May 29, 2014

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

RE: Notice of Exempt Modification
723 Farmington Avenue
New Britain, CT 06053
Sprint Site #: NV2.5_CT59XC920
N 41° 41' 54.29"
W -72° 47' 09.52"

Dear Mr. Martin and Members of the Siting Council:

On behalf of Sprint Spectrum, SBA Communications is submitting an exempt modification application to the Connecticut Siting council for modification of existing equipment at a tower facility located at 723 Farmington Avenue, New Britain CT.

The 723 Farmington Avenue facility consists of a 119' MONOPOLE Tower owned and operated by SBA Towers, LLC. In order to accommodate technological changes and enhance system performance in the State of Connecticut, Sprint Spectrum 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 Network Vision modification 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 Spectrum, 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 (508) 251-0720 x 3804 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 3804 + T
508-251-1755 + F
203-446-7700 + C
kpelletier@sbasite.com

Sprint Spectrum
Equipment Modification

723 Farmington Avenue, New Britain CT
Site number CT59XC920

Tower Owner: SBA Towers, LLC

Equipment Configuration: MONOPOLE Tower

Current and/or approved:

- (2) RFS APXVSPP18-C-A20
- (1) Powerwave P40-16-XLPP-RR-A
- (3) Kathrein 840 10054
- (3) ALU 1900 MHz RRUs
- (3) ALU 800 MHz RRUs
- (3) ALU 800 MHz Filters
- (4) RFS ACU-A20-N RETs
- (2) Andrew VHLP2.5 Dishes
- (2) Dragonwave Horizon ODU Radios
- (6) 5/16" Feed Lines
- (3) 1/2" Feed Lines
- (3) 1-1/4" Hybrid Lines

Planned Modifications:

- (2) RFS APXVSPP18-C-A20
- (1) Powerwave P40-16-XLPP-RR-A
- (3) Kathrein 840 10054
- (3) RFS APXVTM14-C-I20
- (3) ALU TD-RRH8x20-25 RRUs
- (3) ALU 1900 MHz RRUs
- (3) ALU 800 MHz RRUs
- (3) ALU 800 MHz Filters
- (4) RFS ACU-A20-N RETs
- (2) Andrew VHLP2.5 Dishes
- (2) Dragonwave Horizon ODU Radios
- (6) 5/16" Feed Lines
- (3) 1/2" Feed Lines
- (4) 1-1/4" Hybrid Lines

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 1.23% of the allowable FCC established general public limit. The anticipated composite MPE value for this site assuming all carriers present is 63.37% of the allowable FCC established general public limit sampled at the ground level.

Site Composite MPE %	
Carrier	MPE %
Sprint	1.23%
Clearwire	1.550%
MetroPCS	19.980%
AT&T	33.420%
T-Mobile	0.450%
Verizon Wireless	6.740%
Total Site MPE %	63.37%

[redacted]

May 29, 2014

Mayor Erin E. Stewart
City of New Britain
City Hall
27 West Main Street
New Britain, CT 06051

RE: Telecommunications Facility @ 723 Farmington Avenue, New Britain CT

Dear Mayor Stewart,

In order to accommodate technological changes and enhance system performance in the State of Connecticut, Sprint Spectrum 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) 251-0720 x 3804.

Thank you,

Kri Pelletier
SBA Communications Company
33 Boston Post Road West, Suite 320
Marlborough, MA 01752
508-251-0720 x 3804 + T
508-251-1755 + F
203-446-7700 + C
kpelletier@sbasite.com

May 29, 2014

Mr. Andrew Mechlinski
Nest 88 Polish Falcons Alliance of America, Inc.
201 Washington Street
New Britain, CT 06051-1827

RE: Telecommunications Facility @ 723 Farmington Avenue, New Britain CT

Dear Mr. Mechlinski,

In order to accommodate technological changes and enhance system performance in the State of Connecticut, Sprint Spectrum 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) 251-0720 x 3804.

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

Sprint Existing Facility

Site ID: CT59XC920

Stanley Quarter Park

723 Farmington Avenue
New Britain, CT 06053

May 27, 2014

EBI Project Number: 62143113

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

EBI Consulting
environmental | engineering | due diligence

May 27, 2014

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

Re: Radio Frequency Maximum Permissible Exposure (MPE) Assessment for Site:
CT59XC920 - Stanley Quarter Park

Site Total: 63.37% - MPE% in full compliance

EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at 723 Farmington Avenue, New Britain, 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 (850 MHz Band) is approximately 567 $\mu W/cm^2$, and the general population exposure limit for the 1900 MHz and 2500 MHz bands 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 723 Farmington Avenue, New Britain, CT, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. All calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

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

1) 4 channels in the 1900 MHz Band were considered for each sector of the proposed installation.
2) 1 channel in the 800 MHz Band was considered for each sector of the proposed installation
3) 2 channels in the 2500 MHz Band were considered for each sector of the proposed installation.
4) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
5) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

6) The antennas used in this modeling are the RFS APXVSPP18-C-A20, the POWERWAVE P40-16-XLPP-RR-A 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 Powerwave P40-16-XLPP-RR-A has a 15.9 dBd gain value at its main lobe at 1900 MHz and 14.2 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. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
7) The antenna mounting height centerline for the proposed and existing antennas is **108feet** 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	CT59XC920 - Stanley Quarter Park
Site Addresss	723 Farmington Avenue, New Britain, CT, 06053
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 (10 db reduction)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss (dB)	ERP	Power Density Percentage
1a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	4	80	1.59	108	102	1/2 "	0.5	3	51.533541	0.17807%
1a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	1.34	108	102	1/2 "	0.5	3	12.1627	0.07412%
1B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	1.59	108	102	1/2 "	0.5	3	25.766771	0.15703%
														Sector total Power Density Value:		0.41%

Sector 2

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain (10 db reduction)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss (dB)	ERP	Power Density Percentage
2a	Powerwave	P40-16-XLPP-RR-A	RRH	1900 MHz	CDMA / LTE	20	4	80	1.59	108	102	1/2 "	0.5	3	51.533541	0.17807%
2a	Powerwave	P40-16-XLPP-RR-A	RRH	850 MHz	CDMA / LTE	20	1	20	1.42	108	102	1/2 "	0.5	3	12.388822	0.07550%
2B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	1.59	108	102	1/2 "	0.5	3	25.766771	0.15703%
														Sector total Power Density Value:		0.41%

Sector 3

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain (10 db reduction)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss (dB)	ERP	Power Density Percentage
3a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	4	80	1.59	108	102	1/2 "	0.5	3	51.533541	0.17807%
3a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	1.34	108	102	1/2 "	0.5	3	12.1627	0.07412%
3B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	1.59	108	102	1/2 "	0.5	3	25.766771	0.15703%
														Sector total Power Density Value:		0.41%

Site Composite MPE %	
Carrier	MPE %
Sprint	1.23%
Clearwire	1.550%
MetroPCS	19.980%
AT&T	33.420%
T-Mobile	0.450%
Verizon Wireless	6.740%
Total Site MPE %	**63.37%**

EBI Consulting
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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 **1.23% (0.41% from sector 1, 0.41% from sector 2 and 0.41% from sector 3)** of the allowable FCC established general public limit considering all three sectors simultaneously sampled at the ground level.

The anticipated composite MPE value for this site assuming all carriers present is **63.37%** 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

Structural Analysis for SBA Network Services, Inc.

119' Monopole Tower

SBA Site Name: New Britain 3
SBA Site ID: CT08558-B-01
Sprint Site ID: CT59XC920

FDH Project Number 1462VZ1400

Analysis Results

Tower Components	85.2%	Sufficient
Foundation	88.0%	Sufficient

Prepared By:

C. Kelly Herrick, EI
Project Engineer

Reviewed By:

Bradley Newman, PE
Senior Project Engineer
CT PE License No. 29630

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

STATE OF CONNECTICUT BRADLEY R. NEWMAN 29630 LICENSED PROFESSIONAL ENGINEER 4/22/14

April 22, 2014

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

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 New Britain, 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 the *2005 Connecticut Building Code (CBC)*. Information pertaining to the existing/proposed antenna loading, current tower geometry, foundation dimensions, soil parameters, and member sizes was obtained from:

- Dr. Clarence Welti, PE, PC (Sprint Site CT58XC920) Geotechnical Study dated July 7, 2005
- Sabre Communications Corporation (Job No. 06-08008) Structural Design Report dated August 1, 2005
- Sabre Communications Corporation (Job No. 06-08008 Revision A) Structural Analysis Report dated February 7, 2006
- Sabre Communications Corporation (Job No. 08-06031) 10.00 Extension Material dated June 7, 2007
- SBA Network Services, Inc.

The *basic design wind speed* per the *TIA/EIA-222-F* standards and the *2005 CBC* 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 108 ft, the tower meets the requirements of the *TIA/EIA-222-F* standards and the *2005 CBC* provided the **Recommendations** listed below are satisfied. Furthermore, provided the foundations were designed and constructed to support the original design reactions (see Sabre Job No. 06-08008), the foundations should have the necessary capacity to support the existing and proposed 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 the *2005 CBC* are met with the existing and proposed loading in place, we have the following recommendations:

1. The proposed feedlines should be installed inside of the pole's shaft.
2. RRU/RRH Stipulation: The 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	Feedlines [1]	Carrier	Mount Elevation (ft)	Mount Type
118	(3) Kathrein 800 10735V01 (3) Antel BXA-171063-12BF (3) Antel BXA-171063-8BF (3) Antel BXA-70063-6BF (3) Alcatel Lucent RRH-2x40-AWS RRUs (6) RFS FD9R6004/2C-3L Diplexers (1) RFS DB-T1-6Z-8AB-0Z Distribution Box	(12) 1-5/8" (1) 1-5/8" Hybriflex	Verizon	118	(3) T-Arms
108	(2) RFS APXVSPP18-C-A20 (1) Powerwave P40-16-XLPP-RR-A (3) Kathrein 840 10054 (3) ALU 1900 MHz RRUs (3) ALU 800 MHz RRUs (3) ALU 800 MHz Filters (4) RFS ACU-A20-N RETs (2) Andrew VHLP2.5 Dishes (2) Dragonwave Horizon ODU Radios	(6) 5/16" (3) 1/2" (3) 1-1/4"	Clearwire / Sprint	108	(3) T-Arms
98	(2) Powerwave P65-16-XLH-RR (1) KWM AM-X-CD-16-65-00T (6) Powerwave 7770 (6) Powerwave LGP21401 TMAs (3) CCI DTMABP7819VG12A TMAs (6) Powerwave LGP13519 Diplexers (6) Ericsson RRU-11 RRUs (1) Raycap DC6-48-60-18-8F Surge Arrestor	(12) 1-5/8" (3) WR-VG122ST-BRDA/12 GAGE (1) Rosenberger 10mm Fiber	Cingular	98	(3) T-Arms
88	(3) Ericsson AIR 21 B2A/B4P (3) Ericsson AIR 21 B4A/B2P (3) Ericsson KRY 112/144/1 TMAs	(12) 1-5/8" (1) 1-5/8" Fiber Cable	T-Mobile	88	(3) T-Arms
78	(3) RFS APXV18-206517S-C	(6) 1-5/8"	Pocket	78	(3) T-Arms

1. Coax installed inside the pole's shaft unless otherwise noted.

Proposed Loading:

Antenna Elevation (ft)	Description	Feedlines [1]	Carrier	Mount Elevation (ft)	Mount Type
108	(2) RFS APXVSPP18-C-A20 (1) Powerwave P40-16-XLPP-RR-A (3) Kathrein 840 10054 (3) RFS APXVTM14-C-I20 (3) ALU TD-RRH8x20-25 RRUs (3) ALU 1900 MHz RRUs (3) ALU 800 MHz RRUs (3) ALU 800 MHz Filters (4) RFS ACU-A20-N RETs (2) Andrew VHLP2.5 Dishes (2) Dragonwave Horizon ODU Radios	(6) 5/16" (3) 1/2" (4) 1-1/4"	Clearwire / Sprint	108	(3) T-Arms

1. Coax installed inside the pole's shaft unless otherwise noted.

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	60 ksi
Flange Bolts	92 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. **Table 4** displays the maximum foundation reactions. **Table 5** displays the maximum antenna rotations at service wind speeds (dishes only).

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	119 - 109	Pole	TP24.4x22.2x0.1875	10.6	Pass
---	109	Flange Bolts	(8) 1"Ø w/ 27.5"Ø B.C.	17.5	Pass
		Flange Plate	PL 31.75"Ø x 0.75" thk.	31.7	Pass
L2	109 - 98.5	Pole	TP26.71x24.4x0.1875	23.9	Pass
L3	98.5 - 48.5	Pole	TP37.34x25.565x0.25	81.9	Pass
L4	48.5 - 0	Pole	TP47.52x35.7946x0.3125	85.2	Pass
---	0	Anchor Bolts	(12) 2.25"Ø w/ 54"Ø B.C.	74.1	Pass
		Base Plate	Sq. PL 52" x 2.75" thk.	62.6	Pass

Table 4 - Maximum Base Reactions

Base Reactions	Current Analysis *(TIA/EIA-222-F)*	Original Design *(TIA/EIA-222-F)*
Axial *	28 k	28 k
Shear	22 k	25 k
Moment	1,982 k-ft	2,356 k-ft

* Per experience with foundations of similar type, the axial loading should not control the analysis of the foundation.

Table 5 – Maximum Antenna Rotations at Service Wind Speed

Centerline Elevation (ft)	Antenna	Tilt * (deg)	Twist * (deg)
108	(2) Andrew VHLP2.5 Dishes	1.7019	0.0052

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

GENERAL COMMENTS

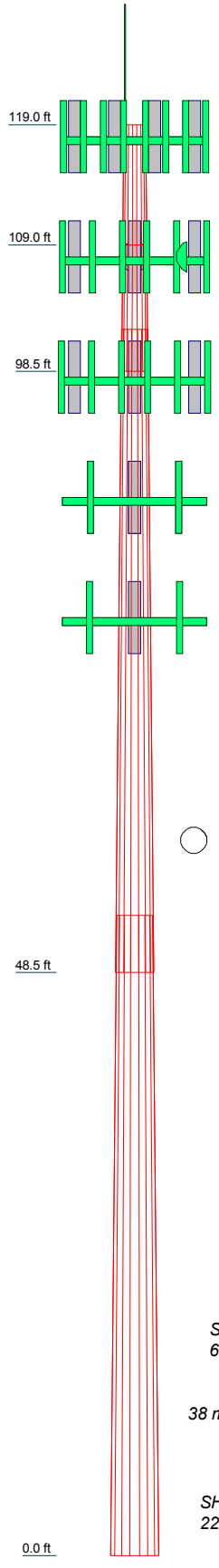
This engineering analysis is based upon the theoretical capacity of the structure. It is not a condition assessment of the tower and its foundation. It is the responsibility of SBA Network Services, Inc. to verify that the tower modeled and analyzed is the correct structure (with accurate antenna loading 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.

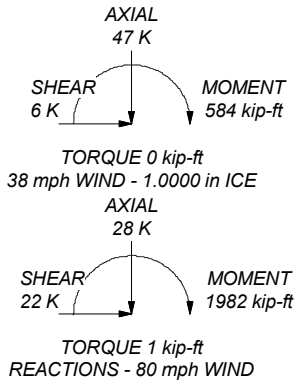
LIMITATIONS

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

Section	1	2	3	4				
Length (ft)	10.00	10.50	53.50	53.25				
Number of Sides	18	18	18	18				
Thickness (in)	0.1875	0.1875	0.2500	0.3125				
Socket Length (ft)		3.50	4.75					
Top Dia (in)	22.2000	24.4000	25.5650	35.7946				
Bot Dia (in)	24.4000	26.7100	37.3400	47.5200				
Grade					A572-65			
Weight (K)	0.5	0.5	4.5	7.4				12.9





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	119	840 10054 W/Mount Pipe	108
800 10735v01 w/ Mount Pipe	118	840 10054 W/Mount Pipe	108
800 10735v01 w/ Mount Pipe	118	840 10054 W/Mount Pipe	108
800 10735v01 w/ Mount Pipe	118	Horizon ODU Radio	108
BXA-171063-12BF w/ Mount Pipe	118	Horizon ODU Radio	108
BXA-171063-12BF w/ Mount Pipe	118	(3) T-Arms	108
BXA-171063-12BF w/ Mount Pipe	118	VHLP2.5	108
BXA-171063/8BF w/ Mount Pipe	118	VHLP2.5	108
BXA-171063/8BF w/ Mount Pipe	118	(2) 7770 w/Mount Pipe	98
BXA-171063/8BF w/ Mount Pipe	118	P65-16-XLH-RR w/Mount Pipe	98
BXA-70063/6BF w/ Mount Pipe	118	P65-16-XLH-RR w/Mount Pipe	98
BXA-70063/6BF w/ Mount Pipe	118	AM-X-CD-16-65-00T w/ Mount Pipe	98
BXA-70063/6BF w/ Mount Pipe	118	(2) LGP21401 TMA	98
RRH2X40-AWS	118	(2) LGP21401 TMA	98
RRH2X40-AWS	118	(2) LGP21401 TMA	98
RRH2X40-AWS	118	CCI DTMABP7819VG12A	98
(2) FD9R6004/2C-3L Diplexer	118	CCI DTMABP7819VG12A	98
(2) FD9R6004/2C-3L Diplexer	118	CCI DTMABP7819VG12A	98
(2) FD9R6004/2C-3L Diplexer	118	(2) LGP13519 Diplexer	98
DB-T1-6Z-8AB-0Z	118	(2) LGP13519 Diplexer	98
(3) T-Arms	118	(2) LGP13519 Diplexer	98
APXVSPP18-C-A20 w/Mount Pipe	108	(2) RRU-11	98
APXVSPP18-C-A20 w/Mount Pipe	108	(2) RRU-11	98
P40-16-XLPP-RR-A w/ Mount Pipe	108	(2) RRU-11	98
APXVTM14-C-I20 w/ Mount Pipe	108	DC6-48-60-18-8F Surge Arrestor	98
APXVTM14-C-I20 w/ Mount Pipe	108	(3) T-Arms	98
APXVTM14-C-I20 w/ Mount Pipe	108	(2) 7770 w/Mount Pipe	98
TD-RRH8x20-25	108	(2) 7770 w/Mount Pipe	98
TD-RRH8x20-25	108	AIR 21 B2A/B4P w/Mount Pipe	88
TD-RRH8x20-25	108	AIR 21 B4A/B2P w/Mount Pipe	88
1900MHz RRH	108	AIR 21 B4A/B2P w/Mount Pipe	88
1900MHz RRH	108	AIR 21 B4A/B2P w/Mount Pipe	88
1900MHz RRH	108	KRY 112 144/1	88
800 MHz RRH	108	KRY 112 144/1	88
800 MHz RRH	108	KRY 112 144/1	88
800 MHz RRH	108	(3) T-Arms	88
800 MHz Filter	108	AIR 21 B2A/B4P w/Mount Pipe	88
800 MHz Filter	108	AIR 21 B2A/B4P w/Mount Pipe	88
800 MHz Filter	108	APXV18-206517S-C w/Mount Pipe	78
ACU-A20-N RET	108	(3) T-Arms	78
ACU-A20-N RET	108	APXV18-206517S-C w/Mount Pipe	78
(2) ACU-A20-N RET	108	APXV18-206517S-C w/Mount Pipe	78

MATERIAL STRENGTH

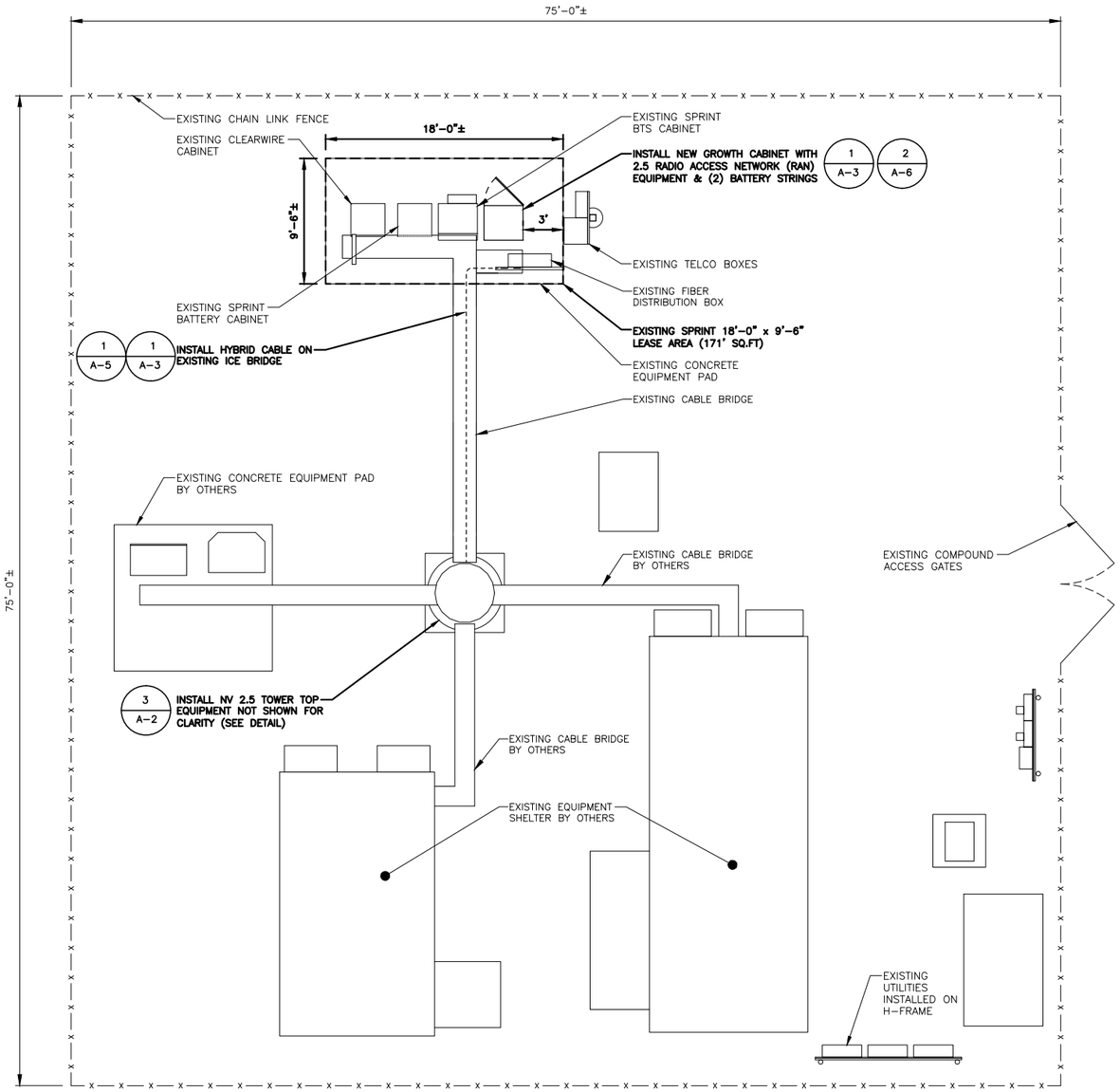
GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

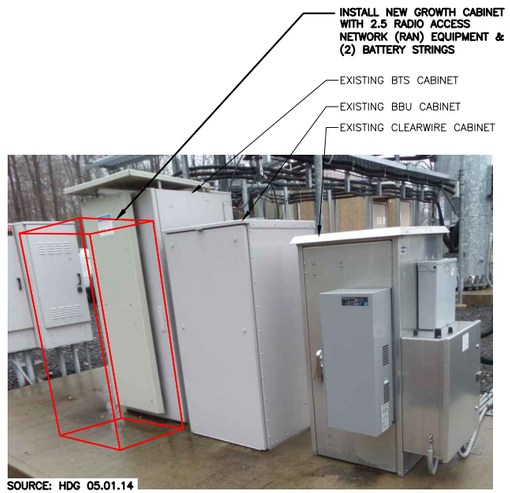
1. Tower is located in Hartford County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 85.2%

FDH Engineering, Inc.
6521 Meridien Drive, Suite 107
Raleigh, North Carolina 27616
Phone: 9197551012
FAX: 9197551031
Tower Analysis

Job: New Britain 3, CT08558-B-01			
Project: 1462VZ1400			
Client: SBA Network Services, Inc.	Drawn by: C. Kelly Herrick	App'd:	
Code: TIA/EIA-222-F	Date: 04/22/14	Scale: NTS	
Path:		Dwg No. E-1	



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



SOURCE: HDG 05.01.14

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

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

SBA
SBA COMMUNICATIONS CORP.
33 BOSTON POST ROAD WEST, SUITE 320
MARLBOROUGH, MA 01752 TEL: (508) 251-0720

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090 TEL: (978) 557-5553
N. ANDOVER, MA 01845 FAX: (978) 336-5586

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

Daniel P. Hamm

CHECKED BY: KB

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	05/21/14	ISSUED FOR CONSTRUCTION	SF
0	05/07/14	ISSUED FOR CONSTRUCTION	SF

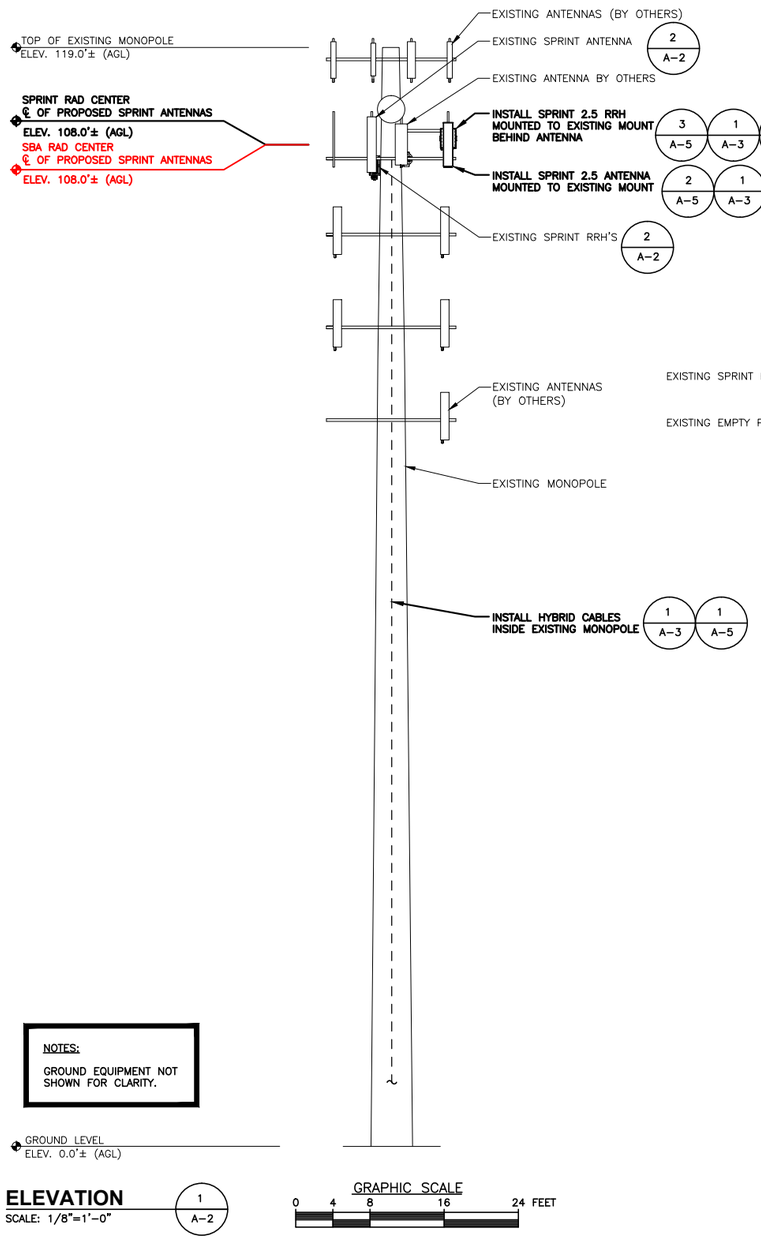
SITE NUMBER:
CT59XC920-B

SITE NAME:
STANLEY QUARTER PARK

SITE ADDRESS:
723 FARMINGTON AVENUE
NEW BRITAIN, CT 06053

SHEET TITLE
COMPOUND PLAN

SHEET NUMBER
A-1



NOTES:

GROUND EQUIPMENT NOT SHOWN FOR CLARITY.

ELEVATION

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

1 A-2

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.

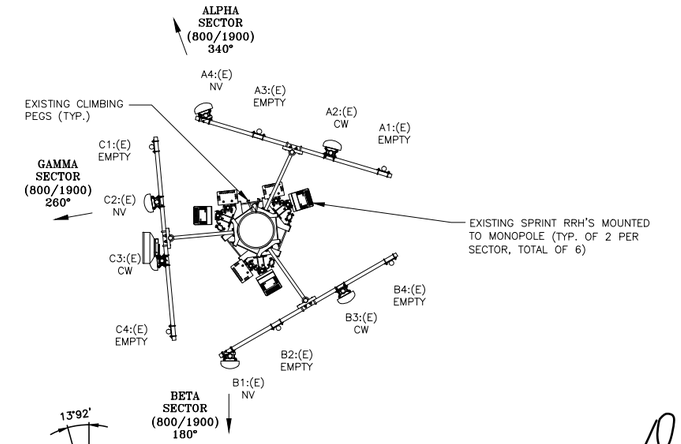
NOTE:
SPRINT RAD CENTER SHOWN IN RED TEXT BASED ON SBA-PROVIDED COLLOCATION APPLICATION, EQUIPMENT DATABASE, AND STRUCTURAL ANALYSIS. THE SBA-PROVIDED ANTENNA RAD CENTER SHALL SUPERSEDE ANY CONFLICTING INFORMATION DERIVED FROM THE SPRINT NV 2.5 RFDS.

SOURCE: HDG 05.01.14

EXISTING PARTIAL ELEVATION PHOTO DETAIL

SCALE: N.T.S.

NOTE:
EXISTING AZIMUTHS FROM SPRINT SITE AUDIT DATED 08/30/13



EXISTING ANTENNA PLAN

SCALE: N.T.S.

2 A-2

SPECIAL WORK NOTE:
JUMPERS FROM 2.5 RRH TO 2.5 ANTENNA CAN NOT EXCEED 15'. NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY DISCREPANCY.

NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION

ANTENNA STATUS LEGEND:

EMPTY – EMPTY PIPE

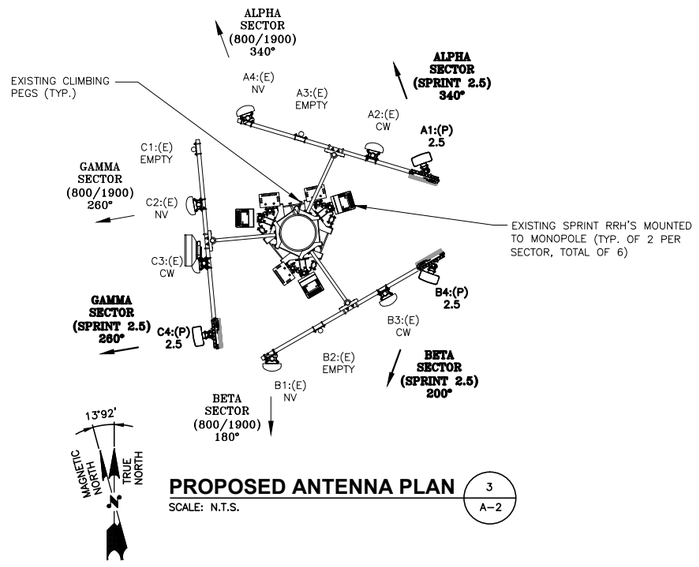
(E) – EXISTING

(P) – INSTALL

NV – SPRINT ANTENNA MODEL APXVSPP18-C-A20

2.5 – SPRINT ANTENNA

CW – CLEARWIRE ANTENNA



PROPOSED ANTENNA PLAN

SCALE: N.T.S.

3 A-2

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

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SUBMITTALS

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NEW BRITAIN, CT 06053

SHEET TITLE

ELEVATION AND ANTENNA PLANS

SHEET NUMBER

A-2