



HPC Wireless Services  
46 Mill Plain Rd.  
Floor 2  
Danbury, CT, 06811  
P.: 203.797.1112

July 22, 2014

VIA EMAIL AND OVERNIGHT DELIVERY

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

RE: Sprint Spectrum, L.P. – Notice of Exempt Modification  
1330 Chopsey Hill Road (aka 1000 Trumbull Avenue and 1280 Chopsey Hill Road),  
Bridgeport, CT

Dear Ms. Bachman:

This letter and attachments are submitted on behalf of Sprint Spectrum, L.P. (“Sprint”). Sprint is undertaking modifications to certain existing sites in its Connecticut network in order to implement updated technology. In order to do so, Sprint will modify antenna and equipment configurations at a number of existing sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the Mayor of Bridgeport.

Sprint plans to modify the existing facility at 1330 Chopsey Hill Road, owned by Global Tower Partners (coordinates 41°13’10”N, -73°12’08”W). Attached are drawings depicting the planned changes, and documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration. Also included is a power density calculation reflecting the modification to Sprint’s operations at the site.

The changes to the facility do not constitute a modification as defined in Connecticut General Statutes (“C.G.S.”) Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

1. The height of the overall structure will be unaffected. Sprint proposes to add three (3) antennas and three (3) remote radio heads, all at a centerline height of approximately 180’ above the tower base. Additionally, Sprint will install one (1) new hybrid cable along the existing ice bridge to the tower.

Boston

Albany

Buffalo

Danbury

Philadelphia

Raleigh

Atlanta

2. The proposed changes will not extend the site boundaries. Sprint will install additional batteries and new rectifiers in existing cabinets. Thus, there will be no effect on the site compound or Sprint's leased area.

3. The proposed changes will not increase the noise level at the existing facility by six decibels or more. The incremental effect of the proposed changes will be negligible.

4. The changes to the facility will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site. As indicated in the attached power density calculations, Sprint's operations at the site will result in a power density of 2.68%; the combined site operations will result in a total power density of 40.67%.

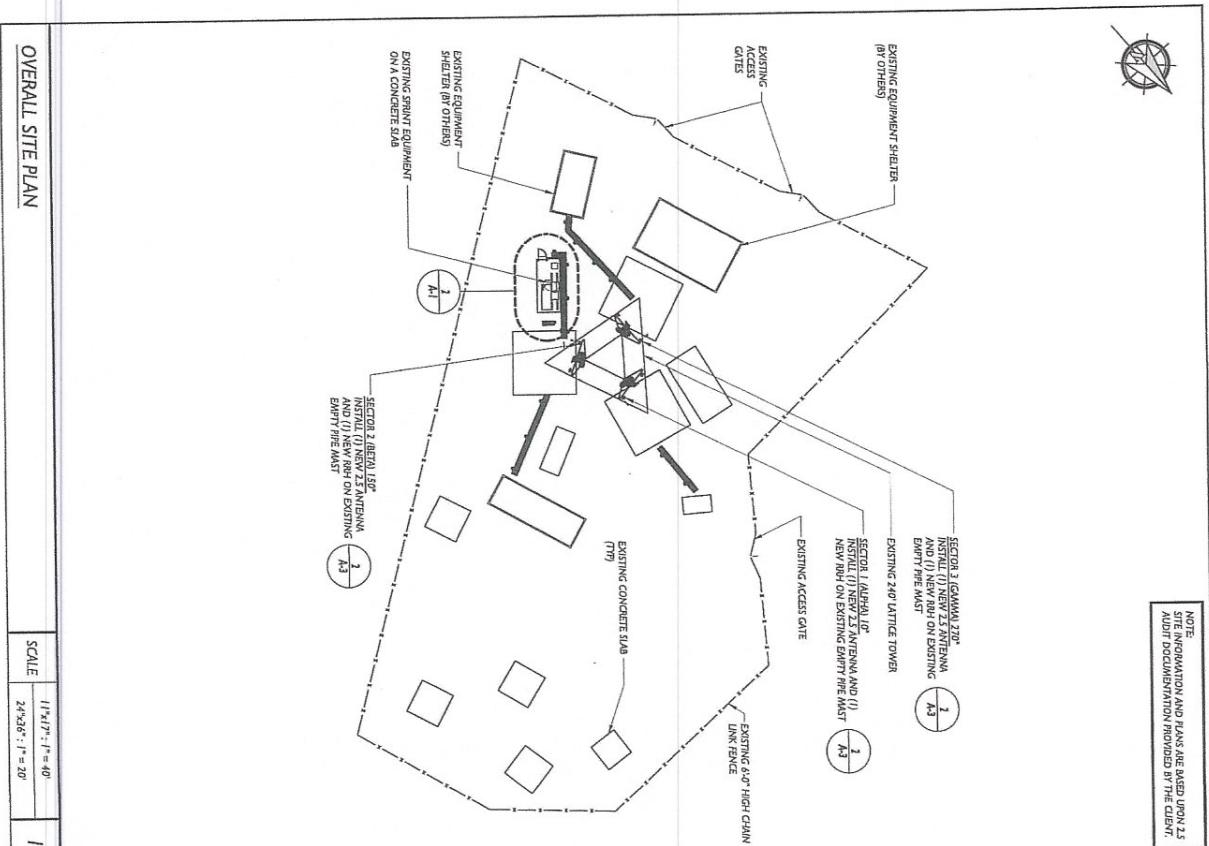
Please feel free to call me with any questions or concerns regarding this matter. Thank you for your consideration.

Respectfully submitted,

By:   
Eric Dahl, Consultant  
[edahl@comcast.net](mailto:edahl@comcast.net)  
860-227-1975

Attachments

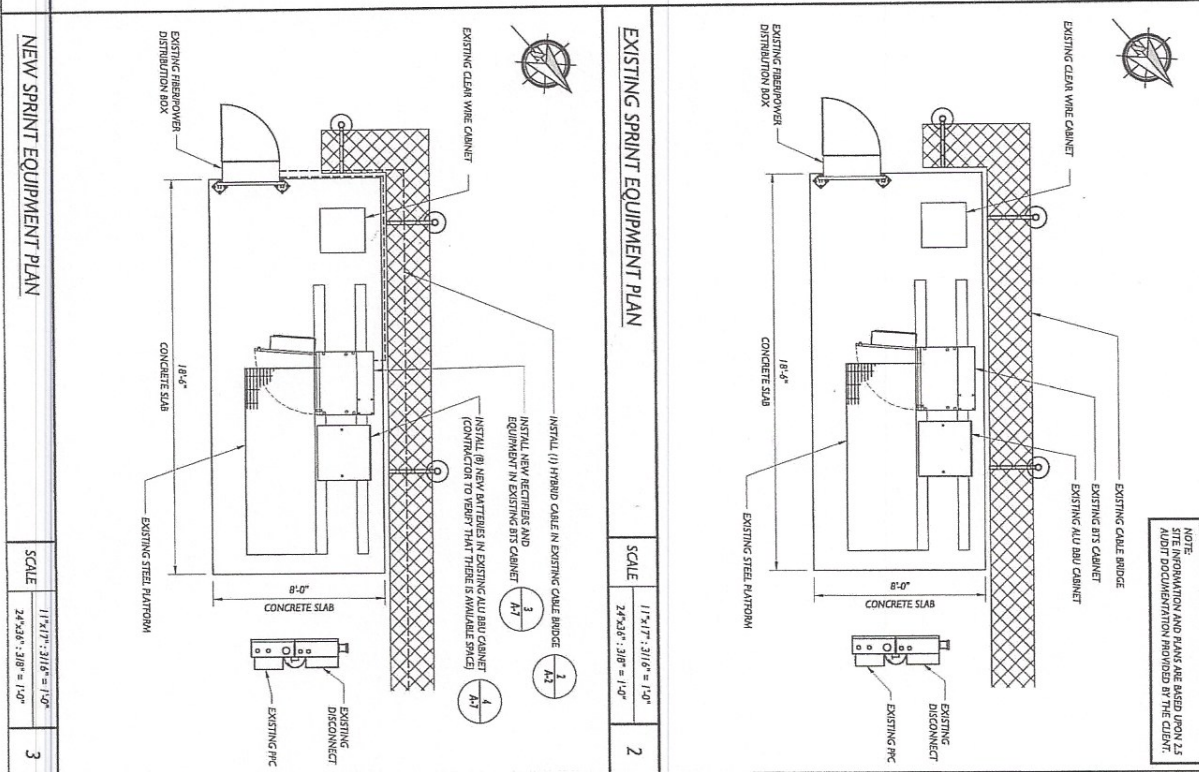
cc: Honorable Bill Finch, Mayor, City of Bridgeport  
Cell Tower Lease Acquisition LLC, Property Owner



NOTE:  
 INFORMATION AND PLANS ARE BASED UPON 2.5  
 SITE DOCUMENTATION PROVIDED BY THE CLIENT.

OVERALL SITE PLAN

SCALE  
 $1/4" = 20'$   
 $1/8" = 10'$



NOTE:  
 INFORMATION AND PLANS ARE BASED UPON 2.5  
 SITE DOCUMENTATION PROVIDED BY THE CLIENT.

NEW SPRINT EQUIPMENT PLAN

SCALE  
 $1/4" = 36"$   
 $1/8" = 18"$

SPRINT SPRINT PARKWAY  
 OVERLAND PARK, KANSAS 66251  
 (817) 458-7488

A SAKON DESIGN GROUP  
 2400 BROADWAY  
 FORT PIERRE, SD 57501

ENGINEER'S LICENSE  
**MICHAEL L. BOHLINGER**

SCALE  
 PROFESSIONAL ENGINEER  
 CONNECTICUT LICENSE NO. 20105

PROJ/FREQ/CT: ASDCSP 10  
 CLIENT P.N.: C100XC235  
 DESIGN TYPE: 2.5 GHz

SITE REVISIONS:  
 CHOPEY HILL ROAD  
 1780 CHOPEY HILL ROAD  
 BRIDGEPORT, CT 06606

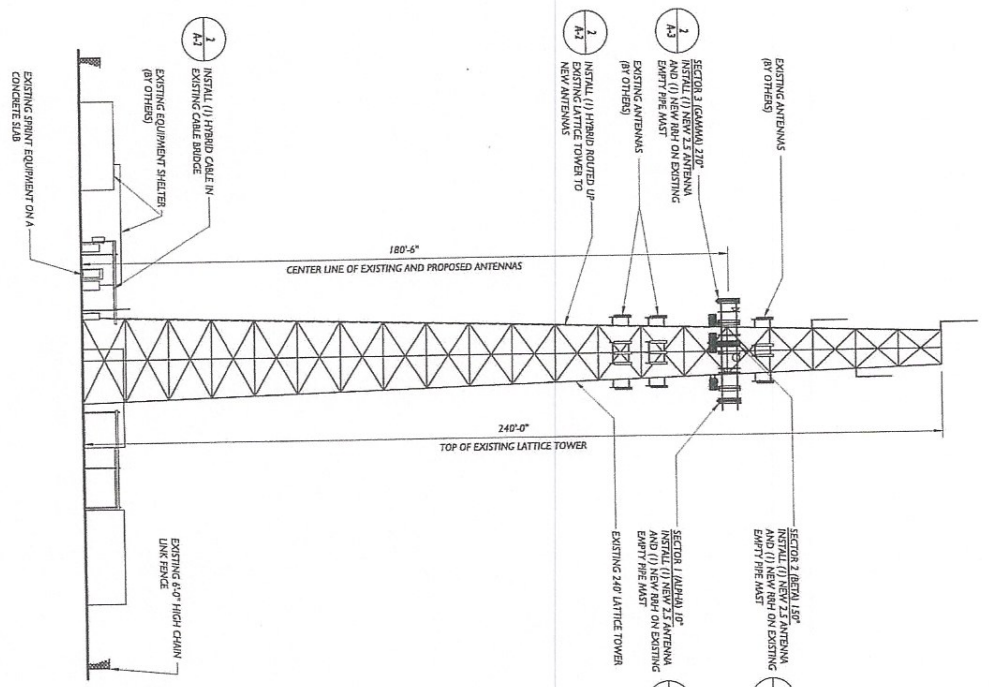
EXAMINER TITLE: SITE PLAN

APPROVAL/STAMP  
 DATE: 3/14/12  
 EXAMINER: ASDCSP 10  
 EXAMINING FIRM: A-1  
 CHK BY:

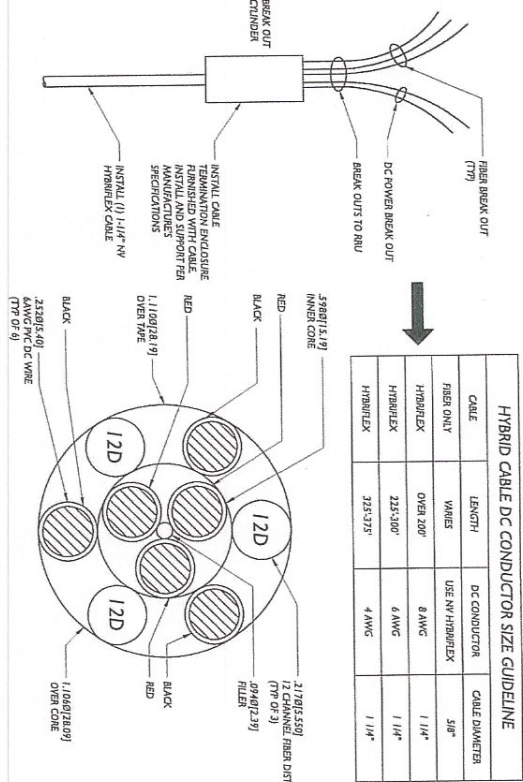
REV.	DATE	REVISION	ISSUED BY
1	3/14/12	PROJ. APPROVAL	ASDCSP 10
2			
3			

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NOTE:  
SITE INFORMATION AND PLAN ARE BASED UPON 2.5  
METER DEMONSTRATION PROVIDED BY THE CLIENT.



SITE ELEVATION  
SCALE 1/4" = 1'-0" VNTS  
1/4" = 3'-0" HNTS  
1



HYBRID BREAK OUT DETAIL  
SCALE 1/4" = 1'-0" VNTS  
24" = 3'-0" HNTS  
2



6900 SPRINT PARKWAY  
OVERLAND PARK, MISSOURI 66207  
(817) 458-7459



A SAKSON DESIGN GROUP  
1000 WEST 100TH STREET  
OVERLAND PARK, MISSOURI 66204

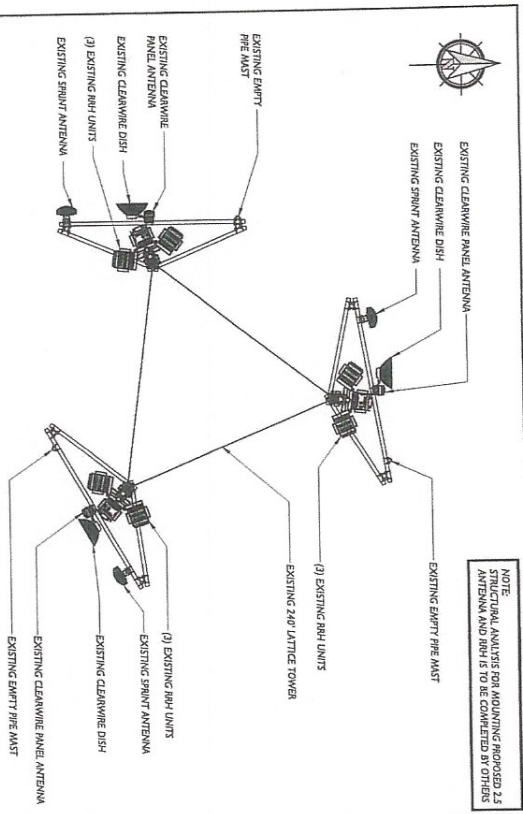
ENGINEER'S LICENSE  
MICHAEL L. BOHLINGER

PROFESSIONAL ENGINEER  
CONNECTICUT LICENSE NO. 20405  
ASDCSP 10  
CT03XC325  
2.5 GHz

CLIENT NO. ASDCSP 10  
PROJECT NO. CT03XC325  
DATE: 2.5 GHz  
SITE INFORMATION:  
CHOPSEY HILL ROAD  
1280 CHOPSEY HILL ROAD  
BRIDGEPORT, CT 06606

DRAWING TITLE  
SITE ELEVATION  
AND CABLE PLAN  
DRAWN BY: [Name]  
CHECKED BY: [Name]  
DATE: 3/31/14  
SCALE: A-2

THIS DRAWING AND THE DATA AND LOGS INCORPORATED HEREIN AS A INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF A SAKSON DESIGN GROUP, LLC AND ARE NOT TO BE REPRODUCED, COPIED, OR USED IN ANY MANNER, FOR ANY OTHER PROJECTS WITHOUT THE WRITTEN AUTHORIZATION OF A SAKSON DESIGN GROUP, LLC. IF YOU ARE A CLIENT OF A SAKSON DESIGN GROUP, LLC, YOU MAY BE SUBJECT TO THE TERMS AND CONDITIONS OF YOUR CONTRACT WITH SAKSON DESIGN GROUP, LLC. IF YOU ARE NOT A CLIENT OF A SAKSON DESIGN GROUP, LLC, YOU MAY BE SUBJECT TO THE TERMS AND CONDITIONS OF THE SAKSON DESIGN GROUP, LLC. SAKSON DESIGN GROUP, LLC IS NOT RESPONSIBLE FOR ANY ASPECTS OF THESE DRAWINGS UNLESS THEY HAVE THE APPROVAL OF THE LICENSED PROFESSIONAL BY THESE.



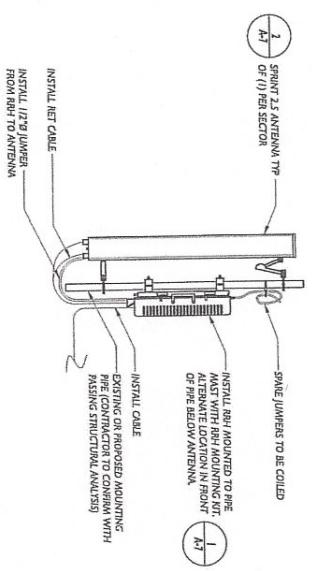
NOTE: STRUCTURAL ANALYSIS FOR MOUNTING PROPOSED 2.5 ANTENNA AND DISH IS TO BE COMPLETED BY OTHERS

EXISTING ANTENNA PLAN

SCALE	1 1/4" = 1'-0"
SCALE	2 1/4" = 1'-0"

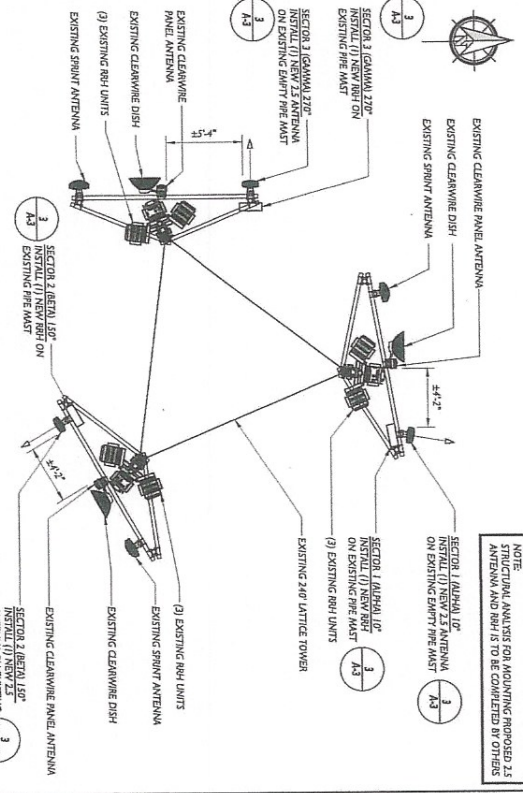
NOTE:  
 1. CONDUCTORS TO LENGTH.  
 2. COIL FIBER CABLE AND SECURE TO SIDE OF RHL.  
 3. DO NOT EXCEED BAND WIDTHS. ANTENNA CAN NOT EXCEED 15' HEIGHT FROM TOP OF ANY DISCRENC.

NOTE:  
 STRUCTURAL ANALYSIS FOR MOUNTING PROPOSED 2.5 ANTENNA AND RRH IS TO BE COMPLETED BY OTHERS



ANTENNA AND RRH MOUNTING DETAIL

SCALE	1 1/4" = 1'-0"
SCALE	2 1/4" = 1'-0"



NOTE: STRUCTURAL ANALYSIS FOR MOUNTING PROPOSED 2.5 ANTENNA AND RRH IS TO BE COMPLETED BY OTHERS

PROPOSED ANTENNA PLAN

SCALE	1 1/4" = 1'-0"
SCALE	2 1/4" = 1'-0"

6580 SPRINT PARKWAY  
OVERLAND PARK, MISSOURI 66251  
(317) 584-9450

ASAT DESIGN GROUP  
12000 N. RIVERVIEW BLVD  
SUITE 100  
OVERLAND PARK, MO 66213

ENGINEER'S LICENSE  
MICHAEL L. BOHLINGER

PROFESSIONAL ENGINEER  
CONNECTICUT LICENSE NO. 20405

ASDCSP 10  
CT03XC325  
2.5 GHz

CHOPSEY HILL ROAD  
1280 CHOPSEY HILL ROAD  
BRIDGEPORT, CT 06606

DATE: 3/14  
DRAWN BY: ASAT  
CHECKED BY: CB  
SCALE: AS3

REV	DATE	REVISION	BY
01	03/14	ASAT	ASAT
02	03/14	ASAT	ASAT
03	03/14	ASAT	ASAT
04	03/14	ASAT	ASAT



**AMERICAN TOWER®**  
CORPORATION

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## Structural Analysis Report

**Structure** : 240 ft Self Supported Tower  
**GTP Site Name** : Tartaglia, CT  
**GTP Site Number** : CT-5035  
**Engineering Number** : N/A  
**Proposed Carrier** : Sprint Nextel  
**Carrier Site Name** : Tartaglia  
**Carrier Site Number** : CT03XC325  
**Site Location** : 1000 Trumbull Avenue  
Bridgeport, CT 06606  
41.21884900, -73.20170100  
**County** : Fairfield  
**Date** : June 27, 2014  
**Max Usage** : 99%  
**Result** : Pass

Robert D. Barrett, E.I.  
Structural Engineer I

*Robert D. Barrett*



Eng. Number N/A  
June 27, 2014

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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 Sprint Nextel.

## Supporting Documents

<b>Tower Drawings</b>	Rohn Drawing #C880400RI, dated March 3, 1988
<b>Foundation Drawing</b>	Rohn Drawing #A880341-1, dated January 28, 1988
<b>Geotechnical Report</b>	Soiltesting Job #G96-1987-87, dated January 6, 1988
<b>Modifications</b>	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/EIA-222.

<b>Basic Wind Speed:</b>	85 mph (Fastest Mile)
<b>Basic Wind Speed w/ Ice:</b>	74 mph (Fastest Mile)w/ 1/2" radial ice concurrent
<b>Code:</b>	ANSI/TIA/EIA-222-F / 2003 IBC , Sec. 1609.1.1, Exception (5) & Sec. 3108.4 w/ 2005 CT Supplement & 2009 CT Amendment

## 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](mailto: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 <sup>1</sup> (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
240.0	240.0	1	Beacon	Leg	(1) 1" Conduit (1) 1 1/4" Coax	-
		1	10' Omni			
		-	-	Empty Side Arm		
230.0	230.0	2	8' Omni	Side Arms	(2) 7/8" Coax	-
223.0	223.0	1	12' Omni	Side Arm	(1) 1 1/4" Coax	
212.0	212.0	6	Andrew HBX-6516DS-VTM	Sector Frames	(12) 1 5/8" Coax	
202.0	202.0	3	Ericsson KRY 112 144-1	Sector Frames	(12) 1 5/8" Coax (1) 1 5/8" Hybrid	T-Mobile
		3	Ericsson AIR21 B4A B2P			
		3	Ericsson AIR21 B2A B4P			
196.0	196.0	1	3' Yagi	Leg	(1) 7/8" Coax	-
187.0	187.0	2	2' HP Dish	Pipe	(4) 1/2" Coax	Clearwire
		1	Andrew VHLP800-11-DW1			
180.6	180.6	1	PCTEL GPS-TMG-HR-26NCM	Sector Frames	(2) 2" Conduit (3) 1 1/4" Hybriflex (3) 1/2" Ethernet (6) 5/16" Coax	Sprint Nextel
		3	DragonWave A-ANT-11G-2C			
		3	Samsung DAP Heads			
		3	Argus LLPX310R			
		3	Alcatel-Lucent 800 MHz 2/50W			
		6	Alcatel-Lucent 1900 MHz 2x40W			
		1	RFS APXV9ERR18-C-A20			
		2	RFS APXVSP18-C-A20			
		2	Andrew 950F65T4E-M			
174.0	174.0	4	5' x 5" x 2" Panel	Leg	(6) 1 5/8" Coax	-
		1	20' Omni			
164.0	164.0	6	Ericsson RRUS A2 Module	Sector Frames	(1) 1 1/4" Coax  (6) 0.64" Fiber (6) 1 5/8" Coax (1) 3/8" Coax (1) 0.39" Fiber Trunk	AT&T Mobility
		3	Ericsson RRUS-32			
		3	Ericsson RRUS-E2			
		6	Ericsson RRUS-12			
		6	Ericsson RRUS-11			
		3	Powerwave TT19-08BP111-001			
		9	CCI HPA-65R-BUU-H6			
		3	Raycap DC6-48-60-18-8F			
		3	Powerwave 7020 RET			
		3	Powerwave 7770			
		1	RFS DB T1 6Z 8B OZ			
155.0	155.0	3	Alcatel-Lucent ALU 2X40 LTE	Sector Frames	(12) 1 5/8" Coax (1) 1 5/8" Hybrid	Verizon Wireless
		3	Alcatel-Lucent ALU 2X40 AWS			
		6	RFS FD9R6004/2C-3L			
		3	Antel BXA-171063/8BF			
		3	Antel BXA-80063/6BF			
		3	Antel BXA-70063/6CF			
		3	Ryma MG D-800TO			



**Existing and Reserved Equipment**

140.0	140.0	3	Small Side Lights	Leg	(1) 1" Conduit	-
118.0	118.0	1	10' Omni	Side Arm	(1) 7/8" Coax	
108.0	108.0	1	10' Omni	Side Arm	(1) 1 1/4" Coax	
80.0	80.0	-	-	Empty Side Arm	-	
22.0	22.0	1	3' Dish	Pipe	(1) CAT5	
20.0	20.0	1	GPS	Leg	(1) 1/2" Coax	Verizon Wireless
8.0	8.0	1	GPS	Side Arm	(1) 1/2" Coax	T-Mobile

**Equipment to be Removed**

Elevation <sup>1</sup> (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
No loading considered as to be removed						

**Proposed Equipment**

Elevation <sup>1</sup> (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
180.6	180.6	3	RFS APXVTM14-C-120	Sector Frames	(1) 1.625" Hybrid	Sprint Nextel
		3	Alcatel-Lucent TD-RRH8x20-25			

<sup>1</sup>Mount 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 Sprint Nextel coax.



**Structure Usages**

Structural Component	Controlling Usage	Pass/Fail
Legs	51%	Pass
Diagonals	99%	Pass
Horizontals	95%	Pass
Anchor Bolts	54%	Pass
Leg Bolts	42%	Pass

**Foundations**

Reaction Component	Original Design Reactions	Analysis Reactions	% of Design
Uplift (Kips)	381.1	275.0	72%
Axial (Kips)	452.6	338.2	75%
Shear (Kips)	52.6	48.2	92%

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)	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
180.6	0.160	0.004	0.069

\*Deflection, Twist and Sway was evaluated considering a design wind speed of 50 mph (Fastest Mile) per ANSI/TIA/EIA-222-F.



### Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to ATC Tower Services, Inc. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

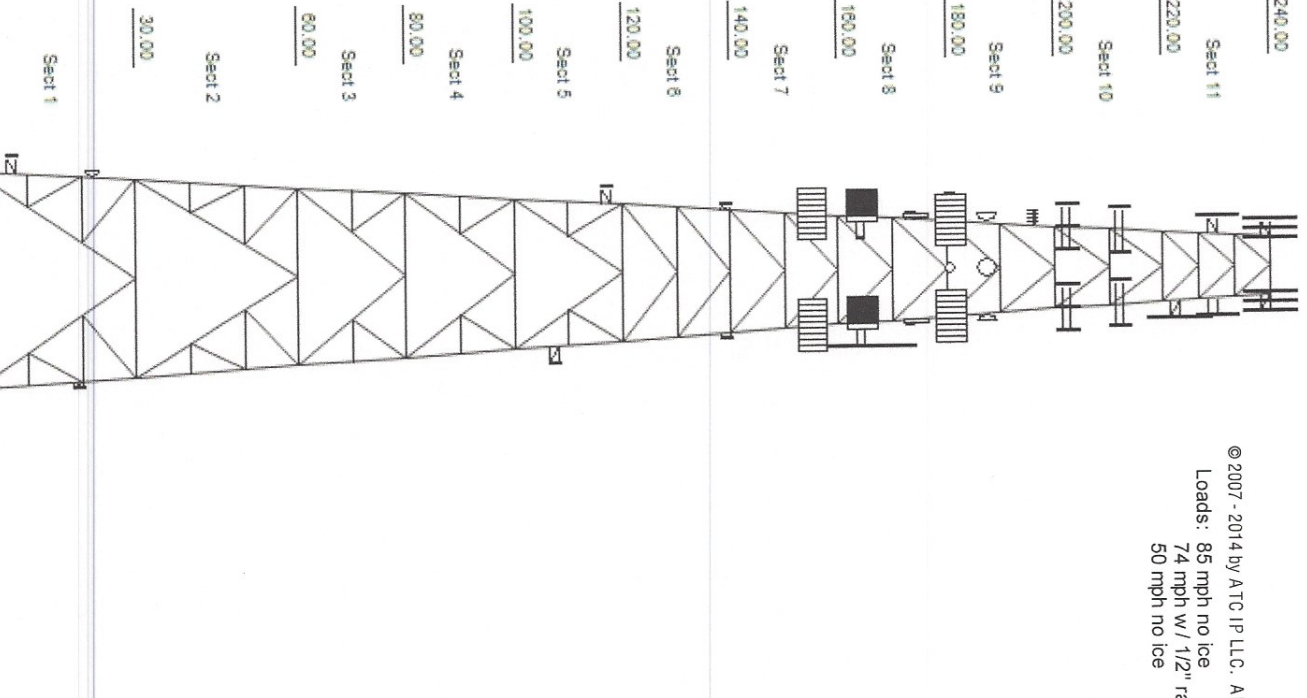
All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Tower Services, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

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Loads: 85 mph no ice  
50 mph w/ 1/2" radial ice

Job Information		
Tower : CT-5035	Location : Tartaglia, CT	Base Width : 40.33 ft
Code : TIA/EIA-222 Rev F	Shape : Triangle	Top Width : 10.93 ft
Client : Sprint Nextel		

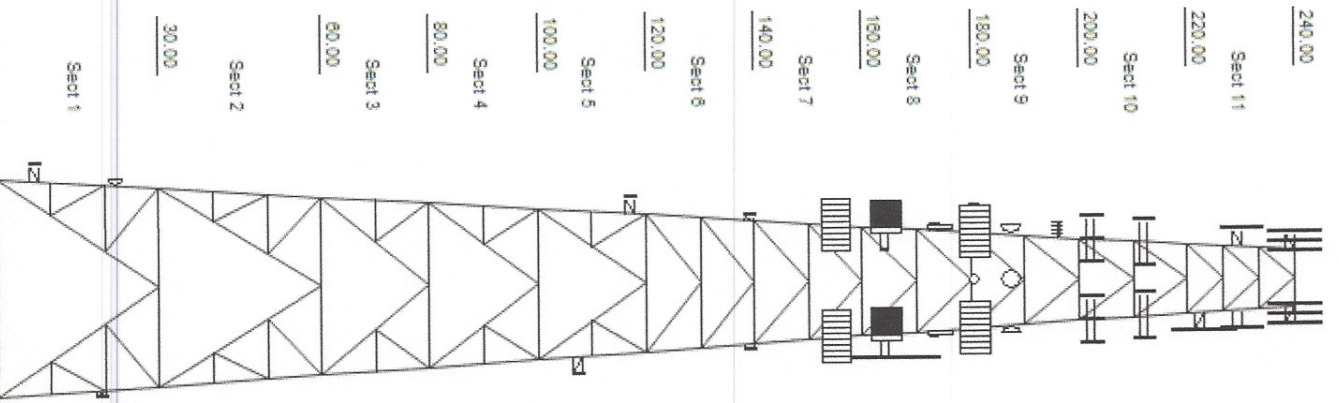
Sections Properties			
Section	Leg Members	Diagonal Members	Horizontal Members
1	PX 50 ksi	PST 50 ksi 3" DIA PIPE	PST 50 ksi 3-1/2" DIA PIPE
2 - 3	PX 50 ksi	PST 50 ksi 3" DIA PIPE	PST 50 ksi 3" DIA PIPE
4	PX 50 ksi	PST 50 ksi 3" DIA PIPE	PST 50 ksi 3" DIA PIPE
5	PX 50 ksi	PST 50 ksi 2-1/2" DIA PIPE	PST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



Uplift: 214.98 k Moment: 10,174.01 Moment Ice: 10,057.35 k-ft  
 Vert: 338.21 k Tot Down: 89.28 k Tot Down Ice: 131.28 k  
 Horiz: 48.17 k Tot Shear: 81.34 k Tot Shear Ice: 76.35 k

Ele v	Type	Qty	Description
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	1	8" Omni
230.00	Whip	1	8" Omni
230.00	Whip	1	8" Omni
230.00	Whip	1	8" Omni
230.00	Straight Arm	1	Round Side Arm
223.00	Straight Arm	1	Round Side Arm
223.00	Whip	1	12" Omni
212.00	Mounting Frame	3	Round Sector Frame
212.00	Panel	6	Andrew HBX-6516DS-VTM
202.00	Panel	3	Ericsson KRY 112 144-1
202.00	Panel	3	Ericsson MR21 B4A B2P
202.00	Panel	3	Ericsson MR21 B2A B4P
202.00	Mounting Frame	3	Round Sector Frame
196.00	Yagl	3	3" Yagl
187.00	Dish	2	2" HP Dish
180.60	Dish	1	Andrew VHL/P800-11-DW/1
180.60	Panel	3	RFS APXVTM14-C-120
180.60	Panel	3	Alcatel-Lucent TD-RRH8x20-25
180.60	Panel	1	PCTEL GPS-TMG-HR-28NC/M
180.60	Dish	3	DragonWave A-AMT-11G-2C
180.60	Panel	3	Samsung DAP Heads
180.60	Panel	3	Acqus LLPX310R
180.60	Panel	6	Alcatel-Lucent 800 MHz 2/50W
180.60	Panel	6	Alcatel-Lucent 1900 MHz 2x40W
180.60	Panel	1	RFS APXVSP18-C-420
180.60	Panel	2	Flat Light Sector Frame
174.00	Mounting Frame	2	Andrew 950F6574E-M
174.00	Panel	4	5' x 5" x 2" Panel
164.00	Panel	4	Ericsson RRU5 11
164.00	Panel	2	Raycap DC6-48-60-18-9F
164.00	Panel	6	Ericsson RRU5 A2 Module
164.00	Panel	3	Ericsson RRU5-32
164.00	Panel	3	Ericsson RRU5-E2
164.00	Panel	6	Ericsson RRU5-12
164.00	Panel	3	Powerwave TT19-08BP111-001
164.00	Panel	9	CCI HPA-6SR-BU-UH6
164.00	Panel	1	Raycap DC6-48-60-18-9F
164.00	Panel	3	Powerwave 7020 RET
164.00	Panel	3	Powerwave 7770
164.00	Mounting Frame	3	Round Sector Frame
164.00	Whip	1	20" Omni
164.00	Whip	1	RFS DB T1 6Z 9B OZ
155.00	Panel	3	Alcatel-Lucent ALU 2X40 LTE
155.00	Panel	3	Alcatel-Lucent ALU 2X40 AWS
155.00	Panel	6	RFS FD9R6004/2C-3L
155.00	Panel	3	Antel BXA-171063/8BF
155.00	Panel	3	Antel BXA-80063/6BF

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Uplift 274.58 k Moment 10,774.01 k-ft  
 Vert 338.21 k Tot Down 89.28 k Tot Down Ice 131.26 k-ft  
 Horiz 48.17 k Tot Shear 81.34 k Tot Shear Ice 76.38 k-ft

Job Information			
Tower : CT-5035	Location : Tartaglia, CT	Base Width : 40.33 ft	
Code : TIA/EA-222 Rev F	Shape : Triangle	Top Width : 10.93 ft	
Client : Sprint Nextel			

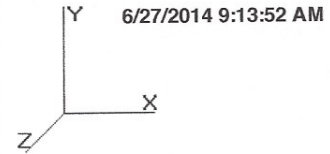
Elev (ft)	From	To	Qty	Description
155.00	Panel	155.00	3	Antel BXA-70063/6CF
155.00	Panel	155.00	3	Ryma MG D-80070
155.00	Mounting Frame	155.00	3	Flat Light Sector Frame
140.00	Whip	140.00	3	Small Side Lights
118.00	Whip	118.00	1	Round Side Arm
118.00	Whip	118.00	1	10' Omni
108.00	Whip	108.00	1	Round Side Arm
108.00	Whip	108.00	1	10' Omni
80.00	Whip	80.00	1	Empty Round Side Arm
22.00	Dish	22.00	1	3' Dish
20.00	Whip	20.00	1	GPS
8.00	Whip	8.00	1	Round Side Arm
8.00	Whip	8.00	1	GPS

**Linear Appurtenance**

Elev (ft)	From	To	Qty	Description
0.000	240.00	240.00	1	1" Conduit
0.000	240.00	240.00	1	1/4" Coax
0.000	230.00	230.00	2	7/8" Coax
0.000	223.00	223.00	1	1/4" Coax
0.000	212.00	212.00	1	Waveguide
0.000	212.00	212.00	12	1/2" Coax
0.000	202.00	202.00	1	Waveguide
0.000	202.00	202.00	1	1/2" Hybrid
0.000	202.00	202.00	12	1/2" Coax
0.000	196.00	196.00	1	7/8" Coax
0.000	187.00	187.00	4	1/2" Coax
0.000	180.60	180.60	1	Waveguide
0.000	180.60	180.60	6	5/16" Coax
0.000	180.60	180.60	2	2" Conduit
0.000	180.60	180.60	3	1/2" Ethernet
0.000	180.60	180.60	1	1.625" Hybrid
0.000	180.60	180.60	3	1/4" Hybridlex
0.000	174.00	174.00	1	Waveguide
0.000	174.00	174.00	6	1/2" Coax
0.000	164.00	164.00	1	Waveguide
0.000	164.00	164.00	1	3/8" Coax
0.000	164.00	164.00	6	1/2" Coax
0.000	164.00	164.00	1	1/4" Coax
0.000	164.00	164.00	4	0.64" Fiber Cable
0.000	164.00	164.00	2	0.39" Fiber Trunk
0.000	164.00	164.00	1	Waveguide
0.000	155.00	155.00	1	Waveguide
0.000	155.00	155.00	1	1.58" Hybrid
0.000	155.00	155.00	12	1/2" Coax
0.000	155.00	155.00	1	1.58" Coax
0.000	118.00	118.00	1	7/8" Coax
0.000	108.00	108.00	1	1/4" Coax
22.000	22.000	22.000	1	CATS
0.000	20.000	20.000	1	1/2" Coax
0.000	8.000	8.000	1	1/2" Coax

Site Number: CT-5035  
 Location: Tartaglia, CT

Code: TIA/EIA-222 Rev F



Gh : 1.10

### Section Forces

**LoadCase Normal No Ice**

85.00 mph Wind Normal To Face with No Ice

Allow Stress Inc: 1.333  
 Dead LF: 1.000  
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area	Total Round Area	Ice Round Area	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area	Ice Linear Area	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face			
			(sqft)	(sqft)	(sqft)							(sqft)	(sqft)									
11	230.0	32.21	0.00	45.35	0.00	0.19	2.63	1.00	1.00	0.59	26.69	0.00	0.00	3,829.0	0.0	2,490.51	0.00	2,490.51	1			
10	210.0	31.38	1.75	49.48	0.00	0.18	2.66	1.00	1.00	0.59	30.79	0.00	0.00	4,209.3	0.0	2,828.38	0.00	2,828.38	3			
9	190.0	30.50	5.00	89.74	0.00	0.29	2.33	1.00	1.00	0.61	59.96	0.00	0.00	4,795.1	0.0	4,689.83	0.00	4,689.83	3			
8	170.0	29.55	5.50	95.11	0.00	0.27	2.39	1.00	1.00	0.61	63.14	0.00	0.00	5,863.9	0.0	4,914.90	0.00	4,914.90	3			
7	150.0	28.51	9.38	123.00	0.00	0.31	2.27	1.00	1.00	0.62	85.47	0.00	0.00	6,590.5	0.0	6,101.69	0.00	6,101.69	3			
6	130.0	27.37	10.00	134.03	0.00	0.30	2.29	1.00	1.00	0.62	92.59	0.00	0.00	7,212.5	0.0	6,403.01	0.00	6,403.01	3			
5	110.0	26.09	10.00	128.32	0.00	0.26	2.40	1.00	1.00	0.60	87.63	0.00	0.00	6,360.2	0.0	6,053.17	0.00	6,053.17	3			
4	90.00	24.64	10.00	134.41	0.00	0.25	2.44	1.00	1.00	0.60	90.86	0.00	0.00	7,035.2	0.0	6,020.20	0.00	6,020.20	3			
3	70.00	22.93	10.00	143.04	0.00	0.24	2.46	1.00	1.00	0.60	95.81	0.00	0.00	7,862.1	0.0	5,957.34	0.00	5,957.34	3			
2	45.00	20.21	15.00	213.51	0.00	0.22	2.53	1.00	1.00	0.59	141.94	0.00	0.00	11,433.3	0.0	8,004.54	0.00	8,004.54	3			
1	15.00	18.50	15.00	219.48	0.00	0.20	2.59	1.00	1.00	0.59	144.73	0.00	0.00	12,122.1	0.0	7,625.59	0.00	7,625.59	3			
														77,313.2	0.0			61,089.17				

**LoadCase 60 deg No Ice**

85.00 mph Wind at 60 deg From Face with No Ice

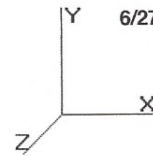
Allow Stress Inc: 1.333  
 Dead LF: 1.000  
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area	Total Round Area	Ice Round Area	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area	Ice Linear Area	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face			
			(sqft)	(sqft)	(sqft)							(sqft)	(sqft)									
11	230.0	32.21	0.00	45.35	0.00	0.19	2.63	0.80	1.00	0.59	26.69	0.00	0.00	3,829.0	0.0	2,490.51	0.00	2,490.51	1			
10	210.0	31.38	1.75	49.48	0.00	0.18	2.66	0.80	1.00	0.59	30.44	0.00	0.00	4,209.3	0.0	2,796.23	0.00	2,796.23	3			
9	190.0	30.50	5.00	89.74	0.00	0.29	2.33	0.80	1.00	0.61	58.96	0.00	0.00	4,795.1	0.0	4,611.61	0.00	4,611.61	3			
8	170.0	29.55	5.50	95.11	0.00	0.27	2.39	0.80	1.00	0.61	62.04	0.00	0.00	5,863.9	0.0	4,829.27	0.00	4,829.27	3			
7	150.0	28.51	9.38	123.00	0.00	0.31	2.27	0.80	1.00	0.62	83.60	0.00	0.00	6,590.5	0.0	5,967.84	0.00	5,967.84	3			
6	130.0	27.37	10.00	134.03	0.00	0.30	2.29	0.80	1.00	0.62	90.59	0.00	0.00	7,212.5	0.0	6,264.70	0.00	6,264.70	3			
5	110.0	26.09	10.00	128.32	0.00	0.26	2.40	0.80	1.00	0.60	85.63	0.00	0.00	6,360.2	0.0	5,915.01	0.00	5,915.01	3			
4	90.00	24.64	10.00	134.41	0.00	0.25	2.44	0.80	1.00	0.60	88.86	0.00	0.00	7,035.2	0.0	5,887.69	0.00	5,887.69	3			
3	70.00	22.93	10.00	143.04	0.00	0.24	2.46	0.80	1.00	0.60	93.81	0.00	0.00	7,862.1	0.0	5,832.99	0.00	5,832.99	3			
2	45.00	20.21	15.00	213.51	0.00	0.22	2.53	0.80	1.00	0.59	138.94	0.00	0.00	11,433.3	0.0	7,835.36	0.00	7,835.36	3			
1	15.00	18.50	15.00	219.48	0.00	0.20	2.59	0.80	1.00	0.59	141.73	0.00	0.00	12,122.1	0.0	7,467.52	0.00	7,467.52	3			
														77,313.2	0.0			59,898.74				

Site Number: CT-5035  
 Location: Tartaglia, CT

6/27/2014 9:13:52 AM

Code: TIA/EIA-222 Rev F



Gh : 1.10

### Section Forces

#### LoadCase 90 deg No Ice 85.00 mph Wind at 90 deg From Face with No Ice

Allow Stress Inc: 1.333  
 Dead LF: 1.000  
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice		Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face		
													Total Weight (lb)	Weight Ice (lb)						
11	230.0	32.21	0.00	45.35	0.00	0.19	2.63	0.85	1.00	0.59	26.69	0.00	0.00	3,829.0	0.0	2,490.51	0.00	2,490.51	1	
10	210.0	31.38	1.75	49.48	0.00	0.18	2.66	0.85	1.00	0.59	30.53	0.00	0.00	4,209.3	0.0	2,804.27	0.00	2,804.27	3	
9	190.0	30.50	5.00	89.74	0.00	0.29	2.33	0.85	1.00	0.61	59.21	0.00	0.00	4,795.1	0.0	4,631.17	0.00	4,631.17	3	
8	170.0	29.55	5.50	95.11	0.00	0.27	2.39	0.85	1.00	0.61	62.31	0.00	0.00	5,863.9	0.0	4,850.68	0.00	4,850.68	3	
7	150.0	28.51	9.38	123.00	0.00	0.31	2.27	0.85	1.00	0.62	84.07	0.00	0.00	6,590.5	0.0	6,001.30	0.00	6,001.30	3	
6	130.0	27.37	10.00	134.03	0.00	0.30	2.29	0.85	1.00	0.62	91.09	0.00	0.00	7,212.5	0.0	6,299.28	0.00	6,299.28	3	
5	110.0	26.09	10.00	128.32	0.00	0.26	2.40	0.85	1.00	0.60	86.13	0.00	0.00	6,360.2	0.0	5,949.55	0.00	5,949.55	3	
4	90.00	24.64	10.00	134.41	0.00	0.25	2.44	0.85	1.00	0.60	89.36	0.00	0.00	7,035.2	0.0	5,920.82	0.00	5,920.82	3	
3	70.00	22.93	10.00	143.04	0.00	0.24	2.46	0.85	1.00	0.60	94.31	0.00	0.00	7,862.1	0.0	5,864.07	0.00	5,864.07	3	
2	45.00	20.21	15.00	213.51	0.00	0.22	2.53	0.85	1.00	0.59	139.69	0.00	0.00	11,433.3	0.0	7,877.66	0.00	7,877.66	3	
1	15.00	18.50	15.00	219.48	0.00	0.20	2.59	0.85	1.00	0.59	142.48	0.00	0.00	12,122.1	0.0	7,507.04	0.00	7,507.04	3	
													77,313.2	0.0			60,196.35			

#### LoadCase Normal Ice 73.61 mph Wind Normal To Face with Ice

Allow Stress Inc: 1.333  
 Dead LF: 1.000  
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice		Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face		
													Total Weight (lb)	Weight Ice (lb)						
11	230.0	24.16	0.00	56.12	10.77	0.24	2.48	1.00	1.00	0.60	33.57	0.00	0.00	4,795.5	966.5	2,218.43	0.00	2,218.43	1	
10	210.0	23.54	1.75	62.53	13.05	0.23	2.50	1.00	1.00	0.60	39.06	0.00	0.00	5,473.0	1,263.7	2,535.49	0.00	2,535.49	3	
9	190.0	22.87	5.00	125.10	35.36	0.40	2.07	1.00	1.00	0.65	86.31	0.00	0.00	6,733.5	1,938.4	4,507.42	0.00	4,507.42	3	
8	170.0	22.16	5.50	132.83	37.72	0.37	2.14	1.00	1.00	0.64	90.26	0.00	0.00	8,509.5	2,645.7	4,708.44	0.00	4,708.44	3	
7	150.0	21.38	9.38	178.11	55.11	0.44	1.99	1.00	1.00	0.67	128.28	0.00	0.00	10,011.4	3,420.8	6,027.70	0.00	6,027.70	3	
6	130.0	20.52	10.00	193.20	59.17	0.42	2.02	1.00	1.00	0.66	137.89	0.00	0.00	10,888.6	3,676.1	6,290.53	0.00	6,290.53	3	
5	110.0	19.57	10.00	184.49	56.16	0.37	2.13	1.00	1.00	0.64	127.90	0.00	0.00	9,858.1	3,497.9	5,875.97	0.00	5,875.97	3	
4	90.00	18.48	10.00	190.91	56.50	0.35	2.18	1.00	1.00	0.63	130.50	0.00	0.00	10,716.8	3,681.6	5,791.94	0.00	5,791.94	3	
3	70.00	17.20	10.00	199.89	56.85	0.33	2.21	1.00	1.00	0.63	135.19	0.00	0.00	11,672.1	3,810.0	5,670.70	0.00	5,670.70	3	
2	45.00	15.16	15.00	297.11	83.61	0.30	2.30	1.00	1.00	0.62	197.97	0.00	0.00	17,075.2	5,641.9	7,593.46	0.00	7,593.46	3	
1	15.00	13.87	15.00	304.24	84.76	0.28	2.36	1.00	1.00	0.61	200.29	0.00	0.00	17,948.6	5,826.5	7,224.51	0.00	7,224.51	3	
													113,682.4	36,369.2			58,444.60			

#### LoadCase 60 deg Ice 73.61 mph Wind at 60 deg From Face with Ice

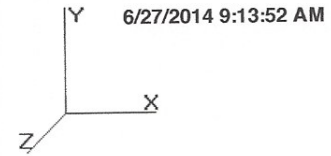
Allow Stress Inc: 1.333  
 Dead LF: 1.000  
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice		Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
													Total Weight (lb)	Weight Ice (lb)				



Site Number: CT-5035  
 Location: Tartaglia, CT

Code: TIA/EIA-222 Rev F



Gh : 1.10

**Section Forces**

Seq	Height (ft)	Wind (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
11	230.0	24.16	0.00	56.12	10.77	0.24	2.48	0.80	1.00	0.60	33.57	0.00	0.00	4,795.5	966.5	2,218.43	0.00	2,218.43	1
10	210.0	23.54	1.75	62.53	13.05	0.23	2.50	0.80	1.00	0.60	38.71	0.00	0.00	5,473.0	1,263.7	2,512.77	0.00	2,512.77	3
9	190.0	22.87	5.00	125.10	35.36	0.40	2.07	0.80	1.00	0.65	85.31	0.00	0.00	6,733.5	1,938.4	4,455.20	0.00	4,455.20	3
8	170.0	22.16	5.50	132.83	37.72	0.37	2.14	0.80	1.00	0.64	89.16	0.00	0.00	8,509.5	2,645.7	4,651.05	0.00	4,651.05	3
7	150.0	21.38	9.38	178.11	55.11	0.44	1.99	0.80	1.00	0.67	126.41	0.00	0.00	10,011.4	3,420.8	5,939.60	0.00	5,939.60	3
6	130.0	20.52	10.00	193.20	59.17	0.42	2.02	0.80	1.00	0.66	135.89	0.00	0.00	10,888.6	3,676.1	6,199.29	0.00	6,199.29	3
5	110.0	19.57	10.00	184.49	56.16	0.37	2.13	0.80	1.00	0.64	125.90	0.00	0.00	9,858.1	3,497.9	5,784.08	0.00	5,784.08	3
4	90.00	18.48	10.00	190.91	56.50	0.35	2.18	0.80	1.00	0.63	128.50	0.00	0.00	10,716.8	3,681.6	5,703.17	0.00	5,703.17	3
3	70.00	17.20	10.00	199.89	56.85	0.33	2.21	0.80	1.00	0.63	133.19	0.00	0.00	11,672.1	3,810.0	5,586.81	0.00	5,586.81	3
2	45.00	15.16	15.00	297.11	83.61	0.30	2.30	0.80	1.00	0.62	194.97	0.00	0.00	17,075.2	5,641.9	7,478.39	0.00	7,478.39	3
1	15.00	13.87	15.00	304.24	84.76	0.28	2.36	0.80	1.00	0.61	197.29	0.00	0.00	17,948.6	5,826.5	7,116.30	0.00	7,116.30	3
														113,682.4	36,369.2			57,645.11	

**LoadCase 90 deg Ice**

73.61 mph Wind at 90 deg From Face with Ice

Allow Stress Inc: 1.333  
 Dead LF: 1.000  
 Wind LF: 1.000

Seq	Height (ft)	Wind (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
11	230.0	24.16	0.00	56.12	10.77	0.24	2.48	0.85	1.00	0.60	33.57	0.00	0.00	4,795.5	966.5	2,218.43	0.00	2,218.43	1
10	210.0	23.54	1.75	62.53	13.05	0.23	2.50	0.85	1.00	0.60	38.80	0.00	0.00	5,473.0	1,263.7	2,518.45	0.00	2,518.45	3
9	190.0	22.87	5.00	125.10	35.36	0.40	2.07	0.85	1.00	0.65	85.56	0.00	0.00	6,733.5	1,938.4	4,468.25	0.00	4,468.25	3
8	170.0	22.16	5.50	132.83	37.72	0.37	2.14	0.85	1.00	0.64	89.44	0.00	0.00	8,509.5	2,645.7	4,665.40	0.00	4,665.40	3
7	150.0	21.38	9.38	178.11	55.11	0.44	1.99	0.85	1.00	0.67	126.88	0.00	0.00	10,011.4	3,420.8	5,961.62	0.00	5,961.62	3
6	130.0	20.52	10.00	193.20	59.17	0.42	2.02	0.85	1.00	0.66	136.39	0.00	0.00	10,888.6	3,676.1	6,222.10	0.00	6,222.10	3
5	110.0	19.57	10.00	184.49	56.16	0.37	2.13	0.85	1.00	0.64	126.40	0.00	0.00	9,858.1	3,497.9	5,807.05	0.00	5,807.05	3
4	90.00	18.48	10.00	190.91	56.50	0.35	2.18	0.85	1.00	0.63	129.00	0.00	0.00	10,716.8	3,681.6	5,725.36	0.00	5,725.36	3
3	70.00	17.20	10.00	199.89	56.85	0.33	2.21	0.85	1.00	0.63	133.69	0.00	0.00	11,672.1	3,810.0	5,607.79	0.00	5,607.79	3
2	45.00	15.16	15.00	297.11	83.61	0.30	2.30	0.85	1.00	0.62	195.72	0.00	0.00	17,075.2	5,641.9	7,507.16	0.00	7,507.16	3
1	15.00	13.87	15.00	304.24	84.76	0.28	2.36	0.85	1.00	0.61	198.04	0.00	0.00	17,948.6	5,826.5	7,143.36	0.00	7,143.36	3
														113,682.4	36,369.2			57,844.99	

**LoadCase Normal**

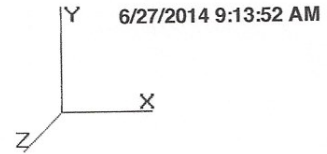
50.00 mph Wind Normal To Face with No Ice

Allow Stress Inc: 1.333  
 Dead LF: 1.000  
 Wind LF: 1.000

Seq	Height (ft)	Wind (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
11	230.0	11.15	0.00	45.35	0.00	0.19	2.63	1.00	1.00	0.59	26.69	0.00	0.00	3,829.0	0.0	861.77	0.00	861.77	1
10	210.0	10.86	1.75	49.48	0.00	0.18	2.66	1.00	1.00	0.59	30.79	0.00	0.00	4,209.3	0.0	978.68	0.00	978.68	3
9	190.0	10.55	5.00	89.74	0.00	0.29	2.33	1.00	1.00	0.61	59.96	0.00	0.00	4,795.1	0.0	1,622.78	0.00	1,622.78	3
8	170.0	10.22	5.50	95.11	0.00	0.27	2.39	1.00	1.00	0.61	63.14	0.00	0.00	5,863.9	0.0	1,700.66	0.00	1,700.66	3
7	150.0	9.86	9.38	123.00	0.00	0.31	2.27	1.00	1.00	0.62	85.47	0.00	0.00	6,590.5	0.0	2,111.31	0.00	2,111.31	3
6	130.0	9.47	10.00	134.03	0.00	0.30	2.29	1.00	1.00	0.62	92.59	0.00	0.00	7,212.5	0.0	2,215.58	0.00	2,215.58	3
5	110.0	9.03	10.00	128.32	0.00	0.26	2.40	1.00	1.00	0.60	87.63	0.00	0.00	6,360.2	0.0	2,094.52	0.00	2,094.52	3
4	90.00	8.52	10.00	134.41	0.00	0.25	2.44	1.00	1.00	0.60	90.86	0.00	0.00	7,035.2	0.0	2,083.11	0.00	2,083.11	3
3	70.00	7.93	10.00	143.04	0.00	0.24	2.46	1.00	1.00	0.60	95.81	0.00	0.00	7,862.1	0.0	2,061.36	0.00	2,061.36	3
2	45.00	6.99	15.00	213.51	0.00	0.22	2.53	1.00	1.00	0.59	141.94	0.00	0.00	11,433.3	0.0	2,769.74	0.00	2,769.74	3

Site Number: CT-5035  
 Location: Tartaglia, CT

Code: TIA/EIA-222 Rev F



Gh : 1.10

**Section Forces**

1	15.00	6.40	15.00	219.48	0.00	0.20	2.59	1.00	1.00	0.59	144.73	0.00	0.00	12,122.1	0.0	2,638.61	0.00	2,638.61	3
														77,313.2	0.0	21,138.12			

**LoadCase 60 deg**

50.00 mph Wind at 60 deg From Face with No Ice

Allow Stress Inc: 1.333  
 Dead LF: 1.000  
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz (psf)	Total	Total	Ice	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear	Ice	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
			Flat Area (sqft)	Round Area (sqft)	Round Area (sqft)							Area (sqft)	Area (sqft)						
11	230.0	11.15	0.00	45.35	0.00	0.19	2.63	0.80	1.00	0.59	26.69	0.00	0.00	3,829.0	0.0	861.77	0.00	861.77	1
10	210.0	10.86	1.75	49.48	0.00	0.18	2.66	0.80	1.00	0.59	30.44	0.00	0.00	4,209.3	0.0	967.55	0.00	967.55	3
9	190.0	10.55	5.00	89.74	0.00	0.29	2.33	0.80	1.00	0.61	58.96	0.00	0.00	4,795.1	0.0	1,595.71	0.00	1,595.71	3
8	170.0	10.22	5.50	95.11	0.00	0.27	2.39	0.80	1.00	0.61	62.04	0.00	0.00	5,863.9	0.0	1,671.03	0.00	1,671.03	3
7	150.0	9.86	9.38	123.00	0.00	0.31	2.27	0.80	1.00	0.62	83.60	0.00	0.00	6,590.5	0.0	2,065.00	0.00	2,065.00	3
6	130.0	9.47	10.00	134.03	0.00	0.30	2.29	0.80	1.00	0.62	90.59	0.00	0.00	7,212.5	0.0	2,167.72	0.00	2,167.72	3
5	110.0	9.03	10.00	128.32	0.00	0.26	2.40	0.80	1.00	0.60	85.63	0.00	0.00	6,360.2	0.0	2,046.72	0.00	2,046.72	3
4	90.00	8.52	10.00	134.41	0.00	0.25	2.44	0.80	1.00	0.60	88.86	0.00	0.00	7,035.2	0.0	2,037.26	0.00	2,037.26	3
3	70.00	7.93	10.00	143.04	0.00	0.24	2.46	0.80	1.00	0.60	93.81	0.00	0.00	7,862.1	0.0	2,018.33	0.00	2,018.33	3
2	45.00	6.99	15.00	213.51	0.00	0.22	2.53	0.80	1.00	0.59	138.94	0.00	0.00	11,433.3	0.0	2,711.20	0.00	2,711.20	3
1	15.00	6.40	15.00	219.48	0.00	0.20	2.59	0.80	1.00	0.59	141.73	0.00	0.00	12,122.1	0.0	2,583.92	0.00	2,583.92	3
														77,313.2	0.0	20,726.21			

**LoadCase 90 deg**

50.00 mph Wind at 90 deg From Face with No Ice

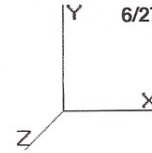
Allow Stress Inc: 1.333  
 Dead LF: 1.000  
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz (psf)	Total	Total	Ice	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear	Ice	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
			Flat Area (sqft)	Round Area (sqft)	Round Area (sqft)							Area (sqft)	Area (sqft)						
11	230.0	11.15	0.00	45.35	0.00	0.19	2.63	0.85	1.00	0.59	26.69	0.00	0.00	3,829.0	0.0	861.77	0.00	861.77	1
10	210.0	10.86	1.75	49.48	0.00	0.18	2.66	0.85	1.00	0.59	30.53	0.00	0.00	4,209.3	0.0	970.34	0.00	970.34	3
9	190.0	10.55	5.00	89.74	0.00	0.29	2.33	0.85	1.00	0.61	59.21	0.00	0.00	4,795.1	0.0	1,602.48	0.00	1,602.48	3
8	170.0	10.22	5.50	95.11	0.00	0.27	2.39	0.85	1.00	0.61	62.31	0.00	0.00	5,863.9	0.0	1,678.44	0.00	1,678.44	3
7	150.0	9.86	9.38	123.00	0.00	0.31	2.27	0.85	1.00	0.62	84.07	0.00	0.00	6,590.5	0.0	2,076.58	0.00	2,076.58	3
6	130.0	9.47	10.00	134.03	0.00	0.30	2.29	0.85	1.00	0.62	91.09	0.00	0.00	7,212.5	0.0	2,179.68	0.00	2,179.68	3
5	110.0	9.03	10.00	128.32	0.00	0.26	2.40	0.85	1.00	0.60	86.13	0.00	0.00	6,360.2	0.0	2,058.67	0.00	2,058.67	3
4	90.00	8.52	10.00	134.41	0.00	0.25	2.44	0.85	1.00	0.60	89.36	0.00	0.00	7,035.2	0.0	2,048.73	0.00	2,048.73	3
3	70.00	7.93	10.00	143.04	0.00	0.24	2.46	0.85	1.00	0.60	94.31	0.00	0.00	7,862.1	0.0	2,029.09	0.00	2,029.09	3
2	45.00	6.99	15.00	213.51	0.00	0.22	2.53	0.85	1.00	0.59	139.69	0.00	0.00	11,433.3	0.0	2,725.83	0.00	2,725.83	3
1	15.00	6.40	15.00	219.48	0.00	0.20	2.59	0.85	1.00	0.59	142.48	0.00	0.00	12,122.1	0.0	2,597.59	0.00	2,597.59	3
														77,313.2	0.0	20,829.19			

Site Number: CT-5035  
 Location: Tartaglia, CT

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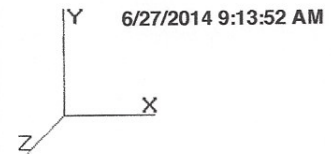
**Tower Loading**

**Discrete Appurtenance Properties**

Attach Elev (ft)	Description	Qty	Weight (lb)	No Ice CaAa (sf)	CaAa Factor	Weight (lb)	Ice CaAa (sf)	CaAa Factor	Distance From Face (ft)	X Angle (deg)	Vert Ecc (ft)
240.0	Empty Round Side Arm	1	150.00	5.200	1.00	175.00	5.900	1.00	0.000	0.00	0.000
240.0	10' Omni	1	25.00	3.000	1.00	46.70	4.030	1.00	0.000	0.00	0.000
240.0	Beacon	1	70.00	4.500	1.00	120.00	4.900	1.00	0.000	0.00	0.000
240.0	Lightning Rod	1	10.00	1.000	1.00	21.00	1.360	1.00	0.000	0.00	0.000
230.0	8' Omni	1	40.00	2.400	1.00	62.00	3.230	1.00	0.000	0.00	0.000
230.0	8' Omni	1	40.00	2.400	1.00	62.00	3.230	1.00	0.000	0.00	0.000
230.0	Round Side Arm	3	150.00	5.200	0.67	175.00	5.900	0.67	0.000	0.00	0.000
223.0	Round Side Arm	1	150.00	5.200	1.00	175.00	5.900	1.00	0.000	0.00	0.000
223.0	12' Omni	1	40.00	3.600	1.00	66.00	4.830	1.00	0.000	0.00	0.000
212.0	Round Sector Frame	3	300.00	14.400	0.75	415.00	19.200	0.75	0.000	0.00	0.000
212.0	Andrew HBX-6516DS-VTM	6	10.40	3.340	0.80	29.50	3.840	0.80	0.000	0.00	0.000
202.0	Ericsson KRY 112 144-1	3	11.00	0.410	0.33	14.10	0.550	0.33	0.000	0.00	0.000
202.0	Ericsson AIR21 B4A B2P	3	81.50	6.580	0.83	132.60	7.200	0.83	0.000	0.00	0.000
202.0	Ericsson AIR21 B2A B4P	3	83.00	6.530	0.83	132.60	7.200	0.83	0.000	0.00	0.000
202.0	Round Sector Frame	3	300.00	14.400	0.75	415.00	19.200	0.75	0.000	0.00	0.000
196.0	3' Yagi	1	10.00	2.980	1.00	35.70	4.770	1.00	0.000	0.00	0.000
187.0	2' HP Dish	2	90.00	3.960	1.00	128.00	4.300	1.00	0.000	0.00	0.000
187.0	Andrew VHLP800-11-DW1	1	121.00	16.720	1.00	217.60	17.410	1.00	0.000	0.00	0.000
180.6	RFS APXVTM14-C-I20	3	56.00	6.340	0.66	92.40	7.580	0.66	0.000	0.00	0.000
180.6	Alcatel-Lucent TD-RRH8x20-	3	70.00	4.050	0.50	82.70	4.430	0.50	0.000	0.00	0.000
180.6	PCTEL GPS-TMG-HR-26NCM	1	0.60	0.090	1.00	1.90	0.140	1.00	0.000	0.00	0.000
180.6	DragonWave A-ANT-11G-2C	3	27.00	4.690	1.00	55.10	5.050	1.00	0.000	0.00	0.000
180.6	Samsung DAP Heads	3	33.00	1.820	0.33	39.21	2.100	0.33	0.000	0.00	0.000
180.6	Argus LLPX310R	3	28.60	4.830	0.70	54.50	5.360	0.70	0.000	0.00	0.000
180.6	Alcatel-Lucent 800 MHz	3	53.00	2.490	0.67	79.87	2.820	0.67	0.000	0.00	0.000
180.6	Alcatel-Lucent 1900 MHz	6	90.00	3.060	0.67	116.87	3.420	0.67	0.000	0.00	0.000
180.6	RFS APXV9ERR18-C-A20	1	62.00	8.260	0.85	113.90	9.080	0.85	0.000	0.00	0.000
180.6	RFS APXVSP18-C-A20	2	57.00	8.260	0.85	106.50	9.080	0.85	0.000	0.00	0.000
180.6	Flat Light Sector Frame	3	400.00	17.900	0.67	510.00	22.200	0.67	0.000	0.00	0.000
174.0	Andrew 950F65T4E-M	2	15.70	4.750	0.77	55.06	6.420	0.77	0.000	0.00	0.000
174.0	5' x 5" x 2" Panel	4	30.00	3.260	0.76	46.14	3.830	0.76	0.000	0.00	0.000
164.0	Ericsson RRUS 11	6	50.70	3.310	0.50	71.83	3.680	0.50	0.000	0.00	0.000
164.0	Raycap DC6-48-60-18-8F	2	20.00	1.260	0.67	35.10	1.460	0.67	0.000	0.00	0.000
164.0	Ericsson RRUS A2 Module	6	21.20	1.860	0.33	31.40	2.150	0.33	0.000	0.00	0.000
164.0	Ericsson RRUS-32	3	77.00	3.870	0.67	104.90	4.300	0.67	0.000	0.00	0.000
164.0	Ericsson RRUS-E2	3	58.00	3.670	0.67	81.20	4.060	0.67	0.000	0.00	0.000
164.0	Ericsson RRUS-12	6	57.90	3.670	0.67	80.99	4.060	0.67	0.000	0.00	0.000
164.0	Powerwave TT19-08BP111-	3	16.00	0.640	0.33	21.80	0.820	0.33	0.000	0.00	0.000
164.0	CCI HPA-65R-BUU-H6	9	51.00	10.360	0.81	114.00	11.210	0.81	0.000	0.00	0.000
164.0	Raycap DC6-48-60-18-8F	1	20.00	1.260	0.67	35.10	1.460	0.67	0.000	0.00	0.000
164.0	Powerwave 7020 RET	3	2.20	0.400	0.33	5.10	0.540	0.33	0.000	0.00	0.000
164.0	Powerwave 7770	3	35.00	5.880	0.75	67.63	6.530	0.75	0.000	0.00	0.000
164.0	Round Sector Frame	3	300.00	14.400	0.67	415.00	19.200	0.67	0.000	0.00	0.000
164.0	20' Omni	1	55.00	6.000	1.00	98.10	8.030	1.00	0.000	0.00	0.000
155.0	RFS DB T1 6Z 8B OZ	1	44.00	3.200	1.00	72.38	3.470	1.00	0.000	0.00	0.000
155.0	Alcatel-Lucent ALU 2X40 LTE	3	51.00	3.310	0.67	44.00	3.680	0.67	0.000	0.00	0.000
155.0	Alcatel-Lucent ALU 2X40	3	44.00	2.530	0.67	61.44	2.880	0.67	0.000	0.00	0.000
155.0	RFS FD9R6004/2C-3L	6	2.60	0.370	0.33	4.90	0.500	0.33	0.000	0.00	0.000
155.0	Antel BXA-171063/8BF	3	10.50	2.900	0.87	29.80	3.370	0.87	0.000	0.00	0.000
155.0	Antel BXA-80063/6BF	3	19.20	7.470	0.77	60.60	8.260	0.77	0.000	0.00	0.000

Site Number: CT-5035  
 Location: Tartaglia, CT

Code: TIA/EIA-222 Rev F



**Tower Loading**

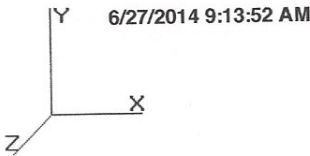
Item	Qty	Weight	Wind	Ice	Self	Wind	Ice	Self	Wind	Ice	Self
155.0 Antel BXA-70063/6CF	3	17.00	7.730	0.76	58.95	8.540	0.76	0.000	0.00	0.00	0.000
155.0 Rymsa MGD-800T0	3	15.00	3.360	0.69	34.61	3.870	0.69	0.000	0.00	0.00	0.000
155.0 Flat Light Sector Frame	3	400.00	17.900	0.67	510.00	22.200	0.67	0.000	0.00	0.00	0.000
140.0 Small Side Lights	3	45.00	2.000	1.00	140.00	3.970	1.00	0.000	0.00	0.00	0.000
118.0 Round Side Arm	1	150.00	5.200	1.00	175.00	5.900	1.00	0.000	0.00	0.00	0.000
118.0 10' Omni	1	8.00	0.130	1.00	9.76	0.220	1.00	0.000	0.00	0.00	0.000
108.0 Round Side Arm	1	150.00	5.200	1.00	175.00	5.900	1.00	0.000	0.00	0.00	0.000
108.0 10' Omni	1	8.00	0.130	1.00	9.76	0.220	1.00	0.000	0.00	0.00	0.000
80.0 Empty Round Side Arm	1	150.00	5.200	1.00	175.00	5.900	1.00	0.000	0.00	0.00	0.000
22.00 3' Dish	1	100.00	6.100	1.00	152.30	6.450	1.00	0.000	0.00	0.00	0.000
20.00 GPS	1	10.00	1.000	1.00	18.24	1.210	1.00	0.000	0.00	0.00	0.000
8.00 Round Side Arm	1	150.00	5.200	1.00	175.00	5.900	1.00	0.000	0.00	0.00	0.000
8.00 GPS	1	10.00	1.000	1.00	18.24	1.210	1.00	0.000	0.00	0.00	0.000
<b>Totals</b>	<b>162</b>	<b>11963.80</b>			<b>17582.83</b>			<b>Number of Appurtenances : 63</b>			

**Linear Appurtenance Properties**

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Wind	Spread On Faces	Bundling Arrangement
0.00	240.0	1 1/4" Coax	1	1.55	0.63	0.00	2	Separate
0.00	240.0	1" Conduit	1	1.30	1.68	0.00	2	Separate
0.00	230.0	7/8" Coax	2	1.09	0.33	0.00	3	Separate
0.00	223.0	1 1/4" Coax	1	1.55	0.63	0.00	2	Separate
0.00	212.0	1 5/8" Coax	12	1.98	0.82	0.00	3	Separate
0.00	212.0	Waveguide	1	1.50	6.00	100.00	3	Separate
0.00	202.0	1 5/8" Coax	12	1.98	0.82	100.00	3	Separate
0.00	202.0	1 5/8" Hybrid	1	1.98	1.30	100.00	3	Separate
0.00	202.0	Waveguide	1	1.50	6.00	100.00	3	Separate
0.00	196.0	7/8" Coax	1	1.09	0.33	0.00	3	Separate
0.00	187.0	1/2" Coax	4	0.63	0.15	0.00	1	Separate
0.00	180.6	1 1/4" Hybriflex	3	1.54	1.00	83.30	2	Separate
0.00	180.6	1.625" Hybrid	1	1.63	1.61	0.00	2	Separate
0.00	180.6	1/2" Ethernet	3	0.50	0.14	0.00	2	Separate
0.00	180.6	2" Conduit	2	2.38	3.65	100.00	1	Separate
0.00	180.6	5/16" Coax	6	0.32	0.04	100.00	2	Separate
0.00	180.6	Waveguide	1	1.50	6.00	100.00	2	Separate
0.00	174.0	1 5/8" Coax	6	1.98	0.82	100.00	1	Separate
0.00	174.0	Waveguide	1	1.50	6.00	100.00	1	Separate
0.00	164.0	0.39" Fiber Trunk	1	0.39	0.07	0.00	3	Separate
0.00	164.0	0.64" Fiber Cable	2	0.64	0.25	0.00	3	Separate
0.00	164.0	0.64" Fiber Cable	4	0.64	0.25	0.00	3	Separate
0.00	164.0	1 1/4" Coax	1	1.55	0.63	0.00	2	Separate
0.00	164.0	1 5/8" Coax	6	1.98	0.82	50.00	3	Separate
0.00	164.0	3/8" Coax	1	0.44	0.08	100.00	3	Separate
0.00	164.0	Waveguide	1	1.50	6.00	100.00	3	Separate
0.00	155.0	1 5/8" Coax	12	1.98	0.82	50.00	3	Separate
0.00	155.0	1 5/8" Hybrid	1	1.98	1.30	100.00	3	Separate
0.00	155.0	Waveguide	1	1.50	6.00	100.00	3	Separate
0.00	118.0	7/8" Coax	1	1.09	0.33	0.00	2	Separate
0.00	108.0	1 1/4" Coax	1	1.55	0.63	0.00	2	Separate
22.00	22.00	CAT5	1	0.24	0.04	0.00	Lin App	Separate
0.00	20.00	1/2" Coax	1	0.63	0.15	0.00	3	Separate

Site Number: CT-5035  
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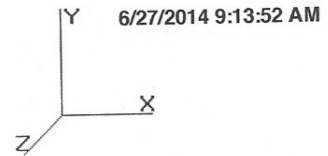


Tower Loading

0.00	8.00	1/2" Coax	1	0.63	0.15	100.00	3	Separate
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Site Number: CT-5035  
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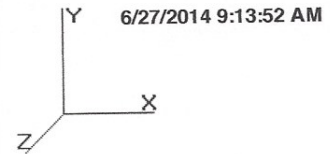
**Force/Stress Summary**

Section: 1		1		Bot Elev (ft): 0.00				Height (ft): 30.000				Member		Shear Bear		Use		
		Force	Load Case	Len	Bracing %			Fa	Cap	Num	Num	Num	Cap	Cap	Use	Controls		
		(kip)		(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	%			
<b>Max Compression Member</b>																		
LEG	PX - 10" DIA PIPE	-293.60	Normal No Ice	30.08	33	33	33	32.8	35.7	575.26	0	0	0.00	0.00	51	Member X		
HORIZ	PST - 3-1/2" DIA PIP	-15.22	90 deg No Ice	18.29	100	100	100	163.8	7.4	19.89	2	0	0.00	35.26	76	Member X		
DIAG	PST - 3" DIA PIPE	-30.10	90 deg No Ice	36.16	33	33	33	0.0	0.0	42.94	3	0	0.00	50.54	70	User Input		
<b>Max Tension Member</b>																		
LEG	PX - 10" DIA PIPE	236.46	60 deg No Ice	50	643.98	0	0	0.00	0.00	36			Member					
HORIZ	PST - 3-1/2" DIA PIP	15.78	90 deg No Ice	50	107.20	2	0	0.00	28.64	55			Bolt Bear					
DIAG	PST - 3" DIA PIPE	28.48	90 deg No Ice	50	157.96	3	0	0.00	0.00	18			User Input					
<b>Max Splice Forces</b>																		
		Force	Load Case	Capacity			Use	Num	Bolt Type									
		(kip)		(kip)				%	Bolts									
Top Tension		234.87	60 deg No Ice	0.00			0											
Top Compression		291.89	Normal No Ice	0.00			0											
Bot Tension		278.69	60 deg No Ice	518.35			54	12	1" A193-B7									
Bot Compression		339.32	Normal No Ice	0.00			0											

Section: 2		1		Bot Elev (ft): 30.00				Height (ft): 30.000				Member		Shear Bear		Use		
		Force	Load Case	Len	Bracing %			Fa	Cap	Num	Num	Num	Cap	Cap	Use	Controls		
		(kip)		(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	%			
<b>Max Compression Member</b>																		
LEG	PX - 10" DIA PIPE	-242.88	Normal No Ice	30.08	33	33	33	32.8	35.7	575.26	0	0	0.00	0.00	42	Member X		
HORIZ	PST - 3" DIA PIPE	-14.76	90 deg No Ice	16.41	100	100	100	169.8	6.9	15.39	2	0	0.00	33.70	95	Member X		
DIAG	PST - 3" DIA PIPE	-32.71	90 deg No Ice	35.15	32	32	32	116.4	14.7	32.79	3	0	0.00	50.54	99	Member X		
<b>Max Tension Member</b>																		
LEG	PX - 10" DIA PIPE	193.12	60 deg No Ice	50	643.98	0	0	0.00	0.00	29			Member					
HORIZ	PST - 3" DIA PIPE	15.50	90 deg No Ice	50	89.20	2	0	0.00	27.38	56			Bolt Bear					
DIAG	PST - 3" DIA PIPE	30.49	90 deg No Ice	50	89.20	3	0	0.00	44.22	68			Bolt Bear					
<b>Max Splice Forces</b>																		
		Force	Load Case	Capacity			Use	Num	Bolt Type									
		(kip)		(kip)				%	Bolts									
Top Tension		191.59	60 deg No Ice	0.00			0											
Top Compression		241.23	Normal No Ice	0.00			0											
Bot Tension		234.87	60 deg No Ice	552.95			42	12	1 A325									
Bot Compression		291.89	Normal No Ice	0.00			0											

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**Force/Stress Summary**

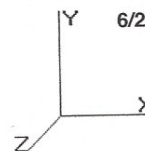
Section: 3		1		Bot Elev (ft): 60.00				Height (ft): 20.000								
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			KL/R	Fa (ksi)	Member Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	PX - 10" DIA PIPE	-207.68	Normal No Ice	20.05	50	50	50	33.1	35.7	574.34	0	0	0.00	0.00	36	Member X
HORIZ	PST - 3" DIA PIPE	-13.62	90 deg No Ice	15.16	100	100	100	156.9	8.1	18.04	2	0	0.00	33.70	75	Member X
DIAG	PST - 3" DIA PIPE	-24.41	90 deg No Ice	25.88	50	50	50	133.9	11.1	24.77	3	0	0.00	42.12	98	Member X
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls					
LEG	PX - 10" DIA PIPE	164.84	60 deg No Ice	50	643.98	0	0	0.00	0.00	25	Member					
HORIZ	PST - 3" DIA PIPE	14.31	90 deg No Ice	50	89.20	2	0	0.00	27.38	52	Bolt Bear					
DIAG	PST - 3" DIA PIPE	22.72	90 deg No Ice	50	89.20	3	0	0.00	36.85	61	Bolt Bear					
Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type									
Top Tension		163.41	60 deg No Ice	0.00	0											
Top Compression		206.14	Normal No Ice	0.00	0											
Bot Tension		191.59	60 deg No Ice	552.95	35	12	1 A325									
Bot Compression		241.23	Normal No Ice	0.00	0											

Section: 4		1		Bot Elev (ft): 80.00				Height (ft): 20.000								
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			KL/R	Fa (ksi)	Member Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	PX - 8" DIA PIPE	-173.26	Normal No Ice	20.06	50	50	50	41.8	34.1	436.53	0	0	0.00	0.00	39	Member X
HORIZ	PST - 3" DIA PIPE	-12.66	90 deg No Ice	13.83	100	100	100	143.2	9.7	21.67	2	0	0.00	33.70	58	Member X
DIAG	PST - 3" DIA PIPE	-23.58	90 deg No Ice	25.11	50	50	50	129.9	11.8	26.32	3	0	0.00	42.12	89	Member X
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls					
LEG	PX - 8" DIA PIPE	135.94	60 deg No Ice	50	511.99	0	0	0.00	0.00	26	Member					
HORIZ	PST - 3" DIA PIPE	12.96	90 deg No Ice	50	89.20	2	0	0.00	27.38	47	Bolt Bear					
DIAG	PST - 3" DIA PIPE	22.11	90 deg No Ice	50	89.20	3	0	0.00	36.85	60	Bolt Bear					
Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type									
Top Tension		134.55	60 deg No Ice	0.00	0											
Top Compression		171.81	Normal No Ice	0.00	0											
Bot Tension		163.41	60 deg No Ice	552.95	30	12	1 A325									
Bot Compression		206.14	Normal No Ice	0.00	0											

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### Force/Stress Summary

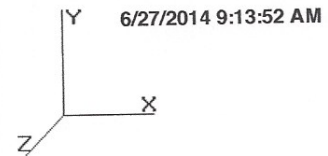
Section: 5		1		Bot Elev (ft): 100.0				Height (ft): 20.000								
		Force		Len		Bracing %		Member		Shear		Bear		Use		
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	Fa (ksi)	Cap (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	%	Controls
<b>Max Compression Member</b>																
LEG	PX - 8" DIA PIPE	-137.54	Normal No Ice	20.05	50	50	50	41.8	34.1	436.56	0	0	0.00	0.00	31	Member X
HORIZ	PST - 2-1/2" DIA PIP	-11.86	90 deg No Ice	12.58	100	100	100	159.5	7.8	13.33	2	0	0.00	31.67	88	Member X
DIAG	PST - 2-1/2" DIA PIP	-23.80	90 deg No Ice	24.33	50	50	50	0.0	0.0	27.71	3	0	0.00	39.58	85	User Input
<b>Max Tension Member</b>																
LEG	PX - 8" DIA PIPE	105.24	60 deg No Ice	50	511.99	0	0	0	0.00	0.00	0	0	0.00	0.00	20	Member
HORIZ	PST - 2-1/2" DIA PIP	12.50	90 deg No Ice	50	68.16	2	0	0	0.00	25.73	2	0	0.00	25.73	48	Bolt Bear
DIAG	PST - 2-1/2" DIA PIP	22.53	90 deg No Ice	50	136.00	3	0	0	0.00	0.00	3	0	0.00	0.00	16	User Input
<b>Max Splice Forces</b>																
		Force (kip)	Load Case	Capacity (kip)		Use %	Num Bolts	Bolt Type								
Top Tension		104.00	60 deg No Ice	0.00		0										
Top Compression		136.20	Normal No Ice	0.00		0										
Bot Tension		134.55	60 deg No Ice	552.95		24	12	1 A325								
Bot Compression		171.81	Normal No Ice	0.00		0										

Section: 6		1		Bot Elev (ft): 120.0				Height (ft): 20.000								
		Force		Len		Bracing %		Member		Shear		Bear		Use		
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	Fa (ksi)	Cap (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	%	Controls
<b>Max Compression Member</b>																
LEG	PX - 8" DIA PIPE	-119.24	Normal No Ice	10.03	100	100	100	41.8	34.1	436.56	0	0	0.00	0.00	27	Member X
HORIZ	PST - 2-1/2" DIA PIP	-11.08	90 deg No Ice	11.96	100	100	100	151.6	8.7	14.76	2	0	0.00	26.39	75	Member X
DIAG	PST - 3" DIA PIPE	-15.71	90 deg No Ice	16.08	100	100	100	166.4	7.2	16.04	3	0	0.00	42.12	97	Member X
<b>Max Tension Member</b>																
LEG	PX - 8" DIA PIPE	90.54	60 deg No Ice	50	511.99	0	0	0	0.00	0.00	0	0	0.00	0.00	17	Member
HORIZ	PST - 2-1/2" DIA PIP	11.70	90 deg No Ice	50	68.16	2	0	0	0.00	21.44	2	0	0.00	21.44	54	Bolt Bear
DIAG	PST - 3" DIA PIPE	14.74	90 deg No Ice	50	89.20	3	0	0	0.00	36.85	3	0	0.00	36.85	40	Bolt Bear
<b>Max Splice Forces</b>																
		Force (kip)	Load Case	Capacity (kip)		Use %	Num Bolts	Bolt Type								
Top Tension		74.16	60 deg No Ice	0.00		0										
Top Compression		100.21	Normal No Ice	0.00		0										
Bot Tension		104.00	60 deg No Ice	368.63		28	8	1 A325								
Bot Compression		136.20	Normal No Ice	0.00		0										



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**Force/Stress Summary**

Section: 7		1		Bot Elev (ft): 140.0				Height (ft): 20.000								
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			KL/R	Fa (ksi)	Member Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	PX - 8" DIA PIPE	-83.53	Normal No Ice	10.03	100	100	100	41.8	34.1	436.56	0	0	0.00	0.00	19	Member X
HORIZ	PST - 2-1/2" DIA PIP	-10.07	90 deg No Ice	10.71	100	100	100	135.8	10.8	18.41	2	0	0.00	26.39	54	Member X
DIAG	PST - 2-1/2" DIA PIP	-14.84	90 deg No Ice	15.12	100	100	100	0.0	0.0	17.50	3	0	0.00	39.58	84	User Input

Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	PX - 8" DIA PIPE	59.94	60 deg No Ice	50	511.99	0	0	0.00	0.00	11	Member
HORIZ	PST - 2-1/2" DIA PIP	10.56	90 deg No Ice	50	68.16	2	0	0.00	21.44	49	Bolt Bear
DIAG	PST - 2-1/2" DIA PIP	14.02	90 deg No Ice	50	128.00	3	0	0.00	0.00	10	User Input

Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension		43.39	60 deg No Ice	0.00	0		
Top Compression		64.62	Normal No Ice	0.00	0		
Bot Tension		74.16	60 deg No Ice	368.63	20	8	1 A325
Bot Compression		100.21	Normal No Ice	0.00	0		

Section: 8		1		Bot Elev (ft): 160.0				Height (ft): 20.000								
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			KL/R	Fa (ksi)	Member Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	PX - 8" DIA PIPE	-50.77	Normal No Ice	10.03	100	100	100	41.8	34.1	436.56	0	0	0.00	0.00	11	Member X
HORIZ	PST - 2-1/2" DIA PIP	-6.49	90 deg No Ice	9.464	100	100	100	119.9	13.8	23.59	2	0	0.00	26.39	27	Member X
DIAG	PST - 2-1/2" DIA PIP	-10.32	90 deg No Ice	14.20	100	100	100	180.1	6.1	10.46	3	0	0.00	39.58	98	Member X

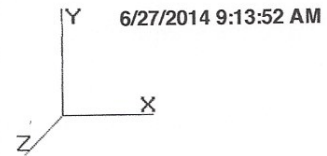
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	PX - 8" DIA PIPE	34.69	60 deg No Ice	50	511.99	0	0	0.00	0.00	6	Member
HORIZ	PST - 2-1/2" DIA PIP	6.87	90 deg No Ice	50	68.16	2	0	0.00	21.44	32	Bolt Bear
DIAG	PST - 2-1/2" DIA PIP	9.63	90 deg No Ice	50	68.16	3	0	0.00	34.64	27	Bolt Bear

Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension		23.56	60 deg No Ice	0.00	0		
Top Compression		37.47	Normal No Ice	0.00	0		
Bot Tension		43.39	60 deg No Ice	368.63	12	8	1 A325
Bot Compression		64.62	Normal No Ice	0.00	0		

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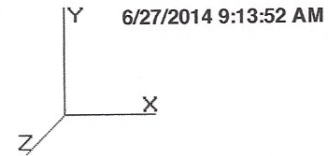
### Force/Stress Summary

Section: 9		1		Bot Elev (ft): 180.0				Height (ft): 20.000								
		Force		Len	Bracing %			Member		Shear Bear		Use				
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	Fa (ksi)	Cap (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	%	Controls
<b>Max Compression Member</b>																
LEG	PX - 8" DIA PIPE	-27.16	Normal No Ice	10.03	100	100	100	41.8	34.1	436.56	0	0	0.00	0.00	6	Member X
HORIZ	PST - 2" DIA PIPE	-4.10	90 deg No Ice	8.214	100	100	100	125.2	12.7	13.58	2	0	0.00	20.15	30	Member X
DIAG	PST - 2-1/2" DIA PIP	-7.23	90 deg No Ice	13.35	100	100	100	169.2	7.0	11.85	3	0	0.00	39.58	61	Member X
<b>Max Tension Member</b>																
LEG	PX - 8" DIA PIPE	16.87	60 deg No Ice		50	511.99	0	0	0.00	0.00	0	0	0.00	0.00	3	Member
HORIZ	PST - 2" DIA PIPE	4.35	90 deg No Ice		50	42.80	2	0	0.00	16.37	2	0	0.00	16.37	26	Bolt Bear
DIAG	PST - 2-1/2" DIA PIP	6.70	90 deg No Ice		50	68.16	3	0	0.00	34.64	3	0	0.00	34.64	19	Bolt Bear
<b>Max Splice Forces</b>																
		Force (kip)	Load Case		Capacity (kip)			Use %	Num Bolts	Bolt Type						
	Top Tension	9.44	60 deg No Ice		0.00			0								
	Top Compression	17.87	Normal Ice		0.00			0								
	Bot Tension	23.56	60 deg No Ice		368.63			6	8	1 A325						
	Bot Compression	37.47	Normal No Ice		0.00			0								

Section: 10		1		Bot Elev (ft): 200.0				Height (ft): 20.000								
		Force		Len	Bracing %			Member		Shear Bear		Use				
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	Fa (ksi)	Cap (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	%	Controls
<b>Max Compression Member</b>																
LEG	PX - 8" DIA PIPE	-11.17	Normal No Ice	10.02	100	100	100	41.8	34.1	436.61	0	0	0.00	0.00	2	Member X
HORIZ	PST - 2" DIA PIPE	-2.13	Normal No Ice	7.026	100	100	100	107.1	17.3	18.56	2	0	0.00	20.15	11	Member X
DIAG	PST - 2-1/2" DIA PIP	-4.39	90 deg No Ice	12.55	100	100	100	159.1	7.9	13.40	3	0	0.00	39.58	32	Member X
<b>Max Tension Member</b>																
LEG	PX - 8" DIA PIPE	5.21	60 deg No Ice		50	511.99	0	0	0.00	0.00	0	0	0.00	0.00	1	Member
HORIZ	PST - 2" DIA PIPE	2.30	60 deg No Ice		50	42.80	2	0	0.00	16.37	2	0	0.00	16.37	14	Bolt Bear
DIAG	PST - 2-1/2" DIA PIP	3.95	90 deg No Ice		50	68.16	3	0	0.00	34.64	3	0	0.00	34.64	11	Bolt Bear
<b>Max Splice Forces</b>																
		Force (kip)	Load Case		Capacity (kip)			Use %	Num Bolts	Bolt Type						
	Top Tension	2.11	60 deg No Ice		0.00			0								
	Top Compression	6.07	Normal Ice		0.00			0								
	Bot Tension	9.44	60 deg No Ice		368.63			3	8	1 A325						
	Bot Compression	17.87	Normal Ice		0.00			0								

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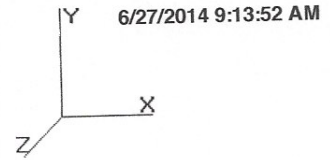
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**Force/Stress Summary**

Section: 11		1		Bot Elev (ft): 220.0				Height (ft): 20.000							
		Force		Len		Bracing %		Member		Shear Bear		Use			
		(kip)	Load Case	(ft)	X	Y	Z	Fa	Cap Num	Num	Cap	Cap	%	Controls	
Max Compression Member								KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	
LEG	PX - 8" DIA PIPE	-3.56	Normal No Ice	6.68	100	100	100	27.8	36.6	467.92	0	0	0.00	0.00	0 Member X
HORIZ	PST - 2" DIA PIPE	-0.81	Normal No Ice	6.130	100	100	100	93.5	21.6	23.09	2	0	0.00	20.15	4 Bolt Bear
DIAG	PST - 2" DIA PIPE	-1.70	90 deg No Ice	9.288	100	100	100	141.6	9.9	10.62	3	0	0.00	30.22	15 Member X
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls				
LEG	PX - 8" DIA PIPE	0.92	60 deg No Ice	50	511.99	0	0	0.00	0.00	0	Member				
HORIZ	PST - 2" DIA PIPE	1.02	90 deg No Ice	50	42.80	2	0	0.00	16.37	6	Bolt Bear				
DIAG	PST - 2" DIA PIPE	1.40	90 deg No Ice	50	42.80	3	0	0.00	26.45	5	Bolt Bear				
Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type								
Top Tension		0.00		0.00	0										
Top Compression		0.41	60 deg Ice	0.00	0										
Bot Tension		2.11	60 deg No Ice	368.63	1	8	1 A325								
Bot Compression		6.07	Normal Ice	0.00	0										

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 Location: Tartaglia, CT

Code: TIA/EIA-222 Rev F



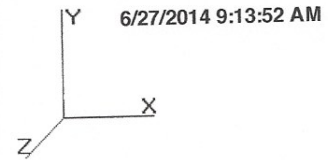
### Support Forces Summary

Load Case	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
90 deg	1b	-10.10	-61.69	-4.14	
	1a	-14.81	121.21	6.90	
	1	-2.90	29.76	-2.76	
60 deg	1b	-11.14	-75.52	-6.43	
	1a	-10.37	82.40	3.12	
	1	-2.48	82.40	-10.54	
Normal	1b	-3.18	-23.52	-4.79	
	1a	3.18	-23.52	-4.79	
	1	0.00	136.32	-18.53	
90 deg Ice	1b	-30.69	-203.99	-13.01	
	1a	-37.17	291.50	17.03	
	1	-7.91	43.75	-4.03	
60 deg Ice	1b	-33.56	-241.69	-19.38	
	1a	-25.18	186.48	6.79	
	1	-6.71	186.48	-25.20	
Normal Ice	1b	-11.64	-100.21	-14.85	
	1a	11.64	-100.21	-14.85	
	1	0.00	331.69	-46.67	
90 deg No Ice	1b	-33.92	-234.96	-14.58	
	1a	-38.15	294.48	17.35	
	1	-8.38	29.76	-2.77	
60 deg No Ice	1b	-36.93	-274.98	-21.32	
	1a	-25.39	182.13	6.47	
	1	-7.09	182.13	-25.23	
Normal No Ice	1b	-13.73	-124.47	-16.58	
	1a	13.73	-124.47	-16.58	
	1	0.00	338.21	-48.17	

Max Uplift:	274.98 (kip)	Moment:	10,774.01 (ft-kip)	Normal No Ice
Max Down:	338.21 (kip)	Total Down:	89.28 (kip)	
Max Shear:	48.17 (kip)	Total Shear:	81.34 (kip)	

Site Number: CT-5035  
 Location: Tartaglia, CT

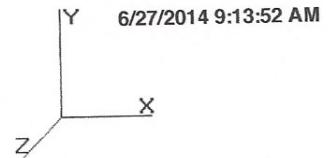
Code: TIA/EIA-222 Rev F



**Deflections and Rotations**

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
50.00 mph Wind at 60 deg From Face with No Ice	30.00	0.0115	0.0021	0.0341
	80.00	0.0465	0.0027	0.0447
	100.00	0.0641	0.0036	0.0584
	120.00	0.0866	0.0040	0.0645
	140.00	0.1092	0.0042	0.0683
	160.00	0.1341	0.0044	0.0703
	170.00	0.1460	0.0043	0.0687
	180.00	0.1581	0.0044	0.0689
	190.00	0.1700	0.0043	0.0681
	200.00	0.1819	0.0043	0.0671
	210.00	0.1934	0.0042	0.0653
	220.00	0.2047	0.0041	0.0646
	226.67	0.2121	0.0041	0.0639
	240.00	0.2268	0.0041	0.0628
50.00 mph Wind at 90 deg From Face with No Ice	30.00	0.0115	0.0012	0.0345
	80.00	0.0467	0.0016	0.0449
	100.00	0.0643	0.0021	0.0588
	120.00	0.0869	0.0023	0.0646
	140.00	0.1095	0.0024	0.0683
	160.00	0.1346	0.0025	0.0704
	170.00	0.1464	0.0025	0.0686
	180.00	0.1586	0.0025	0.0690
	190.00	0.1705	0.0025	0.0682
	200.00	0.1824	0.0025	0.0671
	210.00	0.1939	0.0024	0.0652
	220.00	0.2052	0.0024	0.0646
	226.67	0.2127	0.0024	0.0640
	240.00	0.2274	0.0023	0.0629
50.00 mph Wind Normal To Face with No Ice	30.00	0.0117	0.0022	0.0347
	80.00	0.0472	0.0027	0.0453
	100.00	0.0649	0.0036	0.0593
	120.00	0.0877	0.0040	0.0649
	140.00	0.1104	0.0043	0.0686
	160.00	0.1356	0.0044	0.0707
	170.00	0.1476	0.0043	0.0691
	180.00	0.1598	0.0044	0.0694
	190.00	0.1718	0.0044	0.0686
	200.00	0.1837	0.0043	0.0674
	210.00	0.1953	0.0042	0.0658
	220.00	0.2067	0.0042	0.0650
	226.67	0.2142	0.0041	0.0644
	240.00	0.2290	0.0041	0.0631
73.61 mph Wind at 60 deg From Face with Ice	30.00	0.0348	0.0058	0.0978
	80.00	0.1295	0.0074	0.1213
	100.00	0.1768	0.0097	0.1583
	120.00	0.2375	0.0107	0.1737
	140.00	0.2979	0.0114	0.1828
	160.00	0.3641	0.0118	0.1880

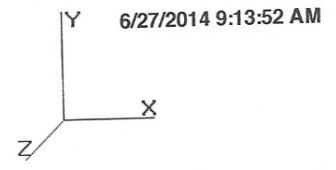
Site Number: CT-5035  
 Location: Tartaglia, CT



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	170.00	0.3962	0.0115	0.1839
	180.00	0.4284	0.0118	0.1843
	190.00	0.4602	0.0117	0.1824
	200.00	0.4917	0.0115	0.1794
	210.00	0.5225	0.0112	0.1745
	220.00	0.5526	0.0111	0.1725
	226.67	0.5725	0.0110	0.1709
	240.00	0.6116	0.0109	0.1677
73.61 m ph Wind at 90 deg From Face with Ice	30.00	0.0345	0.0034	0.0979
	80.00	0.1295	0.0043	0.1217
	100.00	0.1770	0.0056	0.1590
	120.00	0.2378	0.0062	0.1738
	140.00	0.2983	0.0066	0.1829
	160.00	0.3647	0.0068	0.1881
	170.00	0.3968	0.0067	0.1835
	180.00	0.4290	0.0068	0.1845
	190.00	0.4609	0.0067	0.1824
	200.00	0.4925	0.0067	0.1794
	210.00	0.5232	0.0065	0.1743
	220.00	0.5534	0.0064	0.1724
	226.67	0.5733	0.0064	0.1709
	240.00	0.6125	0.0063	0.1679
73.61 m ph Wind Normal To Face with Ice	30.00	0.0336	0.0059	0.0978
	80.00	0.1294	0.0074	0.1224
	100.00	0.1774	0.0098	0.1597
	120.00	0.2385	0.0108	0.1746
	140.00	0.2994	0.0114	0.1834
	160.00	0.3665	0.0119	0.1886
	170.00	0.3985	0.0116	0.1846
	180.00	0.4309	0.0118	0.1852
	190.00	0.4630	0.0117	0.1834
	200.00	0.4948	0.0116	0.1800
	210.00	0.5257	0.0113	0.1754
	220.00	0.5559	0.0112	0.1734
	226.67	0.5759	0.0111	0.1719
	240.00	0.6153	0.0110	0.1683
85.00 m ph Wind at 60 deg From Face with No Ice	30.00	0.0330	0.0061	0.0987
	80.00	0.1344	0.0078	0.1290
	100.00	0.1854	0.0103	0.1693
	120.00	0.2507	0.0115	0.1865
	140.00	0.3159	0.0122	0.1974
	160.00	0.3883	0.0128	0.2035
	170.00	0.4228	0.0124	0.1989
	180.00	0.4578	0.0127	0.1995
	190.00	0.4923	0.0126	0.1974
	200.00	0.5267	0.0124	0.1942
	210.00	0.5600	0.0121	0.1892
	220.00	0.5927	0.0120	0.1870
	226.67	0.6143	0.0119	0.1853
	240.00	0.6569	0.0118	0.1817
85.00 m ph Wind at 90 deg From Face with No Ice	30.00	0.0332	0.0036	0.0999
	80.00	0.1349	0.0045	0.1297
	100.00	0.1861	0.0060	0.1702
	120.00	0.2515	0.0066	0.1868
	140.00	0.3169	0.0071	0.1976

Site Number: CT-5035  
Location: Tartaglia, CT



Code: TIA/EIA-222 Rev F

85.00 mph Wind Normal To Face with No Ice

160.00	0.3896	0.0074	0.2037
170.00	0.4240	0.0072	0.1987
180.00	0.4591	0.0073	0.1998
190.00	0.4937	0.0073	0.1975
200.00	0.5281	0.0072	0.1944
210.00	0.5615	0.0070	0.1891
220.00	0.5942	0.0069	0.1871
226.67	0.6158	0.0069	0.1854
240.00	0.6585	0.0068	0.1819
30.00	0.0335	0.0062	0.1003
80.00	0.1362	0.0079	0.1308
100.00	0.1878	0.0104	0.1713
120.00	0.2537	0.0116	0.1882
140.00	0.3196	0.0123	0.1987
160.00	0.3926	0.0129	0.2048
170.00	0.4274	0.0125	0.2003
180.00	0.4627	0.0128	0.2010
190.00	0.4975	0.0126	0.1989
200.00	0.5321	0.0125	0.1955
210.00	0.5657	0.0122	0.1906
220.00	0.5986	0.0121	0.1884
226.67	0.6204	0.0120	0.1867
240.00	0.6633	0.0118	0.1827
	0.0000	0.0000	0.0000



**EBI Consulting**

environmental | engineering | due diligence

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**RADIO FREQUENCY FCC REGULATORY COMPLIANCE  
MAXIMUM PERMISSIBLE EXPOSURE (MPE) ASSESSMENT**

Sprint Existing Facility

Site ID: CT03XC325

Chopsey Hill Road

1280 Chopsey Hill Road  
Bridgeport, CT 06606

**July 21, 2014**

**EBI Project Number: 62143809**





July 21, 2014

Sprint  
Attn: RF Engineering Manager  
1 International Boulevard, Suite 800  
Mahwah, NJ 07495

Re: Radio Frequency Maximum Permissible Exposure (MPE) Assessment for Site:  
**CT03XC325 - Chopsey Hill Road**

**Site Total: 40.67% - MPE% in full compliance**

EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at 1280 Chopsey Hill Road, Bridgeport, CT, for the purpose of determining whether the radio frequency (RF) exposure levels from the proposed Sprint equipment upgrades 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 public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ( $\mu\text{W}/\text{cm}^2$ ). The general population exposure limit for the cellular band (850 MHz Band) is approximately  $567 \mu\text{W}/\text{cm}^2$ , and the general population exposure limit for the 1900 MHz and 2500 MHz 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 done for the proposed upgrades to the existing Sprint Wireless antenna facility located at 1280 Chopsey Hill Road, Bridgeport, CT, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. 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.

For all calculations, all emissions were calculated using the following assumptions:

- 1) 7 channels in the 1900 MHz Band were considered for each sector of the proposed installation.
- 2) 1 channel in the 800 MHz Band was considered for each sector of the proposed installation
- 3) 2 channels in the 2500 MHz Band were considered for each sector of the proposed installation.
- 4) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. 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. This is rarely the case, and if so, is never continuous.
- 5) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.



- 6) The antennas used in this modeling are the RFS APXVSPP18-C-A20, RFS APXV9ERR18-C-A20 and the RFS APXVTM14-C-I20. This is based on feedback from the carrier with regards to anticipated antenna selection. The RFS APXVSPP18-C-A20 has a 15.9 dBd gain value at its main lobe at 1900 MHz and 13.4 dBd at its main lobe for 850 MHz. The RFS APXV9ERR18-C-A20 has a 14.9 dBd gain value at its main lobe at 1900 MHz and 11.9 dBd at its main lobe for 850 MHz. The RFS APXVTM14-C-I20 has a 15.9 dBd gain value at its main lobe at 2500 MHz. 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.
- 7) The antenna mounting height centerline for the proposed antennas is **180.59999999999999 feet** above ground level (AGL).
- 8) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculation were done with respect to uncontrolled / general public threshold limits

Site ID	CT03XC325 - Chopsey Hill Road
Site Address	1280 Chopsey Hill Road, Bridgeport, CT, 06606
Site Type	Self Support Tower

Sector 1																
Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain (10 db reduction)	Antenna Height (ft)	Antenna analysis height (ft)	Cable Size	Cable Loss (dB)	Additional Loss (dB)	ERP	Power Density Percentage
1a	RFS	APXV9ERR18-C-A20	RRH	1900 MHz	CDMA / LTE	20	7	140	4.9	180.6	174.6	1/2"	0.5	0	385.59	0.45%
1b	RFS	APXV9ERR18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	1.9	180.6	174.6	1/2"	0.5	0	27.61	0.06%
1B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	5.9	180.6	174.6	1/2"	0.5	0	138.69	0.29%
											Sector total Power Density Value: 0.80%					

Sector 2																
Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain (10 db reduction)	Antenna Height (ft)	Antenna analysis height (ft)	Cable Size	Cable Loss (dB)	Additional Loss (dB)	ERP	Power Density Percentage
2a	RFS	APXV9ERR18-C-A20	RRH	1900 MHz	CDMA / LTE	20	7	140	5.9	180.6	174.6	1/2"	0.5	0	485.43	0.57%
2a	RFS	APXV9ERR18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	3.4	180.6	174.6	1/2"	0.5	0	39.00	0.08%
2B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	5.9	180.6	174.6	1/2"	0.5	0	138.69	0.29%
											Sector total Power Density Value: 0.94%					

Sector 3																
Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain (10 db reduction)	Antenna Height (ft)	Antenna analysis height (ft)	Cable Size	Cable Loss (dB)	Additional Loss (dB)	ERP	Power Density Percentage
3a	RFS	APXV9ERR18-C-A20	RRH	1900 MHz	CDMA / LTE	20	7	140	5.9	180.6	174.6	1/2"	0.5	0	485.43	0.57%
3a	RFS	APXV9ERR18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	3.4	180.6	174.6	1/2"	0.5	0	39.00	0.08%
3B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	5.9	180.6	174.6	1/2"	0.5	0	138.69	0.29%
											Sector total Power Density Value: 0.94%					

Site Composite MPE %	
Carrier	MPE %
Sprint	2.68%
Marcus	2.55%
AT&T	3.70%
Redstar	0.57%
MetroCall	4.00%
Clinton Tower	4.08%
AAT	3.68%
Nextel	1.45%
Sprint MW	13.01%
T-Mobile	0.08%
MetroPCS	4.87%
Total Site MPE % 40.67%	



## Summary

All calculations performed for this analysis yielded results that were well within the allowable limits for general public Maximum Permissible Exposure (MPE) to radio frequency energy.

The anticipated Maximum Composite contributions from the Sprint facility are **2.68% (0.80% from sector 1, 0.94% from sector 2 and 0.94% from sector 3)** of the allowable FCC established general public limit considering all three sectors simultaneously sampled at the ground level.

The anticipated composite MPE value for this site assuming all carriers present is **40.67%** of the allowable FCC established general public limit sampled at 6 feet above ground level. This total composite site value is based upon MPE 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

**EBI Consulting**

21 B Street

Burlington, MA 01803