.00		96.93	633.74	0.00	0.00
128.00	(10) attachments	700.05	5057.26	0.00	0.00
129.00		18.55	105.25	0.00	0.00
130.00		18.42	104.22	0.00	0.00
135.00		90.59	500.85	0.00	0.00
138.50	(1) attachments	546.08	4054.54	0.00	0.00
139.00		8.60	47.36	0.00	0.00
	Totals:	5,444.02	50,864.84	0.00	0.00

Calculated Forces

Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

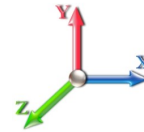


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 24

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	-50.86	-5.46	0.00	-541.75	0.00	541.75	3147.71	1573.86	6633.45	3321.65	0.00	0.000	0.000	0.179
5.00	-49.26	-5.38	0.00	-514.43	0.00	514.43	3110.30	1555.15	6403.28	3206.40	0.02	-0.045	0.000	0.176
10.00	-47.67	-5.29	0.00	-487.55	0.00	487.55	3071.25	1535.62	6173.46	3091.32	0.10	-0.090	0.000	0.173
15.00	-46.09	-5.20	0.00	-461.12	0.00	461.12	3030.56	1515.28	5944.24	2976.54	0.21	-0.136	0.000	0.170
20.00	-44.53	-5.11	0.00	-435.12	0.00	435.12	2988.24	1494.12	5715.85	2862.17	0.38	-0.183	0.000	0.167
25.00	-43.00	-5.03	0.00	-409.56	0.00	409.56	2944.28	1472.14	5488.53	2748.34	0.60	-0.231	0.000	0.164
30.00	-41.49	-4.94	0.00	-384.43	0.00	384.43	2898.69	1449.34	5262.51	2635.17	0.87	-0.279	0.000	0.160
35.00	-40.01	-4.85	0.00	-359.73	0.00	359.73	2851.46	1425.73	5038.05	2522.77	1.19	-0.328	0.000	0.157
40.00	-38.57	-4.76	0.00	-335.47	0.00	335.47	2802.60	1401.30	4815.37	2411.26	1.56	-0.378	0.000	0.153
45.00	-37.15	-4.65	0.00	-311.69	0.00	311.69	2752.10	1376.05	4594.71	2300.77	1.98	-0.428	0.000	0.149
48.00	-36.31	-4.59	0.00	-297.72	0.00	297.72	2721.01	1360.51	4463.39	2235.01	2.26	-0.459	0.000	0.147
50.00	-35.43	-4.56	0.00	-288.54	0.00	288.54	2699.97	1349.98	4376.32	2191.41	2.46	-0.480	0.000	0.145
53.25	-34.02	-4.48	0.00	-273.73	0.00	273.73	2693.71	1346.85	4350.71	2178.59	2.80	-0.514	0.000	0.138
55.00	-33.54	-4.45	0.00	-265.89	0.00	265.89	2675.00	1337.50	4274.96	2140.66	2.99	-0.533	0.000	0.137
60.00	-32.20	-4.35	0.00	-243.63	0.00	243.63	2620.47	1310.24	4060.32	2033.18	3.57	-0.582	0.000	0.132
65.00	-30.89	-4.24	0.00	-221.89	0.00	221.89	2564.30	1282.15	3848.53	1927.13	4.21	-0.631	0.000	0.127
70.00	-29.61	-4.13	0.00	-200.70	0.00	200.70	2506.50	1253.25	3639.84	1822.63	4.90	-0.680	0.000	0.122
75.00	-28.36	-4.02	0.00	-180.05	0.00	180.05	2447.06	1223.53	3434.48	1719.79	5.63	-0.729	0.000	0.116
80.00	-27.15	-3.91	0.00	-159.94	0.00	159.94	2385.98	1192.99	3232.68	1618.74	6.42	-0.777	0.000	0.110
85.00	-25.98	-3.80	0.00	-140.39	0.00	140.39	2323.27	1161.64	3034.69	1519.60	7.26	-0.824	0.000	0.104
90.00	-24.84	-3.69	0.00	-121.39	0.00	121.39	2258.93	1129.46	2840.75	1422.49	8.15	-0.870	0.000	0.096
95.00	-23.73	-3.57	0.00	-102.95	0.00	102.95	2173.88	1086.94	2628.05	1315.98	9.09	-0.915	0.000	0.089
97.75	-23.13	-3.51	0.00	-93.12	0.00	93.12	2126.27	1063.14	2513.60	1258.67	9.62	-0.938	0.000	0.085
100.00	-22.49	-3.46	0.00	-85.22	0.00	85.22	2087.31	1043.66	2421.85	1212.73	10.07	-0.957	0.000	0.081
101.50	-22.07	-3.43	0.00	-80.03	0.00	80.03	1088.23	544.12	1274.83	638.36	10.37	-0.970	0.000	0.146
105.00	-21.49	-3.36	0.00	-68.03	0.00	68.03	1070.27	535.14	1217.34	609.58	11.09	-0.997	0.000	0.132
110.00	-20.70	-3.26	0.00	-51.24	0.00	51.24	1043.23	521.61	1135.83	568.76	12.17	-1.050	0.000	0.110
115.00	-19.92	-3.15	0.00	-34.96	0.00	34.96	1014.55	507.27	1055.24	528.40	13.29	-1.094	0.000	0.086
119.00	-10.60	-1.71	0.00	-22.36	0.00	22.36	990.42	495.21	991.60	496.54	14.22	-1.121	0.000	0.056
120.00	-10.47	-1.69	0.00	-20.65	0.00	20.65	984.23	492.11	975.83	488.64	14.46	-1.126	0.000	0.053
125.00	-9.84	-1.58	0.00	-12.21	0.00	12.21	952.28	476.14	897.82	449.58	15.65	-1.148	0.000	0.038
128.00	-4.80	-0.78	0.00	-7.47	0.00	7.47	932.32	466.16	851.79	426.53	16.37	-1.158	0.000	0.023
129.00	-4.69	-0.76	0.00	-6.69	0.00	6.69	925.54	462.77	836.59	418.92	16.62	-1.160	0.000	0.021
129.00	-4.69	-0.76	0.00	-6.69	0.00	6.69	925.54	462.77	836.59	418.92	16.62	-1.160	0.000	0.021
130.00	-4.59	-0.74	0.00	-5.93	0.00	5.93	918.69	459.34	821.46	411.34	16.86	-1.162	0.000	0.019
135.00	-4.09	-0.64	0.00	-2.24	0.00	2.24	883.47	441.73	746.98	374.05	18.08	-1.170	0.000	0.011
138.50	-0.05	-0.01	0.00	0.00	0.00	0.00	857.84	428.92	696.10	348.57	18.94	-1.172	0.000	0.000
139.00	0.00	-0.01	0.00	0.00	0.00	0.00	854.11	427.06	688.92	344.97	19.06	-1.172	0.000	0.000

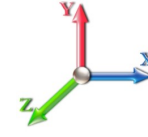
Seismic Segment Forces (Factored)

Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E					Iterations 22
Gust Response Factor	1.10			Sds	0.22
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.11
Wind Load Factor	0.00	Structure Frequency	0.38	SA	0.04
				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		854.05	0.00	0.03	0.02	19.36	
10.00		834.22	0.01	0.05	0.03	26.88	
15.00		814.40	0.02	0.07	0.04	29.87	
20.00		794.57	0.04	0.07	0.04	30.90	
25.00		774.75	0.06	0.07	0.04	31.16	
30.00		754.92	0.09	0.07	0.04	31.18	
35.00		735.10	0.12	0.07	0.03	31.15	
40.00		715.27	0.16	0.07	0.03	30.97	
45.00		695.45	0.20	0.06	0.02	30.32	
48.00	Bot - Section 2	407.75	0.23	0.06	0.02	17.60	
50.00		539.96	0.24	0.06	0.02	22.96	
53.25	Top - Section 1	863.90	0.28	0.05	0.01	35.07	
55.00		230.96	0.30	0.05	0.01	9.01	
60.00		646.52	0.35	0.03	0.01	20.66	
65.00		626.69	0.41	0.01	0.01	12.84	
70.00		606.87	0.48	-0.01	0.01	3.03	
75.00		587.04	0.55	-0.03	0.01	-7.25	
80.00		567.22	0.63	-0.06	0.02	-15.94	
85.00		547.39	0.71	-0.09	0.03	-21.40	
90.00		527.57	0.79	-0.11	0.05	-22.99	
95.00		507.74	0.88	-0.12	0.08	-20.85	
97.75	Bot - Section 3	270.81	0.93	-0.12	0.10	-9.94	
100.00		349.65	0.98	-0.11	0.12	-11.04	
101.50	Top - Section 2	229.53	1.01	-0.11	0.14	-6.29	
105.00		198.89	1.08	-0.08	0.17	-3.04	
110.00		274.02	1.18	-0.01	0.24	2.14	
115.00		262.13	1.29	0.11	0.33	9.86	
119.00	Appurtenance(s)	3580.0	1.39	0.26	0.42	237.73	
120.00		49.09	1.41	0.30	0.44	3.65	
125.00		238.34	1.53	0.57	0.58	28.11	
128.00	Appurtenance(s)	2365.9	1.60	0.79	0.67	349.12	
129.00	Top - Section 3	44.81	1.63	0.87	0.71	7.08	
130.00		44.34	1.65	0.95	0.74	7.48	
135.00		214.55	1.78	1.46	0.95	48.67	
138.50	Appurtenance(s)	1943.1	1.88	1.91	1.11	528.56	
139.00		19.97	1.89	1.98	1.14	5.57	
Totals:		23,717.6				1,492.2	Total Wind: 16,951.8

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

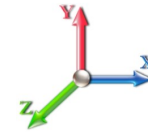
Calculated Forces

Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E						Iterations 22
Gust Response Factor	1.10		Sds	0.22		Ss 0.21
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.11	S1 0.07
Wind Load Factor	0.00	Structure Frequency	0.38	SA	0.04	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	-32.63	-1.61	0.00	-181.77	0.00	181.77	3147.71	1573.86	6633.45	3321.65	0.00	0.00	0.00	0.065
5.00	-31.44	-1.60	0.00	-173.70	0.00	173.70	3110.30	1555.15	6403.28	3206.40	0.01	-0.02	0.064	
10.00	-30.26	-1.58	0.00	-165.69	0.00	165.69	3071.25	1535.62	6173.46	3091.32	0.03	-0.03	0.063	
15.00	-29.12	-1.56	0.00	-157.77	0.00	157.77	3030.56	1515.28	5944.24	2976.54	0.07	-0.05	0.063	
20.00	-28.00	-1.54	0.00	-149.97	0.00	149.97	2988.24	1494.12	5715.85	2862.17	0.13	-0.06	0.062	
25.00	-26.90	-1.51	0.00	-142.28	0.00	142.28	2944.28	1472.14	5488.53	2748.34	0.20	-0.08	0.061	
30.00	-25.82	-1.49	0.00	-134.72	0.00	134.72	2898.69	1449.34	5262.51	2635.17	0.30	-0.10	0.060	
35.00	-24.77	-1.46	0.00	-127.28	0.00	127.28	2851.46	1425.73	5038.05	2522.77	0.40	-0.11	0.059	
40.00	-23.74	-1.44	0.00	-119.97	0.00	119.97	2802.60	1401.30	4815.37	2411.26	0.53	-0.13	0.058	
45.00	-22.74	-1.41	0.00	-112.79	0.00	112.79	2752.10	1376.05	4594.71	2300.77	0.68	-0.15	0.057	
48.00	-22.15	-1.39	0.00	-108.56	0.00	108.56	2721.01	1360.51	4463.39	2235.01	0.78	-0.16	0.057	
50.00	-21.43	-1.37	0.00	-105.78	0.00	105.78	2699.97	1349.98	4376.32	2191.41	0.84	-0.17	0.056	
53.25	-20.28	-1.34	0.00	-101.32	0.00	101.32	2693.71	1346.85	4350.71	2178.59	0.96	-0.18	0.054	
55.00	-19.95	-1.33	0.00	-98.98	0.00	98.98	2675.00	1337.50	4274.96	2140.66	1.03	-0.19	0.054	
60.00	-19.00	-1.31	0.00	-92.32	0.00	92.32	2620.47	1310.24	4060.32	2033.18	1.24	-0.21	0.053	
65.00	-18.08	-1.30	0.00	-85.75	0.00	85.75	2564.30	1282.15	3848.53	1927.13	1.46	-0.22	0.052	
70.00	-17.18	-1.30	0.00	-79.23	0.00	79.23	2506.50	1253.25	3639.84	1822.63	1.71	-0.24	0.050	
75.00	-16.31	-1.30	0.00	-72.72	0.00	72.72	2447.06	1223.53	3434.48	1719.79	1.97	-0.26	0.049	
80.00	-15.46	-1.31	0.00	-66.20	0.00	66.20	2385.98	1192.99	3232.68	1618.74	2.26	-0.28	0.047	
85.00	-14.63	-1.31	0.00	-59.67	0.00	59.67	2323.27	1161.64	3034.69	1519.60	2.56	-0.30	0.046	
90.00	-13.83	-1.31	0.00	-53.13	0.00	53.13	2258.93	1129.46	2840.75	1422.49	2.89	-0.32	0.043	
95.00	-13.05	-1.31	0.00	-46.60	0.00	46.60	2173.88	1086.94	2628.05	1315.98	3.24	-0.34	0.041	
97.75	-12.63	-1.31	0.00	-43.01	0.00	43.01	2126.27	1063.14	2513.60	1258.67	3.44	-0.35	0.040	
100.00	-12.14	-1.30	0.00	-40.07	0.00	40.07	2087.31	1043.66	2421.85	1212.73	3.61	-0.36	0.039	
101.50	-11.81	-1.30	0.00	-38.11	0.00	38.11	1088.23	544.12	1274.83	638.36	3.72	-0.37	0.071	
105.00	-11.45	-1.31	0.00	-33.55	0.00	33.55	1070.27	535.14	1217.34	609.58	4.00	-0.38	0.066	
110.00	-10.96	-1.31	0.00	-27.02	0.00	27.02	1043.23	521.61	1135.83	568.76	4.41	-0.41	0.058	
115.00	-10.47	-1.30	0.00	-20.49	0.00	20.49	1014.55	507.27	1055.24	528.40	4.85	-0.43	0.049	
119.00	-6.04	-1.03	0.00	-15.31	0.00	15.31	990.42	495.21	991.60	496.54	5.22	-0.45	0.037	
120.00	-5.97	-1.02	0.00	-14.28	0.00	14.28	984.23	492.11	975.83	488.64	5.31	-0.45	0.035	
125.00	-5.60	-0.99	0.00	-9.17	0.00	9.17	952.28	476.14	897.82	449.58	5.80	-0.47	0.026	
128.00	-2.72	-0.62	0.00	-6.20	0.00	6.20	932.32	466.16	851.79	426.53	6.09	-0.48	0.017	
129.00	-2.66	-0.61	0.00	-5.58	0.00	5.58	925.54	462.77	836.59	418.92	6.19	-0.48	0.016	
129.00	-2.66	-0.61	0.00	-5.58	0.00	5.58	925.54	462.77	836.59	418.92	6.19	-0.48	0.016	
130.00	-2.61	-0.60	0.00	-4.96	0.00	4.96	918.69	459.34	821.46	411.34	6.29	-0.48	0.015	
135.00	-2.35	-0.55	0.00	-1.94	0.00	1.94	883.47	441.73	746.98	374.05	6.80	-0.49	0.008	
138.50	-0.02	-0.01	0.00	0.00	0.00	0.00	857.84	428.92	696.10	348.57	7.16	-0.49	0.000	
139.00	0.00	-0.01	0.00	0.00	0.00	0.00	854.11	427.06	688.92	344.97	7.21	-0.49	0.000	

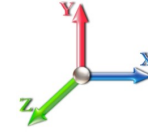
Seismic Segment Forces (Factored)

Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E					Iterations 22
Gust Response Factor	1.10		Sds	0.22	Ss 0.21
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1 0.11	S1 0.07
Wind Load Factor	0.00	Structure Frequency	0.38	SA 0.04	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		854.05	0.00	0.03	0.02	19.36	
10.00		834.22	0.01	0.05	0.03	26.88	
15.00		814.40	0.02	0.07	0.04	29.87	
20.00		794.57	0.04	0.07	0.04	30.90	
25.00		774.75	0.06	0.07	0.04	31.16	
30.00		754.92	0.09	0.07	0.04	31.18	
35.00		735.10	0.12	0.07	0.03	31.15	
40.00		715.27	0.16	0.07	0.03	30.97	
45.00		695.45	0.20	0.06	0.02	30.32	
48.00	Bot - Section 2	407.75	0.23	0.06	0.02	17.60	
50.00		539.96	0.24	0.06	0.02	22.96	
53.25	Top - Section 1	863.90	0.28	0.05	0.01	35.07	
55.00		230.96	0.30	0.05	0.01	9.01	
60.00		646.52	0.35	0.03	0.01	20.66	
65.00		626.69	0.41	0.01	0.01	12.84	
70.00		606.87	0.48	-0.01	0.01	3.03	
75.00		587.04	0.55	-0.03	0.01	-7.25	
80.00		567.22	0.63	-0.06	0.02	-15.94	
85.00		547.39	0.71	-0.09	0.03	-21.40	
90.00		527.57	0.79	-0.11	0.05	-22.99	
95.00		507.74	0.88	-0.12	0.08	-20.85	
97.75	Bot - Section 3	270.81	0.93	-0.12	0.10	-9.94	
100.00		349.65	0.98	-0.11	0.12	-11.04	
101.50	Top - Section 2	229.53	1.01	-0.11	0.14	-6.29	
105.00		198.89	1.08	-0.08	0.17	-3.04	
110.00		274.02	1.18	-0.01	0.24	2.14	
115.00		262.13	1.29	0.11	0.33	9.86	
119.00	Appurtenance(s)	3580.0	1.39	0.26	0.42	237.73	
120.00		49.09	1.41	0.30	0.44	3.65	
125.00		238.34	1.53	0.57	0.58	28.11	
128.00	Appurtenance(s)	2365.9	1.60	0.79	0.67	349.12	
129.00	Top - Section 3	44.81	1.63	0.87	0.71	7.08	
130.00		44.34	1.65	0.95	0.74	7.48	
135.00		214.55	1.78	1.46	0.95	48.67	
138.50	Appurtenance(s)	1943.1	1.88	1.91	1.11	528.56	
139.00		19.97	1.89	1.98	1.14	5.57	
Totals:		23,717.6				1,492.2	Total Wind: 16,951.8

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

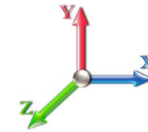
Calculated Forces

Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E						Iterations 22
Gust Response Factor	1.10			Sds	0.22	Ss 0.21
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.11	S1 0.07
Wind Load Factor	0.00	Structure Frequency	0.38	SA	0.04	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	-24.47	-1.61	0.00	-179.78	0.00	179.78	3147.71	1573.86	6633.45	3321.65	0.00	0.00	0.00	0.062
5.00	-23.58	-1.60	0.00	-171.71	0.00	171.71	3110.30	1555.15	6403.28	3206.40	0.01	-0.01	0.061	
10.00	-22.70	-1.58	0.00	-163.71	0.00	163.71	3071.25	1535.62	6173.46	3091.32	0.03	-0.03	0.060	
15.00	-21.84	-1.55	0.00	-155.82	0.00	155.82	3030.56	1515.28	5944.24	2976.54	0.07	-0.05	0.060	
20.00	-21.00	-1.53	0.00	-148.05	0.00	148.05	2988.24	1494.12	5715.85	2862.17	0.13	-0.06	0.059	
25.00	-20.17	-1.50	0.00	-140.41	0.00	140.41	2944.28	1472.14	5488.53	2748.34	0.20	-0.08	0.058	
30.00	-19.36	-1.48	0.00	-132.90	0.00	132.90	2898.69	1449.34	5262.51	2635.17	0.29	-0.09	0.057	
35.00	-18.58	-1.45	0.00	-125.53	0.00	125.53	2851.46	1425.73	5038.05	2522.77	0.40	-0.11	0.056	
40.00	-17.81	-1.42	0.00	-118.29	0.00	118.29	2802.60	1401.30	4815.37	2411.26	0.53	-0.13	0.055	
45.00	-17.05	-1.39	0.00	-111.18	0.00	111.18	2752.10	1376.05	4594.71	2300.77	0.67	-0.15	0.055	
48.00	-16.61	-1.38	0.00	-107.00	0.00	107.00	2721.01	1360.51	4463.39	2235.01	0.77	-0.16	0.054	
50.00	-16.07	-1.36	0.00	-104.25	0.00	104.25	2699.97	1349.98	4376.32	2191.41	0.83	-0.17	0.054	
53.25	-15.21	-1.32	0.00	-99.84	0.00	99.84	2693.71	1346.85	4350.71	2178.59	0.95	-0.18	0.051	
55.00	-14.96	-1.31	0.00	-97.53	0.00	97.53	2675.00	1337.50	4274.96	2140.66	1.02	-0.18	0.051	
60.00	-14.25	-1.30	0.00	-90.96	0.00	90.96	2620.47	1310.24	4060.32	2033.18	1.22	-0.20	0.050	
65.00	-13.56	-1.28	0.00	-84.48	0.00	84.48	2564.30	1282.15	3848.53	1927.13	1.44	-0.22	0.049	
70.00	-12.89	-1.28	0.00	-78.06	0.00	78.06	2506.50	1253.25	3639.84	1822.63	1.68	-0.24	0.048	
75.00	-12.23	-1.28	0.00	-71.65	0.00	71.65	2447.06	1223.53	3434.48	1719.79	1.95	-0.26	0.047	
80.00	-11.59	-1.29	0.00	-65.22	0.00	65.22	2385.98	1192.99	3232.68	1618.74	2.23	-0.28	0.045	
85.00	-10.97	-1.29	0.00	-58.80	0.00	58.80	2323.27	1161.64	3034.69	1519.60	2.53	-0.30	0.043	
90.00	-10.37	-1.29	0.00	-52.37	0.00	52.37	2258.93	1129.46	2840.75	1422.49	2.85	-0.32	0.041	
95.00	-9.79	-1.29	0.00	-45.94	0.00	45.94	2173.88	1086.94	2628.05	1315.98	3.20	-0.34	0.039	
97.75	-9.47	-1.29	0.00	-42.40	0.00	42.40	2126.27	1063.14	2513.60	1258.67	3.39	-0.35	0.038	
100.00	-9.10	-1.28	0.00	-39.51	0.00	39.51	2087.31	1043.66	2421.85	1212.73	3.56	-0.36	0.037	
101.50	-8.86	-1.28	0.00	-37.58	0.00	37.58	1088.23	544.12	1274.83	638.36	3.67	-0.36	0.067	
105.00	-8.59	-1.29	0.00	-33.09	0.00	33.09	1070.27	535.14	1217.34	609.58	3.94	-0.38	0.062	
110.00	-8.21	-1.28	0.00	-26.66	0.00	26.66	1043.23	521.61	1135.83	568.76	4.35	-0.40	0.055	
115.00	-7.85	-1.27	0.00	-20.24	0.00	20.24	1014.55	507.27	1055.24	528.40	4.79	-0.43	0.046	
119.00	-4.53	-1.01	0.00	-15.14	0.00	15.14	990.42	495.21	991.60	496.54	5.15	-0.44	0.035	
120.00	-4.47	-1.01	0.00	-14.13	0.00	14.13	984.23	492.11	975.83	488.64	5.24	-0.45	0.033	
125.00	-4.20	-0.98	0.00	-9.08	0.00	9.08	952.28	476.14	897.82	449.58	5.72	-0.46	0.025	
128.00	-2.04	-0.61	0.00	-6.14	0.00	6.14	932.32	466.16	851.79	426.53	6.01	-0.47	0.017	
129.00	-1.99	-0.61	0.00	-5.52	0.00	5.52	925.54	462.77	836.59	418.92	6.11	-0.47	0.015	
129.00	-1.99	-0.61	0.00	-5.52	0.00	5.52	925.54	462.77	836.59	418.92	6.11	-0.47	0.015	
130.00	-1.95	-0.60	0.00	-4.92	0.00	4.92	918.69	459.34	821.46	411.34	6.21	-0.47	0.014	
135.00	-1.76	-0.55	0.00	-1.92	0.00	1.92	883.47	441.73	746.98	374.05	6.71	-0.48	0.007	
138.50	-0.02	-0.01	0.00	0.00	0.00	0.00	857.84	428.92	696.10	348.57	7.06	-0.48	0.000	
139.00	0.00	-0.01	0.00	0.00	0.00	0.00	854.11	427.06	688.92	344.97	7.11	-0.48	0.000	

Wind Loading - Shaft

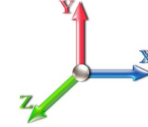
Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 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	0.70	6.129	6.74	218.81	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	6.129	6.74	213.82	0.650	0.000	5.00	21.545	14.00	94.4	0.0	854.0
10.00		1.00	0.70	6.129	6.74	208.83	0.650	0.000	5.00	21.048	13.68	92.2	0.0	834.2
15.00		1.00	0.70	6.129	6.74	203.83	0.650	0.000	5.00	20.551	13.36	90.1	0.0	814.4
20.00		1.00	0.70	6.129	6.74	198.84	0.650	0.000	5.00	20.054	13.04	87.9	0.0	794.6
25.00		1.00	0.70	6.129	6.74	193.85	0.650	0.000	5.00	19.557	12.71	85.7	0.0	774.7
30.00		1.00	0.70	6.134	6.75	188.94	0.650	0.000	5.00	19.060	12.39	83.6	0.0	754.9
35.00		1.00	0.73	6.410	7.05	188.05	0.650	0.000	5.00	18.563	12.07	85.1	0.0	735.1
40.00		1.00	0.76	6.659	7.33	186.47	0.650	0.000	5.00	18.066	11.74	86.0	0.0	715.3
45.00		1.00	0.79	6.887	7.58	184.34	0.650	0.000	5.00	17.569	11.42	86.5	0.0	695.4
48.00	Bot - Section 2	1.00	0.80	7.015	7.72	182.84	0.650	0.000	3.00	10.303	6.70	51.7	0.0	407.8
50.00		1.00	0.81	7.098	7.81	181.76	0.650	0.000	2.00	6.875	4.47	34.9	0.0	540.0
53.25	Top - Section 1	1.00	0.83	7.227	7.95	179.88	0.650	0.000	3.25	11.002	7.15	56.8	0.0	863.9
55.00		1.00	0.83	7.294	8.02	181.71	0.650	0.000	1.75	5.837	3.79	30.4	0.0	231.0
60.00		1.00	0.85	7.477	8.22	178.47	0.650	0.000	5.00	16.342	10.62	87.4	0.0	646.5
65.00		1.00	0.87	7.650	8.42	174.95	0.650	0.000	5.00	15.845	10.30	86.7	0.0	626.7
70.00		1.00	0.89	7.814	8.60	171.17	0.650	0.000	5.00	15.348	9.98	85.7	0.0	606.9
75.00		1.00	0.91	7.969	8.77	167.18	0.650	0.000	5.00	14.851	9.65	84.6	0.0	587.0
80.00		1.00	0.93	8.118	8.93	162.98	0.650	0.000	5.00	14.354	9.33	83.3	0.0	567.2
85.00		1.00	0.94	8.260	9.09	158.61	0.650	0.000	5.00	13.857	9.01	81.8	0.0	547.4
90.00		1.00	0.96	8.396	9.24	154.07	0.650	0.000	5.00	13.359	8.68	80.2	0.0	527.6
95.00		1.00	0.97	8.526	9.38	149.37	0.650	0.000	5.00	12.862	8.36	78.4	0.0	507.7
97.75	Bot - Section 3	1.00	0.98	8.596	9.46	146.73	0.650	0.000	2.75	6.862	4.46	42.2	0.0	270.8
100.00		1.00	0.99	8.652	9.52	144.54	0.650	0.000	2.25	5.574	3.62	34.5	0.0	349.7
101.50	Top - Section 2	1.00	0.99	8.689	9.56	143.07	0.650	0.000	1.50	3.660	2.38	22.7	0.0	229.5
105.00		1.00	1.00	8.774	9.65	141.49	0.650	0.000	3.50	8.367	5.44	52.5	0.0	198.9
110.00		1.00	1.02	8.891	9.78	136.42	0.650	0.000	5.00	11.530	7.49	73.3	0.0	274.0
115.00		1.00	1.03	9.005	9.91	131.24	0.650	0.000	5.00	11.033	7.17	71.0	0.0	262.1
119.00	Appurtenance(s)	1.00	1.04	9.093	10.00	127.02	0.650	0.000	4.00	8.468	5.50	55.1	0.0	201.1
120.00		1.00	1.04	9.115	10.03	125.96	0.650	0.000	1.00	2.067	1.34	13.5	0.0	49.1
125.00		1.00	1.05	9.222	10.14	120.57	0.650	0.000	5.00	10.039	6.53	66.2	0.0	238.3
128.00	Appurtenance(s)	1.00	1.06	9.284	10.21	117.30	0.650	0.000	3.00	5.785	3.76	38.4	0.0	137.3
129.00	Top - Section 3	1.00	1.06	9.305	10.24	116.20	0.650	0.000	1.00	1.888	1.23	12.6	0.0	44.8
130.00		1.00	1.07	9.326	10.26	115.09	0.650	0.000	1.00	1.869	1.21	12.5	0.0	44.3
135.00		1.00	1.08	9.427	10.37	109.53	0.650	0.000	5.00	9.045	5.88	61.0	0.0	214.5
138.50	Appurtenance(s)	1.00	1.08	9.496	10.45	105.58	0.650	0.000	3.50	6.035	3.92	41.0	0.0	143.1
139.00		1.00	1.09	9.506	10.46	105.01	0.650	0.000	0.50	0.842	0.55	5.7	0.0	20.0
Totals:									139.00			2,235.5		16,310.0

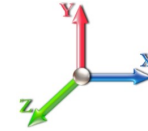
Discrete Appurtenance Forces

Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 24
	Struct Class: II	



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
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	138.50	Low Profile Platform	1	9.496	10.446	1.00	1.00	37.20	1800.00	0.000	0.000	388.57	0.00	0.00
2	128.00	Ericsson - KRY 112 114-1	3	9.284	10.213	0.40	0.80	0.49	33.00	0.000	0.000	5.02	0.00	0.00
3	128.00	Ericsson - AIR21 B4A	3	9.284	10.213	0.68	0.80	12.48	271.20	0.000	0.000	127.48	0.00	0.00
4	128.00	Ericsson - AIR21 B2A	3	9.284	10.213	0.68	0.80	12.48	274.50	0.000	0.000	127.48	0.00	0.00
5	128.00	Low Profile Platform	1	9.284	10.213	1.00	1.00	33.40	1650.00	0.000	0.000	341.11	0.00	0.00
6	119.00	Ericsson - RRUS-32 B2 -	3	9.093	10.002	0.54	0.80	4.41	159.00	0.000	0.000	44.07	0.00	0.00
7	119.00	Low Profile Platform	1	9.093	10.002	1.00	1.00	40.20	1800.00	0.000	0.000	402.09	0.00	0.00
8	119.00	Raycap -	2	9.093	10.002	0.80	0.80	1.47	63.60	0.000	0.000	14.72	0.00	0.00
9	119.00	Ericsson - RRUS 32 B30 -	3	9.093	10.002	0.54	0.80	4.41	180.00	0.000	0.000	44.07	0.00	0.00
10	119.00	Ericsson - RRUS-11 -	3	9.093	10.002	0.54	0.80	4.05	153.00	0.000	0.000	40.53	0.00	0.00
11	119.00	Kaelus -	6	9.093	10.002	0.40	0.80	1.03	152.40	0.000	0.000	10.32	0.00	0.00
12	119.00	Powerwave -	3	9.093	10.002	0.40	0.80	0.77	48.00	0.000	0.000	7.68	0.00	0.00
13	119.00	Powerwave - LGP21401 -	9	9.093	10.002	0.40	0.80	4.64	126.90	0.000	0.000	46.45	0.00	0.00
14	119.00	Cci - HPA-65R-BUU-H6	3	9.093	10.002	0.67	0.80	19.34	153.00	0.000	0.000	193.40	0.00	0.00
15	119.00	Quintel - QS66512-2	3	9.093	10.002	0.73	0.80	17.91	333.00	0.000	0.000	179.16	0.00	0.00
16	119.00	Powerwave - 7770	6	9.093	10.002	0.61	0.80	20.22	210.00	0.000	0.000	202.27	0.00	0.00
Totals:									7,407.60			2,174.44		

Total Applied Force Summary

Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 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		94.41	994.90	0.00	0.00
10.00		92.23	975.07	0.00	0.00
15.00		90.05	955.25	0.00	0.00
20.00		87.88	935.42	0.00	0.00
25.00		85.70	915.60	0.00	0.00
30.00		83.59	895.77	0.00	0.00
35.00		85.08	875.95	0.00	0.00
40.00		86.02	856.12	0.00	0.00
45.00		86.51	836.30	0.00	0.00
48.00		51.68	492.26	0.00	0.00
50.00		34.89	596.30	0.00	0.00
53.25		56.85	955.45	0.00	0.00
55.00		30.44	280.26	0.00	0.00
60.00		87.37	787.37	0.00	0.00
65.00		86.67	767.54	0.00	0.00
70.00		85.75	747.72	0.00	0.00
75.00		84.62	727.89	0.00	0.00
80.00		83.31	708.07	0.00	0.00
85.00		81.83	688.24	0.00	0.00
90.00		80.19	668.42	0.00	0.00
95.00		78.41	648.59	0.00	0.00
97.75		42.18	348.28	0.00	0.00
100.00		34.48	413.04	0.00	0.00
101.50		22.74	271.79	0.00	0.00
105.00		52.49	297.49	0.00	0.00
110.00		73.30	414.87	0.00	0.00
115.00		71.03	402.98	0.00	0.00
119.00	(42) attachments	1239.83	3692.72	0.00	0.00
120.00		13.47	62.61	0.00	0.00
125.00		66.19	305.94	0.00	0.00
128.00	(10) attachments	639.49	2406.55	0.00	0.00
129.00		12.56	44.81	0.00	0.00
130.00		12.46	44.34	0.00	0.00
135.00		60.96	214.55	0.00	0.00
138.50	(1) attachments	429.55	1943.11	0.00	0.00
139.00		5.72	19.97	0.00	0.00
	Totals:	4,409.94	27,191.51	0.00	0.00

Calculated Forces

Structure: CT13060-A-SBA
Site Name: Newtown 2
Height: 139.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

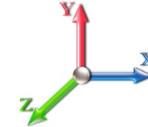
Code: EIA/TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

3/1/2018
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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 23

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-27.19	-4.42	0.00	-436.61	0.00	436.61	3147.71	1573.86	6633.45	3321.65	0.00	0.000	0.000	0.140
5.00	-26.19	-4.34	0.00	-414.53	0.00	414.53	3110.30	1555.15	6403.28	3206.40	0.02	-0.036	0.000	0.138
10.00	-25.21	-4.26	0.00	-392.83	0.00	392.83	3071.25	1535.62	6173.46	3091.32	0.08	-0.073	0.000	0.135
15.00	-24.26	-4.19	0.00	-371.52	0.00	371.52	3030.56	1515.28	5944.24	2976.54	0.17	-0.110	0.000	0.133
20.00	-23.32	-4.11	0.00	-350.58	0.00	350.58	2988.24	1494.12	5715.85	2862.17	0.31	-0.148	0.000	0.130
25.00	-22.40	-4.04	0.00	-330.02	0.00	330.02	2944.28	1472.14	5488.53	2748.34	0.48	-0.186	0.000	0.128
30.00	-21.50	-3.97	0.00	-309.82	0.00	309.82	2898.69	1449.34	5262.51	2635.17	0.70	-0.225	0.000	0.125
35.00	-20.62	-3.89	0.00	-289.99	0.00	289.99	2851.46	1425.73	5038.05	2522.77	0.96	-0.265	0.000	0.122
40.00	-19.77	-3.82	0.00	-270.52	0.00	270.52	2802.60	1401.30	4815.37	2411.26	1.26	-0.305	0.000	0.119
45.00	-18.93	-3.74	0.00	-251.44	0.00	251.44	2752.10	1376.05	4594.71	2300.77	1.60	-0.345	0.000	0.116
48.00	-18.43	-3.69	0.00	-240.23	0.00	240.23	2721.01	1360.51	4463.39	2235.01	1.82	-0.370	0.000	0.114
50.00	-17.84	-3.66	0.00	-232.86	0.00	232.86	2699.97	1349.98	4376.32	2191.41	1.98	-0.387	0.000	0.113
53.25	-16.88	-3.60	0.00	-220.98	0.00	220.98	2693.71	1346.85	4350.71	2178.59	2.25	-0.414	0.000	0.108
55.00	-16.60	-3.57	0.00	-214.68	0.00	214.68	2675.00	1337.50	4274.96	2140.66	2.41	-0.429	0.000	0.106
60.00	-15.81	-3.49	0.00	-196.81	0.00	196.81	2620.47	1310.24	4060.32	2033.18	2.88	-0.469	0.000	0.103
65.00	-15.04	-3.41	0.00	-179.35	0.00	179.35	2564.30	1282.15	3848.53	1927.13	3.39	-0.509	0.000	0.099
70.00	-14.29	-3.33	0.00	-162.31	0.00	162.31	2506.50	1253.25	3639.84	1822.63	3.95	-0.549	0.000	0.095
75.00	-13.56	-3.24	0.00	-145.68	0.00	145.68	2447.06	1223.53	3434.48	1719.79	4.54	-0.588	0.000	0.090
80.00	-12.85	-3.16	0.00	-129.46	0.00	129.46	2385.98	1192.99	3232.68	1618.74	5.18	-0.627	0.000	0.085
85.00	-12.16	-3.08	0.00	-113.65	0.00	113.65	2323.27	1161.64	3034.69	1519.60	5.86	-0.665	0.000	0.080
90.00	-11.49	-3.00	0.00	-98.25	0.00	98.25	2258.93	1129.46	2840.75	1422.49	6.57	-0.703	0.000	0.074
95.00	-10.85	-2.92	0.00	-83.26	0.00	83.26	2173.88	1086.94	2628.05	1315.98	7.33	-0.738	0.000	0.068
97.75	-10.50	-2.87	0.00	-75.23	0.00	75.23	2126.27	1063.14	2513.60	1258.67	7.76	-0.758	0.000	0.065
100.00	-10.08	-2.84	0.00	-68.77	0.00	68.77	2087.31	1043.66	2421.85	1212.73	8.12	-0.773	0.000	0.062
101.50	-9.81	-2.81	0.00	-64.51	0.00	64.51	1088.23	544.12	1274.83	638.36	8.37	-0.783	0.000	0.110
105.00	-9.51	-2.76	0.00	-54.67	0.00	54.67	1070.27	535.14	1217.34	609.58	8.95	-0.804	0.000	0.099
110.00	-9.10	-2.69	0.00	-40.86	0.00	40.86	1043.23	521.61	1135.83	568.76	9.81	-0.847	0.000	0.081
115.00	-8.69	-2.62	0.00	-27.42	0.00	27.42	1014.55	507.27	1055.24	528.40	10.72	-0.882	0.000	0.060
119.00	-5.02	-1.32	0.00	-16.96	0.00	16.96	990.42	495.21	991.60	496.54	11.47	-0.903	0.000	0.039
120.00	-4.96	-1.31	0.00	-15.64	0.00	15.64	984.23	492.11	975.83	488.64	11.66	-0.907	0.000	0.037
125.00	-4.65	-1.24	0.00	-9.11	0.00	9.11	952.28	476.14	897.82	449.58	12.62	-0.924	0.000	0.025
128.00	-2.26	-0.56	0.00	-5.40	0.00	5.40	932.32	466.16	851.79	426.53	13.20	-0.931	0.000	0.015
129.00	-2.21	-0.54	0.00	-4.84	0.00	4.84	925.54	462.77	836.59	418.92	13.40	-0.932	0.000	0.014
129.00	-2.21	-0.54	0.00	-4.84	0.00	4.84	925.54	462.77	836.59	418.92	13.40	-0.932	0.000	0.014
130.00	-2.17	-0.53	0.00	-4.30	0.00	4.30	918.69	459.34	821.46	411.34	13.59	-0.934	0.000	0.013
135.00	-1.96	-0.47	0.00	-1.64	0.00	1.64	883.47	441.73	746.98	374.05	14.57	-0.939	0.000	0.007
138.50	-0.02	-0.01	0.00	0.00	0.00	0.00	857.84	428.92	696.10	348.57	15.26	-0.941	0.000	0.000
139.00	0.00	-0.01	0.00	0.00	0.00	0.00	854.11	427.06	688.92	344.97	15.36	-0.941	0.000	0.000

Final Analysis Summary

Structure: CT13060-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 93 mph Wind	17.0	0.00	32.61	0.00	0.00	1689.12
0.9D + 1.6W 93 mph Wind	17.0	0.00	24.45	0.00	0.00	1672.04
1.2D + 1.0Di + 1.0Wi 50 mph Wind	5.5	0.00	50.86	0.00	0.00	541.75
1.2D + 1.0E	1.6	0.00	32.63	0.00	0.00	181.77
0.9D + 1.0E	1.6	0.00	24.47	0.00	0.00	179.78
1.0D + 1.0W 60 mph Wind	4.4	0.00	27.19	0.00	0.00	436.61

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 93 mph Wind	-32.61	-16.99	0.00	-1689.1	0.00	-1689.1	3147.71	1573.8	6633.45	3321.65	0.00	0.519
0.9D + 1.6W 93 mph Wind	-24.45	-16.98	0.00	-1672.0	0.00	-1672.0	3147.71	1573.8	6633.45	3321.65	0.00	0.511
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-50.86	-5.46	0.00	-541.75	0.00	-541.75	3147.71	1573.8	6633.45	3321.65	0.00	0.179
1.2D + 1.0E	-11.81	-1.30	0.00	-38.11	0.00	-38.11	1088.23	544.12	1274.83	638.36	101.50	0.071
0.9D + 1.0E	-8.86	-1.28	0.00	-37.58	0.00	-37.58	1088.23	544.12	1274.83	638.36	101.50	0.067
1.0D + 1.0W 60 mph Wind	-27.19	-4.42	0.00	-436.61	0.00	-436.61	3147.71	1573.8	6633.45	3321.65	0.00	0.140

Base Plate Summary

Structure: CT13060-A-SB	Code: EIA/TIA-222-G	3/1/2018
Site Name: Newtown 2	Exposure: B	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
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Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 60.00	Bolt Circle: 58.00
Moment (kip-ft): 1882.00	Width (in): 56.00	Number Bolts: 12.00
Axial (kip): 32.90	Style: Clipped	Bolt Type: 2.25" 18J
Shear (kip): 17.20	Polygon Sides: 4.00	Bolt Diameter (in): 2.25
Analysis	Clip Length (in): 10.00	Yield (ksi): 75.00
Moment (kip-ft): 1689.12	Effective Len (in): 10.31	Ultimate (ksi): 100.00
Axial (kip): 50.86	Moment (kip-in): 391.77	Arrangement: Clustered
Shear (kip): 16.99	Allow Stress (ksi): 81.00	Cluster Dist (in): 6.00
	Applied Stress (ksi): 0.00	Start Angle (deg): 45.00
Moment Design %: 89.75	Stress Ratio: 0.37	Compression
		Force (kip): 120.73
		Allowable (kip): 260.00
		Ratio: 0.48
		Tension
		Force (kip): 112.25
		Allowable (kip): 260.00
		Ratio: 0.44

	Monopole Mat Foundation Design			Date
				3/1/2018
	Customer Name:	AT&T	EIA/TIA Standard:	EIA-222-G
	Site Name:		Structure Height (Ft.):	139
	Site Number:	CT13060-A-SBA	Engineer Name:	M. Baker
Engr. Number:	48607	Engineer Login ID:		

Foundation Info Obtained from:

Drawings/Calculations
Monopole
Analysis

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	32.6	Shear Force (Kips):	17.0
Uplift Force (Kips):	0.0	Moment (Kips-ft):	1689.1

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	5.5
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	2.00
Length of Pad (ft.):	23	Width of Pad (ft.):	23
Final Length of pad (ft)	23.0	Final width of pad (ft):	23.0
Control Value for Cell D18:	0	Control Value for Cell F18:	0

Material Properties and Rebar Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	8	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	36	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	36	Qty. of Rebar in Pad (W):	36	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	36	Qty. of Rebar in Pad (W):	36	

Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

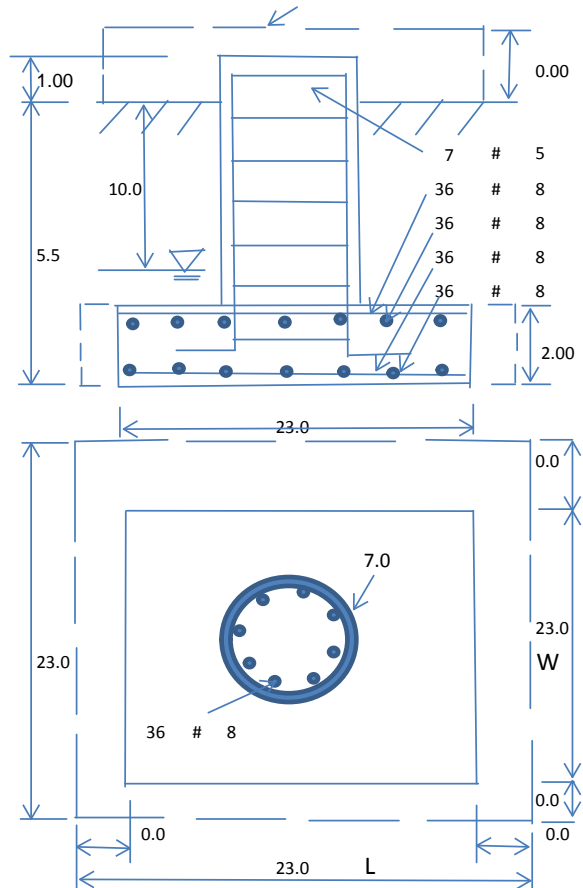
Soil Unit Weight (pcf):	110.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	10.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	12000	Ultimate Skin Friction:	0	Psf
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No	
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00	
		Angle from Top of Pad:	30	
		Angle from Bottm of Pad:	25	
		Angle from Bottm of Pad:	25	

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	1716.80	Total Dry Soil Weight (Kips):	188.85
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	188.85	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1231.18	Total Dry Concrete Weight (Kips):	184.68
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	184.68	Total Vertical Load on Base (Kips):	406.14

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	1686	<	Allowable Factored Soil Bearing (psf):	9000	0.19	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	4241.0	>	Design Factored Momont (kips-ft):	1800	0.42	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	2.36					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	

Load/
Capacity
Ratio

(1) Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	0.79	Tie / Stirrup Area (sq. in./each):	0.31			
Calculated Moment Capacity (Mn,Kips-Ft):	4845.7	>	Design Factored Moment (Mu, Kips-Ft)	1765.6	0.36	OK!
Calculated Shear Capacity (Kips):	734.1	>	Design Factored Shear (Kips):	17.0	0.02	OK!
Calculated Tension Capacity (Tn, Kips):	1535.8	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9747.6	>	Design Factored Axial Load (Pu Kips):	32.6	0.00	OK!
Moment & Axial Strength Combination:	0.36	OK!	Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.005		Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	536.8	>	One-Way Factored Shear (L-D. Kips):	141.5	0.26	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	536.8	>	One-Way Factored Shear (W-D., Kips)	141.5	0.26	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	516.0	>	One-Way Factored Shear (C-C, Kips):	136.7	0.26	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0050	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0050		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	2507.2	>	Moment at Bottom (L-Dir. K-Ft):	655.1	0.26	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	2507.2	>	Moment at Bottom (W-Dir. K-Ft):	655.1	0.26	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	3500.6	>	Moment at Bottom (C-C Dir. K-Ft):	926.5	0.26	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0050	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0050		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	2507.2	>	Moment at the top (L-Dir K-Ft):	256.7	0.10	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	2507.2	>	Moment at the top (W-Dir K-Ft):	256.7	0.10	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	3500.6	>	Moment at the top (C-C Dir. K-Ft):	241.7	0.07	OK!

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

Moment transferred by punching shear:	675.6	k-ft.	Max. factored shear stress v_{u_cd} :	0.6	Psi
Max. factored shear stress v_{u_AB} :	8.7	Psi	Factored shear Strength ϕv_n :	189.7	Psi
Max. factored shear stress v_u :	8.7	Psi	Check Usage of Punching Shear Capacity:	0.05	OK!





Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT2313

FA#: 10091755

Newtown Edmond Road

3 Edmond Road

Newtown, CT 06470

February 26, 2018

Centerline Communications Project Number: 950012-028

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	6.78 %



February 26, 2018

AT&T Mobility – New England
Attn: John Benedetto, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CT2313 – Newtown Edmond Road**

Centerline Communications, LLC (“Centerline”) was directed to analyze the proposed AT&T facility located at **3 Edmond Road, Newtown, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately $467 \mu\text{W}/\text{cm}^2$ and $567 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



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

Additional details can be found in FCC OET 65.



CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **3 Edmond Road, Newtown, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
UMTS	850 MHz	2	30
LTE	2300 MHz (WCS)	4	30
LTE	700 MHz	2	60
LTE	1900 MHz (PCS)	4	60

Table 1: Channel Data Table



The following antennas listed in *Table 2* were used in the modeling for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Powerwave 7770	120
A	2	Quintel QS66512-2	120
A	3	CCI HPA-65R-BUU-H6	120
B	1	Powerwave 7770	120
B	2	Quintel QS66512-2	120
B	3	CCI HPA-65R-BUU-H6	120
C	1	Powerwave 7770	120
C	2	Quintel QS66512-2	120
C	3	CCI HPA-65R-BUU-H6	120

Table 2: Antenna Data

All calculations were done with respect to uncontrolled / general population threshold limits.



RESULTS

Per the calculations completed for the proposed AT&T configurations *Table 3* shows resulting emissions power levels and percentages of the FCC’s allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.40
Antenna A2	Quintel QS66512-2	2300 MHz (WCS)	14.85	4	120	3,665.91	1.01
Antenna A3	CCI HPA-65R-BUU-H6	700 MHz / 1900 MHz (PCS)	11.95 / 14.75	6	360	9,045.02	3.10
Sector A Composite MPE%							4.51
Antenna B1	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.40
Antenna B2	Quintel QS66512-2	2300 MHz (WCS)	14.85	4	120	3,665.91	1.01
Antenna B3	CCI HPA-65R-BUU-H6	700 MHz / 1900 MHz (PCS)	11.95 / 14.75	6	360	9,045.02	3.10
Sector B Composite MPE%							4.51
Antenna C1	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.40
Antenna C2	Quintel QS66512-2	2300 MHz (WCS)	14.85	4	120	3,665.91	1.01
Antenna C3	CCI HPA-65R-BUU-H6	700 MHz / 1900 MHz (PCS)	11.95 / 14.75	6	360	9,045.02	3.10
Sector C Composite MPE%							4.51

Table 3: AT&T Emissions Levels



The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum AT&T MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each AT&T Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	MPE%
AT&T – Max Sector Value	4.51 %
T-Mobile	0.42 %
Nextel	1.85 %
Site Total MPE %:	6.78 %

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	4.51 %
AT&T Sector B Total:	4.51 %
AT&T Sector C Total:	4.51 %
Site Total:	6.78 %

Table 5: Site MPE Summary



FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

AT&T _ Frequency Band / Technology Max Power Values (All Sectors)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	414.12	120	2.29	850 MHz	567	0.40%
AT&T 2300 MHz (WCS) LTE	4	916.48	120	10.14	2300 MHz (WCS)	1000	1.01%
AT&T 700 MHz LTE	2	940.05	120	5.20	700 MHz	467	1.11%
AT&T 1900 MHz (PCS) LTE	4	1,791.23	120	19.82	1900 MHz (PCS)	1000	1.98%
						Total:	4.51%

Table 6: AT&T Maximum Sector MPE Power Values



Summary

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

The anticipated maximum composite contributions from the AT&T facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector A:	4.51 %
Sector B:	4.51 %
Sector C:	4.51 %
AT&T Maximum Total (per sector):	4.51 %
Site Total:	6.78 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **6.78 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

A handwritten signature in black ink, appearing to read 'Scott Heffernan', is positioned above the printed name.

Scott Heffernan

RF Engineering Director

Centerline Communications, LLC

95 Ryan Drive, Suite 1

Raynham, MA 02767

PROJECT INFORMATION

SCOPE OF WORK: ITEMS TO BE MOUNTED ON THE EXISTING MONOPOLE:

- (1) AT&T ANTENNAS (QS66512-2) (TYP. OF 1 PER SECTOR, TOTAL OF 3) TO REPLACE EXISTING ANTENNAS @ POSITION 2.
- (1) AT&T ANTENNAS (HPA-65R-BUU-H6) (TYP. OF 1 PER SECTOR, TOTAL OF 3) TO REPLACE EXISTING ANTENNAS @ POSITION 4.
- (1) AT&T RRUS-32 B30 (WCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- (1) AT&T RRUS-32 B2 (PCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- (2) KAEIUS DBC0061F1V51-2 (TYP. OF 2 PER SECTOR, TOTAL OF 6)
- INSTALL (1) DC6-48-60-18-8F SQUID ALONG WITH (2) DC TRUNKS AND (1) ALARM CABLE.
- NEW JUMPER CABLES: COAX JUMPERS (4) PER SECTOR FROM EACH RRU (TOTAL OF 12).
- NEW FIBER JUMPERS: FIBER JUMPERS (2) FROM THE SQUID TO EACH RRU (TOTAL OF 6).
- INSTALL NEW HANDRAIL KIT, HRK12 OR APPROVED EQUAL.
- INSTALL NEW REINFORCEMENT KIT, PRK-1245L OR APPROVED EQUAL.

ITEMS TO BE MOUNTED INSIDE EXISTING EQUIPMENT ROOM:

- REPLACE EXISTING DUL FOR (1) 5216 AND ADD (1) MUX IN EXISTING RACK.
- (2) KAEIUS DBC0061F1V51-2 (TYP. OF 2 PER SECTOR, TOTAL OF 6)
- INSTALL (2) 150AMP BREAKERS AND INSTALL (1) 48V CONVERTER SHELF WITH (4) CONVERTER MODULES IN EXISTING RACK

ITEMS TO REMAIN:

- (3) ANTENNAS, (3) RRU'S, (6) TMA'S, (12) COAX CABLES, (2) DC POWER CABLES, (1) FIBER RUNS & (1) SURGE ARRESTOR.

1. THE 1ST SQUID INSTALLED WILL BE ALARMED TO THE LOWEST BAND (OR FIRST INSTALLED) RRH/RRU ON THE ALPHA SECTOR. IN THE EVENT THE ALARM CABLE CANNOT BE CONNECTED TO ALPHA IT WILL BE ACCEPTABLE TO ALARM TO THE CLOSEST PHYSICAL SECTOR ON AN EXCEPTION BASIS.

2. 2ND SQUID INSTALLED WILL BE ALARMED TO THE LOWEST BAND (OR FIRST INSTALLED) RRH/RRU ON THE BETA SECTOR.

3. 3RD SQUID INSTALLED WILL BE ALARMED TO THE LOWEST BAND (OR FIRST INSTALLED) RRH/RRU ON THE GAMMA SECTOR.

4. SQUID ALARMS ARE NOT TO BE DAISY CHAINED.

SITE ADDRESS: 3 EDMOND ROAD
NEWTOWN, CT 06470

LATITUDE: 41.420806 N 41° 25' 14.90" N
LONGITUDE: 73.298480 W 73° 17' 54.52" W
TYPE OF SITE: MONOPOLE / INDOOR EQUIPMENT
TOWER HEIGHT: 140'-0"± A.G.L
RAD CENTER: 120'-0"± A.G.L
CURRENT USE: TELECOMMUNICATIONS FACILITY
PROPOSED USE: TELECOMMUNICATIONS FACILITY



SITE NUMBER: CT2313

SITE NAME: NEWTOWN EDMOND ROAD

PROJECT: LTE 2C/3C 2018 UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

START OUT GOING NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD 0.3 MI. TURN LEFT ONTO CAPITAL BLVD 0.3 MI. TURN LEFT ONTO WEST ST 0.3 MI. TURN LEFT TO MERGE ONTO I-91 S TOWARD NEW HAVEN 9.1 MI. TAKE EXIT 18 TO MERGE ONTO I-691 W TOWARD MERIDEN/WATERBURY 7.9 MI. TAKE EXIT 1 ON THE LEFT TO MERGE ONTO I-84 W TOWARD WATERBURY/DANBURY 25.8 MI. TAKE EXIT 10 FOR US-6 W TOWARD NEWTOWN/SANDY HOOK 0.3 MI. TURN RIGHT ONTO CT-34 W/US-6 W/CHURCH HILL RD CONTINUE TO FOLLOW US-6 W/CHURCH HILL RD 0.2 MI. TAKE THE 1ST RIGHT ONTO EDMOND RD 0.6 MI. SLIGHT RIGHT ONTO EDMOND RD. DESTINATION WILL BE ON THE LEFT.



GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T MOBILITY REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
4. CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN.

DRAWING INDEX

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

72 HOURS



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FAX: (978) 336-5586

95 RYAN DRIVE
RAYNHAM, MA 02767

SITE NUMBER: CT2313
SITE NAME: NEWTOWN EDMOND ROAD

3 EDMOND ROAD
NEWTOWN, CT 06470
FAIRFIELD COUNTY

550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	01/01/18	ISSUED FOR CONSTRUCTION	SG	AT	DJC
A	08/29/17	ISSUED FOR REVIEW	EB	AT	DJC

SCALE: AS SHOWN DESIGNED BY: AT DRAWN BY: EB

SITE NUMBER	DRAWING NUMBER	REV
CT2313.00	T-1	1

AT&T

TITLE SHEET
(LTE 2C/3C)

GROUNDING NOTES

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

GENERAL NOTES

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

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
20. APPLICABLE BUILDING CODES:
 SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
 BUILDING CODE: IBC 2012 WITH 2016 CT BUILDING CODE AMENDMENTS
 ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
 LIGHTENING CODE: REFER TO ELECTRICAL DRAWINGS

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

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

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

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

EQUIPMENT AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

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

ABBREVIATIONS

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



1600 OSGOOD STREET
 BUILDING 20 NORTH, SUITE 3090
 N. ANDOVER, MA 01845
 TEL: (978) 557-5553
 FAX: (978) 336-5586



95 RYAN DRIVE
 RAYNHAM, MA 02767

SITE NUMBER: CT2313
SITE NAME: NEWTOWN EDMOND ROAD

3 EDMOND ROAD
 NEWTOWN, CT 06470
 FAIRFIELD COUNTY



550 COCHITUATE ROAD
 FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	01/01/18	ISSUED FOR CONSTRUCTION	SG	AT	DJC
A	08/29/17	ISSUED FOR REVIEW	EB	AT	DJC
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: EB		



AT&T

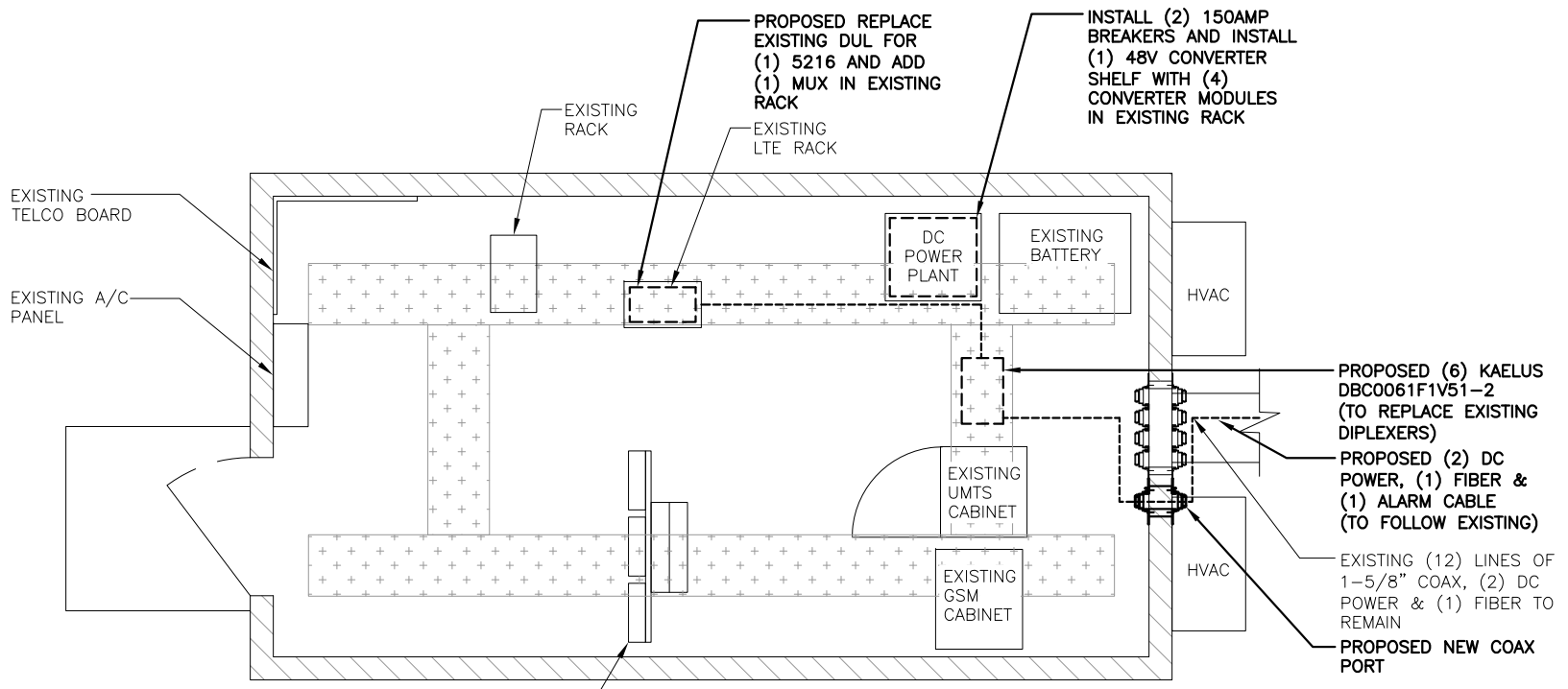
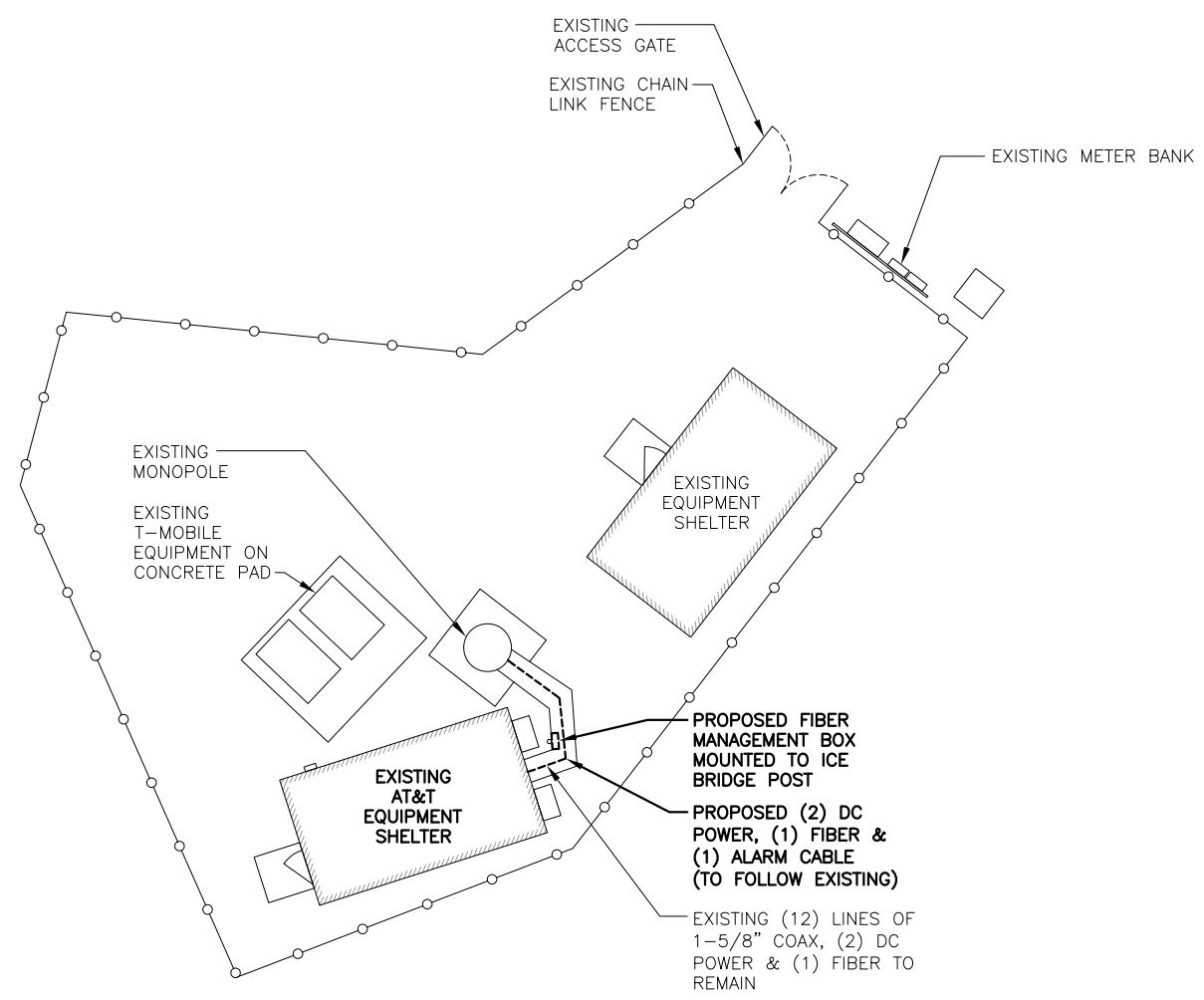
GENERAL NOTES
 (LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
CT2313.00	GN-1	1

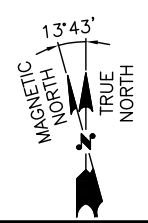
NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: DECEMBER 07, 2017

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

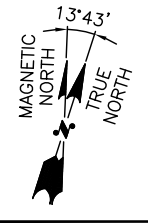
NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.



POWER PANEL NOTE:
ADD (6) 30AMP & (1) 25AMP SP DC BREAKER FOR NEW RRU ADDS, IF NEEDED.



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



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

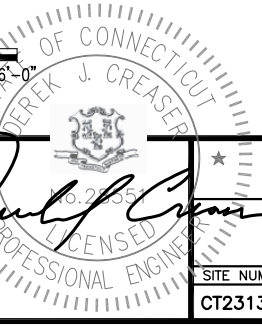
Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
95 RYAN DRIVE
RAYNHAM, MA 02767

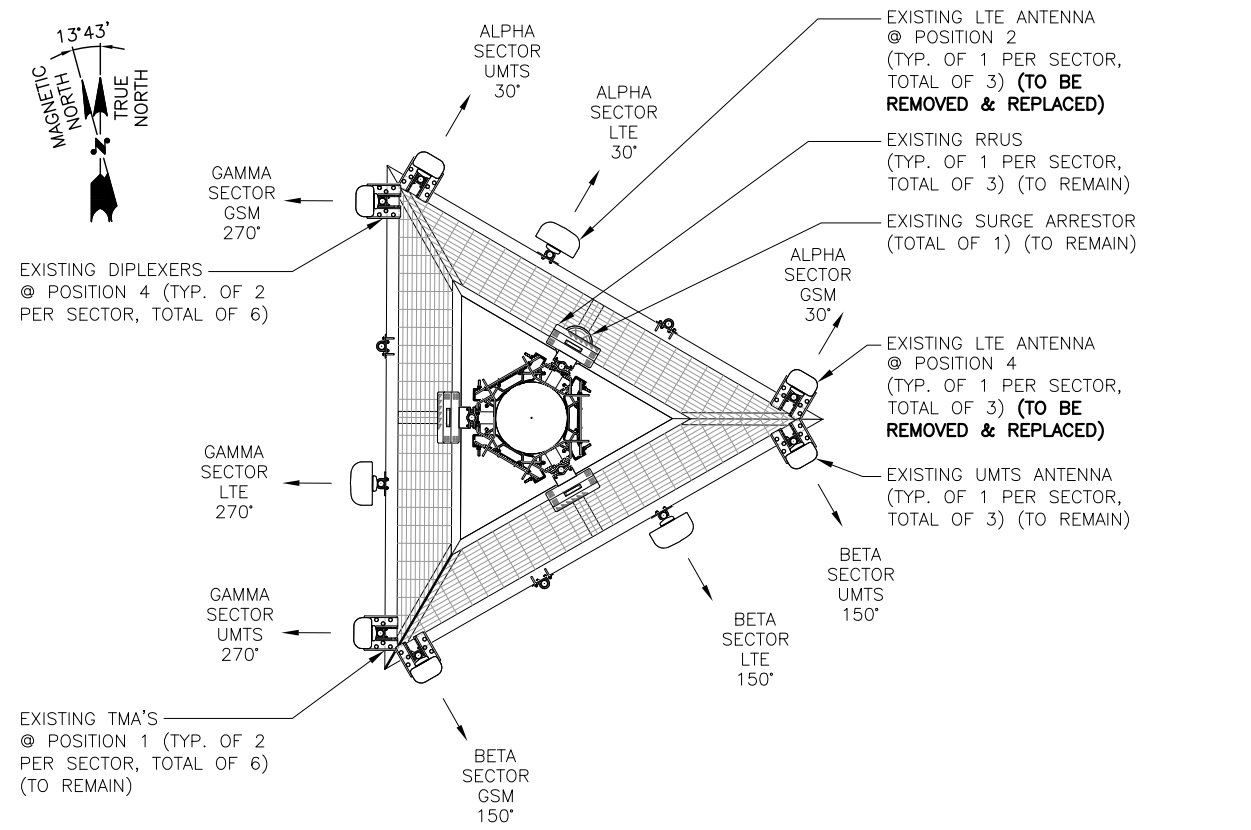
SITE NUMBER: CT2313
SITE NAME: NEWTOWN EDMOND ROAD
3 EDMOND ROAD
NEWTOWN, CT 06470
FAIRFIELD COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

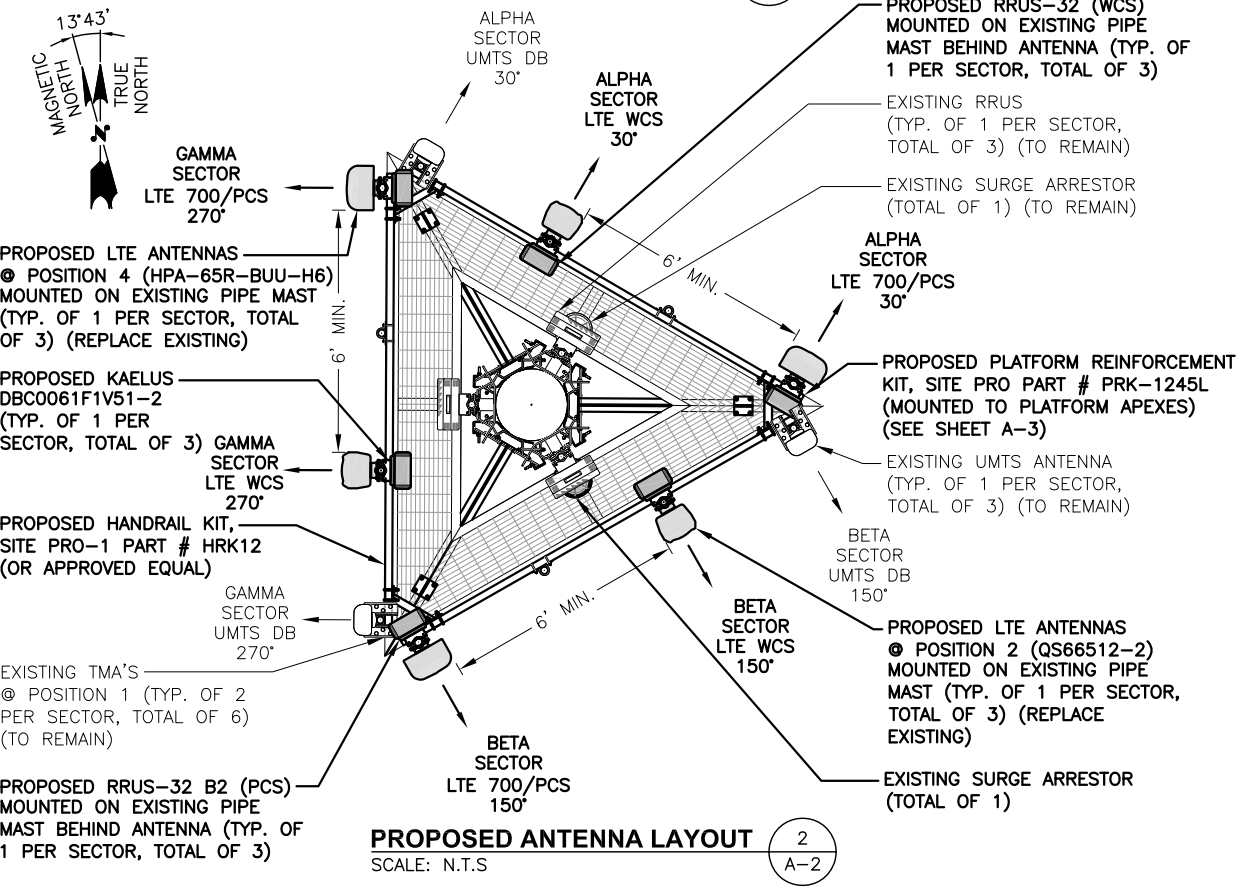
1	01/01/18	ISSUED FOR CONSTRUCTION	SG	AT	DJC
A	08/29/17	ISSUED FOR REVIEW	EB	AT	DJC
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: EB		



AT&T
COMPOUND & EQUIPMENT PLAN
(LTE 2C/3C)
SITE NUMBER: CT2313.00
DRAWING NUMBER: A-1
REV: 1



EXISTING ANTENNA LAYOUT 1
SCALE: N.T.S.

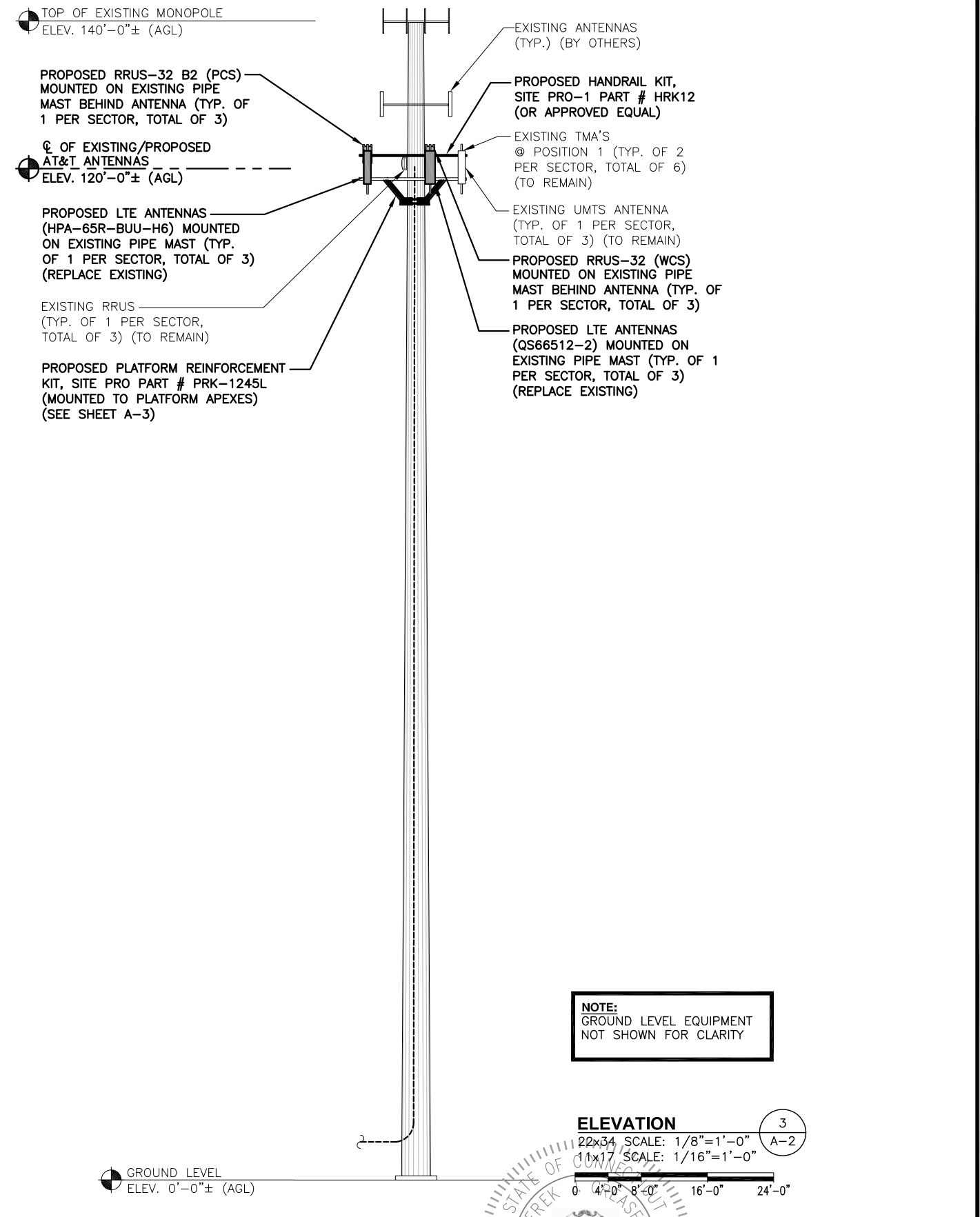


PROPOSED ANTENNA LAYOUT 2
SCALE: N.T.S.

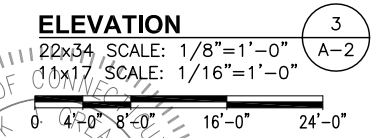
NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

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

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: DECEMBER 07, 2017



NOTE:
GROUND LEVEL EQUIPMENT NOT SHOWN FOR CLARITY



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RAYNHAM, MA 02767

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SITE NAME: NEWTOWN EDMOND ROAD
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NEWTOWN, CT 06470
FAIRFIELD COUNTY

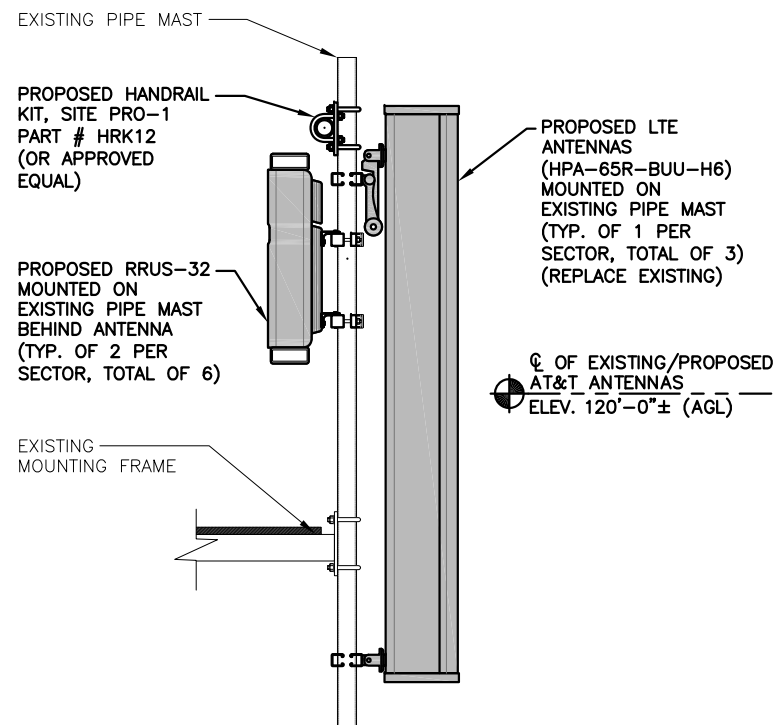
at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	01/01/18	ISSUED FOR CONSTRUCTION	SG	AT	DJC
A	08/29/17	ISSUED FOR REVIEW	EB	AT	DJC

SCALE: AS SHOWN DESIGNED BY: AT DRAWN BY: EB

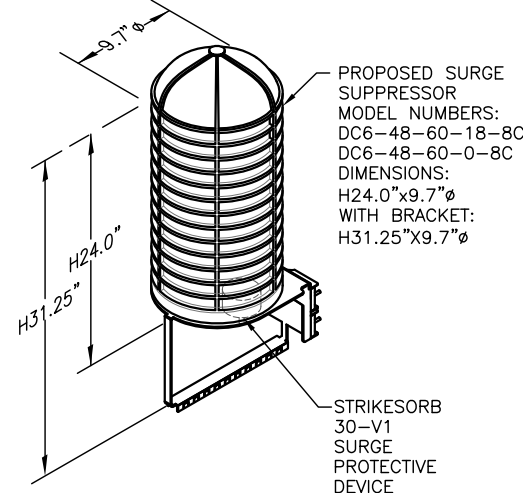
AT&T
ANTENNA LAYOUTS & ELEVATION
(LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
CT2313.00	A-2	1



PROPOSED ANTENNAS & RRU MOUNTING DETAIL

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



NOTE: MOUNT PER MANUFACTURER'S SPECIFICATIONS.

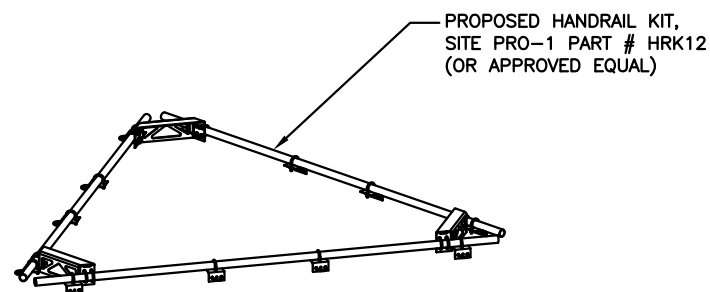
DC SURGE SUPPRESSOR DETAIL

SCALE: N.T.S.

FINAL ANTENNA CONFIGURATION								
SECTOR	BAND	ANTENNA	ANTENNA CENTERLINE HEIGHT	AZIMUTH	TMA	RRUS	COAX JUMPERS	FIBER JUMPERS
ALPHA	UMTS DB LTE WCS LTE 700/PCS	(E) (1) 7770	120'±	30'	(2) (E) LGP21401	(1) RRUS-11 (700) (E) (1) RRUS-32 (WCS) (P) (1) RRUS-32 B2 (PCS) (P)	-	-
		(P) (1) QS66512-2						
		(P) (1) HPA-65R-BUU-H6						
BETA	UMTS DB LTE WCS LTE 700/PCS	(E) (1) 7770	120'±	150'	(2) (E) LGP21401	(1) RRUS-11 (700) (E) (1) RRUS-32 (WCS) (P) (1) RRUS-32 B2 (PCS) (P)	-	-
		(P) (1) QS66512-2						
		(P) (1) HPA-65R-BUU-H6						
GAMMA	UMTS DB LTE WCS LTE 700/PCS	(E) (1) 7770	120'±	270'	(2) (E) LGP21401	(1) RRUS-11 (700) (E) (1) RRUS-32 (WCS) (P) (1) RRUS-32 B2 (PCS) (P)	-	-
		(P) (1) QS66512-2						
		(P) (1) HPA-65R-BUU-H6						

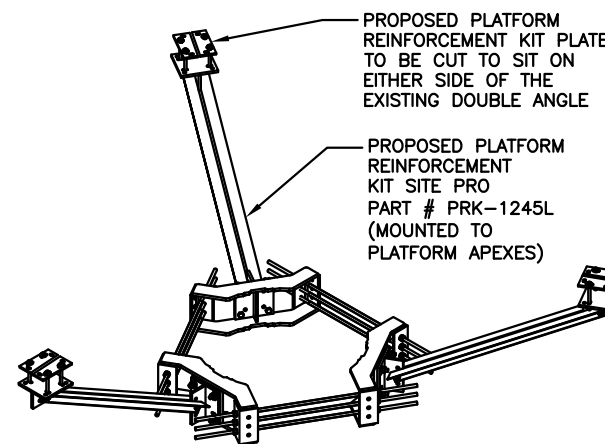
FINAL ANTENNA CONFIGURATION TABLE

9
A-3



PROPOSED HANDRAIL KIT

SCALE: N.T.S.



PROPOSED PLATFORM REINFORCEMENT MOUNT DETAIL

SCALE: N.T.S.

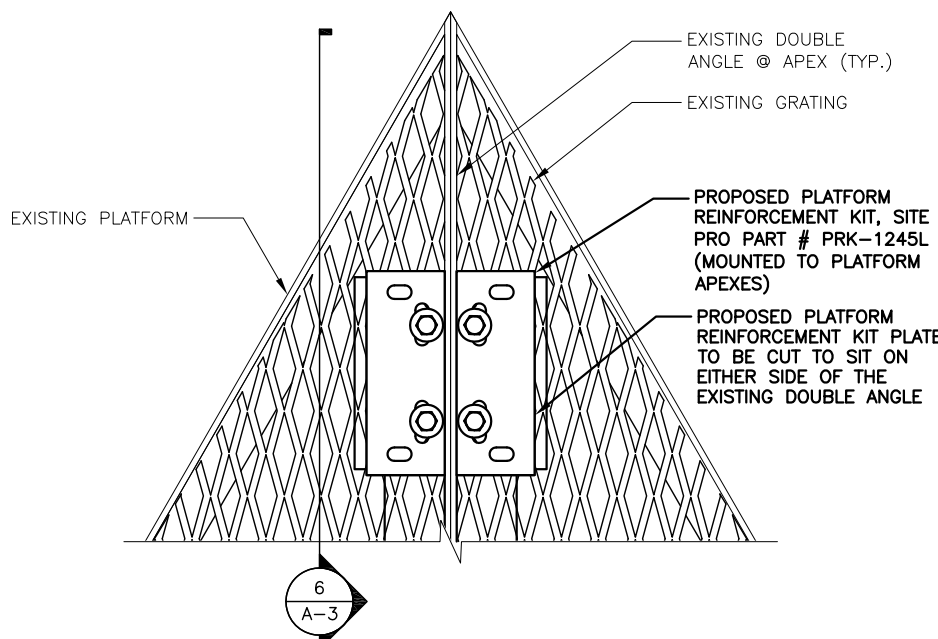
NOTE: REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

*COAX JUMPER NOTE: COAX JUMPERS (4) PER SECTOR, FROM EACH RRU (TOTAL OF 12).

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

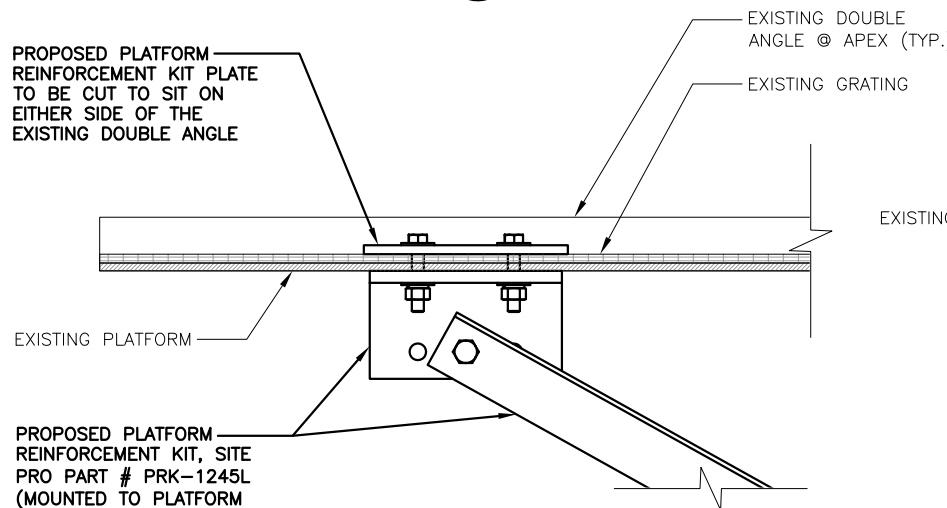
**FIBER JUMPER NOTE: FIBER JUMPERS (2) PER SECTOR, FROM THE SQUID TO EACH RRU (TOTAL OF 6).

NOTE: AN ANALYSIS FOR THE CAPACITY OF THE EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: DECEMBER 07, 2017



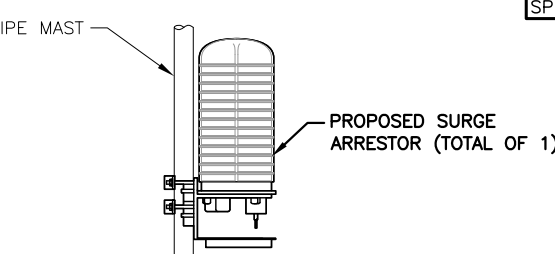
PLATFORM REINFORCEMENT PLAN

22x34 SCALE: 3"=1'-0"
11x17 SCALE: 1-1/2"=1'-0"



PLATFORM REINFORCEMENT ELEVATION

22x34 SCALE: 3"=1'-0"
11x17 SCALE: 1-1/2"=1'-0"



PROPOSED SURGE ARRESTOR MOUNTING DETAIL

SCALE: N.T.S.

RRU CHART				
QUANTITY	MODEL	L	W	D
3(E)	RRUS-11	19.7"	17.0"	7.2"
-	RRUS-12	20.4"	18.5"	7.5"
6(P)	RRUS-32	27.2"	12.1"	7.0"
-	RRUS-E2	20.4"	18.5"	7.5"
-	LTE-A2	16.4"	15.2"	3.4"

NOTE: MOUNT PER MANUFACTURER'S SPECIFICATIONS

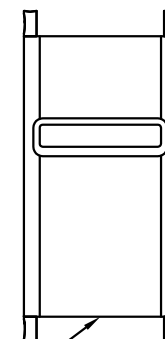
NOTE: SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER

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

NOTE: MOUNT PER MANUFACTURER'S SPECIFICATIONS.

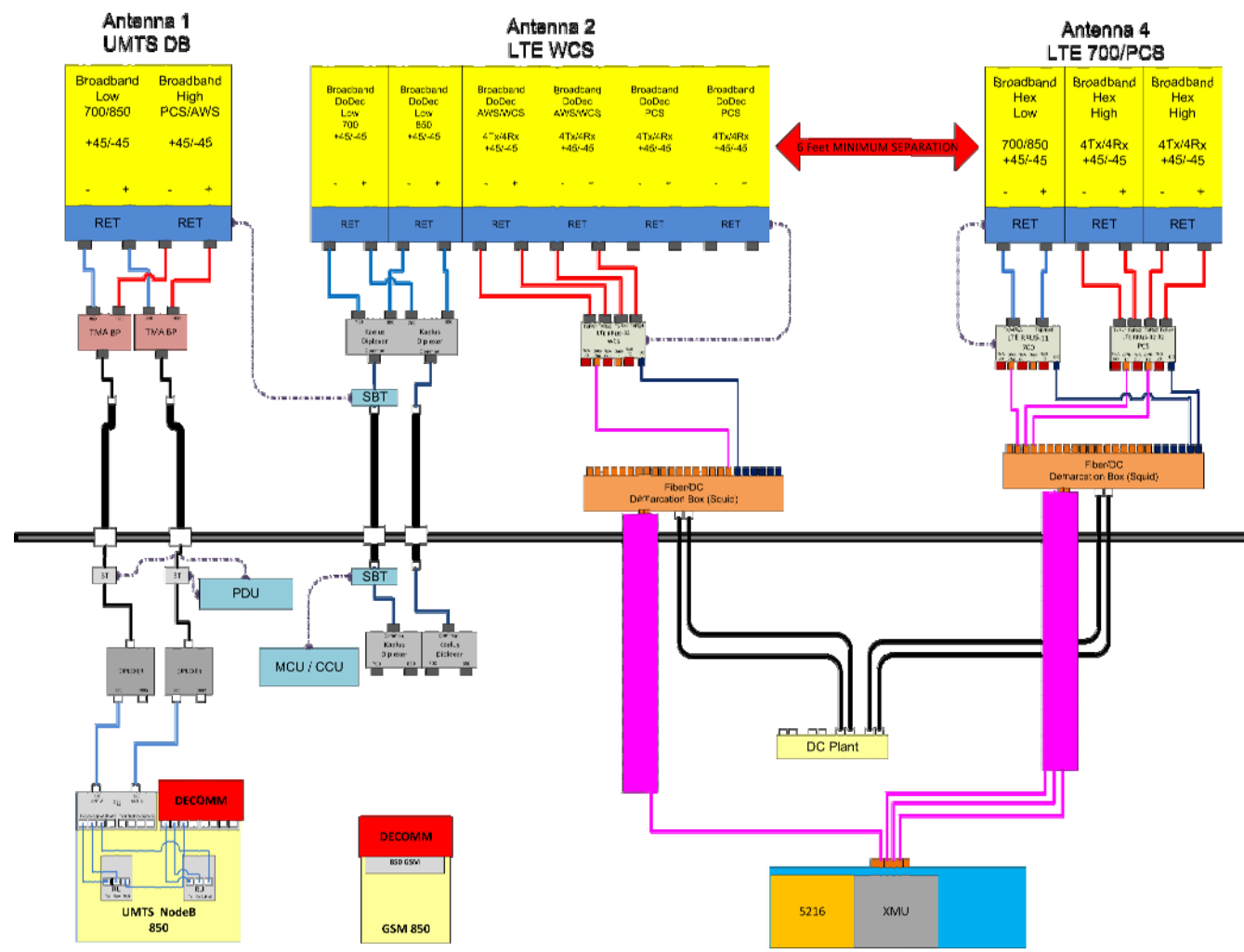
PROPOSED RRU DETAIL

SCALE: N.T.S.



8
A-3

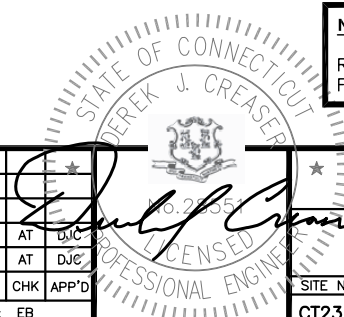
<p>1600 OSGOOD STREET BUILDING 20 NORTH, SUITE 3090 N. ANDOVER, MA 01845 TEL: (978) 557-5553 FAX: (978) 336-5586</p>	<p>95 RYAN DRIVE RAYNHAM, MA 02767</p>	<p>SITE NUMBER: CT2313 SITE NAME: NEWTOWN EDMOND ROAD</p> <p>3 EDMOND ROAD NEWTOWN, CT 06470 FAIRFIELD COUNTY</p>	<p>550 COCHITUATE ROAD FRAMINGHAM, MA 01701</p>	<p>1 01/01/18 ISSUED FOR CONSTRUCTION SG AT DJC</p> <p>A 08/29/17 ISSUED FOR REVIEW EB AT DJC</p> <p>NO. DATE REVISIONS BY CHK APP'D</p> <p>SCALE: AS SHOWN DESIGNED BY: AT DRAWN BY: EB</p>	<p>STATE OF CONNECTICUT Derek J. Creaser Professional Engineer No. 22355</p>	<p>AT&T</p> <p>DETAILS (LTE 2C/3C)</p>
				<p>SITE NUMBER: CT2313.00</p> <p>DRAWING NUMBER: A-3</p> <p>REV: 1</p>		



RF PLUMBING DIAGRAM 1
SCALE: N.T.S. RF-1

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

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



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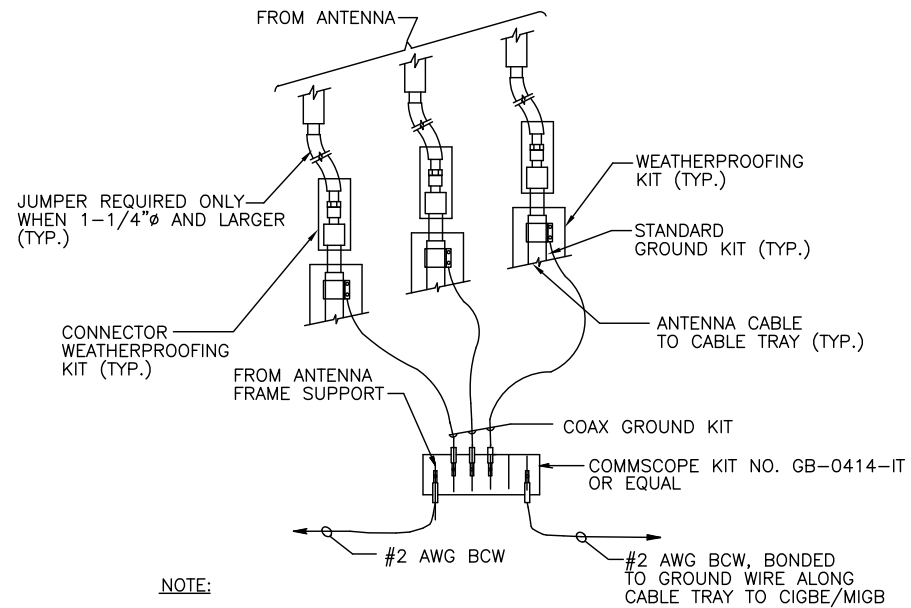
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NO.	DATE	REVISIONS	BY	CHK	APP'D
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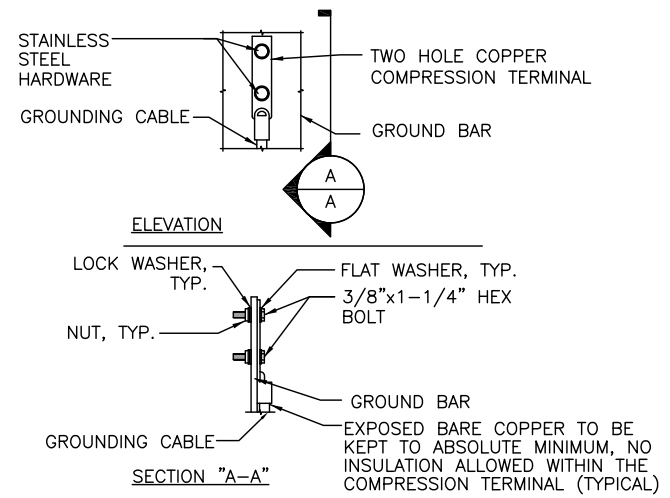
SCALE: AS SHOWN DESIGNED BY: AT DRAWN BY: EB

AT&T
RF PLUMBING DIAGRAM
(LTE 2C/3C)
SITE NUMBER: CT2313.00 DRAWING NUMBER: RF-1 REV: 1



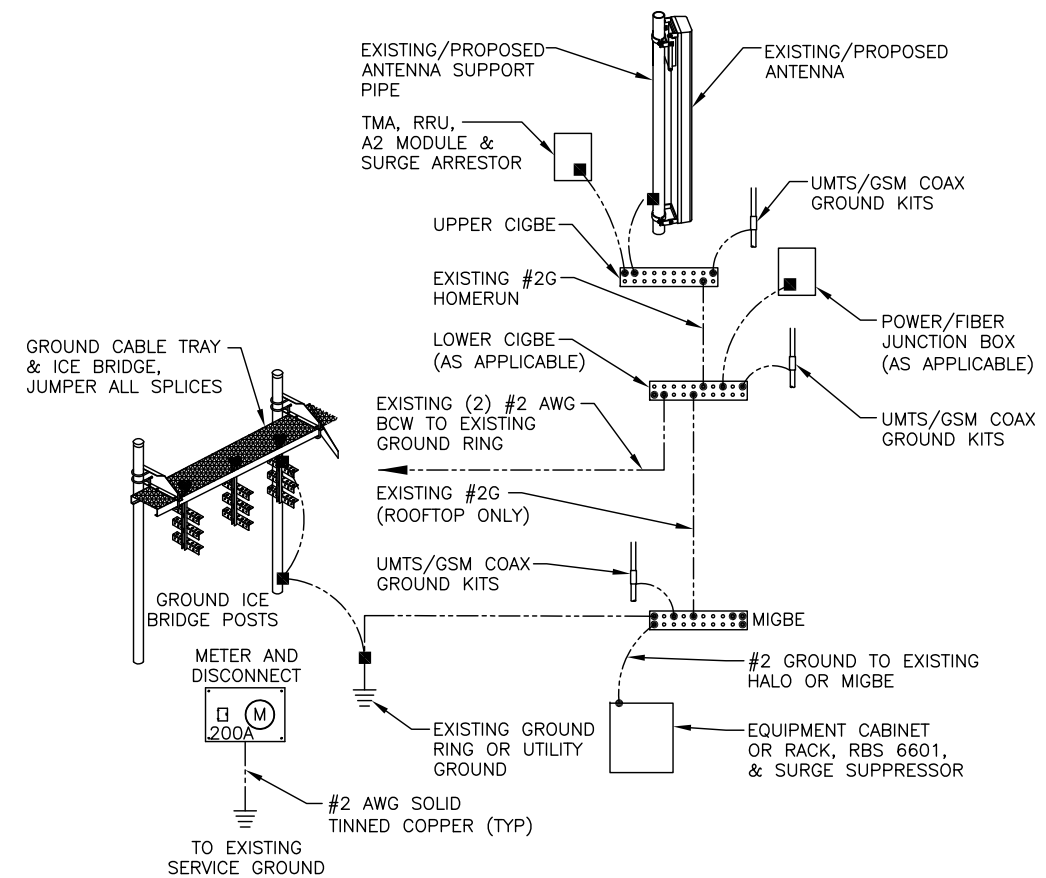
NOTE:
 1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

GROUND WIRE TO GROUND BAR CONNECTION DETAIL 1
 SCALE: N.T.S. G-1



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

TYPICAL GROUND BAR CONNECTION DETAIL 3
 SCALE: N.T.S. G-1



GROUNDING RISER DIAGRAM 2
 SCALE: N.T.S. G-1

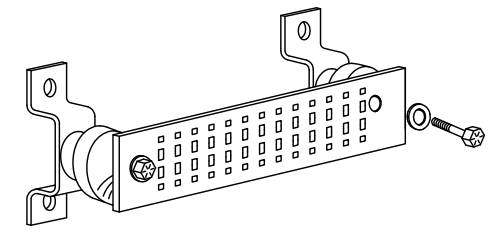
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

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

SECTION "A" - SURGE ABSORBERS

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



GROUND BAR - DETAIL 4
 SCALE: N.T.S. G-1

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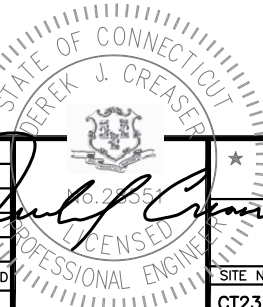
CENTERLINE COMMUNICATIONS
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SCALE: AS SHOWN DESIGNED BY: AT DRAWN BY: EB



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GROUNDING DETAILS (LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
CT2313.00	G-1	1