



Michael 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

January 22, 2019

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

**RE: Notice of Exempt Modification // Site Number: CT5093
1000 Trumbull Avenue, Bridgeport, CT 06606 (Site Name: Chopsey Hill Road)
N 41.219444 // W -73.2022222**

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC (“AT&T”) currently maintains nine (9) antennas at the 165-foot level of the existing 240-foot monopole tower at 1000 Trumbull Avenue, Bridgeport, CT 06606. The tower is owned by Global Tower Acquisition (American Tower). The property is also owned by Global Tower Acquisition. AT&T now intends to add three (3) new LTE antennas for its LTE upgrade. These antennas would be installed at the same 165-foot level of the tower. AT&T also intends to install three (3) new RRUS (radios), swap three (3) RRUS, add one (1) Surge Arrestor and associated two (2) DC and one (1) fiber cables along existing runs.

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 Joseph P. Ganim, Mayor for the City of Bridgeport, as well as the tower and ground owner, Global Tower Acquisition and City of Bridgeport Zoning/Building departments.

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

Attached to accommodate this filing are construction drawings dated 1/16/2019 by Hudson Design Engineering, a structural analysis dated 12/20/2018 by American Tower Engineering, a mount analysis dated 11/29/2018 by Hudson Design Group, LLC and an Emissions Analysis Report dated 1/07/2019 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 American Tower Engineering, dated 12/20/2018, and the mount analysis by Hudson Design Engineering, dated 11/29/2018.

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,



Michael 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: Structural Analysis, Mount Analysis, Property Card, Emissions Analysis,
Construction Drawings

cc: Joseph P. Ganim, Mayor, City of Bridgeport- as elected official
Global Tower Acquisition (American Tower) - as tower owner
Global Tower Acquisition (American Tower) - as property owner
Building & Zoning, City of Bridgeport

1 OF 1

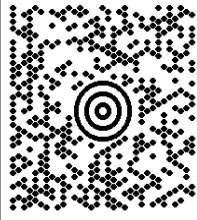
1 LBS

DWT: 12,12,1

BRENDA BLASK-LEWIS
13158673236
CENTERLINE COMMUNICATIONS, LLC
763 EATONVILLE ROAD
HERKIMER NY 13350

SHIP TO:

MELANIE A. BACHMAN
CONNECTICUT SITTING COUNCIL
10 FRANKLIN SQUARE
NEW BRITAIN CT 06051

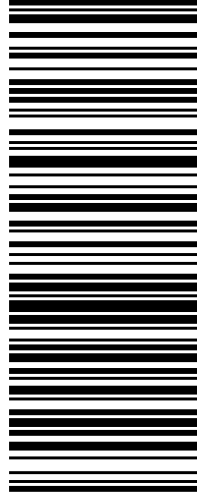


CT 067 9-06



UPS GROUND

TRACKING #: 1Z 9Y4 503 43 1087 7830



BILLING: P/P

Reference #1: CT5093 - CSC filing to CSC (x3)

XOL19.01.26 NY45 06.04.10/2018



1 OF 1

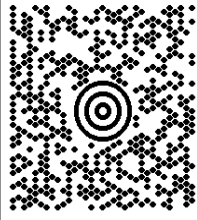
1 LBS

DWT: 12,12,1

BRENDA BLASK-LEWIS
13158673236
CENTERLINE COMMUNICATIONS, LLC
763 EATONVILLE ROAD
HERKIMER NY 13350

SHIP TO:

ATTN: MAYOR'S OFFICE
CITY OF BRIDGEPORT
MARGARET E. MORTON GOV'T. CENTER
999 BROAD STREET
BRIDGEPORT CT 06604

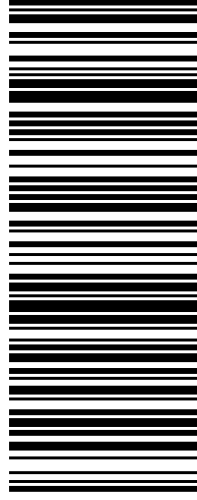


CT 066 9-04



UPS GROUND

TRACKING #: 1Z 9Y4 503 43 3038 3077



BILLING: P/P

Reference #1: CT5093 - CSC filing to Mayor

XOL19.01.26

NV45 06.04.10/2018



TM

1 OF 1

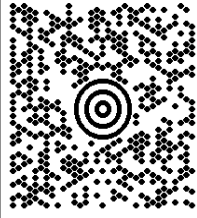
1 LBS

DWT: 12,12,1

BRENDA BLASK-LEWIS
13158673236
CENTERLINE COMMUNICATIONS, LLC
763 EATONVILLE ROAD
HERKIMER NY 13350

SHIP TO:

ATTN: BUILDING/ZONING
CITY OF BRIDGEPORT
BUILDING DEPARTMENT
ROOM 220
45 LYON TERRACE
BRIDGEPORT CT 06604

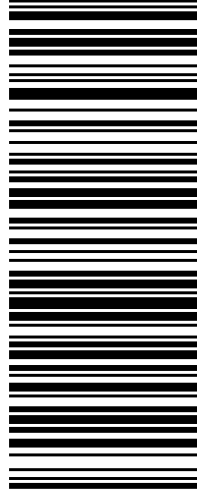


CT 066 9-04



UPS GROUND

TRACKING #: 1Z 9Y4 503 43 2839 3687



BILLING: P/P

Reference #1: CT5093 - CSC filing to Building/Zon



XOL19.01.26 NY45 06.0A.10/2018

1 OF 1

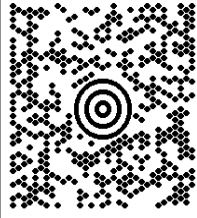
1 LBS

BRENDA BLASK-LEWIS
13158673236
CENTERLINE COMMUNICATIONS, LLC
763 EATONVILLE ROAD
HERKIMER NY 13350

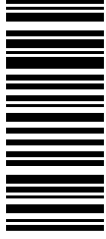
DWT: 12,12,1

SHIP TO:

ATTN: CONTRACTS MANAGEMENT
781-713-4725
AMERICAN TOWER CORPORATION
10 PRESIDENTIAL WAY
WOBURN MA 01801



MA 018 9-04



UPS GROUND

TRACKING #: 1Z 9Y4 503 43 0644 6849



BILLING: P/P

Reference #1: CT5093 - CSC to Tower / Ground
Reference #2: Owner



XOL19.01.26 NV45 06.04.10/2018

1000 TRUMBULL AV

Location 1000 TRUMBULL AV

Mblu 82/ 2778/ 61/B /

Acct# RT-0049550

Owner GLOBAL TOWER ASSETS LLC

Assessment \$310,420

Appraisal \$443,440

PID 32253

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$75,820	\$367,620	\$443,440

Assessment			
Valuation Year	Improvements	Land	Total
2017	\$53,090	\$257,330	\$310,420

Owner of Record

Owner GLOBAL TOWER ASSETS LLC

Sale Price \$0

Co-Owner

Certificate

Address 10 PRESIDENTIAL WAY
WOBURN, MA 01801

Book & Page 9695/0074

Sale Date 09/13/2017

Instrument 04

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
GLOBAL TOWER ASSETS LLC	\$0		9695/0074	04	09/13/2017
GLOBAL TOWER ASSETS LLC	\$0		9500/0294	03	09/14/2016
CELL TOWER LEASE ACQUISITION LLC	\$0		7342/0302	03	01/23/2007
UNISON SITE MANAGEMENT LLC	\$1,925,000		7342/0299	03	01/23/2007
TARTAGLIA REMO	\$700,000		3018/0317		07/06/1992

Building Information

Building 1 : Section 1

Year Built:

Living Area: 0

Replacement Cost: \$0

Building Percent**Good:****Replacement Cost****Less Depreciation:** \$0

Building Attributes	
Field	Description
Style	Telephone Bldg
Model	
Grade:	
Stories:	
Occupancy:	
Exterior Wall 1:	
Exterior Wall 2:	
Roof Structure:	
Roof Cover:	
Interior Wall 1:	
Interior Wall 2:	
Interior Flr 1:	
Interior Flr 2	
Heat Fuel:	
Heat Type:	
AC Type:	
Total Bedrooms	
Total Full Baths	
Total Half Baths	
Total Xtra Fixtrs:	
Total Rooms	
Bath Style:	
Kitchen Style:	
Num Kitchens	
Fireplaces	
Usrflid 103	
Usrflid 104	
Usrflid 105	
Fin Bsmt Area	
Fin Bsmt Quality	
Num Park	
Bsmt Garages	
Usrflid 108	
Usrflid 102	
.	

Building Photo

(<http://images.vgsi.com/photos2/BridgeportCTPhotos//default.jp>)

Building Layout

 Building Layout (ParcelSketch.ashx?pid=32253&bid=32253)

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	<u>Legend</u>
No Data for Extra Features	

Land

Land Use		Land Line Valuation	
Use Code	200V	Size (Acres)	3,05
Description	Commercial Lnd	Frontage	0
Zone	RA	Depth	0
Neighborhood	2140	Assessed Value	\$257,330
Alt Land Appr Category	No	Appraised Value	\$367,620

Outbuildings

Outbuildings	<u>Legend</u>
No Data for Outbuildings	

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2016	\$75,820	\$367,620	\$443,440
2015	\$75,820	\$367,620	\$443,440
2014	\$152,140	\$348,270	\$500,410

Assessment			
Valuation Year	Improvements	Land	Total
2016	\$53,090	\$257,330	\$310,420
2015	\$53,090	\$257,330	\$310,420
2014	\$106,499	\$243,790	\$350,289

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Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT5093

FA#: 10070948

Bridgeport Beardsley
1320 Chopsey Hill Road
Bridgeport, CT 6606

January 7, 2019

Centerline Communications Project Number: 950012-193

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	14.45 %



January 7, 2019

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

Emissions Analysis for Site: **CT5093 – Bridgeport Beardsley**

Centerline Communications, LLC (“Centerline”) was directed to analyze the proposed AT&T facility located at **1320 Chopsey Hill Road, Bridgeport, 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 **1320 Chopsey Hill Road, Bridgeport, 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	700 MHz	4	40
LTE	1900 MHz (PCS)	4	40
LTE	700 MHz (Band 14)	2	40
LTE	2300 MHz (WCS)	4	30
LTE	850 MHz	2	40
LTE	2100 MHz (AWS)	4	30
5G	850 MHz	2	25

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), 2100 MHz (AWS) 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	165
A	2	Quintel QS66512-2	165
A	3	Commscope SBNHH-1D65A	165
A	4	Kathrein 800-10965	165
B	1	Powerwave 7770	165
B	2	Quintel QS66512-2	165
B	3	Commscope SBNHH-1D65A	165
B	4	Kathrein 800-10965	165
C	1	Powerwave 7770	165
C	2	Quintel QS66512-2	165
C	3	Commscope SBNHH-1D65A	165
C	4	Kathrein 800-10965	165

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	0.21
Antenna A2	Quintel QS66512-2	700 MHz / 1900 MHz (PCS)	10.85 / 13.85	6	240	4,855.52	0.85
Antenna A3	Commscope SBNHH-1D65A	700 MHz (Band 14) / 2300 MHz (WCS)	10.85 / 15.85	6	200	5,588.05	0.95
Antenna A4	Kathrein 800-10965	700 MHz / 850 MHz / 2100 MHz (AWS)	12.65 / 13.45 / 15.95	10	330	9,072.24	1.84
Sector A Composite MPE%							3.85
Antenna B1	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.21
Antenna B2	Quintel QS66512-2	700 MHz / 1900 MHz (PCS)	10.85 / 13.85	6	240	4,855.52	0.85
Antenna B3	Commscope SBNHH-1D65A	700 MHz (Band 14) / 2300 MHz (WCS)	10.85 / 15.85	6	200	5,588.05	0.95
Antenna B4	Kathrein 800-10965	700 MHz / 850 MHz / 2100 MHz (AWS)	12.65 / 13.45 / 15.95	10	330	9,072.24	1.84
Sector B Composite MPE%							3.85
Antenna C1	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.21
Antenna C2	Quintel QS66512-2	700 MHz / 1900 MHz (PCS)	10.85 / 13.85	6	240	4,855.52	0.85
Antenna C3	Commscope SBNHH-1D65A	700 MHz (Band 14) / 2300 MHz (WCS)	10.85 / 15.85	6	200	5,588.05	0.95
Antenna C4	Kathrein 800-10965	700 MHz / 850 MHz / 2100 MHz (AWS)	12.65 / 13.45 / 15.95	10	330	9,072.24	1.84
Sector C Composite MPE%							3.85

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 Per Sector Value	3.85 %
Marcus	0.27 %
Red Star	0.06 %
MetroCall	0.42 %
Clinton Tower	0.43 %
AAT	0.39 %
Nextel	0.15 %
Verizon Wireless	4.29 %
Clearwire	0.06 %
Sprint	2.32 %
T-Mobile	1.69 %
MetroPCS	0.52 %
Site Total MPE %:	14.45 %

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	3.85 %
AT&T Sector B Total:	3.85 %
AT&T Sector C Total:	3.85 %
Site Total:	14.45 %

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 (Per Sector)	# 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 – Antenna 1	2	414.12	165	1.18	850 MHz	567	0.21%
AT&T 700 MHz LTE – Antenna 2	2	486.47	165	1.38	700 MHz	467	0.30%
AT&T 1900 MHz (PCS) LTE – Antenna 2	4	970.64	165	5.52	1900 MHz (PCS)	1000	0.55%
AT&T 700 MHz LTE (Band 14) – Antenna 3	2	486.47	165	1.38	700 MHz	467	0.30%
AT&T 2300 MHz (WCS) LTE – Antenna 3	4	1,153.78	165	6.56	2300 MHz (WCS)	1000	0.66%
AT&T 700 MHz LTE – Antenna 4	2	736.31	165	2.09	700 MHz	467	0.45%
AT&T 850 MHz LTE – Antenna 4	2	885.24	165	2.52	850 MHz	567	0.44%
AT&T 2100 MHz (AWS) LTE – Antenna 4	4	1,180.65	165	6.72	2100 MHz (AWS)	1000	0.67%
AT&T 850 MHz 5G – Antenna 4	2	553.27	165	1.57	850 MHz	567	0.28%
						Total:	3.85%

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:	3.85 %
Sector B:	3.85 %
Sector C:	3.85 %
AT&T Maximum Total (per sector):	3.85 %
Site Total:	14.45 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **14.45 %** 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.



Scott Heffernan
 RF Engineering Director
Centerline Communications, LLC
 95 Ryan Drive, Suite 1
 Raynham, MA 02767



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 240 ft Self Supported Tower
ATC Site Name : Tartaglia, CT
ATC Site Number : 383598
Engineering Number : OAA741179_C3_01
Proposed Carrier : AT&T Mobility
Carrier Site Name : 1330 Chopsey Hill Rd
Carrier Site Number : CT03XC325
Site Location : 1000 Trumbull Avenue
Bridgeport, CT 06606-0000
41.218800,-73.201700
County : Fairfield
Date : December 20, 2018
Max Usage : 87%
Result : Pass

Prepared By:
Thomas Pham
Structural Engineer I

Reviewed By:

COA: PEC.0001553



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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 240 ft self supported tower to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	Rohn Drawing #C880400RI, dated March 3, 1988
Foundation Drawing	Mapping by FDH Project #10-12269E N1, dated January 17, 2011
Geotechnical Report	Soiltesting Job #G96-1987-87, dated January 6, 1988
Modifications	Centek Job #10001.CO78, dated December 6, 2010 GlenMartin Drawing #GM-07602, dated February 21, 2013

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	97 mph (3-Second Gust, V_{asd}) / 125 mph (3-Second Gust, V_{ult})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	C
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.21$, $S_1 = 0.06$
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
240.0	240.0	1	Beacon	Side Arm	(1) 1 1/4" Coax (1) 1 5/8" Coax	--
		1	Lightning Rod			
	256.0	1	8' Yagi			
	243.0	245.0	1			10' Omni
		1	6' FM			
	1	Dielectric DCR-L1	Other			
230.0	234.0	2	8' Omni	Side Arms	(2) 7/8" Coax	Other
223.0	229.0	1	12' Omni	Side Arms	(1) 1 1/4" Coax	Other
202.0	202.0	3	Andrew LNX-6515DS-VTM	Sector Frames	(7) 1 5/8" Coax (1) 1 1/4" Hybriflex	T-Mobile
		3	Ericsson AIR 21 B2A/B12P-B5P 6FT			
		3	Ericsson KRY 112 144/2			
		3	Ericsson AIR 32 B66AA B2P			
		3	Ericsson RRUS-11			
183.0	187.0	1	Andrew VHLP800-11	Sector Frames	(6) 5/16" Coax (4) 1 1/4" Hybriflex (4) 1/2" Coax (1) 2" Conduit	Sprint Nextel
		1	2' HP Dish			
	185.0	3	RFS APXVSP18-C-A20			
		3	Tongyu TYDA-252718DER4-65P			
		3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
		3	Argus LLPX310R			
		3	RRU (Model TBD)			
180.0	180.0	3	Motorola DAP Vx	Leg	-	
		6	Alcatel-Lucent 1900MHz RRH			
		3	Alcatel-Lucent 800MHz RRH			
165.0	165.0	3	Commscope SBNHH-1D65A	Sector Frames	(12) 1 5/8" Coax	AT&T Mobility
		3	Ericsson RRUS 32 B2			
		3	Quintel QS66512-3 (112 lbs.)			
		1	Commscope WCS-IMFQ-AMT			
		3	Powerwave 7770.00			
		3	Ericsson RRUS 32 (50.8 lbs)			
		3	Raycap DC6-48-60-18-8F (23.5" Height)			
		9	Powerwave LGP21401			
		3	CCI DTMABP7819VG12A			
		6	Powerwave 7020.00 Dual Band RET			
		12	Powerwave LGP21901			
155.0	155.0	3	56" x 14" Panel	Sector Frames	(12) 1 5/8" Coax (1) 1 1/4" Hybriflex	Verizon
		3	Antel BXA-80063-6BF-EDIN-X			
		6	Andrew SBNH-1D6565A			
		3	Alcatel-Lucent RRH2X60-AWS Band 4			
		3	Alcatel-Lucent B66A RRH 4x45			
		1	Raycap RxxDC-3315-PF-48			
		1	Raycap RxxDC-1064-PF-48			
140.0	140.0	3	Small Side Lights	Leg	-	--
132.0	132.0	1	4' Yagi	Side Arm	(1) 1 1/4" Coax	Other



Existing and Reserved Equipment (Continued)

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
118.0	123.0	1	10' Omni	Side Arm	(1) 7/8" Coax	Other
98.0	98.0	1	4' Yagi	Side Arm	(1) 1 1/4" Coax	
55.0	55.0	1	GPS	Leg	(1) 1/2" Coax	Verizon

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
165.0	165.0	3	Ericsson RRUS-11 (50 lbs.)	-	-	AT&T Mobility
		3	Ericsson RRUS 32 B66			

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
165.0	165.0	3	Kathrein 80010965	Sector Frames	(2) 2" conduit (6) 0.78" 8 AWG 6 (2) 0.39" Fiber Trunk	AT&T Mobility
		3	Raycap DC6-48-60-18-8F (23.5" Height)			
		3	Ericsson Radio 4449			
		3	Ericsson RRUS 4478 B14			
		3	Ericsson RRUS 4426 B66			

¹Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Install proposed coax stacked on top of existing AT&T Mobility coax.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	45%	Pass
Diagonals	87%	Pass
Horizontals	81%	Pass
Anchor Bolts	51%	Pass
Leg Bolts	37%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Uplift (Kips)	290.0	391.5	287.1	73%
Axial (Kips)	363.0	490.1	348.2	71%
Shear (Kips)	54.0	72.9	49.7	68%

* The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
183.0	2' HP Dish	Sprint Nextel	0.114	0.045	0.054
	Andrew VHLP800-11				
165.0	Ericsson Radio 4449	AT&T Mobility	0.097	0.039	0.052
	Raycap DC6-48-60-18-8F (23.5" Height)				
	Ericsson RRUS 4426 B66				
	Ericsson RRUS 4478 B14				
	Kathrein Scala 80010965				

*Deflection, Twist and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G



Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

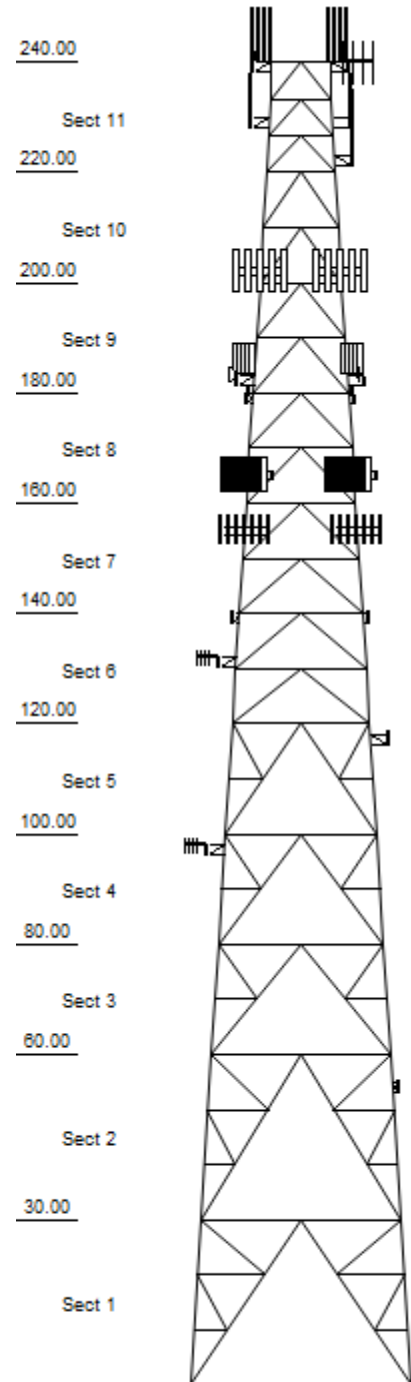
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



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Loads: 97 mph no ice
 50 mph w/ 3/4" radial ice
 Site Class: D Ss: 0.21 S1: 0.06
 60 mph Serviceability

Job Information

Tower : 383598 **Location :** Tartaglia, CT **Base Width :** 40.33 ft
Client : AT&T Mobility **Top Width :** 10.93 ft
Code : ANSI/TIA-222-G **Tower Ht :** 240.00 ft
Shape : Triangle

Sections Properties

Section	Leg Members	Diagonal Members	Horizontal Members
1	PX 50 ksi 10" DIA PIPE	PST 50 ksi 3" DIA PIPE	PST 50 ksi 3-1/2" DIA PIPE
2 - 3	PX 50 ksi 10" DIA PIPE	PST 50 ksi 3" DIA PIPE	PST 50 ksi 3" DIA PIPE
4	PX 50 ksi 8" DIA PIPE	PST 50 ksi 3" DIA PIPE	PST 50 ksi 3" DIA PIPE
5	PX 50 ksi 8" DIA PIPE	PST 50 ksi 2-1/2" DIA PIPE	PST 50 ksi 2-1/2" DIA PIPE
6	PX 50 ksi 8" DIA PIPE	PST 50 ksi 3" DIA PIPE	PST 50 ksi 2-1/2" DIA PIPE
7 - 8	PX 50 ksi 8" DIA PIPE	PST 50 ksi 2-1/2" DIA PIPE	PST 50 ksi 2-1/2" DIA PIPE
9 - 10	PX 50 ksi 8" DIA PIPE	PST 50 ksi 2-1/2" DIA PIPE	PST 50 ksi 2" DIA PIPE
11	PX 50 ksi 8" DIA PIPE	PST 50 ksi 2" DIA PIPE	PST 50 ksi 2" DIA PIPE

Discrete Appurtenance

Elev (ft)	Type	Qty	Description
240.00	Whip	1	6' FM
240.00	Panel	1	Dielectric DCR-L1
240.00	Yagi	1	8' Yagi
240.00	Straight Arm	1	Empty Round Side Arm
240.00	Whip	1	10' Omni
240.00	Whip	1	Beacon
240.00	Whip	1	Lightning Rod
230.00	Whip	2	8' Omni
230.00	Straight Arm	3	Round Side Arm
223.00	Straight Arm	1	Flat Side Arm
223.00	Straight Arm	1	Round Side Arm
223.00	Whip	1	12' Omni
202.00	Panel	3	Andrew LNX-6515DS-VTM
202.00	Panel	3	Ericsson AIR 21 B2A/B12P-B5P 6
202.00	Panel	3	Ericsson KRY 112 144/2
202.00	Panel	3	Ericsson AIR 32 B66AA B2P
202.00	Panel	3	Ericsson RRUS-11
202.00	Mounting Frame	3	Round Sector Frame
183.00	Mounting Frame	3	Flat Light Sector Frame
183.00	Panel	3	RRU (Model TBD)
183.00	Panel	3	RFS APXVSP18-C-A20
183.00	Panel	3	Tongyu TYDA-252718DER4-65P
183.00	Panel	3	Alcatel-Lucent TD-RRH8x20-25 w
183.00	Panel	3	Argus LLPX310R
183.00	Dish	1	Andrew VHLP800-11
183.00	Dish	1	2' HP Dish
180.00	Panel	3	Motorola DAP Vx
180.00	Panel	6	Alcatel-Lucent 1900MHz RRH
180.00	Panel	3	Alcatel-Lucent 800 MHz RRH
165.00	Panel	1	Raycap DC6-48-60-18-8F (23.5")
165.00	Panel	3	Kathrein Scala 80010965
165.00	Panel	3	Ericsson Radio 4449
165.00	Panel	3	Ericsson RRUS 4478 B14
165.00	Panel	3	Ericsson RRUS 4426 B66
165.00	Panel	3	Commscope SBNHH-1D65A
165.00	Panel	3	Ericsson RRUS 32 B2
165.00	Panel	3	Quintel QS66512-3 (112 lbs.)
165.00	Panel	1	Commscope WCS-IMFQ-AMT
165.00	Panel	3	Powerwave Allgon 7770.00
165.00	Panel	3	Ericsson RRUS 32 (50.8 lbs)
165.00	Panel	2	Raycap DC6-48-60-18-8F (23.5")
165.00	Panel	9	Powerwave Allgon LGP21401
165.00	Panel	3	CCI DTMAPB7819VG12A
165.00	Panel	6	Powerwave Allgon 7020.00 Dual
165.00	Panel	12	Powerwave LGP21901

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Job Information		
Tower : 383598	Location : Tartaglia, CT	Base Width : 40.33 ft
Client : AT&T Mobility		Top Width : 10.93 ft
Code : ANSI/TIA-222-G		Tower Ht : 240.00 ft
		Shape : Triangle

165.00	Mounting Frame	3	Round Sector Frame
155.00	Panel	3	56" x 14" Panel
155.00	Panel	3	Amphenol Antel BXA-80063-6BF-E
155.00	Panel	6	Andrew SBNH-1D6565A
155.00	Panel	3	Alcatel-Lucent RRH2X60-AWS Ban
155.00	Panel	3	Alcatel-Lucent B66A RRH 4x45
155.00	Panel	1	Raycap RxxDC-3315-PF-48
155.00	Panel	1	Raycap RxxDC-1064-PF-48
155.00	Mounting Frame	3	Flat Light Sector Frame
140.00	Whip	3	Small Side Lights
132.00	Straight Arm	1	Flat Side Arm
132.00	Yagi	1	4' Yagi
118.00	Straight Arm	1	Round Side Arm
118.00	Whip	1	10' Omni
98.00	Straight Arm	1	Flat Side Arm
98.00	Yagi	1	4' Yagi
55.00	Whip	1	GPS

Linear Appurtenance			
Elev (ft)			
From	To	Qty	Description
0.00	240.00	1	Waveguide
0.00	240.00	1	1 5/8" Coax
0.00	240.00	1	1 1/4" Coax
0.00	230.00	2	7/8" Coax
0.00	223.00	1	1 1/4" Coax
0.00	202.00	1	Waveguide
0.00	202.00	7	1 5/8" Coax
0.00	202.00	1	1 1/4" Hybriflex Cab
0.00	183.00	1	Waveguide
0.00	183.00	6	5/16" Coax
0.00	183.00	1	2" Conduit
0.00	183.00	4	1/2" Coax
0.00	183.00	4	1 1/4" Hybriflex Cab
0.00	165.00	1	Waveguide
0.00	165.00	2	2" conduit
0.00	165.00	12	1 5/8" Coax
0.00	165.00	2	0.78" 8 AWG 6
0.00	165.00	4	0.78" 8 AWG 6
0.00	165.00	2	0.39" Fiber Trunk
0.00	155.00	1	Waveguide
0.00	155.00	12	1 5/8" Coax
0.00	155.00	1	1 1/4" Hybriflex Cab
0.00	132.00	1	1 1/4" Coax
0.00	118.00	1	7/8" Coax
0.00	98.00	1	1 1/4" Coax
0.00	55.00	1	1/2" Coax

Global Base Foundation Design Loads			
Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL + WL	10,947.64	104.40	83.21
DL + WL + IL	3,945.84	237.48	30.40

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Job Information		
Tower : 383598	Location : Tartaglia, CT	Base Width : 40.33 ft
Client : AT&T Mobility		Top Width : 10.93 ft
Code : ANSI/TIA-222-G		Tower Ht : 240.00 ft
		Shape : Triangle

Individual Base Foundation Design Loads		
Vertical (kip)	Uplift (kip)	Horizontal (kip)
348.22	287.11	49.72

Site Number: 383598

Code:

ANSI/TIA-222-G

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Site Name: Tartaglia, CT

Engineering Number: OAA741179_C3_01

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Customer: AT&T Mobility

Analysis Parameters

Location:	Fairfield County, CT	Height (ft):	240
Code:	ANSI/TIA-222-G	Base Elevation (ft):	0.00
Shape:	Triangle	Bottom Face Width (ft):	40.33
Tower Manufacturer:	Rohn	Top Face Width (ft):	10.93
Tower Type:	Self Support	Anchor Bolt Detail Type	c
Kd:			
Ke:			

Ice & Wind Parameters

Structure Class:	II	Design Windspeed Without Ice:	97 mph
Exposure Category:	C	Design Windspeed With Ice:	50 mph
Topographic Category:	1	Operational Windspeed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.75 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	0.69		
T _L (sec):	6	p:	1.3
S _S :	0.207	S ₁ :	0.065
F _a :	1.600	F _V :	2.400
S _{ds} :	0.221	S _{d1} :	0.104
		C _S :	0.050
		C _S , Max:	0.050
		C _S , Min:	0.030

Load Cases

1.2D + 1.6W Normal	97 mph Normal with No Ice
1.2D + 1.6W 60 deg	97 mph 60 degree with No Ice
1.2D + 1.6W 90 deg	97 mph 90 degree with No Ice
1.2D + 1.6W 120 deg	97 mph 120 degree with No Ice
1.2D + 1.6W 180 deg	97 mph 180 degree with No Ice
1.2D + 1.6W 210 deg	97 mph 210 degree with No Ice
1.2D + 1.6W 240 deg	97 mph 240 degree with No Ice
1.2D + 1.6W 300 deg	97 mph 300 degree with No Ice
1.2D + 1.6W 330 deg	97 mph 330 degree with No Ice
0.9D + 1.6W Normal	97 mph Normal with No Ice (Reduced DL)
0.9D + 1.6W 60 deg	97 mph 60 deg with No Ice (Reduced DL)
0.9D + 1.6W 90 deg	97 mph 90 deg with No Ice (Reduced DL)
0.9D + 1.6W 120 deg	97 mph 120 deg with No Ice (Reduced DL)
0.9D + 1.6W 180 deg	97 mph 180 deg with No Ice (Reduced DL)
0.9D + 1.6W 210 deg	97 mph 210 deg with No Ice (Reduced DL)
0.9D + 1.6W 240 deg	97 mph 240 deg with No Ice (Reduced DL)
0.9D + 1.6W 300 deg	97 mph 300 deg with No Ice (Reduced DL)
0.9D + 1.6W 330 deg	97 mph 330 deg with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	50 mph Normal with 0.75 in Radial Ice

Site Number: 383598
Site Name: Tartaglia, CT
Customer: AT&T Mobility

Code: ANSI/TIA-222-G
Engineering Number: OAA741179_C3_01

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Analysis Parameters

1.2D + 1.0Di + 1.0Wi 60 deg	50 mph 60 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 90 deg	50 mph 90 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 120 deg	50 mph 120 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 180 deg	50 mph 180 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 210 deg	50 mph 210 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 240 deg	50 mph 240 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 300 deg	50 mph 300 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 330 deg	50 mph 330 deg with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E Normal	Seismic Normal
(1.2 + 0.2Sds) * DL + E 60 deg	Seismic 60 deg
(1.2 + 0.2Sds) * DL + E 90 deg	Seismic 90 deg
(1.2 + 0.2Sds) * DL + E 120 deg	Seismic 120 deg
(1.2 + 0.2Sds) * DL + E 180 deg	Seismic 180 deg
(1.2 + 0.2Sds) * DL + E 210 deg	Seismic 210 deg
(1.2 + 0.2Sds) * DL + E 240 deg	Seismic 240 deg
(1.2 + 0.2Sds) * DL + E 300 deg	Seismic 300 deg
(1.2 + 0.2Sds) * DL + E 330 deg	Seismic 330 deg
(0.9 - 0.2Sds) * DL + E Normal	Seismic (Reduced DL) Normal
(0.9 - 0.2Sds) * DL + E 60 deg	Seismic (Reduced DL) 60 deg
(0.9 - 0.2Sds) * DL + E 90 deg	Seismic (Reduced DL) 90 deg
(0.9 - 0.2Sds) * DL + E 120 deg	Seismic (Reduced DL) 120 deg
(0.9 - 0.2Sds) * DL + E 180 deg	Seismic (Reduced DL) 180 deg
(0.9 - 0.2Sds) * DL + E 210 deg	Seismic (Reduced DL) 210 deg
(0.9 - 0.2Sds) * DL + E 240 deg	Seismic (Reduced DL) 240 deg
(0.9 - 0.2Sds) * DL + E 300 deg	Seismic (Reduced DL) 300 deg
(0.9 - 0.2Sds) * DL + E 330 deg	Seismic (Reduced DL) 330 deg
1.0D + 1.0W Service Normal	Serviceability - 60 mph Wind Normal
1.0D + 1.0W Service 60 deg	Serviceability - 60 mph Wind 60 deg
1.0D + 1.0W Service 90 deg	Serviceability - 60 mph Wind 90 deg
1.0D + 1.0W Service 120 deg	Serviceability - 60 mph Wind 120 deg
1.0D + 1.0W Service 180 deg	Serviceability - 60 mph Wind 180 deg
1.0D + 1.0W Service 210 deg	Serviceability - 60 mph Wind 210 deg
1.0D + 1.0W Service 240 deg	Serviceability - 60 mph Wind 240 deg
1.0D + 1.0W Service 300 deg	Serviceability - 60 mph Wind 300 deg
1.0D + 1.0W Service 330 deg	Serviceability - 60 mph Wind 330 deg

Tower Loading

Discrete Appurtenance Properties 1.2D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
240.0	Lightning Rod	1	10	1.0	4.0	3.0	3.0	1.00	1.00	0.0	0.0	31.16	42	12
240.0	Dielectric DCR-L1	1	8	1.2	2.0	14.0	36.0	1.00	1.00	3.0	152.9	31.24	51	10
240.0	10' Omni	1	25	3.0	10.0	3.0	3.0	1.00	1.00	5.0	638.4	31.29	128	30
240.0	Beacon	1	70	4.5	3.0	18.0	18.0	1.00	1.00	0.0	0.0	31.16	191	84
240.0	Empty Round Side	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	31.16	220	180
240.0	8' Yagi	1	30	12.0	8.0	60.0	3.0	1.00	1.00	16.0	8246.9	31.58	515	36
240.0	6' FM	1	30	13.4	6.0	0.0	0.0	1.00	1.00	3.0	1714.2	31.24	571	36
230.0	8' Omni	2	25	2.4	8.0	3.0	3.0	1.00	1.00	4.0	809.2	30.99	202	60
230.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	30.88	439	540
223.0	12' Omni	1	40	3.6	12.0	3.0	3.0	1.00	1.00	6.0	906.3	30.85	151	48
223.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	30.68	217	180
223.0	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	30.68	263	180
202.0	Ericsson KRY 112	3	10	0.6	0.7	6.7	3.2	0.80	0.50	0.0	0.0	30.05	27	35
202.0	Ericsson RRUS-11	3	55	3.8	2.1	18.2	6.7	0.80	0.50	0.0	0.0	30.05	186	198
202.0	Ericsson AIR 32	3	109	6.9	4.9	12.9	8.7	0.80	0.71	0.0	0.0	30.05	478	392
202.0	Ericsson AIR 21	3	110	10.6	6.5	14.8	8.6	0.80	0.69	0.0	0.0	30.05	718	396
202.0	Andrew LNX-	3	51	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	30.05	785	185
202.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	30.05	887	1080
183.0	2' HP Dish	1	90	4.0	2.0	24.0	0.0	1.00	1.00	4.0	636.8	29.56	159	108
183.0	Alcatel-Lucent TD-	3	70	4.1	2.2	18.6	6.7	0.80	0.50	2.0	389.9	29.50	195	252
183.0	Argus LLPX310R	3	29	4.3	3.5	11.8	4.5	0.80	0.63	2.0	520.4	29.50	260	103
183.0	RRU (Model TBD)	3	55	4.6	1.8	25.0	7.4	0.80	0.50	0.0	0.0	29.43	219	198
183.0	Tongyu TYDA-	3	54	7.5	5.3	13.0	5.9	0.80	0.65	2.0	942.4	29.50	471	194
183.0	RFS APXVSPP18-C-	3	57	8.0	6.0	11.8	7.0	0.80	0.69	2.0	1065.5	29.50	533	205
183.0	Andrew VHLP800-11	1	48	8.4	2.9	35.0	19.1	1.00	1.00	4.0	1355.7	29.56	339	58
183.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	29.43	1080	1440
180.0	Motorola DAP Vx	3	27	1.6	2.1	7.6	5.5	1.00	0.50	0.0	0.0	29.33	98	95
180.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	1.00	0.67	0.0	0.0	29.33	171	191
180.0	Alcatel-Lucent	6	44	3.3	1.9	13.0	17.0	1.00	0.67	0.0	0.0	29.33	523	317
165.0	Powerwave	12	6	0.2	0.3	6.0	3.0	0.80	0.50	0.0	0.0	28.79	43	79
165.0	Powerwave Allgon	6	2	0.4	0.4	8.3	2.4	0.80	0.50	0.0	0.0	28.79	38	16
165.0	CCI	3	19	1.0	0.9	11.0	3.8	0.80	0.50	0.0	0.0	28.79	46	69
165.0	Commscope WCS-	1	30	1.0	0.9	10.6	6.9	0.80	0.50	0.0	0.0	28.79	16	35
165.0	Powerwave Allgon	9	14	1.1	1.2	9.2	2.6	0.80	0.50	0.0	0.0	28.79	155	152
165.0	Raycap DC6-48-60-	2	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	28.79	70	48
165.0	Raycap DC6-48-60-	1	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	28.79	35	24
165.0	Ericsson RRUS 4426	3	48	1.6	1.3	13.2	5.8	0.80	0.50	0.0	0.0	28.79	78	174
165.0	Ericsson RRUS 4478	3	60	1.8	1.4	13.4	7.7	0.80	0.50	0.0	0.0	28.79	86	216
165.0	Ericsson RRUS 32	3	51	2.7	2.2	12.1	6.8	0.80	0.50	0.0	0.0	28.79	126	183
165.0	Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.50	0.0	0.0	28.79	129	191
165.0	Ericsson Radio 4449	3	85	3.5	2.3	15.0	10.0	0.80	0.50	0.0	0.0	28.79	164	306
165.0	Powerwave Allgon	3	35	5.5	4.6	11.0	5.0	0.80	0.65	0.0	0.0	28.79	337	126
165.0	Commscope SBNHH-	3	41	5.9	4.6	11.9	7.1	0.80	0.69	0.0	0.0	28.79	381	147
165.0	Quintel QS66512-3	3	112	8.1	6.0	12.0	9.6	0.80	0.74	0.0	0.0	28.79	565	403
165.0	Kathrein Scala	3	98	13.8	6.6	20.0	6.9	0.80	0.62	0.0	0.0	28.79	805	351
165.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.79	850	1080
155.0	Raycap RxxDC-1064-	1	9	1.2	1.1	10.2	8.2	0.80	0.50	0.0	0.0	28.42	18	11
155.0	Raycap RxxDC-3315-	1	21	2.5	1.6	15.7	10.3	0.80	0.50	0.0	0.0	28.42	39	26
155.0	Alcatel-Lucent B66A	3	67	2.6	2.2	12.0	7.3	0.80	0.50	0.0	0.0	28.42	120	241
155.0	Alcatel-Lucent	3	55	3.3	3.0	10.6	5.7	0.80	0.50	0.0	0.0	28.42	155	198
155.0	Andrew SBNH-	6	38	5.4	4.2	11.9	7.1	0.80	0.69	0.0	0.0	28.42	689	276
155.0	56" x 14" Panel	3	40	6.9	4.7	14.0	7.0	0.80	0.66	0.0	0.0	28.42	422	144
155.0	Amphenol Antel BXA-	3	19	7.3	5.7	11.2	5.3	0.80	0.66	0.0	0.0	28.42	444	69
155.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.42	1043	1440

Site Number: 383598
 Site Name: Tartaglia, CT
 Customer: AT&T Mobility

Code: ANSI/TIA-222-G
 Engineering Number: OAA741179_C3_01

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Tower Loading

140.0	Small Side Lights	3	45	2.0	1.0	8.0	8.0	1.00	1.00	0.0	0.0	27.81	227	162
132.0	4' Yagi	1	15	4.9	4.0	48.0	3.0	1.00	1.00	0.0	0.0	27.47	183	18
132.0	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	27.47	235	180
118.0	10' Omni	1	8	0.1	1.0	2.0	2.0	1.00	1.00	5.0	23.9	27.07	5	10
118.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	26.83	190	180
98.00	4' Yagi	1	15	4.9	4.0	48.0	3.0	1.00	1.00	0.0	0.0	25.80	172	18
98.00	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	25.80	221	180
55.00	GPS	1	10	1.0	1.0	9.0	6.0	1.00	1.00	0.0	0.0	22.85	31	12
Totals		162	11341	788.5									18237	13609

Discrete Appurtenance Properties 0.9D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
240.0	Lightning Rod	1	10	1.0	4.0	3.0	3.0	1.00	1.00	0.0	0.0	31.16	42	9
240.0	Dielectric DCR-L1	1	8	1.2	2.0	14.0	36.0	1.00	1.00	3.0	152.9	31.24	51	7
240.0	10' Omni	1	25	3.0	10.0	3.0	3.0	1.00	1.00	5.0	638.4	31.29	128	23
240.0	Beacon	1	70	4.5	3.0	18.0	18.0	1.00	1.00	0.0	0.0	31.16	191	63
240.0	Empty Round Side	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	31.16	220	135
240.0	8' Yagi	1	30	12.0	8.0	60.0	3.0	1.00	1.00	16.0	8246.9	31.58	515	27
240.0	6' FM	1	30	13.4	6.0	0.0	0.0	1.00	1.00	3.0	1714.2	31.24	571	27
230.0	8' Omni	2	25	2.4	8.0	3.0	3.0	1.00	1.00	4.0	809.2	30.99	202	45
230.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	30.88	439	405
223.0	12' Omni	1	40	3.6	12.0	3.0	3.0	1.00	1.00	6.0	906.3	30.85	151	36
223.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	30.68	217	135
223.0	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	30.68	263	135
202.0	Ericsson KRY 112	3	10	0.6	0.7	6.7	3.2	0.80	0.50	0.0	0.0	30.05	27	26
202.0	Ericsson RRUS-11	3	55	3.8	2.1	18.2	6.7	0.80	0.50	0.0	0.0	30.05	186	149
202.0	Ericsson AIR 32	3	109	6.9	4.9	12.9	8.7	0.80	0.71	0.0	0.0	30.05	478	294
202.0	Ericsson AIR 21	3	110	10.6	6.5	14.8	8.6	0.80	0.69	0.0	0.0	30.05	718	297
202.0	Andrew LNX-	3	51	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	30.05	785	139
202.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	30.05	887	810
183.0	2' HP Dish	1	90	4.0	2.0	24.0	0.0	1.00	1.00	4.0	636.8	29.56	159	81
183.0	Alcatel-Lucent TD-	3	70	4.1	2.2	18.6	6.7	0.80	0.50	2.0	389.9	29.50	195	189
183.0	Argus LLPX310R	3	29	4.3	3.5	11.8	4.5	0.80	0.63	2.0	520.4	29.50	260	77
183.0	RRU (Model TBD)	3	55	4.6	1.8	25.0	7.4	0.80	0.50	0.0	0.0	29.43	219	149
183.0	Tongyu TYDA-	3	54	7.5	5.3	13.0	5.9	0.80	0.65	2.0	942.4	29.50	471	146
183.0	RFS APXVSP18-C-	3	57	8.0	6.0	11.8	7.0	0.80	0.69	2.0	1065.5	29.50	533	154
183.0	Andrew VHLP800-11	1	48	8.4	2.9	35.0	19.1	1.00	1.00	4.0	1355.7	29.56	339	43
183.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	29.43	1080	1080
180.0	Motorola DAP Vx	3	27	1.6	2.1	7.6	5.5	1.00	0.50	0.0	0.0	29.33	98	72
180.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	1.00	0.67	0.0	0.0	29.33	171	143
180.0	Alcatel-Lucent	6	44	3.3	1.9	13.0	17.0	1.00	0.67	0.0	0.0	29.33	523	238
165.0	Powerwave	12	6	0.2	0.3	6.0	3.0	0.80	0.50	0.0	0.0	28.79	43	59
165.0	Powerwave Allgon	6	2	0.4	0.4	8.3	2.4	0.80	0.50	0.0	0.0	28.79	38	12
165.0	CCI	3	19	1.0	0.9	11.0	3.8	0.80	0.50	0.0	0.0	28.79	46	52
165.0	Commscope WCS-	1	30	1.0	0.9	10.6	6.9	0.80	0.50	0.0	0.0	28.79	16	27
165.0	Powerwave Allgon	9	14	1.1	1.2	9.2	2.6	0.80	0.50	0.0	0.0	28.79	155	114
165.0	Raycap DC6-48-60-	2	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	28.79	70	36
165.0	Raycap DC6-48-60-	1	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	28.79	35	18
165.0	Ericsson RRUS 4426	3	48	1.6	1.3	13.2	5.8	0.80	0.50	0.0	0.0	28.79	78	131
165.0	Ericsson RRUS 4478	3	60	1.8	1.4	13.4	7.7	0.80	0.50	0.0	0.0	28.79	86	162
165.0	Ericsson RRUS 32	3	51	2.7	2.2	12.1	6.8	0.80	0.50	0.0	0.0	28.79	126	137
165.0	Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.50	0.0	0.0	28.79	129	143
165.0	Ericsson Radio 4449	3	85	3.5	2.3	15.0	10.0	0.80	0.50	0.0	0.0	28.79	164	230
165.0	Powerwave Allgon	3	35	5.5	4.6	11.0	5.0	0.80	0.65	0.0	0.0	28.79	337	95

Tower Loading

165.0	Commscope SBNHH-	3	41	5.9	4.6	11.9	7.1	0.80	0.69	0.0	0.0	28.79	381	110
165.0	Quintel QS66512-3	3	112	8.1	6.0	12.0	9.6	0.80	0.74	0.0	0.0	28.79	565	302
165.0	Kathrein Scala	3	98	13.8	6.6	20.0	6.9	0.80	0.62	0.0	0.0	28.79	805	264
165.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.79	850	810
155.0	Raycap RxxDC-1064-	1	9	1.2	1.1	10.2	8.2	0.80	0.50	0.0	0.0	28.42	18	8
155.0	Raycap RxxDC-3315-	1	21	2.5	1.6	15.7	10.3	0.80	0.50	0.0	0.0	28.42	39	19
155.0	Alcatel-Lucent B66A	3	67	2.6	2.2	12.0	7.3	0.80	0.50	0.0	0.0	28.42	120	181
155.0	Alcatel-Lucent	3	55	3.3	3.0	10.6	5.7	0.80	0.50	0.0	0.0	28.42	155	149
155.0	Andrew SBNH-	6	38	5.4	4.2	11.9	7.1	0.80	0.69	0.0	0.0	28.42	689	207
155.0	56" x 14" Panel	3	40	6.9	4.7	14.0	7.0	0.80	0.66	0.0	0.0	28.42	422	108
155.0	Amphenol Antel BXA-	3	19	7.3	5.7	11.2	5.3	0.80	0.66	0.0	0.0	28.42	444	52
155.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.42	1043	1080
140.0	Small Side Lights	3	45	2.0	1.0	8.0	8.0	1.00	1.00	0.0	0.0	27.81	227	122
132.0	4' Yagi	1	15	4.9	4.0	48.0	3.0	1.00	1.00	0.0	0.0	27.47	183	14
132.0	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	27.47	235	135
118.0	10' Omni	1	8	0.1	1.0	2.0	2.0	1.00	1.00	5.0	23.9	27.07	5	7
118.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	26.83	190	135
98.00	4' Yagi	1	15	4.9	4.0	48.0	3.0	1.00	1.00	0.0	0.0	25.80	172	14
98.00	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	25.80	221	135
55.00	GPS	1	10	1.0	1.0	9.0	6.0	1.00	1.00	0.0	0.0	22.85	31	9
Totals		162	11341	788.5									18237	10207

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elevation (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
240.0	Lightning Rod	1	70	1.9	4.0	3.0	3.0	1.00	1.00	0.0	0.0	8.28	14	72
240.0	Dielectric DCR-L1	1	42	3.4	2.0	14.0	36.0	1.00	1.00	3.0	71.8	8.30	24	44
240.0	10' Omni	1	104	6.8	10.0	3.0	3.0	1.00	1.00	5.0	239.0	8.31	48	109
240.0	Beacon	1	294	4.2	3.0	18.0	18.0	1.00	1.00	0.0	0.0	8.28	29	308
240.0	Empty Round Side	1	227	8.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	8.28	57	257
240.0	8' Yagi	1	384	46.9	8.0	60.0	3.0	1.00	1.00	16.0	5355.7	8.39	335	390
240.0	6' FM	1	742	18.3	6.0	0.0	0.0	1.00	1.00	3.0	386.5	8.30	129	748
230.0	8' Omni	2	89	5.3	8.0	3.0	3.0	1.00	1.00	4.0	295.3	8.23	74	188
230.0	Round Side Arm	3	227	8.0	0.0	0.0	0.0	1.00	0.67	0.0	0.0	8.20	113	770
223.0	12' Omni	1	134	8.1	12.0	3.0	3.0	1.00	1.00	6.0	336.6	8.20	56	142
223.0	Round Side Arm	1	226	8.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	8.15	56	256
223.0	Flat Side Arm	1	226	8.8	0.0	0.0	0.0	1.00	1.00	0.0	0.0	8.15	61	256
202.0	Ericsson KRY 112	3	24	1.1	0.7	6.7	3.2	0.80	0.50	0.0	0.0	7.98	9	79
202.0	Ericsson RRUS-11	3	147	5.1	2.1	18.2	6.7	0.80	0.50	0.0	0.0	7.98	42	474
202.0	Ericsson AIR 32	3	305	8.1	4.9	12.9	8.7	0.80	0.71	0.0	0.0	7.98	93	981
202.0	Ericsson AIR 21	3	380	12.1	6.5	14.8	8.6	0.80	0.69	0.0	0.0	7.98	136	1205
202.0	Andrew LNX-	3	322	13.1	8.0	11.9	7.1	0.80	0.70	0.0	0.0	7.98	150	998
202.0	Round Sector Frame	3	677	31.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.98	321	2212
183.0	2' HP Dish	1	175	5.1	2.0	24.0	0.0	1.00	1.00	4.0	137.5	7.85	34	193
183.0	Alcatel-Lucent TD-	3	166	5.4	2.2	18.6	6.7	0.80	0.50	2.0	86.3	7.84	43	540
183.0	Argus LLPX310R	3	120	6.0	3.5	11.8	4.5	0.80	0.63	2.0	120.2	7.84	60	377
183.0	RRU (Model TBD)	3	164	6.0	1.8	25.0	7.4	0.80	0.50	0.0	0.0	7.82	48	525
183.0	Tongyu TYDA-	3	211	10.0	5.3	13.0	5.9	0.80	0.65	2.0	208.4	7.84	104	664
183.0	RFS APXVSPP18-C-	3	232	10.8	6.0	11.8	7.0	0.80	0.69	2.0	239.4	7.84	120	730
183.0	Andrew VHLP800-11	1	223	10.2	2.9	35.0	19.1	1.00	1.00	4.0	271.3	7.85	68	232
183.0	Flat Light Sector	3	705	33.2	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.82	333	2356
180.0	Motorola DAP Vx	3	74	2.7	2.1	7.6	5.5	1.00	0.50	0.0	0.0	7.79	26	236
180.0	Alcatel-Lucent 800	3	128	3.1	1.6	13.0	10.8	1.00	0.67	0.0	0.0	7.79	42	416
180.0	Alcatel-Lucent	6	154	4.5	1.9	13.0	17.0	1.00	0.67	0.0	0.0	7.79	119	979
165.0	Powerwave	12	13	0.6	0.3	6.0	3.0	0.80	0.50	0.0	0.0	7.65	19	171

Site Number: 383598
 Site Name: Tartaglia, CT
 Customer: AT&T Mobility

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Tower Loading

165.0	Powerwave Allgon	6	12	0.9	0.4	8.3	2.4	0.80	0.50	0.0	0.0	7.65	14	77
165.0	CCI	3	45	1.6	0.9	11.0	3.8	0.80	0.50	0.0	0.0	7.65	13	146
165.0	Commscope WCS-	1	63	1.7	0.9	10.6	6.9	0.80	0.50	0.0	0.0	7.65	4	69
165.0	Powerwave Allgon	9	39	1.8	1.2	9.2	2.6	0.80	0.50	0.0	0.0	7.65	42	377
165.0	Raycap DC6-48-60-	2	73	1.7	2.0	9.7	9.7	0.80	1.00	0.0	0.0	7.65	18	154
165.0	Raycap DC6-48-60-	1	73	1.7	2.0	9.7	9.7	0.80	1.00	0.0	0.0	7.65	9	77
165.0	Ericsson RRUS 4426	3	93	2.5	1.3	13.2	5.8	0.80	0.50	0.0	0.0	7.65	20	308
165.0	Ericsson RRUS 4478	3	116	2.7	1.4	13.4	7.7	0.80	0.50	0.0	0.0	7.65	21	382
165.0	Ericsson RRUS 32	3	122	3.8	2.2	12.1	6.8	0.80	0.50	0.0	0.0	7.65	30	398
165.0	Ericsson RRUS 32 B2	3	127	3.9	2.3	12.1	7.0	0.80	0.50	0.0	0.0	7.65	31	412
165.0	Ericsson Radio 4449	3	187	4.8	2.3	15.0	10.0	0.80	0.50	0.0	0.0	7.65	37	612
165.0	Powerwave Allgon	3	170	6.6	4.6	11.0	5.0	0.80	0.65	0.0	0.0	7.65	67	532
165.0	Commscope SBNHH-	3	177	8.0	4.6	11.9	7.1	0.80	0.69	0.0	0.0	7.65	86	555
165.0	Quintel QS66512-3	3	339	9.4	6.0	12.0	9.6	0.80	0.74	0.0	0.0	7.65	109	1085
165.0	Kathrein Scala	3	396	15.4	6.6	20.0	6.9	0.80	0.62	0.0	0.0	7.65	149	1246
165.0	Round Sector Frame	3	669	31.0	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.65	304	2186
155.0	Raycap RxxDC-1064-	1	50	1.9	1.1	10.2	8.2	0.80	0.50	0.0	0.0	7.55	5	52
155.0	Raycap RxxDC-3315-	1	101	3.6	1.6	15.7	10.3	0.80	0.50	0.0	0.0	7.55	9	105
155.0	Alcatel-Lucent B66A	3	138	3.7	2.2	12.0	7.3	0.80	0.50	0.0	0.0	7.55	29	454
155.0	Alcatel-Lucent	3	136	4.8	3.0	10.6	5.7	0.80	0.50	0.0	0.0	7.55	37	441
155.0	Andrew SBNH-	6	186	6.4	4.2	11.9	7.1	0.80	0.69	0.0	0.0	7.55	136	1164
155.0	56" x 14" Panel	3	216	8.0	4.7	14.0	7.0	0.80	0.66	0.0	0.0	7.55	82	672
155.0	Amphenol Antel BXA-	3	189	8.5	5.7	11.2	5.3	0.80	0.66	0.0	0.0	7.55	86	579
155.0	Flat Light Sector	3	702	33.0	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.55	319	2345
140.0	Small Side Lights	3	86	0.9	1.0	8.0	8.0	1.00	1.00	0.0	0.0	7.39	16	284
132.0	4' Yagi	1	158	17.7	4.0	48.0	3.0	1.00	1.00	0.0	0.0	7.30	110	161
132.0	Flat Side Arm	1	222	8.7	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.30	54	252
118.0	10' Omni	1	21	0.4	1.0	2.0	2.0	1.00	1.00	5.0	12.4	7.19	2	22
118.0	Round Side Arm	1	221	7.8	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.13	48	251
98.00	4' Yagi	1	153	17.2	4.0	48.0	3.0	1.00	1.00	0.0	0.0	6.86	100	156
98.00	Flat Side Arm	1	220	8.6	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.86	50	250
55.00	GPS	1	43	0.9	1.0	9.0	6.0	1.00	1.00	0.0	0.0	6.07	5	45
Totals		162	30486	1222.5									4802	32754

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
240.0	Lightning Rod	1	10	1.0	4.0	3.0	3.0	1.00	1.00	0.0	0.0	11.92	10	10
240.0	Dielectric DCR-L1	1	8	1.2	2.0	14.0	36.0	1.00	1.00	3.0	36.6	11.95	12	8
240.0	10' Omni	1	25	3.0	10.0	3.0	3.0	1.00	1.00	5.0	152.7	11.97	31	25
240.0	Beacon	1	70	4.5	3.0	18.0	18.0	1.00	1.00	0.0	0.0	11.92	46	70
240.0	Empty Round Side	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	11.92	53	150
240.0	8' Yagi	1	30	12.0	8.0	60.0	3.0	1.00	1.00	16.0	1972.1	12.08	123	30
240.0	6' FM	1	30	13.4	6.0	0.0	0.0	1.00	1.00	3.0	409.9	11.95	137	30
230.0	8' Omni	2	25	2.4	8.0	3.0	3.0	1.00	1.00	4.0	193.5	11.86	48	50
230.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	11.81	105	450
223.0	12' Omni	1	40	3.6	12.0	3.0	3.0	1.00	1.00	6.0	216.7	11.80	36	40
223.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	11.74	52	150
223.0	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	11.74	63	150
202.0	Ericsson KRY 112	3	10	0.6	0.7	6.7	3.2	0.80	0.50	0.0	0.0	11.50	7	29
202.0	Ericsson RRUS-11	3	55	3.8	2.1	18.2	6.7	0.80	0.50	0.0	0.0	11.50	44	165
202.0	Ericsson AIR 32	3	109	6.9	4.9	12.9	8.7	0.80	0.71	0.0	0.0	11.50	114	327
202.0	Ericsson AIR 21	3	110	10.6	6.5	14.8	8.6	0.80	0.69	0.0	0.0	11.50	172	330
202.0	Andrew LNX-	3	51	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	11.50	188	154
202.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	11.50	212	900

Site Number: 383598
 Site Name: Tartaglia, CT
 Customer: AT&T Mobility

Code: ANSI/TIA-222-G
 Engineering Number: OAA741179_C3_01

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Tower Loading

183.0	2' HP Dish	1	90	4.0	2.0	24.0	0.0	1.00	1.00	4.0	152.3	11.31	38	90
183.0	Alcatel-Lucent TD-	3	70	4.1	2.2	18.6	6.7	0.80	0.50	2.0	93.2	11.29	47	210
183.0	Argus LLPX310R	3	29	4.3	3.5	11.8	4.5	0.80	0.63	2.0	124.4	11.29	62	86
183.0	RRU (Model TBD)	3	55	4.6	1.8	25.0	7.4	0.80	0.50	0.0	0.0	11.26	52	165
183.0	Tongyu TYDA-	3	54	7.5	5.3	13.0	5.9	0.80	0.65	2.0	225.4	11.29	113	162
183.0	RFS APXVSPP18-C-	3	57	8.0	6.0	11.8	7.0	0.80	0.69	2.0	254.8	11.29	127	171
183.0	Andrew VHLP800-11	1	48	8.4	2.9	35.0	19.1	1.00	1.00	4.0	324.2	11.31	81	48
183.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	11.26	258	1200
180.0	Motorola DAP Vx	3	27	1.6	2.1	7.6	5.5	1.00	0.50	0.0	0.0	11.22	23	80
180.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	1.00	0.67	0.0	0.0	11.22	41	159
180.0	Alcatel-Lucent	6	44	3.3	1.9	13.0	17.0	1.00	0.67	0.0	0.0	11.22	125	264
165.0	Powerwave	12	6	0.2	0.3	6.0	3.0	0.80	0.50	0.0	0.0	11.02	10	66
165.0	Powerwave Allgon	6	2	0.4	0.4	8.3	2.4	0.80	0.50	0.0	0.0	11.02	9	13
165.0	CCI	3	19	1.0	0.9	11.0	3.8	0.80	0.50	0.0	0.0	11.02	11	58
165.0	Commscope WCS-	1	30	1.0	0.9	10.6	6.9	0.80	0.50	0.0	0.0	11.02	4	30
165.0	Powerwave Allgon	9	14	1.1	1.2	9.2	2.6	0.80	0.50	0.0	0.0	11.02	37	127
165.0	Raycap DC6-48-60-	2	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	11.02	17	40
165.0	Raycap DC6-48-60-	1	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	11.02	8	20
165.0	Ericsson RRUS 4426	3	48	1.6	1.3	13.2	5.8	0.80	0.50	0.0	0.0	11.02	19	145
165.0	Ericsson RRUS 4478	3	60	1.8	1.4	13.4	7.7	0.80	0.50	0.0	0.0	11.02	21	180
165.0	Ericsson RRUS 32	3	51	2.7	2.2	12.1	6.8	0.80	0.50	0.0	0.0	11.02	30	152
165.0	Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.50	0.0	0.0	11.02	31	159
165.0	Ericsson Radio 4449	3	85	3.5	2.3	15.0	10.0	0.80	0.50	0.0	0.0	11.02	39	255
165.0	Powerwave Allgon	3	35	5.5	4.6	11.0	5.0	0.80	0.65	0.0	0.0	11.02	80	105
165.0	Commscope SBNHH-	3	41	5.9	4.6	11.9	7.1	0.80	0.69	0.0	0.0	11.02	91	123
165.0	Quintel QS66512-3	3	112	8.1	6.0	12.0	9.6	0.80	0.74	0.0	0.0	11.02	135	336
165.0	Kathrein Scala	3	98	13.8	6.6	20.0	6.9	0.80	0.62	0.0	0.0	11.02	192	293
165.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	11.02	203	900
155.0	Raycap RxxDC-1064-	1	9	1.2	1.1	10.2	8.2	0.80	0.50	0.0	0.0	10.87	4	9
155.0	Raycap RxxDC-3315-	1	21	2.5	1.6	15.7	10.3	0.80	0.50	0.0	0.0	10.87	9	21
155.0	Alcatel-Lucent B66A	3	67	2.6	2.2	12.0	7.3	0.80	0.50	0.0	0.0	10.87	29	201
155.0	Alcatel-Lucent	3	55	3.3	3.0	10.6	5.7	0.80	0.50	0.0	0.0	10.87	37	165
155.0	Andrew SBNH-	6	38	5.4	4.2	11.9	7.1	0.80	0.69	0.0	0.0	10.87	165	230
155.0	56" x 14" Panel	3	40	6.9	4.7	14.0	7.0	0.80	0.66	0.0	0.0	10.87	101	120
155.0	Amphenol Antel BXA-	3	19	7.3	5.7	11.2	5.3	0.80	0.66	0.0	0.0	10.87	106	58
155.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	10.87	249	1200
140.0	Small Side Lights	3	45	2.0	1.0	8.0	8.0	1.00	1.00	0.0	0.0	10.64	54	135
132.0	4' Yagi	1	15	4.9	4.0	48.0	3.0	1.00	1.00	0.0	0.0	10.51	44	15
132.0	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	10.51	56	150
118.0	10' Omni	1	8	0.1	1.0	2.0	2.0	1.00	1.00	5.0	5.7	10.36	1	8
118.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	10.27	45	150
98.00	4' Yagi	1	15	4.9	4.0	48.0	3.0	1.00	1.00	0.0	0.0	9.87	41	15
98.00	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	9.87	53	150
55.00	GPS	1	10	1.0	1.0	9.0	6.0	1.00	1.00	0.0	0.0	8.74	7	10
Totals		162	11341	788.5									4361	11341

Site Number: 383598

Code:

ANSI/TIA-222-G

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Site Name: Tartaglia, CT

Engineering Number: OAA741179_C3_01

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Customer: AT&T Mobility

Tower Loading

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	240.0	1 1/4" Coax	1	1.55	0.63	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	240.0	1 5/8" Coax	1	1.98	0.82	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	240.0	Waveguide	1	1.50	6.00	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	230.0	7/8" Coax	2	1.09	0.33	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	223.0	1 1/4" Coax	1	1.55	0.63	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	202.0	1 1/4" Hybriflex	1	1.54	1.00	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	202.0	1 5/8" Coax	7	1.98	0.82	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	202.0	Waveguide	1	1.50	6.00	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	183.0	1 1/4" Hybriflex	4	1.54	1.00	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	183.0	1/2" Coax	4	0.63	0.15	50	2	Block	0.00	N	0.25	1.00	0.00
0.00	183.0	2" Conduit	1	2.38	3.65	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	183.0	5/16" Coax	6	0.31	0.05	50	2	Block	0.00	N	0.25	1.00	0.00
0.00	183.0	Waveguide	1	1.50	6.00	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	165.0	0.39" Fiber Trunk	2	0.39	0.06	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	165.0	0.78" 8 AWG 6	4	0.78	0.59	50	Lin App	Block	0.00	N	0.25	1.00	0.00
0.00	165.0	0.78" 8 AWG 6	2	0.78	0.59	0	Lin App	Individual	0.00	N	1.00	1.00	0.01
0.00	165.0	1 5/8" Coax	12	1.98	0.82	50	1	Block	0.00	N	0.25	1.00	0.00
0.00	165.0	2" conduit	2	2.38	3.65	0	Lin App	Individual	0.00	N	1.00	1.00	0.01
0.00	165.0	Waveguide	1	1.50	6.00	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	155.0	1 1/4" Hybriflex	1	1.54	1.00	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	155.0	1 5/8" Coax	12	1.98	0.82	50	1	Block	0.00	N	0.25	1.00	0.00
0.00	155.0	Waveguide	1	1.50	6.00	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	132.0	1 1/4" Coax	1	1.55	0.63	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	118.0	7/8" Coax	1	1.09	0.33	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	98.00	1 1/4" Coax	1	1.55	0.63	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	55.00	1/2" Coax	1	0.63	0.15	0	1	Individual	0.00	N	1.00	1.00	0.00

Site Number: 383598
 Site Name: Tartaglia, CT
 Customer: AT&T Mobility

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 Engineering Number: OAA741179_C3_01

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Equivalent Lateral Force Method

(Based on ASCE7-10 Chapters 11, 12 & 15)

Spectral Response Acceleration for Short Period (S_s):	0.21
Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.06
Long-Period Transition Period (T_L - Seconds):	6
Importance Factor (I_p):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.22
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.05
Upper Limit C_s :	0.05
Lower Limit C_s :	0.03
Period based on Rayleigh Method (sec):	0.69
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.10
Total Unfactored Dead Load:	87.00 k
Seismic Base Shear (E):	5.67 k

LoadCase (1.2 + 0.2Sds) * DL + E

Seismic

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
11	230.00	3,935	1,522,77	0.095	539	4,896
10	210.00	4,114	1,441,17	0.090	510	5,119
9	190.00	4,517	1,417,99	0.089	502	5,620
8	170.00	5,391	1,497,91	0.093	530	6,707
7	150.00	6,711	1,625,82	0.101	575	8,349
6	130.00	6,866	1,422,03	0.089	503	8,543
5	110.00	6,454	1,113,10	0.069	394	8,030
4	90.00	6,693	926,517	0.058	328	8,327
3	70.00	7,521	790,556	0.049	280	9,358
2	45.00	10,926	707,726	0.044	251	13,594
1	15.00	12,528	243,497	0.015	86	15,587
Lightning Rod	240.00	10	4,055	0.000	1	12
Dielectric DCR-L1	240.00	8	3,244	0.000	1	10
10' Omni	240.00	25	10,136	0.001	4	31
Beacon	240.00	70	28,382	0.002	10	87
Empty Round Side Arm	240.00	150	60,818	0.004	22	187
8' Yagi	240.00	30	12,164	0.001	4	37
6' FM	240.00	30	12,164	0.001	4	37
8' Omni	230.00	50	19,349	0.001	7	62
Round Side Arm	230.00	450	174,142	0.011	62	560
12' Omni	223.00	40	14,964	0.001	5	50
Round Side Arm	223.00	150	56,114	0.004	20	187
Flat Side Arm	223.00	150	56,114	0.004	20	187

Site Number: 383598

Code: ANSI/TIA-222-G

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Site Name: Tartaglia, CT

Engineering Number: OAA741179_C3_01

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Customer: AT&T Mobility

Equivalent Lateral Force Method

Ericsson KRY 112 144/2	202.00	29	9,768	0.001	3	36
Ericsson RRUS-11	202.00	165	55,387	0.003	20	205
Ericsson AIR 32 B66AA B2P	202.00	327	109,766	0.007	39	407
Ericsson AIR 21 B2A/B12P-B5P 6FT	202.00	330	110,773	0.007	39	411
Andrew LNX-6515DS-VTM	202.00	154	51,661	0.003	18	191
Round Sector Frame	202.00	900	302,108	0.019	107	1,120
2' HP Dish	183.00	90	27,112	0.002	10	112
Alcatel-Lucent TD-RRH8x20-25 w/ Solar	183.00	210	63,261	0.004	22	261
Argus LLPX310R	183.00	86	25,847	0.002	9	107
RRU (Model TBD)	183.00	165	49,705	0.003	18	205
Tongyu TYDA-252718DER4-65P	183.00	162	48,801	0.003	17	202
RFS APXVSP18-C-A20	183.00	171	51,512	0.003	18	213
Andrew VHLP800-11	183.00	48	14,460	0.001	5	60
Flat Light Sector Frame	183.00	1,200	361,490	0.023	128	1,493
Motorola DAP Vx	180.00	79	23,519	0.001	8	99
Alcatel-Lucent 800 MHz RRH	180.00	159	47,038	0.003	17	198
Alcatel-Lucent 1900MHz RRH	180.00	264	78,101	0.005	28	328
Powerwave LGP21901	165.00	66	17,750	0.001	6	82
Powerwave Allgon 7020.00 Dual Band	165.00	13	3,550	0.000	1	16
CCI DTMAPB7819VG12A	165.00	58	15,491	0.001	5	72
Commscope WCS-IMFQ-AMT	165.00	30	7,934	0.000	3	37
Powerwave Allgon LGP21401	165.00	127	34,128	0.002	12	158
Raycap DC6-48-60-18-8F (23.5" Height)	165.00	40	10,757	0.001	4	50
Raycap DC6-48-60-18-8F (23.5" Height)	165.00	20	5,379	0.000	2	25
Ericsson RRUS 4426 B66	165.00	145	39,049	0.002	14	181
Ericsson RRUS 4478 B14	165.00	180	48,327	0.003	17	224
Ericsson RRUS 32 (50.8 lbs)	165.00	152	40,986	0.003	15	190
Ericsson RRUS 32 B2	165.00	159	42,761	0.003	15	198
Ericsson Radio 4449	165.00	255	68,578	0.004	24	317
Powerwave Allgon 7770.00	165.00	105	28,238	0.002	10	131
Commscope SBNHH-1D65A	165.00	123	32,998	0.002	12	153
Quintel QS66512-3 (112 lbs.)	165.00	336	90,362	0.006	32	418
Kathrein Scala 80010965	165.00	293	78,744	0.005	28	364
Round Sector Frame	165.00	900	242,041	0.015	86	1,120
Raycap RxxDC-1064-PF-48	155.00	9	2,235	0.000	1	11
Raycap RxxDC-3315-PF-48	155.00	21	5,374	0.000	2	27
Alcatel-Lucent B66A RRH 4x45	155.00	201	50,477	0.003	18	250
Alcatel-Lucent RRH2X60-AWS Band 4	155.00	165	41,436	0.003	15	205
Andrew SBNH-1D6565A	155.00	230	57,860	0.004	20	287
56" x 14" Panel	155.00	120	30,135	0.002	11	149
Amphenol Antel BXA-80063-6BF-EDIN-X	155.00	58	14,465	0.001	5	72
Flat Light Sector Frame	155.00	1,200	301,354	0.019	107	1,493
Small Side Lights	140.00	135	30,325	0.002	11	168
4' Yagi	132.00	15	3,159	0.000	1	19
Flat Side Arm	132.00	150	31,590	0.002	11	187
10' Omni	118.00	8	1,490	0.000	1	10
Round Side Arm	118.00	150	27,939	0.002	10	187
4' Yagi	98.00	15	2,279	0.000	1	19
Flat Side Arm	98.00	150	22,795	0.001	8	187
GPS	55.00	10	807	0.000	0	12

86,998	16,021,857	1.000	5,671	108,240
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Equivalent Lateral Force Method

LoadCase (0.9 - 0.2Sds) * DL + E

Seismic (Reduced DL)

Section	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{Vx}	Horizontal Force (lb)	Vertical Force (lb)
11	230.00	3,935	1,522,77	0.095	539	3,368
10	210.00	4,114	1,441,17	0.090	510	3,521
9	190.00	4,517	1,417,99	0.089	502	3,866
8	170.00	5,391	1,497,91	0.093	530	4,613
7	150.00	6,711	1,625,82	0.101	575	5,743
6	130.00	6,866	1,422,03	0.089	503	5,876
5	110.00	6,454	1,113,10	0.069	394	5,524
4	90.00	6,693	926,517	0.058	328	5,728
3	70.00	7,521	790,556	0.049	280	6,437
2	45.00	10,926	707,726	0.044	251	9,351
1	15.00	12,528	243,497	0.015	86	10,722
Lightning Rod	240.00	10	4,055	0.000	1	9
Dielectric DCR-L1	240.00	8	3,244	0.000	1	7
10' Omni	240.00	25	10,136	0.001	4	21
Beacon	240.00	70	28,382	0.002	10	60
Empty Round Side Arm	240.00	150	60,818	0.004	22	128
8' Yagi	240.00	30	12,164	0.001	4	26
6' FM	240.00	30	12,164	0.001	4	26
8' Omni	230.00	50	19,349	0.001	7	43
Round Side Arm	230.00	450	174,142	0.011	62	385
12' Omni	223.00	40	14,964	0.001	5	34
Round Side Arm	223.00	150	56,114	0.004	20	128
Flat Side Arm	223.00	150	56,114	0.004	20	128
Ericsson KRY 112 144/2	202.00	29	9,768	0.001	3	25
Ericsson RRUS-11	202.00	165	55,387	0.003	20	141
Ericsson AIR 32 B66AA B2P	202.00	327	109,766	0.007	39	280
Ericsson AIR 21 B2A/B12P-B5P 6FT	202.00	330	110,773	0.007	39	282
Andrew LNX-6515DS-VTM	202.00	154	51,661	0.003	18	132
Round Sector Frame	202.00	900	302,108	0.019	107	770
2' HP Dish	183.00	90	27,112	0.002	10	77
Alcatel-Lucent TD-RRH8x20-25 w/ Solar	183.00	210	63,261	0.004	22	180
Argus LLPX310R	183.00	86	25,847	0.002	9	73
RRU (Model TBD)	183.00	165	49,705	0.003	18	141
Tongyu TYDA-252718DER4-65P	183.00	162	48,801	0.003	17	139
RFS APXVSP18-C-A20	183.00	171	51,512	0.003	18	146
Andrew VHLP800-11	183.00	48	14,460	0.001	5	41
Flat Light Sector Frame	183.00	1,200	361,490	0.023	128	1,027
Motorola DAP Vx	180.00	79	23,519	0.001	8	68
Alcatel-Lucent 800 MHz RRH	180.00	159	47,038	0.003	17	136
Alcatel-Lucent 1900MHz RRH	180.00	264	78,101	0.005	28	226
Powerwave LGP21901	165.00	66	17,750	0.001	6	56
Powerwave Allgon 7020.00 Dual Band	165.00	13	3,550	0.000	1	11
CCI DTMABP7819VG12A	165.00	58	15,491	0.001	5	49
Commscope WCS-IMFQ-AMT	165.00	30	7,934	0.000	3	25
Powerwave Allgon LGP21401	165.00	127	34,128	0.002	12	109
Raycap DC6-48-60-18-8F (23.5" Height)	165.00	40	10,757	0.001	4	34
Raycap DC6-48-60-18-8F (23.5" Height)	165.00	20	5,379	0.000	2	17
Ericsson RRUS 4426 B66	165.00	145	39,049	0.002	14	124
Ericsson RRUS 4478 B14	165.00	180	48,327	0.003	17	154
Ericsson RRUS 32 (50.8 lbs)	165.00	152	40,986	0.003	15	130

Site Number: 383598

Code:

ANSI/TIA-222-G

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Site Name: Tartaglia, CT

Engineering Number: OAA741179_C3_01

12/20/2018 11:46:59 AM

Customer: AT&T Mobility

Equivalent Lateral Force Method

Ericsson RRUS 32 B2	165.00	159	42,761	0.003	15	136
Ericsson Radio 4449	165.00	255	68,578	0.004	24	218
Powerwave Allgon 7770.00	165.00	105	28,238	0.002	10	90
Commscope SBNHH-1D65A	165.00	123	32,998	0.002	12	105
Quintel QS66512-3 (112 lbs.)	165.00	336	90,362	0.006	32	288
Kathrein Scala 80010965	165.00	293	78,744	0.005	28	251
Round Sector Frame	165.00	900	242,041	0.015	86	770
Raycap RxxDC-1064-PF-48	155.00	9	2,235	0.000	1	8
Raycap RxxDC-3315-PF-48	155.00	21	5,374	0.000	2	18
Alcatel-Lucent B66A RRH 4x45	155.00	201	50,477	0.003	18	172
Alcatel-Lucent RRH2X60-AWS Band 4	155.00	165	41,436	0.003	15	141
Andrew SBNH-1D6565A	155.00	230	57,860	0.004	20	197
56" x 14" Panel	155.00	120	30,135	0.002	11	103
Amphenol Antel BXA-80063-6BF-EDIN-X	155.00	58	14,465	0.001	5	49
Flat Light Sector Frame	155.00	1,200	301,354	0.019	107	1,027
Small Side Lights	140.00	135	30,325	0.002	11	116
4' Yagi	132.00	15	3,159	0.000	1	13
Flat Side Arm	132.00	150	31,590	0.002	11	128
10' Omni	118.00	8	1,490	0.000	1	7
Round Side Arm	118.00	150	27,939	0.002	10	128
4' Yagi	98.00	15	2,279	0.000	1	13
Flat Side Arm	98.00	150	22,795	0.001	8	128
GPS	55.00	10	807	0.000	0	9
		86,998	16,021,857	1.000	5,671	74,456

Equivalent Modal Analysis Method

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_{ps}):	0.21
Spectral Response Acceleration at 1.0 Second Period (S_{p1}):	0.06
Importance Factor (I_p):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.22
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	0.69
Redundancy Factor (ρ):	1.30

LoadCase (1.2 + 0.2Sds) * DL + E

Seismic

Section	Height		Seismic				Horizontal Force (lb)	Vertical Force (lb)
	Above Base (ft)	Weight (lb)	a	b	c	S_{az}		
11	230.00	3,935	1.736	1.263	0.871	0.395	674	4,896
10	210.00	4,114	1.447	0.379	0.482	0.238	425	5,119
9	190.00	4,517	1.185	-0.009	0.243	0.142	278	5,620
8	170.00	5,391	0.948	-0.119	0.107	0.094	219	6,707
7	150.00	6,711	0.738	-0.098	0.038	0.076	222	8,349
6	130.00	6,866	0.555	-0.036	0.010	0.071	211	8,543
5	110.00	6,454	0.397	0.019	0.007	0.065	183	8,030
4	90.00	6,693	0.266	0.052	0.015	0.056	163	8,327
3	70.00	7,521	0.161	0.067	0.029	0.045	145	9,358
2	45.00	10,926	0.066	0.072	0.041	0.032	151	13,594
1	15.00	12,528	0.007	0.050	0.029	0.017	92	15,587
Lightning Rod	240.00	10	1.890	1.980	1.140	0.498	2	12
Dielectric DCR-L1	240.00	8	1.890	1.980	1.140	0.498	2	10
10' Omni	240.00	25	1.890	1.980	1.140	0.498	5	31
Beacon	240.00	70	1.890	1.980	1.140	0.498	15	87
Empty Round Side Arm	240.00	150	1.890	1.980	1.140	0.498	32	187
8' Yagi	240.00	30	1.890	1.980	1.140	0.498	6	37
6' FM	240.00	30	1.890	1.980	1.140	0.498	6	37
8' Omni	230.00	50	1.736	1.263	0.871	0.395	9	62
Round Side Arm	230.00	450	1.736	1.263	0.871	0.395	77	560
12' Omni	223.00	40	1.632	0.880	0.714	0.333	6	50
Round Side Arm	223.00	150	1.632	0.880	0.714	0.333	22	187
Flat Side Arm	223.00	150	1.632	0.880	0.714	0.333	22	187
Ericsson KRY 112 144/2	202.00	29	1.339	0.178	0.372	0.193	2	36
Ericsson RRUS-11	202.00	165	1.339	0.178	0.372	0.193	14	205
Ericsson AIR 32 B66AA B2P	202.00	327	1.339	0.178	0.372	0.193	27	407
Ericsson AIR 21 B2A/B12P-B5P	202.00	330	1.339	0.178	0.372	0.193	28	411
Andrew LNX-6515DS-VTM	202.00	154	1.339	0.178	0.372	0.193	13	191
Round Sector Frame	202.00	900	1.339	0.178	0.372	0.193	75	1,120
2' HP Dish	183.00	90	1.099	-0.071	0.186	0.120	5	112
Alcatel-Lucent TD-RRH8x20-25	183.00	210	1.099	-0.071	0.186	0.120	11	261
Argus LLPX310R	183.00	86	1.099	-0.071	0.186	0.120	4	107
RRU (Model TBD)	183.00	165	1.099	-0.071	0.186	0.120	9	205
Tongyu TYDA-252718DER4-65P	183.00	162	1.099	-0.071	0.186	0.120	8	202
RFS APXVSP18-C-A20	183.00	171	1.099	-0.071	0.186	0.120	9	213
Andrew VHLP800-11	183.00	48	1.099	-0.071	0.186	0.120	3	60
Flat Light Sector Frame	183.00	1,200	1.099	-0.071	0.186	0.120	63	1,493
Motorola DAP Vx	180.00	79	1.063	-0.088	0.165	0.113	4	99

Equivalent Modal Analysis Method

Alcatel-Lucent 800 MHz RRH	180.00	159	1.063	-0.088	0.165	0.113	8	198
Alcatel-Lucent 1900MHz RRH	180.00	264	1.063	-0.088	0.165	0.113	13	328
Powerwave LGP21901	165.00	66	0.893	-0.122	0.085	0.087	2	82
Powerwave Allgon 7020.00 Dual	165.00	13	0.893	-0.122	0.085	0.087	0	16
CCI DTMAPB7819VG12A	165.00	58	0.893	-0.122	0.085	0.087	2	72
Commscope WCS-IMFQ-AMT	165.00	30	0.893	-0.122	0.085	0.087	1	37
Powerwave Allgon LGP21401	165.00	127	0.893	-0.122	0.085	0.087	5	158
Raycap DC6-48-60-18-8F (23.5"	165.00	40	0.893	-0.122	0.085	0.087	2	50
Raycap DC6-48-60-18-8F (23.5"	165.00	20	0.893	-0.122	0.085	0.087	1	25
Ericsson RRUS 4426 B66	165.00	145	0.893	-0.122	0.085	0.087	5	181
Ericsson RRUS 4478 B14	165.00	180	0.893	-0.122	0.085	0.087	7	224
Ericsson RRUS 32 (50.8 lbs)	165.00	152	0.893	-0.122	0.085	0.087	6	190
Ericsson RRUS 32 B2	165.00	159	0.893	-0.122	0.085	0.087	6	198
Ericsson Radio 4449	165.00	255	0.893	-0.122	0.085	0.087	10	317
Powerwave Allgon 7770.00	165.00	105	0.893	-0.122	0.085	0.087	4	131
Commscope SBNHH-1D65A	165.00	123	0.893	-0.122	0.085	0.087	5	153
Quintel QS66512-3 (112 lbs.)	165.00	336	0.893	-0.122	0.085	0.087	13	418
Kathrein Scala 80010965	165.00	293	0.893	-0.122	0.085	0.087	11	364
Round Sector Frame	165.00	900	0.893	-0.122	0.085	0.087	34	1,120
Raycap RxxDC-1064-PF-48	155.00	9	0.788	-0.110	0.051	0.079	0	11
Raycap RxxDC-3315-PF-48	155.00	21	0.788	-0.110	0.051	0.079	1	27
Alcatel-Lucent B66A RRH 4x45	155.00	201	0.788	-0.110	0.051	0.079	7	250
Alcatel-Lucent RRH2X60-AWS	155.00	165	0.788	-0.110	0.051	0.079	6	205
Andrew SBNH-1D6565A	155.00	230	0.788	-0.110	0.051	0.079	8	287
56" x 14" Panel	155.00	120	0.788	-0.110	0.051	0.079	4	149
Amphenol Antel BXA-80063-6BF-	155.00	58	0.788	-0.110	0.051	0.079	2	72
Flat Light Sector Frame	155.00	1,200	0.788	-0.110	0.051	0.079	41	1,493
Small Side Lights	140.00	135	0.643	-0.068	0.020	0.073	4	168
4' Yagi	132.00	15	0.572	-0.043	0.012	0.071	0	19
Flat Side Arm	132.00	150	0.572	-0.043	0.012	0.071	5	187
10' Omni	118.00	8	0.457	-0.001	0.006	0.068	0	10
Round Side Arm	118.00	150	0.457	-0.001	0.006	0.068	4	187
4' Yagi	98.00	15	0.315	0.042	0.011	0.060	0	19
Flat Side Arm	98.00	150	0.315	0.042	0.011	0.060	4	187
GPS	55.00	10	0.099	0.071	0.037	0.037	0	12
		86,998	74.039	17.957	19.909	11.591	3,462	108,240

LoadCase (0.9 - 0.2Sds) * DL + E

Seismic (Reduced DL)

Section	Height		a	b	c	S _{az}	Horizontal Force (lb)	Vertical Force (lb)
	Above Base (ft)	Weight (lb)						
11	230.00	3,935	1.736	1.263	0.871	0.395	674	3,368
10	210.00	4,114	1.447	0.379	0.482	0.238	425	3,521
9	190.00	4,517	1.185	-0.009	0.243	0.142	278	3,866
8	170.00	5,391	0.948	-0.119	0.107	0.094	219	4,613
7	150.00	6,711	0.738	-0.098	0.038	0.076	222	5,743
6	130.00	6,866	0.555	-0.036	0.010	0.071	211	5,876
5	110.00	6,454	0.397	0.019	0.007	0.065	183	5,524
4	90.00	6,693	0.266	0.052	0.015	0.056	163	5,728
3	70.00	7,521	0.161	0.067	0.029	0.045	145	6,437
2	45.00	10,926	0.066	0.072	0.041	0.032	151	9,351
1	15.00	12,528	0.007	0.050	0.029	0.017	92	10,722
Lightning Rod	240.00	10	1.890	1.980	1.140	0.498	2	9
Dielectric DCR-L1	240.00	8	1.890	1.980	1.140	0.498	2	7
10' Omni	240.00	25	1.890	1.980	1.140	0.498	5	21
Beacon	240.00	70	1.890	1.980	1.140	0.498	15	60
Empty Round Side Arm	240.00	150	1.890	1.980	1.140	0.498	32	128
8' Yagi	240.00	30	1.890	1.980	1.140	0.498	6	26
6' FM	240.00	30	1.890	1.980	1.140	0.498	6	26
8' Omni	230.00	50	1.736	1.263	0.871	0.395	9	43
Round Side Arm	230.00	450	1.736	1.263	0.871	0.395	77	385
12' Omni	223.00	40	1.632	0.880	0.714	0.333	6	34
Round Side Arm	223.00	150	1.632	0.880	0.714	0.333	22	128

Equivalent Modal Analysis Method

Flat Side Arm	223.00	150	1.632	0.880	0.714	0.333	22	128
Ericsson KRY 112 144/2	202.00	29	1.339	0.178	0.372	0.193	2	25
Ericsson RRUS-11	202.00	165	1.339	0.178	0.372	0.193	14	141
Ericsson AIR 32 B66AA B2P	202.00	327	1.339	0.178	0.372	0.193	27	280
Ericsson AIR 21 B2A/B12P-B5P	202.00	330	1.339	0.178	0.372	0.193	28	282
Andrew LNX-6515DS-VTM	202.00	154	1.339	0.178	0.372	0.193	13	132
Round Sector Frame	202.00	900	1.339	0.178	0.372	0.193	75	770
2' HP Dish	183.00	90	1.099	-0.071	0.186	0.120	5	77
Alcatel-Lucent TD-RRH8x20-25	183.00	210	1.099	-0.071	0.186	0.120	11	180
Argus LLPX310R	183.00	86	1.099	-0.071	0.186	0.120	4	73
RRU (Model TBD)	183.00	165	1.099	-0.071	0.186	0.120	9	141
Tongyu TYDA-252718DER4-65P	183.00	162	1.099	-0.071	0.186	0.120	8	139
RFS APXVSP18-C-A20	183.00	171	1.099	-0.071	0.186	0.120	9	146
Andrew VHLP800-11	183.00	48	1.099	-0.071	0.186	0.120	3	41
Flat Light Sector Frame	183.00	1,200	1.099	-0.071	0.186	0.120	63	1,027
Motorola DAP Vx	180.00	79	1.063	-0.088	0.165	0.113	4	68
Alcatel-Lucent 800 MHz RRH	180.00	159	1.063	-0.088	0.165	0.113	8	136
Alcatel-Lucent 1900MHz RRH	180.00	264	1.063	-0.088	0.165	0.113	13	226
Powerwave LGP21901	165.00	66	0.893	-0.122	0.085	0.087	2	56
Powerwave Allgon 7020.00 Dual	165.00	13	0.893	-0.122	0.085	0.087	0	11
CCI DTMAPB7819VG12A	165.00	58	0.893	-0.122	0.085	0.087	2	49
Commscope WCS-IMFQ-AMT	165.00	30	0.893	-0.122	0.085	0.087	1	25
Powerwave Allgon LGP21401	165.00	127	0.893	-0.122	0.085	0.087	5	109
Raycap DC6-48-60-18-8F (23.5"	165.00	40	0.893	-0.122	0.085	0.087	2	34
Raycap DC6-48-60-18-8F (23.5"	165.00	20	0.893	-0.122	0.085	0.087	1	17
Ericsson RRUS 4426 B66	165.00	145	0.893	-0.122	0.085	0.087	5	124
Ericsson RRUS 4478 B14	165.00	180	0.893	-0.122	0.085	0.087	7	154
Ericsson RRUS 32 (50.8 lbs)	165.00	152	0.893	-0.122	0.085	0.087	6	130
Ericsson RRUS 32 B2	165.00	159	0.893	-0.122	0.085	0.087	6	136
Ericsson Radio 4449	165.00	255	0.893	-0.122	0.085	0.087	10	218
Powerwave Allgon 7770.00	165.00	105	0.893	-0.122	0.085	0.087	4	90
Commscope SBNHH-1D65A	165.00	123	0.893	-0.122	0.085	0.087	5	105
Quintel QS66512-3 (112 lbs.)	165.00	336	0.893	-0.122	0.085	0.087	13	288
Kathrein Scala 80010965	165.00	293	0.893	-0.122	0.085	0.087	11	251
Round Sector Frame	165.00	900	0.893	-0.122	0.085	0.087	34	770
Raycap RxxDC-1064-PF-48	155.00	9	0.788	-0.110	0.051	0.079	0	8
Raycap RxxDC-3315-PF-48	155.00	21	0.788	-0.110	0.051	0.079	1	18
Alcatel-Lucent B66A RRH 4x45	155.00	201	0.788	-0.110	0.051	0.079	7	172
Alcatel-Lucent RRH2X60-AWS	155.00	165	0.788	-0.110	0.051	0.079	6	141
Andrew SBNH-1D6565A	155.00	230	0.788	-0.110	0.051	0.079	8	197
56" x 14" Panel	155.00	120	0.788	-0.110	0.051	0.079	4	103
Amphenol Antel BXA-80063-6BF-	155.00	58	0.788	-0.110	0.051	0.079	2	49
Flat Light Sector Frame	155.00	1,200	0.788	-0.110	0.051	0.079	41	1,027
Small Side Lights	140.00	135	0.643	-0.068	0.020	0.073	4	116
4' Yagi	132.00	15	0.572	-0.043	0.012	0.071	0	13
Flat Side Arm	132.00	150	0.572	-0.043	0.012	0.071	5	128
10' Omni	118.00	8	0.457	-0.001	0.006	0.068	0	7
Round Side Arm	118.00	150	0.457	-0.001	0.006	0.068	4	128
4' Yagi	98.00	15	0.315	0.042	0.011	0.060	0	13
Flat Side Arm	98.00	150	0.315	0.042	0.011	0.060	4	128
GPS	55.00	10	0.099	0.071	0.037	0.037	0	9
		86,998	74.039	17.957	19.909	11.591	3,462	74,456

Site Number: 383598
 Site Name: Tartaglia, CT
 Customer: AT&T Mobility

Code: ANSI/TIA-222-G
 Engineering Number: OAA741179_C3_01

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Force/Stress Summary

Section: 1		1		Bot Elev (ft): 0.00				Height (ft): 30.000							
		Pu	Len	Bracing %			F'y	Phic Pn	Num	Shear	Bear			Use	
		(kip)	(ft)	X	Y	Z	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls	
		Load Case		KL/R							(kip)	(kip)			
Max Compression Member															
LEG	PX - 10" DIA PIPE	-301.67	1.2D + 1.6W	30.08	33	33	33	32.8	50.0	669.65	0	0	0.00	0.00	45 Member X
HORIZ	PST - 3-1/2" DIA PIP	-16.04	0.9D + 1.6W 90	18.29	100	100	100	163.8	50.0	22.56	2	0	0.00	0.00	71 Member X
DIAG	PST - 3" DIA PIPE	-31.68	1.2D + 1.6W 90	36.16	32	32	32	0.0	0.0	41.40	3	0	0.00	0.00	76 User Input
Max Tension Member															
LEG	PX - 10" DIA PIPE	246.33	0.9D + 1.6W 180	50	65	724.50	0	0	0.00	0.00					34 Member
HORIZ	PST - 3-1/2" DIA PIP	16.59	1.2D + 1.6W 90	50	65	120.60	2	0	0.00	33.93			0.00		48 Bolt Bear
DIAG	PST - 3" DIA PIPE	29.67	1.2D + 1.6W 90	50	65	100.35	3	0	0.00	52.65			0.00		56 Bolt Bear
Max Splice Forces															
		Pu	Load Case	phiRnt	Use	Num									
		(kip)		(kip)	%	Bolts	Bolt Type								
Top Tension		244.64	0.9D + 1.6W 180	0.00	0	0									
Top Compression		299.89	1.2D + 1.6W	0.00	0										
Bot Tension		290.79	0.9D + 1.6W 180	726.89	51	12	1" A193-B7								
Bot Compression		349.15	1.2D + 1.6W	0.00	0										

Section: 2		2		Bot Elev (ft): 30.00				Height (ft): 30.000							
		Pu	Len	Bracing %			F'y	Phic Pn	Num	Shear	Bear			Use	
		(kip)	(ft)	X	Y	Z	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls	
		Load Case		KL/R							(kip)	(kip)			
Max Compression Member															
LEG	PX - 10" DIA PIPE	-248.59	1.2D + 1.6W	30.08	33	33	33	32.8	50.0	669.65	0	0	0.00	0.00	37 Member X
HORIZ	PST - 3" DIA PIPE	-15.38	1.2D + 1.6W 90	16.41	96	96	96	163.0	50.0	18.95	2	0	0.00	0.00	81 Member X
DIAG	PST - 3" DIA PIPE	-34.55	1.2D + 1.6W 90	35.15	31	31	31	112.7	50.0	39.62	3	0	0.00	0.00	87 Member X
Max Tension Member															
LEG	PX - 10" DIA PIPE	199.15	0.9D + 1.6W 60	50	65	724.50	0	0	0.00	0.00					27 Member
HORIZ	PST - 3" DIA PIPE	16.26	1.2D + 1.6W 90	50	65	100.35	2	0	0.00	32.43			0.00		50 Bolt Bear
DIAG	PST - 3" DIA PIPE	32.31	0.9D + 1.6W 90	50	65	100.35	3	0	0.00	52.65			0.00		61 Bolt Bear
Max Splice Forces															
		Pu	Load Case	phiRnt	Use	Num									
		(kip)		(kip)	%	Bolts	Bolt Type								
Top Tension		198.46	0.9D + 1.6W 180	0.00	0	0									
Top Compression		246.88	1.2D + 1.6W	0.00	0										
Bot Tension		244.64	0.9D + 1.6W 180	654.20	37	12	1 A325								
Bot Compression		299.89	1.2D + 1.6W	0.00	0										

Site Number: 383598
 Site Name: Tartaglia, CT
 Customer: AT&T Mobility

Code: ANSI/TIA-222-G
 Engineering Number: OAA741179_C3_01

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Force/Stress Summary

Section: 3		3		Bot Elev (ft): 60.00				Height (ft): 20.000							
		Pu	Len	Bracing %			F'y	Phic Pn	Num	Num	Shear	Bear	Use		
		(kip)	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
Max Compression Member		Load Case										(kip)	(kip)		
LEG	PX - 10" DIA PIPE	-212.21	20.05	50	50	50	33.1	50.0	668.58	0	0	0.00	0.00	31	Member X
HORIZ	PST - 3" DIA PIPE	-13.99	15.16	100	100	100	156.9	50.0	20.47	2	0	0.00	0.00	68	Member X
DIAG	PST - 3" DIA PIPE	-25.40	25.88	48	48	48	128.5	50.0	30.49	3	0	0.00	0.00	83	Member X

Max Tension Member		Pu	Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use	
		(kip)	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phit Pn	%	Controls
		Load Case						(kip)	(kip)	(kip)		
LEG	PX - 10" DIA PIPE	169.19	50	65	724.50	0	0	0.00	0.00		23	Member
HORIZ	PST - 3" DIA PIPE	14.80	50	65	100.35	2	0	0.00	32.43	0.00	45	Bolt Bear
DIAG	PST - 3" DIA PIPE	23.69	50	65	100.35	3	0	0.00	43.80	0.00	54	Bolt Bear

Max Splice Forces		Pu	phiRnt	Use	Num	Bolt Type	
		(kip)	(kip)	%	Bolts		
		Load Case					
Top Tension		168.70	0.00	0	0		
Top Compression		210.63	0.00	0			
Bot Tension		198.46	654.20	30	12	1 A325	
Bot Compression		246.88	0.00	0			

Section: 4		4		Bot Elev (ft): 80.00				Height (ft): 20.000							
		Pu	Len	Bracing %			F'y	Phic Pn	Num	Num	Shear	Bear	Use		
		(kip)	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
Max Compression Member		Load Case										(kip)	(kip)		
LEG	PX - 8" DIA PIPE	-177.07	20.06	50	50	50	41.8	50.0	506.95	0	0	0.00	0.00	34	Member X
HORIZ	PST - 3" DIA PIPE	-12.88	13.83	100	100	100	143.2	50.0	24.58	2	0	0.00	0.00	52	Member X
DIAG	PST - 3" DIA PIPE	-24.32	25.11	48	48	48	124.7	50.0	32.40	3	0	0.00	0.00	75	Member X

Max Tension Member		Pu	Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use	
		(kip)	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phit Pn	%	Controls
		Load Case						(kip)	(kip)	(kip)		
LEG	PX - 8" DIA PIPE	138.95	50	65	576.00	0	0	0.00	0.00		24	Member
HORIZ	PST - 3" DIA PIPE	13.29	50	65	100.35	2	0	0.00	32.43	0.00	40	Bolt Bear
DIAG	PST - 3" DIA PIPE	22.84	50	65	100.35	3	0	0.00	43.80	0.00	52	Bolt Bear

Max Splice Forces		Pu	phiRnt	Use	Num	Bolt Type	
		(kip)	(kip)	%	Bolts		
		Load Case					
Top Tension		138.64	0.00	0	0		
Top Compression		175.61	0.00	0			
Bot Tension		168.70	654.20	26	12	1 A325	
Bot Compression		210.63	0.00	0			

Site Number: 383598
 Site Name: Tartaglia, CT
 Customer: AT&T Mobility

Code: ANSI/TIA-222-G
 Engineering Number: OAA741179_C3_01

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Force/Stress Summary

Section: 5		5		Bot Elev (ft): 100.0				Height (ft): 20.000								
		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phiT Pn (kip)	Use %	Controls
Max Compression Member																
LEG	PX - 8" DIA PIPE	-141.14	1.2D + 1.6W	20.05	50	50	50	41.8	50.0	507.00	0	0	0.00	0.00	27 Member X	
HORIZ	PST - 2-1/2" DIA PIP	-11.88	0.9D + 1.6W 90	12.58	98	98	98	156.3	50.0	15.75	2	0	0.00	0.00	75 Member X	
DIAG	PST - 2-1/2" DIA PIP	-24.12	1.2D + 1.6W 90	24.33	48	48	48	0.0	0.0	28.20	3	0	0.00	0.00	85 User Input	
Max Tension Member																
LEG	PX - 8" DIA PIPE	104.40	1.2D + 1.6W 180	50	65	65	576.00	0	0	0.00	0	0.00			18 Member	
HORIZ	PST - 2-1/2" DIA PIP	12.53	1.2D + 1.6W 90	50	65	65	76.68	2	0	0.00	2	0	30.48	0.00	41 Bolt Bear	
DIAG	PST - 2-1/2" DIA PIP	22.74	0.9D + 1.6W 90	50	65	65	76.68	3	0	0.00	3	0	41.17	0.00	55 Bolt Bear	
Max Splice Forces																
		Pu (kip)	Load Case		phiRnt (kip)	Use %	Num Bolts	Bolt Type								
	Top Tension	107.65	0.9D + 1.6W 180		0.00	0	0									
	Top Compression	139.82	1.2D + 1.6W		0.00	0										
	Bot Tension	138.64	0.9D + 1.6W 180		654.20	21	12	1 A325								
	Bot Compression	175.61	1.2D + 1.6W		0.00	0										

Section: 6		6		Bot Elev (ft): 120.0				Height (ft): 20.000								
		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phiT Pn (kip)	Use %	Controls
Max Compression Member																
LEG	PX - 8" DIA PIPE	-122.94	1.2D + 1.6W	10.03	100	100	100	41.8	50.0	507.00	0	0	0.00	0.00	24 Member X	
HORIZ	PST - 2-1/2" DIA PIP	-10.92	0.9D + 1.6W 90	11.96	100	100	100	151.6	50.0	16.75	2	0	0.00	0.00	65 Member X	
DIAG	PST - 3" DIA PIPE	-15.58	1.2D + 1.6W 90	16.08	96	96	96	159.7	50.0	19.75	3	0	0.00	0.00	78 Member X	
Max Tension Member																
LEG	PX - 8" DIA PIPE	93.01	0.9D + 1.6W 60	50	65	65	576.00	0	0	0.00	0	0.00			16 Member	
HORIZ	PST - 2-1/2" DIA PIP	11.54	1.2D + 1.6W 90	50	65	65	76.68	2	0	0.00	2	0	25.33	0.00	45 Bolt Bear	
DIAG	PST - 3" DIA PIPE	14.48	1.2D + 1.6W 90	50	65	65	100.35	3	0	0.00	3	0	43.80	0.00	33 Bolt Bear	
Max Splice Forces																
		Pu (kip)	Load Case		phiRnt (kip)	Use %	Num Bolts	Bolt Type								
	Top Tension	78.47	0.9D + 1.6W 180		0.00	0	0									
	Top Compression	104.53	1.2D + 1.6W		0.00	0										
	Bot Tension	107.65	0.9D + 1.6W 180		436.14	25	8	1 A325								
	Bot Compression	139.82	1.2D + 1.6W		0.00	0										

Site Number: 383598
 Site Name: Tartaglia, CT
 Customer: AT&T Mobility

Code: ANSI/TIA-222-G
 Engineering Number: OAA741179_C3_01

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Force/Stress Summary

Section: 7		7		Bot Elev (ft): 140.0				Height (ft): 20.000							
		Pu	Len	Bracing %			F'y	Phic Pn	Num	Shear	Bear	Use			
		(kip)	(ft)	X	Y	Z	(ksi)	(kip)	phiRnv	phiRn	%	Controls			
Max Compression Member		Load Case		KL/R				Bolts	Holes	(kip)	(kip)				
LEG	PX - 8" DIA PIPE	-88.65 1.2D + 1.6W	10.03	100	100	100	41.8	507.00	0	0	0.00	0.00	17	Member X	
HORIZ	PST - 2-1/2" DIA PIP	-9.46 0.9D + 1.6W 90	10.71	100	100	100	135.8	20.89	2	0	0.00	0.00	45	Member X	
DIAG	PST - 2-1/2" DIA PIP	-14.19 1.2D + 1.6W 90	15.12	100	100	100	0.0	23.40	3	0	0.00	0.00	60	User Input	

		Pu	Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use				
		(kip)	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phiRn	%	Controls			
Max Tension Member		Load Case						(kip)	(kip)	(kip)					
LEG	PX - 8" DIA PIPE	63.60 0.9D + 1.6W 60	50	65	576.00	0	0	0.00	0.00			11	Member		
HORIZ	PST - 2-1/2" DIA PIP	10.00 1.2D + 1.6W 90	50	65	76.68	2	0	0.00	25.33	0.00		39	Bolt Bear		
DIAG	PST - 2-1/2" DIA PIP	13.18 1.2D + 1.6W 90	50	65	76.68	3	0	0.00	41.17	0.00		32	Bolt Bear		

Max Splice Forces		Pu	phiRnt	Use	Num	Bolt Type	
		(kip)	(kip)	%	Bolts		
Top Tension		49.64 0.9D + 1.6W 180	0.00	0	0		
Top Compression		70.89 1.2D + 1.6W	0.00	0			
Bot Tension		78.47 0.9D + 1.6W 180	436.14	18	8	1 A325	
Bot Compression		104.53 1.2D + 1.6W	0.00	0			

Section: 8		8		Bot Elev (ft): 160.0				Height (ft): 20.000							
		Pu	Len	Bracing %			F'y	Phic Pn	Num	Shear	Bear	Use			
		(kip)	(ft)	X	Y	Z	(ksi)	(kip)	phiRnv	phiRn	%	Controls			
Max Compression Member		Load Case		KL/R				Bolts	Holes	(kip)	(kip)				
LEG	PX - 8" DIA PIPE	-56.98 1.2D + 1.6W	10.03	100	100	100	41.8	507.00	0	0	0.00	0.00	11	Member X	
HORIZ	PST - 2-1/2" DIA PIP	-6.23 1.2D + 1.6W 90	9.464	100	100	100	119.9	26.77	2	0	0.00	0.00	23	Member X	
DIAG	PST - 2-1/2" DIA PIP	-10.04 1.2D + 1.6W 90	14.20	96	96	96	172.9	12.88	3	0	0.00	0.00	77	Member X	

		Pu	Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use				
		(kip)	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phiRn	%	Controls			
Max Tension Member		Load Case						(kip)	(kip)	(kip)					
LEG	PX - 8" DIA PIPE	41.33 0.9D + 1.6W 180	50	65	576.00	0	0	0.00	0.00			7	Member		
HORIZ	PST - 2-1/2" DIA PIP	6.65 1.2D + 1.6W 90	50	65	76.68	2	0	0.00	25.33	0.00		26	Bolt Bear		
DIAG	PST - 2-1/2" DIA PIP	9.27 1.2D + 1.6W 90	50	65	76.68	3	0	0.00	41.17	0.00		22	Bolt Bear		

Max Splice Forces		Pu	phiRnt	Use	Num	Bolt Type	
		(kip)	(kip)	%	Bolts		
Top Tension		30.09 0.9D + 1.6W 180	0.00	0	0		
Top Compression		43.81 1.2D + 1.6W	0.00	0			
Bot Tension		49.64 0.9D + 1.6W 180	436.14	11	8	1 A325	
Bot Compression		70.89 1.2D + 1.6W	0.00	0			

Site Number: 383598
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Force/Stress Summary

Section: 9		9		Bot Elev (ft): 180.0				Height (ft): 20.000							
		Pu	Len	Bracing %			F'y	Phic Pn	Num	Shear	Bear	Use			
		(kip)	(ft)	X	Y	Z	(ksi)	(kip)	phiRnv	phiRn	%	Controls			
Max Compression Member		Load Case		KL/R				Num	Holes	(kip)	(kip)	%	Controls		
LEG	PX - 8" DIA PIPE	-33.50 1.2D + 1.6W	10.03	100	100	100	41.8	50.0	507.00	0	0	0.00	0.00	6	Member X
HORIZ	PST - 2" DIA PIPE	-4.05 1.2D + 1.6W	8.214	100	100	100	125.2	50.0	15.41	2	0	0.00	0.00	26	Member X
DIAG	PST - 2-1/2" DIA PIP	-7.06 1.2D + 1.6W	13.35	100	100	100	169.2	50.0	13.45	3	0	0.00	0.00	52	Member X

		Pu	Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use			
		(kip)	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phiRn	%	Controls		
Max Tension Member		Load Case						(kip)	(kip)	(kip)	%	Controls		
LEG	PX - 8" DIA PIPE	23.33 0.9D + 1.6W 180	50	65	576.00	0	0	0.00	0.00			4	Member	
HORIZ	PST - 2" DIA PIPE	4.35 1.2D + 1.6W 210	50	65	48.15	2	0	0.00	19.22	0.00		22	Bolt Bear	
DIAG	PST - 2-1/2" DIA PIP	6.31 1.2D + 1.6W 90	50	65	76.68	3	0	0.00	41.17	0.00		15	Bolt Bear	

		Pu	phiRnt	Use	Num	Bolt Type	
		(kip)	(kip)	%	Bolts		
Max Splice Forces		Load Case					
Top Tension		15.43 0.9D + 1.6W 180	0.00	0	0		
Top Compression		24.00 1.2D + 1.6W	0.00	0			
Bot Tension		30.09 0.9D + 1.6W 180	436.14	7	8	1 A325	
Bot Compression		43.81 1.2D + 1.6W	0.00	0			

Section: 10		10		Bot Elev (ft): 200.0				Height (ft): 20.000							
		Pu	Len	Bracing %			F'y	Phic Pn	Num	Shear	Bear	Use			
		(kip)	(ft)	X	Y	Z	(ksi)	(kip)	phiRnv	phiRn	%	Controls			
Max Compression Member		Load Case		KL/R				Num	Holes	(kip)	(kip)	%	Controls		
LEG	PX - 8" DIA PIPE	-16.75 1.2D + 1.6W	10.02	100	100	100	41.8	50.0	507.06	0	0	0.00	0.00	3	Member X
HORIZ	PST - 2" DIA PIPE	-2.31 0.9D + 1.6W 90	7.026	100	100	100	107.1	50.0	20.80	2	0	0.00	0.00	11	Member X
DIAG	PST - 2-1/2" DIA PIP	-4.66 1.2D + 1.6W 90	12.55	100	100	100	159.1	50.0	15.20	3	0	0.00	0.00	30	Member X

		Pu	Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use			
		(kip)	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phiRn	%	Controls		
Max Tension Member		Load Case						(kip)	(kip)	(kip)	%	Controls		
LEG	PX - 8" DIA PIPE	8.67 1.2D + 1.6W 60	50	65	576.00	0	0	0.00	0.00			1	Member	
HORIZ	PST - 2" DIA PIPE	2.52 1.2D + 1.6W 90	50	65	48.15	2	0	0.00	19.22	0.00		13	Bolt Bear	
DIAG	PST - 2-1/2" DIA PIP	4.14 1.2D + 1.6W 90	50	65	76.68	3	0	0.00	41.17	0.00		10	Bolt Bear	

		Pu	phiRnt	Use	Num	Bolt Type	
		(kip)	(kip)	%	Bolts		
Max Splice Forces		Load Case					
Top Tension		6.02 0.9D + 1.6W 180	0.00	0	0		
Top Compression		10.29 1.2D + 1.6W	0.00	0			
Bot Tension		15.43 0.9D + 1.6W 180	436.14	4	8	1 A325	
Bot Compression		24.00 1.2D + 1.6W	0.00	0			

Site Number: 383598
 Site Name: Tartaglia, CT
 Customer: AT&T Mobility

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Force/Stress Summary

Section: 11 11		Bot Elev (ft): 220.0		Height (ft): 20.000											
		Pu	Len	Bracing %			F'y	Phic Pn	Num	Shear	Bear			Use	
		(kip)	(ft)	X	Y	Z	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls	
		Load Case		KL/R							(kip)	(kip)			
Max Compression Member															
LEG	PX - 8" DIA PIPE	-6.72	1.2D + 1.6W	6.68	100	100	100	27.8	50.0	544.30	0	0	0.00	0.00	1 Member X
HORIZ	PST - 2" DIA PIPE	-1.28	1.2D + 1.6W	6.130	100	100	100	93.5	50.0	25.42	2	0	0.00	0.00	5 Member X
DIAG	PST - 2" DIA PIPE	-2.45	1.2D + 1.6W 90	9.288	100	100	100	141.6	50.0	12.05	3	0	0.00	0.00	20 Member X
Max Tension Member															
LEG	PX - 8" DIA PIPE	0.90	1.2D + 1.6W	50	65	576.00	0	0	0.00	0.00					0 Member
HORIZ	PST - 2" DIA PIPE	1.57	1.2D + 1.6W 210	50	65	48.15	2	0	0.00	19.22			0.00		8 Bolt Bear
DIAG	PST - 2" DIA PIPE	2.20	0.9D + 1.6W 210	50	65	48.15	3	0	0.00	31.23			0.00		7 Bolt Bear
Max Splice Forces															
		Pu	Load Case	phiRnt	Use	Num									
		(kip)		(kip)	%	Bolts	Bolt Type								
	Top Tension	0.00		0.00	0	0									
	Top Compression	1.24	1.2D + 1.0Di +	0.00	0										
	Bot Tension	6.02	0.9D + 1.6W 180	436.14	1	8	1 A325								
	Bot Compression	10.29	1.2D + 1.6W	0.00	0										

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Detailed Reactions

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal	23.29	00.00	0	1	0.00	348.22	-49.72	
	23.29	00.00	120	1a	13.65	-121.91	-16.75	
	23.29	00.00	240	1b	-13.65	-121.91	-16.75	
1.2D + 1.6W 60 deg	23.29	00.00	0	1	-7.39	191.51	-26.59	
	23.29	00.00	120	1a	-26.70	190.76	6.89	
	23.29	00.00	240	1b	-37.97	-277.87	-21.91	
1.2D + 1.6W 90 deg	23.29	00.00	0	1	-8.71	34.80	-3.28	
	23.29	00.00	120	1a	-39.79	305.37	18.12	
	23.29	00.00	240	1b	-34.71	-235.77	-14.84	
1.2D + 1.6W 120 deg	23.29	00.00	0	1	-7.69	-121.91	20.20	
	23.29	00.00	120	1a	-43.05	347.47	24.84	
	23.29	00.00	240	1b	-21.32	-121.16	-3.44	
1.2D + 1.6W 180 deg	23.29	00.00	0	1	0.00	-278.62	43.85	
	23.29	00.00	120	1a	-19.34	191.51	19.68	
	23.29	00.00	240	1b	19.34	191.51	19.68	
1.2D + 1.6W 210 deg	23.29	00.00	0	1	4.51	-236.63	37.50	
	23.29	00.00	120	1a	1.50	35.23	9.18	
	23.29	00.00	240	1b	35.60	305.80	25.39	
1.2D + 1.6W 240 deg	23.29	00.00	0	1	7.69	-121.91	20.20	
	23.29	00.00	120	1a	21.32	-121.16	-3.44	
	23.29	00.00	240	1b	43.05	347.47	24.84	
1.2D + 1.6W 300 deg	23.29	00.00	0	1	7.39	191.51	-26.59	
	23.29	00.00	120	1a	37.97	-277.87	-21.91	
	23.29	00.00	240	1b	26.70	190.76	6.89	
1.2D + 1.6W 330 deg	23.29	00.00	0	1	4.20	306.23	-43.54	
	23.29	00.00	120	1a	30.22	-236.20	-22.63	
	23.29	00.00	240	1b	7.18	34.37	-5.89	
0.9D + 1.6W Normal	23.29	00.00	0	1	0.00	339.31	-48.89	
	23.29	00.00	120	1a	14.35	-130.51	-17.16	
	23.29	00.00	240	1b	-14.35	-130.51	-17.16	
0.9D + 1.6W 60 deg	23.29	00.00	0	1	-7.40	182.71	-25.76	
	23.29	00.00	120	1a	-26.00	181.96	6.47	
	23.29	00.00	240	1b	-38.67	-286.37	-22.32	
0.9D + 1.6W 90 deg	23.29	00.00	0	1	-8.72	26.10	-2.46	
	23.29	00.00	120	1a	-39.08	296.49	17.70	
	23.29	00.00	240	1b	-35.42	-244.29	-15.24	
0.9D + 1.6W 120 deg	23.29	00.00	0	1	-7.70	-130.51	21.01	
	23.29	00.00	120	1a	-42.33	338.57	24.43	
	23.29	00.00	240	1b	-22.03	-129.76	-3.84	
0.9D + 1.6W 180 deg	23.29	00.00	0	1	0.00	-287.11	44.66	
	23.29	00.00	120	1a	-18.62	182.71	19.28	
	23.29	00.00	240	1b	18.62	182.71	19.28	
0.9D + 1.6W 210 deg	23.29	00.00	0	1	4.51	-245.15	38.31	
	23.29	00.00	120	1a	2.21	26.53	8.77	

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	23.29	00.00	240	1b	34.88	296.92	24.98
0.9D + 1.6W 240 deg	23.29	00.00	0	1	7.70	-130.51	21.01
	23.29	00.00	120	1a	22.03	-129.76	-3.84
	23.29	00.00	240	1b	42.33	338.57	24.43
0.9D + 1.6W 300 deg	23.29	00.00	0	1	7.40	182.71	-25.76
	23.29	00.00	120	1a	38.67	-286.37	-22.32
	23.29	00.00	240	1b	26.00	181.96	6.47
0.9D + 1.6W 330 deg	23.29	00.00	0	1	4.21	297.35	-42.71
	23.29	00.00	120	1a	30.92	-244.72	-23.04
	23.29	00.00	240	1b	6.48	25.67	-6.31
1.2D + 1.0Di + 1.0Wi Normal	23.29	00.00	0	1	0.00	192.13	-24.26
	23.29	00.00	120	1a	-0.24	22.68	-3.07
	23.29	00.00	240	1b	0.24	22.68	-3.07
1.2D + 1.0Di + 1.0Wi 60 deg	23.29	00.00	0	1	-2.74	135.64	-15.75
	23.29	00.00	120	1a	-15.01	135.31	5.50
	23.29	00.00	240	1b	-8.57	-33.47	-4.94
1.2D + 1.0Di + 1.0Wi 90 deg	23.29	00.00	0	1	-3.19	79.16	-7.23
	23.29	00.00	120	1a	-19.82	176.61	9.62
	23.29	00.00	240	1b	-7.38	-18.28	-2.40
1.2D + 1.0Di + 1.0Wi 120 deg	23.29	00.00	0	1	-2.79	22.68	1.33
	23.29	00.00	120	1a	-21.00	191.79	12.12
	23.29	00.00	240	1b	-2.53	23.01	1.75
1.2D + 1.0Di + 1.0Wi 180 deg	23.29	00.00	0	1	0.00	-33.81	9.90
	23.29	00.00	120	1a	-12.27	135.64	10.25
	23.29	00.00	240	1b	12.27	135.64	10.25
1.2D + 1.0Di + 1.0Wi 210 deg	23.29	00.00	0	1	1.62	-18.67	7.60
	23.29	00.00	120	1a	-4.67	79.35	6.37
	23.29	00.00	240	1b	18.25	176.80	12.35
1.2D + 1.0Di + 1.0Wi 240 deg	23.29	00.00	0	1	2.79	22.68	1.33
	23.29	00.00	120	1a	2.53	23.01	1.75
	23.29	00.00	240	1b	21.00	191.79	12.12
1.2D + 1.0Di + 1.0Wi 300 deg	23.29	00.00	0	1	2.74	135.64	-15.75
	23.29	00.00	120	1a	8.57	-33.47	-4.94
	23.29	00.00	240	1b	15.01	135.31	5.50
1.2D + 1.0Di + 1.0Wi 330 deg	23.29	00.00	0	1	1.58	176.99	-21.98
	23.29	00.00	120	1a	5.77	-18.48	-5.19
	23.29	00.00	240	1b	7.85	78.97	0.85
(1.2 + 0.2Sds) * DL + E Normal M1	23.29	00.00	0	1	0.00	60.70	-6.67
	23.29	00.00	120	1a	-1.72	21.17	0.53
	23.29	00.00	240	1b	1.72	21.17	0.53
(1.2 + 0.2Sds) * DL + E Normal M2	23.29	00.00	0	1	0.00	51.43	-5.39
	23.29	00.00	120	1a	-2.19	25.81	1.01
	23.29	00.00	240	1b	2.19	25.81	1.01
(1.2 + 0.2Sds) * DL + E 60 deg M1	23.29	00.00	0	1	-0.40	47.52	-5.03
	23.29	00.00	120	1a	-4.56	47.52	2.17
	23.29	00.00	240	1b	0.10	8.00	0.06
(1.2 + 0.2Sds) * DL + E 60 deg M2	23.29	00.00	0	1	-0.22	42.89	-4.39
	23.29	00.00	120	1a	-3.91	42.89	2.00
	23.29	00.00	240	1b	1.21	17.27	0.70

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(1.2 + 0.2Sds) * DL + E 90 deg M1	23.29	00.00	0	1	-0.46	34.35	-3.39
	23.29	00.00	120	1a	-5.51	57.17	2.92
	23.29	00.00	240	1b	0.36	11.53	0.48
(1.2 + 0.2Sds) * DL + E 90 deg M2	23.29	00.00	0	1	-0.26	34.35	-3.39
	23.29	00.00	120	1a	-4.50	49.14	2.45
	23.29	00.00	240	1b	1.38	19.56	0.94
(1.2 + 0.2Sds) * DL + E 120 deg M1	23.29	00.00	0	1	-0.40	21.17	-1.75
	23.29	00.00	120	1a	-5.78	60.70	3.34
	23.29	00.00	240	1b	1.32	21.17	1.22
(1.2 + 0.2Sds) * DL + E 120 deg M2	23.29	00.00	0	1	-0.22	25.81	-2.40
	23.29	00.00	120	1a	-4.67	51.43	2.69
	23.29	00.00	240	1b	1.96	25.81	1.39
(1.2 + 0.2Sds) * DL + E 180 deg M1	23.29	00.00	0	1	0.00	8.00	-0.11
	23.29	00.00	120	1a	-4.16	47.52	2.86
	23.29	00.00	240	1b	4.16	47.52	2.86
(1.2 + 0.2Sds) * DL + E 180 deg M2	23.29	00.00	0	1	0.00	17.27	-1.40
	23.29	00.00	120	1a	-3.69	42.89	2.39
	23.29	00.00	240	1b	3.69	42.89	2.39
(1.2 + 0.2Sds) * DL + E 210 deg M1	23.29	00.00	0	1	0.23	11.53	-0.55
	23.29	00.00	120	1a	-2.71	34.35	2.10
	23.29	00.00	240	1b	5.28	57.17	3.31
(1.2 + 0.2Sds) * DL + E 210 deg M2	23.29	00.00	0	1	0.13	19.56	-1.66
	23.29	00.00	120	1a	-2.81	34.35	1.92
	23.29	00.00	240	1b	4.37	49.14	2.67
(1.2 + 0.2Sds) * DL + E 240 deg M1	23.29	00.00	0	1	0.40	21.17	-1.75
	23.29	00.00	120	1a	-1.32	21.17	1.22
	23.29	00.00	240	1b	5.78	60.70	3.34
(1.2 + 0.2Sds) * DL + E 240 deg M2	23.29	00.00	0	1	0.22	25.81	-2.40
	23.29	00.00	120	1a	-1.96	25.81	1.39
	23.29	00.00	240	1b	4.67	51.43	2.69
(1.2 + 0.2Sds) * DL + E 300 deg M1	23.29	00.00	0	1	0.40	47.52	-5.03
	23.29	00.00	120	1a	-0.10	8.00	0.06
	23.29	00.00	240	1b	4.56	47.52	2.17
(1.2 + 0.2Sds) * DL + E 300 deg M2	23.29	00.00	0	1	0.22	42.89	-4.39
	23.29	00.00	120	1a	-1.21	17.27	0.70
	23.29	00.00	240	1b	3.91	42.89	2.00
(1.2 + 0.2Sds) * DL + E 330 deg M1	23.29	00.00	0	1	0.23	57.17	-6.23
	23.29	00.00	120	1a	-0.60	11.53	0.08
	23.29	00.00	240	1b	3.17	34.35	1.30
(1.2 + 0.2Sds) * DL + E 330 deg M2	23.29	00.00	0	1	0.13	49.14	-5.12
	23.29	00.00	120	1a	-1.51	19.56	0.72
	23.29	00.00	240	1b	3.07	34.35	1.48
(0.9 - 0.2Sds) * DL + E Normal M1	23.29	00.00	0	1	0.00	49.95	-5.61
	23.29	00.00	120	1a	-0.80	10.46	0.00
	23.29	00.00	240	1b	0.80	10.46	0.00
(0.9 - 0.2Sds) * DL + E Normal M2	23.29	00.00	0	1	0.00	40.69	-4.33
	23.29	00.00	120	1a	-1.27	15.10	0.48
	23.29	00.00	240	1b	1.27	15.10	0.48

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(0.9 - 0.2Sds) * DL + E 60 deg M1	23.29	00.00	0	1	-0.40	36.79	-3.97
	23.29	00.00	120	1a	-3.64	36.79	1.64
	23.29	00.00	240	1b	-0.82	-2.70	-0.47
(0.9 - 0.2Sds) * DL + E 60 deg M2	23.29	00.00	0	1	-0.22	32.16	-3.33
	23.29	00.00	120	1a	-3.00	32.16	1.47
	23.29	00.00	240	1b	0.29	6.56	0.17
(0.9 - 0.2Sds) * DL + E 90 deg M1	23.29	00.00	0	1	-0.46	23.63	-2.33
	23.29	00.00	120	1a	-4.59	46.43	2.39
	23.29	00.00	240	1b	-0.55	0.83	-0.05
(0.9 - 0.2Sds) * DL + E 90 deg M2	23.29	00.00	0	1	-0.26	23.63	-2.33
	23.29	00.00	120	1a	-3.58	38.40	1.92
	23.29	00.00	240	1b	0.46	8.85	0.41
(0.9 - 0.2Sds) * DL + E 120 deg M1	23.29	00.00	0	1	-0.40	10.46	-0.70
	23.29	00.00	120	1a	-4.86	49.95	2.81
	23.29	00.00	240	1b	0.40	10.46	0.69
(0.9 - 0.2Sds) * DL + E 120 deg M2	23.29	00.00	0	1	-0.22	15.10	-1.34
	23.29	00.00	120	1a	-3.75	40.69	2.17
	23.29	00.00	240	1b	1.05	15.10	0.86
(0.9 - 0.2Sds) * DL + E 180 deg M1	23.29	00.00	0	1	0.00	-2.70	0.94
	23.29	00.00	120	1a	-3.24	36.79	2.33
	23.29	00.00	240	1b	3.24	36.79	2.33
(0.9 - 0.2Sds) * DL + E 180 deg M2	23.29	00.00	0	1	0.00	6.56	-0.34
	23.29	00.00	120	1a	-2.78	32.16	1.86
	23.29	00.00	240	1b	2.78	32.16	1.86
(0.9 - 0.2Sds) * DL + E 210 deg M1	23.29	00.00	0	1	0.23	0.83	0.51
	23.29	00.00	120	1a	-1.79	23.63	1.57
	23.29	00.00	240	1b	4.36	46.43	2.79
(0.9 - 0.2Sds) * DL + E 210 deg M2	23.29	00.00	0	1	0.13	8.85	-0.61
	23.29	00.00	120	1a	-1.89	23.63	1.39
	23.29	00.00	240	1b	3.45	38.40	2.14
(0.9 - 0.2Sds) * DL + E 240 deg M1	23.29	00.00	0	1	0.40	10.46	-0.70
	23.29	00.00	120	1a	-0.40	10.46	0.69
	23.29	00.00	240	1b	4.86	49.95	2.81
(0.9 - 0.2Sds) * DL + E 240 deg M2	23.29	00.00	0	1	0.22	15.10	-1.34
	23.29	00.00	120	1a	-1.05	15.10	0.86
	23.29	00.00	240	1b	3.75	40.69	2.17
(0.9 - 0.2Sds) * DL + E 300 deg M1	23.29	00.00	0	1	0.40	36.79	-3.97
	23.29	00.00	120	1a	0.82	-2.70	-0.47
	23.29	00.00	240	1b	3.64	36.79	1.64
(0.9 - 0.2Sds) * DL + E 300 deg M2	23.29	00.00	0	1	0.22	32.16	-3.33
	23.29	00.00	120	1a	-0.29	6.56	0.17
	23.29	00.00	240	1b	3.00	32.16	1.47
(0.9 - 0.2Sds) * DL + E 330 deg M1	23.29	00.00	0	1	0.23	46.43	-5.17
	23.29	00.00	120	1a	0.32	0.83	-0.45
	23.29	00.00	240	1b	2.25	23.63	0.77
(0.9 - 0.2Sds) * DL + E 330 deg M2	23.29	00.00	0	1	0.13	38.40	-4.06
	23.29	00.00	120	1a	-0.59	8.85	0.19
	23.29	00.00	240	1b	2.15	23.63	0.95
1.0D + 1.0W Service Normal	23.29	00.00	0	1	0.00	105.83	-14.19

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	23.29	00.00	120	1a	1.68	-9.41	-3.12
	23.29	00.00	240	1b	-1.68	-9.41	-3.12
1.0D + 1.0W Service 60 deg	23.29	00.00	0	1	-1.85	67.41	-8.47
	23.29	00.00	120	1a	-8.25	67.24	2.63
	23.29	00.00	240	1b	-7.60	-47.65	-4.39
1.0D + 1.0W Service 90 deg	23.29	00.00	0	1	-2.14	29.00	-2.73
	23.29	00.00	120	1a	-11.49	95.33	5.41
	23.29	00.00	240	1b	-6.80	-37.33	-2.68
1.0D + 1.0W Service 120 deg	23.29	00.00	0	1	-1.87	-9.41	3.02
	23.29	00.00	120	1a	-12.29	105.65	7.09
	23.29	00.00	240	1b	-3.54	-9.24	0.11
1.0D + 1.0W Service 180 deg	23.29	00.00	0	1	0.00	-47.83	8.78
	23.29	00.00	120	1a	-6.41	67.41	5.83
	23.29	00.00	240	1b	6.41	67.41	5.83
1.0D + 1.0W Service 210 deg	23.29	00.00	0	1	1.08	-37.54	7.23
	23.29	00.00	120	1a	-1.29	29.10	3.22
	23.29	00.00	240	1b	10.43	95.43	7.25
1.0D + 1.0W Service 240 deg	23.29	00.00	0	1	1.87	-9.41	3.02
	23.29	00.00	120	1a	3.54	-9.24	0.11
	23.29	00.00	240	1b	12.29	105.65	7.09
1.0D + 1.0W Service 300 deg	23.29	00.00	0	1	1.85	67.41	-8.47
	23.29	00.00	120	1a	7.60	-47.65	-4.39
	23.29	00.00	240	1b	8.25	67.24	2.63
1.0D + 1.0W Service 330 deg	23.29	00.00	0	1	1.06	95.53	-12.66
	23.29	00.00	120	1a	5.72	-37.43	-4.55
	23.29	00.00	240	1b	3.43	28.90	-0.49

Max Uplift:	287.11 (kip)	Moment Ice:	3,945.84 (kip-ft)	Moment:	10,947.64 (kip-ft)	1.2D + 1.6W 180 deg
Max Down:	348.22 (kip)	Total Down Ice:	237.48 (kip)	Total Down:	104.40 (kip)	
Max Shear:	49.72 (kip)	Total Shear Ice:	30.40 (kip)	Total Shear:	83.21 (kip)	



November 29, 2018



Centerline Communications, LLC
97 Ryan Drive Suite 1
Raynham, MA 02767

RE: Site Number: CT5093 (LTE 7C)
 FA Number: 10070948
 PACE Number: MRCTB034408
 PT Number: 2051 AOJF2Q
 Site Name: BRIDGEPORT BEARDSLEY
 Site Address: 1320 Chopsey Hill Road
 Fairfield, CT 06606

To Whom It May Concern:

Hudson Design Group LLC (HDG) has been authorized by Centerline Communications, LLC to perform a mount analysis on the existing AT&T antenna/RRH mount to determine its capability of supporting the following loading:

- (3) 7770 Antennas (55.0"x11.0"x5.0" - Wt. = 35 lbs. /each)
- (3) QS66512-2 Antennas (72.0"x12.0"x9.6" – Wt. = 111 lbs. /each)
- (3) SBNHH-1D65A Antennas (55.6"x11.9"x7.1" - Wt. = 34 lbs. /each)
- (3) RRUS-32 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each) (tower mounted)
- (3) RRUS-32 B2 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)
- (3) RRUS-32 B66 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)
- (3) DTMABP7819VG12A TMA's (10.7"x11.1"x3.8" - Wt. = 20 lbs. /each)
- (2) Squid Surge Arrestors (24.0"x9.7"Φ – Wt. = 33 lbs.) (tower mounted)
- **(3) 800-10965 Antennas (78.7"x20.0"x6.9" – Wt. = 109 lbs. /each)**
- **(3) 4478 B14 RRH's (18.1"x13.4"x8.3" – Wt. = 60 lbs. /each)**
- **(3) 4449 B5/B12 RRH's (18.0"x13.2"x9.5" – Wt. = 71 lbs. /each)**
- **(1) Squid Surge Arrestor (24.0"x9.7"Φ – Wt. = 33 lbs.) (tower mounted)**

**Proposed equipment shown in bold*

No original structural design documents or fabrication drawings were available for the existing mounts. King Network Services conducted a survey climb and mapping of the existing AT&T antenna mounts on December 28, 2016. HDG was provided photos from a ground audit of the existing AT&T antenna mounts conducted on October 13, 2018.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-G, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2015 with 2018 Connecticut State Building Code Amendments and AT&T Mount Technical Directive – R11.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-G Annex B, the max basic wind speed for this site is equal to 110 mph with a max basic wind speed with ice of 40 mph. Per the AT&T Mount Technical Directive and Appendix N of the Connecticut State Building Code, an ultimate wind speed of 125 mph converted to a nominal wind speed of 97 mph was used for this analysis.
- HDG considers this site to be exposure category C; tower is located large, flat, open, terrain/grasslands.
- HDG considers this site to be topographic category 1; tower is located in flat terrain.
- The mount has been analyzed with load combinations consisting of 250 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 4.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The existing mount is secured to the existing monopole with U-bolts. The connection is considered OK by visual inspection.

Based on our evaluation, we have determined that the existing mount **IS NOT CAPABLE** of supporting the proposed installation. HDG recommends the following modifications:

- **Install new 2" std. (2.38" O.D.) pipe braces, secure to existing mount and tower (typ. of 3 per sector, total of 9).**

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing Mount Rating	2	LC7	173%	FAIL
Proposed Mount Rating	2	LC7	93%	PASS

Reference Documents:

- Mount mapping report prepared by ProVertic LLC.

This determination was based on the following limitations and assumptions:

1. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
4. The existing mount has been adequately secured to the tower structure per the mount manufacturer's specifications.
5. All components pertaining to AT&T's mounts must be tightened and re-plumbed prior to the installation of new appurtenances.
6. HDG performed a localized analysis on the mount itself and not on the supporting tower structure.

Please feel free to contact our office should you have any questions.

Respectfully Submitted,
Hudson Design Group LLC



Michael Cabral
Structural Dept. Head




Daniel P. Hamm, PE
Principal

FIELD PHOTOS:







HUDSON
Design Group LLC

**Wind & Ice
Calculations**

Date: 11/29/2018
 Project Name: BRIDGEPORT BEARDSLEY
 Project Number: CT5093
 Designed By: JN Checked By: MSC



2.6.5.2 Velocity Pressure Coeff:

$$K_z = 2.01 (z/z_g)^{2/\alpha}$$

$K_z =$ **1.406** $z =$ 165 (ft)
 $z_g =$ 900 (ft)
 $\alpha =$ 9.5

$K_{zmin} \leq K_z \leq 2.01$

Table 2-4

Exposure	Z_g	α	K_{zmin}	K_e
B	1200 ft	7.0	0.70	0.9
C	900 ft	9.5	0.85	1.0
D	700 ft	11.5	1.03	1.1

2.6.6.4 Topographic Factor:

Table 2-5

Topo. Category	K_t	f
2	0.43	1.25
3	0.53	2.0
4	0.72	1.5

$$K_{zt} = [1 + (K_e K_t / K_h)]^2$$

$$K_h = e^{(fz/H)}$$

$K_{zt} =$ **#DIV/0!**

$K_h =$ **#DIV/0!**

(If Category 1 then $K_{zt} = 1.0$)

$K_e =$ 0 (from Table 2-4)

$K_t =$ 0 (from Table 2-5)

$f =$ 0 (from Table 2-5)

$z =$ 165

$H =$ 0 (Ht. of the crest above surrounding terrain)

$K_{zt} =$ 1.00

$K_{iz} =$ 1.17 (from Sec. 2.6.8)

Category=	1
-----------	----------

2.6.8 Design Ice Thickness

Max Ice Thickness =

$t_i =$ **0.75 in**

$$t_{iz} = 2.0 * t_i * I * K_{iz} * (K_{zt})^{0.35}$$

$t_{iz} =$ **1.76 in**

Date: 11/29/2018
 Project Name: BRIDGEPORT BEARDSLEY
 Project Number: CT5093
 Designed By: JN Checked By: MSC



2.6.7 Gust Effect Factor

2.6.7.1 Self Supporting Lattice Structures

Gh = 1.0 Latticed Structures > 600 ft

Gh = 0.85 Latticed Structures 450 ft or less

Gh = 0.85 + 0.15 [h/150 - 3.0]

h= ht. of structure

h= 240

Gh= 0.85

2.6.7.2 Guyed Masts

Gh= 0.85

2.6.7.3 Pole Structures

Gh= 1.1

2.6.9 Appurtenances

Gh= 1.0

2.6.7.4 Structures Supported on Other Structures

(Cantilevered tubular or latticed spines, pole, structures on buildings (ht. : width ratio > 5))

Gh= 1.35

Gh= 1.00

2.6.9.2 Design Wind Force on Appurtenances

State Code Ultimate Design Wind Speed:

V_{ult} = 125 mph

Nomial Design Wind Speed,

V_{asd} = V_{ult} V(0.6)

V_{asd} = 97 mph

V_{asd} per the AT&T Mount Technical Directive and Connecticut Supplement, Latest Addition.

Per TIA-222-G,

V_{min} = 90 mph

V_{max} = 110 mph

F= q_z*Gh*(EPA)_A

q_z= 0.00256*K_z*K_{zt}*K_d*V_{max}²*I

q_z= 32.06

q_{z (ice)}= 8.55

q_{z (30)}= 3.08

K_z= 1.406

K_{zt}= 1.0

K_d= 0.95

V_{asd}= 97 mph

V_{max (ice)}= 50 mph

V₃₀= 30 mph

I= 1.0

Table 2-2

Structure Type	Wind Direction Probability Factor, Kd
Latticed structures with triangular, square or rectangular cross sections	0.85
Tubular pole structures, latticed structures with other cross sections, appurtenances	0.95

Determine Ca:

Table 2-8

Force Coefficients (Ca) for Appurtenances				
Member Type		Aspect Ratio ≤ 2.5	Aspect Ratio = 7	Aspect Ratio ≥ 25
		Ca	Ca	Ca
Flat		1.2	1.4	2.0
Round	C < 32 (Subcritical)	0.7	0.8	1.2
	32 ≤ C ≤ 64 (Transitional)	$3.76/(C^{0.485})$	$3.37/(C^{0.415})$	$38.4/(C^{1.0})$
	C > 64 (Supercritical)	0.5	0.6	0.6

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
 (Aspect ratio is independent of the spacing between support points of a linear appurtenance.)

Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = **1.76 in** **Angle = 0 (deg)** **Equivalent Angle = 180 (deg)**

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ca	Force (lbs)	Force (lbs) (w/ Ice)	Force (lbs) (30 mph)
7770 Antenna	55.0	11.0	5.0	4.20	5.00	1.31	177	66	17
QS66512-2 Antenna	72.0	12.0	9.6	6.00	6.00	1.36	261	94	25
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	4.67	1.30	191	70	18
800-10965 Antenna	78.7	20.0	6.9	10.93	3.94	1.26	443	145	43
RRUS-32 RRH	27.2	12.1	7.0	2.29	2.25	1.20	88	34	8
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	2.25	1.20	88	34	8
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	2.25	1.20	88	34	8
RRUS-32 B66 RRH (Shielded)	27.2	0.2	7.0	0.04	136.00	5.70	7	39	1
B14 4478 RRH	18.1	8.3	13.4	1.04	2.18	1.20	40	18	4
B14 4478 RRH (Shielded)	18.1	0.0	13.4	0.00	0.00	1.20	0	0	0
B5/B12 4449 RRH	18.0	9.5	13.2	1.19	1.89	1.20	46	20	4
B5/B12 4449 RRH (Shielded)	18.0	0.0	13.2	0.00	0.00	1.20	0	0	0
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.96	1.20	32	15	3
Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	36	15	3

Date: 11/29/2018
 Project Name: BRIDGEPORT BEARDSLEY
 Project Number: CT5093
 Designed By: JN Checked By: MSC



WIND LOADS

Angle = 30 (deg)

Ice Thickness = 1.76 in.

Equivalent Angle = 210 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	177	94	156
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	261	218	250
SBNHH-1D65A Antenn	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	191	125	175
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	443	187	379
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	88	53	79
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	88	53	79
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	88	53	79
RRUS-32 B66 RRH (Shi	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	47	53	49
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	40	65	46
B14 4478 RRH (Shield	18.1	4.2	13.4	0.52	1.68	4.36	1.35	1.28	1.20	21	65	32
B5/B12 4449 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	46	63	50
B5/B12 4449 RRH (Shi	18.0	4.8	13.2	0.59	1.65	3.79	1.36	1.26	1.20	24	63	34
DTMABP7819VG12A T	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	32	11	27

WIND LOADS WITH ICE:

7770 Antenna	58.5	14.5	8.5	5.90	3.46	4.03	6.87	1.27	1.39	64	41	58
QS66512-2 Antenna	75.5	15.5	13.1	8.14	6.88	4.87	5.75	1.31	1.34	91	79	88
SBNHH-1D65A Antenn	59.1	15.4	10.6	6.33	4.36	3.83	5.57	1.26	1.34	68	50	64
800-10965 Antenna	82.2	23.5	10.4	13.43	5.95	3.50	7.89	1.24	1.43	143	73	125
RRUS-32 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	34	23	32
RRUS-32 B2 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	34	23	32
RRUS-32 B66 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	34	23	32
RRUS-32 B66 RRH (Shi	30.7	7.8	10.5	1.67	2.25	3.93	2.92	1.26	1.22	18	23	19
B14 4478 RRH	21.6	11.8	16.9	1.78	2.54	1.83	1.28	1.20	1.20	18	26	20
B14 4478 RRH (Shield	21.6	5.9	16.9	0.89	2.54	3.66	1.28	1.25	1.20	9	26	14
B5/B12 4449 RRH	21.5	13.0	16.7	1.95	2.50	1.65	1.29	1.20	1.20	20	26	21
B5/B12 4449 RRH (Shi	21.5	6.5	16.7	0.97	2.50	3.31	1.29	1.24	1.20	10	26	14
DTMABP7819VG12A T	14.2	14.6	7.3	1.44	0.72	0.97	1.94	1.20	1.20	15	7	13

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	17	9	15
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	25	21	24
SBNHH-1D65A Antenn	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	18	12	17
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	43	18	36
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	8	5	8
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	8	5	8
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	8	5	8
RRUS-32 B66 RRH (Shi	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	5	5	5
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	4
B14 4478 RRH (Shield	18.1	4.2	13.4	0.52	1.68	4.36	1.35	1.28	1.20	2	6	3
B5/B12 4449 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	4	6	5
B5/B12 4449 RRH (Shi	18.0	4.8	13.2	0.59	1.65	3.79	1.36	1.26	1.20	2	6	3
DTMABP7819VG12A T	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	3	1	3

Date: 11/29/2018
 Project Name: BRIDGEPORT BEARDSLEY
 Project Number: CT5093
 Designed By: JN Checked By: MSC



WIND LOADS

Angle = 60 (deg)

Ice Thickness = 1.76 in.

Equivalent Angle = 240 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	177	94	115
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	261	218	229
SBNHH-1D65A Antenn	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	191	125	142
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	443	187	251
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	88	53	62
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	88	53	62
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	88	53	62
RRUS-32 B66 RRH (Shi	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	67	53	57
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	40	65	59
B14 4478 RRH (Shields	18.1	6.2	13.4	0.78	1.68	2.91	1.35	1.22	1.20	31	65	56
B5/B12 4449 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	46	63	59
B5/B12 4449 RRH (Shi	18.0	7.1	13.2	0.89	1.65	2.53	1.36	1.20	1.20	34	63	56
DTMABP7819VG12A T	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	32	11	16

WIND LOADS WITH ICE:

7770 Antenna	58.5	14.5	8.5	5.90	3.46	4.03	6.87	1.27	1.39	64	41	47
QS66512-2 Antenna	75.5	15.5	13.1	8.14	6.88	4.87	5.75	1.31	1.34	91	79	82
SBNHH-1D65A Antenn	59.1	15.4	10.6	6.33	4.36	3.83	5.57	1.26	1.34	68	50	54
800-10965 Antenna	82.2	23.5	10.4	13.43	5.95	3.50	7.89	1.24	1.43	143	73	90
RRUS-32 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	34	23	26
RRUS-32 B2 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	34	23	26
RRUS-32 B66 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	34	23	26
RRUS-32 B66 RRH (Shi	30.7	11.7	10.5	2.50	2.25	2.62	2.92	1.21	1.22	26	23	24
B14 4478 RRH	21.6	11.8	16.9	1.78	2.54	1.83	1.28	1.20	1.20	18	26	24
B14 4478 RRH (Shields	21.6	8.9	16.9	1.33	2.54	2.44	1.28	1.20	1.20	14	26	23
B5/B12 4449 RRH	21.5	13.0	16.7	1.95	2.50	1.65	1.29	1.20	1.20	20	26	24
B5/B12 4449 RRH (Shi	21.5	9.8	16.7	1.46	2.50	2.20	1.29	1.20	1.20	15	26	23
DTMABP7819VG12A T	14.2	14.6	7.3	1.44	0.72	0.97	1.94	1.20	1.20	15	7	9

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	17	9	11
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	25	21	22
SBNHH-1D65A Antenn	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	18	12	14
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	43	18	24
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	8	5	6
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	8	5	6
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	8	5	6
RRUS-32 B66 RRH (Shi	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	6	5	5
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	6
B14 4478 RRH (Shields	18.1	6.2	13.4	0.78	1.68	2.91	1.35	1.22	1.20	3	6	5
B5/B12 4449 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	4	6	6
B5/B12 4449 RRH (Shi	18.0	7.1	13.2	0.89	1.65	2.53	1.36	1.20	1.20	3	6	5
DTMABP7819VG12A T	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	3	1	2

Date: 11/29/2018
 Project Name: BRIDGEPORT BEARDSLEY
 Project Number: CT5093
 Designed By: JN Checked By: MSC



WIND LOADS

Angle = 90 (deg)

Ice Thickness = 1.76 in.

Equivalent Angle = 270 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	177	94	94
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	261	218	218
SBNHH-1D65A Antenn	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	191	125	125
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	443	187	187
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	88	53	53
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	88	53	53
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	88	53	53
RRUS-32 B66 RRH (Shi	27.2	0.2	7.0	0.04	1.32	136.00	3.89	5.70	1.26	7	53	53
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	40	65	65
B14 4478 RRH (Shield	18.1	0.0	13.4	0.00	1.68	0.00	1.35	1.20	1.20	0	65	65
B5/B12 4449 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	46	63	63
B5/B12 4449 RRH (Shi	18.0	0.0	13.2	0.00	1.65	0.00	1.36	1.20	1.20	0	63	63
DTMABP7819VG12A 1	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	32	11	11

WIND LOADS WITH ICE:

7770 Antenna	58.5	14.5	8.5	5.90	3.46	4.03	6.87	1.27	1.39	64	41	41
QS66512-2 Antenna	75.5	15.5	13.1	8.14	6.88	4.87	5.75	1.31	1.34	91	79	79
SBNHH-1D65A Antenn	59.1	15.4	10.6	6.33	4.36	3.83	5.57	1.26	1.34	68	50	50
800-10965 Antenna	82.2	23.5	10.4	13.43	5.95	3.50	7.89	1.24	1.43	143	73	73
RRUS-32 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	34	23	23
RRUS-32 B2 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	34	23	23
RRUS-32 B66 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	34	23	23
RRUS-32 B66 RRH (Shi	30.7	3.7	10.5	0.79	2.25	8.25	2.92	1.44	1.22	10	23	23
B14 4478 RRH	21.6	11.8	16.9	1.78	2.54	1.83	1.28	1.20	1.20	18	26	26
B14 4478 RRH (Shield	21.6	3.5	16.9	0.53	2.54	6.14	1.28	1.36	1.20	6	26	26
B5/B12 4449 RRH	21.5	13.0	16.7	1.95	2.50	1.65	1.29	1.20	1.20	20	26	26
B5/B12 4449 RRH (Shi	21.5	3.5	16.7	0.53	2.50	6.11	1.29	1.36	1.20	6	26	26
DTMABP7819VG12A 1	14.2	14.6	7.3	1.44	0.72	0.97	1.94	1.20	1.20	15	7	7

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	17	9	9
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	25	21	21
SBNHH-1D65A Antenn	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	18	12	12
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	43	18	18
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	8	5	5
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	8	5	5
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	8	5	5
RRUS-32 B66 RRH (Shi	27.2	0.2	7.0	0.04	1.32	136.00	3.89	5.70	1.26	1	5	5
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	6
B14 4478 RRH (Shield	18.1	0.0	13.4	0.00	1.68	0.00	1.35	1.20	1.20	0	6	6
B5/B12 4449 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	4	6	6
B5/B12 4449 RRH (Shi	18.0	0.0	13.2	0.00	1.65	0.00	1.36	1.20	1.20	0	6	6
DTMABP7819VG12A 1	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	3	1	1

Date: 11/29/2018
 Project Name: BRIDGEPORT BEARDSLEY
 Project Number: CT5093
 Designed By: JN Checked By: MSC



WIND LOADS

Angle = 120 (deg) Ice Thickness = 1.76 in. Equivalent Angle = 300 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	177	94	115
Q566512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	261	218	229
SBNHH-1D65A Antenn	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	191	125	142
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	443	187	251
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	88	53	62
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	88	53	62
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	88	53	62
RRUS-32 B66 RRH (Shi	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	67	53	57
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	40	65	59
B14 4478 RRH (Shield	18.1	6.2	13.4	0.78	1.68	2.91	1.35	1.22	1.20	31	65	56
B5/B12 4449 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	46	63	59
B5/B12 4449 RRH (Shi	18.0	7.1	13.2	0.89	1.65	2.53	1.36	1.20	1.20	34	63	56
DTMABP7819VG12A T	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	32	11	16

WIND LOADS WITH ICE:

7770 Antenna	58.5	14.5	8.5	5.90	3.46	4.03	6.87	1.27	1.39	64	41	47
Q566512-2 Antenna	75.5	15.5	13.1	8.14	6.88	4.87	5.75	1.31	1.34	91	79	82
SBNHH-1D65A Antenn	59.1	15.4	10.6	6.33	4.36	3.83	5.57	1.26	1.34	68	50	54
800-10965 Antenna	82.2	23.5	10.4	13.43	5.95	3.50	7.89	1.24	1.43	143	73	90
RRUS-32 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	34	23	26
RRUS-32 B2 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	34	23	26
RRUS-32 B66 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	34	23	26
RRUS-32 B66 RRH (Shi	30.7	11.7	10.5	2.50	2.25	2.62	2.92	1.21	1.22	26	23	24
B14 4478 RRH	21.6	11.8	16.9	1.78	2.54	1.83	1.28	1.20	1.20	18	26	24
B14 4478 RRH (Shield	21.6	8.9	16.9	1.33	2.54	2.44	1.28	1.20	1.20	14	26	23
B5/B12 4449 RRH	21.5	13.0	16.7	1.95	2.50	1.65	1.29	1.20	1.20	20	26	24
B5/B12 4449 RRH (Shi	21.5	9.8	16.7	1.46	2.50	2.20	1.29	1.20	1.20	15	26	23
DTMABP7819VG12A T	14.2	14.6	7.3	1.44	0.72	0.97	1.94	1.20	1.20	15	7	9

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	17	9	11
Q566512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	25	21	22
SBNHH-1D65A Antenn	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	18	12	14
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	43	18	24
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	8	5	6
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	8	5	6
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	8	5	6
RRUS-32 B66 RRH (Shi	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	6	5	5
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	6
B14 4478 RRH (Shield	18.1	6.2	13.4	0.78	1.68	2.91	1.35	1.22	1.20	3	6	5
B5/B12 4449 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	4	6	6
B5/B12 4449 RRH (Shi	18.0	7.1	13.2	0.89	1.65	2.53	1.36	1.20	1.20	3	6	5
DTMABP7819VG12A T	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	3	1	2

Date: 11/29/2018
 Project Name: BRIDGEPORT BEARDSLEY
 Project Number: CT5093
 Designed By: JN Checked By: MSC



WIND LOADS

Angle = 150 (deg) Ice Thickness = 1.76 in. Equivalent Angle = 330 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	177	94	156
Q566512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	261	218	250
SBNHH-1D65A Antenn	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	191	125	175
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	443	187	379
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	88	53	79
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	88	53	79
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	88	53	79
RRUS-32 B66 RRH (Shi	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	47	53	49
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	40	65	46
B14 4478 RRH (Shielde	18.1	4.2	13.4	0.52	1.68	4.36	1.35	1.28	1.20	21	65	32
B5/B12 4449 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	46	63	50
B5/B12 4449 RRH (Shi	18.0	4.8	13.2	0.59	1.65	3.79	1.36	1.26	1.20	24	63	34
DTMABP7819VG12A T	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	32	11	27

WIND LOADS WITH ICE:

7770 Antenna	58.5	14.5	8.5	5.90	3.46	4.03	6.87	1.27	1.39	64	41	58
Q566512-2 Antenna	75.5	15.5	13.1	8.14	6.88	4.87	5.75	1.31	1.34	91	79	88
SBNHH-1D65A Antenn	59.1	15.4	10.6	6.33	4.36	3.83	5.57	1.26	1.34	68	50	64
800-10965 Antenna	82.2	23.5	10.4	13.43	5.95	3.50	7.89	1.24	1.43	143	73	125
RRUS-32 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	34	23	32
RRUS-32 B2 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	34	23	32
RRUS-32 B66 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	34	23	32
RRUS-32 B66 RRH (Shi	30.7	7.8	10.5	1.67	2.25	3.93	2.92	1.26	1.22	18	23	19
B14 4478 RRH	21.6	11.8	16.9	1.78	2.54	1.83	1.28	1.20	1.20	18	26	20
B14 4478 RRH (Shielde	21.6	5.9	16.9	0.89	2.54	3.66	1.28	1.25	1.20	9	26	14
B5/B12 4449 RRH	21.5	13.0	16.7	1.95	2.50	1.65	1.29	1.20	1.20	20	26	21
B5/B12 4449 RRH (Shi	21.5	6.5	16.7	0.97	2.50	3.31	1.29	1.24	1.20	10	26	14
DTMABP7819VG12A T	14.2	14.6	7.3	1.44	0.72	0.97	1.94	1.20	1.20	15	7	13

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	17	9	15
Q566512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	25	21	24
SBNHH-1D65A Antenn	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	18	12	17
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	43	18	36
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	8	5	8
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	8	5	8
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	8	5	8
RRUS-32 B66 RRH (Shi	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	5	5	5
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	4
B14 4478 RRH (Shielde	18.1	4.2	13.4	0.52	1.68	4.36	1.35	1.28	1.20	2	6	3
B5/B12 4449 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	4	6	5
B5/B12 4449 RRH (Shi	18.0	4.8	13.2	0.59	1.65	3.79	1.36	1.26	1.20	2	6	3
DTMABP7819VG12A T	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	3	1	3

Date: 11/29/2018
 Project Name: BRIDGEPORT BEARDSLEY
 Project Number: CT5093
 Designed By: JN Checked By: MSC



ICE WEIGHT CALCULATIONS

Thickness of ice: 1.76 in.
 Density of ice: 56 pcf

7770 Antenna

Weight of ice based on total radial SF area:
 Height (in): 55.0
 Width (in): 11.0
 Depth (in): 5.0
 Total weight of ice on object: 136 lbs
 Weight of object: 35 lbs
Combined weight of ice and object: 171 lbs

QS66512-2 Antenna

Weight of ice based on total radial SF area:
 Height (in): 72.0
 Width (in): 12.0
 Depth (in): 9.6
 Total weight of ice on object: 221 lbs
 Weight of object: 111 lbs
Combined weight of ice and object: 332 lbs

SBNHH-1D65A Antenna

Weight of ice based on total radial SF area:
 Height (in): 55.6
 Width (in): 11.9
 Depth (in): 7.1
 Total weight of ice on object: 156 lbs
 Weight of object: 34 lbs
Combined weight of ice and object: 190 lbs

800-10965 Antenna

Weight of ice based on total radial SF area:
 Height (in): 78.7
 Width (in): 20.0
 Depth (in): 6.9
 Total weight of ice on object: 323 lbs
 Weight of object: 109 lbs
Combined weight of ice and object: 432 lbs

RRUS-32 RRH

Weight of ice based on total radial SF area:
 Height (in): 27.2
 Width (in): 12.1
 Depth (in): 7.0
 Total weight of ice on object: 77 lbs
 Weight of object: 60 lbs
Combined weight of ice and object: 137 lbs

RRUS-32 B2 RRH

Weight of ice based on total radial SF area:
 Height (in): 27.2
 Width (in): 12.1
 Depth (in): 7.0
 Total weight of ice on object: 77 lbs
 Weight of object: 60 lbs
Combined weight of ice and object: 137 lbs

RRUS-32 B66 RRH

Weight of ice based on total radial SF area:
 Height (in): 27.2
 Width (in): 12.1
 Depth (in): 7.0
 Total weight of ice on object: 77 lbs
 Weight of object: 60 lbs
Combined weight of ice and object: 137 lbs

B14 4478 RRH

Weight of ice based on total radial SF area:
 Height (in): 18.1
 Width (in): 13.4
 Depth (in): 8.3
 Total weight of ice on object: 57 lbs
 Weight of object: 60 lbs
Combined weight of ice and object: 117 lbs

B5/B12 4449 RRH

Weight of ice based on total radial SF area:
 Height (in): 18.0
 Width (in): 13.2
 Depth (in): 9.5
 Total weight of ice on object: 58 lbs
 Weight of object: 71 lbs
Combined weight of ice and object: 129 lbs

DTMABP7819VG12A TMA

Weight of ice based on total radial SF area:
 Height (in): 10.7
 Width (in): 11.1
 Depth (in): 3.8
 Total weight of ice on object: 26 lbs
 Weight of object: 20 lbs
Combined weight of ice and object: 46 lbs

Squid Surge Arrestor

Weight of ice based on total radial SF area:
 Depth (in): 24.0
 Diameter (in): 9.7
 Total weight of ice on object: 49 lbs
 Weight of object: 33 lbs
Combined weight of ice and object: 82 lbs

1-1/2" Pipe

Per foot weight of ice:
 diameter (in): 1.9
Per foot weight of ice on object: 8 plf

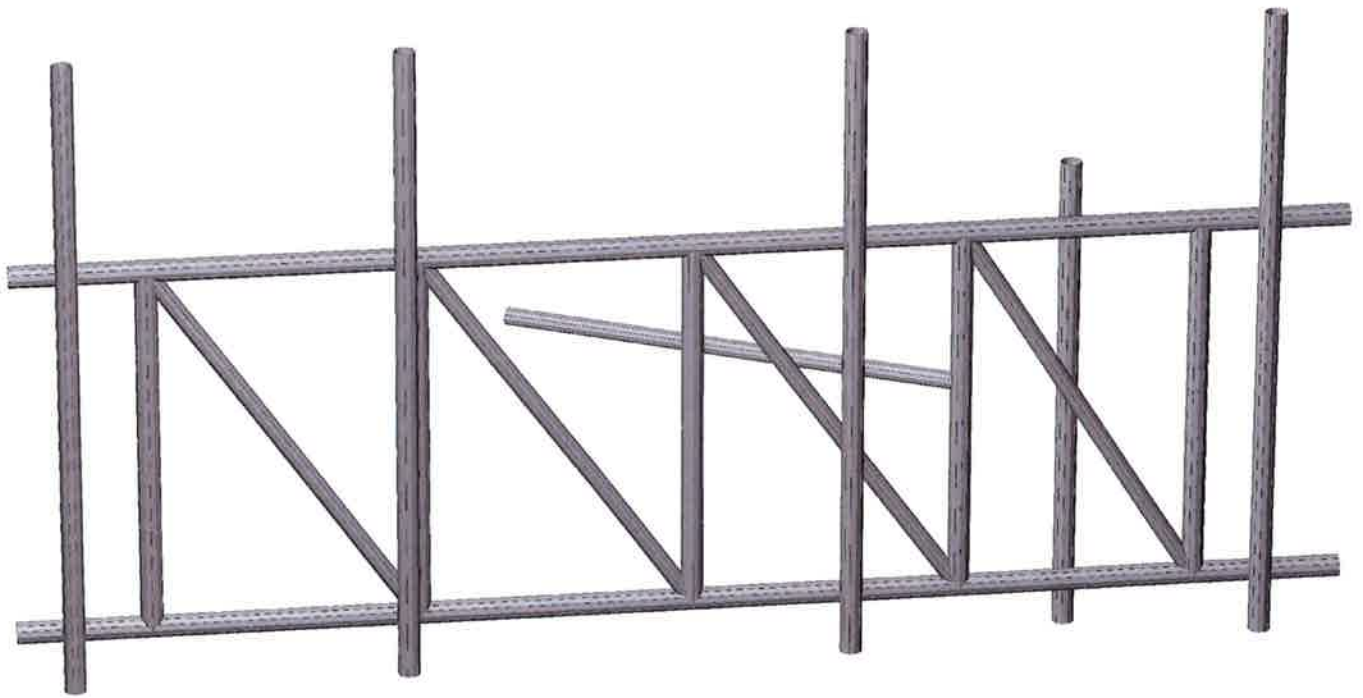
2" pipe

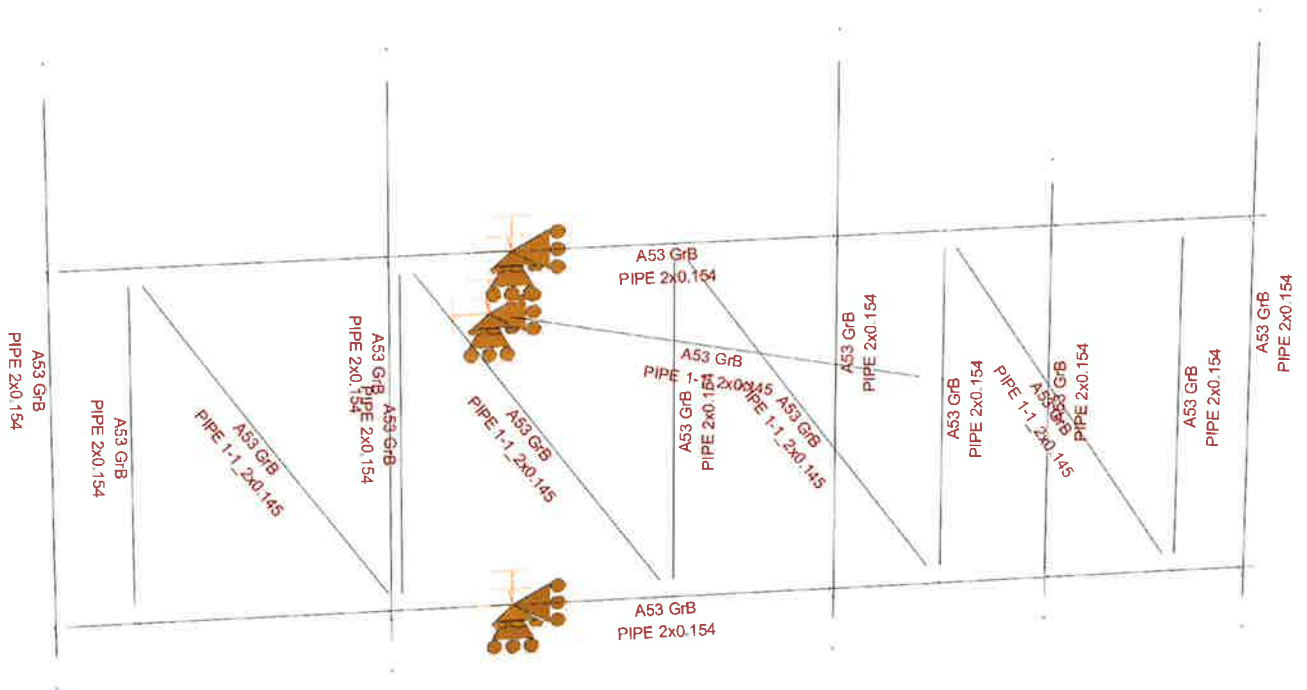
Per foot weight of ice:
 diameter (in): 2.38
Per foot weight of ice on object: 9 plf



HUDSON
Design Group LLC

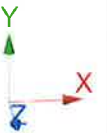
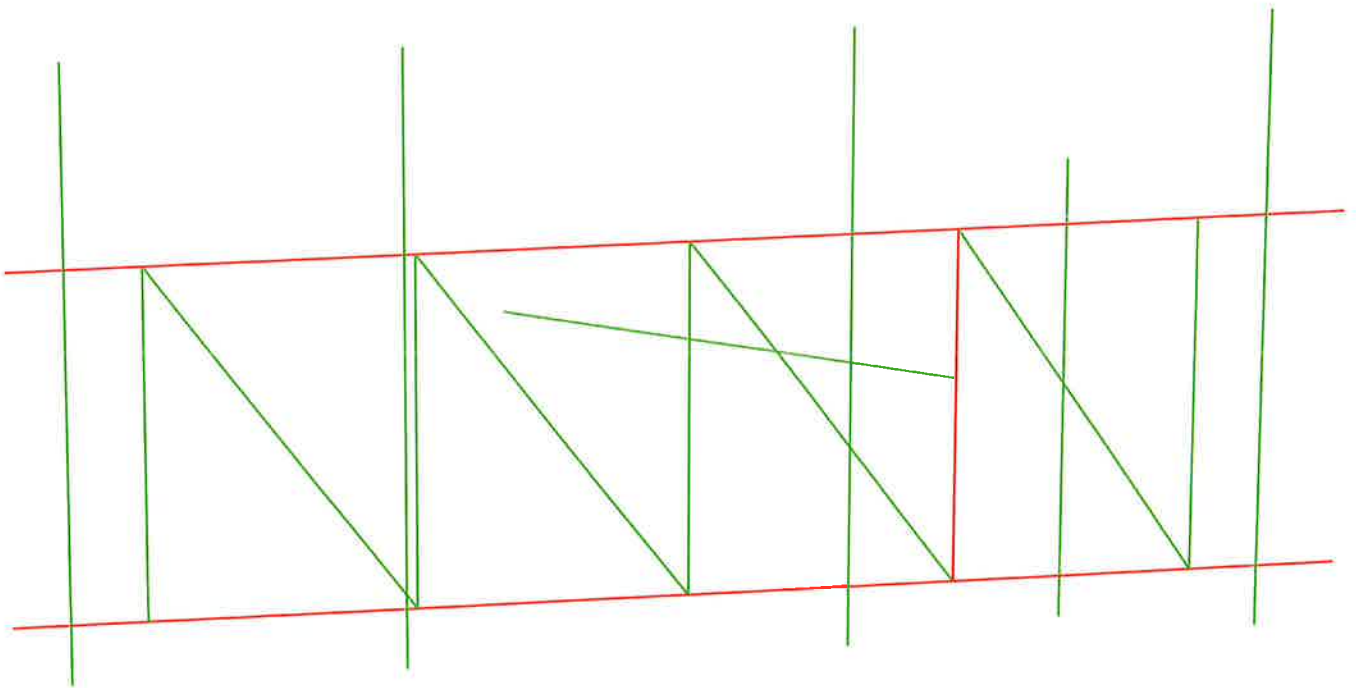
**Mount Calculations
(Existing Conditions)**

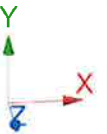
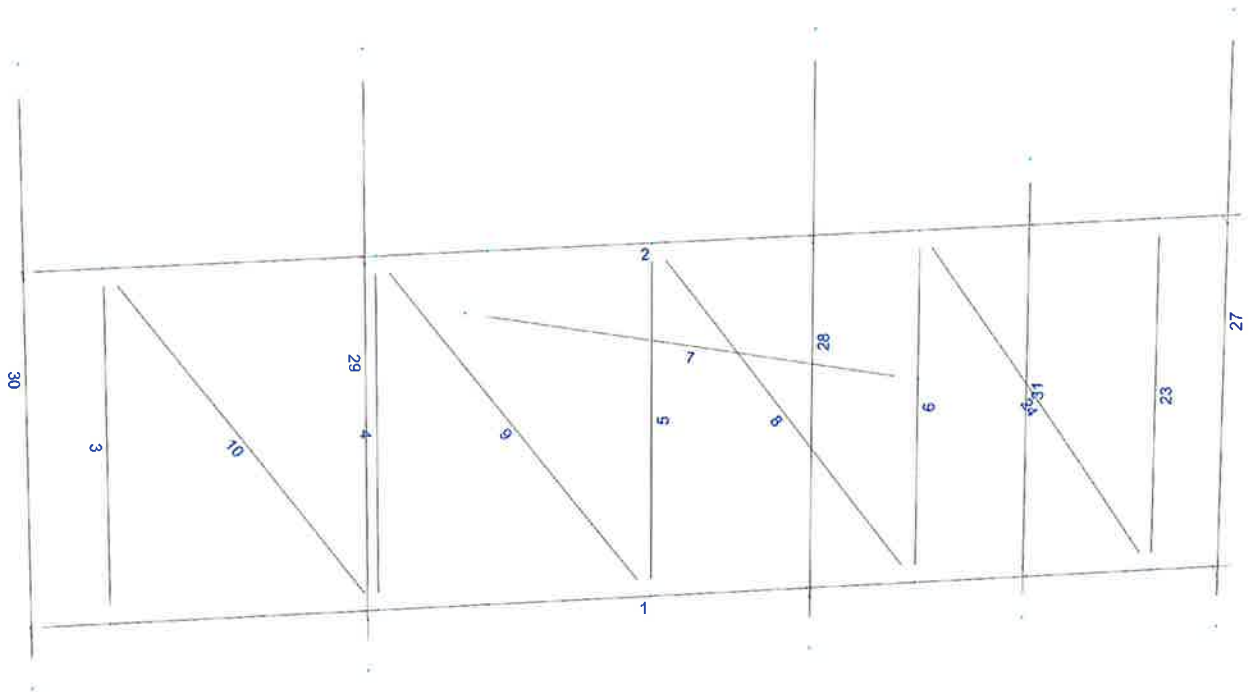




Design status

- Not designed
- Error on design
- Design O.K.
- With warnings





Current Date: 11/29/2018 11:47 AM

Units system: English

File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT5093\LTE 7C\CT5093 (LTE 7C).etz

Load data

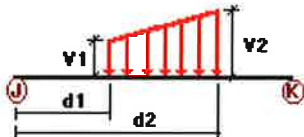
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category																																																			
D	Dead Load	No	DL																																																			
Wo	Wind Load (NO ICE)	No	WIND																																																			
W30	WL 30deg	No	WIND																																																			
W60	WL 60deg	No	WIND																																																			
W90	WL 90deg	No	WIND																																																			
W120	WL 120deg	No	WIND																																																			
W150	WL 150deg	No	WIND																																																			
Di	Ice Load	No	LL																																																			
WI0	WL ICE 0deg	No	WIND																																																			
WI30	WL ICE 30deg	No	WIND																																																			
WI60	WL ICE 60deg	No	WIND																																																			
WI90	WL ICE 90deg	No	WIND																																																			
WI120	WL ICE 120deg	No	WIND																																																			
WI150	WL ICE 150deg	No </tr <tr> <td>WL0</td> <td>WL 30 mph 0deg</td> <td>No</td> <td>WIND</td> </tr> <tr> <td>WL30</td> <td>WL 30 mph 30deg</td> <td>No</td> <td>WIND</td> </tr> <tr> <td>WL60</td> <td>WL 30 mph 60deg</td> <td>No</td> <td>WIND</td> </tr> <tr> <td>WL90</td> <td>WL 30 mph 90deg</td> <td>No</td> <td>WIND</td> </tr> <tr> <td>WL120</td> <td>WL 30 mph 120deg</td> <td>No</td> <td>WIND</td> </tr> <tr> <td>WL150</td> <td>WL 30 mph 150deg</td> <td>No</td> <td>WIND</td> </tr> <tr> <td>LL1</td> <td>250 lb Live Load on Left End</td> <td>No</td> <td>LL</td> </tr> <tr> <td>LL2</td> <td>250 lb Live Load on Center</td> <td>No</td> <td>LL</td> </tr> <tr> <td>LL3</td> <td>250 lb Live Load on Right End</td> <td>No</td> <td>LL</td> </tr> <tr> <td>LLa1</td> <td>250 lb Live Load on Antenna 1</td> <td>No</td> <td>LL</td> </tr> <tr> <td>LLa2</td> <td>250 lb Live Load on Antenna 2</td> <td>No</td> <td>LL</td> </tr> <tr> <td>LLa3</td> <td>250 lb Live Load on Antenna 3</td> <td>No</td> <td>LL</td> </tr> <tr> <td>LLa4</td> <td>250 lb Live Load on Antenna 4</td> <td>No</td> <td>LL</td> </tr>	WL0	WL 30 mph 0deg	No	WIND	WL30	WL 30 mph 30deg	No	WIND	WL60	WL 30 mph 60deg	No	WIND	WL90	WL 30 mph 90deg	No	WIND	WL120	WL 30 mph 120deg	No	WIND	WL150	WL 30 mph 150deg	No	WIND	LL1	250 lb Live Load on Left End	No	LL	LL2	250 lb Live Load on Center	No	LL	LL3	250 lb Live Load on Right End	No	LL	LLa1	250 lb Live Load on Antenna 1	No	LL	LLa2	250 lb Live Load on Antenna 2	No	LL	LLa3	250 lb Live Load on Antenna 3	No	LL	LLa4	250 lb Live Load on Antenna 4	No	LL
WL0	WL 30 mph 0deg	No	WIND																																																			
WL30	WL 30 mph 30deg	No	WIND																																																			
WL60	WL 30 mph 60deg	No	WIND																																																			
WL90	WL 30 mph 90deg	No	WIND																																																			
WL120	WL 30 mph 120deg	No	WIND																																																			
WL150	WL 30 mph 150deg	No	WIND																																																			
LL1	250 lb Live Load on Left End	No	LL																																																			
LL2	250 lb Live Load on Center	No	LL																																																			
LL3	250 lb Live Load on Right End	No	LL																																																			
LLa1	250 lb Live Load on Antenna 1	No	LL																																																			
LLa2	250 lb Live Load on Antenna 2	No	LL																																																			
LLa3	250 lb Live Load on Antenna 3	No	LL																																																			
LLa4	250 lb Live Load on Antenna 4	No	LL																																																			

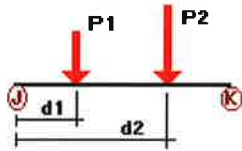
Distributed force on members



Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
Wo	1	z	-0.008	0.00	0.00	No	0.00	No
	2	z	-0.008	0.00	0.00	No	0.00	No
	3	z	-0.008	0.00	0.00	No	0.00	No
	4	z	-0.008	0.00	0.00	No	0.00	No
	5	z	-0.008	0.00	0.00	No	0.00	No
	6	z	-0.008	0.00	0.00	No	0.00	No
	7	z	-0.006	0.00	0.00	No	0.00	No
	8	z	-0.006	0.00	0.00	No	0.00	No
	9	z	-0.006	0.00	0.00	No	0.00	No
	10	z	-0.006	0.00	0.00	No	0.00	No
	23	z	-0.008	0.00	0.00	No	0.00	No
	24	z	-0.006	0.00	0.00	No	0.00	No
	31	z	-0.008	0.00	0.00	No	0.00	No
	W30	1	z	-0.008	0.00	0.00	No	0.00
2		z	-0.008	0.00	0.00	No	0.00	No
3		z	-0.008	0.00	0.00	No	0.00	No
4		z	-0.008	0.00	0.00	No	0.00	No
5		z	-0.008	0.00	0.00	No	0.00	No
6		z	-0.008	0.00	0.00	No	0.00	No
7		z	-0.006	0.00	0.00	No	0.00	No
8		z	-0.006	0.00	0.00	No	0.00	No
9		z	-0.006	0.00	0.00	No	0.00	No
10		z	-0.006	0.00	0.00	No	0.00	No
23		z	-0.008	0.00	0.00	No	0.00	No
24		z	-0.006	0.00	0.00	No	0.00	No
27		z	-0.008	0.00	0.00	No	0.00	No
28		z	-0.008	0.00	0.00	No	0.00	No
29	z	-0.008	0.00	0.00	No	0.00	No	
W60	1	x	-0.008	0.00	0.00	No	0.00	No
	2	x	-0.008	0.00	0.00	No	0.00	No
	3	x	-0.008	0.00	0.00	No	0.00	No
	4	x	-0.008	0.00	0.00	No	0.00	No
	5	x	-0.008	0.00	0.00	No	0.00	No
	6	x	-0.008	0.00	0.00	No	0.00	No
	7	x	-0.006	0.00	0.00	No	0.00	No
	8	x	-0.006	0.00	0.00	No	0.00	No
	9	x	-0.006	0.00	0.00	No	0.00	No
	10	x	-0.006	0.00	0.00	No	0.00	No
	23	x	-0.008	0.00	0.00	No	0.00	No
	24	x	-0.006	0.00	0.00	No	0.00	No
	27	x	-0.008	0.00	0.00	No	0.00	No
	28	x	-0.008	0.00	0.00	No	0.00	No
29	x	-0.008	0.00	0.00	No	0.00	No	
W90	3	x	-0.008	0.00	0.00	No	0.00	No
	4	x	-0.008	0.00	0.00	No	0.00	No
	5	x	-0.008	0.00	0.00	No	0.00	No
	6	x	-0.008	0.00	0.00	No	0.00	No
	7	x	-0.006	0.00	0.00	No	0.00	No
	8	x	-0.006	0.00	0.00	No	0.00	No
	9	x	-0.006	0.00	0.00	No	0.00	No
	10	x	-0.006	0.00	0.00	No	0.00	No
	23	x	-0.008	0.00	0.00	No	0.00	No
	24	x	-0.006	0.00	0.00	No	0.00	No
	27	x	-0.008	0.00	0.00	No	0.00	No
	28	x	-0.008	0.00	0.00	No	0.00	No
	29	x	-0.008	0.00	0.00	No	0.00	No

	30	x	-0.008	0.00	0.00	No	0.00	No
	31	x	-0.008	0.00	0.00	No	0.00	No
W120	1	x	-0.008	0.00	0.00	No	0.00	No
	2	x	-0.008	0.00	0.00	No	0.00	No
	3	x	-0.008	0.00	0.00	No	0.00	No
	4	x	-0.008	0.00	0.00	No	0.00	No
	5	x	-0.008	0.00	0.00	No	0.00	No
	6	x	-0.008	0.00	0.00	No	0.00	No
	7	x	-0.006	0.00	0.00	No	0.00	No
	8	x	-0.006	0.00	0.00	No	0.00	No
	9	x	-0.006	0.00	0.00	No	0.00	No
	10	x	-0.006	0.00	0.00	No	0.00	No
	23	x	-0.008	0.00	0.00	No	0.00	No
	24	x	-0.006	0.00	0.00	No	0.00	No
	27	x	-0.008	0.00	0.00	No	0.00	No
	28	x	-0.008	0.00	0.00	No	0.00	No
	29	x	-0.008	0.00	0.00	No	0.00	No
	30	x	-0.008	0.00	0.00	No	0.00	No
	31	x	-0.008	0.00	0.00	No	0.00	No
W150	1	z	0.008	0.00	0.00	No	0.00	No
	2	z	0.008	0.00	0.00	No	0.00	No
	3	z	0.008	0.00	0.00	No	0.00	No
	4	z	0.008	0.00	0.00	No	0.00	No
	5	z	0.008	0.00	0.00	No	0.00	No
	6	z	0.008	0.00	0.00	No	0.00	No
	7	z	0.006	0.00	0.00	No	0.00	No
	8	z	0.006	0.00	0.00	No	0.00	No
	9	z	0.006	0.00	0.00	No	0.00	No
	10	z	0.006	0.00	0.00	No	0.00	No
	23	z	0.008	0.00	0.00	No	0.00	No
	24	z	0.006	0.00	0.00	No	0.00	No
	27	z	0.008	0.00	0.00	No	0.00	No
	28	z	0.008	0.00	0.00	No	0.00	No
	29	z	0.008	0.00	0.00	No	0.00	No
	30	z	0.008	0.00	0.00	No	0.00	No
	31	z	0.008	0.00	0.00	No	0.00	No
Di	1	y	-0.009	0.00	0.00	No	0.00	No
	2	y	-0.009	0.00	0.00	No	0.00	No
	3	y	-0.009	0.00	0.00	No	0.00	No
	4	y	-0.009	0.00	0.00	No	0.00	No
	5	y	-0.009	0.00	0.00	No	0.00	No
	6	y	-0.009	0.00	0.00	No	0.00	No
	7	y	-0.008	0.00	0.00	No	0.00	No
	8	y	-0.008	0.00	0.00	No	0.00	No
	9	y	-0.008	0.00	0.00	No	0.00	No
	10	y	-0.008	0.00	0.00	No	0.00	No
	23	y	-0.009	0.00	0.00	No	0.00	No
	24	y	-0.008	0.00	0.00	No	0.00	No
	27	y	-0.009	0.00	0.00	No	0.00	No
	28	y	-0.009	0.00	0.00	No	0.00	No
	29	y	-0.009	0.00	0.00	No	0.00	No
	30	y	-0.009	0.00	0.00	No	0.00	No
	31	y	-0.009	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%	
D	27	y	-0.018	1.00	No	
		y	-0.018	5.00	No	
		y	-0.02	4.00	No	
	28	y	-0.056	0.50	No	
		y	-0.056	5.50	No	
		y	-0.06	4.00	No	
	29	y	-0.017	1.00	No	
		y	-0.017	5.00	No	
		y	-0.06	4.00	No	
	30	y	-0.055	0.50	No	
		y	-0.055	5.50	No	
		y	-0.06	4.00	No	
y		-0.071	4.50	No		
Wo	31	y	-0.06	2.50	No	
		z	-0.089	1.00	No	
	27	z	-0.089	5.00	No	
		z	-0.131	0.50	No	
	28	z	-0.131	5.50	No	
		z	-0.096	1.00	No	
W30	29	z	-0.096	5.00	No	
		z	-0.007	4.00	No	
	30	z	-0.222	0.50	No	
		z	-0.222	5.50	No	
	31	z	-0.088	2.50	No	
		z	-0.088	1.00	No	
	27	2	-0.078	5.00	No	
		2	-0.078	1.00	No	
		2	-0.027	4.00	No	
		28	2	-0.126	0.50	No
			2	-0.126	5.50	No
		29	2	-0.088	1.00	No
2	-0.088		5.00	No		
2	-0.049		4.00	No		
30	2		-0.19	0.50	No	
	2		-0.19	5.50	No	
2	-0.032		4.00	No		
W60	31	2	-0.034	4.50	No	
		2	-0.079	2.50	No	
	27	2	-0.058	1.00	No	
		2	-0.058	5.00	No	
	28	2	-0.016	4.00	No	
		2	-0.115	0.50	No	
29	2	-0.115	5.50	No		
	2	-0.071	1.00	No		
	2	-0.071	5.00	No		
	2	-0.057	4.00	No		
	30	2	-0.126	0.50	No	
		2	-0.126	5.50	No	
W90	31	2	-0.056	4.00	No	
		2	-0.056	4.50	No	
	27	2	-0.062	2.50	No	
		x	-0.047	1.00	No	
	28	x	-0.047	5.00	No	
		x	-0.011	4.00	No	
28	x	-0.11	0.50	No		
	x	-0.11	5.50	No		

	29	x	-0.063	1.00	No
		x	-0.063	5.00	No
		x	-0.053	4.00	No
	30	x	-0.094	0.50	No
		x	-0.094	5.50	No
		x	-0.065	4.00	No
		x	-0.063	4.50	No
	31	x	-0.053	2.50	No
W120	27	3	0.058	1.00	No
		3	0.058	5.00	No
		3	0.016	4.00	No
	28	3	0.115	0.50	No
		3	0.115	5.50	No
	29	3	0.071	1.00	No
		3	0.071	5.00	No
		3	0.057	4.00	No
	30	3	0.126	0.50	No
		3	0.126	5.50	No
		3	0.056	4.00	No
		3	0.056	4.50	No
	31	3	0.062	2.50	No
W150	27	3	0.078	1.00	No
		3	0.078	5.00	No
		3	0.027	4.00	No
	28	3	0.126	0.50	No
		3	0.126	5.50	No
	29	3	0.088	1.00	No
		3	0.088	5.00	No
		3	0.049	4.00	No
	30	3	0.19	0.50	No
		3	0.19	5.50	No
		3	0.032	4.00	No
		3	0.034	4.50	No
	31	3	0.079	2.50	No
Di	27	y	-0.068	1.00	No
		y	-0.068	5.00	No
		y	-0.026	4.00	No
	28	y	-0.111	0.50	No
		y	-0.111	5.50	No
	29	y	-0.078	1.00	No
		y	-0.078	5.00	No
		y	-0.077	4.00	No
	30	y	-0.162	0.50	No
		y	-0.162	5.50	No
		y	-0.057	4.00	No
		y	-0.058	4.50	No
	31	y	-0.077	2.50	No
W10	27	z	-0.034	1.00	No
		z	-0.034	5.00	No
		z	-0.015	4.00	No
	28	z	-0.048	0.50	No
		z	-0.048	5.50	No
	29	z	-0.036	1.00	No
		z	-0.036	5.00	No
		z	-0.034	4.00	No
	30	z	-0.073	0.50	No
		z	-0.073	5.50	No
		z	-0.018	4.00	No
		z	-0.02	4.50	No
	31	z	-0.034	2.50	No

WI30	27	2	-0.03	1.00	No
		2	-0.03	5.00	No
		2	-0.013	4.00	No
	28	2	-0.044	0.50	No
		2	-0.044	5.50	No
	29	2	-0.032	1.00	No
		2	-0.032	5.00	No
		2	-0.032	4.00	No
	30	2	-0.063	0.50	No
		2	-0.063	5.50	No
		2	-0.02	4.00	No
		2	-0.021	4.50	No
31		2	-0.032	2.50	No
		2	-0.032	2.50	No
WI60	27	2	-0.024	1.00	No
		2	-0.024	5.00	No
		2	-0.009	4.00	No
	28	2	-0.042	0.50	No
		2	-0.042	5.50	No
	29	2	-0.028	1.00	No
		2	-0.028	5.00	No
		2	-0.026	4.00	No
	30	2	-0.046	0.50	No
		2	-0.046	5.50	No
		2	-0.024	4.00	No
		2	-0.024	4.50	No
31		2	-0.026	2.50	No
		2	-0.026	2.50	No
WI90	27	x	-0.021	1.00	No
		x	-0.021	5.00	No
		x	-0.007	4.00	No
	28	x	-0.04	0.50	No
		x	-0.04	5.50	No
	29	x	-0.025	1.00	No
		x	-0.025	5.00	No
		x	-0.023	4.00	No
	30	x	-0.037	0.50	No
		x	-0.037	5.50	No
		x	-0.026	4.00	No
		x	-0.026	4.50	No
31		x	-0.023	2.50	No
		x	-0.023	2.50	No
WI120	27	3	0.024	1.00	No
		3	0.024	5.00	No
		3	0.009	4.00	No
	28	3	0.042	0.50	No
		3	0.042	5.50	No
	29	3	0.028	1.00	No
		3	0.028	5.00	No
		3	0.026	4.00	No
	30	3	0.046	0.50	No
		3	0.046	5.50	No
		3	0.024	4.00	No
		3	0.024	4.50	No
31		3	0.026	2.50	No
		3	0.026	2.50	No
WI150	27	3	0.03	1.00	No
		3	0.03	5.00	No
		3	0.013	4.00	No
	28	3	0.044	0.50	No
		3	0.044	5.50	No
	29	3	0.032	1.00	No
		3	0.032	5.00	No
		3	0.032	4.00	No

	30	3	0.063	0.50	No
		3	0.063	5.50	No
		3	0.02	4.00	No
		3	0.021	4.50	No
WL0	31	3	0.032	2.50	No
	27	z	-0.009	1.00	No
		z	-0.009	5.00	No
		z	-0.004	4.00	No
	28	z	-0.013	0.50	No
		z	-0.013	5.50	No
	29	z	-0.01	1.00	No
		z	-0.01	5.00	No
		z	-0.009	4.00	No
	30	z	-0.022	0.50	No
		z	-0.022	5.50	No
		z	-0.004	4.00	No
		z	-0.005	4.50	No
WL30	31	z	-0.009	2.50	No
	27	2	-0.008	1.00	No
		2	-0.008	5.00	No
		2	-0.003	4.00	No
	28	2	-0.013	0.50	No
		2	-0.013	5.50	No
	29	2	-0.009	1.00	No
		2	-0.009	5.00	No
		2	-0.008	4.00	No
	30	2	-0.019	0.50	No
		2	-0.019	5.50	No
		2	-0.005	4.00	No
		2	-0.005	4.50	No
WL60	31	2	-0.008	2.50	No
	27	2	-0.006	1.00	No
		2	-0.006	5.00	No
		2	-0.002	4.00	No
	28	2	-0.011	0.50	No
		2	-0.011	5.50	No
	29	2	-0.007	1.00	No
		2	-0.007	5.00	No
		2	-0.006	4.00	No
	30	2	-0.013	0.50	No
		2	-0.013	5.50	No
		2	-0.006	4.00	No
		2	-0.006	4.50	No
WL90	31	2	-0.006	2.50	No
	27	x	-0.005	1.00	No
		x	-0.005	5.00	No
		x	-0.002	4.00	No
	28	x	-0.011	0.50	No
		x	-0.011	5.50	No
	29	x	-0.007	1.00	No
		x	-0.007	5.00	No
		x	-0.006	4.00	No
	30	x	-0.009	0.50	No
		x	-0.009	5.50	No
		x	-0.007	4.00	No
		x	-0.007	4.50	No
WL120	31	x	-0.006	2.50	No
	27	3	0.006	1.00	No
		3	0.006	5.00	No
		3	0.002	4.00	No

	28	3	0.011	0.50	No
		3	0.011	5.50	No
	29	3	0.007	1.00	No
		3	0.007	5.00	No
		3	0.006	4.00	No
	30	3	0.013	0.50	No
		3	0.013	5.50	No
		3	0.006	4.00	No
		3	0.006	4.50	No
	31	3	0.006	2.50	No
WL150	27	3	0.008	1.00	No
		3	0.008	5.00	No
		3	0.003	4.00	No
	28	3	0.013	0.50	No
		3	0.013	5.50	No
	29	3	0.009	1.00	No
		3	0.009	5.00	No
		3	0.008	4.00	No
	30	3	0.019	0.50	No
		3	0.019	5.50	No
		3	0.005	4.00	No
		3	0.005	4.50	No
	31	3	0.008	2.50	No
LL1	2	y	-0.25	0.00	Yes
LL2	2	y	-0.25	50.00	Yes
LL3	2	y	-0.25	100.00	Yes
LLa1	27	y	-0.25	50.00	Yes
LLa2	28	y	-0.25	50.00	Yes
LLa3	29	y	-0.25	50.00	Yes
LLa4	30	y	-0.25	50.00	Yes

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
D	Dead Load	No	0.00	-1.00	0.00
Wo	Wind Load (NO ICE)	No	0.00	0.00	0.00
W30	WL 30deg	No	0.00	0.00	0.00
W60	WL 60deg	No	0.00	0.00	0.00
W90	WL 90deg	No	0.00	0.00	0.00
W120	WL 120deg	No	0.00	0.00	0.00
W150	WL 150deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
WI0	WL ICE 0deg	No	0.00	0.00	0.00
WI30	WL ICE 30deg	No	0.00	0.00	0.00
WI60	WL ICE 60deg	No	0.00	0.00	0.00
WI90	WL ICE 90deg	No	0.00	0.00	0.00
WI120	WL ICE 120deg	No	0.00	0.00	0.00
WI150	WL ICE 150deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30deg	No	0.00	0.00	0.00
WL60	WL 30 mph 60deg	No	0.00	0.00	0.00
WL90	WL 30 mph 90deg	No	0.00	0.00	0.00
WL120	WL 30 mph 120deg	No	0.00	0.00	0.00
WL150	WL 30 mph 150deg	No	0.00	0.00	0.00

LL1	250 lb Live Load on Left End	No	0.00	0.00	0.00
LL2	250 lb Live Load on Center	No	0.00	0.00	0.00
LL3	250 lb Live Load on Right End	No	0.00	0.00	0.00
LLa1	250 lb Live Load on Antenna 1	No	0.00	0.00	0.00
LLa2	250 lb Live Load on Antenna 2	No	0.00	0.00	0.00
LLa3	250 lb Live Load on Antenna 3	No	0.00	0.00	0.00
LLa4	250 lb Live Load on Antenna 4	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
D	0.00	0.00	0.00
Wo	0.00	0.00	0.00
W30	0.00	0.00	0.00
W60	0.00	0.00	0.00
W90	0.00	0.00	0.00
W120	0.00	0.00	0.00
W150	0.00	0.00	0.00
Di	0.00	0.00	0.00
WI0	0.00	0.00	0.00
WI30	0.00	0.00	0.00
WI60	0.00	0.00	0.00
WI90	0.00	0.00	0.00
WI120	0.00	0.00	0.00
WI150	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
WL60	0.00	0.00	0.00
WL90	0.00	0.00	0.00
WL120	0.00	0.00	0.00
WL150	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LL3	0.00	0.00	0.00
LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00
LLa4	0.00	0.00	0.00

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Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

LC1=1.2D+1.6W_o
LC2=1.2D+1.6W₃₀
LC3=1.2D+1.6W₆₀
LC4=1.2D+1.6W₉₀
LC5=1.2D+1.6W₁₂₀
LC6=1.2D+1.6W₁₅₀
LC7=1.2D-1.6W_o
LC8=1.2D-1.6W₃₀
LC9=1.2D-1.6W₆₀
LC10=1.2D-1.6W₉₀
LC11=1.2D-1.6W₁₂₀
LC12=1.2D-1.6W₁₅₀
LC13=0.9D+1.6W_o
LC14=0.9D+1.6W₃₀
LC15=0.9D+1.6W₆₀
LC16=0.9D+1.6W₉₀
LC17=0.9D+1.6W₁₂₀
LC18=0.9D+1.6W₁₅₀
LC19=0.9D-1.6W_o
LC20=0.9D-1.6W₃₀
LC21=0.9D-1.6W₆₀
LC22=0.9D-1.6W₉₀
LC23=0.9D-1.6W₁₂₀
LC24=0.9D-1.6W₁₅₀
LC25=1.2D+Di+W_{I0}
LC26=1.2D+Di+W_{I30}
LC27=1.2D+Di+W_{I60}
LC28=1.2D+Di+W_{I90}
LC29=1.2D+Di+W_{I120}
LC30=1.2D+Di+W_{I150}
LC31=1.2D+Di-W_{I0}
LC32=1.2D+Di-W_{I30}
LC33=1.2D+Di-W_{I60}
LC34=1.2D+Di-W_{I90}
LC35=1.2D+Di-W_{I120}
LC36=1.2D+Di-W_{I150}
LC37=0.9D
LC38=1.2D+1.6LL₁
LC39=1.2D+1.6LL₂
LC40=1.2D+1.6LL₃
LC41=1.2D+W_{L0}+LLa₁
LC42=1.2D+W_{L30}+LLa₁
LC43=1.2D+W_{L60}+LLa₁
LC44=1.2D+W_{L90}+LLa₁
LC45=1.2D+W_{L120}+LLa₁
LC46=1.2D+W_{L150}+LLa₁
LC47=1.2D-W_{L0}+LLa₁
LC48=1.2D-W_{L30}+LLa₁
LC49=1.2D-W_{L60}+LLa₁
LC50=1.2D-W_{L90}+LLa₁
LC51=1.2D-W_{L120}+LLa₁
LC52=1.2D-W_{L150}+LLa₁
LC53=1.2D+W_{L0}+LLa₂

LC54=1.2D+WL30+LLa2
 LC55=1.2D+WL60+LLa2
 LC56=1.2D+WL90+LLa2
 LC57=1.2D+WL120+LLa2
 LC58=1.2D+WL150+LLa2
 LC59=1.2D-WL0+LLa2
 LC60=1.2D-WL30+LLa2
 LC61=1.2D-WL60+LLa2
 LC62=1.2D-WL90+LLa2
 LC63=1.2D-WL120+LLa2
 LC64=1.2D-WL150+LLa2
 LC65=1.2D+WL0+LLa3
 LC66=1.2D+WL30+LLa3
 LC67=1.2D+WL60+LLa3
 LC68=1.2D+WL90+LLa3
 LC69=1.2D+WL120+LLa3
 LC70=1.2D+WL150+LLa3
 LC71=1.2D-WL0+LLa3
 LC72=1.2D-WL30+LLa3
 LC73=1.2D-WL60+LLa3
 LC74=1.2D-WL90+LLa3
 LC75=1.2D-WL120+LLa3
 LC76=1.2D-WL150+LLa3
 LC77=1.2D+WL0+LLa4
 LC78=1.2D+WL30+LLa4
 LC79=1.2D+WL60+LLa4
 LC80=1.2D+WL90+LLa4
 LC81=1.2D+WL120+LLa4
 LC82=1.2D+WL150+LLa4
 LC83=1.2D-WL0+LLa4
 LC84=1.2D-WL30+LLa4
 LC85=1.2D-WL60+LLa4
 LC86=1.2D-WL90+LLa4
 LC87=1.2D-WL120+LLa4
 LC88=1.2D-WL150+LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	PIPE 1-1_2x0.145	7	LC1 at 100.00%	0.58	OK	Eq. H1-1a
		8	LC1 at 100.00%	0.32	OK	Eq. H1-1b
		9	LC7 at 0.00%	0.38	OK	Eq. H1-1b
		10	LC1 at 100.00%	0.29	OK	Eq. H1-1b
		24	LC1 at 0.00%	0.41	OK	Eq. H1-1b
	PIPE 2x0.154	1	LC1 at 38.02%	1.56	N.G.	Eq. H1-1b
		2	LC7 at 38.02%	1.73	N.G.	Eq. H1-1b
		3	LC38 at 100.00%	0.12	OK	Eq. H1-1b
		4	LC31 at 0.00%	0.15	OK	Eq. H1-1b
		5	LC31 at 100.00%	0.13	OK	Eq. H1-1b
		6	LC1 at 40.63%	1.43	N.G.	Eq. H1-1b
		23	LC40 at 0.00%	0.11	OK	Eq. H1-1b
		27	LC1 at 33.33%	0.16	OK	Eq. H1-1b
		28	LC1 at 33.33%	0.36	OK	Eq. H1-1b
		29	LC1 at 33.33%	0.18	OK	Eq. H1-1b
		30	LC1 at 33.33%	0.61	OK	Eq. H1-1b
		31	LC1 at 12.50%	0.19	OK	Eq. H1-1b

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Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
1	0.00	0.00	0.00	0
3	1.2083	0.00	0.00	0
4	3.6146	0.00	0.00	0
5	4.6145	0.00	0.00	0
6	6.0729	0.00	0.00	0
7	8.4949	0.00	0.00	0
8	12.00	0.00	0.00	0
9	0.00	3.4475	0.00	0
11	1.2083	3.4475	0.00	0
12	3.6146	3.4475	0.00	0
13	4.6145	3.4475	0.00	0
14	6.0729	3.4475	0.00	0
15	8.4949	3.4475	0.00	0
16	12.00	3.4475	0.00	0
17	8.4949	2.00	0.00	0
18	4.6145	2.00	-2.00	0
21	0.50	5.50	0.20	0
22	0.50	-0.50	0.20	0
27	3.50	-0.50	0.20	0
28	3.50	5.50	0.20	0
33	11.25	-0.50	0.20	0
34	11.25	5.50	0.20	0

39	7.50	-0.50	0.20	0
40	7.50	5.50	0.20	0
41	10.6609	3.4475	0.00	0
42	10.6609	0.00	0.00	0
47	9.50	-0.50	-0.20	0
48	9.50	4.00	-0.20	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
5	1	1	1	1	1	1
13	1	1	1	1	1	1
18	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
1	1	8		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
2	9	16		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
3	11	3		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
4	4	12		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
5	14	6		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
6	15	7		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
7	18	17		PIPE 1-1_2x0.145	A53 GrB	0.00	0.00	0.00
8	14	7		PIPE 1-1_2x0.145	A53 GrB	0.00	0.00	0.00
9	12	6		PIPE 1-1_2x0.145	A53 GrB	0.00	0.00	0.00
10	11	4		PIPE 1-1_2x0.145	A53 GrB	0.00	0.00	0.00
23	41	42		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
24	15	42		PIPE 1-1_2x0.145	A53 GrB	0.00	0.00	0.00
27	34	33		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
28	40	39		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
29	28	27		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
30	21	22		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
31	48	47		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

Orientation of local axes

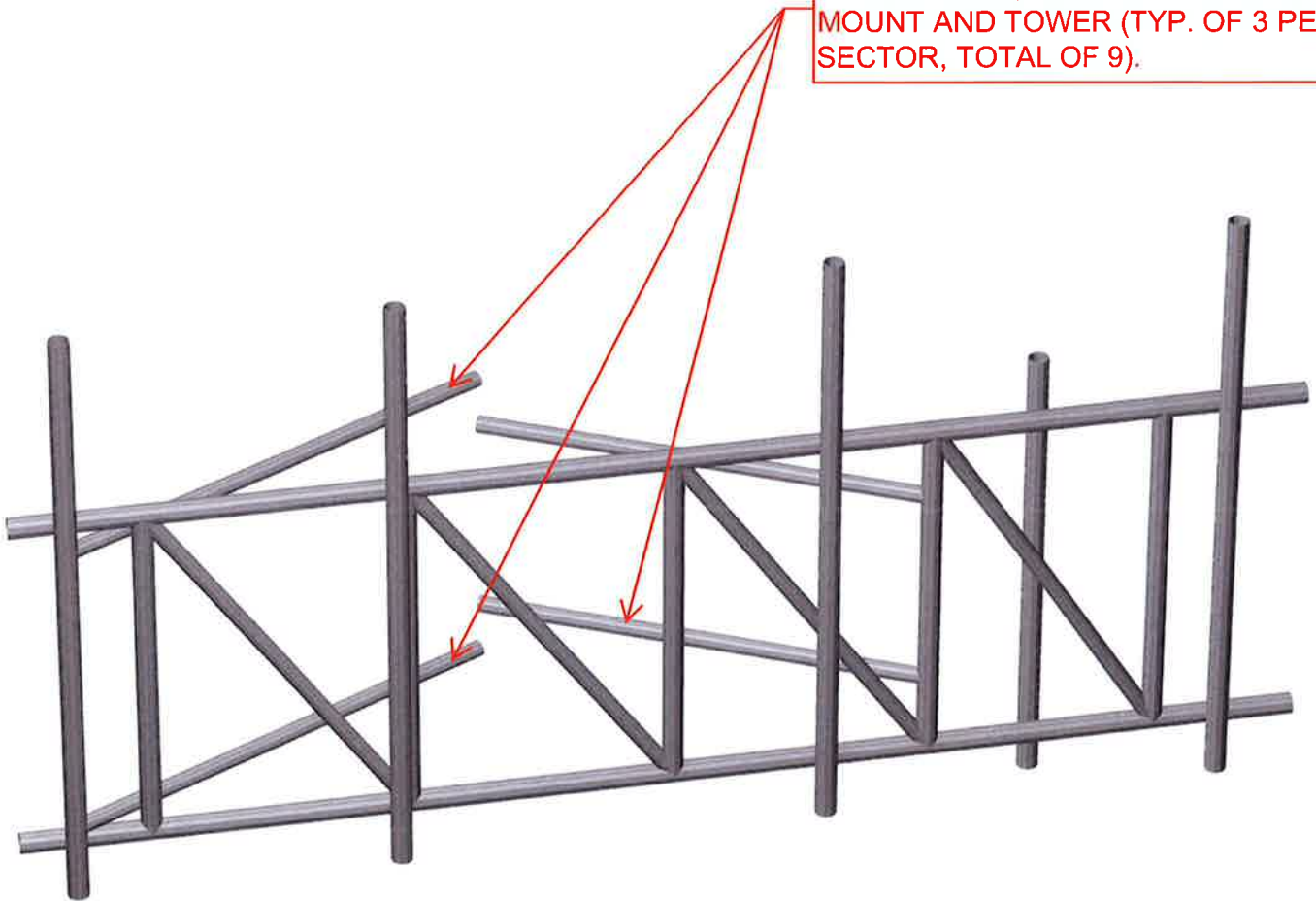
Member	Rotation [Deg]	Axis23	NX	NY	NZ
27	45.00	0	0.00	0.00	0.00
28	45.00	0	0.00	0.00	0.00
29	45.00	0	0.00	0.00	0.00
30	45.00	0	0.00	0.00	0.00
31	45.00	0	0.00	0.00	0.00

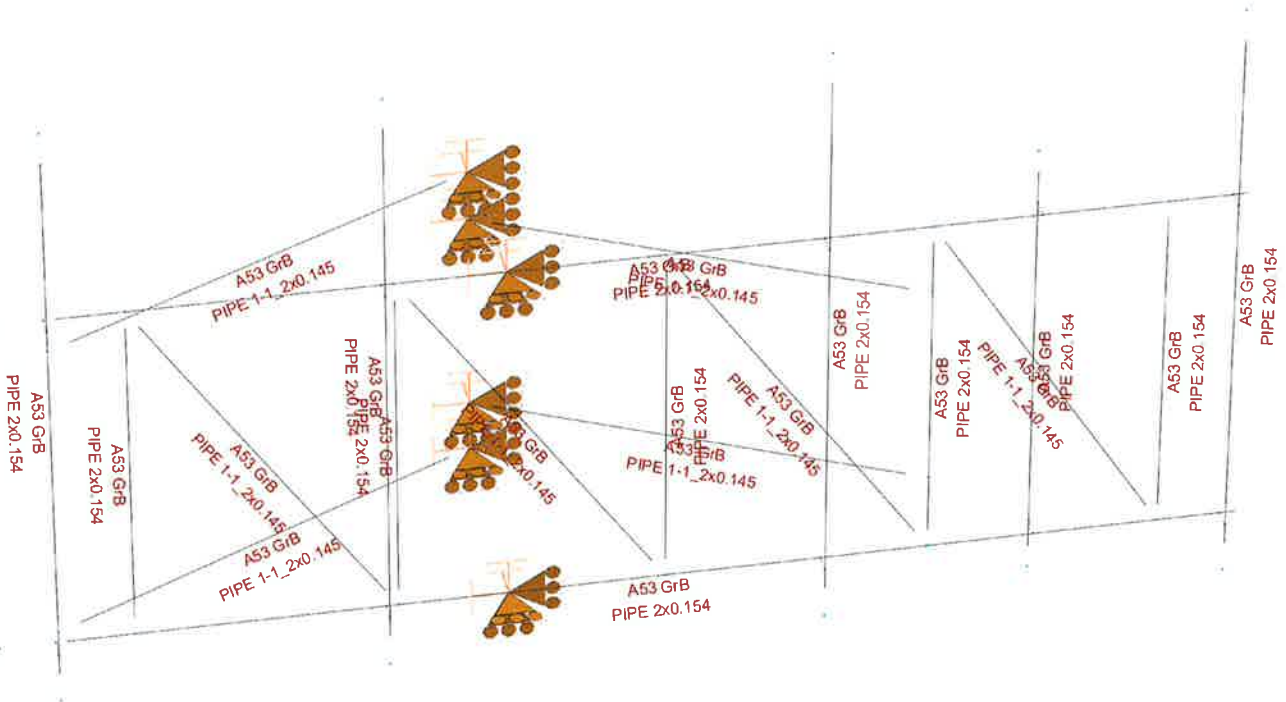


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Design Group LLC





**Mount Calculations
(Proposed Conditions)**

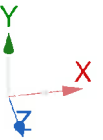
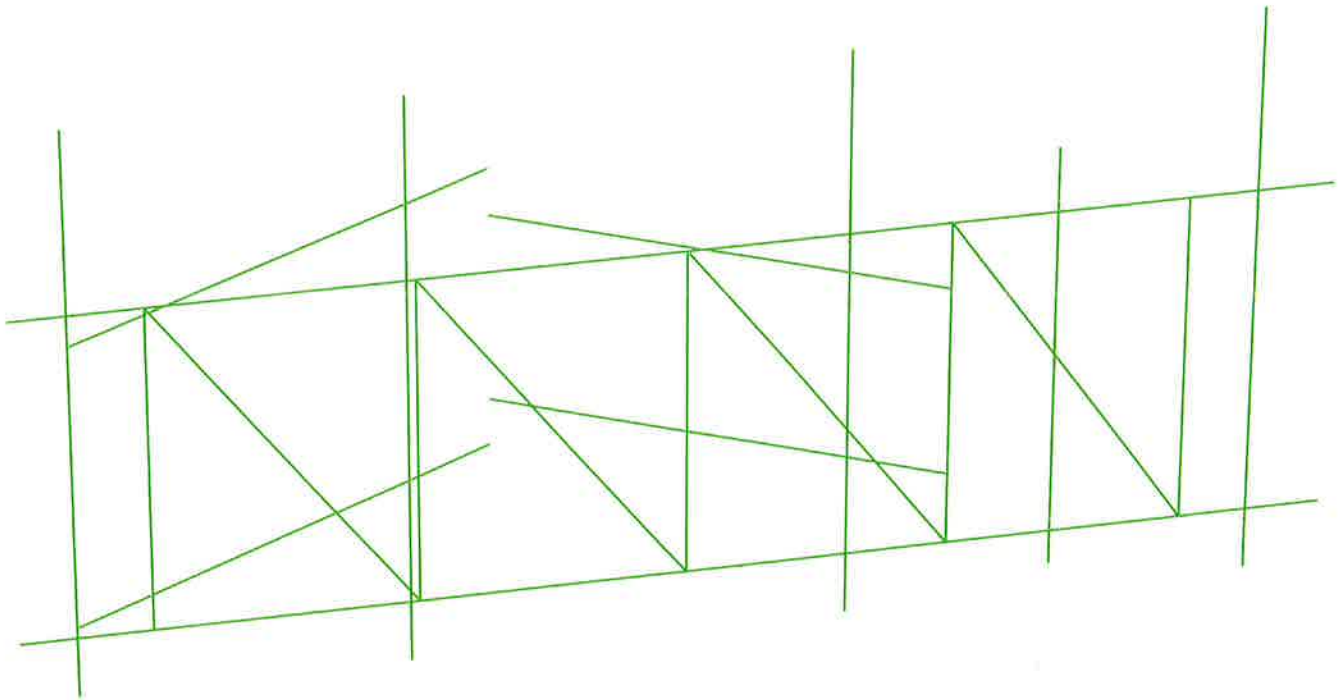
INSTALL NEW 2" STD. (2.38" O.D.)
PIPE BRACES, SECURE TO EXISTING
MOUNT AND TOWER (TYP. OF 3 PER
SECTOR, TOTAL OF 9).

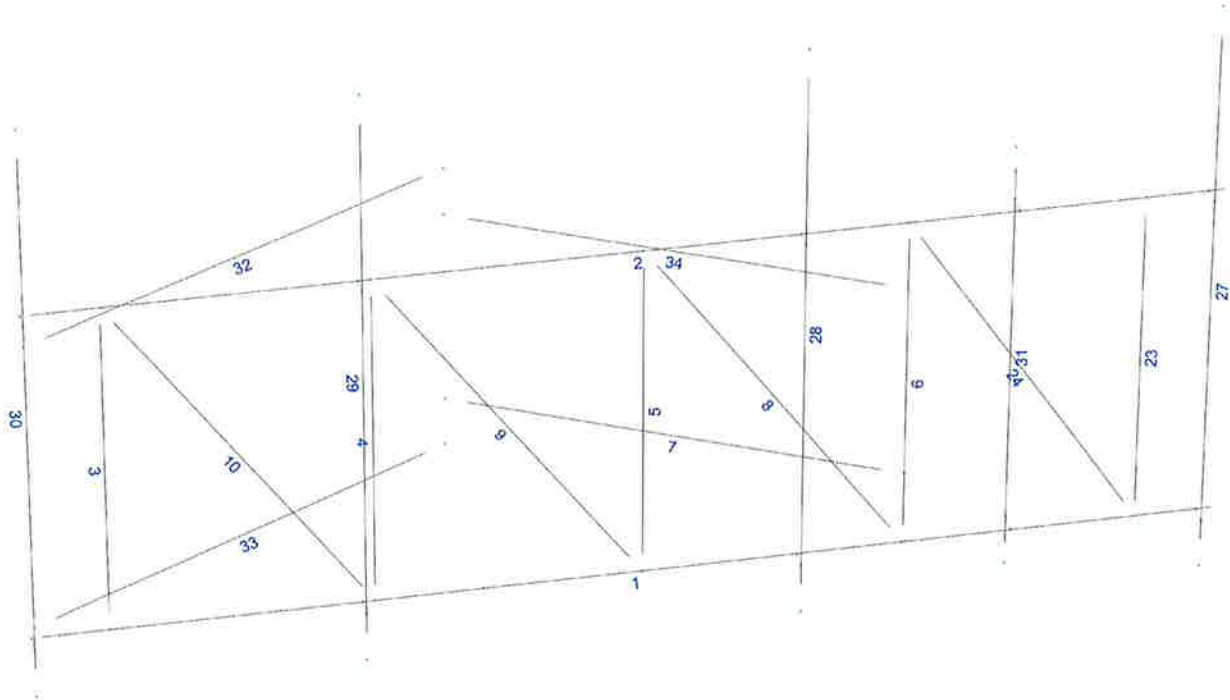




Design status

-  Not designed
-  Error on design
-  Design O.K.
-  With warnings





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Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

LC1=1.2D+1.6Wo
LC2=1.2D+1.6W30
LC3=1.2D+1.6W60
LC4=1.2D+1.6W90
LC5=1.2D+1.6W120
LC6=1.2D+1.6W150
LC7=1.2D-1.6Wo
LC8=1.2D-1.6W30
LC9=1.2D-1.6W60
LC10=1.2D-1.6W90
LC11=1.2D-1.6W120
LC12=1.2D-1.6W150
LC13=0.9D+1.6Wo
LC14=0.9D+1.6W30
LC15=0.9D+1.6W60
LC16=0.9D+1.6W90
LC17=0.9D+1.6W120
LC18=0.9D+1.6W150
LC19=0.9D-1.6Wo
LC20=0.9D-1.6W30
LC21=0.9D-1.6W60
LC22=0.9D-1.6W90
LC23=0.9D-1.6W120
LC24=0.9D-1.6W150
LC25=1.2D+Di+W10
LC26=1.2D+Di+W130
LC27=1.2D+Di+W160
LC28=1.2D+Di+W190
LC29=1.2D+Di+W1120
LC30=1.2D+Di+W1150
LC31=1.2D+Di-W10
LC32=1.2D+Di-W130
LC33=1.2D+Di-W160
LC34=1.2D+Di-W190
LC35=1.2D+Di-W1120
LC36=1.2D+Di-W1150
LC37=0.9D
LC38=1.2D+1.6LL1
LC39=1.2D+1.6LL2
LC40=1.2D+1.6LL3
LC41=1.2D+WL0+LLa1
LC42=1.2D+WL30+LLa1
LC43=1.2D+WL60+LLa1
LC44=1.2D+WL90+LLa1
LC45=1.2D+WL120+LLa1
LC46=1.2D+WL150+LLa1
LC47=1.2D-WL0+LLa1
LC48=1.2D-WL30+LLa1
LC49=1.2D-WL60+LLa1
LC50=1.2D-WL90+LLa1
LC51=1.2D-WL120+LLa1
LC52=1.2D-WL150+LLa1

LC53=1.2D+WL0+LLa2
 LC54=1.2D+WL30+LLa2
 LC55=1.2D+WL60+LLa2
 LC56=1.2D+WL90+LLa2
 LC57=1.2D+WL120+LLa2
 LC58=1.2D+WL150+LLa2
 LC59=1.2D-WL0+LLa2
 LC60=1.2D-WL30+LLa2
 LC61=1.2D-WL60+LLa2
 LC62=1.2D-WL90+LLa2
 LC63=1.2D-WL120+LLa2
 LC64=1.2D-WL150+LLa2
 LC65=1.2D+WL0+LLa3
 LC66=1.2D+WL30+LLa3
 LC67=1.2D+WL60+LLa3
 LC68=1.2D+WL90+LLa3
 LC69=1.2D+WL120+LLa3
 LC70=1.2D+WL150+LLa3
 LC71=1.2D-WL0+LLa3
 LC72=1.2D-WL30+LLa3
 LC73=1.2D-WL60+LLa3
 LC74=1.2D-WL90+LLa3
 LC75=1.2D-WL120+LLa3
 LC76=1.2D-WL150+LLa3
 LC77=1.2D+WL0+LLa4
 LC78=1.2D+WL30+LLa4
 LC79=1.2D+WL60+LLa4
 LC80=1.2D+WL90+LLa4
 LC81=1.2D+WL120+LLa4
 LC82=1.2D+WL150+LLa4
 LC83=1.2D-WL0+LLa4
 LC84=1.2D-WL30+LLa4
 LC85=1.2D-WL60+LLa4
 LC86=1.2D-WL90+LLa4
 LC87=1.2D-WL120+LLa4
 LC88=1.2D-WL150+LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	PIPE 1-1_2x0.145	7	LC13 at 100.00%	0.37	OK	Eq. H1-1b
		8	LC1 at 100.00%	0.25	OK	Eq. H1-1b
		9	LC31 at 0.00%	0.07	OK	Eq. H1-1b
		10	LC1 at 0.00%	0.15	OK	Eq. H1-1b
		24	LC7 at 0.00%	0.32	OK	Eq. H1-1b
		32	LC13 at 100.00%	0.25	OK	Eq. H1-1b
		33	LC13 at 100.00%	0.15	OK	Eq. H1-1b
		34	LC1 at 100.00%	0.49	OK	Eq. H1-1b
	PIPE 2x0.154	1	LC7 at 70.31%	0.74	OK	Eq. H1-1a
		2	LC7 at 70.31%	0.93	OK	Eq. H1-1a
		3	LC38 at 100.00%	0.12	OK	Eq. H1-1b
		4	LC31 at 100.00%	0.15	OK	Eq. H1-1b
		5	LC26 at 0.00%	0.13	OK	Eq. H1-1b
		6	LC7 at 0.00%	0.75	OK	Eq. H1-1b
		23	LC40 at 0.00%	0.10	OK	Eq. H1-1b
		27	LC1 at 33.33%	0.16	OK	Eq. H1-1b
		28	LC1 at 33.33%	0.36	OK	Eq. H1-1b
		29	LC1 at 33.33%	0.18	OK	Eq. H1-1b
		30	LC1 at 33.75%	0.62	OK	Eq. H1-1b
		31	LC1 at 12.50%	0.15	OK	Eq. H1-1b

Current Date: 11/29/2018 11:48 AM

Units system: English

File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT5093\LTE 7C\CT5093 (LTE 7C) (MOD).etzi

Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
1	0.00	0.00	0.00	0
3	1.2083	0.00	0.00	0
4	3.6146	0.00	0.00	0
5	4.6145	0.00	0.00	0
6	6.0729	0.00	0.00	0
7	8.4949	0.00	0.00	0
8	12.00	0.00	0.00	0
9	0.00	3.4475	0.00	0
11	1.2083	3.4475	0.00	0
12	3.6146	3.4475	0.00	0
13	4.6145	3.4475	0.00	0
14	6.0729	3.4475	0.00	0
15	8.4949	3.4475	0.00	0
16	12.00	3.4475	0.00	0
17	8.4949	0.75	0.00	0
18	4.6145	0.75	-2.00	0
21	0.50	5.50	0.20	0
22	0.50	-0.50	0.20	0
27	3.50	-0.50	0.20	0
28	3.50	5.50	0.20	0
33	11.25	-0.50	0.20	0

34	11.25	5.50	0.20	0
39	7.50	-0.50	0.20	0
40	7.50	5.50	0.20	0
41	10.6609	3.4475	0.00	0
42	10.6609	0.00	0.00	0
47	9.50	-0.50	-0.20	0
48	9.50	4.00	-0.20	0
49	0.50	3.25	0.20	0
50	4.6145	3.25	-2.00	0
51	0.50	0.25	0.20	0
52	4.6145	0.25	-2.00	0
53	4.6145	2.75	-2.00	0
54	8.4949	2.75	0.00	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
5	1	1	1	1	1	1
13	1	1	1	1	1	1
18	1	1	1	1	1	1
50	1	1	1	1	1	1
52	1	1	1	1	1	1
53	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
1	1	8		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
2	9	16		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
3	11	3		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
4	4	12		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
5	14	6		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
6	15	7		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
7	18	17		PIPE 1-1_2x0.145	A53 GrB	0.00	0.00	0.00
8	14	7		PIPE 1-1_2x0.145	A53 GrB	0.00	0.00	0.00
9	12	6		PIPE 1-1_2x0.145	A53 GrB	0.00	0.00	0.00
10	11	4		PIPE 1-1_2x0.145	A53 GrB	0.00	0.00	0.00
23	41	42		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
24	15	42		PIPE 1-1_2x0.145	A53 GrB	0.00	0.00	0.00
27	34	33		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
28	40	39		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
29	28	27		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
30	21	22		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
31	48	47		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
32	50	49		PIPE 1-1_2x0.145	A53 GrB	0.00	0.00	0.00
33	52	51		PIPE 1-1_2x0.145	A53 GrB	0.00	0.00	0.00
34	53	54		PIPE 1-1_2x0.145	A53 GrB	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
27	45.00	0	0.00	0.00	0.00
28	45.00	0	0.00	0.00	0.00
29	45.00	0	0.00	0.00	0.00
30	45.00	0	0.00	0.00	0.00
31	45.00	0	0.00	0.00	0.00

PROJECT INFORMATION

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

- NEW AT&T ANTENNAS (800-10965) @ POS. 4 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS B14 4478 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS 4449 B5/B12 (700BC/850) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T DC ONLY SURGE ARRESTOR DC6-48-60-18-8C (TOTAL OF 1) WITH (2) DC POWER, & (1) ALARM CABLE (TO FOLLOW EXISTING).

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:

- ADD 6630.

ITEMS TO REMAIN:

- (9) ANTENNAS, (9) RRU'S, (12) COAX CABLES, (4) DC POWER & (2) FIBER.

SQUID ALARMING (NOT TO BE DAISY CHAINED):

- 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.
- 2ND SQUID INSTALLED WILL BE ALARMED TO THE LOWEST BAND (OR FIRST INSTALLED) RRH/RRU ON THE BETA SECTOR.
- 3RD SQUID INSTALLED WILL BE ALARMED TO THE LOWEST BAND (OR FIRST INSTALLED) RRH/RRU ON THE GAMMA SECTOR.

SITE ADDRESS: 1320 CHOPSEY HILL ROAD
BRIDGEPORT, ME 06606

LATITUDE: 41.219391 N, 41° 13' 09.81" N
LONGITUDE: 73.202198 W, 73° 12' 07.91" W
TYPE OF SITE: SELF SUPPORT TOWER / INDOOR EQUIPMENT
STRUCTURE HEIGHT: 240'-0"±
RAD CENTER: 165'-0"±
CURRENT USE: TELECOMMUNICATIONS FACILITY
PROPOSED USE: TELECOMMUNICATIONS FACILITY



SITE NUMBER: CT5093

SITE NAME: BRIDGEPORT BEARDSLEY

FA CODE: 10070948

PACE ID: MRCTB034299, MRCTB033936, MRCTB034408

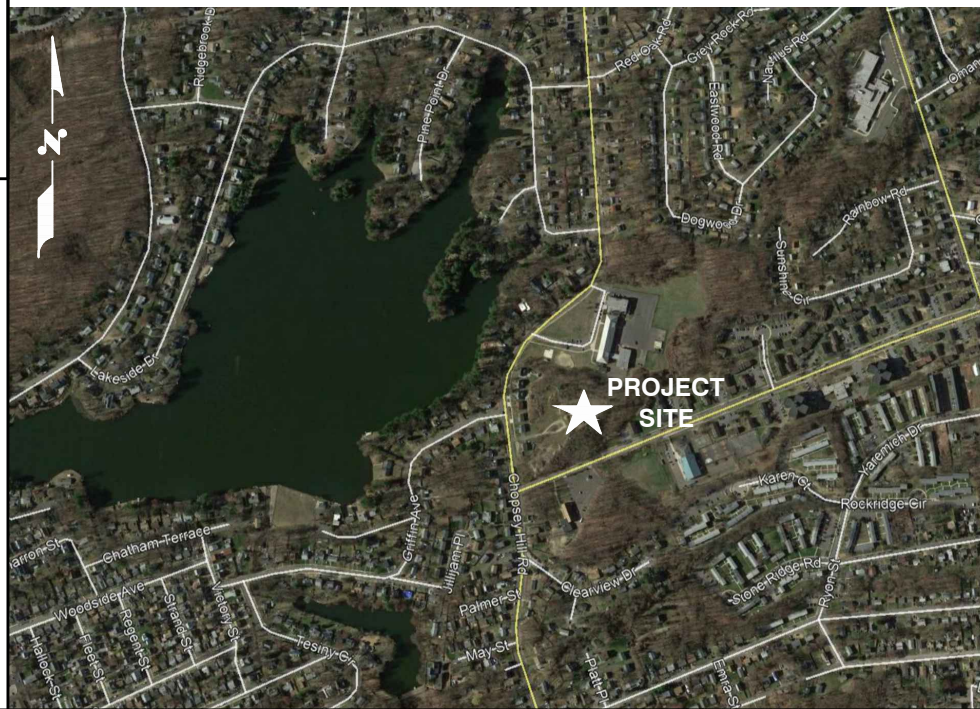
PROJECT: LTE 7C/5G/4TX4RX 2019 UPGRADE

DRAWING INDEX

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

VICINITY MAP

DIRECTIONS TO SITE:
TURN LEFT ONTO CAPITOL BLVD. 0.3 MI. TURN LEFT ONTO WEST STREET. 0.3 MI. TAKE RAMP LEFT FOR I-91 S. 9.7 MI. AT EXIT 17, TAKE RAMP RIGHT FOR CT-15 SOUTH TOWARD NEW HAVEN. 30.2 MI. AT EXIT 52, TAKE RAMP RIGHT FOR CT-8 SOUTH TOWARD BRIDGEPORT. 1.9 MI. AT EXIT 7, TAKE RAMP FOR CT-127/WHITE PLAINS ROAD. 0.3 MI. STAY STRAIGHT TO GO ONTO OLD TOWN ROAD. 0.6 MI. OLD TOWN ROAD BECOMES TRUMBULL AVENUE. 0.6 MI. TURN RIGHT ONTO CHOPSEY HILL ROAD. 0.1 MI. ARRIVE AT 1320 CHOPSEY HILL ROAD ON THE RIGHT



GENERAL NOTES

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

72 HOURS



CALL BEFORE YOU DIG



CALL TOLL FREE 1-800-922-4455

OR CALL 811

UNDERGROUND SERVICE ALERT

HGD HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET., SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT5093
SITE NAME: BRIDGEPORT BEARDSLEY

1320 CHOPSEY HILL ROAD
BRIDGEPORT, ME 06606
FAIRFIELD COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
A	01/16/19	ISSUED FOR PERMITTING	ET	AT	DGP

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

AT&T
TITLE SHEET
(LTE 7C/5G/4TX4RX)

10.2.2019
Stacy Crum
REGISTERED PROFESSIONAL ENGINEER

SITE NUMBER	DRAWING NUMBER	REV
CT5093	T-1	A

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 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR – 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 2015 WITH 2018 CT STATE BUILDING CODE AMENDMENTS
 ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE (NFPA 70-2017)

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

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		

45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

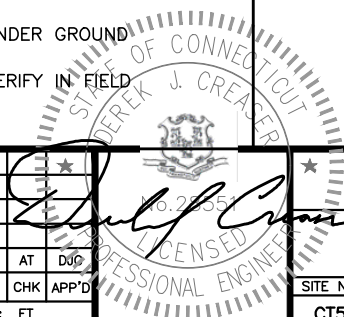
750 WEST CENTER STREET., SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT5093
SITE NAME: BRIDGEPORT BEARDSLEY

1320 CHOPSEY HILL ROAD
BRIDGEPORT, ME 06606
FAIRFIELD COUNTY

550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
A	01/16/19	ISSUED FOR PERMITTING	ET	AT	DGP
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: ET		



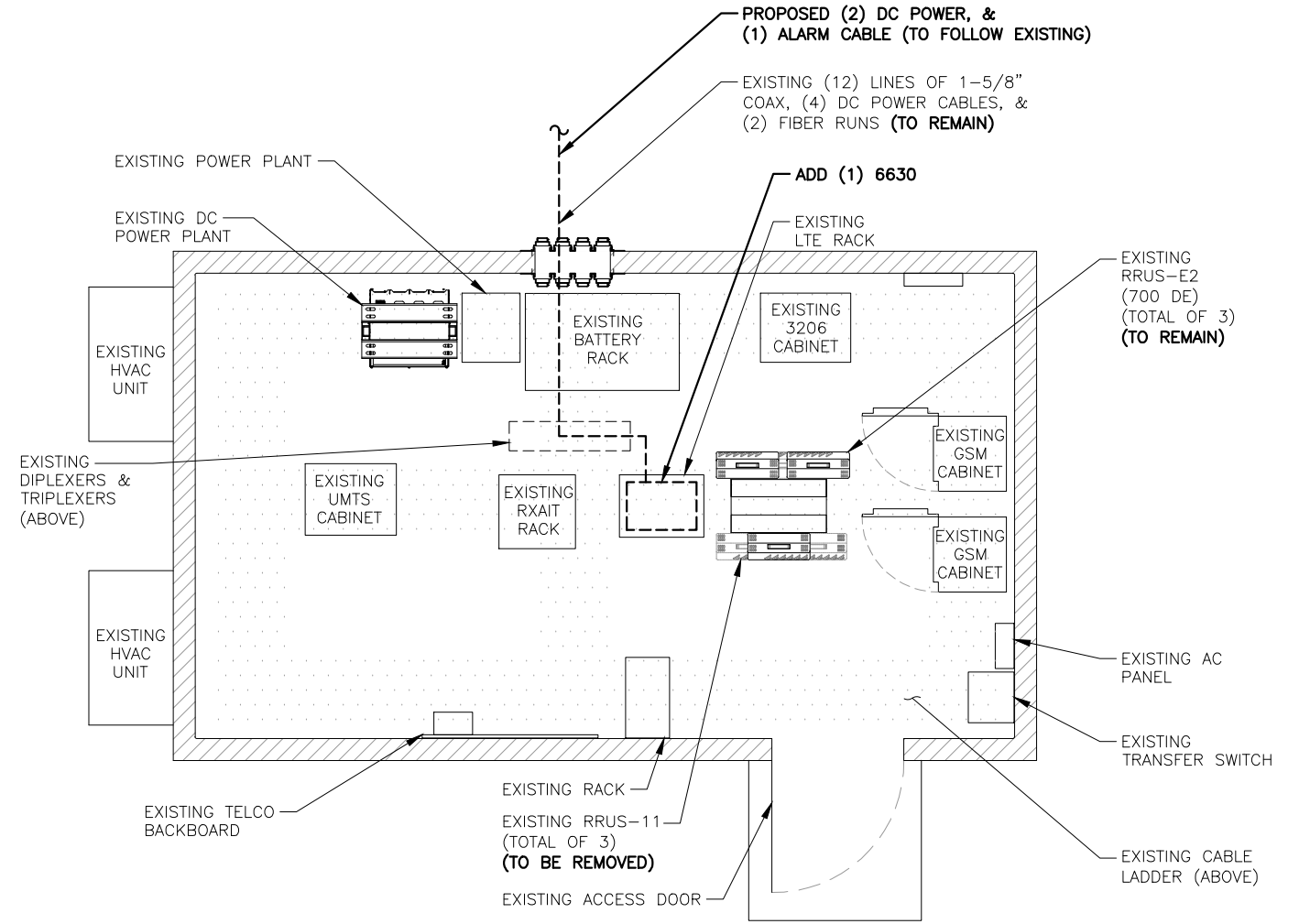
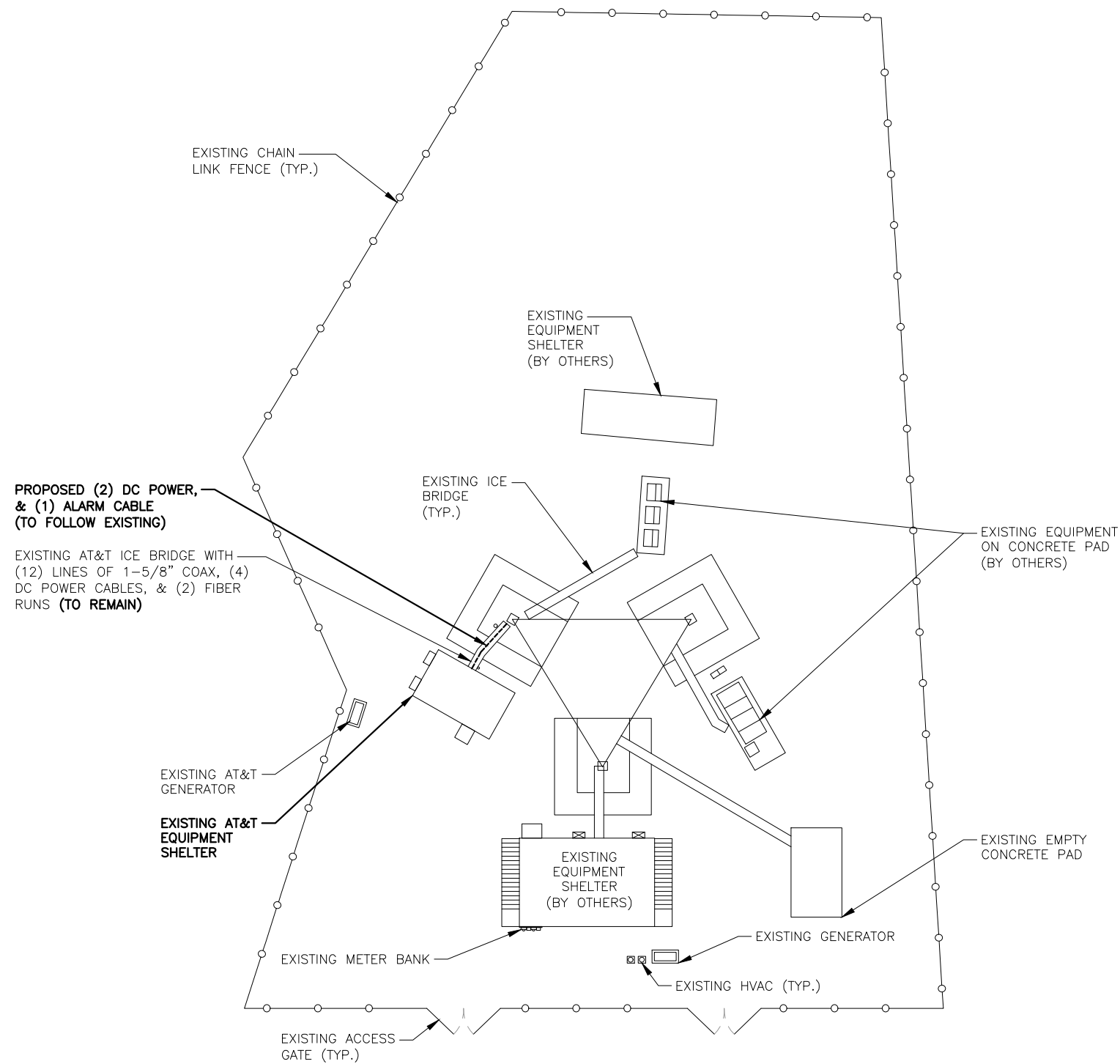
AT&T

GENERAL NOTES
(LTE 7C/5G/4TX4RX)

SITE NUMBER	DRAWING NUMBER	REV
CT5093	GN-1	A

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 (3) 30AMP BREAKERS & (5) 25 AMP BREAKERS FOR NEW RRU ADDS, IF NEEDED

COMPOUND PLAN 1
22x34 SCALE: 1/16"=1'-0"
11x17 SCALE: 1/32"=1'-0"
0 8'-0" 16'-0" 32'-0" 48'-0"

EQUIPMENT PLAN 2
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"
0 1'-0" 2'-0" 4'-0" 6'-0"

HGD HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

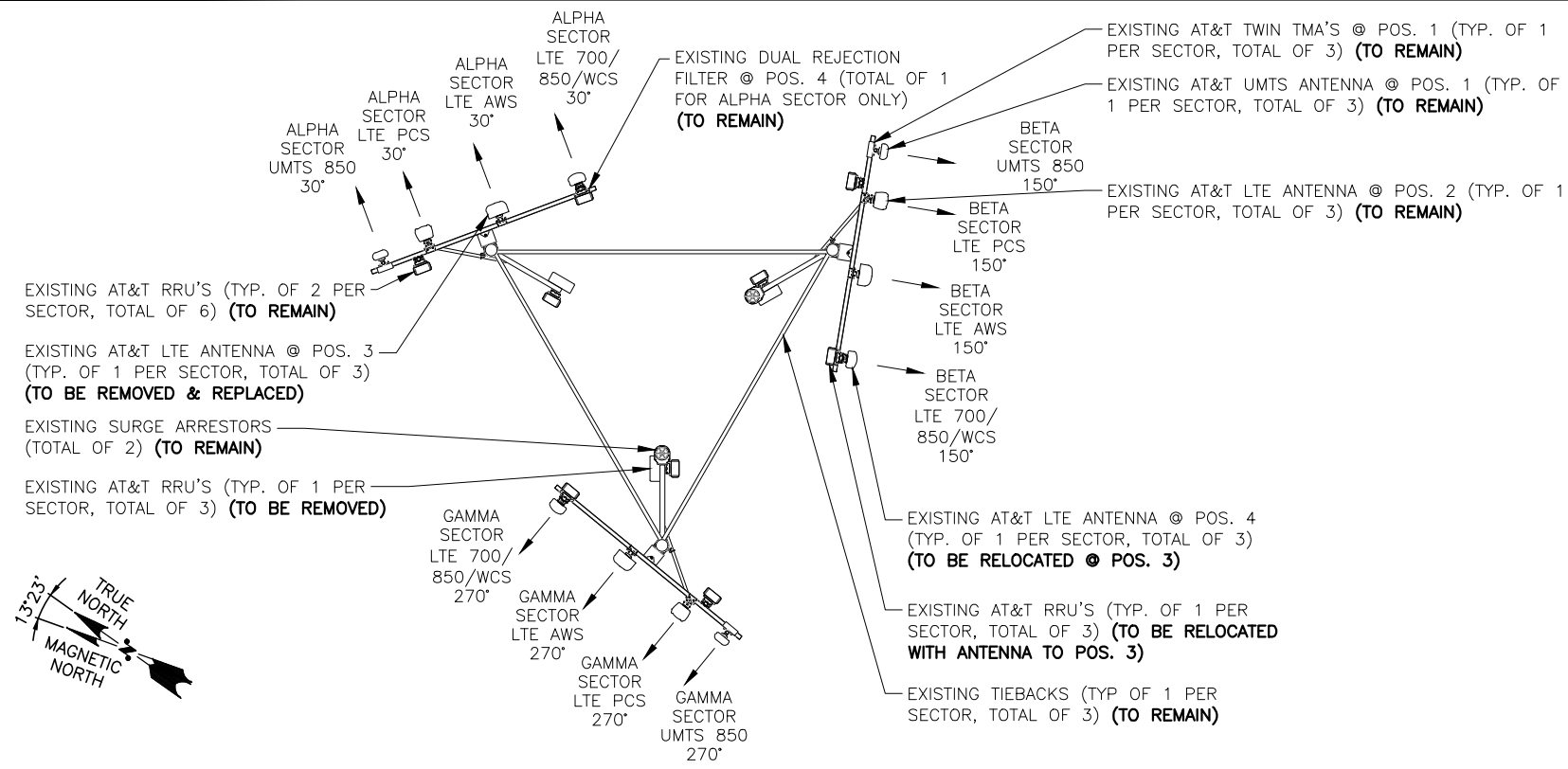
CENTERLINE COMMUNICATIONS
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WEST BRIDGEWATER, MA 02379

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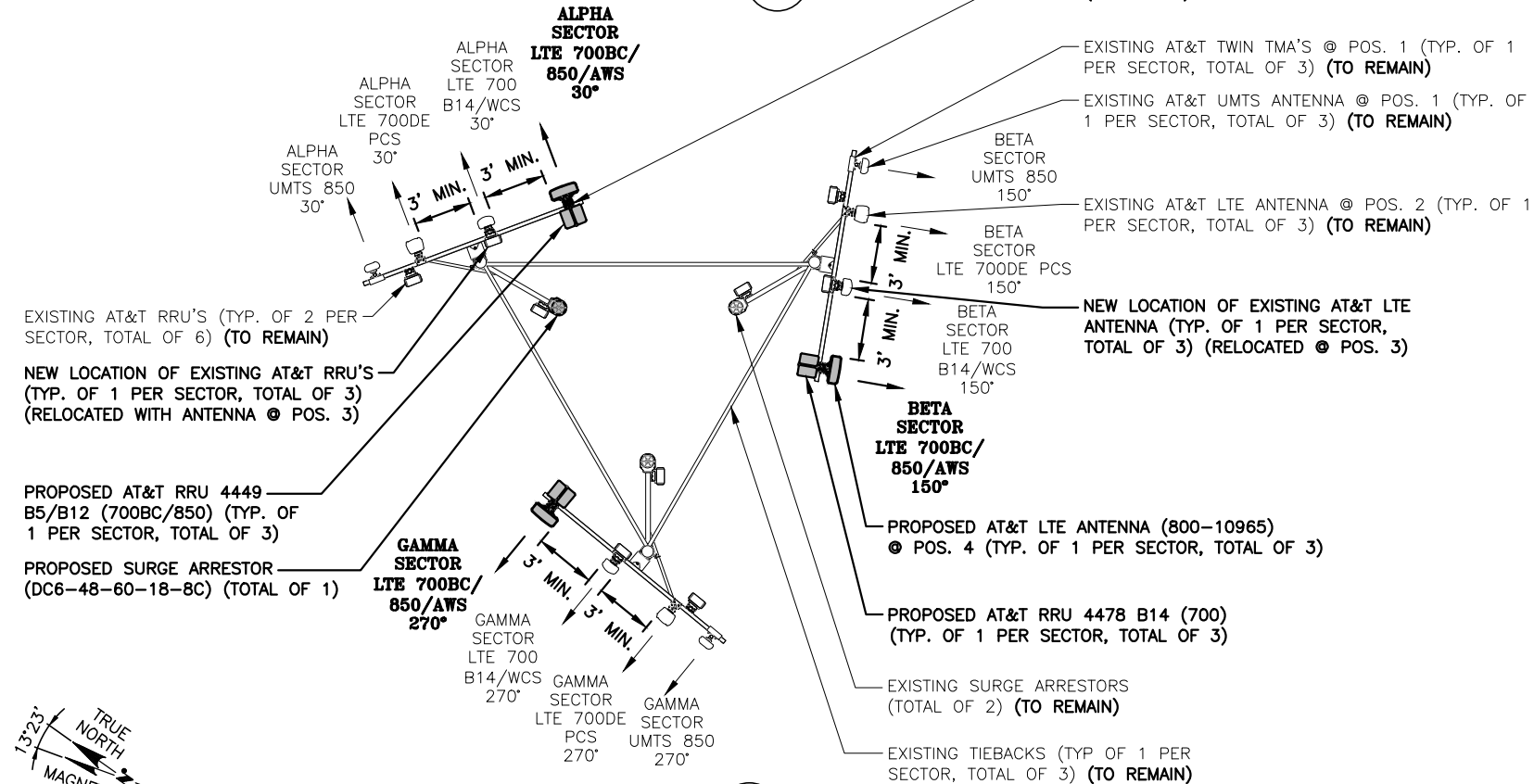
at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

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A	01/16/19	ISSUED FOR PERMITTING	ET	AT	DJP
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: ET		

AT&T
COMPOUND & EQUIPMENT PLAN
(LTE 7C/5G/4TX4RX)
SITE NUMBER: CT5093
DRAWING NUMBER: A-1
REV: A



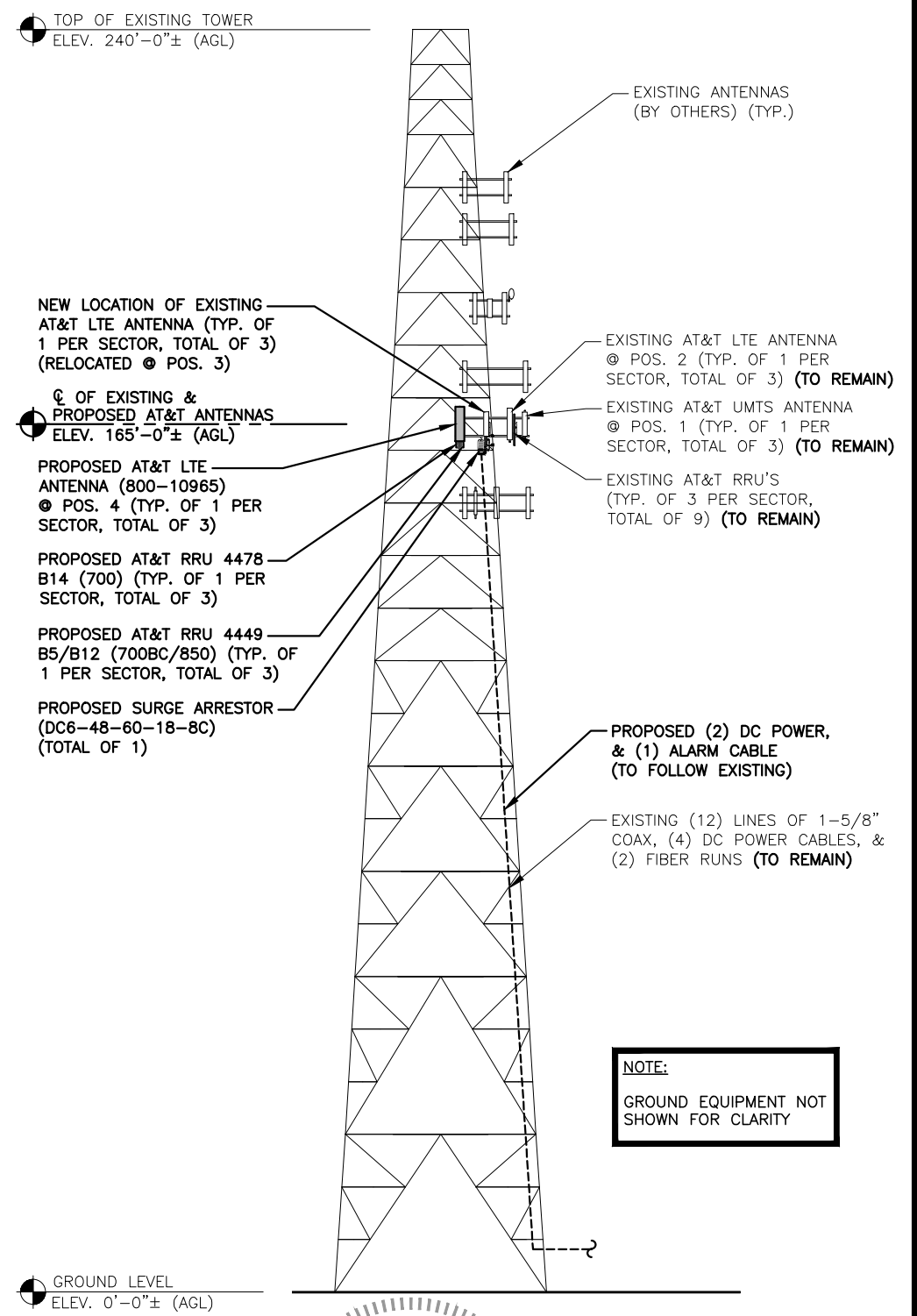
EXISTING ANTENNA LAYOUT
SCALE: N.T.S.



PROPOSED ANTENNA LAYOUT
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:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY

ELEVATION
22x34 SCALE: 1/16" = 1'-0"
11x17 SCALE: 1/32" = 1'-0"

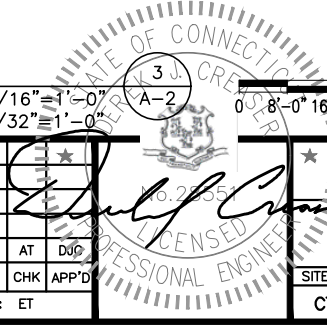
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SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: ET		

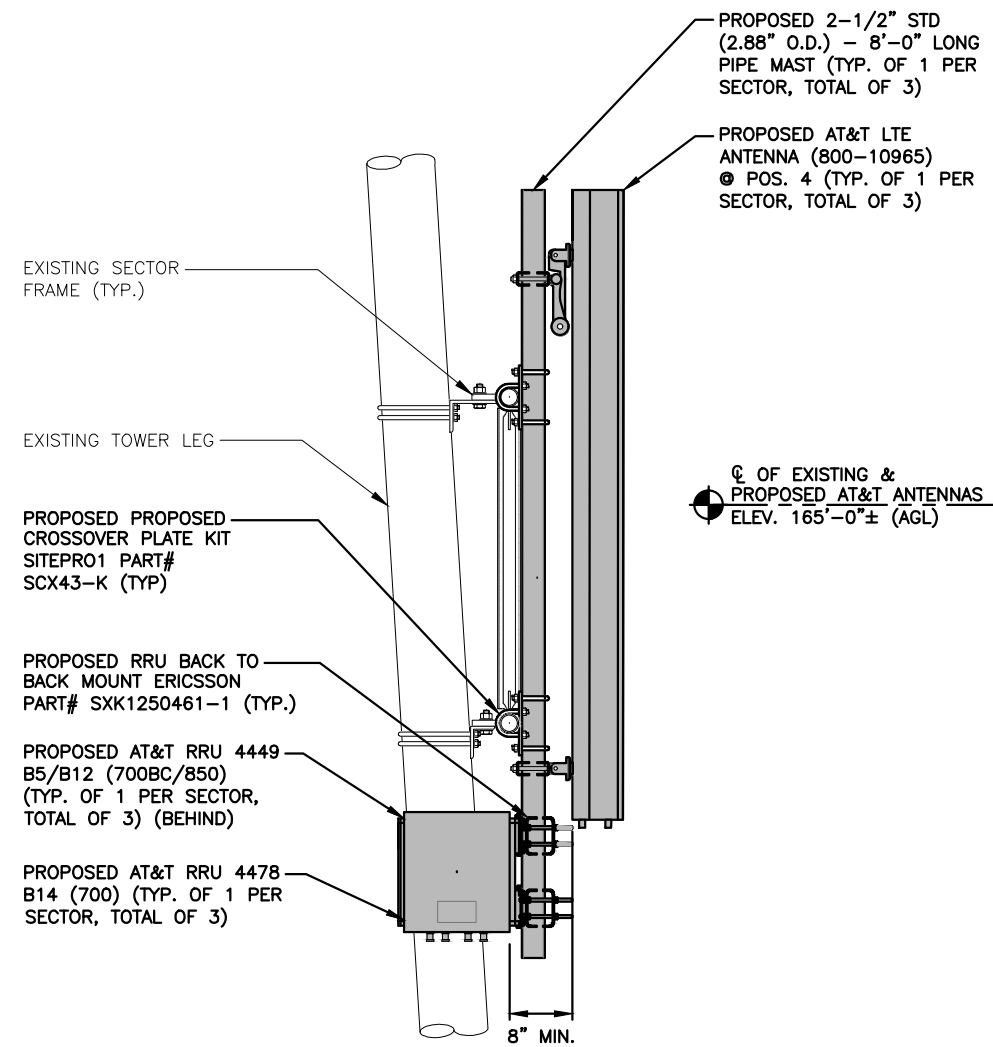


AT&T	
ANTENNA LAYOUT & ELEVATION (LTE 7C/5G/4TX4RX)	
SITE NUMBER	REV
CT5093	A
DRAWING NUMBER	
A-2	

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.

ANTENNA SCHEDULE											
SECTOR	EXISTING/PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA Ø HEIGHT	AZIMUTH	TMA/DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	EXISTING	UMTS 850	7770	55X11X5	±165'	30°	(E)(G)(2) POWERWAVE LGP13519 (1)(E) CCI DTMABP7819VG12A	-	-	(2) 1-5/8 COAX (LENGTH 210' ±)	(E) (1) RAYCAP DC6-48-60-18-8C
A2	EXISTING	LTE 700 DE/PCS	QS66512-2	72.0X12.0X9.6	±165'	30°	(E)(G)(2) CCI TPX-070821	(E)(G)(1) RRUS-E2 B29 (700) (E)(1) RRUS-32 B2 (PCS)	-	(2) 1-5/8 COAX (LENGTH 210' ±)	
A3	EXISTING	LTE 700 B14/WCS	SBNHH-1D65A	55X11.85X7.1	±165'	30°	-	(P)(1) 4478 B14 (700) (E)(1) RRUS-32	-	-	
A4	PROPOSED	LTE 700BC /850/AWS	800-10965	78.7X20X6.9	±165'	30°	-	(P)(1) 4449 B5/B12 (700BC/850) (E)(1) RRUS-32	18.1X13.4X8.3	-	
B1	EXISTING	UMTS 850	7770	55X11X5	±165'	120°	(E)(G)(2) POWERWAVE LGP13519 (1)(E) CCI DTMABP7819VG12A	-	-	(2) 1-5/8 COAX (LENGTH 210' ±)	(E) (1) RAYCAP DC6-48-60-18-8C
B2	EXISTING	LTE 700 DE/PCS	QS66512-2	72.0X12.0X9.6	±165'	120°	(E)(G)(2) CCI TPX-070821	(E)(G)(1) RRUS-E2 B29 (700) (E)(1) RRUS-32 B2 (PCS)	-	(2) 1-5/8 COAX (LENGTH 210' ±)	
B3	EXISTING	LTE 700 B14/WCS	SBNHH-1D65A	55X11.85X7.1	±165'	120°	-	(P)(1) 4478 B14 (700) (E)(1) RRUS-32	18.1X13.4X8.3	-	
B4	PROPOSED	LTE 700BC /850/AWS	800-10965	78.7X20X6.9	±165'	120°	-	(P)(1) 4449 B5/B12 (700BC/850) (E)(1) RRUS-32	18.1X13.4X9.5	-	
C1	EXISTING	UMTS 850	7770	55X11X5	±165'	270°	(E)(G)(2) POWERWAVE LGP13519 (1)(E) CCI DTMABP7819VG12A	-	-	(2) 1-5/8 COAX (LENGTH 210' ±)	(P) (1) RAYCAP DC6-48-60-18-8C
C2	EXISTING	LTE 700 DE/PCS	QS66512-2	72.0X12.0X9.6	±165'	270°	(E)(G)(2) CCI TPX-070821	(E)(G)(1) RRUS-E2 B29 (700) (E)(1) RRUS-32 B2 (PCS)	-	(2) 1-5/8 COAX (LENGTH 210' ±)	
C3	EXISTING	LTE 700 B14/WCS	SBNHH-1D65A	55X11.85X7.1	±165'	270°	-	(P)(1) 4478 B14 (700) (E)(1) RRUS-32	18.1X13.4X8.3	-	
C4	PROPOSED	LTE 700BC /850/AWS	800-10965	78.7X20X6.9	±165'	270°	-	(P)(1) 4449 B5/B12 (700BC/850) (E)(1) RRUS-32	18.1X13.4X9.5	-	



PROPOSED LTE ANTENNA & RRH MOUNTING DETAIL 2
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"
A-3

RRU CHART				
QUANTITY	MODEL	L	W	D
3(E)(G)	RRUS-E2	20.4"	18.5"	7.5"
9(E)	RRUS-32	27.2"	12.1"	7.0"
3(P)	4478	18.1"	13.4"	8.3"
3(P)	4449	18.1"	13.4"	9.5"

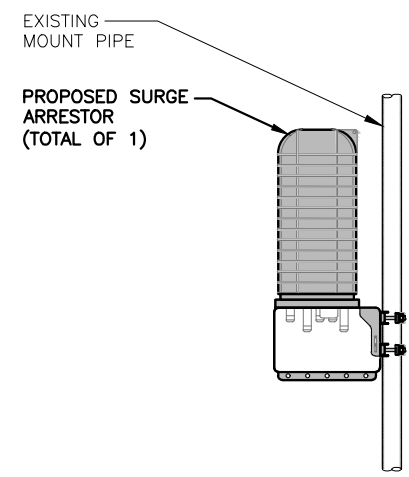
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER

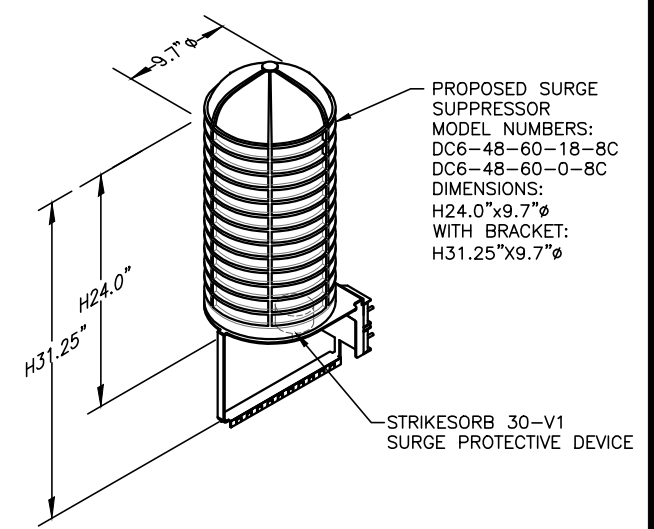
PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED RRUS DETAIL 3
SCALE: N.T.S.
A-3



PROPOSED SURGE ARRESTOR MOUNTING DETAIL 4
SCALE: N.T.S.
A-3



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL 5
SCALE: N.T.S.
A-3

HG HUDSON Design Group LLC
45 BEECHWOOD DRIVE NORTH ANDOVER, MA 01845
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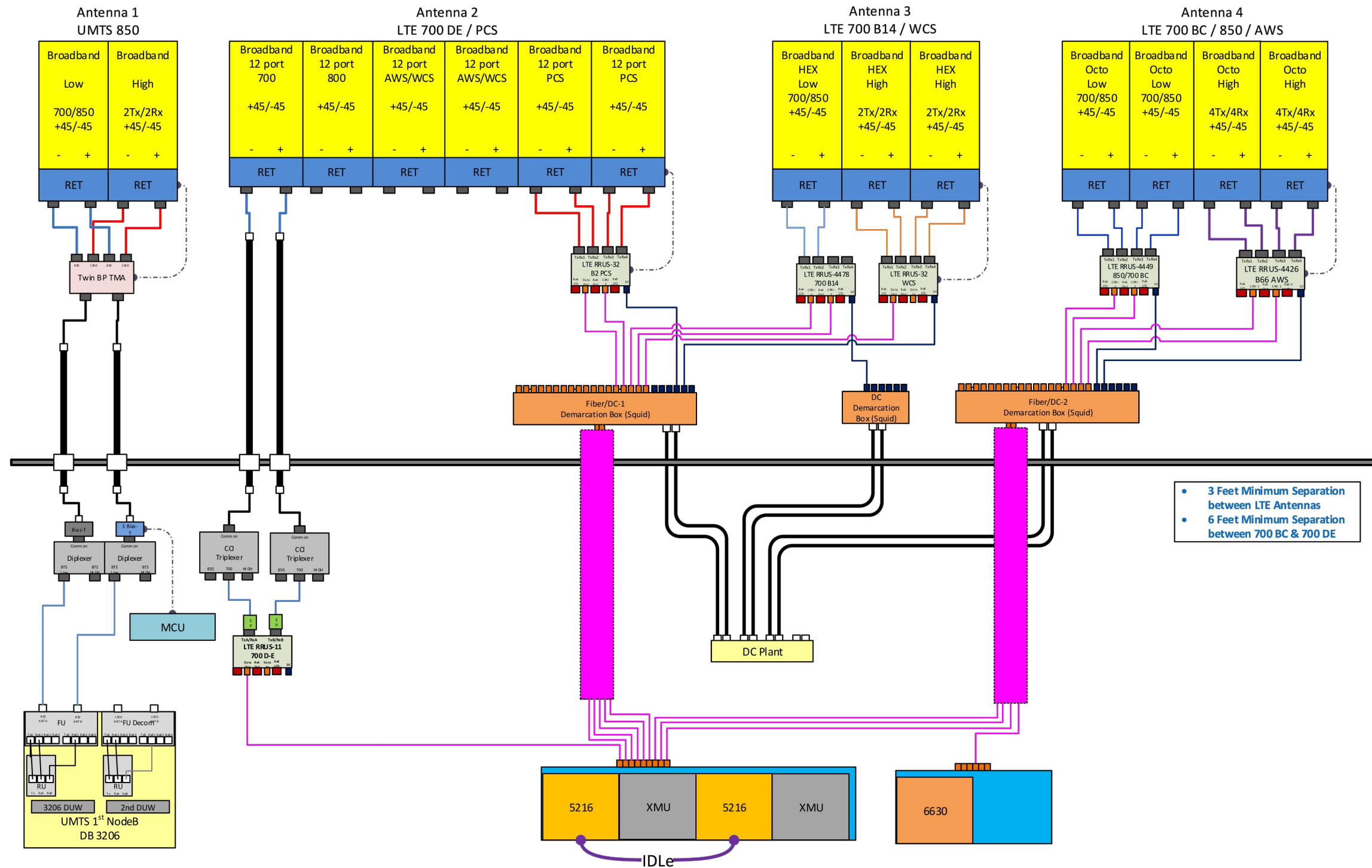
CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET., SUITE #301 WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT5093
SITE NAME: BRIDGEPORT BEARDSLEY
1320 CHOPSEY HILL ROAD BRIDGEPORT, ME 06606 FAIRFIELD COUNTY

at&t
550 COCHITUATE ROAD FRAMINGHAM, MA 01701

Professional Engineer Seal: DEREK J. BREASER, No. 2335, State of Connecticut.
REVISIONS: A 01/16/19 ISSUED FOR PERMITTING
SCALE: AS SHOWN DESIGNED BY: AT DRAWN BY: ET

AT&T
DETAILS (LTE 7C/5G/4TX4RX)
SITE NUMBER: CT5093 DRAWING NUMBER: A-3 REV: A



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

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.

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

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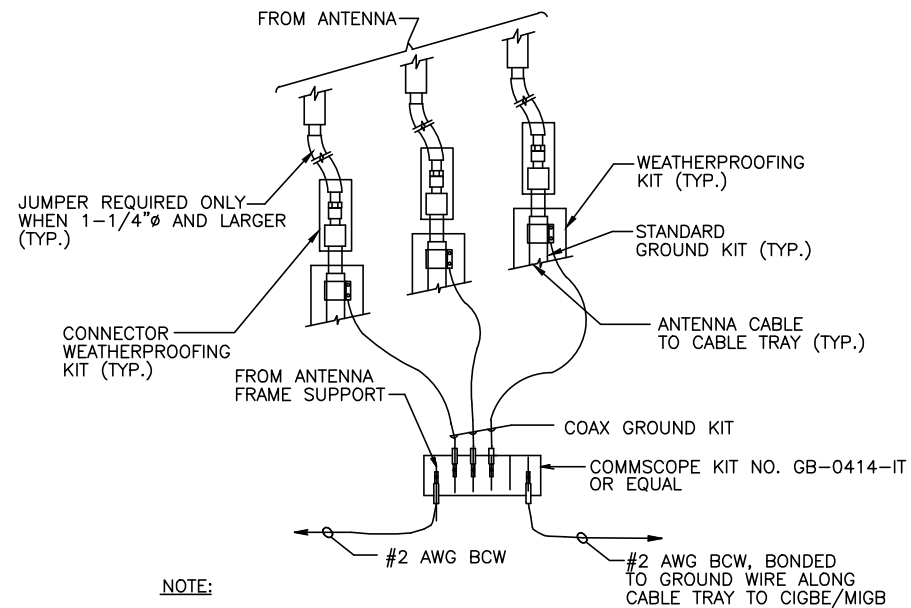
at&t
 550 COCHITUATE ROAD
 FRAMINGHAM, MA 01701

STATE OF CONNECTICUT
DEREK J. CREASER
 LICENSED PROFESSIONAL ENGINEER
 16.2235

NO.	DATE	ISSUED FOR PERMITTING	BY	CHK	APP'D
A	01/16/19	ISSUED FOR PERMITTING	ET	AT	DJP
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: ET		

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RF PLUMBING DIAGRAM
(LTE 7C/5G/4TX4RX)

SITE NUMBER	DRAWING NUMBER	REV
CT5093	RF-1	A

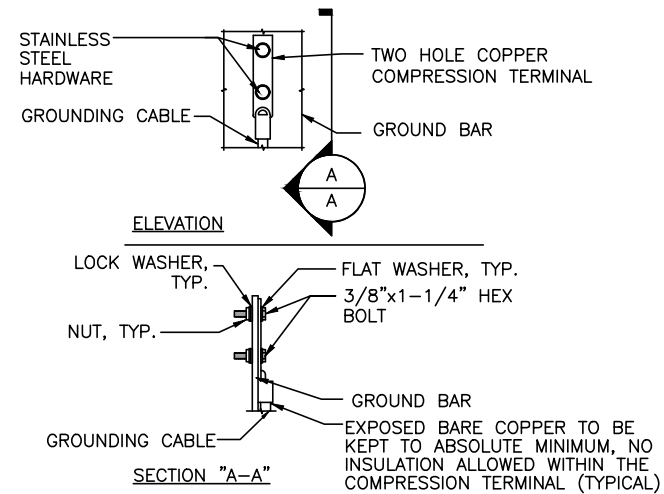


NOTE:
 1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

GROUND WIRE TO GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

1
G-1

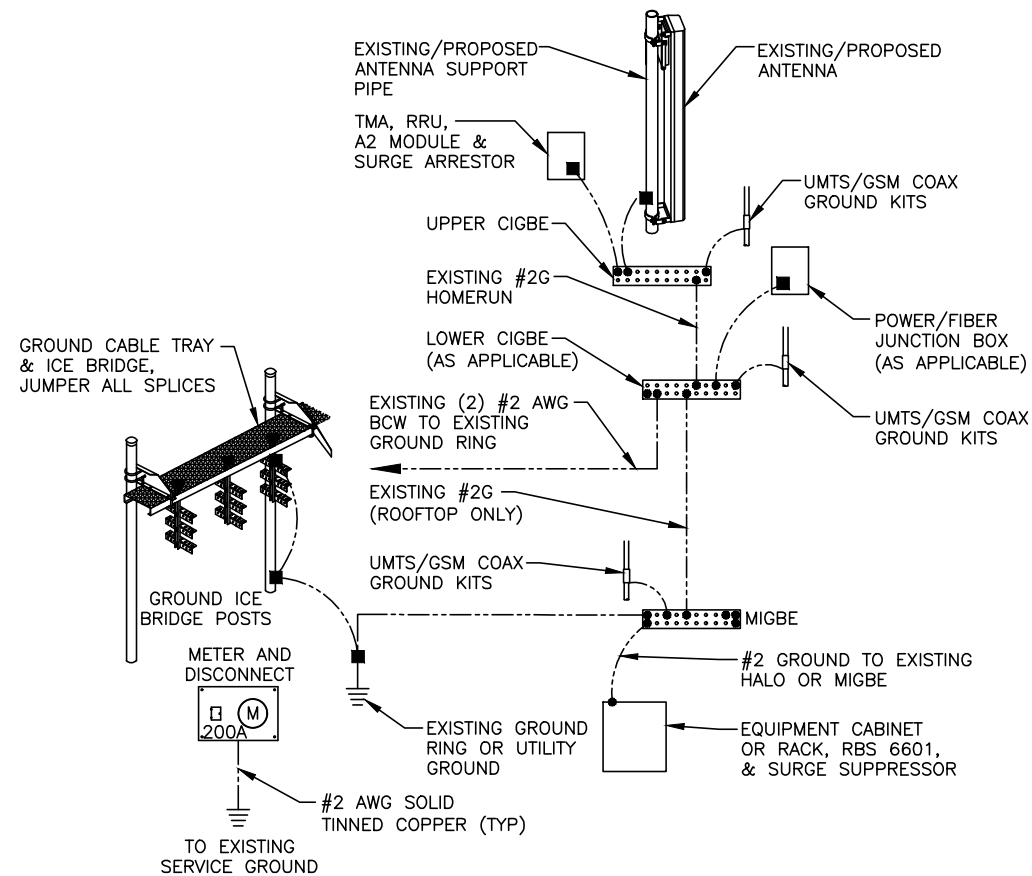


NOTE:
 1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
 2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATION.
 3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB

TYPICAL GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

3
G-1



GROUNDING RISER DIAGRAM

SCALE: N.T.S

2
G-1

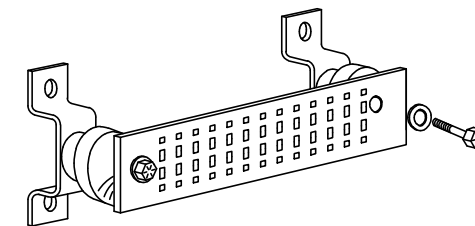
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

- CABLE ENTRY PORTS (HATCH PLATES) (#2)
- 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

SCALE: N.T.S

4
G-1

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NO.		DATE		REVISIONS				BY		CHK		APP'D		SITE NUMBER		DRAWING NUMBER		REV			
A		01/16/19		ISSUED FOR PERMITTING				ET		AT		DJO		CT5093		G-1		A			
SCALE: AS SHOWN				DESIGNED BY: AT				DRAWN BY: ET				GROUNDING DETAILS (LTE 7C/5G/4TX4RX)									