



May 30, 2014

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

RE: Notice of Exempt Modification
193 Windham Center Road
Windham, CT 06280
Sprint Site #: NV2.5_CT72XC043
N 41° 41' 24.22"
W -72° 09' 45.27"

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 193 Windham Center Road, Windham, CT.

The 193 Windham Center Road facility consists of a 180' MONOPOLE Tower owned and operated by SBA Properties, 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 the 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@sbsite.com



**Sprint Spectrum
Equipment Modification**

193 Windham Center Road, Windham, CT
Site number CT72XC043

Tower Owner: SBA Properties, LLC

Equipment Configuration: MONOPOLE Tower

Current and/or approved:

- (3) RFS APXVSP18-C-A20
- (3) Alcatel Lucent 1900MHz RRHs
- (3) Alcatel Lucent 800MHz RRHs
- (3) Alcatel Lucent 800MHz Filters
- (4) RFS ACU-A20-N RETs
- (3) 1-1/4" Hybrid Lines

Planned Modifications:

- (3) RFS APXVTM14-C-I20
- (3) RFS APXVSP18-C-A20
- (3) Alcatel Lucent TD-RRH8x20-25 RRHs
- (3) Alcatel Lucent 1900MHz RRHs
- (3) Alcatel Lucent 800MHz RRHs
- (3) Alcatel Lucent 800MHz Filters
- (4) RFS ACU-A20-N RETs
- (3) 1-1/4" Hybrid Lines
- (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 0.44% of the allowable FCC established general public limit. The anticipated composite MPE value for this site assuming all carriers present is 30.12% of the allowable FCC established general public limit sampled at the ground level.

Site Composite MPE %	
Carrier	MPE %
Sprint	0.44%
Verizon Wireless	9.82%
AT&T	19.86%
Total Site MPE %	30.12%



May 30, 2014

Mayor Ernie Eldridge
Town of Windham
City Hall
979 Main Street
Willimantic, CT 06226

RE: Telecommunications Facility @ 193 Windham Center Road, Windham, CT

Dear Mayor Ernie Eldridge,

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,

A handwritten signature in black ink, appearing to read "Kri Pelletier", is written over a horizontal line.

Kri Pelletier
SBA Communications Company
33 Boston Post Road West, Suite 320
Marlborough, MA 01752
508-251-0720 x 3804 + T
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kpelletier@sbsite.com



May 30, 2014

Town of Windham, a municipal corp.
979 Main Street
Willimantic, CT 06226-2217

RE: Telecommunications Facility @ 193 Windham Center Road, Windham, CT

To Whom It May Concern,

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).

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Thank you,

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

Sprint Existing Facility

Site ID: CT72XC043

CT1054 - Ring To Existing (R2E) PH1A

193 Windham Center Road
Windham, CT 06280

May 27, 2014

EBI Project Number: 62143115

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:
CT72XC043 - CT1054 - Ring To Existing (R2E) PH1A

Site Total: 30.12% - MPE% in full compliance

EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at 193 Windham Center Road, Windham, CT, for the purpose of determining whether the radio frequency (RF) exposure levels from the proposed Sprint equipment upgrades on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limit for the cellular band (850 MHz Band) is approximately $567 \mu\text{W}/\text{cm}^2$, and the general population exposure limit for the 1900 MHz and 2500 MHz bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed upgrades to the existing Sprint Wireless antenna facility located at 193 Windham Center Road, Windham, 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) 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 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 and the RFS APXVTM14-C-I20. This is based on feedback from the carrier with regards to anticipated antenna selection. The RFS APXVSPP18-C-A20 has a 15.9 dBd gain value at its main lobe at 1900 MHz and 13.4 dBd at its main lobe for 850 MHz. The RFS APXVTM14-C-I20 has a 15.9 dBd gain value at its main lobe at 2500 MHz. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 7) The antenna mounting height centerline for the proposed antennas is **167 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	CT72XC043 - CT1054 - Ring To Existing (R2E) PH1A
Site Address	193 Windham Center Road, Windham, CT, 06280
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	APXVSP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	3	60	1.59	167	161	1/2 "	0.5	3	38.65	0.05%
1a	RFS	APXVSP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	1.34	167	161	1/2 "	0.5	3	12.16	0.03%
1B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	1.59	167	161	1/2 "	0.5	3	25.77	0.06%
Sector total Power Density Value:																0.15%

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	RFS	APXVSP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	3	60	1.59	167	161	1/2 "	0.5	3	38.65	0.05%
2a	RFS	APXVSP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	1.34	167	161	1/2 "	0.5	3	12.16	0.03%
2B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	1.59	167	161	1/2 "	0.5	3	25.77	0.06%
Sector total Power Density Value:																0.15%

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	APXVSP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	3	60	1.59	167	161	1/2 "	0.5	3	38.65	0.05%
3a	RFS	APXVSP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	1.34	167	161	1/2 "	0.5	3	12.16	0.03%
3B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	1.59	167	161	1/2 "	0.5	3	25.77	0.06%
Sector total Power Density Value:																0.15%

Site Composite MPE %	
Carrier	MPE %
Sprint	0.44%
Verizon Wireless	9.82%
AT&T	19.86%
Total Site MPE %	30.12%

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 **0.44% (0.15% from sector 1, 0.15% from sector 2 and 0.15% 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 **30.12%** 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.**

180' Monopole Tower

**SBA Site Name: South Windham
SBA Site ID: CT02721-S-01
Sprint Site Name: Windham
Sprint Site ID: CT72XC043**

FDH Project Number 1462HI1400

Analysis Results

Tower Components	89.2%	Sufficient
Foundation	90.6%	Sufficient

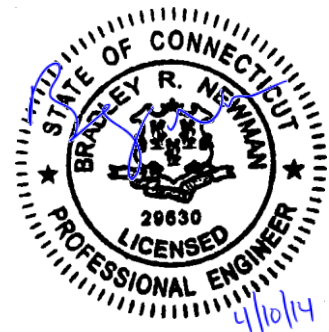
Prepared By:

Mark S. Girgis, EI
Project Engineer

Reviewed By:

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

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



April 10, 2014

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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 Windham, 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 Building Code (2005 CBC)*. Information pertaining to the existing/proposed antenna loading, current tower geometry, foundation dimensions, geotechnical data, and member sizes was obtained from:

- Valmont Microflect (Order No. 11872-00) Communication Pole Design Calculations dated June 23, 2000
- Valmont Microflect (Order No. 10125-045) foundation design drawings dated June 16, 2000
- FDH Engineering, Inc. (Project No. 1202237EG1 Rev. 1) Geotechnical Evaluation of Subsurface Conditions dated August 16, 2012
- 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 1" radial ice. Ice is considered to increase in thickness with height.

Conclusions

With the existing and proposed antennas from Sprint in place at 167 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 designed and constructed to support the original design reactions (see Valmont Microflect Order No. 10125-045), the foundation 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 *2005 CBC* are met with the existing and proposed loading in place, we have the following recommendations:

1. Proposed feed line should be installed inside the monopoles 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	Feed Lines ¹	Carrier	Mount Elevation (ft)	Mount Type
178	(3) Antel BXA-70063-6CF (6) Antel LPA-80080-4CF (3) Antel BXA-171085-8BF (6) RFS FD9R6004/2C-3L Diplexers	(12) 1-5/8"	Verizon	177	(1) Low Profile Platform
167	(3) RFS APXVSPP18-C-A20 (3) Alcatel Lucent 1900MHz RRHs (3) Alcatel Lucent 800MHz RRHs (3) Alcatel Lucent 800MHz Filters (4) RFS ACU-A20-N RETs	(3) 1-1/4"	Sprint	167	(1) Low Profile Platform
147	(2) KWM AM-X-CD-17-65-00T (6) Powerwave 7770.00 (1) Powerwave P65-17-XLH-RR (6) CCI DTMAPB7819VG12A TMAs (6) Ericsson RRUS-11 RRUs (1) Raycap DC6-48-60-18-8F	(12) 1-5/8" (2) WR-VG86ST-BRD DCs (1) FB-L98B-002 Fiber	AT&T	147	(1) Low Profile Platform

1. Feed lines installed inside the pole shaft unless otherwise noted.

Proposed Loading:

Antenna Elevation (ft)	Description	Feed Lines	Carrier	Mount Elevation (ft)	Mount Type
167	(3) RFS APXVTM14-C-I20 (3) RFS APXVSPP18-C-A20 (3) Alcatel Lucent TD-RRH8x20-25 RRHs (3) Alcatel Lucent 1900MHz RRHs (3) Alcatel Lucent 800MHz RRHs (3) Alcatel Lucent 800MHz Filters (4) RFS ACU-A20-N RETs	(3) 1-1/4" (1) 1-1/4" Fiber	Sprint	167	(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
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.

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	180 - 131.75	Pole	TP36.118x26.712x0.25	47.3	Pass
L2	131.75 - 92.5	Pole	TP43.312x34.5945x0.2813	82.0	Pass
L3	92.5 - 45.6667	Pole	TP51.871x41.5415x0.375	83.6	Pass
L4	45.6667 - 0	Pole	TP60x49.7089x0.4375	86.8	Pass
	0	Anchor Bolts	(20) 2.25" Ø w/ BC = 68.62"	89.2	Pass
	0	Base Plate	PL 74.62" Ø x 3.0" thk.	74.9	Pass

*Capacities utilize 1/3 allowable stress increase for wind per TIA/EIA-222-F.

Table 4 - Maximum Base Reactions

Base Reactions	Current Analysis* (TIA/EIA-222-F)	Original Design (TIA/EIA-222-F)
Axial	44 k	57 k
Shear	39 k	40 k
Moment	4,522 k-ft	5,049 k-ft

*Foundation determined to be adequate per independent analysis.

GENERAL COMMENTS

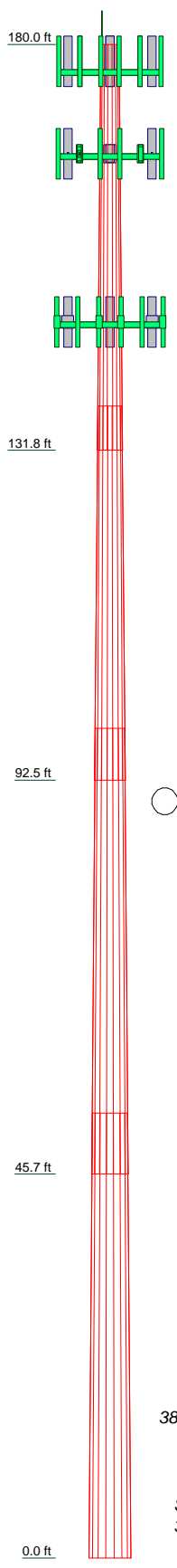
This engineering analysis is based upon the theoretical capacity of the structure. It is not a condition assessment of the tower and its foundation. It is the responsibility of SBA Network Services, Inc. to verify that the tower modeled and analyzed is the correct structure (with accurate antenna loading 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	1	2	3	4
Length (ft)	48.25	44.50	53.00	52.92
Number of Sides	16	16	16	16
Thickness (in)	0.2500	0.2813	0.3750	0.4375
Socket Length (ft)	5.25	6.17	7.25	
Top Dia (in)	26.7120	34.5945	41.5415	49.7080
Bot Dia (in)	36.1180	43.3120	51.8710	60.0000
Grade	A572-65	A572-65	A572-65	A572-65
Weight (K)	4.1	5.3	10.0	13.7



DESIGNED APPURTENANCE LOADING

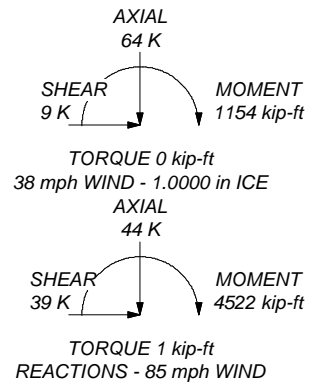
TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	180	1900 MHz RRH	167
BXA-70063/6CF w/ Mount Pipe	177	800 MHz RRH	167
BXA-70063/6CF w/ Mount Pipe	177	800 MHz RRH	167
BXA-70063/6CF w/ Mount Pipe	177	800 MHz RRH	167
(2) LPA-80080/4CF w/ Mount Pipe	177	800 MHz Filter	167
(2) LPA-80080/4CF w/ Mount Pipe	177	800 MHz Filter	167
(2) LPA-80080/4CF w/ Mount Pipe	177	800 MHz Filter	167
BXA-171085-8BF w/ Mount Pipe	177	(2) ACU-A20-N RET	167
BXA-171085-8BF w/ Mount Pipe	177	ACU-A20-N RET	167
BXA-171085-8BF w/ Mount Pipe	177	ACU-A20-N RET	167
(2) FD9R6004/2C-3L Diplexer	177	Low Profile Platform	167
(2) FD9R6004/2C-3L Diplexer	177	AM-X-CD-14-65-00T w/ Mount Pipe	147
(2) FD9R6004/2C-3L Diplexer	177	AM-X-CD-14-65-00T w/ Mount Pipe	147
Low Profile Platform	177	P65-17-XLH-RR w/Mount Pipe	147
APXVTM14-C-I20 w/ Mount Pipe	167	(2) 7770.00 w/Mount Pipe	147
APXVTM14-C-I20 w/ Mount Pipe	167	(2) 7770.00 w/Mount Pipe	147
APXVTM14-C-I20 w/ Mount Pipe	167	(2) 7770.00 w/Mount Pipe	147
APXVSP18-C-A20 w/Mount Pipe	167	(2) DTMAP7819VG12A TMA	147
APXVSP18-C-A20 w/Mount Pipe	167	(2) DTMAP7819VG12A TMA	147
APXVSP18-C-A20 w/Mount Pipe	167	(2) DTMAP7819VG12A TMA	147
TD-RRH8x20-25	167	(2) RRUS-11	147
TD-RRH8x20-25	167	(2) RRUS-11	147
TD-RRH8x20-25	167	(2) RRUS-11	147
1900 MHz RRH	167	DC6-48-60-18-8F Surge Arrestor	147
1900 MHz RRH	167	Low Profile Platform	147

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

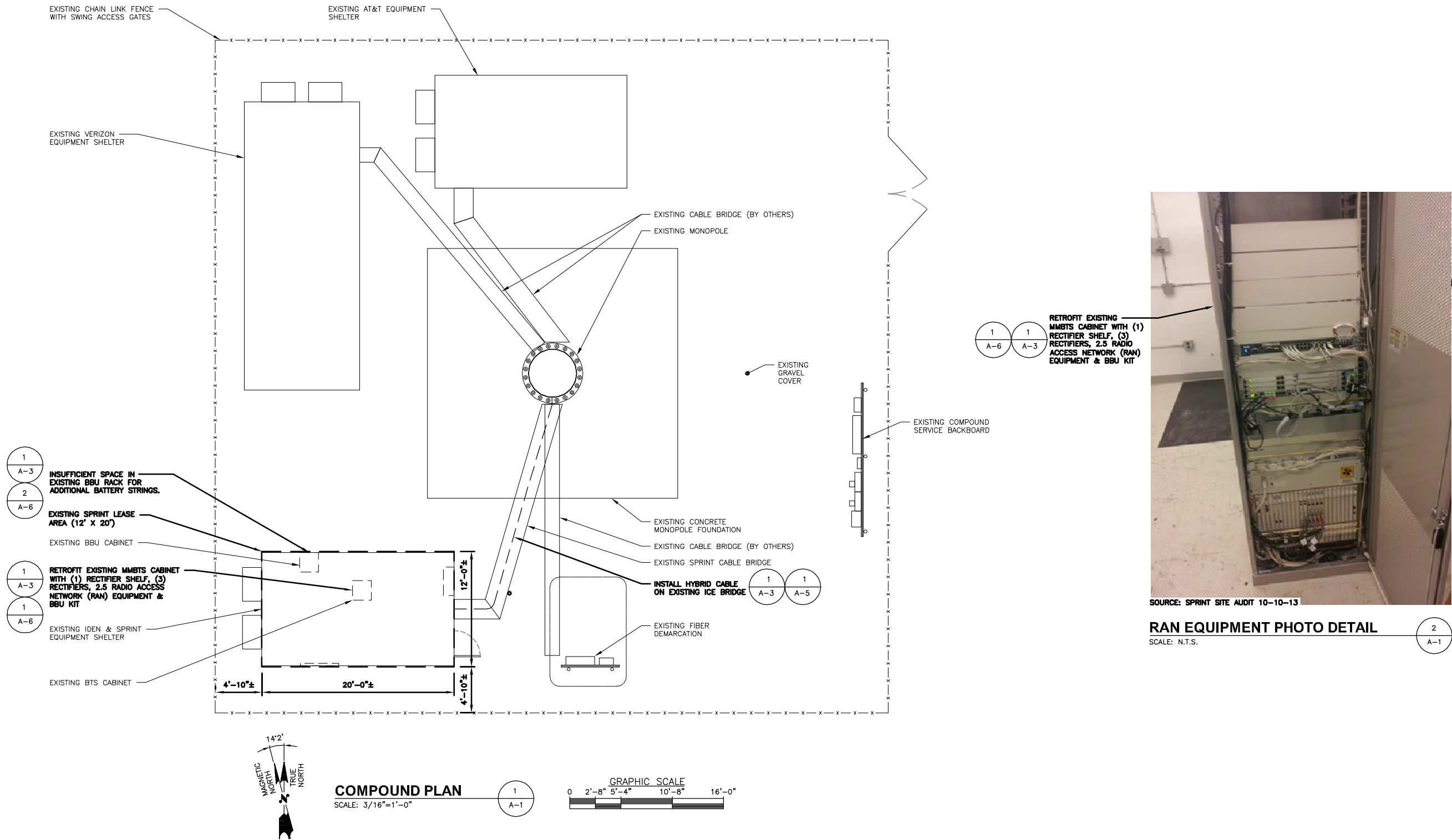
1. Tower is located in Windham County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 86.8%



FDH Engineering, Inc. 6521 Meridien Drive Raleigh, NC 27616 Phone: (919) 755-1012 FAX: (919) 755-1031	Job: South Windham, CT02721-S-01		
	Project: 1462HI1400		
	Client: SBA Network Services, Inc.	Drawn by: Mark S. Giris	App'd:
	Code: TIA/EIA-222-F	Date: 04/10/14	Scale: NTS
Path:		Dwg No. E-1	



Daniel P. Hamm



SOURCE: SPRINT SITE AUDIT 10-10-13

RAN EQUIPMENT PHOTO DETAIL

SCALE: N.T.S.

CHECKED BY: KB

APPROVED BY: DPH

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	05/16/14	ISSUED FOR CONSTRUCTION	SF
0	04/30/14	ISSUED FOR CONSTRUCTION	SF

SITE NUMBER:
CT72XC043-A

SITE NAME:
CT1054-RING TO
EXISTING-(R2E) PH 1A

SITE ADDRESS:
193 WINDHAM CENTER ROAD
WINDHAM, CT 06280

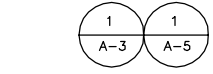
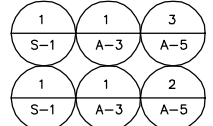
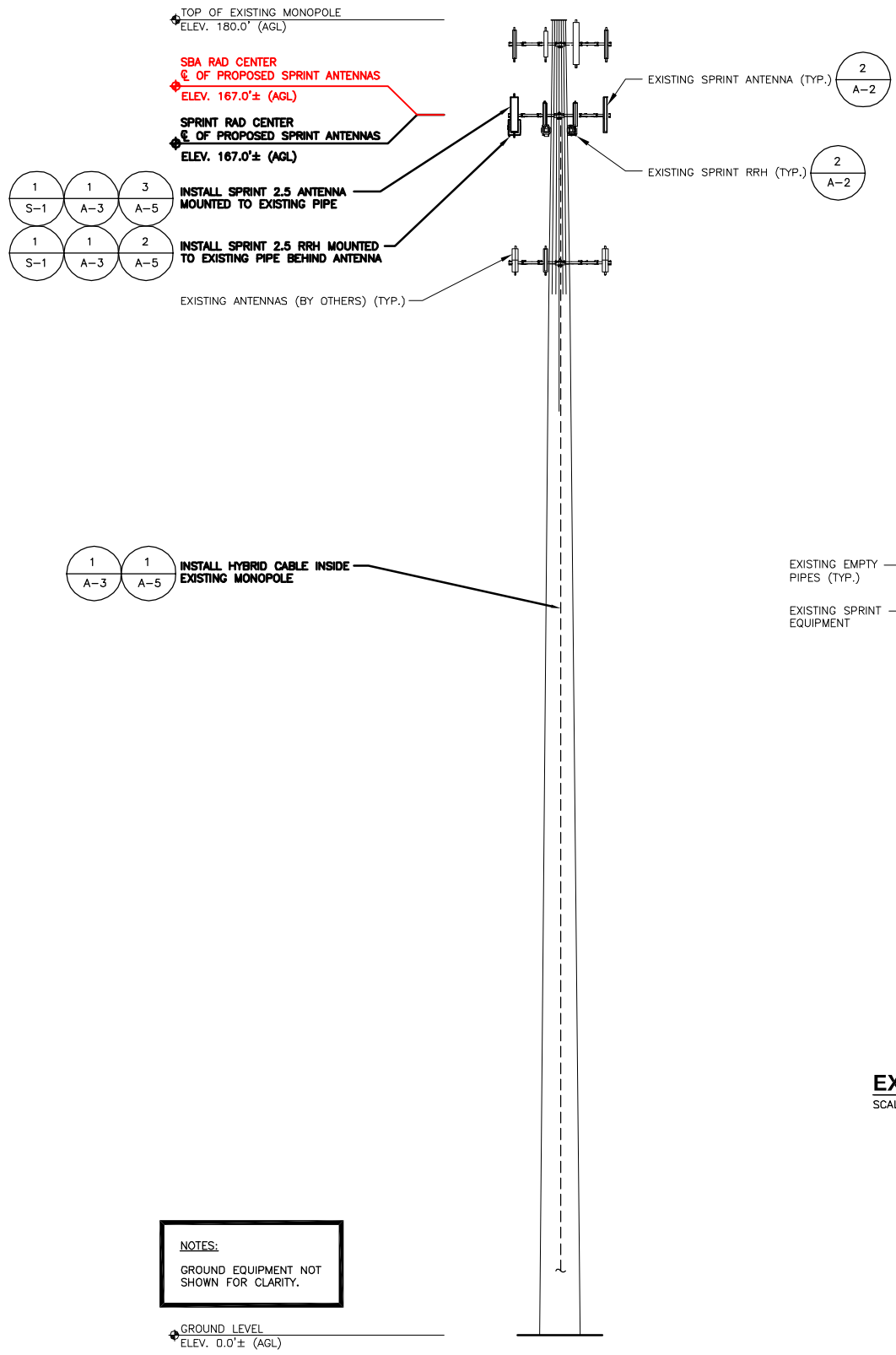
SHEET TITLE
COMPOUND PLAN

SHEET NUMBER
A-1

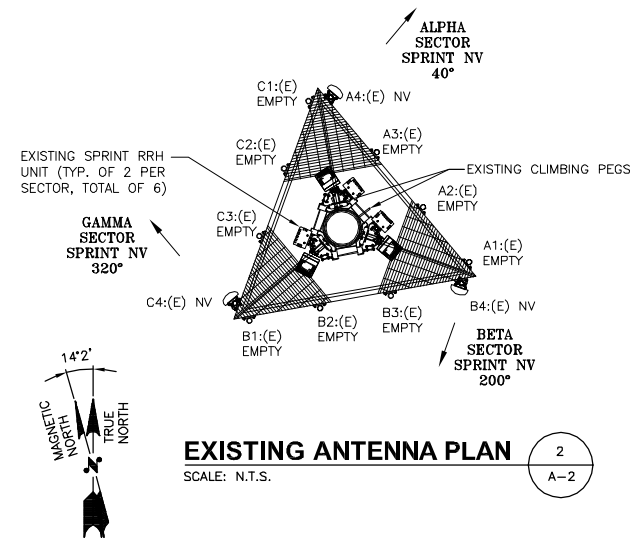
SPECIAL CONSTRUCTION NOTE:
 SPRINT TOWER TOP WORK IS CONTINGENT ON THE FOLLOWING:
 * COMPLETION OF A GLOBAL STRUCTURAL STABILITY ANALYSIS (PROVIDED BY TOWER OWNER).
 * COMPLETION OF AN ANTENNA/RRH MOUNT STRUCTURAL ASSESSMENT (PROVIDED BY A&E VENDOR).
 * GC SHALL FURNISH, INSTALL AND COMPLETE ALL REQUIRED 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:
 EXISTING AZIMUTHS FROM SPRINT
 SITE AUDIT DATED 10/10/13

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.



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

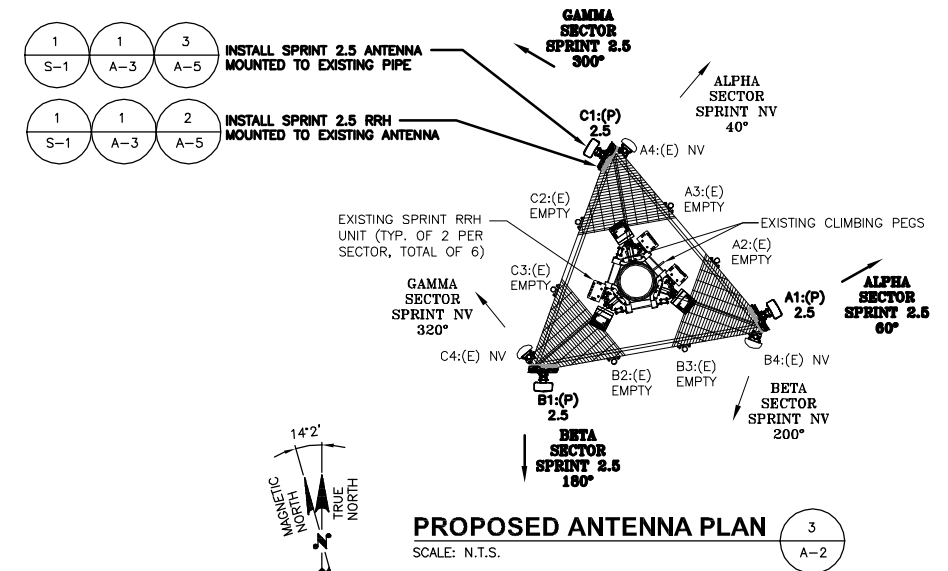


EXISTING ANTENNA PLAN 2 A-2
 SCALE: N.T.S.

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

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

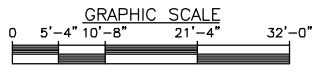
ANTENNA STATUS LEGEND:
 EMPTY - EMPTY PIPE
 (E) - EXISTING
 (P) - INSTALL
 NV - SPRINT ANTENNA MODEL APXVSP18-C-A20
 2.5 - SPRINT ANTENNA



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

NOTES:
 GROUND EQUIPMENT NOT SHOWN FOR CLARITY.

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



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

SBA
 SBA COMMUNICATIONS CORP.
 33 BOSTON POST ROAD WEST, SUITE 300
 MARLBOROUGH, MA 01752 TEL: (508) 251-0720

Hudson Design Group LLC
 1600 OSGOOD STREET
 BUILDING 20 NORTH, SUITE 3090
 N. ANDOVER, MA 01845 TEL: (978) 557-5553 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	05/16/14	ISSUED FOR CONSTRUCTION	SF
0	04/30/14	ISSUED FOR CONSTRUCTION	SF

SITE NUMBER:
 CT72XC043-A
 SITE NAME:
 CT1054-RING TO EXISTING--(R2E) PH 1A
 SITE ADDRESS:
 193 WINDHAM CENTER ROAD
 WINDHAM, CT 06280

SHEET TITLE
 ELEVATION AND ANTENNA PLANS

SHEET NUMBER
 A-2