January 23, 2014

David Martin and
Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Notice of Exempt Modification
188 Moody Street
Enfield, CT 06082
N 42° 00' 07.24"
W -72° 31' 18.09"
Sprint Id #: NV2.5_CT33XC257

Dear Mr. Martin and Members of the Siting Council:

On behalf of Sprint, SBA Communications is submitting an exempt modification application to the Connecticut Siting council for modification of existing equipment at a tower facility located at 188 Moody Street, Enfield, CT.

The 188 Moody Street facility consists of a 188' Monopole owned and operated by SBA Properties, LLC. In order to accommodate technological changes and enhance system performance in the State of Connecticut, Sprint plans to modify the equipment configurations at many of its existing cell 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 chief elected official of the municipality in which the affected cell site is located.

As part of Sprint's modernization project, Sprint desires to upgrade their equipment to meet the new standards of 4G technology. The new equipment will allow customers to download files and browse the internet at a high rate of speed while also allowing their phones to be compatible with the latest 4G technology.

Attached is a summary of the planned modifications, including power density calculations reflecting the change in Sprint's operations at the site along with the required fee of $625.

The changes to the facility do not constitute modifications 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 or altered. 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 overall height of the structure will be unaffected.

2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound other than the new equipment cabinets.

3. The proposed changes will not increase the noise level at the existing facility by six decibels or more.

4. The changes in radio frequency power density 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.

For the foregoing reasons, SBA Communications on behalf of Sprint, respectfully submits that he proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (203) 446-7700 with any questions you may have concerning this matter.

Thank you,

Kri Pelletier
SBA Communications Corporation
33 Boston Post Road West Suite 320
Marlborough, MA 01752
508-251-0720 x 302 + T
508-251-1755 + F
203-446-7700 + C
Kpelletier@sbasite.com

Sprint

Equipment Modification

188 Moody Street, Enfield, CT 06082
Site number CT33XC257

Tower Owner: SBA Properties, LLC

Equipment Configuration: Monopole

Current and/or approved:

- (2) RFS APXVSPP18-C-A20
- (1) RFS APXV9ERR18-C-A20
- (3) Alcatel Lucent 1900 MHz RRH RRUs
- (3) Alcatel Lucent 800 MHz RRH RRUs
- (4) RFS ACU-A20-N RETs
- (3) Alcatel Lucent 800 MHz Filters
- (3) 1-1/4" Fiber
-

Planned Modifications:

- (2) RFS APXVSPP18-C-A20
- (1) RFS APXV9ERR18-C-A20
- (3) RFS APXVTM14-C-I20
- (3) Alcatel Lucent 1900 MHz RRH RRUs
- (3) Alcatel Lucent 800 MHz RRH RRUs
- (3) Alcatel Lucent TD-RRH8X20-25 RRUs
- (4) RFS ACU-A20-N RETs
- (3) Alcatel Lucent 800 MHz Filters
- (3) 1-1/4" Fiber
- (1) 1-1/4" Fiber

Structural Information:

The attached structural analysis demonstrates that the tower and foundation will have adequate structural capacity to accommodate the proposed modifications.

Power Density:

The anticipated Maximum Composite contributions from the Sprint facility are 16.168% of the allowable FCC established general public limit. The anticipated composite MPE value for this site assuming all carriers present is 37.798% of the allowable FCC established general public limit sampled at the ground level.

Site Composite MPE %	
Carrier	MPE %
Sprint	16.168%
T-Mobile	1.120%
Clearwire	0.590%
AT&T	15.050%
MetroPCS	3.110%
Nextel	2%
Total Site MPE %	37.798%

January 23, 2014

Mr. Matthew W. Coppler
Town Manager
Town of Enfield
820 Enfield Street
Enfield, CT 06082

RE: Telecommunications Facility @ 188 Moody Street, Enfield, CT

Dear Mr. Coppler,

In order to accommodate technological changes and enhance system performance in the State of Connecticut, Sprint will be changing its equipment configuration at certain cell sites.

As required by Regulations of Connecticut State Agencies (R.C.S.A.) Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review Sprint's proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The accompanying letter to the Siting Council fully describes Sprint's proposal for the referenced cell site. However, if you have any questions or require any further information on our plans or the Siting Council's procedures, please call me at (508) 614-0389.

Thank you,

Kri Pelletier
SBA Communications Company
33 Boston Post Road West Suite 320
Marlborough, MA 01752
508-251-0720 x 302 + T
508-251-1755 + F
203-446-7700 + C
kpelletier@sbasite.com

Structural Analysis for SBA Network Services, Inc.

188' Monopole Tower

SBA Site Name: Enfield-Moody Rd.
SBA Site ID: CT46124-A-00
Sprint Site ID: CT33XC257

FDH Project Number 13TFP51400

Analysis Results

Tower Components	90.7%	Sufficient
Foundation	88.1%	Sufficient

Prepared By:

Heather W. Jones

Heather W. Jones, EI
Project Engineer

Reviewed By:

Christopher M. Murphy

Christopher M. Murphy, PE
President
CT PE License No. 25842

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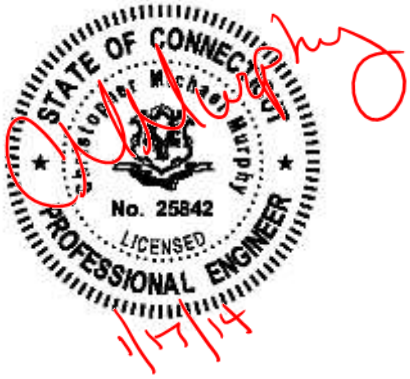
6521 Meridien Drive
Raleigh, NC 27616
(919) 755-1012
info@fdh-inc.com



January 17, 2014

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

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EXECUTIVE SUMMARY

At the request of SBA Network Services, Inc., FDH Engineering, Inc. performed a structural analysis of the monopole located in Enfield, 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 State Building Code (CSBC)*. Information pertaining to the existing/proposed antenna loading, current tower geometry, foundation dimensions, geotechnical data, and member sizes was obtained from:

- Paul J. Ford & Company (Job No. 29200-155) original design drawings dated February 12, 2000
- Paul J. Ford & Company (Project No. A29208-0031) Monopole Extension Project dated March 14, 2008
- Vertical Solutions, Inc. (Project No. 120735 Rev. 0) Rigorous Structural Analysis dated May 1, 2012
- Tectonic Engineering Consultants, P.C (W.O No. 1170.C054) Geotechnical Evaluation dated September 30, 1998
- FDH Engineering, Inc. (Project No. 1335291400) Modification Drawings for a 188' Monopole dated July 8, 2013
- SBA Network Services, Inc.

The *basic design wind speed* per the *TIA/EIA-222-F* standards and *2005 CSBC* is 80 mph without ice and 38 mph with 1" radial ice. Ice is considered to increase in thickness with height.

Conclusions

With the existing and proposed antennas from Sprint in place at 168 ft, the tower meets the requirements of the *TIA/EIA-222-F* standards and *2005 CSBC* provided the **Recommendations** listed below are satisfied. Furthermore, provided the foundation was constructed per the original design drawings (see Paul J. Ford & Company Job No. 29200-155), given the soil parameters (see Tectonic Engineering Consultants, P.C W.O No. 1170.C054), and provided modifications have been correctly installed (see FDH Engineering, Inc. Project No. 1335291400), 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 CSBC* 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.
3. The modifications outlined in the FDH Engineering, Inc. (Project No. 1335291400) Modification Drawings for a 188' Monopole must be correctly installed in order for this analysis to be valid.
4. Equipment at 178.5 ft must be removed prior to installing the proposed loading.

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[1]	Carrier	Mount Elevation (ft)	Mount Type
188	(9) RFS APX16PV-16PVL-E (12) TMAs	(18) 1-5/8"	T-Mobile	184	(1) Low Profile Platform
181	(2) Andrew VHLP1-23 Dishes	(3) 1/2" (6) 5/16"[4] (9) 1-5/8"[4]	Sprint/Clearwire	178.5	(1) Low Profile Platform
178.5	(3) Kathrein 840 10054[4] (9) Decibel DB844H90E-XY[4] (3) 26"x14"x9" RRUs[4] (1) GPS[4]				
168	(2) RFS APXVSPP18-C-A20 (1) RFS APXV9ERR18-C-A20 (3) Alcatel Lucent 1900 MHz RRH RRUs (3) Alcatel Lucent 800 MHz RRH RRUs (4) RFS ACU-A20-N RETs (3) Alcatel Lucent 800 MHz Filters	(3) 1-1/4" Fiber	Sprint	168.5	(1) Low Profile Platform
158	(2) Powerwave P65-17-XLH-RR (1) Andrew SBNH-1D6565C (6) Ericsson RRUS-11 RRUs (3) Powerwave 7770.00 (6) Powerwave LGP21401 TMAs (1) Raycap DC6-48-60-18-8F Surge Arrestor	(6) 1-5/8" (2) 5/8" (1) 3/8"	AT&T	158	(3) T-Arms
148	(3) Kathrein 742 213	(6) 1-5/8"	Pocket Communications	148[2]	Flush Mounted
60.5	(1) GPS	(1) 1/2"	Sprint	60.5[3]	(1) Standoff

1. Coax installed inside the pole's shaft unless otherwise noted.
2. Pocket Communications has (6) 1-5/8" coax installed outside the pole shaft in a single row to 148 ft.
3. Sprint has (1) 1/2" coax installed outside the pole shaft to 60.5 ft.
4. Equipment to be removed prior to installing proposed loading shown below.

Proposed Loading:

Antenna Elevation (ft)	Description	Coax and Lines	Carrier	Mount Elevation (ft)	Mount Type
168	(2) RFS APXVSPP18-C-A20 (1) RFS APXV9ERR18-C-A20 (3) RFS APXVTM14-C-I20 (3) Alcatel Lucent 1900 MHz RRH RRUs (3) Alcatel Lucent 800 MHz RRH RRUs (3) Alcatel Lucent TD-RRH8X20-25 RRUs (4) RFS ACU-A20-N RETs (3) Alcatel Lucent 800 MHz Filters	(3) 1-1/4" Fiber (1) 1-1/4" Fiber	Sprint	168.5	(1) Low Profile Platform

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
Flange Plate	36 ksi (Assumed)
Flange Bolts	Fu = 120 ksi
Base Plate	50 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. **Table 5** displays the maximum antennas rotations at service wind speeds.

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	188 - 178	Pole	TP24x22.34x0.1875	10.4	Pass
	178	Flange Bolts	(9) 0.75"Ø w/ BC = 19"	37.4	Pass
	178	Flange Plate	26"Ø PL x 1" thk	24.1	Pass
L2	178 - 132.5	Pole	TP31.554x24x0.2188	78.5	Pass
L3	132.5 – 107.25	Pole	TP38.588x30.4523x0.3125	83.4	Pass
	107.25 – 87.3	Modified Pole	TP38.588x30.4523x0.3125	85.9	Pass
L4	87.5 – 79.25	Pole	TP45.309x37.1743x0.375	87.4	Pass
	79.25 – 43.25	Modified Pole	TP45.309x37.1743x0.375	87.1	Pass
L5	43.25 – 35.5	Pole	TP51.74x43.6044x0.4375	90.7	Pass
	35.5 – 0	Modified Pole	TP51.74x43.6044x0.4375	88.3	Pass
		Anchor Bolts	(16) 2.25"Ø w/ BC = 59"	76.1	Pass
			(3) 2.25"Ø w/ BC = 68"	87.9	Pass
		Base Plate	57" SQ PL x 3.25" thk	68.1	Pass

*Capacities include a 1/3 allowable stress increase for wind per TIA/EIA-222-F Standards

Table 4 - Maximum Base Reactions

Base Reactions	Current Analysis *(TIA/EIA-222-F)**	Original Design *(TIA/EIA-222-F)*
Axial	47 k	34 k
Shear	29 k	30 k
Moment	3,702 k-ft	3,850 k-ft

*Foundation determined adequate per independent analysis.

Table 5 – Maximum Antenna Rotations at Service Wind Speeds

Centerline Elevation (ft)	Antenna	Tilt (deg)*	Twist (deg)*
181	(2) Andrew VHLP1-23 Dishes	3.1818	0.0034

*Allowable tilt and twist values to be determined by the carrier.

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

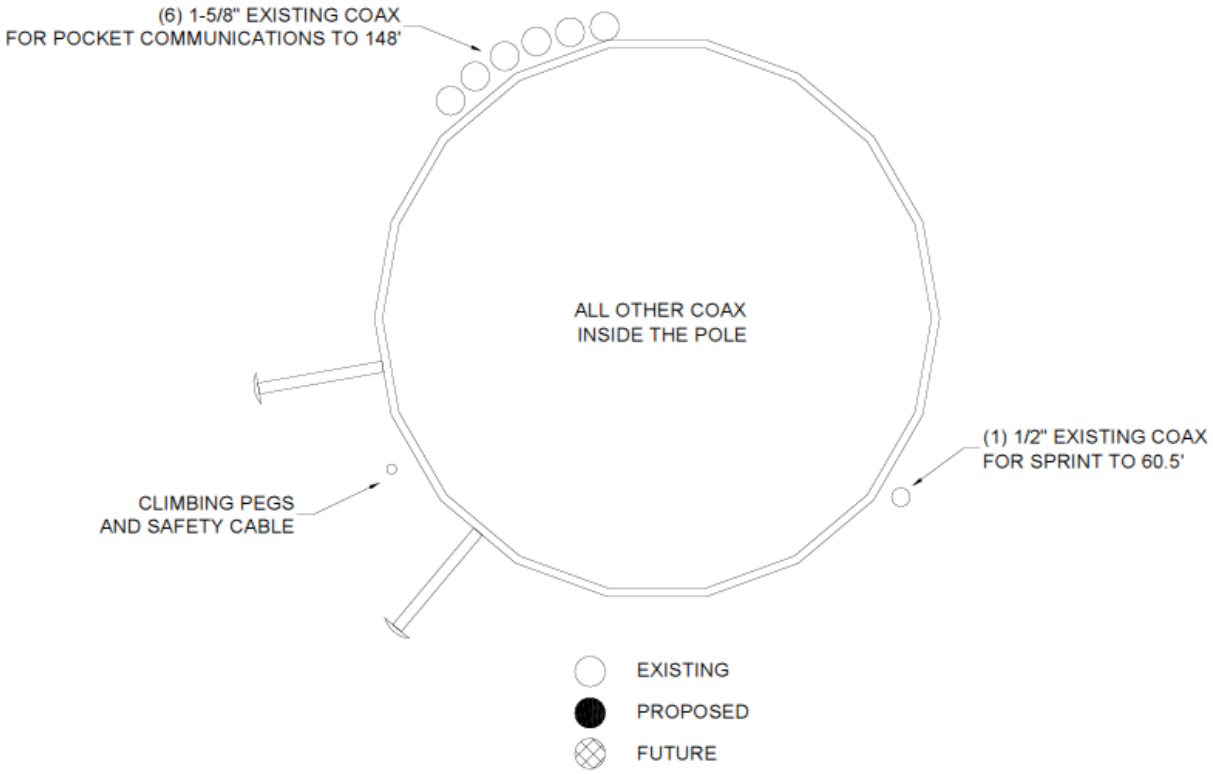
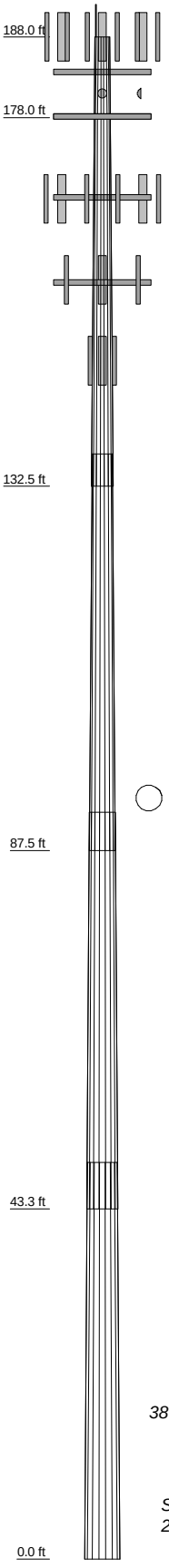
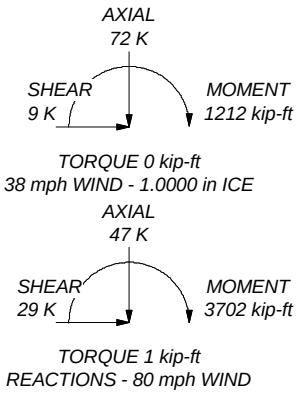


Figure 1 – Assumed Coax Layout

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	10.00	18	0.1875		22.3400	24.0000		0.5
2	45.50	18	0.2188	4.00	24.0000	31.5540		3.0
3	49.00	18	0.3125	4.75	30.4523	38.5880		5.7
4	49.00	18	0.3750	5.75	37.1743	45.3090		8.1
5	49.00	18	0.4375		43.6044	51.7400		10.9
							A607-65	





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	188	800 MHz Filter	168.5
(3) RFS APX16PV-16PVL-E w/ Mount Pipe	184	800 MHz Filter	168.5
		TD-RRH8x20-25	168.5
(3) RFS APX16PV-16PVL-E w/ Mount Pipe	184	TD-RRH8x20-25	168.5
		TD-RRH8x20-25	168.5
(3) RFS APX16PV-16PVL-E w/ Mount Pipe	184	(1) Low Profile Platform	168.5
		APXVSPP18-C-A20 w/Mount Pipe	168.5
(4) TMA	184	APXVSPP18-C-A20 w/Mount Pipe	168.5
(4) TMA	184	SBNH-1D6565C w/ Mount Pipe	158
(4) TMA	184	(2) RRUS-11	158
(1) Low Profile Platform	184	(2) RRUS-11	158
(1) Low Profile Platform	178.5	(2) RRUS-11	158
VHLP1-23	178.5	7770.00 w/Mount Pipe	158
VHLP1-23	178.5	7770.00 w/Mount Pipe	158
APXV9ERR18-C-A20 w/Mount Pipe	168.5	7770.00 w/Mount Pipe	158
APXVTM14-C-I20 w/Mount Pipe	168.5	(2) LGP21401 TMA	158
APXVTM14-C-I20 w/Mount Pipe	168.5	(2) LGP21401 TMA	158
APXVTM14-C-I20 w/Mount Pipe	168.5	(2) LGP21401 TMA	158
1900 MHz RRH	168.5	DC6-48-60-18-8F Surge Arrestor	158
1900 MHz RRH	168.5	(3) T-Arms	158
1900 MHz RRH	168.5	P65-17-XLH-RR w/Mount Pipe	158
800 MHz RRH	168.5	P65-17-XLH-RR w/Mount Pipe	158
800 MHz RRH	168.5	742 213 w/ Mount Pipe	148
800 MHz RRH	168.5	742 213 w/ Mount Pipe	148
(2) ACU-A20-N RET	168.5	742 213 w/ Mount Pipe	148
ACU-A20-N RET	168.5	GPS	60.5
ACU-A20-N RET	168.5	(1) Standoff	60.5
800 MHz Filter	168.5		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A607-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.

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

Job: Enfield Moody Rd. - CT46124-A-00			
Project: 13TFP51400			
Client: SBA	Drawn by: Heather Jones	App'd:	
Code: TIA/EIA-222-F	Date: 01/17/14	Scale: NTS	
Path:		Dwg No. E-1	

EBI Consulting
environmental | engineering | due diligence

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

Sprint Existing Facility

Site ID: CT33XC257

Claryville - Nextel
188 Moody Street
Enfield, CT 06082

January 13, 2014

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

EBI Consulting
environmental | engineering | due diligence

January 13, 2014

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

Re: Radio Frequency Maximum Permissible Exposure (MPE) Assessment for Site:
CT33XC257– Claryville - Nextel

Site Total: 37.798% - MPE% in full compliance

EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at 188 Moody Street, Enfield, 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 97-01and 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 1900 MHz and 2500 MHz bands 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 188 Moody Street, Enfield, 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) 3 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 actual gain in this direction was used per the antenna manufactures supplied specifications.

6) The antennas used in this modeling are the RFS APXVSPP18-C-A20, The RFS APXV9ERR18-C-A20 and the RFS APXVTMM-C-120. 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 APXVTMM-C-120 has a 15.9 dBd gain value at its main lobe at 2500 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.
7) The antenna mounting height centerline for the proposed and existing antennas is **168 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	CT33XC257 - Claryville Nextel
Site Addresss	188 Moody Street, Enfield 06082
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	AVPV9ERR18-C-A20	RRH	1900 MHz	CDMA / LTE	20	3	60	14.9	168	162	1/2 "	0.5	0	1652.5372	22.63743	2.26374%
1a	RFS	APXV9ERR18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	11.9	168	162	1/2 "	0.5	0	276.07685	3.781864	0.66700%
1B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	40	1	40	13.4	168	162	1/2 "	0.5	0	779.93784	10.68405	1.88431%
														Sector total Power Density Value:		4.815%	

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	3	60	15.9	168	162	1/2 "	0.5	0	2080.4211	28.49884	2.84988%
2a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	168	162	1/2 "	0.5	0	389.96892	5.342025	0.94216%
2B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	40	1	40	13.4	168	162	1/2 "	0.5	0	779.93784	10.68405	1.88431%
														Sector total Power Density Value:		5.676%	

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	3	60	15.9	168	162	1/2 "	0.5	0	2080.4211	28.49884	2.84988%
3a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	168	162	1/2 "	0.5	0	389.96892	5.342025	0.94216%
3B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	40	1	40	13.4	168	162	1/2 "	0.5	0	779.93784	10.68405	1.88431%
														Sector total Power Density Value:		5.676%	

Site Composite MPE %	
Carrier	MPE %
Sprint	16.168%
T-Mobile	1.120%
Clearwire	0.590%
AT&T	15.050%
MetroPCS	3.110%
Nextel	2%
Total Site MPE %	**37.798%**

EBI Consulting
environmental | engineering | due diligence

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.

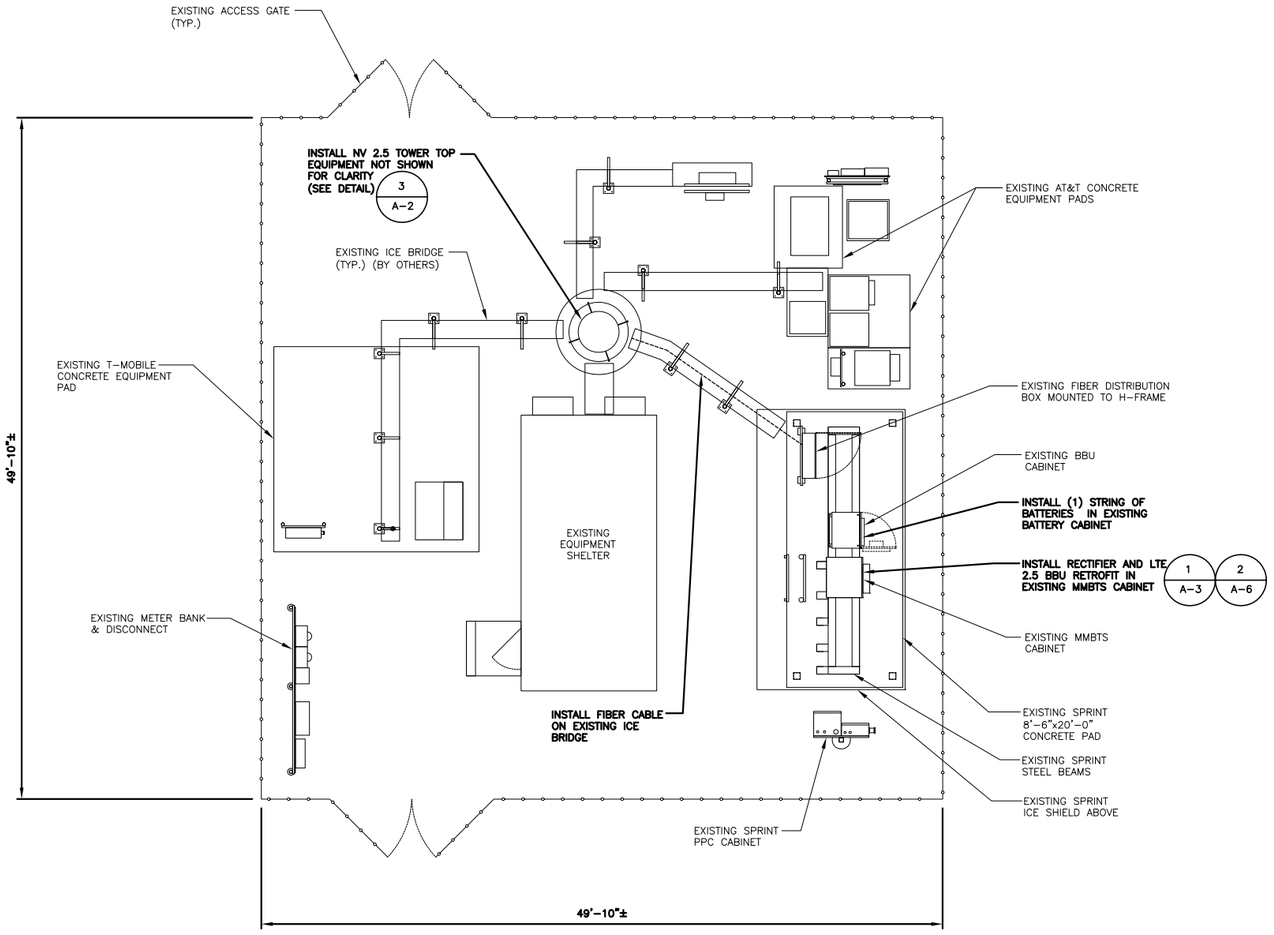
The anticipated Maximum Composite contributions from the Sprint facility are **16.168% (4.815% from sector 1 and 5.676% each from sectors 2 and 3)** of the allowable FCC established general public limit considering all three sectors simultaneously sampled at the ground level.

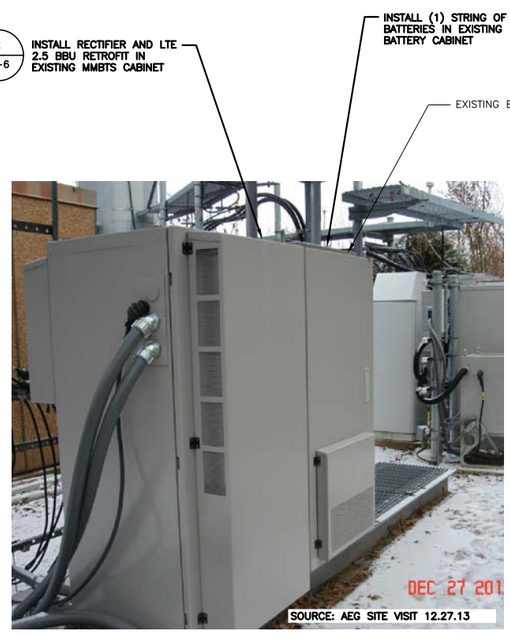
The anticipated composite MPE value for this site assuming all carriers present is **37.798%** of the allowable FCC established general public limit sampled at 6 feet above ground level. This total composite site value is based upon MPE values listed in the Connecticut Siting Council database for existing 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.

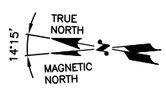
Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803





RAN EQUIPMENT PHOTO DETAIL 2 A-1
SCALE: N.T.S.



COMPOUND PLAN 1 A-1
SCALE: 3/16"=1'-0"

GRAPHIC SCALE
0 2'-8" 5'-4" 10'-8" 16'-0"

Sprint
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

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MARLBOROUGH, MA 01752 TEL: (508) 251-1807

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Surveying - Telecommunications
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EAST PROVIDENCE, RI 02914 FAX: (401) 633-6354

STATE OF CONNECTICUT
MARC R. CHRETIEN
NO. 29307
LICENSED
PROFESSIONAL ENGINEER

CHECKED BY: MRC

APPROVED BY: MRC

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	12/25/13	ISSUED FOR BP	AL

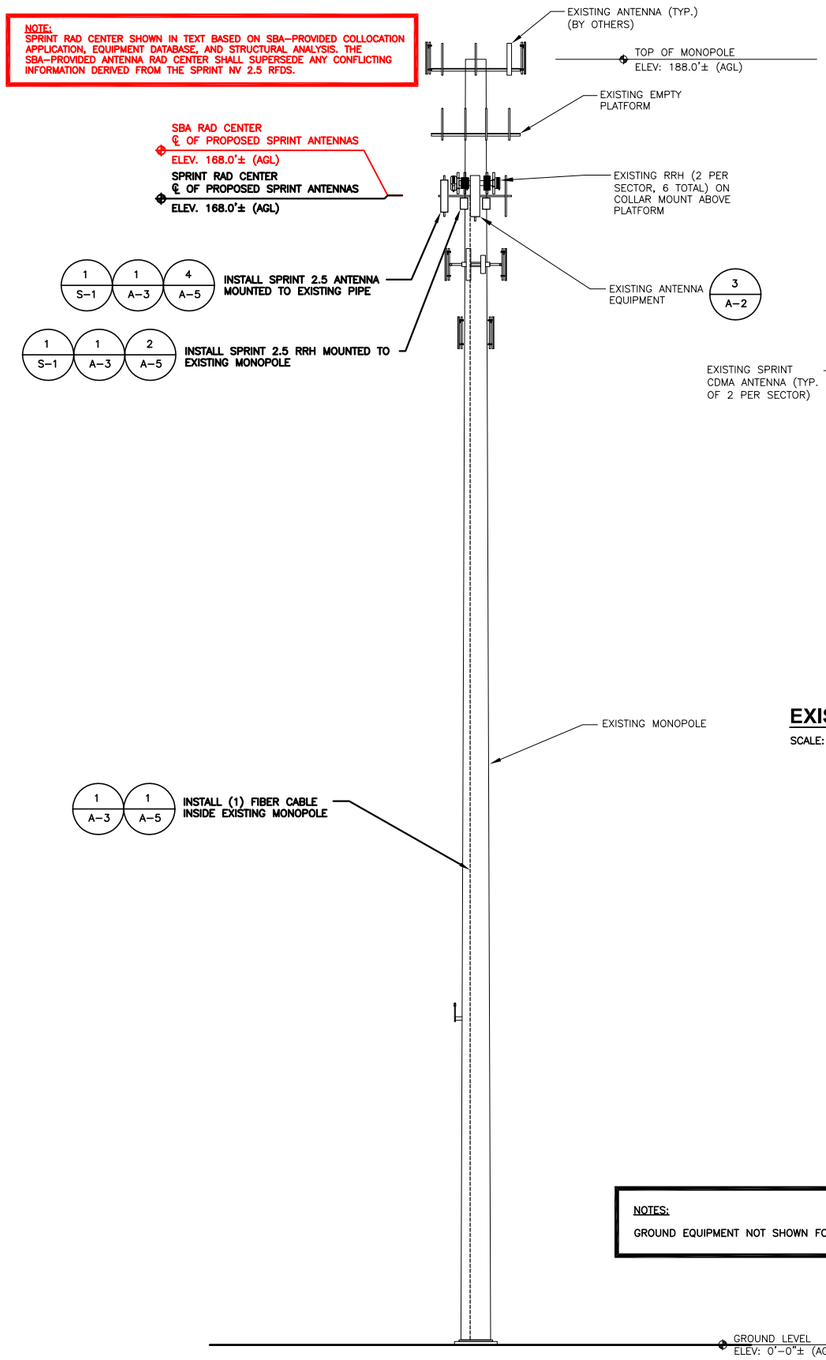
SITE NUMBER:
CT33XC257
SITE NAME:
CLARYVILLE
NEXTEL
SITE ADDRESS:
188 MOODY ROAD
ENFIELD, CT 06082

SHEET TITLE
COMPOUND PLAN

SHEET NUMBER
A-1

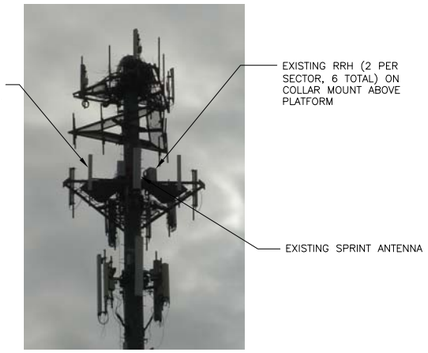
SPECIAL CONSTRUCTION NOTE:
SPRINT TOWER TOP WORK IS CONTINGENT ON THE FOLLOWING:
* COMPLETION OF A GLOBAL STRUCTURAL STABILITY ANALYSIS (PROVIDED BY TOWER OWNER).
* COMPLETION OF AN ANTENNA/RRH MOUNT STRUCTURAL ASSESSMENT (PROVIDED BY A&E VENDOR).
* GC SHALL FURNISH, INSTALL AND COMPLETE ALL REQUIRED STRUCTURAL MODIFICATIONS AS INDICATED IN BEFORE-MENTIONED ANALYSIS AND ASSESSMENT.
* SBA COMMUNICATIONS CORPORATION SHALL PROVIDE WRITTEN ACCEPTANCE/APPROVAL FOR THE COMPLETION OF ALL TOWER/FOUNDATION STRUCTURAL MODIFICATIONS INCLUDING (AS NECESSARY) CONTROLLED CONSTRUCTION INSPECTIONS, SHOP-DRAWING APPROVALS, MATERIALS TEST RESULTS, AND FINAL ENGINEER'S AFFIDAVIT.

NOTE:
SPRINT RAD CENTER SHOWN IN TEXT BASED ON SBA-PROVIDED COLLOCATION APPLICATION, EQUIPMENT DATABASE, AND STRUCTURAL ANALYSIS. THE SBA-PROVIDED ANTENNA RAD CENTER SHALL SUPERSEDE ANY CONFLICTING INFORMATION DERIVED FROM THE SPRINT NV 2.5 RFDS.



ELEVATION 1 A-2
SCALE: 3/32"=1'-0"

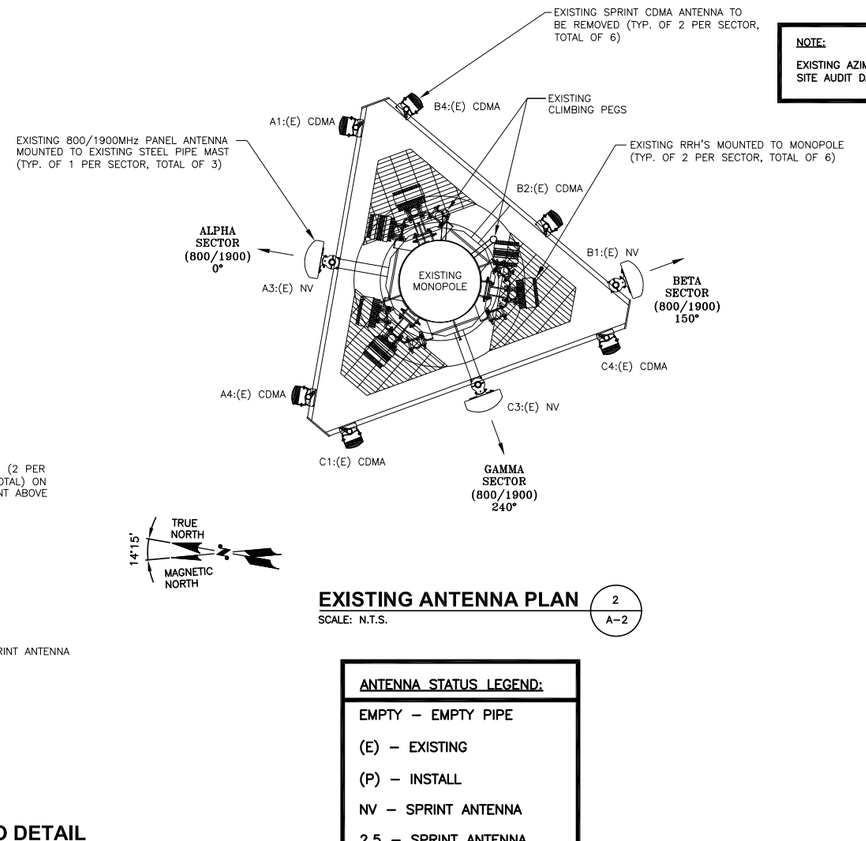
GRAPHIC SCALE
0 5'-4" 10'-8" 21'-6" 32'-0"



SOURCE: AEG SITE VISIT 12.27.13

EXISTING PARTIAL ELEVATION PHOTO DETAIL
SCALE: N.T.S.

NOTES:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY

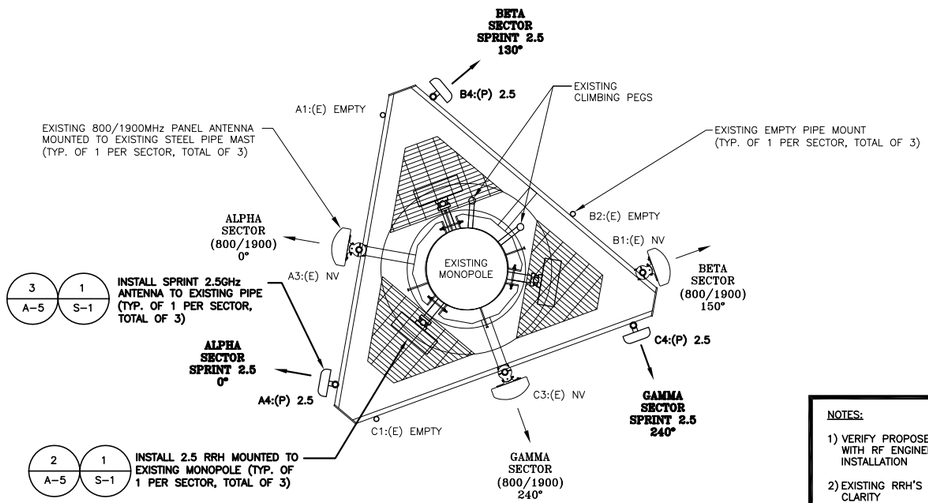


NOTE:
EXISTING AZIMUTHS FROM SPRINT SITE AUDIT DATED 09/04/13

EXISTING ANTENNA PLAN
2 A-2
SCALE: N.T.S.

ANTENNA STATUS LEGEND:

EMPTY – EMPTY PIPE
(E) – EXISTING
(P) – INSTALL
NV – SPRINT ANTENNA
2.5 – SPRINT ANTENNA



PROPOSED ANTENNA PLAN
3 A-2
SCALE: N.T.S.

NOTES:
1) VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION
2) EXISTING RRH'S NOT SHOWN FOR CLARITY

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STATE OF CONNECTICUT MARC R. CHRETIEN NO. 28307 LICENSED PROFESSIONAL ENGINEER

CHECKED BY: MRC

APPROVED BY: MRC

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	12/25/13	ISSUED FOR BP	AL

SITE NUMBER:
CT33XC257
SITE NAME:
CLARYVILLE NEXTEL
SITE ADDRESS:
188 MOODY ROAD
ENFIELD, CT 06082

SHEET TITLE
ELEVATION AND ANTENNA PLANS

SHEET NUMBER
A-2

Market	Northern Connecticut		
Site ID	CT33XC257		
Equipment Vendor	ALU		
2500 MHz RAN Equipment			
Incremental Additional AC Power for New Equipment (amps)	0		
BBU Kit	ALU BBU Kit		
BBU Kit Quantity	1		
BBU Kit Dimensions (in.)	11.8x19x3.5		
Growth Cabinet	None		
Growth Cabinet Quantity	NA		
Growth Cabinet Dimensions (in.)	NA		
Growth Cabinet Weight (lbs.)	NA		
ALU ONLY: Top Hat	None		
ALU ONLY: Top Hat Quantity	NA		
ALU ONLY: Top Hat Dimensions (in.)	NA		
ALU ONLY: Top Hat Weight (lbs.)	NA		
Batteries	ALU Battery		
Battery Quantity	4		
Battery Dimensions (in.)	10.1" x 6.9" x 17.6"		
Battery Weight (lbs./each)	105		
Rectifier Shelf	ALU Rectifier Shelf		
Rectifier Shelf Quantity	1		
Rectifier	ALU Rectifier		
Rectifier Quantity	3		
Rectifier Dimensions (in.)	11.5" x 5.5" x 2.5"		
Rectifier Weight (lbs./each)	5.5		
Power/Fiber Junction Box Manufacturer	None		
2500 MHz Tower Top Equipment	SECTOR 1 (ALPHA)	SECTOR 2 (BETA)	SECTOR 3 (GAMMA)
Azimuth	0	130	240
Antenna Quantity	1	1	1
Antenna RAD Center (ft.)	168 (* SBA 168.0)	168 (* SBA 168.0)	168 (* SBA 168.0)
Antenna Make/Model	RFS APXVTM14-C-I20	RFS APXVTM14-C-I20	RFS APXVTM14-C-I20
E-Tilt (degrees)	-2	-2	-2
M-Tilt (degrees)	0	0	0
RF Filter Make/Model	TBD	TBD	TBD
RF Filter Quantity	0	0	0
RRH Make/Model	TD-RRH8x20-25	TD-RRH8x20-25	TD-RRH8x20-25
RRH Quantity	1	1	1
Tower Top Coax Jumper Manufacturer	Coax Jumper. Mfg TBD.		
Tower Top Coax Jumper Diameter (in.)	0.5		
Tower Top Coax Jumper Quantity	27		
Tower Top Coax Jumper Length (ft.)	8 (** A&E 15)		
AISG Cable Manufacturer	Commscope ATCB-B01-006		
AISG Cable Diameter (in.)	0.315		
AISG Cable Quantity	3		
AISG Cable Length (ft.)	8 (** A&E 15)		
Power and Fiber Cable Manufacturer	ALU Fiber only (** A&E SEE DETAIL 1/A-5)		
Power and Fiber Cable Diameter (in.)	0.70		
Power and Fiber Cable Quantity	1		
Power and Fiber Cable Length Calculated as Antenna RAD plus 20% (ft.)	202 (** A&E 200)		
Power Junction Cylinder Manufacturer	0		
Optic Fiber Junction Cylinder Manufacturer	0		
GPS Antenna Manufacturer	NA		
Comments			
RFDS generated from document entitled: "2.5 Northeast Site List 10-26-13" prepared by Vertix Consulting, LLC.			
Comments in Red Text provided by A&E Vendor.			
IMPORTANT CONSTRUCTION NOTE: General Contractor/Tower Crew shall verify that the latest RF Data Sheet is used for equipment installation.			
* Note: Antenna Rad Center based on SBA-Provided Collocation Application, Equipment Database, and Structural Analysis. The SBA-Provided Antenna Rad Center shall supersede any conflicting information derived from the Sprint NV 2.5 or ALU Database.			
** Note: Sprint/ALU CM shall confirm Tower Top Coax Jumper Length and Power and Fiber Cable Length before preparing BOM. Recommended Power and Fiber Cable Length based on NV 2.5 Equipment Audit plus 20 Feet for (2) 10-foot coils at each end of the fiber trunk.			

RF DATA SHEET
SCALE: N.T.S.

1
A-3

SPRINT CONSTRUCTION STANDARDS:

GENERAL CONTRACTOR SHALL ADHERE TO THE FOLLOWING SPRINT CONSTRUCTION STANDARDS.

- CONSTRUCTION STANDARDS: INTEGRATED CONSTRUCTION STANDARDS FOR WIRELESS SITES – VERSION 4.0, INCLUDING EXHIBITS A–M.
- CONSTRUCTION SPECIFICATIONS: CONSTRUCTION STANDARDS EXHIBIT A – STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES (VERSION 4.0).
- GROUNDING STANDARDS: EXTERIOR GROUNDING SYSTEM DESIGN. GROUNDING STANDARDS (SUPPLEMENT): ANTI–THEFT UPDATE TO SPRINT GROUNDING 082412 AND SPRINT ENGINEERING LETTER EL–0504 DATED 04.20.12.
- WEATHER PROOFING STANDARDS: EXCERPT FROM CONSTRUCTION STANDARDS EXHIBIT A, SECTION 3.6 WEATHERPROOFING CONNECTORS AND GROUND KITS.
- COLOR CODING: SPRINT NEXTEL ANT AND LINE COLOR CODING (DRAFT) V3 09–08–11.

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