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ORIGINAL

CityPlace I 185 Asylum Street Hartford Connecticut 06103

tel 860.509.6500 fax 860.509.6501

Via Federal Express

December 12, 200

C 13 2007

S. Derek Phelps Executive Director Connecticut Siting Council 10 Franklin Square New Britain, CT 06051

CONNECTICUT SITING COUNCIL

**RE:** Sprint Nextel Corporation - Exempt Modification

Dear Mr. Phelps:

Enclosed for filing is Sprint Nextel Corporation's Notice of Exempt Modification for the addition of WiMAX antennas to an existing tower at 2755 State Street in Hamden, Connecticut. I have also enclosed a check in the amount of \$500.00 to cover the filing fee. If you have any questions, please feel free to contact me.

Very truly yours,

BROWN RUDNICK BERLACK ISRAELS LLP

By: Thomas J. Regan Con
Thomas J. Regan

cc: Town of Hamden via 1st Class Mail

# 40246856 v1 - MERCIECM - 025064/0015

# ORIGINAL

# CONNECTICUT SITING



EM-SPRINT-NEXTEL-062-071213

In re:

Sprint Nextel Corporation's Notice to Make an Exempt Modification to an Existing Facility at 2755 State Street, Hamden, Connecticut.

EXEMPT MODIFICATION NO. \_\_\_\_\_

December 12, 2007

# NOTICE OF EXEMPT MODIFICATION

Pursuant to Conn. Agencies Regs. §§ 16-50j-73 and 16-50j-72(b), Sprint Nextel Corporation ("Sprint") hereby gives notice to the Connecticut Siting Council ("Council") and the Town of Hamden of Sprint's intent to make an exempt modification to an existing lattice tower (the "Tower") located at 2755 State Street in Hamden, Connecticut. Specifically, Sprint plans to add three WiMAX antennas and one microwave dish to its current antenna array. Under the Council's regulations (Conn. Agencies Regs. § 16-50j-72(b)), Sprint's plans do not constitute a modification subject to the Council's review because Sprint will not change the height of the Tower, will not extend the boundaries of the compound, will not increase the noise levels at the site, and will not increase the total radio frequency electromagnetic radiation power density at the site to levels above applicable standards.

Sprint is currently undertaking an upgrade to its wireless communications system in Connecticut. As part of the upgrade, Sprint is implementing WiMAX technology to enable enhanced wireless data communications. In order to accomplish the upgrade at this site, Sprint plans to add three WiMAX antennas and one microwave dish to the existing antenna configuration and install additional WiMAX-related electronic equipment at the base of the Tower.

BROWN RUDNICK BERLACK ISRAELS LLP CITYPLACE I 185 ASYLUM STREET HARTFORD, CT 06103 (860) 509-6500 The Tower is a 120-foot lattice tower located at 2755 State Street in Hamden,

Connecticut (Latitude 41° 21' 19.68" N, Longitude 72° 53' 25.07" W). The Tower is owned by

Crown Castle International. AT&T is also located on the Tower. Currently, Sprint has six

CDMA network antennas located on the Tower (two per sector) with an antenna centerline at

120 feet. The CDMA equipment is located on a steel platform on an 8-foot by 11-foot concrete

pad at the base of the Tower within the existing compound. A site plan with the Tower

specifications is attached.

Sprint plans to add one KMW-AM-X-WM-17-65-00T (WiMAX) antenna to the empty center pipe mast on each of the three sectors. The antenna centerline will remain the same (120 feet) as the existing antennas. The WiMAX antennas will require six coaxial cables, 1-5/8" in diameter as well as three KMW KMDAPS2050000 Tower Mounted Amplifiers to be installed. Sprint will also install one Andrew VHLP2-23-2WH microwave dish on the same platform with one ½" coaxial cable. To confirm the Tower can support these changes, Sprint commissioned GPD Associates to perform a structural analysis of the Tower (attached). According to the structural analysis, dated November 30, 2007, "the tower and its foundation are sufficient for the proposed, existing, and reserved loadings."

Sprint will expand the steel frame and concrete pad by two feet to accommodate the WiMAX radio and power cabinets. This will not require the size of the compound to be increased. Sprint will also install a new power protection cabinet ("PPC") and remove the old PPC. In addition, Sprint plans to mount a global positioning system (GPS) antenna to the PPC. Therefore, excluding brief, minor, construction-related noise during the addition of the antennas and the installation of the equipment cabinets, Sprint's changes to the Tower will not increase noise levels at the site.

BROWN RUDNICK BERLACK ISRAELS LLP CITYPLACE I 185 ASYLUM STREET HARTFORD, CT 06103 (860) 509-6500 The addition of the WiMAX antennas and microwave dish to Sprint's existing antenna array will not adversely impact the health and safety of the surrounding community or the people working on the Tower. The total radio frequency exposure measured around the Tower will be well below the National Council on Radiation Protection and Measurements' ("NCRP") standard adopted by the Federal Communications Commission ("FCC"). The worst-case power density analysis measured at the base of the Tower indicates that the WiMAX antennas and microwave dish will emit 4.208% and 0.02%, respectively, of the NCRP's standard for maximum permissible exposure. A cumulative power density analysis indicates that together, all of the antennas on the Tower will emit only 46.1437% of the NCRP's standard for maximum permissible exposure. Therefore, the power density levels will be well below the FCC mandated radio frequency exposure limits in all locations around the Tower, even with extremely conservative assumptions. The power density analysis is attached.

In conclusion, Sprint's proposed plan to add three WiMAX antennas, one microwave dish and the associated WiMAX equipment to the site does not constitute a modification subject to the Council's jurisdiction because Sprint will not increase the height of the Tower, will not extend the boundaries of the site, will not increase the noise levels at the site, and the total radio frequency electromagnetic radiation power density will stay within all applicable standards. *See* Conn. Agencies Regs. § 16-50j-72.

Sprint Nextel Corporation

By: Inoma

Thomas J. Regan

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TRANSCEND WIRELESS, LLC

479 ROUTE 17 NORTH, 2ND FLOOR MAHWAH, NJ 07430

1 INTERNATIONAL BLVD, SUITE 800 MAHWAH, NJ 07495

SPRINT NEXTEL

APPUCANT

CORP.

# **MONTOWESE AMODIO SELF STORE, 2755 ST** CT01YC344 / CT03XC011 **2755 STATE STREET** HAMDEN, CT 06517

# NOT FOR CONSTRUCTION

SSUED FOR SITING COUNCIL

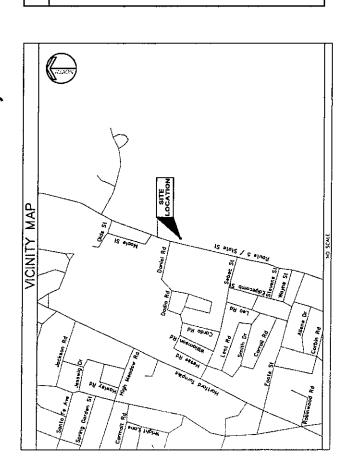
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SUBWITTAL

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41 Winners Chale, PO Box 5269 - Albany, NY 12205 Main (318) 431-4500 - Lime, congrigation, com

CHA PROJECT NO. 17151 - 3002 - 1601



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	SITE NUMBER:	SITE NAME:	SITE ADDRESS:	APPLICANT:	APPLICANT REPRESENTATIVE:	CONTACT:	PROPERTY OWNER:	JURISDICTION:	TAX MAP/LOT:	ZONING DISTRICT:	CORDINATES: LATITUDE: LONGITUDE:

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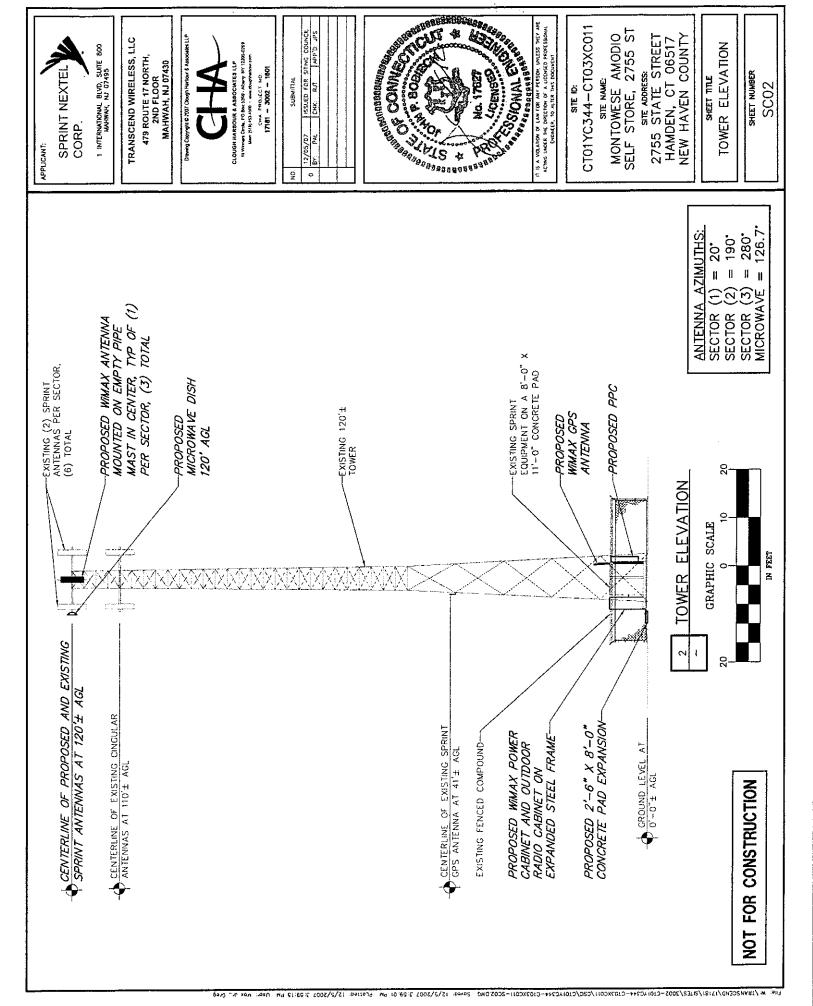
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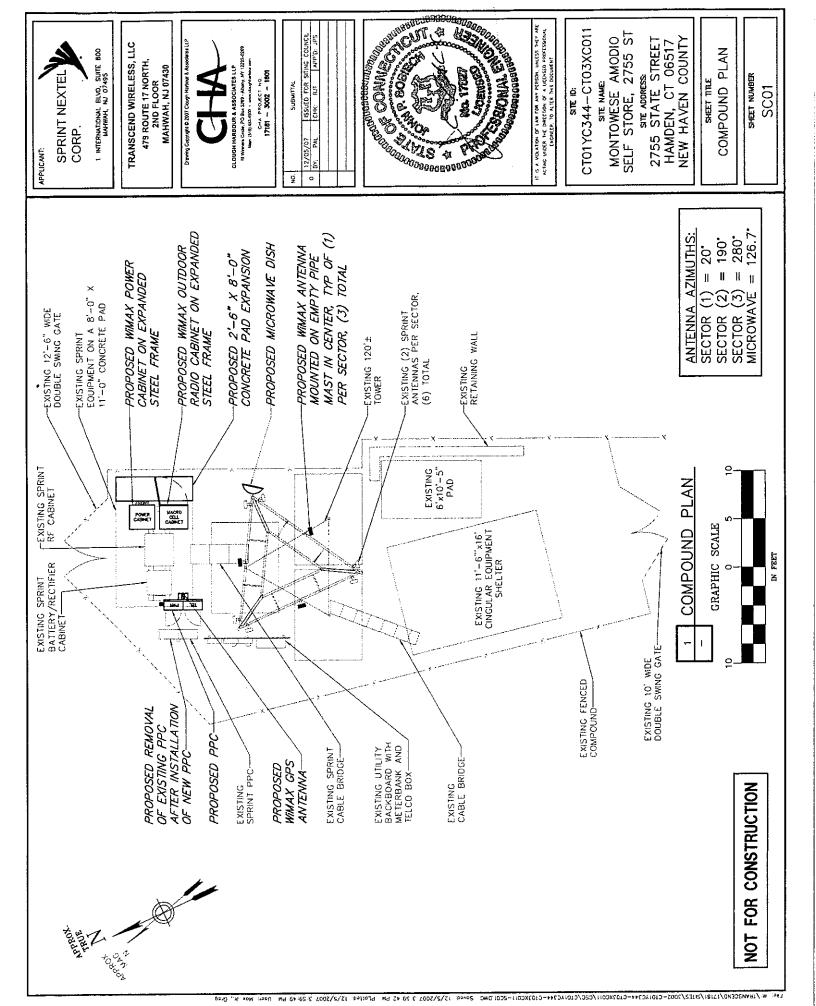
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Date:

November 30, 2007

Eva Morales

Crown Castle International

46 Broadway Albany, NY 12204 (518) 433-6250

**GPD** Associates

520 South Main St., Suite 2531

Akron, Ohio 44311 (614) 210-0751

mimiller@gpdgroup.com

Subject:

**Structural Analysis Report** 

Carrier Designation

Sprint PCS Co-locate Sprint PCS Job Name:

Montowese Amodio Self Store.27

Sprint PCS Job Number:

CT03XC011

Crown Castle Designation

Crown Castle BU Number:

876312

Crown Castle Site Name:

Montowese Amodio Self Store

Crown Castle JDE Job Number:

95988

**GPD Associate Designation** 

**GPD Associates Project Number:** 

2007287.88

Site Data

2755 State Street, Hamden, Connecticut 06473 Latitude 41° 21' 19.67", Longitude 72° 53' 25.13"

120' PiROD Self Support Tower

Dear Ms. Morales,

GPD is pleased to submit this "Structural Analysis Report" to determine the structural integrity of the aforementioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 265840, in accordance with application 53295, revision 3. The purpose of the analysis is to determine the suitability of the tower with the existing and reserved loading configurations and the addition of the following proposed loading configuration:

Elev. 120'

- (3) KMW AM-X-WM-17-65-00T Antennas on an existing 13' LP Platform w/ (6) 1-5/8" coax
- (1) Andrew VHLP2-23-2WH Dish on the same platform w/ (1) 1/2" coax
- (3) KMW KMDAPS2050000 Tower Mounted Amplifiers mounted behind the antennas

This analysis has been performed in accordance with the TIA/EIA-222-F standard and the 2005 CBC based upon a wind speed condition of 85 mph. Based on our analysis we have determined the tower and its foundation are sufficient for the proposed, existing, and reserved loadings as referenced in Tables 1 and 2.

We at GPD appreciate the opportunity of providing our continuing professional services to you and Crown Castle International. If you have any questions please do not hesitate to call.

Respectfully submitted,

David B. Granger, P.E. Connecticut #: 17557

# **TABLE OF CONTENTS**

EXECUTIVE SUMMARY	3
ANALYSIS CRITERIA	2
Table 1 – Proposed Antenna and Cable Information	ა
Table 2 – Existing Antenna and Cable Information	პ
TOWER DESCRIPTION	4
ANALYSIS PROCEDURE	
Table 3 – Documents Provided	4
Analysis Methods	
Assumptions	4
ANALYSIS RESULTS	5
Table 4 – Tower Summary	
Recommended Modifications	
	_
DISCLAIMER OF WARRANTIES	5
APPENDIX A	
RISA Tower Output File	
APPENDIX B	
Tower Elevation Drawing	
APPENDIX C	
Base Level Drawing	
APPENDIX D	
Foundation Analysis	
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# **EXECUTIVE SUMMARY**

The purpose of this analysis was to verify that the modified structure is capable of carrying the proposed loading configuration as specified by Sprint PCS to Crown Castle International. This report was commissioned by Ms. Eva Morales of Crown Castle International.

The tower is structurally satisfactory for the proposed loading configuration for a basic wind speed of 85 mph with  $\frac{1}{2}$ " radial ice (25% reduction) in accordance with TIA/EIA-222-F and the 2005 CBC. The tower rating/capacity is 104.3%, which is within customary engineering tolerance and is therefore satisfactory.

The foundation reactions, with the proposed loads, were found to be less than the capacity of the existing foundations. Therefore, the foundation is adequate. The foundation rating/capacity is 100.8%, which is within customary engineering tolerance and is therefore satisfactory.

# **ANALYSIS CRITERIA**

The current requirements of TIA/EIA-222-F and the 2005 CBC are for a basic wind speed of 85 mph with ½" of radial ice. A 25% reduction in wind load is allowed when wind and ice are applied simultaneously. TIA/EIA-222-F requires towers within New Haven County, Connecticut be analyzed with an 85 mph wind speed.

Table 1 – Proposed Antenna and Cable Information

Center Line Elevation (feet)	Number Of Antenna	Antenna Manufacturer	Antenna Model	Mount.⊺ype	Number Of Feed Lines	Feed Line Size (inches)
120*	3	KMW	AM-X-WM-17-65-00T		6	1-5/8
	1	Andrew	VHLP2-23-2WH		1	1/2
	3	KMW	KMDAPS2050000 TMA's			

<sup>\*</sup> Both the MLA and Proposed loading scenarios were considered. The MLA loading was found to control the analysis.

Table 2 – Existing and Reserved Antenna and Cable Information

Center Line Elevation (feet)	Number Of Antenna	Antenna Manufacturer	Antenna Model	Mount⊤ype	Number Of Feed Lines	Feed Line Size (inches)
120	4	Decibel	DB950F40T2E-M	16'-6" LP Platform	4	1-1/4
	2	Decibel	DB950G65E-M		2	1-1/4
110	6	Powerwave	7770.00	(3) 12' T-frames	12	1-5/8
	3 (Reserved)	Powerwave	7770.00			
	6	Powerwave	LGP21403 TMA's		ļ	
	6 (Reserved)	Powerwave	LGP21403 TMA's			
61	1 (Reserved)	Kathrein	738 449	2' Standoff	1	1/2
	1 (Reserved)	Trimble	Bullet III		1	1/2
41	1	Trimble	Bullet III	Leg	1	1/2

# **TOWER DESCRIPTION**

The 120' tower is supported on three legs and has seven major sections. It has a triangular cross section made of bolted connections from 0' - 50' and welded connections from 50' - 120', with an "X" frame configuration. The tower is fabricated with PiROD truss legs and angle diagonals from 0' - 50' and solid round legs and diagonals from 50' - 120'.

The tower was originally designed for Sprint PCS by PiROD, Inc. of Plymouth, Indiana for a 90 mph wind speed with ½" radial ice in accordance with EIA/TIA-222-F.

# **ANALYSIS PROCEDURE**

Table 4 - Documents Provided

Document	Remarks	Reference	Source
Original Tower Drawings	PiROD File #: A-113604 Rev F, dated 11/4/97	Doc ID # 1611638	Crown DMZ
Foundation Drawings	PiROD File #: A-113604 Rev F, dated 11/4/97	Doc ID # 1611716	Crown DMZ

# Analysis Methods

RISA Tower (Version 5.0.2.0), a commercially available software program, was used to create a three-dimensional model of the tower and calculate member stresses for various dead, live, wind, and ice load cases. All loads were computed in accordance with the ANSI/EIA/TIA-222-F and all local building code requirements. Selected output from the analysis is included in Appendix A.

# **Assumptions**

- Tower and structures were built in accordance with the manufacturer's specifications.
- 2. The tower and structures have been maintained in accordance with manufacturer's specifications.
- 3. The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 & 2, and the referenced drawings.
- 4. Dishes are oriented per Crown CAD elevation drawings

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and GPD Associates should be allowed to review any new information to determine its effect on the structural integrity of the tower.

#### ANALYSIS RESULTS

Table 5 - Tower Summary

Notes	Member	Strength (KSI)	Capacity	Elevation (feet)	Results
	Legs	50	104.3%	0 – 20	Pass
	Leg Bolts	44	81.6%	70	Pass
2	Diagonals	36	65.0%	0 – 20	Pass
	Diag. Bolts	21	50.1%	0 – 20	Pass
	Anchor Bolts	150	53.3%	0	Pass
1	F	Compression	69.	<u> </u>	Pass
1	Foundation	Uplift	100	.8%	Pass
-		Structure Rat	ting: 104.3%		

<sup>1)</sup> See additional documentation in Appendix D for calculations supporting the % capacity used.

#### Recommended Modifications

The tower and its foundations are sufficient for the proposed loads and do not require modifications.

# **DISCLAIMER OF WARRANTIES**

The engineering services rendered by GPD ASSOCIATES in connection with this Structural Analysis are limited to a computer analysis of the tower structure, size and capacity of its members. GPD ASSOCIATES does not analyze the fabrication, including welding, except as included in this report.

The purpose of this report is to assess the feasibility of adding appurtenances usually accompanied by transmission lines. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from GPD Associates, but are beyond the scope of this report.

GPD ASSOCIATES makes no warranties, expressed or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. GPD ASSOCIATES will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of GPD ASSOCIATES pursuant to this report will be limited to the total fee received for preparation of this report.

<sup>2)</sup> Yield Strength varies see Appendix B.

# **APPENDIX A**

**RISA Tower Output File** 

# **RISATower**

GPD Associates 520 South Main St. Suite 2531 Akron, OH 44311 Phone: (330) 572-2100 FAX: (330) 572-2101

Job		Page
	Monotowese Amodio Self Store - BU# 876312	1 of 3
Project		Date
	2007287.88	16:18:04 11/29/07
Client	Crown Castle	Designed by mimiller

# **Tower Input Data**

The main tower is a 3x free standing tower with an overall height of 120.00 ft above the ground line.

The base of the tower is set at an elevation of 0.00 ft above the ground line.

The face width of the tower is 3.50 ft at the top and 10.00 ft at the base.

This tower is designed using the TIA/EIA-222-F standard.

The following design criteria apply:

Tower is located in New Haven County, Connecticut.

Basic wind speed of 85 mph.

Nominal ice thickness of 0.5000 in.

Ice density of 56 pcf.

A wind speed of 74 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in tower member design is 1.333.

Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

# Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or	Allow Shield	Component Type	Placement	Face Offset	Lateral Offset	#	# Per	Clear Spacing	Width or Diameter	Perimeter	Weight
	Leg			ft	in	(Frac FW)		Row	in	in	in	klf
LDF7-50A	С	No	Ar (Leg)	120.00 - 8.00	0.0000	0.09	9	6	1.0000	1.9800		0.00
(1-5/8 FOAM)												
LDF4P-50A	C	No	Ar (Leg)	40.00 - 8.00	0.0000	0.09	1	1	1.0000	1.0000		0.00
(1/2 FOAM)												
LDF7-50A	В	No	Ar (Leg)	110.00 - 8.00	0.0000	0.09	12	6	1.0000	1.9800		0.00
(1-5/8 FOAM)												
LDF4RN-50A	В	No	Ar (Leg)	60.00 - 8.00	0.0000	0.09	2	1	1.0000	0.6300		0.00
(1/2 FOAM)												

# **Discrete Tower Loads**

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement		C <sub>A</sub> A <sub>A</sub> Front	C <sub>A</sub> A <sub>A</sub> Side	Weight
			ft ft ft	0	ft		ft²	ft²	K
PiROD 13' Low Profile Platform (Monopole)	С	None		0.0000	120.00	No Ice 1/2" Ice	15.70 20.10	15.70 20.10	1.30 1.76
(3) FV65-14-00NA2	В	From Face	3.06 -2.57 2.00	-40.0000	120.00	No Ice 1/2" Ice	8.40 8.95	5.28 5.74	0.03 0.08
(3) FV65-14-00NA2	С	From Face	3.94 0.69 2.00	10.0000	120.00	No Ice 1/2" Ice	8.40 8.95	5.28 5.74	0.03 0.08
(3) FV65-14-00NA2	A	From Face	3.76 -1.37	-20.0000	120.00	No Ice 1/2" Ice	8.40 8.95	5.28 5.74	0.03 0.08

# RISATower

GPD Associates 520 South Main St. Suite 2531 Akron, OH 44311 Phone: (330) 572-2100 FAX: (330) 572-2101

Job		Page
	Monotowese Amodio Self Store - BU# 876312	2 of 3
Project		Date
	2007287.88	16:18:04 11/29/07
Client	Crown Castle	Designed by mimiller

Description	Face or	Offset Type	Offsets: Horz	Azimuth Adjustment	Placement		$C_A A_A$ Front	C <sub>A</sub> A <sub>A</sub> Side	Weight
	Leg		Lateral Vert						
			ft	0	ft		$ft^2$	ft²	K
			fi fi						
			2.00						
PiROD 12' Lightweight	Α	From Leg	2.00	0.0000	110.00	No Ice	10.20	10.20	0.25
T-Frame		J	0.00			1/2" Ice	16.20	16.20	0.35
			0.00						
PiROD 12' Lightweight	В	From Leg	2.00	0.0000	110.00	No Ice	10.20	10.20	0.25
T-Frame			0.00			1/2" Ice	16.20	16.20	0.35
PiROD 12' Lightweight	С	From Leg	0.00 2.00	0.0000	110.00	No Ice	10.20	10.20	0.25
T-Frame	C	Lioni reg	0.00	0.0000	110.00	1/2" Ice	16.20	16.20	0.35
1-1 fame			0.00			112 100	10.20	10.20	
(3) 7770.00	Α	From Leg	4.00	0.0000	110.00	No Ice	5.88	2.93	0.04
• ,		•	0.00			1/2" Ice	6.31	3.27	0.07
			0.00						
(3) 7770.00	В	From Leg	4.00	0.0000	110.00	No Ice	5.88	2.93	0.04
			0.00			1/2" Ice	6.31	3.27	0.07
(2) === 2 0 0			0.00	0.0000	110.00	No Ice	£ 00	2.93	0.04
(3) 7770.00	С	From Leg	4.00 0.00	0.0000	110.00	1/2" Ice	5.88 6.31	2.93 3.27	0.04
			0.00			172 100	0.51	3.21	0.07
(4) LGP2140X	Α	From Leg	4.00	0.0000	110.00	No Ice	0.00	0.37	0.02
(I) DOI DI TOIL	••	110111 205	0.00	0.000		1/2" Ice	0.00	0.48	0.02
			0.00						
(4) LGP2140X	В	From Leg	4.00	0.0000	110.00	No Ice	0.00	0.37	0.02
			0.00			1/2" Ice	0.00	0.48	0.02
	_		0.00		440.00		0.00	0.27	0.00
(4) LGP2140X	С	From Leg	4.00	0000,0	110.00	No Ice	0.00 0.00	0.37 0.48	0.02 0.02
			0.00 0.00			1/2" Ice	0.00	0.46	0.02
BULLET III	Α	From Leg	0.00	0.0000	60.00	No Ice	0.10	0.10	0.00
BOLLET III	А	1 tom Leg	0.00	0.0000	00.00	1/2" Ice	0.18	0.18	0.00
			1.00			-,	0.20		
738-454	Α	From Leg	0.00	0.0000	60.00	No Ice	0.02	0.02	0.00
		Ü	0.00			1/2" Ice	0.05	0.05	0.00
			1.00				4		
BULLET III	Α	From Leg	0.00	0.0000	41.00	No Ice	0.10	0.10	0.00
			0.00			1/2" Ice	0.18	0.18	0.00
			0.00						

_								
	Во	lt	De	es	ig	n	Da	ta

Section No.	Elevation	Component Type	Bolt Grade	Bolt Size	Number Of	Maximum Load per	Allowable Load	Ratio Load	Allowable Ratio	Criteria
	ft			in	Bolts	Bolt K	K	Allowable		
Ti	120	Leg	A325N	0.6250	4	2.88	12.89	0.223	1.333	Bolt DS
T2	110	Leg	A325N	0.6250	5	10.25	12.89	0.795	1.333	Bolt DS
T4	70	Leg	A325N	1.0000	6	23.75	34.52	0.688	1.333	Bolt Tension
T5	50	Leg	A325N	1.0000	6	23.34	34.56	0.675	1.333	<b>Bolt Tension</b>
		Diagonal	A325N	1.0000	1	5.23	8.16	0.641	1.333	Member Bearing
Т6	40	Leg	A325N	1.0000	6	25.84	34.56	0.748	1.333	Bolt Tension

# RISATower

GPD Associates 520 South Main St. Suite 2531 Akron, OH 44311 Phone: (330) 572-2100 FAX: (330) 572-2101

Job		Page 3 of 3
	Monotowese Amodio Self Store - BU# 876312	3013
Project		Date
	2007287.88	16:18:04 11/29/07
Client	Crown Castle	Designed by mimiller

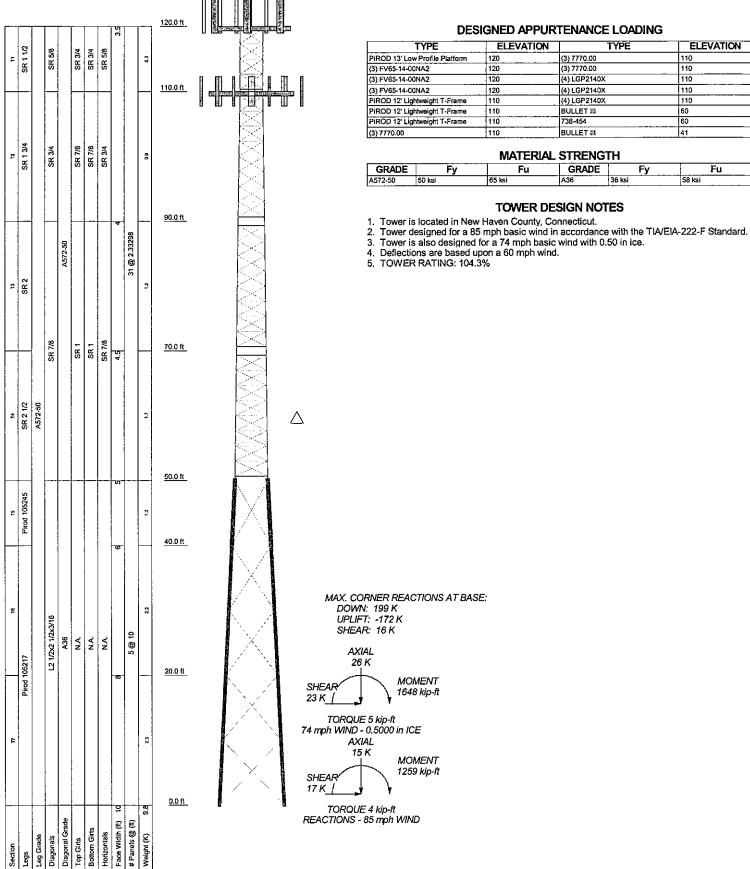
Section No.	Elevation fl	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt	Allowable Load K	Ratio Load Allowable	Allowable Ratio	Criteria
		Diagonal	A325N	1.0000	1	3.60	8.16	0.441	1.333	Member Bearing
T <b>7</b>	20	Leg	A354-BD	1.0000	6	27.59	38.88	0.710	1.333	Bolt Tension
		Diagonal	A325N	1.0000	1	5.45	8.16	0.668	1.333	Member Bearing

# **Section Capacity Table**

Section	Elevation	Component	Size	Critical	P	$SF*P_{allow}$	%	Pass
No.	ft	Туре		Element	K	K	Capacity	Fail
T1	120 - 110	Leg	1 1/2	3	10.29	35.15	29.3	Pass
		Diagonal	5/8	14	-1.94	4.48	43.4	Pass
		Horizontal	5/8	30	-0.15	1.86	8.3	Pass
		Top Girt	3/4	5	-0.55	3.85	14.2	Pass
		Bottom Girt	3/4	7	-0.70	3.85	18.1	Pass
T2	110 - 90	Leg	1 3/4	39	46.01	58.59	78.5	Pass
		Diagonal	3/4	50	-3.96	7.69	51.6	Pass
		Horizontal	3/4	59	-0.73	3.16	23.1	Pass
		Top Girt	7/8	41	-1.25	7.14	17.4	Pass
		Bottom Girt	7/8	44	-2.15	5.51	39.1	Pass
T3	90 - 70	Leg	2	101	-100.88	97.95	103.0	Pass
		Diagonal	7/8	111	<b>-4</b> .91	11.74	41.8	Pass
		Horizontal	7/8	158	-1.62	5.31	30.5	Pass
		Top Girt	1	105	-1.80	9.34	19.2	Pass
		Bottom Girt	1	107	-2.79	7.43	37.5	Pass
T4	70 - 50	Leg	2 1/2	165	-156.16	164.50	94.9	Pass
		Diagonal	7/8	224	-6.01	11.59	51.8	Pass
		Horizontal	7/8	222	-1.75	4.26	41.1	Pass
		Top Girt	1	169	-1.89	7.46	25.3	Pass
		Bottom Girt	1	171	-1.73	6.07	28.6	Pass
T5	50 - 40	Leg	Pirod 105245	229	-153.41	184.67	83.1	Pass
10	00 10	Diagonal	L2 1/2x2 1/2x3/16	236	-5.32	12.14	43.8	Pass
		272801	<b>25 (1.5)</b>				48.1 (b)	
T6	40 - 20	Leg	Pirod 105217	238	-174.97	184.67	94.7	Pass
		Diagonal	L2 1/2x2 1/2x3/16	248	-4.05	10.46	38.7	Pass
T7	20 - 0	Leg	Pirod 105217	253	-192.55	184.67	104.3	Pass
		Diagonal	L2 1/2x2 1/2x3/16	257	-4.93	7.58	65.0	Pass
							Summary	
						Leg (T7)	104.3	Pass
						Diagonal	65.0	Pass
						(T7)		
						Horizontal	41.1	Pass
						(T4)		
						Top Girt	25.3	Pass
						(T4)		
						Bottom Girt	39.1	Pass
						(T2)		
						Bolt Checks	59.7	Pass
						RATING =	104.3	Pass

# **APPENDIX B**

**Tower Elevation Drawing** 



# **DESIGNED APPURTENANCE LOADING**

TYPE	ELEVATION	TYPE	ELEVATION
PiROD 13' Low Profile Platform	120	(3) 7770.00	110
(3) FV65-14-00NA2	120	(3) 7770.00	110
(3) FV65-14-00NA2	120	(4) LGP2140X	110
(3) FV65-14-00NA2	120	(4) LGP2140X	110
PiROD 12' Lightweight T-Frame	110	(4) LGP2140X	110
PiROD 12' Lightweight T-Frame	110	BULLET III	60
PiROD 12' Lightweight T-Frame	110	738-454	60
(3) 7770.00	110	BULLET ##	41

#### MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

#### **TOWER DESIGN NOTES**

- 1. Tower is located in New Haven County, Connecticut.

**GPD** Associates 520 South Main St. Suite 2531 Akron, OH 44311 Phone: (330) 572-2100

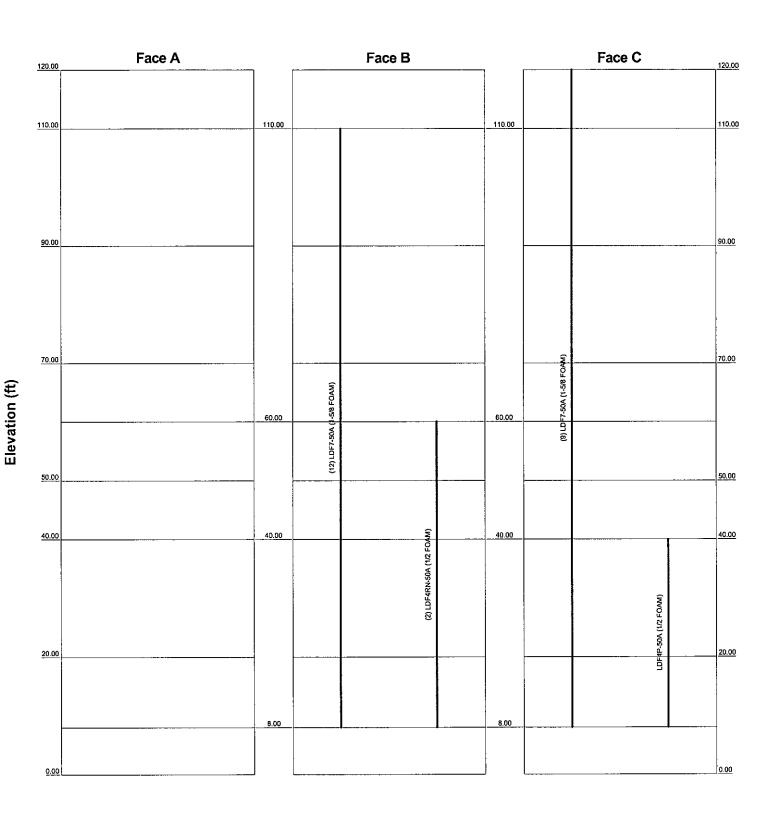
FAX: (330) 572-2101

Monotowese	Amodio Se	If Store -	BU# 87631
Project: 2007287.88			
Client: Crown Castle	<sup>Drawn by:</sup> mimiller	App'd:	

Code: TIA/EIA-222-F Date: 11/30/07 Scale: NTS Dwg No. E-1 Path: G:\Telecom\2007287\88\RISA Model\876312.eri

# Feedline Distribution Chart 0' - 120'

\_\_\_\_\_\_ Round \_\_\_\_\_ Flat \_\_\_\_\_ App In Face \_\_\_\_\_ App Out Face \_\_\_\_\_ Truss Leg



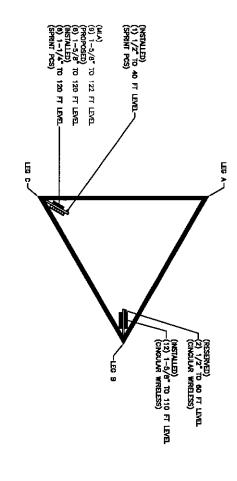
GPD Associates	<sup>lob:</sup> Monotowese Amodio Se	lf Store - BU# 876312
520 South Main St. Suite 2531	Project: 2007287.88	
	Client: Crown Castle Drawn by: mimiller	App'd:
Phone: (330) 572-2100	Code: TIA/EIA-222-F Date: 11/30/07	Scale: NTS
FAX: (330) 572-2101	Path: G:\Telecom\2007287\88\RISA Mode\876312.eri	Dwg No. E-7

# **APPENDIX C**

**Base Level Drawing** 

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LEGEND: FEEDLINES

SOLD BLUE CIRCLE DENOTES EXISTING FEEDLINE OPEN RED CIRCLE DENOTES PROPOSED FEEDLINE OPEN BLUE CIRCLE DENOTES RESERVED FEEDLINE BLUE "X" DENOTES LOCATION NOT GIVEN

NOTE: ASSUME FEEDLINE ATTACHMENT HEIGHT TO TOWER STEEL AT 8-FEET ABOVE FINISHED GRADE UNLESS OTHERWISE SPECIFIED

# **APPENDIX D**

Foundation Analysis

520 South Main Street . Suite 2531 . Akron, Ohio 44311 . PHONE 330-572-2100 . FAX 330-572-2102

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CT01YC344 (2755 State Street, Hamden, CT) - Siting Council	Hamden, CT)	ı —	<b>Power Density Calculations</b>	Calculations				
	-							
Sprint Nextel Directional Antennas ESMR - 2657 MHz 120'	SMR - 2657 MHz	120						
•						-		
						Note: Power dens	Note: Power densities are in mW/ cm2	
					Centerline of	Power density		:
Transmitters:	Frequency	CT Standard	Number of	ERP (W)	Tx antennas	calculated at		
	in MHz	mW/ cm²	Channels	per channel	AGL (ft.)**	base of tower	% of CT Standard	
WIMAX	2657	1.0000	8	562	120	0.0420798	4.2080%	
CDMA	1962.5	1.0000	11	411	120	0.1128366	11.2837%	
Microwave	22500	1.0000	2	4.42	120	0.0002206	0.02%	
	-							
From previous filings:per CSC power density data base	density data ba	esi						
AT&T UMTS							1.4900%	
AT&T GSM							25.3300%	
AT&T GSM							3.8100%	
Total % of CT Standard							46.1437%	