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

October 9, 2012

Rick Woods
SBA Communications Corporation
One Research Dr. Suite 200C
Westborough, MA 01581

RE: **EM-SPRINT-111-120907** – Sprint Spectrum notice of intent to modify an existing telecommunications facility located at 170 Mount Tobe Road, Plymouth, Connecticut.

Dear Mr. Woods:

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

- The coax lines and accessory equipment shall be installed in accordance with the recommendations made in the Structural Analysis Report prepared by FDH Engineering dated May 10, 2012 and stamped by Christopher Murphy;
- Following the installation of the proposed equipment, Sprint shall provide documentation certifying that the installation complied with the engineer's recommendation;
- Any deviation from the proposed modification as specified in this notice and supporting materials with Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Not less than 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated September 6, 2012. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,

Linda Roberts
Executive Director

LR/CDM/jbw

c: The Honorable Vincent Festa, Jr., Mayor, Town of Plymouth
Khara Dodds, Town Planner, Town of Plymouth
Sean Gormley, SBA

EM-SPRINT-111-120907

September 6, 2012

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

RE: Notice of Exempt Modification
170 Mount Tobe Road
Plymouth, CT 06783
N 41 ° 37' 48.11"
W 73 ° 03' 23.59"

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 170 Mount Tobe Road Plymouth, CT.

The 170 Mount Tobe Road facility consists of a 160' Monopole Tower owned and operated by SBA Communications. 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 antennas and associated 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. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna and equipment configuration 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 cal me at (508) 614-0389 with any questions you may have concerning this matter.

Thank you,

Rick Woods
SBA Communications Corporation
One Research Dr. Suite 200C
Westborough, MA 01581
508-366-5505 x 319 + T
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508-614-0389 + C
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Sprint Spectrum

Equipment Modification

170 Mount Tobe Road Plymouth, CT
Site number CT33XC275

Tower Owner: SBA Communications Corporation

Equipment Configuration: Monopole Tower

Current and/or approved:
Twelve (12) CDMA Antennas @ 148'
Twelve (12) lines of 1-5/8" coax
Two (2) equipment cabinets

Planned Modifications:
Remove Twelve (12) CDMA antennas &Twelve (12) lines of 1-5/8"
Install Three (3) Network Vision antennas & Six (6) RRHs @ 148'
Install Three (3) Hybriflex fiber cables
Install Three (3) Filters
Install Four (4) RETs
Install One (1) Fiber Distribution Box
Replacing Two (2) equipment cabinets with Three (3) new equipment cabinets

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 11.097% of the allowable FCC established general public limit. The anticipated composite MPE value for this site assuming all carriers present is 48.557% of the allowable FCC established general public limit sampled at the ground level.

Site Composite MPE %	
Carrier	MPE %
Sprint	11.097%
T-Mobile	1.660%
Nextel	3.540%
Verizon Wireless	15.810%
Pocket	4.970%
AT&T	11.480%
Total Site MPE %	48.557%

September 6, 2012

Mayor Vincent Festa
Town of Plymouth
80 Main St.
Terryville, CT 06786

RE: Telecommunications Facility-170 Mount Tobe Road Plymouth, CT 06783

Dear Mayor Festa,

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) 614-0389.

Thank you,

Rick Woods
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One Research Dr. Suite 200C
Westborough, MA 01581
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EBI Consulting
environmental | engineering | due diligence

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

Sprint Existing Facility

Site ID: CT33XC275

Thomaston SBA
170 Mount Tobe Road
Thomaston, CT 06787

August 23, 2012

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

EBI Consulting
environmental | engineering | due diligence

August 23, 2012

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

Re: Emissions Values for Site **CT33XC275 – Thomaston SBA**

EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at 170 Mount Tobe Road, Thomaston, CT, for the purpose of determining whether the emissions from the proposed Sprint equipment upgrades on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of μW/cm2 calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed upgrades to the existing Sprint Wireless antenna facility located at 170 Mount Tobe Road, Thomaston, CT, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario. Actual values seen from this site will be dramatically less than those shown in this report. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

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

1) 2 CDMA Carriers (1900 MHz) were considered for each sector of the proposed installation.
2) 1 CDMA Carrier (850 MHz) was considered for each sector of the proposed installation
3) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
4) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The actual gain in this direction was used per the manufactures supplied specifications.
5) The antenna used in this modeling is the RFS APXVSPP18-C-A20. This is based on feedback from the carrier with regards to anticipated antenna selection. This antenna has a 15.9 dBd gain value at its main lobe at 1900 MHz and 13.4 dBd at its main lobe for 850 MHz. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario.

6) The antenna mounting height centerline of the proposed antennas is **148 feet** above ground level (AGL)
7) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculation were done with respect to uncontrolled / general public threshold limits

Site ID	CT33XC275 - Thomaston SBA
Site Addresss	170 Mount Tobe Road, Thomaston, CT 06787
Site Type	Monopole

Sector 1

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	2	40	15.9	148	142	1/2 "	0.5	0	1386.9474	24.72802	2.47280%
1a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	148	142	1/2 "	0.5	0	389.96892	6.952793	1.22624%
														Sector total Power Density Value:			3.699%

Sector 2

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
2a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	2	40	15.9	148	142	1/2 "	0.5	0	1386.9474	24.72802	2.47280%
2a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	148	142	1/2 "	0.5	0	389.96892	6.952793	1.22624%
														Sector total Power Density Value:			3.699%

Sector 3

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
3a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	2	40	15.9	148	142	1/2 "	0.5	0	1386.9474	24.72802	2.47280%
3a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	148	142	1/2 "	0.5	0	389.96892	6.952793	1.22624%
														Sector total Power Density Value:			3.699%

Site Composite MPE %	
Carrier	MPE %
Sprint	11.097%
T-Mobile	1.660%
Nextel	3.540%
Verizon Wireless	15.810%
Pocket	4.970%
AT&T	11.480%
Total Site MPE %	**48.557%**

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Summary

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

The anticipated Maximum Composite contributions from the Sprint facility are **11.097% (3.699% from each sector)** of the allowable FCC established general public limit considering all three sectors simultaneously sampled at the ground level.

The anticipated composite MPE value for this site assuming all carriers present is **48.557%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions

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

Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803

FDH Engineering, Inc., 6521 Meridien Drive, Raleigh, NC 27616, Ph. 919.755.1012, Fax 919.755.1031

Structural Analysis for SBA Network Services, Inc.

160' Monopole Tower

SBA Site Name: South Plymouth
SBA Site ID: CT03538-S
Sprint Site ID: CT33XC275
Sprint Site Name: Thomaston SBA

FDH Project Number 12-04783E S1

Analysis Results

Tower Components	83.9%	Sufficient
Foundation	73.7%	Sufficient

Prepared By:

Gregory C. Clutter
Project Engineer

Reviewed By:

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

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

May 10, 2012

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

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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 Plymouth, 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. Information pertaining to the existing/proposed antenna loading, current tower geometry, geotechnical data, foundation dimensions, and member sizes was obtained from:

- ❑ Paul J. Ford & Company (Job No. 29201-1019) original design drawings dated August 21, 2001
- ❑ Jaworski Geotech, Inc. (Project No. 00244G) Geotechnical Evaluation dated July 31, 2001
- ❑ SBA Network Services, Inc.

The *basic design wind speed* per the *TIA/EIA-222-F* standards and 2005 Connecticut Building Code is 80 mph without ice and 28 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 148 ft, the tower meets the requirements of the *TIA/EIA-222-F* standards and 2005 Connecticut Building Code provided the **Recommendations** listed below are satisfied. Furthermore, provided the foundation was designed and constructed to support the original design reactions (see Paul J. Ford & Co. Job No. 29201-1019), 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 Connecticut Building Code are met with the existing and proposed loading in place, we have the following recommendations:

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

APPURTENANCE LISTING

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

Table 1 - Appurtenance Loading

Existing Loading:

Antenna Elevation (ft)	Description	Coax and Lines	Carrier	Mount Elevation (ft)	Mount Type
162	(6) EMS RR90-17-02DP w/Mount Pipe (6) TMAs	(12) 1-5/8"	T-Mobile	160	(1) Low Profile Platform
148	(12) Decibel DB980F90T2E-M w/Mount Pipe	(12) 1-5/8"	Sprint	148	(1) Low Profile Platform
137	(6) Antel LPA-80080/6CF W/Mount Pipe (3) Antel BXA-70063/6CF-2 w/ Mount Pipe (3) Antel BXA-171085/8BF-2 w/ Mount Pipe (6) RFS FDR6004/2C-3L Diplexers	(12) 1-5/8"	Verizon	137	(1) Low Profile Platform
127	(12) Decibel DB844H90E-XY w/ Mount Pipe	(12) 1-5/8"	Nextel	127	(1) Low Profile Platform
117	(3) RFS APXV18-206515S-C w/Mount Pipe	(6) 1-5/8"	Pocket	117	(3) Pipe Mount
108	(6) Powerwave 7770 w/ Mount Pipe (3) CSS DUO1417-8686-40 w/ Mount Pipe (6) Powerwave LGP21401 TMAs (6) Powerwave LGP21903 Diplexers	(12) 1-5/8"	Cingular	108	(1) Low Profile Platform
75	(1) GPS	(1) 1/2"	T-Mobile	75	(1) Pipe Mount

Proposed Loading:

Antenna Elevation (ft)	Description	Coax and Lines	Carrier	Mount Elevation (ft)	Mount Type
148	(3) RFS APXVSPP18-C-A20 w/Mount Pipe (3) ALU 1900 MHz RRUs (3) ALU 800 MHz RRUs (3) ALU 800 MHz Filters (4) RFS ACU-A20-N RETs	(3) 1-1/4"	Sprint	148	(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	55 ksi
Base Plate	55 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 105% 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	160 - 119.25	Pole	TP32.763x24x0.25	39.5	Pass
L2	119.25 - 78.5	Pole	TP41.025x31.3491x0.3125	76.1	Pass
L3	78.5 - 38.75	Pole	TP48.947x39.2711x0.375	83.9	Pass
L4	38.75 - 0	Pole	TP56.53x46.8531x0.4375	82.3	Pass
		Anchor Bolts	(20) 2.25"Φ w/ BC=64"	60.3	Pass
		Base Plate	64" Sq. x 3" thk. PL	55.8	Pass

*Capacities include a 1/3 allowable increase for wind.

Table 4 - Maximum Base Reactions

Base Reactions	Current Analysis *(TIA/EIA-222-F)*	Original Design *(TIA/EIA-222-F)*
Axial	47 k	37 k
Shear	28 k	38 k
Moment	3,199 k-ft	4,450 k-ft

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

GENERAL COMMENTS

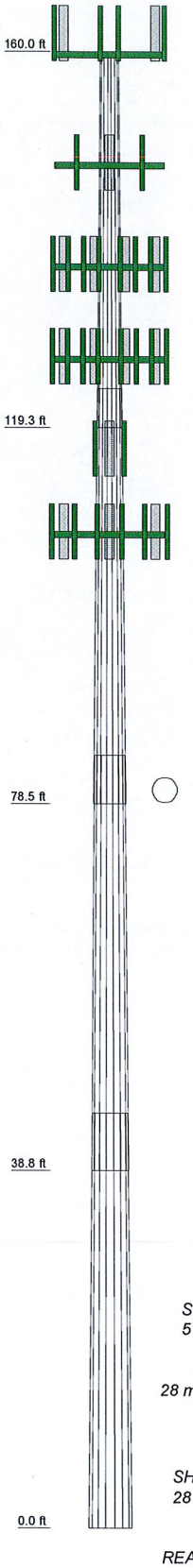
This engineering analysis is based upon the theoretical capacity of the structure. It is not a condition assessment of the tower and its foundation. It is the responsibility of SBA Network Services, Inc. to verify that the tower modeled and analyzed is the correct structure (with accurate antenna loading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

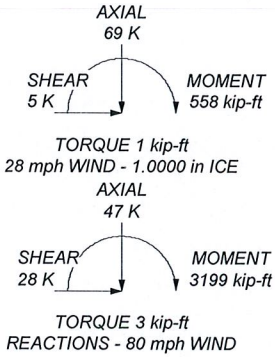
LIMITATIONS

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)	40.75	45.00	45.00	45.00
Number of Sides	18	18	18	18
Thickness (in)	0.2500	0.3125	0.3750	0.4375
Socket Length (ft)	4.25	5.25	6.25	
Top Dia (in)	24.0000	31.3491	39.2711	46.8531
Bot Dia (in)	32.7630	41.0250	48.9470	56.5300
Grade	A607-55			
Weight (K)	3.1	5.4	8.0	10.9





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
(2) RR90-17-02DP w/Mount Pipe	160	BXA-70063/6CF-2 w/ Mount Pipe	137
(2) RR90-17-02DP w/Mount Pipe	160	BXA-171085/8BF-2 w/ Mount Pipe	137
(2) RR90-17-02DP w/Mount Pipe	160	BXA-171085/8BF-2 w/ Mount Pipe	137
(2) TMA	160	BXA-171085/8BF-2 w/ Mount Pipe	137
(2) TMA	160	(2) FDR6004/2C-3L	137
(2) TMA	160	(2) FDR6004/2C-3L	137
(1) Low Profile Platform	160	(2) FDR6004/2C-3L	137
Empty Mount Pipe	160	(2) LPA-80080/6CF W/Mount Pipe	137
Empty Mount Pipe	160	(2) LPA-80080/6CF W/Mount Pipe	137
Empty Mount Pipe	160	(4) DB844H90E-XY w/ Mount Pipe	127
RFS APXVSPP18-C-A20 w/Mount Pipe	148	(4) DB844H90E-XY w/ Mount Pipe	127
		(4) DB844H90E-XY w/ Mount Pipe	127
RFS APXVSPP18-C-A20 w/Mount Pipe	148	(1) Low Profile Platform	127
RFS APXVSPP18-C-A20 w/Mount Pipe	148	RFS APXV18-206515S-C w/Mount Pipe	117
ALU 1900 RRUs	148	RFS APXV18-206515S-C w/Mount Pipe	117
ALU 1900 RRUs	148	RFS APXV18-206515S-C w/Mount Pipe	117
ALU 1900 RRUs	148		
ALU 800 RRU	148	(3) Pipe Mounts	117
ALU 800 RRU	148	(2) LGP21401 TMA	108
ALU 800 RRU	148	(2) LGP21401 TMA	108
ALU 800 Filter	148	(2) LGP21401 TMA	108
ALU 800 Filter	148	(2) LGP21903 Diplexer	108
ALU 800 Filter	148	(2) LGP21903 Diplexer	108
RFS ACU-A20-N RET	148	(2) 7770 w/ Mount Pipe	108
RFS ACU-A20-N RET	148	(2) 7770 w/ Mount Pipe	108
(2) RFS ACU-A20-N RET	148	(2) 7770 w/ Mount Pipe	108
(1) Low Profile Platform	148	(2) LGP21903 Diplexer	108
(3) Empty Mount Pipe	148	(1) Low Profile Platform	108
(3) Empty Mount Pipe	148	DUO1417-8686-40 w/ Mount Pipe	108
(3) Empty Mount Pipe	148	DUO1417-8686-40 w/ Mount Pipe	108
(2) LPA-80080/6CF W/Mount Pipe	137	DUO1417-8686-40 w/ Mount Pipe	108
(1) Low Profile Platform	137	GPS	75
BXA-70063/6CF-2 w/ Mount Pipe	137	(1) Pipe Mount	75
BXA-70063/6CF-2 w/ Mount Pipe	137		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A607-55	55 ksi	70 ksi			

TOWER DESIGN NOTES

1. Tower is located in Litchfield 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 28 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: 83.9%

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

Job: South Plymouth, CT - CT03538-S			
Project: 12-04783E S1			
Client: SBA Network Services, Inc.	Drawn by: Greg Clutter		App'd:
Code: TIA/EIA-222-F	Date: 05/10/12		Scale: NTS
Path: C:\Users\Greg Clutter\Desktop\South Plymouth, CT\S1- SA- BXA\Analysis\South Plymouth, CT - CT03538-S.eri			Dwg No. E-1

STRUCTURAL NOTE:

STRUCTURAL DESIGNS AND DETAILS FOR ANTENNA MOUNTS AND RRH MOUNTS COMPLETED BY HUDSON DESIGN GROUP LLC ON BEHALF OF ALCATEL-LUCENT ARE INCLUSIVE OF THE ENTIRE ANTENNA FRAME/PLATFORM/ANTENNA/RRH MOUNTS SECURED TO THE TOWER STRUCTURE.

STRUCTURAL NOTE:

G.C. TO REFER TO SPECIAL INSTALLATION REQUIREMENTS AND/OR MODIFICATIONS RECOMMENDED IN STRUCTURAL ANALYSIS REPORT PREPARED BY FDH ENGINEERING, INC. DATED: MAY 10, 2012

SBA SITE #: CT03538-S
SBA SITE NAME: SOUTH PLYMOUTH

Sprint® VISION™

SITE NUMBER:
CT33XC275

SITE NAME:
THOMASTON SBA

SITE ADDRESS:
170 MOUNT TOBE ROAD
PLYMOUTH, CT 06783

NOTE:

OWNER AND TENANT MAY, FROM TIME TO TIME AT TENANT'S OPTION, REPLACE THIS EXHIBIT WITH AN EXHIBIT SETTING FORTH THE LEGAL DESCRIPTION OF THE SITE, OR WITH ENGINEERED OR AS-BUILT DRAWING DEPICTING THE SITE OR ILLUSTRATING STRUCTURAL MODIFICATIONS OR CONSTRUCTION PLANS OF THE SITE. ANY VISUAL OR TEXTUAL REPRESENTATION OF THE EQUIPMENT LOCATED WITHIN THE SITE CONTAINED IN THESE OTHER DOCUMENTS IS ILLUSTRATIVE ONLY, AND DOES NOT LIMIT THE RIGHTS OF SPRINT AS PROVIDED FOR IN THE AGREEMENT. THE LOCATIONS OF ANY ACCESS AND UTILITY EASEMENTS ARE ILLUSTRATIVE ONLY. ACTUAL LOCATIONS MAY BE DETERMINED BY TENANT AND/OR THE SERVICING UTILITY COMPANY IN COMPLIANCE WITH LOCAL LAWS AND REGULATIONS.

SITE INFORMATION

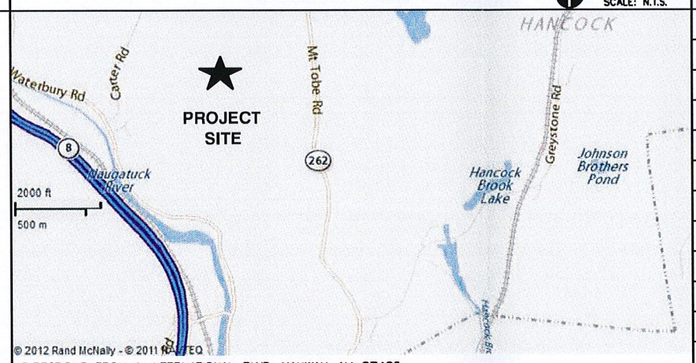
SITE NUMBER:	CT33XC275	LOCAL POWER COMPANY:	NORTHEAST UTILITIES SERVICE COMPANY
SITE NAME:	THOMASTON SBA		
SITE ADDRESS:	170 MOUNT TOBE ROAD PLYMOUTH, CT 06783	LOCAL TELCO COMPANY:	VERIZON
COUNTY:	LITCHFIELD	APPLICANT:	SPRINT 1 INTERNATIONAL BLVD, SUITE 800 MAHWAH, NJ 07495
ZONING:	RA1 - RESIDENTIAL	APPLICANT REPRESENTATIVE:	ALCATEL-LUCENT TODD AMANN 600 MOUNTAIN AVE. MURRAY HILL, NJ 07974 (914)715-9363
PARCEL ID:	00483500	SITE ACQUISITION CONSULTANT:	SBA COMMUNICATIONS CORP. ONE RESEARCH DRIVE SUITE 200C WESTBOROUGH, MA 01581
COORDINATES(*):	N 41° 37' 48.11" W 73° 03' 23.59"	A&E CONSULTANT:	HUDSON DESIGN GROUP LLC 1600 OSGOOD STREET BLDG 20 NORTH, SUITE 2-101 NORTH ANDOVER, MA 01845 TEL: (978) 557-5553 FAX: (978) 336-5586
GROUND ELEV.(*):	830'± (AMSL)		
STRUCTURE TYPE:	MONOPOLE		
STRUCTURE HEIGHT:	160' (AGL)		
ANTENNA RAD CENTER(**):	148' (AGL)		
PROPERTY OWNER:	MACDONALD SUSAN & WALTER 42 SOUTH STREET PLYMOUTH, CT 06782		
STRUCTURE OWNER:	SBA PROPERTIES, INC. 5900 BROKEN SOUND PKWY BOCA RATON, FL 33487		

(*) SOURCE OF COORDINATES/ELEVATION - SBA AND 2C DONE BY ERDMAN ANTHONY CONSULTING ENGINEERS.

(**) NOTE: NETWORK VISION ANTENNA RADIATION CENTERLINE AGL (FEET) BASED ON SBA EQUIPMENT DATABASE AND SBA TOWER STRUCTURAL ANALYSIS AND WILL SUPERSEDE ANY CONFLICTING INFORMATION DERIVED FROM ALU/SPRINT DATABASE.

VICINITY MAP

TRUE NORTH
SCALE: N.T.S.



DIRECTIONS FROM 1 INTERNATIONAL BLVD, MAHWAH, NJ 07495:

PROCEED NORTH ON INTERNATIONAL BLVd. EXIT ROUNDABOUT AT LEISURE LANE. ENTER RAMP FOLLOWING THE SIGN RT-17 N. FREEWAY ENDS, BEAR RIGHT TAKING THE RAMP TO TAPPAN ZEE BR/NEW YORK CITY/I-87 S/I-287/NEW YORK STATE THRUWAY SOUTH. CONTINUE, NAME CHANGES TO NEW YORK STATE THRUWAY S/I-287 E/I-87 S. FREEWAY FORKS, KEEP LEFT TO WHITE PLAINS/RYE/I-287 E (EXIT 8). EXIT RIGHT FOLLOWING THE SIGN BREWSTER/I-684 (EXIT 9A). RAMP FORKS, KEEP LEFT TO BREWSTER/I-684. EXIT RIGHT FOLLOWING THE SIGN DANBURY/I-84 E (EXIT 9E). FREEWAY FORKS, KEEP RIGHT TO WATERBURY/HARTFORD/I-84 E. EXIT LEFT FOLLOWING THE SIGN TORRINGTON/CT-8 N (EXIT 20). EXIT RIGHT FOLLOWING THE SIGN COLONIAL AVE (EXIT 36)/HUNTINGDON AVE. TURN RIGHT ON HUNTINGDON AVE. TURN LEFT ON THOMASTON AVE. TURN RIGHT ON MT TOBE RD/MOUNT TOBE RD/CT-262. ARRIVE AT YOUR DESTINATION ON THE LEFT.

SHEET INDEX

SHEET NO.	DESCRIPTION
T-1	TITLE SHEET
GN-1	GENERAL NOTES
A-1	COMPOUND PLAN AND ELEVATION
A-2	ANTENNA SCENARIO & EQUIPMENT LAYOUT
A-3	DETAILS
A-4	RF DATA SHEET
A-5	CABINET & ANTENNA WIRING DIAGRAM
S-1	STRUCTURAL DETAILS
E-1	TYPICAL POWER & GROUNDING ONE LINE DIAGRAM

GENERAL NOTES

1. THIS IS AN UNMANNED TELECOMMUNICATION FACILITY AND NOT FOR HUMAN HABITATION:
   -HANDICAPPED ACCESS NOT REQUIRED
   - POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED
   - NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED
2. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
3. DEVELOPMENT AND USE OF THE SITE WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
   BUILDING CODE: 2003 IBC WITH 2005 CT SUPPLEMENT & 2009 CT AMENDMENT
   ELECTRICAL CODE: 2005 NATIONAL ELECTRICAL CODE
   STRUCTURAL CODE: TIA/EIA-222-F STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS

SCOPE OF WORK

1. INSTALL FIBER DISTRIBUTION BOX WITHIN EXISTING LEASE AREA. REMOVE EXISTING MOD CELL AND BATTERY CABINETS AND REPLACE WITH (1) MM-BTS AND (2) BBU CABINETS.
2. REMOVE (6) EXISTING CDMA ANTENNAS AND REPLACE WITH (3) NETWORK VISION ANTENNAS & (6) RRH'S.
3. REMOVE EXISTING CDMA COAX CABLES & INSTALL (3) HYBRIFLEX CABLES FROM EQUIPMENT CABINET TO ANTENNA
4. REMOVE EXISTING GPS ANTENNA AND REPLACE WITH NEW GPS ANTENNA

CALL BEFORE YOU DIG
1-800-922-4455 OR DIAL 811

APPROVALS

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.

CONSTRUCTION: _____ DATE: _____

LEASING/
SITE ACQUISITION: _____ DATE: _____

RF ENGINEER: _____ DATE: _____

LANDLORD/
PROPERTY OWNER: _____ DATE: _____

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

SBA
SBA COMMUNICATIONS CORP.
5900 BROKEN SOUND PARKWAY
BOCA RATON, FL 33487-2797
TEL: (561) 226-9523
FAX: (561) 226-3572

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 2-101
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
2	06/07/12	FOR CONSTRUCTION	NB
1	04/06/12	ISSUED FOR REVIEW	DR

SITE NUMBER:
CT33XC275
SITE NAME:
THOMASTON SBA
SITE ADDRESS:
170 MOUNT TOBE ROAD
PLYMOUTH, CT 06783

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

STRUCTURAL NOTE:

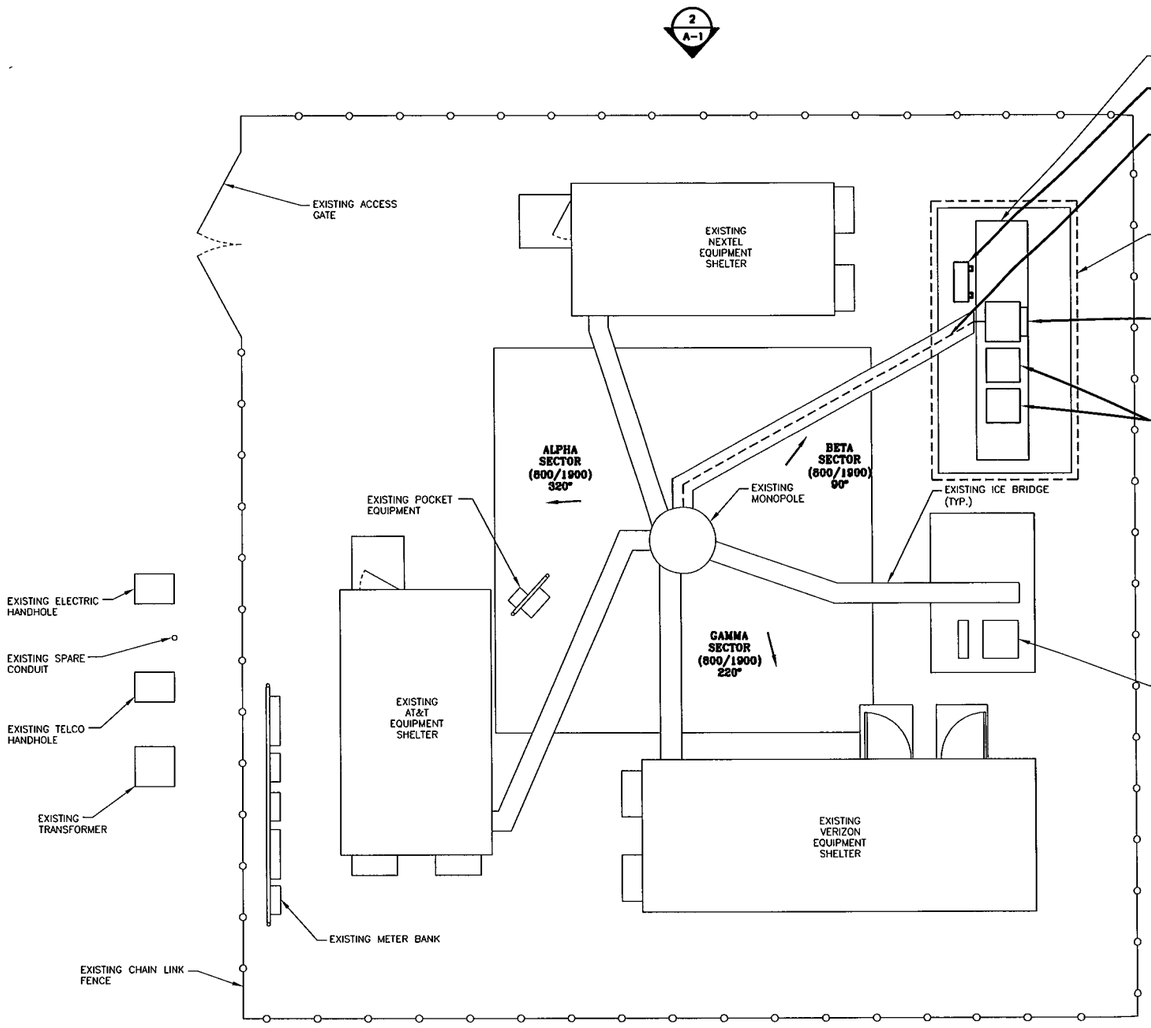
G.C. TO REFER TO SPECIAL INSTALLATION REQUIREMENTS AND/OR MODIFICATIONS RECOMMENDED IN STRUCTURAL ANALYSIS REPORT PREPARED BY FDH ENGINEERING, INC. DATED: MAY 10, 2012

NOTES:

1) VERIFY EXACT ANTENNA MODEL & AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION.

2) REMOVE EXISTING GPS ANTENNA AND REPLACE WITH NEW GPS ANTENNA.

(**) NOTE: NETWORK VISION ANTENNA RADIATION CENTERLINE AGL (FEET) BASED ON SBA EQUIPMENT DATABASE AND SBA TOWER STRUCTURAL ANALYSIS AND WILL SUPERSEDE ANY CONFLICTING INFORMATION DERIVED FROM ALU/SPRINT DATABASE.

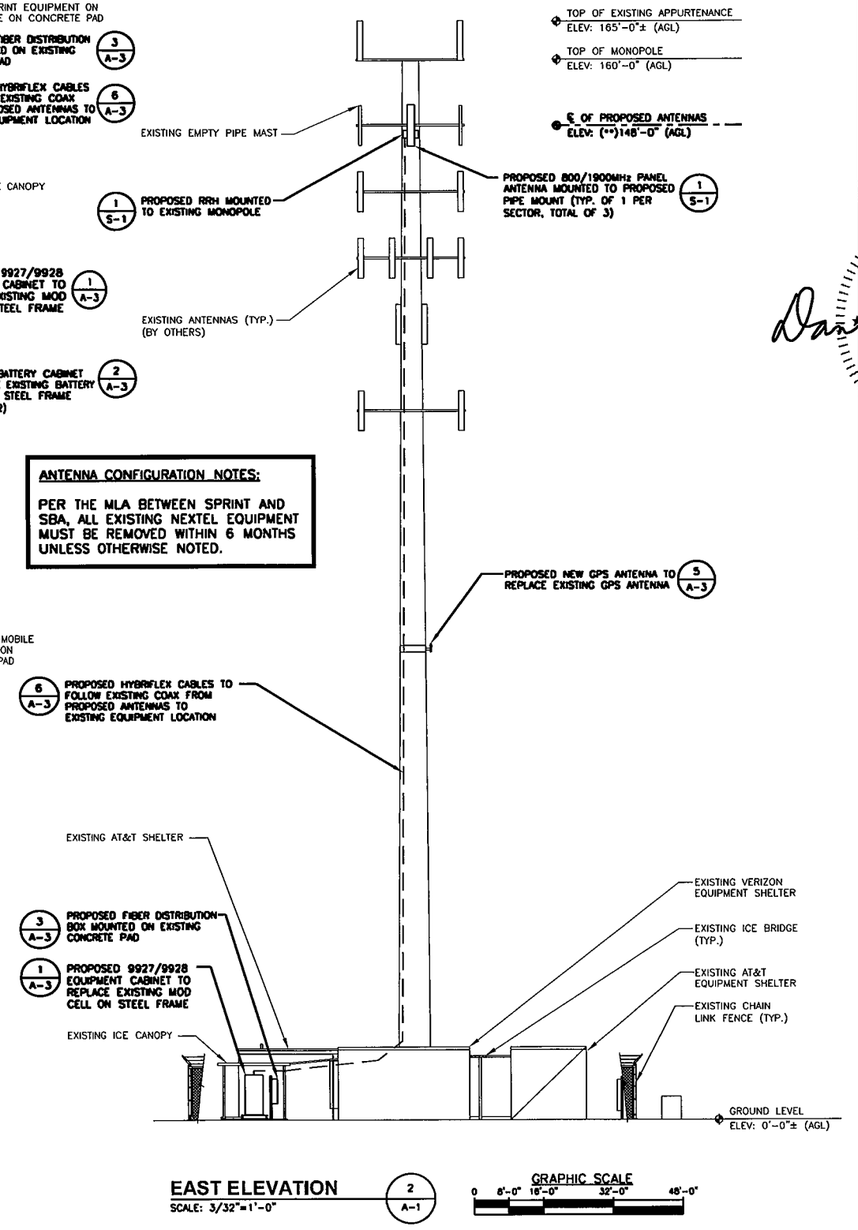


COMPOUND PLAN 1 A-1
SCALE: 3/16"=1'-0"

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

ANTENNA CONFIGURATION NOTES:

PER THE MLA BETWEEN SPRINT AND SBA, ALL EXISTING NEXTEL EQUIPMENT MUST BE REMOVED WITHIN 6 MONTHS UNLESS OTHERWISE NOTED.



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

GRAPHIC SCALE
0 8'-0" 16'-0" 32'-0" 48'-0"

Sprint VISION
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
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