STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

August 10, 2015

Camille M. Mulligan
Alcatel-Lucent
1 Robbins Road
Westford, MA 01886

RE: **Compliance Extension Request**

EM-SPRINT-008-130130	93 Old Amity Road	Bethany
EM-SPRINT-009-131008	8 Sky Edge Drive	Bethel
EM-SPRINT-017-131008	371 Terryville Avenue	Bristol
EM-SPRINT-018-130322	39 Carmen Hill Road	Brookfield
EM-SPRINT-033-130920	179 Shunpike Road	Cromwell
EM-SPRINT-034-130920	41 Padanaram Road	Danbury
EM-SPRINT-069-130409	246 East Franklin Street	Danielson
EM-SPRINT-035-130322	126 Ledge Road	Darien
EM-SPRINT-043-130311	310 Prestige Park Road	East Hartford
EM-SPRINT-047-131008	232 South Main Street	East Windsor
EM-SPRINT-051-130606	280 Morehouse Drive	Fairfield
EM-SPRINT-052-130606	45 Maple Ridge Road	Farmington
EM-SPRINT-057-120122	363 Riversville Road	Greenwich
EM-SPRINT-057-131127	9 Sound Shore Dr., a/k/a 12 Sound Shore Drive	Greenwich
EM-SPRINT-059-130819	99 Briar Road	Groton
EM-SPRINT-062-130509	Talmadge Road	Hamden
EM-SPRINT-068-121226	136 Bulls Bridge Road	Kent
EM-SPRINT-076-130819	135 New Road	Madison
EM-SPRINT-077-130828	Olcott Street a/k/a 250 Olcott Street	Manchester
EM-SPRINT-080-131024	21 West Peak Drive	Meriden
EM-SPRINT-081-130716	1 Service Road	Middlebury
EM-SPRINT-084-130124	528 Wheeler's Farm Rd.	Milford
EM-SPRINT-091-130606	302 Ball Pond Road	New Fairfield
EM-SPRINT-095-131008	26 Washinton Street	New London
EM-SPRINT-097-131008	8 Ferris Road	Newtown
EM-SPRINT-097-131129	201 South Main St.	Newtown
EM-SPRINT-103-121226	173/177 West Rocks Road	Norwalk
EM-SPRINT-104-131112	2 Hinkley Hill Road	Norwich
EM-SPRINT-108-130215	20 Great Oak Road	Oxford
EM-SPRINT-108-130401	133 Coppermine Road	Oxford
EM-SPRINT-108-130712	338 Oxford Road	Oxford
EM-SPRINT-119-130314	47 Inwood Road	Rocky Hill

EM-SPRINT-119-130819	52 New Britain Avenue	Rocky Hill
EM-SPRINT-120-130828	Lower County Road a/k/a 35 Lower County Road	Roxbury
EM-SPRINT-126-130325	219 Nells Rock Road	Shelton
EM-SPRINT-126-130515	70 Platt Road	Shelton
EM-SPRINT-128-131112	22 Wintonbury Road (aka 49a and 53 Wintonbury Road)	Simsbury
EM-SPRINT-130-130531	1432 Old Waterbury Road	Southbury
EM-SPRINT-135-130128	69 Guinea Road	Stamford
EM-SPRINT-135-131112	366 Old Long Ridge Road	Stamford
EM-SPRINT-143-130712	350 Burr Mountain Road	Torrington
EM-SPRINT-151-131209	184 Garden Circle	Waterbury
EM-SPRINT-155-130828	345 North Main Street a/k/a 333 North Main Street	West Hartford
EM-SPRINT-157-130701	56 Norfield Road	Weston
EM-SPRINT-164-130920	Windsor Avenue a/k/a 494 Windsor Avenue	Windsor
EM-SPRINT-NEXTEL-166-130116	164 County Road	Wolcott

Dear Ms. Mulligan:

The Connecticut Siting Council (Council) is in receipt of your letter dated August 10, 2015, submitted on behalf of Sprint, requesting an extension of time to submit notices of completion of construction and associated post modification inspection reports for the above-referenced exempt modifications that were approved in 2013.

Please be advised that Council approval of these exempt modifications has expired. Therefore, any additional changes to these facilities will require explicit notice to the Council pursuant to Regulations of Connecticut State Agencies Section 16-50j-73 and a filing fee.

Thank you for your attention to this matter.

Sincerely,

Melanie A. Bachman
Acting Executive Director

MAB/cm

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
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www.ct.gov/csc

October 25, 2013

Melanie Howlett
HPC Wireless Services
22 Shelter Rock Lane, Building C
Danbury, CT 06811

RE: **EM-SPRINT-097-131008** – Sprint Spectrum L.P. notice of intent to modify an existing telecommunications facility located at 8 Ferris Road, Newtown, Connecticut.

Dear Ms. Howlett:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- Any deviation from the proposed modification as specified in this notice and supporting materials with the Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter;
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration.
- The coax and accessory equipment shall be installed as recommended in the Structural Analysis Report prepared by FDH Engineering dated August 20, 2013 and stamped by Bradley Newman; and
- Within 45 days following completion of the antenna installation, Sprint shall provide documentation certified by a professional engineer that its installation complied with the recommendations of the structural analysis.

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated October 4, 2013. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-

case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,

Melanie A. Bachman
Acting Executive Director

MAB/CDM/cm

c: The Honorable Patricia E. Llodra, First Selectman, Town of Newtown
Gary Frenette, Ms. Cathy Mockton, Zoning Enforcement Officer, Town of Newtown
SBA

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
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www.ct.gov/csc

October 9, 2013

The Honorable Patricia E. Llodra
First Selectman
Town of Newtown
3 Primrose Street
Newtown, CT 06470-5307

RE: **EM-SPRINT-097-131008** – Sprint Spectrum L.P. notice of intent to modify an existing telecommunications facility located at 8 Ferris Road, Newtown, Connecticut.

Dear First Selectman Llodra:

The Connecticut Siting Council (Council) received a request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72, a copy of which has already been provided to you.

If you have any questions or comments regarding the proposal, please call me or inform the Council by October 23, 2013.

Thank you for your cooperation and consideration.

Very truly yours,

Melanie Bachman
Acting Executive Director

MB/cm

c: Gary Frenette, Ms. Cathy Mockton, Zoning Enforcement Officer, Town of Newtown

CSC
CONNECTICUT SITING COUNCIL

EM-SPRINT-097-131008

HPC Wireless Services
22 Shelter Rock Lane.
Building C
Danbury, CT, 06810
P.: 203.797.1112

ORIGINAL

October 4, 2013

VIA OVERNIGHT COURIER

Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051
Attn: Ms. Melanie Bachman, Acting Executive Director

Re: Sprint Spectrum, L.P. – Exempt Modification
8 Ferris Road, Newtown, (aka Newton), Connecticut

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 system in order to implement updated technology. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction that 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 First Selectman of the Town of Newton.

Sprint plans to modify the existing wireless communications facility owned by Tower Co. and located at 8 Ferris Road, Newtown (aka Newton) (coordinates 41°-23'-22.9" N, 73°-20'-17.23" W). Attached are plan and elevation drawings depicting the planned changes, and documentation of the structural sufficiency of the structure to accommodate the revised antenna configuration. Also included is a power density report 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. Sprint will remove the six (6) existing CMDA antennas, and add three (3) dual-band panel antennas on existing pipe masts, three (3) notch filters, and six (6) RRHs (remote radio heads) on a new ring attached to the existing Monopole, all at a centerline height of approximately 107'. Sprint will also install three (3) hybriflex cables along the existing coaxial cable run, and will remove the existing coaxial cable. The proposed modifications will not extend the height of the approximately 118' structure.

2. Sprint will remove three (3) equipment boxes and replace them with three (3) similar equipment boxes, and mount a fiber & power distribution box on a new H-frame, all on the existing concrete pad. Sprint will also remove a GPS antenna and replace it with another GPS antenna. These changes will have no effect on the site boundaries.

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 on the attached report prepared by EBI Consulting, Sprint's operations at the site will result in a power density of approximately 21.507%; the combined site operations will result in a total power density of approximately 95.78%.

Please contact me by phone at (203) 610-1071 or by e-mail at mjhowlett@optonline.net with questions concerning this matter. Thank you for your consideration.

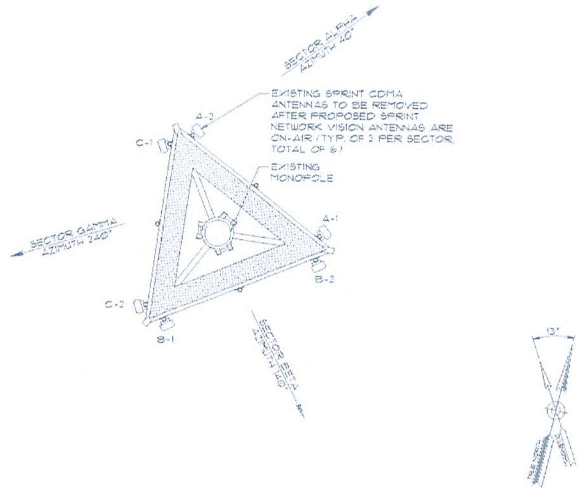
Respectfully yours,

Melanie J. Howlett

Attachments

cc: Honorable E. Patricia Liodra, First Selectman, Town of Newton
Eric and Patricia Gertsch (underlying property owners)

EXISTING ANTENNA PLAN

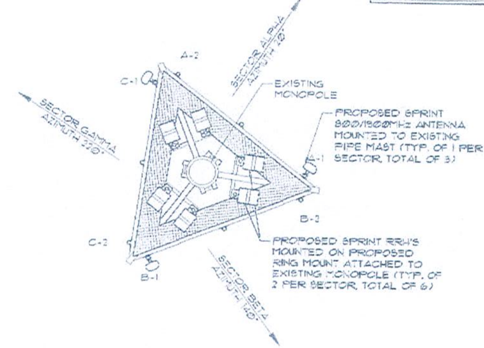


FINAL ANTENNA PLAN

ANTENNA CONFIGURATION NOTE

ALL EXISTING CDMA ANTENNAS TO BE REMOVED / REPLACED WITH NETWORK VISION ANTENNAS FOR FINAL CONFIGURATION.

ANTENNA SEPARATION TO BE FIELD VERIFIED BY THE GENERAL CONTRACTOR.



1 ANTENNA SCENARIO
SCALE = N.T.S.

SECTOR	POSITION	ANTENNA STATUS	FREQUENCY (MHZ)	ANTENNA MAKE	ANTENNA MODEL	AZIMUTHS EXISTING (FOR REFERENCE)	AZIMUTHS PROPOSED	MECHANICAL DOWN TILT	ELECTRICAL DOWN TILT	RAD CENTER (A.G.L.)	*HYBRIFLEX CABLE LENGTH (FT)	RRH MODEL	TOP COAX JUMPER SIZE (IN.)	*TOP COAX JUMPER LENGTH (FT.)	TOP COAX JUMPER MAKE	TOP COAX JUMPER MODEL	COMBINER	*COMBINER JUMPER LENGTH (FT.)	ANTENNA COLOR CODING
ALPHA	A-1	PROPOSED	800/1900	RFS	APXVSPP18-C-A20	40°	20°	0°	0°	105'-0"	135	(1) 800MHz 2X50W	1/2	10	RFS	(2) LCF12-50J	--	--	TBD
								0°	-2°			(1) 1900MHz 4X45 65MHz	1/2	10	RFS	(4) LCF12-50J	--	--	
BETA	B-1	PROPOSED	800/1900	RFS	APXVSPP18-C-A20	140°	140°	0°	-5°	105'-0"	135	(1) 800MHz 2X50W	1/2	10	RFS	(2) LCF12-50J	--	--	TBD
								0°	-2°			(1) 1900MHz 4X45 65MHz	1/2	10	RFS	(4) LCF12-50J	--	--	
GAMMA	C-1	PROPOSED	800/1900	RFS	APXVSPP18-C-A20	240°	220°	0°	-8°	105'-0"	135	(1) 800MHz 2X50W	1/2	10	RFS	(2) LCF12-50J	--	--	TBD
								0°	-2°			(1) 1900MHz 4X45 65MHz	1/2	10	RFS	(4) LCF12-50J	--	--	

* CONTRACTOR TO FIELD VERIFY ALL CABLE/JUMPER LENGTHS AGAINST CURRENT B.O.M.

2 RF SYSTEM SCHEDULE
SCALE = N.T.S.

Sprint VISION
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
P: 800-357-7541

Alcatel·Lucent
600-700 MOUNTAIN AVE
MURRAY HILL, NJ 07974

Sa Salient ARCHITECTS, LLC
New Jersey Office:
5 East Palisade Avenue
Englewood, NJ 07631
P: 201-567-0032 – F: 201-567-0355

STATE OF CONNECTICUT
PAUL M. GIONFRIDDO
No. 13566
LICENSED PROFESSIONAL ENGINEER
PAUL GIONFRIDDO P.E.
CT P.E. # 13566

Paul Gionfriddo 11/20/13

SUBMITTALS

NO.	DATE	DESCRIPTION	BY
1	06/04/12	PRELIMINARY	NAS
2	07/26/12	REVISED PER COMMENTS	JHP
3	09/11/13	ISSUED AS FINAL	AD

SITE NUMBER
CT13XC245

SITE NAME
DODGINGTOWN/NEXTEL TOWER

SITE ADDRESS
8 FERRIS ROAD
NEWTON, CT 06470

SHEET TITLE
ANTENNA SCENARIO AND RF SYSTEM SCHEDULE

SALIENT PROJ. NO: CT13XC245
SHEET NO: A-3
DATE:
CHECKED BY: ADC

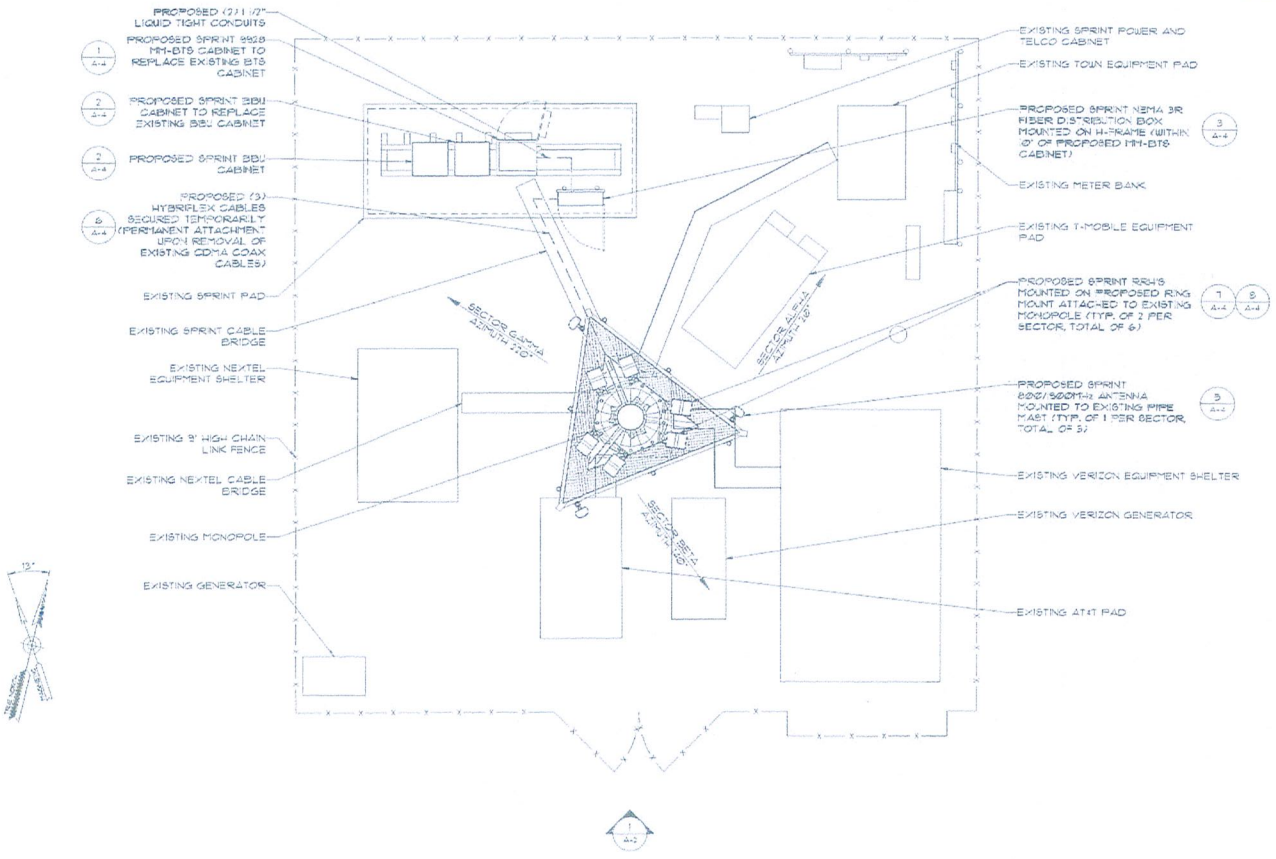
NOTES:

SEE MONOPOLE NOTES ON GN-2

ANTENNA CONFIGURATION NOTE

ALL EXISTING CDMA ANTENNAS TO BE REMOVED / REPLACED WITH NETWORK VISION ANTENNAS FOR FINAL CONFIGURATION.

ANTENNA SEPARATION TO BE FIELD VERIFIED BY THE GENERAL CONTRACTOR.



1 COMPOUND PLAN

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

Sprint VISION

1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
P: 800-357-7641

Alcatel·Lucent

600-700 MOUNTAIN AVE
MURRAY HILL, NJ 07974

Salient ARCHITECTS, LLC

New Jersey Office:
8 East Palisade Avenue
Englewood, NJ 07631
P: 201-567-0032 F: 201-567-0055

STATE OF CONNECTICUT
PAUL M. GIONFRIDDO
No. 15832
LICENSED PROFESSIONAL ENGINEER

Paul Gionfriddo 1/24/13

PAUL M. GIONFRIDDO P.E.
CT. #15832

SUBMITTALS

NO.	DATE	DESCRIPTION	BY
1	09/04/12	PRELIMINARY	NAS
2	01/25/13	REVISED PER COMMENTS	JMP
3	01/17/13	ISSUED AS FINAL	AD

SITE NUMBER:
CT13XC245

SITE NAME:
DODGINGTOWN/NEXTEL TOWER

SITE ADDRESS:
8 FERRIS ROAD
NEWTON, CT 06470

SHEET TITLE:
COMPOUND PLAN

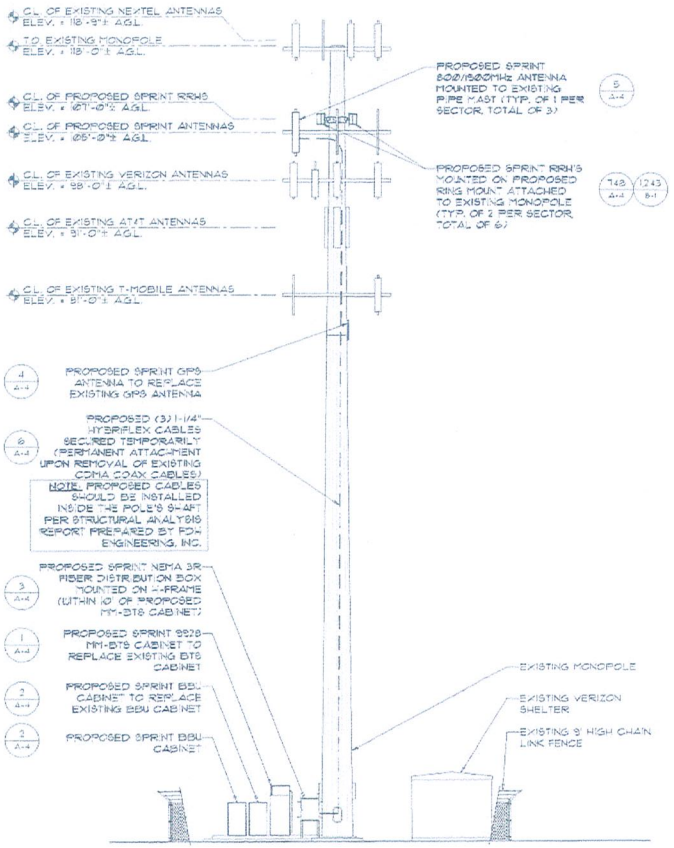
SALIENT PROJ. NO: CT13XC245

DATE:

CHECKED BY: ADC

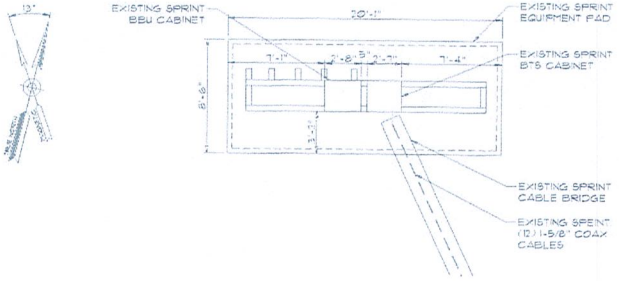
SHEET NO: A-1

NOTES:
SEE MONOPOLE NOTES ON GN-2

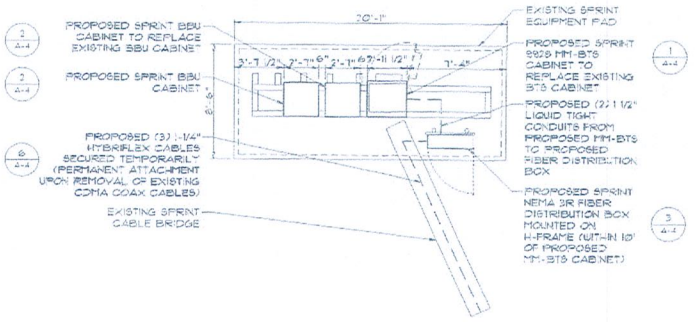


1 ELEVATION
SCALE = 1/8" = 1'-0"

EXISTING EQUIPMENT LAYOUT



FINAL EQUIPMENT LAYOUT



EQUIPMENT CABINET CONFIGURATION
EXISTING LAYOUT: 2 CABINETS
PROPOSED LAYOUT: 3 CABINETS

2 ENLARGED EQUIPMENT CABINET LAYOUT
SCALE = 1/4" = 1'-0"

Sprint VISION
1 INTERNATIONAL BLVD, SUITE 500
MAHWAH, NJ 07495
P: 800-357-7641

Alcatel·Lucent
600-700 MOUNTAIN AVE
MURRAY HILL, NJ 07974

Salient ARCHITECTS, LLC
New Jersey Office:
6 East Palisade Avenue
Englewood, NJ 07631
P: 201-567-0032 - F: 201-567-9056

STATE OF CONNECTICUT
PAUL M. GIONFRIDDO
No. 12066
LICENSED
PROFESSIONAL ENGINEER
PAUL GIONFRIDDO P.E.
CT # 12066

Paul Gionfriddo 11/26/13

SUBMITTALS

NO	DATE	DESCRIPTION	BY
1	09/19/12	PRELIMINARY	MAS
2	07/05/13	REVISED PER COMMENTS	JHP
3	09/17/13	ISSUED AS FINAL	AD

SITE NUMBER:
CT13XC245
SITE NAME:
DODGINGTOWN NEXTEL TOWER
SITE ADDRESS:
8 FERRIS ROAD
NEWTON, CT 06470

SHEET TITLE:
ELEVATION & ENLARGED EQUIPMENT CABINET LAYOUT

SALIENT PROJ. NO: CT13XC245
DATE:
CHECKED BY: ADC
SHEET NO: A-2

FDH Engineering, Inc., 6521 Meridien Drive Raleigh, NC 27616, Ph. 919.755.1012

Structural Analysis for SBA Network Services, Inc.

118' Monopole Tower

SBA Site Name: Newtown Ferris Rd
SBA Site ID: CT46132-A-05

FDH Project Number 13SAU21400

Analysis Results

Tower Components	83.8%	Sufficient
Foundation	59.8%	Sufficient

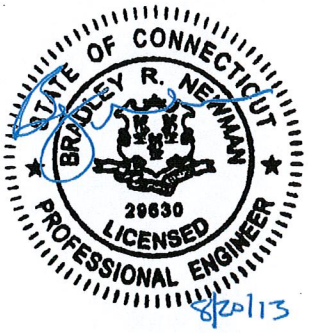
Prepared By:

Andrew Reynolds, EI
Project Engineer

Reviewed By:

Bradley Newman, PE
Senior Project Engineer

FDH Engineering, Inc.
6521 Meridien Drive
Raleigh, NC 27616
(919) 755-1012
info@fdh-inc.com



August 20, 2013

Prepared pursuant to TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures and 2005 Connecticut Building Code (CBC)

TABLE OF CONTENTS

EXECUTIVE SUMMARY

At the request of SBA Network Services, Inc., FDH Engineering, Inc. performed a structural analysis of the monopole located in Newtown, CT to determine whether the tower is structurally adequate to support both the existing and proposed loads pursuant to the *Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, TIA/EIA-222-F and 2005 Connecticut Cuilding Coded (CBC)*. Information pertaining to the existing/proposed antenna loading, current tower geometry, geotechnical data, and member sizes was obtained from:

- Vertical Solutions, Inc. (Project No. 110591.01 Rev 0) Rigorous Structural Analysis dated May 23, 2010
- Engineered Endeavors, Inc. (Project No. 5189 Rev I) Design Calculations for a Spread Footer Foundation dated August 20, 1999
- Applied Earth Technologies (Job No. 4677) Report on Subsurface Investigation dated June 7, 1999
- Vertical Solutions, Inc. (Project No. 100188.08) modification drawings dated May 7, 2010
- SBA Network Services, Inc.

The *basic design wind speed* per the *TIA/EIA-222-F* standards and *2005 CBC* is 85 mph without ice and 38 mph with 3/4" radial ice. Ice is considered to increase in thickness with height.

Conclusions

With the existing and proposed antennas from Sprint in place at 107 ft and 105 ft, the tower meets the requirements of the *TIA/EIA-222-F* standards and *2005 CBC* provided the **Recommendations** listed below are satisfied. Furthermore, provided the foundation was constructed per the original design drawings (see Engineered Endeavors, Inc. Project No. 5189 Rev I), and give the soil parameters (see Applied Earth Technologies Job No. 4677), the foundation should have the necessary capacity to support both the proposed and existing loading. For a more detailed description of the analysis of the tower, see the **Results** section of this report.

Our structural analysis has been performed assuming all information provided to FDH Engineering, Inc. is accurate (i.e., the steel data, tower layout, existing antenna loading, and proposed antenna loading) and that the tower has been properly erected and maintained per the original design drawings.

Recommendations

To ensure the requirements of the *TIA/EIA-222-F* standards and *2005 CBC* are met with the existing and proposed loading in place, we have the following recommendations:

1. The proposed coax should be installed inside the pole's shaft.
2. RRU/RRH Stipulation: the proposed equipment may be installed in any arrangement as determined by the client.

APPURTENANCE LISTING

The proposed and existing antennas with their corresponding cables/coax lines are shown in **Table 1**. *If the actual layout determined in the field deviates from the layout, FDH Engineering, Inc. should be contacted to perform a revised analysis.*

Table 1 - Appurtenance Loading

Existing Loading:

Antenna Elevation (ft)	Description	Coax and Lines	Carrier	Mount Elevation (ft)	Mount Type
130	(1) Decibel DB222 Dipole	(12) 7/8"	Town of Newtown	118	(1) Low-Profile Platform
119.42	(1) Telewave ANT150D Dipole				
118.8	(9) Decibel DB844H90E-XY		Sprint		
105	(6) Decibel DB980H90E-M	(12) 1-5/8"	Sprint	105	(1) Low-Profile Platform
98	(3) Powerwave P65-16-XL-2 (4) Andrew DB846H80E-SX (2) RFS APL868013 (3) RYMSA MGD3-800TX	(12) 1-5/8"	Verizon	98	(1) Low-Profile Platform
91	(3) Powerwave 7770.00 (3) Powerwave P65-16-XLH-RR (6) Powerwave LGP21401 TMAs (6) Ericsson RRUS-11 RRUs (1) Raycap Surge Arrestor	(12) 7/8" (2) 5/8" DC (1) 3/8" Fiber	AT&T	91	(1) Low-Profile Platform
81	(6) RFS APX16DWV-16DWV (6) Remec S20057A1 TMAs	(24) 7/8"	T-Mobile	81	(1) Low-Profile Platform
75	(1) GPS	(1) 1/2"[1]	Sprint	75	Direct

1. Coax installed outside the pole's shaft.

Proposed Loading:

Antenna Elevation (ft)	Description	Coax and Lines	Carrier	Mount Elevation (ft)	Mount Type
107	(3) ALU 1900 4x45 65 MHz RRHs (3) ALU 800 MHz 2x50W RRHs (3) ALU 800 MHz External Notch Filters	(3) 1-1/4" Fiber	Sprint[1]	107	(1) Universal Ring Mount
105	(3) RFS APXVSPP18-C-A20			105	(1) Low-Profile Platform

1. According to the previous structural analysis (see Vertical Solutions Project No. 110591.01 Rev. 0), Sprint reserves the rights to (12) Dapa 48000 panels and (12) 1-5/8" coax @ 105'. This analysis was performed with the leased loading in place.

RESULTS

The following yield strength of steel for individual members was used for analysis:

Table 2 - Material Strength

Member Type	Yield Strength
Tower Shaft Sections	65 ksi
Base Plate Stiffeners	50 ksi
Base Plate	60 ksi
Anchor Bolts	75 ksi

Table 3 displays the summary of the ratio (as a percentage) of force in the member to their capacities. Values greater than 100% indicate locations where the maximum force in the member exceeds its capacity. *Note: Capacities up to 100% are considered acceptable.* **Table 4** displays the maximum foundation reactions.

If the assumptions outlined in this report differ from actual field conditions, FDH Engineering, Inc. should be contacted to perform a revised analysis. Furthermore, as no information pertaining to the allowable twist and sway requirements for the existing or proposed appurtenances was provided, deflection and rotation were not taken into consideration when performing this analysis.

See the **Appendix** for detailed modeling information

Table 3 - Summary of Working Percentage of Structural Components

Section No	Elevation ft	Component Type	Size	% Capacity*	Pass Fail
L1	118 - 91.29	Pole	TP23.22x17x0.188	44.4	Pass
L2	91.29 - 45.13	Pole	TP33.48x22.0476x0.313	83.8	Pass
L3	45.13 - 0	Pole	TP45.19x31.7587x0.375	77.0	Pass
		Anchor Bolts	(12) 2.25" Ø on 52" BC	75.1	Pass
		Base Plate	PL 58" Ø x 1.75" Thk.**	82.1	Pass
		Base Plate Stiffeners	PL 7" x 16" x 1/2" Thk.	59.2	Pass

*Capacities include a 1/3 allowable stress increase for wind per *TIA/EIA-222-F* standards.
**Base Plate diameter is assumed.

Table 4 - Maximum Base Reactions

Base Reactions	Current Analysis* *(TIA/EIA-222-F)*
Axial	26 k
Shear	22 k
Moment	1,931 k-ft

*Foundation determined adequate per independent analysis.

GENERAL COMMENTS

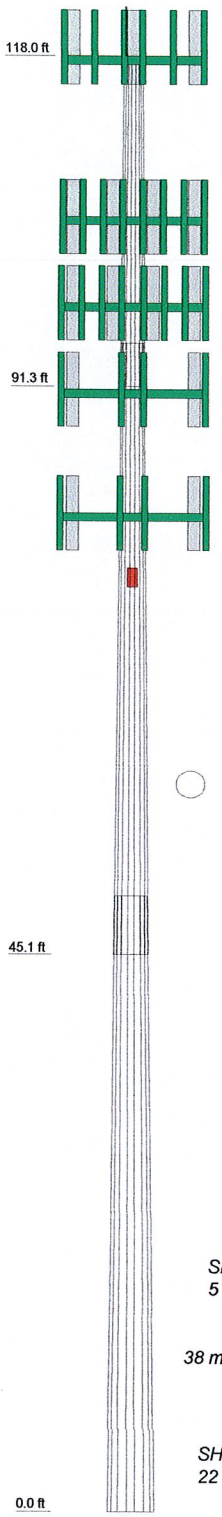
This engineering analysis is based upon the theoretical capacity of the structure. It is not a condition assessment of the tower and its foundation. It is the responsibility of SBA Network Services, Inc. to verify that the tower modeled and analyzed is the correct structure (with accurate antenna loading information) modeled. If there are substantial modifications to be made or the assumptions made in this analysis are not accurate, FDH Engineering, Inc. should be notified immediately to perform a revised analysis.

LIMITATIONS

All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of this report. All opinions and conclusions are subject to revision based upon receipt of new or additional/updated information. All services are provided exercising a level of care and diligence equivalent to the standard and care of our profession. No other warranty or guarantee, expressed or implied, is offered. Our services are confidential in nature and we will not release this report to any other party without the client's consent. The use of this engineering work is limited to the express purpose for which it was commissioned and it may not be reused, copied, or distributed for any other purpose without the written consent of FDH Engineering, Inc.

APPENDIX

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	26.71	18	0.1880	3.42	17.0000	23.2200		1.1
2	49.58	18	0.3130	4.75	22.0476	33.4800	A572-65	4.6
3	49.88	18	0.3750		31.7587	45.1900		7.7
								13.4



AXIAL
36 K

SHEAR
5 K

MOMENT
496 kip-ft

TORQUE 0 kip-ft
38 mph WIND - 0.7500 in ICE

AXIAL
26 K

SHEAR
22 K

MOMENT
1931 kip-ft

TORQUE 1 kip-ft
REACTIONS - 85 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	118	(1) Low-Profile Platform	98
DB222 Dipole	118	7770.00 w/Mount Pipe	91
ANT150D Dipole	118	7770.00 w/Mount Pipe	91
Pipe Mount	118	7770.00 w/Mount Pipe	91
(3) DB844H90E-XY w/ Mount Pipe	118	P65-16-XLH-RR w/Mount Pipe	91
(3) DB844H90E-XY w/ Mount Pipe	118	P65-16-XLH-RR w/Mount Pipe	91
(3) DB844H90E-XY w/ Mount Pipe	118	P65-16-XLH-RR w/Mount Pipe	91
(1) Low-Profile Platform	118	(2) LGP21401 TMA	91
(4) 48000 w/ Mount Pipe	105	(2) LGP21401 TMA	91
(4) 48000 w/ Mount Pipe	105	(2) LGP21401 TMA	91
(4) 48000 w/ Mount Pipe	105	(2) RRUS-11	91
(1) Low-Profile Platform	105	(2) RRUS-11	91
P65-16-XL-2 w/Mount Pipe	98	(2) RRUS-11	91
P65-16-XL-2 w/Mount Pipe	98	Raycap Surge Arrestor	91
P65-16-XL-2 w/Mount Pipe	98	(1) Low-Profile Platform	91
(2) DB846H80E-SX w/ Mount Pipe	98	(2) APX16DWV-16DWVw/ Mount Pipe	81
DB846H80E-SX w/ Mount Pipe	98	(2) APX16DWV-16DWVw/ Mount Pipe	81
DB846H80E-SX w/ Mount Pipe	98	(2) APX16DWV-16DWVw/ Mount Pipe	81
APL868013 w/ Mount Pipe	98	(2) Remec S20057A1 TMAs	81
APL868013 w/ Mount Pipe	98	(2) Remec S20057A1 TMAs	81
MGD3-800TX w/Mount Pipe	98	(2) Remec S20057A1 TMAs	81
MGD3-800TX w/Mount Pipe	98	(1) Low-Profile Platform	81
MGD3-800TX w/Mount Pipe	98	GPS	75

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 83.8%

FDH ENGINEERING
Tower Analysis

FDH Engineering, Inc.
6521 Meridien Drive
Raleigh, NC 27616
Phone: (919) 755-1012
FAX: (919) 755-1031

Job: *Newtown Ferris Rd, CT46132-A-05*			
Project: *13SAU21400*			
Client: SBA Network Services, Inc.	Drawn by: Ashley Miller	App'd:	
Code: TIA/EIA-222-F	Date: 08/20/13	Scale: NTS	
Path:		Dwg No. E-1	

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RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

Sprint Existing Facility

Site ID: CT13XC245

Dodging / Nextel Tower
8 Ferris Road
Newton, CT 06470

August 28, 2012

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting

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August 28, 2012

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

Re: Emissions Values for Site **CT13XC245 – Dodging / Nextel Tower**

EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at 8 Ferris Road, Newton, CT, for the purpose of determining whether the emissions 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 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of μW/cm2 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 ($\mu W/cm^2$). The general population exposure limit for the cellular band is approximately 567 $\mu W/cm^2$, and the general population exposure limit for the PCS band is 1000 $\mu W/cm^2$. 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 8 Ferris Road, Newton, CT, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario. Actual values seen from this site will be dramatically less than those shown in this report. 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) 2 CDMA Carriers (1900 MHz) were considered for each sector of the proposed installation.
2) 1 CDMA Carrier (850 MHz) was considered for each sector of the proposed installation
3) 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.
4) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The actual gain in this direction was used per the manufactures supplied specifications.
5) The antenna used in this modeling is the RFS APXVSPP18-C-A20. This is based on feedback from the carrier with regards to anticipated antenna selection. This antenna 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. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario.

6) The antenna mounting height centerline of the proposed antennas is **108 feet** above ground level (AGL)
7) 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	CT13XC245 - Dodging / Nextel Tower
Site Addresss	8 Ferris Road, Newton, CT 06470
Site Type	Monopole

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 in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	2	40	15.9	108	102	1/2 "	0.5	0	1386.9474	47.92539	4.79254%
1a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	108	102	1/2 "	0.5	0	389.96892	13.47521	2.37658%
														Sector total Power Density Value:		7.169%	

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 in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
2a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	2	40	15.9	108	102	1/2 "	0.5	0	1386.9474	47.92539	4.79254%
2a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	108	102	1/2 "	0.5	0	389.96892	13.47521	2.37658%
														Sector total Power Density Value:		7.169%	

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 in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
3a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	2	40	15.9	108	102	1/2 "	0.5	0	1386.9474	47.92539	4.79254%
3a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	108	102	1/2 "	0.5	0	389.96892	13.47521	2.37658%
														Sector total Power Density Value:		7.169%	

Site Composite MPE %	
Carrier	MPE %
Sprint	21.507%
Nextel	4.100%
Verizon Wireless	29.050%
AT&T	33.330%
T-Mobile	7.800%
Total Site MPE %	**95.787%**

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Summary

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

The anticipated Maximum Composite contributions from the Sprint facility are **21.507% (7.169% from each sector)** 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 **95.787%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions

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

Scott Heffernan
RF Engineering Director

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