

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

November 6, 2012

Jennifer Palumbo
Real Estate Consultant
48 Spruce Street
Oakland, NJ 07436

RE: **EM-SPRINT-031-121015** – Sprint Spectrum notice of intent to modify an existing telecommunications facility located at Mohawk Mountain Road, Cornwall, Connecticut.

Dear Ms. Palumbo:

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

- Any deviation from the proposed modification as specified in this notice and supporting materials with 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 19, 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 Gordon M. Ridgway, First Selectman, Town of Cornwall
Karl Nilsen, Zoning Enforcement Officer, Town of Cornwall
American Tower





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October 16, 2012

The Honorable Gordon M. Ridgway
First Selectman
Town of Cornwall
Town Office
26 Pine Street
P. O. Box 97
Cornwall, CT 06753-0205

RE: **EM-SPRINT-031-121015** – Sprint Spectrum notice of intent to modify an existing telecommunications facility located at Mohawk Mountain Road, Cornwall, Connecticut.

Dear First Selectman Ridgway:

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

If you have any questions or comments regarding the proposal, please call me or inform the Council by October 30, 2012.

Thank you for your cooperation and consideration.

Very truly yours,

Linda Roberts
Executive Director

LR/jbw

c: Karl Nilsen, Zoning Enforcement Officer, Town of Cornwall



Together with Nextel

48 Spruce Street
Oakland, NJ 07436
Phone: (845) 499-4712
Jennifer Palumbo

September 19, 2012

Hand Delivered

Ms. Linda Roberts
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RECEIVED
OCT 15 2012

CONNECTICUT
SITING COUNCIL

RE: Sprint Spectrum L.P. notice of intent to modify an existing telecommunications facility located at Mohawk Mountain Road, Mohawk State Forest, ~~Litchfield~~ Cornwall CT 06749. Known to Sprint Spectrum L.P. as site CT72XC030.

Dear Ms. Roberts:

In order to accommodate technological changes, implement Code Division Multiple Access ("CDMA") and/or Long Term Evolution ("LTE") capabilities, and enhance system performance in the state of Connecticut, Sprint Spectrum L.P. 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 its attachments is being sent to the chief elected official of the municipality in which affected cell site is located.

CDMA employs Spread-Spectrum technology and special coding scheme to allow multiple users to be multiplexed over the same physical channel. LTE is a new high-performance air interface for cellular mobile communications. It is designed to increase the capacity and speed of mobile telephone networks.

As part of the project the new multi-mode 800/1900 antenna will replace existing antennas. These antennas will provide more flexibility for optimization by allowing fast and easy electrical tilt adjustment from remote location and will enable the transmission of multiple technologies from a single antenna. As Sprint Nextel's network evolves to meet the demands of its customers, it is essential for Sprint Nextel to install modern equipment and antennas in order to provide reliable wireless voice and data services. The

proposed equipment will include multi-mode radios that will allow Sprint Nextel to transmit at different frequencies using different technologies, including LTE technology. Likewise, the proposed antennas are quad-pole multi-band high gain antennas that will allow Sprint to operate using its multiple frequency bands and technologies, including LTE technology. The proposed equipment and antennas will improve the reliability, coverage and capacity of Sprint Nextel's voice and data networks across Sprint Nextel's various FCC licensed frequency bands and significantly increase the data speeds of Sprint Nextel's network by utilizing the latest LTE technology. Without the proposed modifications Sprint Nextel will be unable to provide reliable wireless voice and data service using the latest technologies.

Sprint Spectrum L.P. will have an interim (testing) period during the modification/installation prior to the final configuration. This antenna configuration is shown on the attached drawings of the planned modifications. Also included is the power density calculation reflecting the change in Sprint's operations at the site and documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

The changes to the facility do not constitute modification as defined 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 the R.C.S.A. Section 16-50j-72(b)(2).

1. The height of the overall structure will not be affected.
2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound.
3. The proposed changes will not increase the noise level at the existing facility by 6 decibels or more.
4. Radio Frequency power density may increase due to the use of one or more CDMA transmissions. Moreover, LTE will utilize additional radio frequencies newly licensed by the FCC for cellular mobile communications. However, the changes 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 Sprint Spectrum L.P. 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 (845)-499-4712 or email JPalumbo@Transcendwireless.com with questions concerning this matter. Thank you for your consideration.

Sincerely,

Jennifer Palumbo
Real Estate Consultant



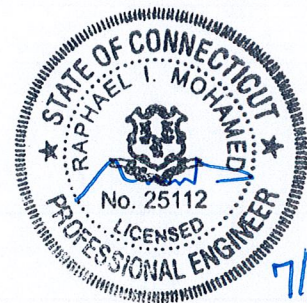
AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 65 ft Self Supported Tower
ATC Site Name : Cornwall CT, CT
ATC Site Number : 88009
Proposed Carrier : Sprint Nextel
Carrier Site Name : CT0046 – Ring to existing (R2E) PH 1A
Carrier Site Number : CT72XC030
County : Litchfield
Eng. Number : 49386721
Date : May 11, 2012*
Usage : 42% Legs, 93% Diagonals, 15% Horizontals
Result : Pass

Submitted by:
Esha Modi
Project Engineer

American Tower Engineering Services
400 Regency Forest Drive
Cary, NC 27518
Phone: 919-468-0112



Introduction

The purpose of this report is to summarize results of the structural analysis performed on the 65 ft Self Supported Tower located at the end of Mohawk Mountain Road, Cornwall, CT 06759, Litchfield County (ATC site #88009). The tower member sizes and geometry were taken from a mapping by CSEI (ATC Job #26472221, dated September 19, 2006).

Analysis

The tower was analyzed using Semaan Engineering Solutions, Inc., Software.

Basic Wind Speed: 80 mph (Fastest Mile)
 Radial Ice: 69 mph (Fastest Mile) w/ 1/2" ice
 Code: TIA/EIA-222-F / 2003 IBC, Sec. 1609.1.1, Exception (5) & Sec. 3108.4 / 2005 Connecticut Supplement with 2009 CT Amendments

Antenna Loads

The following antenna loads were used in the tower analysis.

Existing Antennas

Elev.(ft)	Qty	Antennas	Mount	Coax (in)	Carrier
75.0	3	EMS RR65-19-02DP	Platfrom w/ Handrail on Fire Warden Cab	(6) 7/8	Sprint Nextel
72.0	1	10' Dipole		(2) 7/8	State of CT
	1	8' Yagi			
65.0	1	Fire Warden Cab		-	--
65.0	6	Allgon 7770.00	Standoff	(12) 1 1/4	AT&T Mobility
	6	Powerwave LGP21902			
	6	Powerwave LGP21401			
	6	Powerwave 7020.00 Dual Band RE			
50.0	1	Andrew DB616E-BC	Large Flat Platform	(1) 7/8	US Treasury
	4	10' HP Dish		-	-
48.0	3	TTA		(12) 7/8	Alltel
	3	Decibel 776QNB120EXM		(3) 1/2	
46.5	3	Antel BXA-171063/12CF		(12) 1 5/8	Verizon
	3	Antel BXA-70063-6CF			
	6	RFS FD9R6004/2C-3L			
	6	Antel LPA-80063/6CF			

Proposed Antennas

Elev.(ft)	Qty	Antennas	Mount	Coax (in)	Carrier
64.0	3	Decibel DB809KE-XT	Stand Off	(3) 7/8	Sprint Nextel
57.0	3	Alcatel-Lucent 800 MHz RRH	Stand Off	(3) 1 1/4" Hybriflex	
	3	Alcatel-Lucent RRH2x40 (700)			
	3	RFS APXVSP18-C-A20			

Install proposed coax on any tower face.

Results

The maximum structure usage is: 93%

Leg Forces	Original Design Reactions	Current Analysis Reactions	% Of Design
Uplift (Kips)	60.0	53.0	88
Axial (Kips)	113.9	68.7	60

The structure base reactions resulting from this analysis are acceptable when compared to the reactions shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection, Sway and Twist*

Antenna Elevation	Deflection	Sway (Rotation)	Twist
64.0'	0.11'	0.56°	0.001°
57.0'	0.06'	0.37°	0.002°

** Values at 50 mph basic wind speed without ice per TIA/EIA-222- F.*

Conclusion

Based on the analysis results, the structure meets the requirements per the TIA/EIA-222-F standard and the 2003 IBC with 2005 CT Supplements and 2009 CT Amendments. The tower and foundation can support the existing and proposed antennas with the transmission line distribution as described in this report.

If you have any questions or require additional information, please call 919-466-5017.

Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

- Information supplied by the client regarding the structure itself, the antenna and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to ATC Engineering Services and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/EIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Engineering Services is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

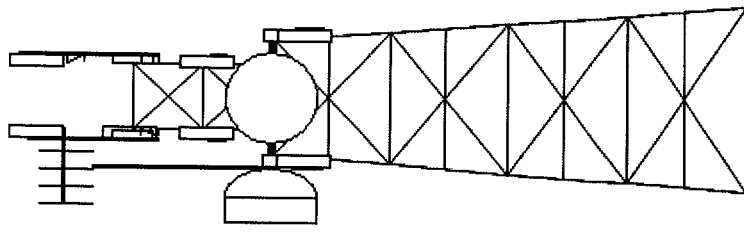
Job Information		
Tower : 88009	Location : Cornwall CT, CT	Base Width : 19.72 ft
Code : TIA/EIA-222 Rev F	Shape : Square	Top Width : 7.00 ft
Client : US Treasury		

Copyright Semaar Engineering Solutions, Inc
 Loads: 80 mph no ice
 69 mph w/ 1/2" radial ice
 50 mph no ice

Sections Properties			
Section	Leg Members	Diagonal Members	Horizontal Members
1 - 2	SAE 33 ksi 6X6X0.625	SAU 36 ksi 3X4X0.25	DAL 36 ksi 3X2.5X0.25
3	SAE 33 ksi 6X6X0.5	SAU 36 ksi 3.5X3X0.25	DAL 36 ksi 3.5X3X0.3125
4	SAE 33 ksi 6X6X0.5	SAE 36 ksi 3.5X3.5X0.25	DAL 36 ksi 3.5X3X0.3125
5	SAE 33 ksi 6X6X0.5		
6	SAE 33 ksi 6X6X0.5	SAU 36 ksi 3X2X0.25	DAL 36 ksi 2.5X2X0.25

Discrete Appurtenance			
Elev (ft)	Type	Qty	Description
75.00	Panel	3	EMS RR65-19-02DP
72.00	Yagi	1	8' Yagi
72.00	Whip	1	10' Dipole
65.01	Panel	1	Fire Warden Cab
65.00		6	Powerwave 7020.00 Dual Band RE
65.00		6	Powerwave LGP21401
65.00		6	Powerwave LGP21902
65.00	Panel	6	Allgon 7770.00
64.00	Whip	3	Decibel DB809KE-XT
57.00	Panel	3	RFS APXVSP18-C-A20
57.00	Panel	3	Alcatel-Lucent 800 MHz RRH
50.00	Whip	3	Alcatel-Lucent RRH2x40 (700)
50.00	Dish	1	Andrew DB616E-BC
50.00	Platform	4	10' HP Dish
48.00	Panel	1	Large Flat Platform
48.00	Panel	3	Decibel 776QNB120EXM
46.50	Panel	3	TTA
46.50	Panel	6	Antel LPA-80063/6CF
46.50	Panel	3	Antel BXA-70063/6CF-EDIN-X
46.50	Panel	3	Antel BXA-171063/12CF
46.50	Platform	6	RFS FD9R6004/2C-3L
37.50	Platform	1	Platform

Linear Appurtenance			
Elev (ft)		Qty	Description
From	To		
0.000	75.000	6	7/8" Coax
0.000	72.000	2	7/8" Coax
0.000	65.000	1	Wave Guide
0.000	65.000	1	Climbing Ladder
0.000	65.000	12	1 1/4" Coax
0.000	64.000	3	7/8" Coax
0.000	57.000	3	1 1/4" Hybriflex
0.000	50.000	1	7/8" Coax
0.000	48.000	12	7/8" Coax
0.000	48.000	3	1/2" Coax
0.000	46.500	12	1 5/8" Coax

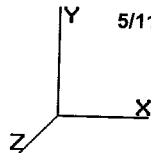


65.00 Sect 6
 50.10 Sect 4
 37.50 Sect 3
 25.00 Sect 2
 12.50 Sect 1

Uplift 53.00 k Moment 1,697.18 ft-k
 Vert 68.72 k Total Down 31.46 k
 Horiz 15.47 k Total Shear 37.45 k

Site Number: 88009
 Location: Cornwall CT, CT
 Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc
 5/11/2012 6:02:16 PM



Gh : 1.19

Section Forces

LoadCase Normal No Ice

80.00 mph Wind Normal To Face with No Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice		Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face	
													Linear Area (sqft)	Total Weight (lb)					Weight Ice (lb)
6	57.55	19.21	34.57	14.56	0.00	0.47	2.11	1.00	1.00	0.68	44.52	3.72	0.00	2,786.7	0.0	2,153.43	170.93	2,324.36	1
5	50.05	18.45	4.30	0.12	0.00	1.00	2.10	1.00	1.00	1.00	4.42	0.02	0.00	337.8	0.0	204.85	1.10	42.99	1
4	43.75	17.76	36.30	32.45	0.00	0.41	2.24	1.00	1.00	0.66	57.63	3.13	0.00	3,968.1	0.0	2,742.89	132.59	2,875.48	1
3	31.25	16.38	38.14	37.32	0.00	0.40	2.27	1.00	1.00	0.65	62.49	3.13	0.00	4,204.4	0.0	2,782.19	122.33	2,904.52	1
2	18.75	16.38	41.41	37.32	0.00	0.37	2.36	1.00	1.00	0.64	65.32	3.13	0.00	4,317.5	0.0	3,013.22	122.33	3,135.55	1
1	6.25	16.38	43.57	37.32	0.00	0.34	2.44	1.00	1.00	0.63	67.10	3.13	0.00	4,563.0	0.0	3,207.13	122.33	3,329.46	1
													20,177.5	0.0			14,612.35		

** = 2QzGhAg Controls

LoadCase Normal Ice

69.28 mph Wind Normal To Face with Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice		Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face	
													Linear Area (sqft)	Total Weight (lb)					Weight Ice (lb)
6	57.55	14.40	34.57	36.22	20.95	0.68	1.84	1.00	1.00	0.80	63.72	3.72	1.24	4,299.1	1,512.5	2,015.48	153.83	2,169.30	1
5	50.05	13.84	4.30	0.94	0.76	1.00	2.10	1.00	1.00	1.00	5.25	0.02	0.01	425.4	87.6	182.15	0.99	32.24	1
4	43.75	13.32	36.30	66.21	33.14	0.62	1.88	1.00	1.00	0.76	86.89	3.13	1.04	6,154.2	2,186.1	2,602.42	119.33	2,721.74	1
3	31.25	12.29	38.14	74.71	36.74	0.60	1.90	1.00	1.00	0.75	94.49	3.13	1.04	6,561.0	2,356.6	2,633.66	110.09	2,743.75	1
2	18.75	12.29	41.41	75.16	37.14	0.55	1.96	1.00	1.00	0.73	95.91	3.13	1.04	6,756.9	2,439.4	2,762.77	110.09	2,872.86	1
1	6.25	12.29	43.57	75.61	37.55	0.51	2.04	1.00	1.00	0.70	96.61	3.13	1.04	7,115.0	2,552.0	2,886.59	110.09	2,996.68	1
													31,311.7	11,134.2			13,536.58		

** = 2QzGhAg Controls

LoadCase 45 deg No Ice

80.00 mph Wind at 45 deg From Face with No Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice		Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face	
													Linear Area (sqft)	Total Weight (lb)					Weight Ice (lb)
6	57.55	19.21	34.57	14.56	0.00	0.47	2.11	1.20	1.20	0.68	53.42	3.72	0.00	2,786.7	0.0	2,584.12	170.93	2,755.04	1
5	50.05	18.45	4.30	0.12	0.00	1.00	2.10	1.20	1.20	1.00	5.31	0.02	0.00	337.8	0.0	245.82	1.10	42.99	1
4	43.75	17.76	36.30	32.45	0.00	0.41	2.24	1.20	1.20	0.66	69.16	3.13	0.00	3,968.1	0.0	3,291.47	132.59	3,424.06	1
3	31.25	16.38	38.14	37.32	0.00	0.40	2.27	1.20	1.20	0.65	74.98	3.13	0.00	4,204.4	0.0	3,338.63	122.33	3,460.96	1
2	18.75	16.38	41.41	37.32	0.00	0.37	2.36	1.20	1.20	0.64	78.39	3.13	0.00	4,317.5	0.0	3,615.86	122.33	3,738.19	1
1	6.25	16.38	43.57	37.32	0.00	0.34	2.44	1.20	1.20	0.63	80.52	3.13	0.00	4,563.0	0.0	3,848.55	122.33	3,970.88	1
													20,177.5	0.0			13,792.12		

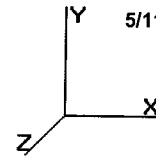
** = 2QzGhAg Controls

Site Number: 88009
 Location: Cornwall CT, CT

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5/11/2012 6:02:16 PM

Code: TIA/EIA-222 Rev F



Gh : 1.19

Section Forces

LoadCase 45 deg Ice

69.28 mph Wind at 45 deg From Face with Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice		Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face	
													Total Weight (lb)	Ice Weight (lb)					
6	57.55	14.40	34.57	36.22	20.95	0.68	1.84	1.20	1.20	0.80	76.47	3.72	1.24	4,299.1	1,512.5	2,418.57	153.83	2,572.40	1
5	50.05	13.84	4.30	0.94	0.76	1.00	2.10	1.20	1.20	1.00	6.30	0.02	0.01	425.4	87.6	218.58	0.99	32.24	**
4	43.75	13.32	36.30	66.21	33.14	0.62	1.88	1.20	1.20	0.76	104.27	3.13	1.04	6,154.2	2,186.1	3,122.90	119.33	3,242.22	1
3	31.25	12.29	38.14	74.71	36.74	0.60	1.90	1.20	1.20	0.75	113.39	3.13	1.04	6,561.0	2,356.6	3,160.39	110.09	3,270.48	1
2	18.75	12.29	41.41	75.16	37.14	0.55	1.96	1.20	1.20	0.73	115.10	3.13	1.04	6,756.9	2,439.4	3,315.32	110.09	3,425.41	1
1	6.25	12.29	43.57	75.61	37.55	0.51	2.04	1.20	1.20	0.70	115.93	3.13	1.04	7,115.0	2,552.0	3,463.91	110.09	3,574.00	1
													31,311.7	11,134.2			16,116.76		

** = 2QzGhAg Controls

LoadCase Normal

50.00 mph Wind Normal To Face with No Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice		Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face	
													Total Weight (lb)	Ice Weight (lb)					
6	57.55	7.50	34.57	14.56	0.00	0.47	2.11	1.00	1.00	0.68	44.52	3.72	0.00	2,786.7	0.0	841.18	66.77	907.95	1
5	50.05	7.21	4.30	0.12	0.00	1.00	2.10	1.00	1.00	1.00	4.42	0.02	0.00	337.8	0.0	80.02	0.43	16.79	**
4	43.75	6.94	36.30	32.45	0.00	0.41	2.24	1.00	1.00	0.66	57.63	3.13	0.00	3,968.1	0.0	1,071.44	51.79	1,123.23	1
3	31.25	6.40	38.14	37.32	0.00	0.40	2.27	1.00	1.00	0.65	62.49	3.13	0.00	4,204.4	0.0	1,086.79	47.78	1,134.58	1
2	18.75	6.40	41.41	37.32	0.00	0.37	2.36	1.00	1.00	0.64	65.32	3.13	0.00	4,317.5	0.0	1,177.04	47.78	1,224.82	1
1	6.25	6.40	43.57	37.32	0.00	0.34	2.44	1.00	1.00	0.63	67.10	3.13	0.00	4,563.0	0.0	1,252.78	47.78	1,300.57	1
													20,177.5	0.0			5,707.95		

** = 2QzGhAg Controls

LoadCase 45 deg

50.00 mph Wind at 45 deg From Face with No Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

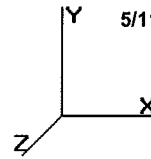
Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice		Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face	
													Total Weight (lb)	Ice Weight (lb)					
6	57.55	7.50	34.57	14.56	0.00	0.47	2.11	1.20	1.20	0.68	53.42	3.72	0.00	2,786.7	0.0	1,009.42	66.77	1,076.19	1
5	50.05	7.21	4.30	0.12	0.00	1.00	2.10	1.20	1.20	1.00	5.31	0.02	0.00	337.8	0.0	96.02	0.43	16.79	**
4	43.75	6.94	36.30	32.45	0.00	0.41	2.24	1.20	1.20	0.66	69.16	3.13	0.00	3,968.1	0.0	1,285.73	51.79	1,337.52	1
3	31.25	6.40	38.14	37.32	0.00	0.40	2.27	1.20	1.20	0.65	74.98	3.13	0.00	4,204.4	0.0	1,304.15	47.78	1,351.94	1
2	18.75	6.40	41.41	37.32	0.00	0.37	2.36	1.20	1.20	0.64	78.39	3.13	0.00	4,317.5	0.0	1,412.45	47.78	1,460.23	1
1	6.25	6.40	43.57	37.32	0.00	0.34	2.44	1.20	1.20	0.63	80.52	3.13	0.00	4,563.0	0.0	1,503.34	47.78	1,551.13	1
													20,177.5	0.0			6,793.80		

** = 2QzGhAg Controls

Site Number: 88009
 Location: Cornwall CT, CT

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Tower Loading

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Weight (lb)	No Ice CaAa (sf)	CaAa Factor	Weight (lb)	Ice CaAa (sf)	CaAa Factor	Distance From Face (ft)	X Angle (deg)	Vert Ecc (ft)
75.00	EMS RR65-19-02DP	3	23.00	5.867	0.73	51.51	6.692	0.73	0.000	0.00	0.000
72.00	8' Yagi	1	30.00	12.000	1.00	127.20	21.590	1.00	0.000	0.00	0.000
72.00	10' Dipole	1	30.00	3.760	1.00	62.00	5.480	1.00	0.000	0.00	0.000
65.01	Fire Warden Cab	1	1500.00	218.40	1.00	2000.00	320.00	1.00	0.000	0.00	0.000
65.00	Powerwave 7020.00 Dual	6	2.20	0.400	0.50	5.10	0.540	0.50	0.000	0.00	0.000
65.00	Powerwave LGP21401	6	14.10	1.290	0.50	21.26	1.530	0.50	0.000	0.00	0.000
65.00	Powerwave LGP21902	6	5.50	0.270	0.50	7.90	0.380	0.50	0.000	0.00	0.000
65.00	Allgon 7770.00	6	35.00	5.880	0.75	68.00	6.430	0.75	0.000	0.00	0.000
64.00	Decibel DB809KE-XT	3	37.50	3.660	1.00	64.00	4.920	1.00	0.000	0.00	6.100
57.00	RFS APXVSP18-C-A20	3	57.00	8.260	0.82	106.50	9.080	0.82	0.000	0.00	0.000
57.00	Alcatel-Lucent 800 MHz RRH	3	53.00	2.490	0.92	74.10	2.820	0.92	0.000	0.00	0.000
57.00	Alcatel-Lucent RRH2x40 (700)	3	50.00	2.480	1.00	71.08	2.810	1.00	0.000	0.00	0.000
50.00	Andrew DB616E-BC	1	51.00	6.730	1.00	98.50	8.700	1.00	0.000	0.00	9.625
50.00	10' HP Dish	4	705.00	99.100	0.80	1310.00	100.75	0.80	0.000	0.00	0.000
50.00	Large Flat Platform	1	4000.00	75.000	1.00	4700.00	95.000	1.00	0.000	0.00	0.000
48.00	Decibel 776QNB120EXM	3	117.00	25.900	0.63	240.76	26.970	0.63	0.000	0.00	0.000
48.00	TTA	3	10.00	1.400	0.50	20.34	1.640	0.50	0.000	0.00	0.000
46.50	Antel LPA-80063/6CF	6	27.00	10.340	0.94	101.00	11.180	0.94	0.000	0.00	0.000
46.50	Antel BXA-70063/6CF-EDIN-X	3	17.00	7.730	0.74	58.00	8.540	0.74	0.000	0.00	0.000
46.50	Antel BXA-171063/12CF	3	15.00	4.790	0.88	42.40	5.460	0.88	0.000	0.00	0.000
46.50	RFS FD9R6004/2C-3L	6	2.00	0.360	0.50	6.00	0.570	0.50	0.000	0.00	1.180
37.50	Platform	1	1200.00	25.000	1.00	1500.00	32.000	1.00	0.000	0.00	0.000
Totals		73	11284.30			17169.33			Number of Appurtenances : 22		

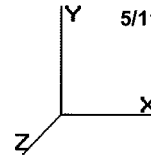
Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Wind	Spread On Faces	Bundling Arrangement
0.00	75.00	7/8" Coax	6	1.09	0.33	100.00	1	Separate
0.00	72.00	7/8" Coax	2	1.09	0.33	0.00	1	Separate
0.00	65.00	1 1/4" Coax	12	1.55	0.63	0.00	1	Separate
0.00	65.00	Climbing Ladder	1	3.00	4.00	100.00	Lin App	Separate
0.00	65.00	Wave Guide	1	3.00	5.00	100.00	1	Separate
0.00	64.00	7/8" Coax	3	1.09	0.33	100.00	1	Separate
0.00	57.00	1 1/4" Hybriflex	3	1.54	1.00	100.00	1	Separate
0.00	50.00	7/8" Coax	1	1.09	0.33	100.00	1	Separate
0.00	48.00	1/2" Coax	3	0.63	0.15	100.00	1	Separate
0.00	48.00	7/8" Coax	12	1.09	0.33	50.00	1	Separate
0.00	46.50	1 5/8" Coax	12	1.98	0.82	50.00	1	Separate

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 Location: Cornwall CT, CT

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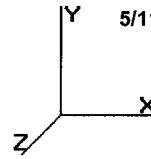
Force/Stress Summary

Section: 1		1		Bot Elev (ft): 0.00				Height (ft): 12.500							
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fa (ksi)	Member Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	SAE - 6X6X0.625	-63.25	45 deg Ice	12.57	50	50	50	63.9	21.2	150.45	0	0	0.00	0.00	42 Member Z
HORIZ	DAL - 3X2.5X0.25	-3.35	Normal Ice	17.84	50	50	25	113.3	15.0	39.37	0	0	0.00	0.00	8 Member X
DIAG	SAU - 3X4X0.25	-6.97	Normal No Ice	22.57	50	50	50	212.0	4.4	7.49	0	0	0.00	0.00	93 Member Z
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls				
LEG	SAE - 6X6X0.625	47.07	45 deg No Ice	33	187.69	0	0	0.00	0.00	25	Member				
HORIZ	DAL - 3X2.5X0.25	3.30	Normal No Ice	36	75.74	0	0	0.00	0.00	4	Member				
DIAG	SAU - 3X4X0.25	7.86	Normal Ice	36	48.67	0	0	0.00	0.00	16	Member				
Section: 2		1		Bot Elev (ft): 12.50				Height (ft): 12.500							
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fa (ksi)	Member Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	SAE - 6X6X0.625	-48.69	45 deg No Ice	12.57	50	50	50	63.9	21.2	150.45	0	0	0.00	0.00	32 Member Z
HORIZ	DAL - 3X2.5X0.25	-1.72	Normal No Ice	15.96	50	50	25	101.3	17.1	44.91	0	0	0.00	0.00	3 Member X
DIAG	SAU - 3X4X0.25	-7.40	Normal No Ice	21.04	50	50	50	197.6	5.1	8.62	0	0	0.00	0.00	85 Member Z
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls				
LEG	SAE - 6X6X0.625	36.13	45 deg No Ice	33	187.69	0	0	0.00	0.00	19	Member				
HORIZ	DAL - 3X2.5X0.25	2.32	Normal No Ice	36	75.74	0	0	0.00	0.00	3	Member				
DIAG	SAU - 3X4X0.25	6.62	Normal No Ice	36	48.67	0	0	0.00	0.00	13	Member				
Section: 3		1		Bot Elev (ft): 25.00				Height (ft): 12.500							
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fa (ksi)	Member Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	SAE - 6X6X0.5	-34.75	45 deg Ice	12.57	50	50	50	63.9	21.2	121.67	0	0	0.00	0.00	28 Member Z
HORIZ	DAL - 3.5X3X0.3125	-2.22	Normal No Ice	14.08	50	50	25	76.8	20.9	81.04	0	0	0.00	0.00	2 Member X
DIAG	SAU - 3.5X3X0.25	-7.68	Normal No Ice	19.56	50	50	50	186.0	5.8	8.97	0	0	0.00	0.00	85 Member Z
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls				
LEG	SAE - 6X6X0.5	23.76	45 deg No Ice	33	151.78	0	0	0.00	0.00	15	Member				
HORIZ	DAL - 3.5X3X0.3125	3.13	Normal No Ice	36	111.44	0	0	0.00	0.00	2	Member				
DIAG	SAU - 3.5X3X0.25	6.75	Normal No Ice	36	44.92	0	0	0.00	0.00	15	Member				

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Force/Stress Summary

Section: 4 1 Bot Elev (ft): 37.50 Height (ft): 12.500

Max Compression Member	Force (kip)	Load Case	Len (ft)	Bracing %				Fa (ksi)	Member			Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
				X	Y	Z	KL/R		Cap (kip)	Num Bolts	Num Holes				
LEG SAE - 6X6X0.5	-20.38	45 deg Ice	12.55	50	50	50	63.8	21.2	121.74	0	0	0.00	0.00	16	Member Z
HORIZ DAL - 3.5X3X0.3125	-1.81	Normal No Ice	12.50	50	50	25	68.2	22.2	85.74	0	0	0.00	0.00	2	Member X
DIAG SAE - 3.5X3.5X0.25	-7.86	Normal No Ice	18.26	50	50	50	157.9	8.0	13.50	0	0	0.00	0.00	58	Member Z

Max Tension Member	Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG SAE - 6X6X0.5	11.49	45 deg No Ice	33	151.78	0	0	0.00	0.00	7	Member
HORIZ DAL - 3.5X3X0.3125	2.25	Normal Ice	36	111.44	0	0	0.00	0.00	2	Member
DIAG SAE - 3.5X3.5X0.25	6.97	Normal No Ice	36	48.67	0	0	0.00	0.00	14	Member

Section: 5 1 Bot Elev (ft): 50.00 Height (ft): 0.100

Max Compression Member	Force (kip)	Load Case	Len (ft)	Bracing %				Fa (ksi)	Member			Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
				X	Y	Z	KL/R		Cap (kip)	Num Bolts	Num Holes				
LEG SAE - 6X6X0.5	-4.05	Normal No Ice	3.89	50	50	50	0.0	0.0	13,332.	0	0	0.00	0.00	0	User Input
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00		

Max Tension Member	Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG SAE - 6X6X0.5	3.11	Normal No Ice	33	13,332.	0	0	0.00	0.00	0	User Input
HORIZ	0.00		0	0.00	0	0	0.00	0.00	0	
DIAG	0.00		0	0.00	0	0	0.00	0.00	0	

Section: 6 1 Bot Elev (ft): 50.10 Height (ft): 14.900

Max Compression Member	Force (kip)	Load Case	Len (ft)	Bracing %				Fa (ksi)	Member			Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
				X	Y	Z	KL/R		Cap (kip)	Num Bolts	Num Holes				
LEG SAE - 6X6X0.5	-8.25	45 deg No Ice	7.45	100	100	100	75.8	19.8	113.59	0	0	0.00	0.00	7	Member Z
HORIZ DAL - 2.5X2X0.25	-1.63	45 deg Ice	7.000	100	100	100	198.1	5.1	10.80	0	0	0.00	0.00	15	Member Z
DIAG SAU - 3X2X0.25	-0.20	Normal No Ice	10.22	50	75	50	160.3	7.7	9.22	0	0	0.00	0.00		

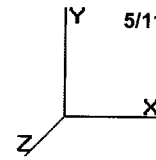
Max Tension Member	Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG SAE - 6X6X0.5	5.25	45 deg No Ice	33	151.78	0	0	0.00	0.00	3	Member
HORIZ DAL - 2.5X2X0.25	0.69	Normal Ice	36	61.34	0	0	0.00	0.00	1	Member
DIAG SAU - 3X2X0.25	3.60	Normal No Ice	36	34.27	0	0	0.00	0.00	10	Member

Site Number: 88009
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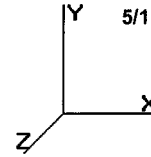
Support Forces Summary

Load Case	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
45 deg	1c	-0.36	7.91	-2.12	
	1b	-3.06	-15.90	-3.06	
	1a	-2.11	7.82	-0.36	
	1	-4.81	31.63	-4.81	
Normal	1c	2.69	23.77	-4.26	
	1b	-0.93	-8.04	-2.51	
	1a	0.93	-8.04	-2.51	
	1	-2.69	23.77	-4.26	
45 deg Ice	1c	-3.55	12.23	-2.14	
	1b	-9.96	-44.00	-9.95	
	1a	-2.13	12.02	-3.56	
	1	-8.51	68.23	-8.51	
45 deg No Ice	1c	-2.28	7.98	-4.04	
	1b	-9.23	-53.00	-9.21	
	1a	-4.04	7.76	-2.29	
	1	-10.94	68.72	-10.94	
Normal Ice	1c	3.56	49.65	-7.18	
	1b	-4.98	-25.40	-8.61	
	1a	4.98	-25.40	-8.61	
	1	-3.56	49.65	-7.18	
Normal No Ice	1c	5.51	48.60	-9.53	
	1b	-3.75	-32.87	-7.80	
	1a	3.75	-32.87	-7.80	
	1	-5.51	48.60	-9.53	

Max Uplift: 53.00 (kip) Moment: 1,697.18 (ft-kip) 45 deg No Ice
 Max Down: 68.72 (kip) Total Down: 31.46 (kip)
 Max Shear: 15.47 (kip) Total Shear: 37.45 (kip)

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Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
50.00 mph Wind at 45 deg From Face with No Ice	37.50	0.0092	0.0123	0.2221
	50.00	0.0136	0.0078	0.7427
	57.55	0.0619	0.0020	0.5639
	65.00	0.1112	0.0015	0.3746
50.00 mph Wind Normal To Face with No Ice	37.50	0.0086	0.0111	0.1686
	50.00	0.0129	0.0064	0.5827
	57.55	0.0565	0.0025	0.4257
	65.00	0.1010	0.0014	0.3375
69.28 mph Wind at 45 deg From Face with Ice	37.50	0.0234	0.0239	0.5042
	50.00	0.0336	0.0103	1.6808
	57.55	0.1603	0.0124	1.4262
	65.00	0.2906	0.0074	0.9763
69.28 mph Wind Normal To Face with Ice	37.50	0.0215	0.0265	0.3659
	50.00	0.0315	0.0166	1.2633
	57.55	0.1466	0.0143	1.0860
	65.00	0.2643	0.0062	0.8790
80.00 mph Wind at 45 deg From Face with No Ice	37.50	0.0236	0.0261	0.4615
	50.00	0.0348	0.0152	1.4976
	57.55	0.1586	0.0105	1.3583
	65.00	0.2847	0.0064	0.9425
80.00 mph Wind Normal To Face with No Ice	37.50	0.0220	0.0293	0.3247
	50.00	0.0331	0.0204	1.0955
	57.55	0.1448	0.0133	1.0345
	65.00	0.2587	0.0066	0.8461
		0.0000	0.0000	0.0000



Know what's below.
Call before you dig.

APPROVALS				
	DATE	APPROVED	APPROVED AS NOTED	DISAPPROVED REVERSE
SPRINT REPRESENTATIVES		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SPRINT RF ENGINEER		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SITE OWNER		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DATE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



THE STRUCTURAL ENGINEERING CONCERNING THE STRUCTURAL STABILITY OF THE TOWER/POLE, FOUNDATION, ANTENNAS, MOUNTS AND ALL ASSOCIATED ANCILLARY RADIO EQUIPMENT IS BEING COMPLETED BY OTHERS. KMB DESIGN GROUP, LLC HAS NOT BEEN REQUESTED TO PERFORM ANY STRUCTURAL ANALYSIS SERVICES TO VERIFY THAT THE TOWER/POLE AND/OR FOUNDATION IS CAPABLE OF SUPPORTING THE PROPOSED EQUIPMENT DEPICTED WITHIN THESE SIGNED AND SEALED DRAWINGS. FURTHERMORE KMB DESIGN GROUP, LLC HAS NOT BEEN REQUESTED TO PHYSICALLY CONFIRM THE EXISTING MOUNT CONFIGURATION AND PERFORM A STRUCTURAL ANALYSIS TO VERIFY THAT THE EXISTING, INTERIM AND PROPOSED ANTENNAS, MOUNTS AND ALL ASSOCIATED ANCILLARY RADIO EQUIPMENT CAN BE SAFELY SUPPORTED. SIGNED AND SEALED DRAWINGS REVISED TO STATE "ISSUED FOR CONSTRUCTION" SHALL BE PROVIDED TO THE PROFESSIONAL ENGINEERS RESPONSIBLE FOR THE STRUCTURAL ANALYSIS OF THE TOWER/POLE, ANTENNAS, MOUNTS AND ALL ASSOCIATED ANCILLARY RADIO EQUIPMENT. KMB DESIGN GROUP, LLC SHALL BE NOTIFIED SHOULD THE STRUCTURAL ANALYSIS RESULT IN SOME ELEMENTS NOT BEING STRUCTURALLY CAPABLE OF SUPPORTING THE PROPOSED DESIGN DEPICTED. THE CONTRACTOR SHALL NOT COMMENCE CONSTRUCTION WITHOUT OBTAINING (A) A SIGNED AND SEALED COPY OF THE PLANS "ISSUED FOR CONSTRUCTION"; (B) STRUCTURAL ANALYSIS REPORT STATING THAT THE TOWER/POLE/FOUNDATION IS CAPABLE OF SUPPORTING THE PROPOSED LOADING REFERENCING THE SIGNED AND SEALED PLANS BY KMB DESIGN GROUP, LLC; (C) SPRINT PLATFORM ANALYSIS STATING THAT THE SPRINT PLATFORM IS CAPABLE OF SUPPORTING THE PROPOSED DESIGN AS REFERENCED WITHIN THE SIGNED AND SEALED PLANS BY KMB DESIGN GROUP, LLC.

SITE ID: CT72XC030

SITE NAME: CT0046 ~ RING TO EXISTING - (R2E) PH 1A

NETWORK VISION CONSTRUCTION DRAWINGS



AERIAL VIEW
SCALE: NTS



LOCATION MAP
SCALE: NTS

SITE INFORMATION			
BLOCK	TBD		
LOT	TBD		
MAP	TBD		
ZONING CLASSIFICATION	TBD		
ZONING JURISDICTION	TBD		
PROJECT INFORMATION:			
SITE ADDRESS:			
MOHAWK MOUNTAIN ROAD			
MOHAWK STATE FOREST			
LITCHFIELD, CT 06759			
COORDINATES:			
LATITUDE:	41° 49' 16.56"] DATUM : NAD 83	
LONGITUDE:	-73° 17' 47.36"		
STRUCTURE HEIGHT:			
±65'-0" (TOP OF LATTICE TOWER)			
PROJECT DIRECTORY:			
PROPERTY OWNER:			
AMERICAN TOWER CORPORATION			

APPLICANT:
SPRINT-NEXTEL
1 INTERNATIONAL BOULEVARD
MAHWAH, NJ 07495

ENGINEER:
KMB DESIGN GROUP, LLC
1800 ROUTE 34, SUITE 209
WALL, NJ 07719
KEITH DRENNAN - PROJECT MANAGER
(732) 280-5623

POWER COMPANY:
CONNECTICUT LIGHT & POWER
P.O. BOX 270
HARTFORD, CT 06141-0270
(800) 286-2000

CONSTRUCTION MANAGER:
TODD AMANN
(914) 715-9363



Stephen A. Bray
PROFESSIONAL ENGINEER



CT LICENSE: 26657 8/9/12

PROJECT NUMBER: **332.1623**

SITE INFORMATION:
MOHAWK MOUNTAIN ROAD
MOHAWK STATE FOREST
LITCHFIELD, CT 06759
LITCHFIELD COUNTY
CT72XC030

PROJECT TYPE:
NETWORK VISION

DRAWN BY: CCR CHECKED BY: DATE: 03-20-12

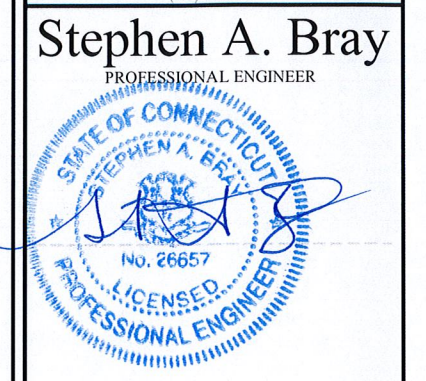
SHEET TITLE:
COVER SHEET

SHEET NUMBER: **A01** REV: **0**

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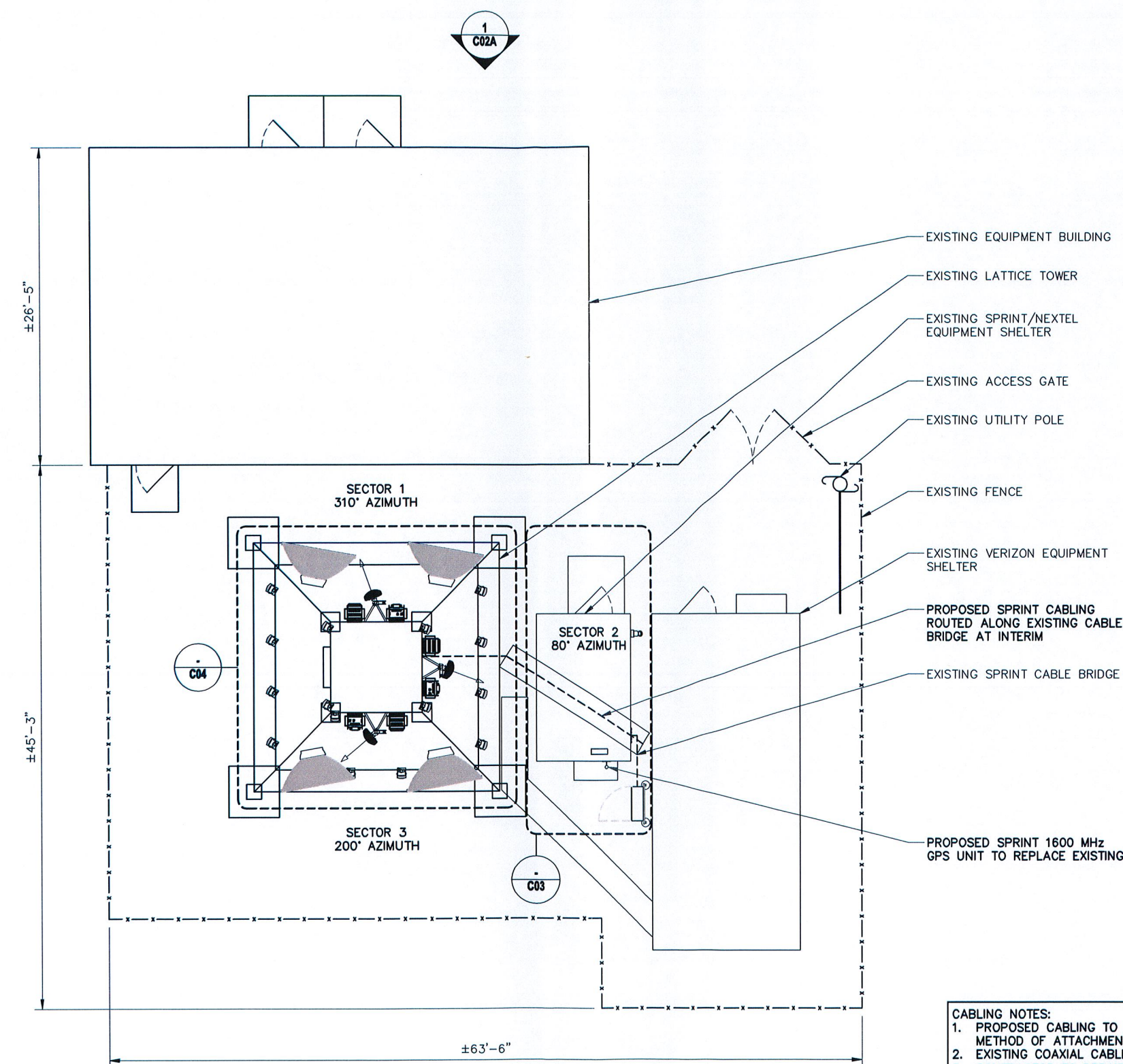
K:\332_Sprint\332_1000_Alcatel-Lucent\332.1623_CT72XC030_Mohawk Mountain Road, Mohawk State Forest\332.1623_CAD\332.1623_Construction\332.1623_A01.dwg, 8/9/2012 12:16:32 PM, mduffy

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△	08-07-12	ISSUED FOR CONSTRUCTION	JRF	KCD
REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY



CT LICENSE: 26657		8/9/12
PROJECT NUMBER:		
332.1623		
SITE INFORMATION:		
MOHAWK MOUNTAIN ROAD MOHAWK STATE FOREST LITCHFIELD, CT 06759 LITCHFIELD COUNTY CT72XC030		
PROJECT TYPE: NETWORK VISION		
DRAWN BY: CCR	CHECKED BY:	DATE: 03-20-12
SHEET TITLE: COMPOUND PLAN		
SHEET NUMBER: C02	REV.: 0	

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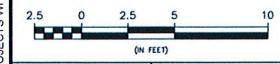


CABLING NOTES:

1. PROPOSED CABLING TO FOLLOW EXISTING ROUTE AND METHOD OF ATTACHMENT AT INTERIM.
2. EXISTING COAXIAL CABLES TO BE REMOVED AT FINAL.
3. CONTRACTOR TO REPAIR/REPLACE ANY MISSING/DAMAGED CABLE TRAY AND ADD HURRICANE STRAPS AS REQUIRED IF APPLICABLE.

GENERAL NOTES:

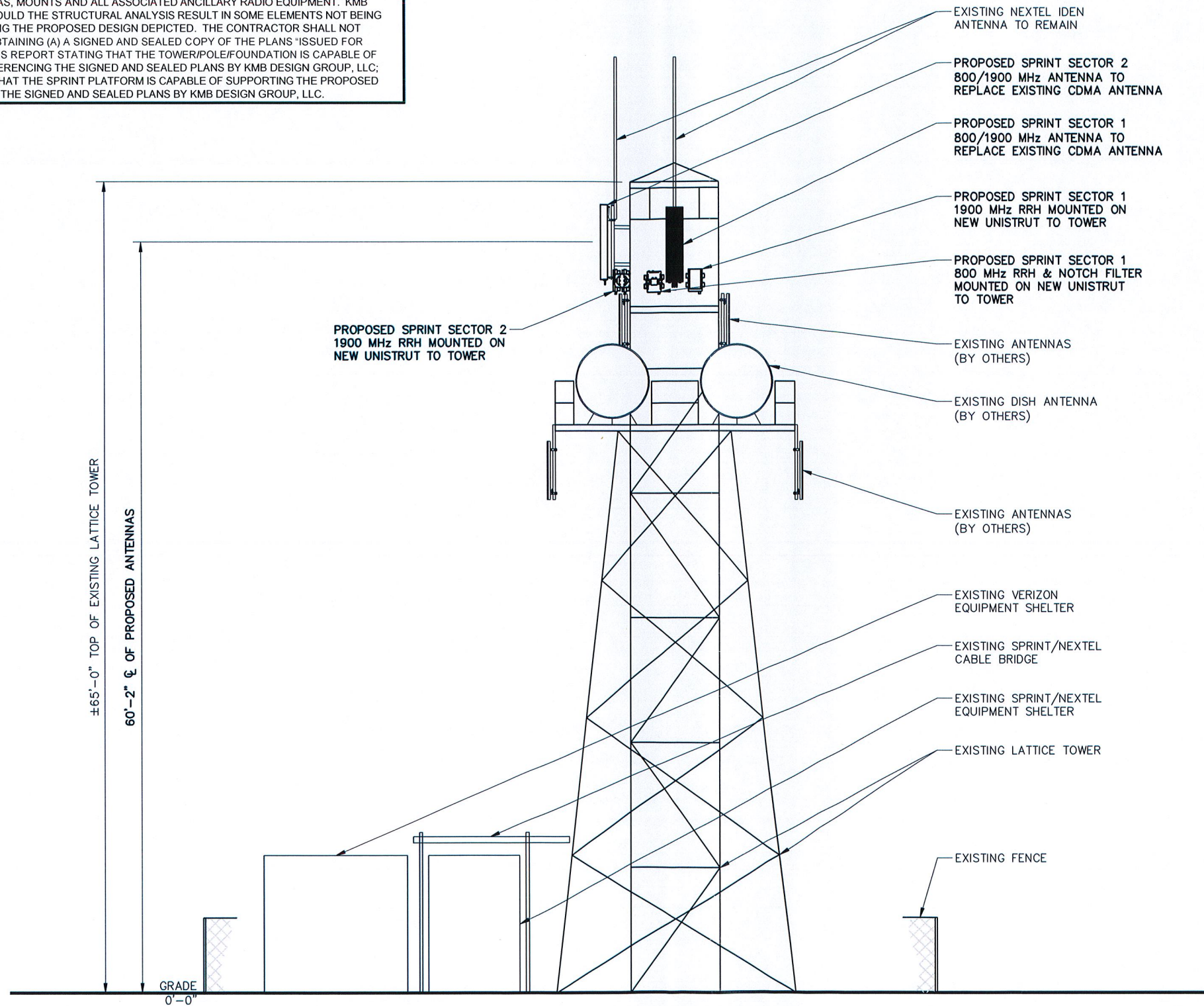
1. FINAL ANTENNA & EQUIPMENT CONFIGURATION SHOWN ON THIS PLAN. SEE EQUIPMENT & ANTENNA PLAN SHEETS FOR EXISTING AND INTERIM CONFIGURATION.
2. CONTRACTOR TO REPLACE ALL MISSING GROUND BARS AND GROUNDING CONNECTIONS AS REQUIRED WITH GALVANIZED GROUND BARS. CONTRACTOR SHALL PROVIDE BEFORE & AFTER PHOTOS.
3. CONTRACTOR TO RESTORE ANY RUST AREA TO ORIGINAL CONDITION AND PROTECTIVE COATING TO BE APPLIED.
4. STRUCTURAL ANALYSIS PROVIDED UNDER SEPARATE COVER.



1 COMPOUND PLAN
11x17 SCALE: 1" = 10' 24x36 SCALE: 1" = 5'

K:\332_Sprint\1000_Alcatel-Lucent\332.1623_CT72XC030_Mohawk Mountain Road_Mohawk State Forest\332.1623_CAD\332.1623_Construction\332.1623.C02.dwg, 8/9/2012 12:16:41 PM, mduffy

THE STRUCTURAL ENGINEERING CONCERNING THE STRUCTURAL STABILITY OF THE TOWER/POLE, FOUNDATION, ANTENNAS, MOUNTS AND ALL ASSOCIATED ANCILLARY RADIO EQUIPMENT IS BEING COMPLETED BY OTHERS. KMB DESIGN GROUP, LLC HAS NOT BEEN REQUESTED TO PERFORM ANY STRUCTURAL ANALYSIS SERVICES TO VERIFY THAT THE TOWER/POLE AND/OR FOUNDATION IS CAPABLE OF SUPPORTING THE PROPOSED EQUIPMENT DEPICTED WITHIN THESE SIGNED AND SEALED DRAWINGS. FURTHERMORE KMB DESIGN GROUP, LLC HAS NOT BEEN REQUESTED TO PHYSICALLY CONFIRM THE EXISTING MOUNT CONFIGURATION AND PERFORM A STRUCTURAL ANALYSIS TO VERIFY THAT THE EXISTING, INTERIM AND PROPOSED ANTENNAS, MOUNTS AND ALL ASSOCIATED ANCILLARY RADIO EQUIPMENT CAN BE SAFELY SUPPORTED. SIGNED AND SEALED DRAWINGS REVISED TO STATE "ISSUED FOR CONSTRUCTION" SHALL BE PROVIDED TO THE PROFESSIONAL ENGINEERS RESPONSIBLE FOR THE STRUCTURAL ANALYSIS OF THE TOWER/POLE, ANTENNAS, MOUNTS AND ALL ASSOCIATED ANCILLARY RADIO EQUIPMENT. KMB DESIGN GROUP, LLC SHALL BE NOTIFIED SHOULD THE STRUCTURAL ANALYSIS RESULT IN SOME ELEMENTS NOT BEING STRUCTURALLY CAPABLE OF SUPPORTING THE PROPOSED DESIGN DEPICTED. THE CONTRACTOR SHALL NOT COMMENCE CONSTRUCTION WITHOUT OBTAINING (A) A SIGNED AND SEALED COPY OF THE PLANS "ISSUED FOR CONSTRUCTION"; (B) STRUCTURAL ANALYSIS REPORT STATING THAT THE TOWER/POLE/FOUNDATION IS CAPABLE OF SUPPORTING THE PROPOSED LOADING REFERENCING THE SIGNED AND SEALED PLANS BY KMB DESIGN GROUP, LLC; (C) SPRINT PLATFORM ANALYSIS STATING THAT THE SPRINT PLATFORM IS CAPABLE OF SUPPORTING THE PROPOSED DESIGN AS REFERENCED WITHIN THE SIGNED AND SEALED PLANS BY KMB DESIGN GROUP, LLC.



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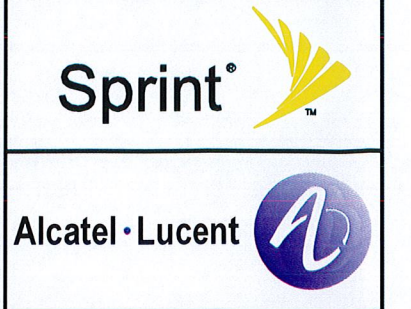


NOTES:
 1. FINAL ANTENNA & EQUIPMENT CONFIGURATION SHOWN ON THIS PLAN. SEE EQUIPMENT & ANTENNA PLAN SHEETS FOR EXISTING AND INTERIM CONFIGURATION.

1 NORTHWEST ELEVATION

11x17 SCALE: 1" = 10'

24x36 SCALE: 1" = 5'



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REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY	

1800 ROUTE 34, SUITE 209
 WALL NJ 07719
 (732) 280-5623

Stephen A. Bray
 PROFESSIONAL ENGINEER

CT LICENSE: 26657 8/9/12

PROJECT NUMBER:
332.1623

SITE INFORMATION:
 MOHAWK MOUNTAIN ROAD
 MOHAWK STATE FOREST
 LITCHFIELD, CT 06759
 LITCHFIELD COUNTY
CT72XC030

PROJECT TYPE:
NETWORK VISION

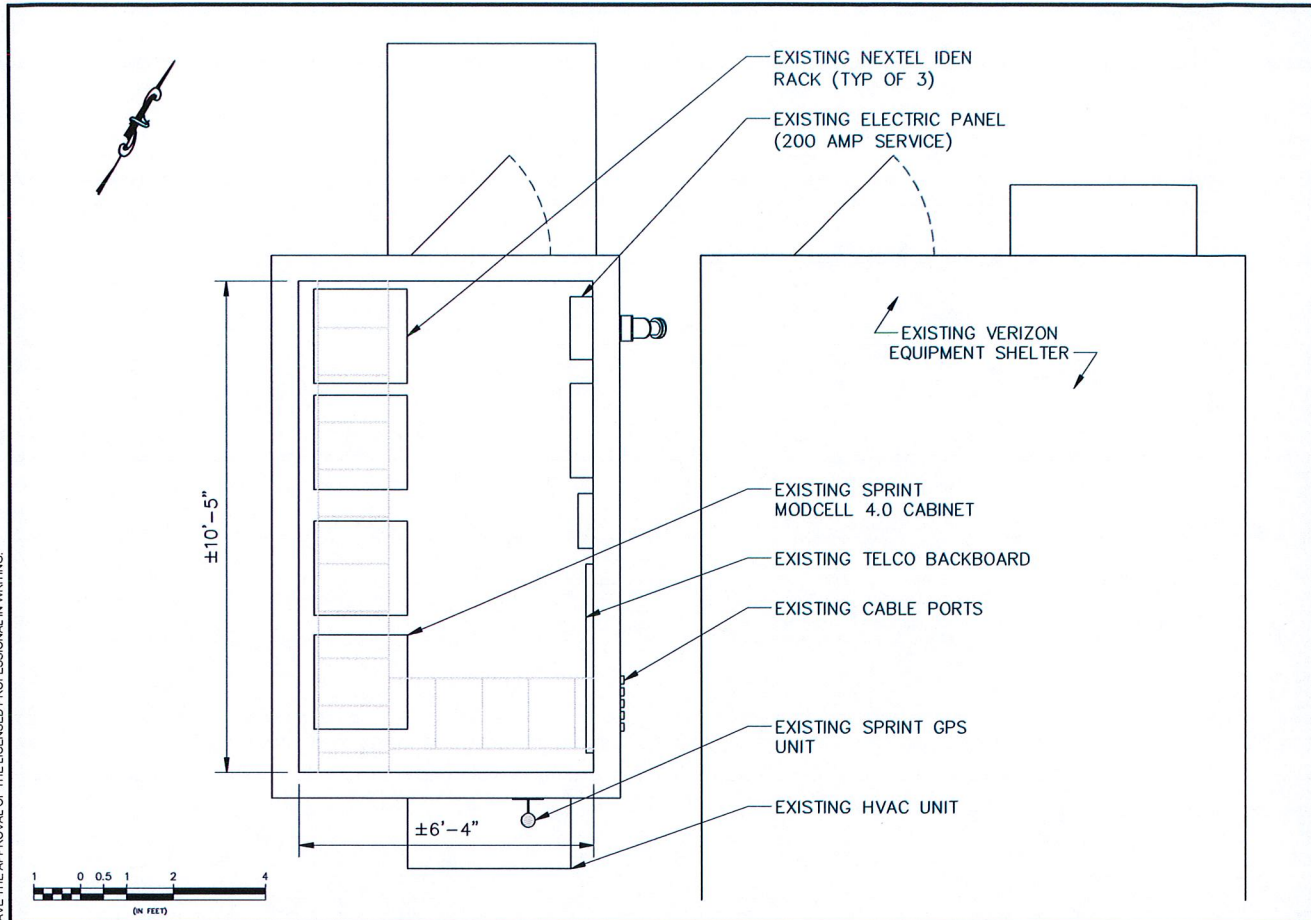
DRAWN BY: CCR	CHECKED BY:	DATE: 03-20-12
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SHEET TITLE:
ELEVATION

SHEET NUMBER: C02A	REV.: 0
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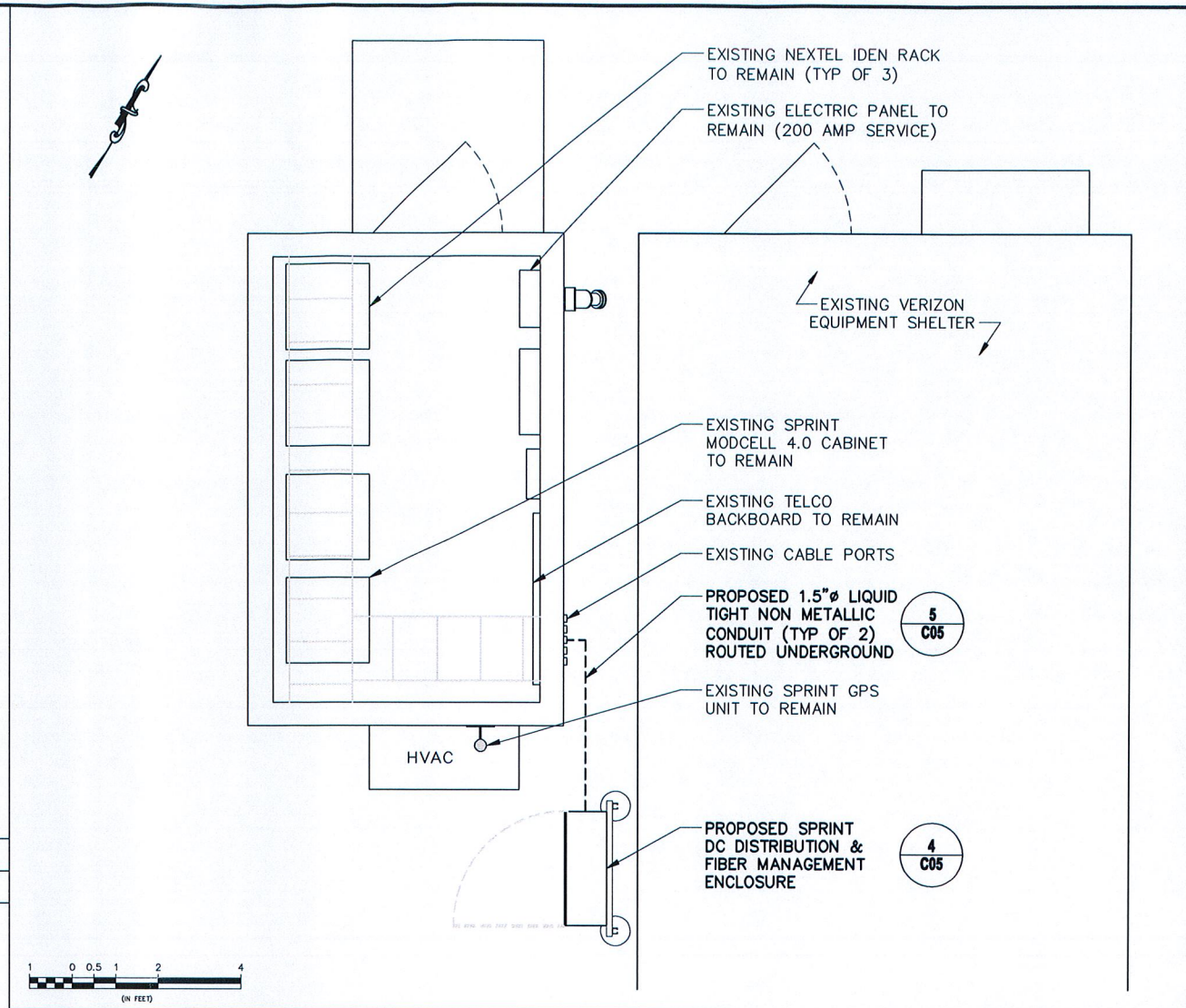
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1 EXISTING EQUIPMENT PLAN

11x17 SCALE: 1/4" = 1'-0"

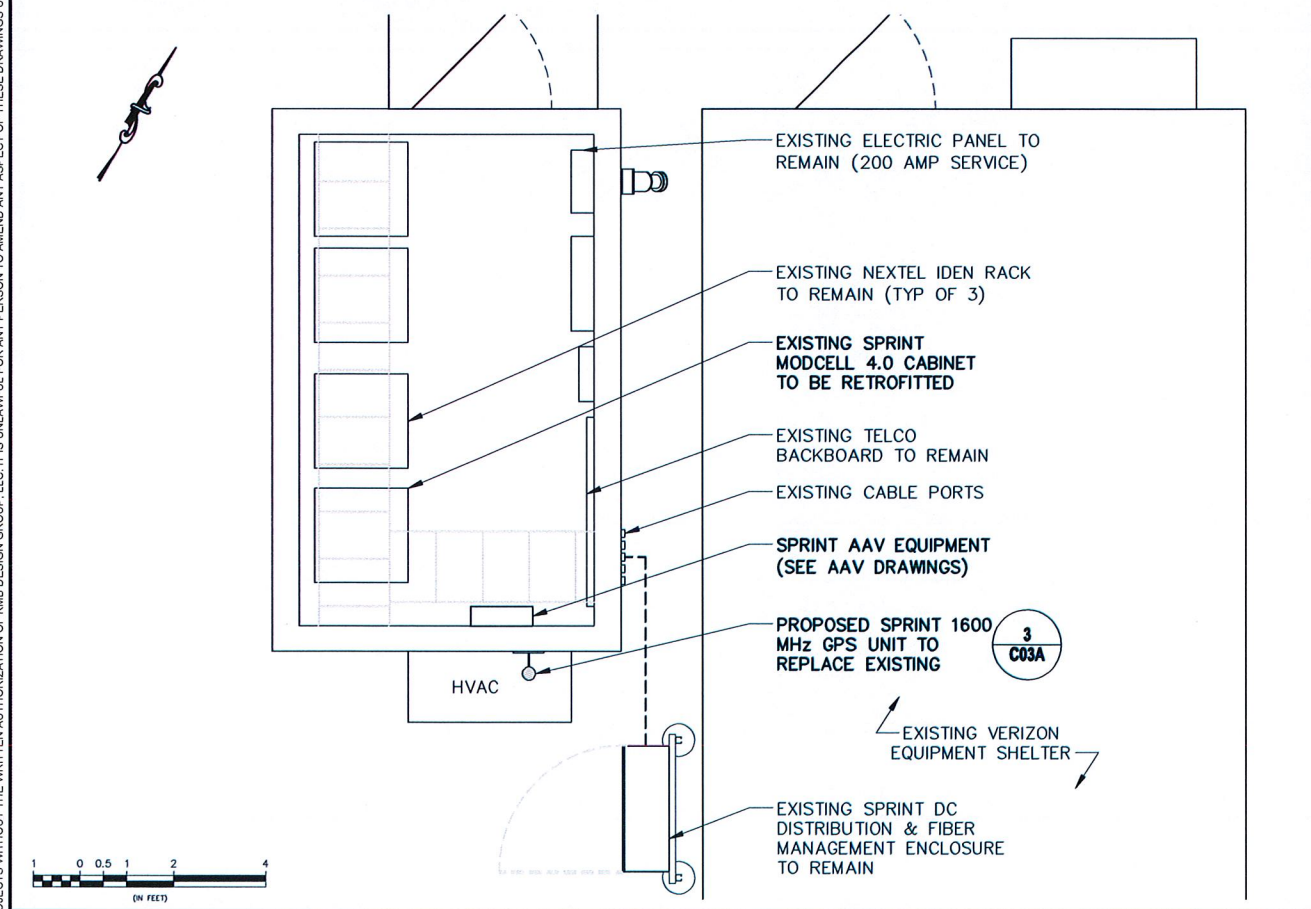
24x36 SCALE: 1/8" = 1'-0"



2 INTERIM EQUIPMENT PLAN

11x17 SCALE: 1/4" = 1'-0"

24x36 SCALE: 1/8" = 1'-0"

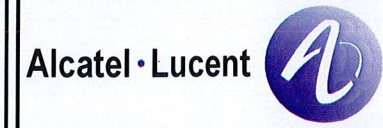


3 FINAL EQUIPMENT PLAN

11x17 SCALE: 1/4" = 1'-0"

24x36 SCALE: 1/8" = 1'-0"

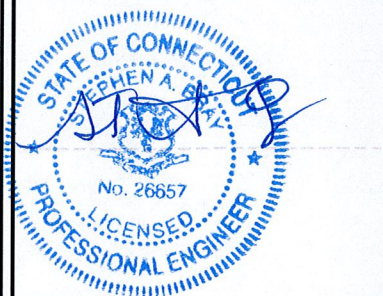
NOTE:
1. CONTRACTOR TO REPLACE ALL MISSING GROUND BARS AND GROUNDING CONNECTIONS AS REQUIRED.



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REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY

KMB
DESIGN GROUP
kmbdg.com
1800 ROUTE 34, SUITE 209
WALL, NJ 07719
(732) 280-5623

Stephen A. Bray
PROFESSIONAL ENGINEER



CT LICENSE: 26657 8/9/12

PROJECT NUMBER: **332.1623**

SITE INFORMATION:
MOHAWK MOUNTAIN ROAD
MOHAWK STATE FOREST
LITCHFIELD, CT 06759
LITCHFIELD COUNTY
CT72XC030

PROJECT TYPE: NETWORK VISION

DRAWN BY: CCR CHECKED BY: DATE: 03-20-12

SHEET TITLE: **EQUIPMENT PLANS**

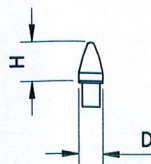
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DETAIL NOT USED

DETAIL NOT USED



MANUF.: PCTEL
 MODEL #: GPS-TMG-HR-26NCM
 HEIGHT: 5.0"
 DIAMETER: 3.2"
 WEIGHT: 0.6 lbs

DETAIL NOT USED

Sprint®

Alcatel-Lucent



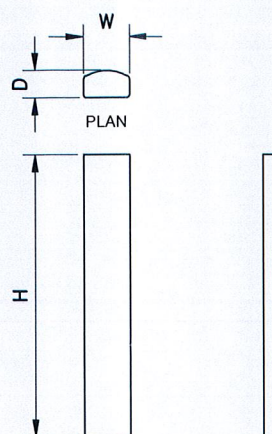
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0	08-07-12	ISSUED FOR CONSTRUCTION	JRF	KCD
REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY

1 2 3 **GPS UNIT SPECIFICATIONS - 1600 MHz** 4

11x17 SCALE: 1/4" = 1'-0" 24x36 SCALE: 1/2" = 1'-0"

DETAIL NOT USED

DETAIL NOT USED



MANUF.: RFS
 MODEL: APXVSP18-C-A20
 LENGTH: 72.0"
 WIDTH: 11.8"
 DEPTH: 7.0"
 WEIGHT: 64.5 lbs
 AREA: 5.9 SF

DETAIL NOT USED



1800 ROUTE 34, SUITE 209
 WALL, NJ 07719
 (732) 260-5623

Stephen A. Bray
 PROFESSIONAL ENGINEER



CT LICENSE: 26657 8/9/12

PROJECT NUMBER:
332.1623

SITE INFORMATION:
 MOHAWK MOUNTAIN ROAD
 MOHAWK STATE FOREST
 LITCHFIELD, CT 06759
 LITCHFIELD COUNTY
CT72XC030

PROJECT TYPE:
 NETWORK VISION

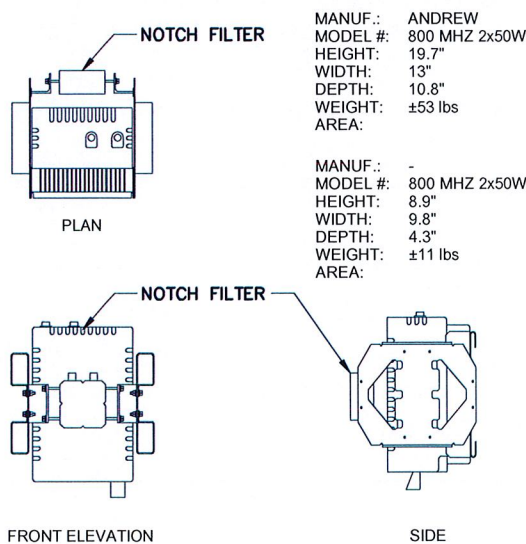
DRAWN BY: CCR CHECKED BY: DATE: 03-20-12

SHEET TITLE:
EQUIPMENT & ANTENNA SPECIFICATIONS

SHEET NUMBER: **C03A** REV.: **0**

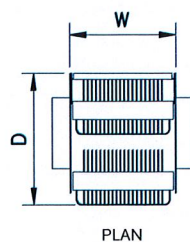
5 6 7 **ANTENNA SPECIFICATIONS - 800/1900 MHz** 8

SCALE: NTS

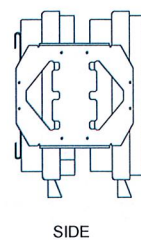
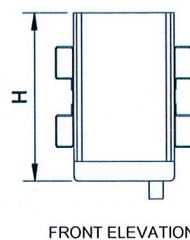


MANUF.: ANDREW
 MODEL #: 800 MHz 2x50W
 HEIGHT: 19.7"
 WIDTH: 13"
 DEPTH: 10.8"
 WEIGHT: ±53 lbs
 AREA:

MANUF.:
 MODEL #: 800 MHz 2x50W
 HEIGHT: 8.9"
 WIDTH: 9.8"
 DEPTH: 4.3"
 WEIGHT: ±11 lbs
 AREA:



MANUF.: PANASONIC
 MODEL #: 1900 MHz 2x40W
 HEIGHT: 19.7"
 WIDTH: 13"
 DEPTH: 16"
 WEIGHT: ±90 lbs
 AREA:



DETAIL NOT USED

9 **RRH SPECIFICATIONS - 800 MHz** 10 **RRH SPECIFICATIONS - 1900 MHz** 11

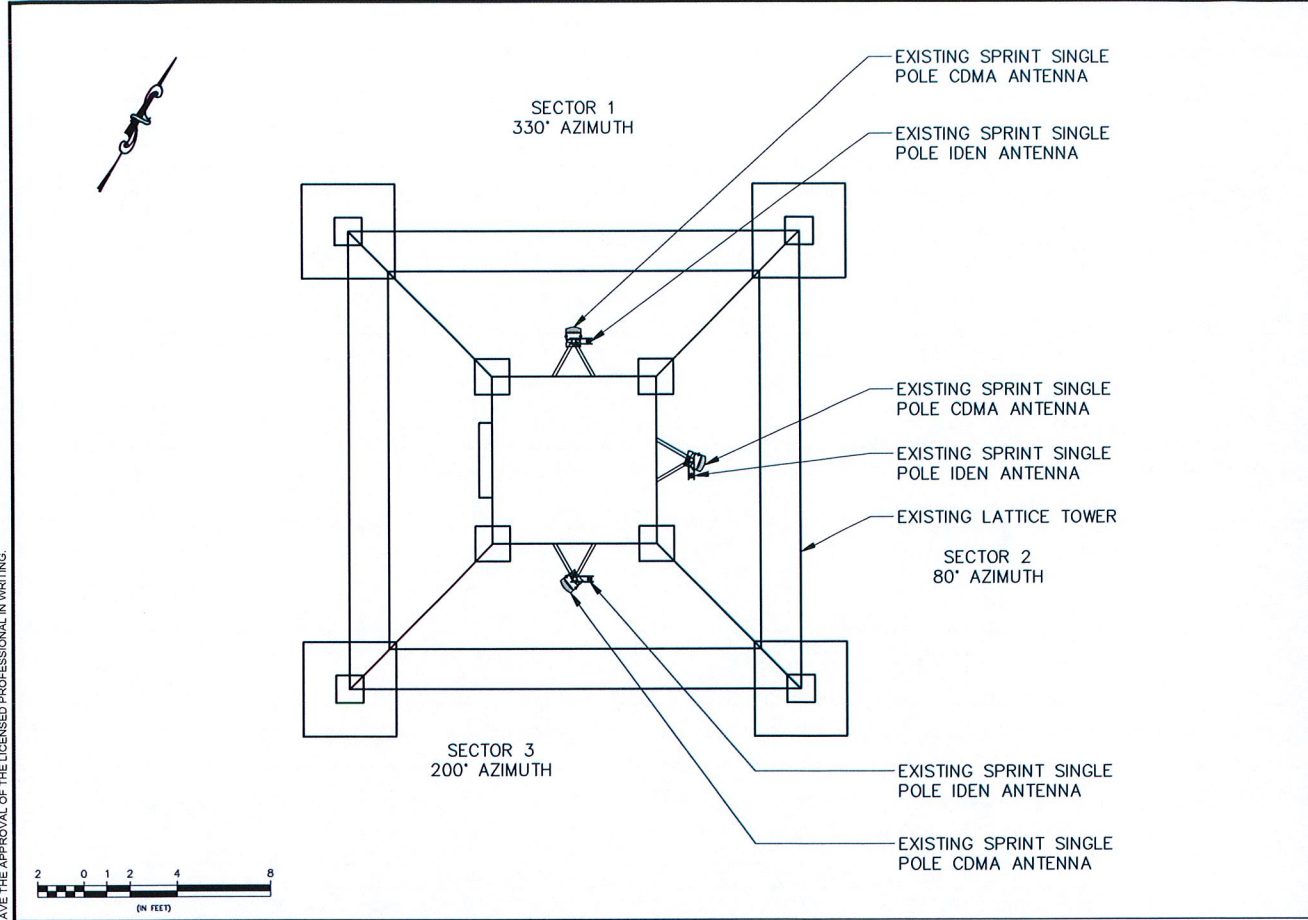
11x17 SCALE: 1/2" = 1'-0"

24x36 SCALE: 1" = 1'-0"

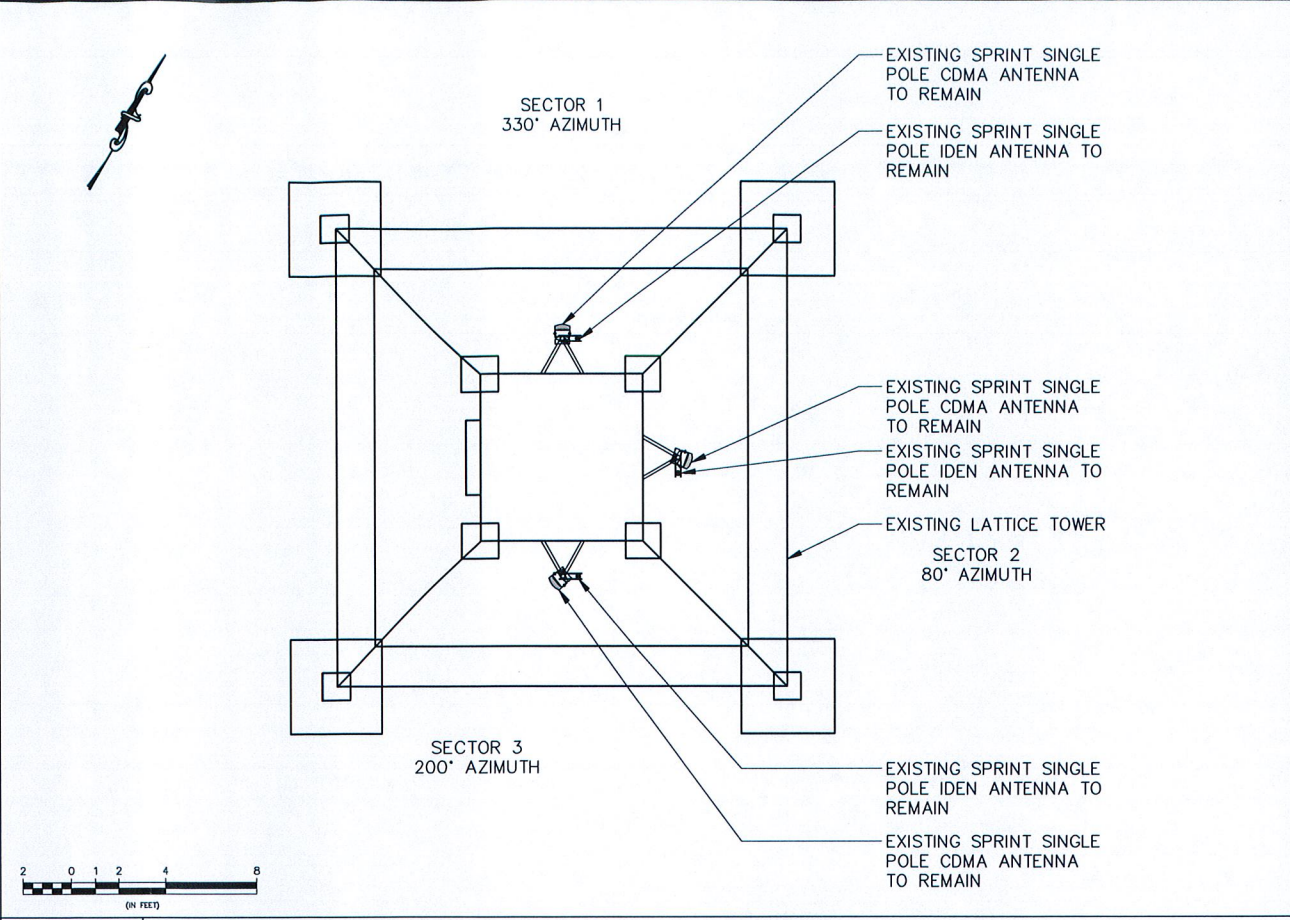
11x17 SCALE: 1/2" = 1'-0"

24x36 SCALE: 1" = 1'-0"

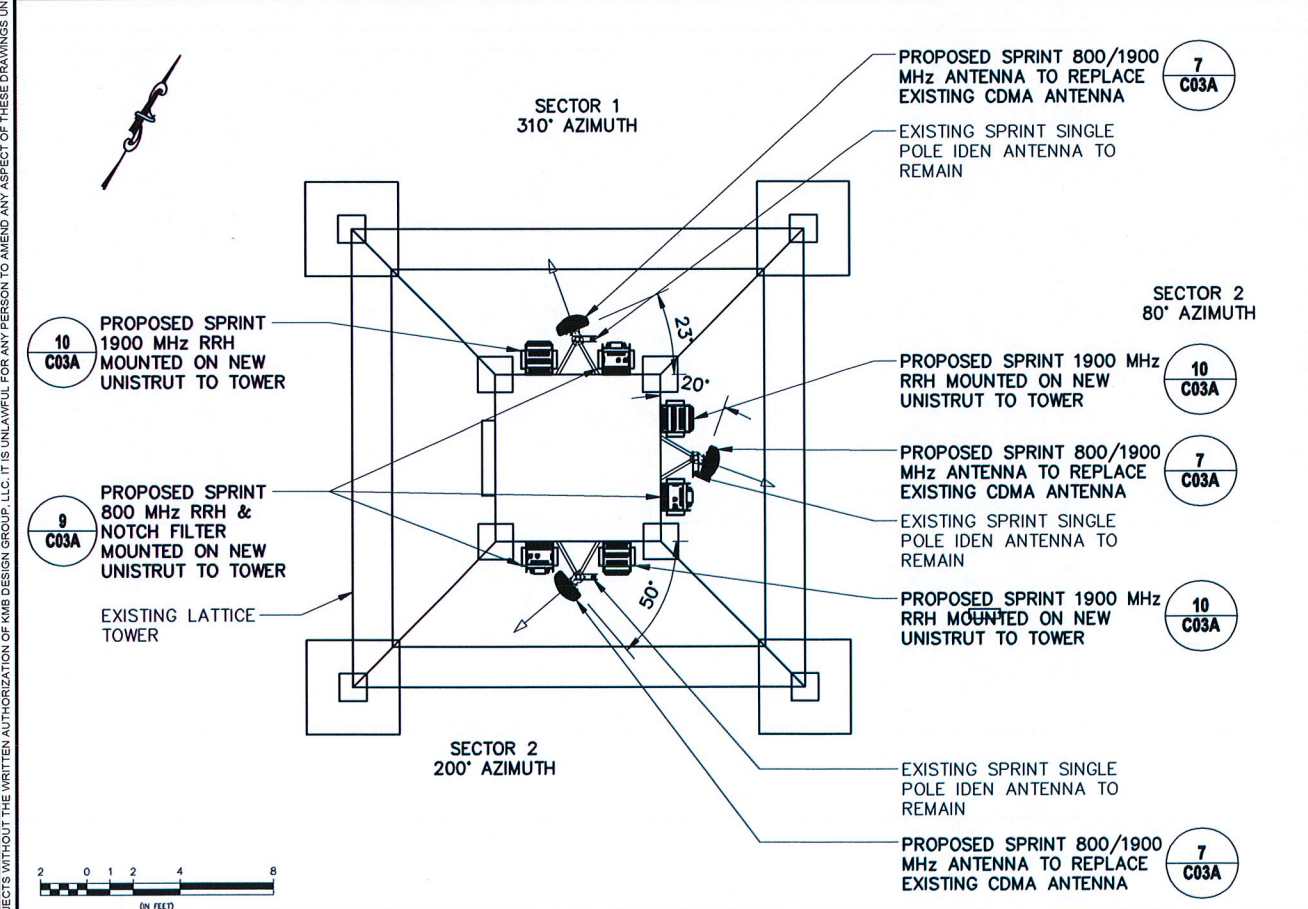
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1 EXISTING ANTENNA PLAN @ ±60'-0" AGL (ALL SECTORS)
 11x17 SCALE: 1/8" = 1'-0" | 24x36 SCALE: 1/4" = 1'-0"



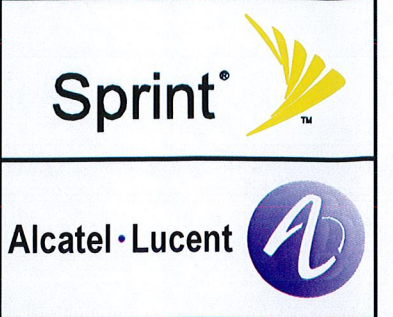
2 INTERIM ANTENNA PLAN @ ±60'-0" AGL (ALL SECTORS)
 11x17 SCALE: 1/8" = 1'-0" | 24x36 SCALE: 1/4" = 1'-0"



3 FINAL ANTENNA PLAN @ ±60'-0" AGL (ALL SECTORS)
 11x17 SCALE: 1/8" = 1'-0" | 24x36 SCALE: 1/4" = 1'-0"

THE STRUCTURAL ENGINEERING CONCERNING THE STRUCTURAL STABILITY OF THE TOWER/POLE, FOUNDATION, ANTENNAS, MOUNTS AND ALL ASSOCIATED ANCILLARY RADIO EQUIPMENT IS BEING COMPLETED BY OTHERS. KMB DESIGN GROUP, LLC HAS NOT BEEN REQUESTED TO PERFORM ANY STRUCTURAL ANALYSIS SERVICES TO VERIFY THAT THE TOWER/POLE AND/OR FOUNDATION IS CAPABLE OF SUPPORTING THE PROPOSED EQUIPMENT DEPICTED WITHIN THESE SIGNED AND SEALED DRAWINGS. FURTHERMORE KMB DESIGN GROUP, LLC HAS NOT BEEN REQUESTED TO PHYSICALLY CONFIRM THE EXISTING MOUNT CONFIGURATION AND PERFORM A STRUCTURAL ANALYSIS TO VERIFY THAT THE EXISTING, INTERIM AND PROPOSED ANTENNAS, MOUNTS AND ALL ASSOCIATED ANCILLARY RADIO EQUIPMENT CAN BE SAFELY SUPPORTED. SIGNED AND SEALED DRAWINGS REVISED TO STATE "ISSUED FOR CONSTRUCTION" SHALL BE PROVIDED TO THE PROFESSIONAL ENGINEERS RESPONSIBLE FOR THE STRUCTURAL ANALYSIS OF THE TOWER/POLE, ANTENNAS, MOUNTS AND ALL ASSOCIATED ANCILLARY RADIO EQUIPMENT. KMB DESIGN GROUP, LLC SHALL BE NOTIFIED SHOULD THE STRUCTURAL ANALYSIS RESULT IN SOME ELEMENTS NOT BEING STRUCTURALLY CAPABLE OF SUPPORTING THE PROPOSED DESIGN DEPICTED. THE CONTRACTOR SHALL NOT COMMENCE CONSTRUCTION WITHOUT OBTAINING (A) A SIGNED AND SEALED COPY OF THE PLANS "ISSUED FOR CONSTRUCTION"; (B) STRUCTURAL ANALYSIS REPORT STATING THAT THE TOWER/POLE/FOUNDATION IS CAPABLE OF SUPPORTING THE PROPOSED LOADING REFERENCING THE SIGNED AND SEALED PLANS BY KMB DESIGN GROUP, LLC; (C) SPRINT PLATFORM ANALYSIS STATING THAT THE SPRINT PLATFORM IS CAPABLE OF SUPPORTING THE PROPOSED DESIGN AS REFERENCED WITHIN THE SIGNED AND SEALED PLANS BY KMB DESIGN GROUP, LLC.

- NOTES:
- 1. CONTRACTOR TO REPLACE ALL MISSING GROUND BARS AND GROUNDING CONNECTIONS AS REQUIRED WITH GALVANIZED GROUND BARS. CONTRACTOR SHALL PROVIDE BEFORE & AFTER PHOTOS.
 - 2. EXISTING ANTENNAS BY OTHERS NOT SHOWN FOR CLARITY.



REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY
1	08-07-12	ISSUED FOR CONSTRUCTION	JRF	KCD

1800 ROUTE 34, SUITE 209
 WALL, NJ 07719
 (732) 280-5623

Stephen A. Bray
 PROFESSIONAL ENGINEER

CT LICENSE: 26657 | 8/9/12

PROJECT NUMBER: **332.1623**

SITE INFORMATION:
 MOHAWK MOUNTAIN ROAD
 MOHAWK STATE FOREST
 LITCHFIELD, CT 06759
 LITCHFIELD COUNTY
 CT72XC030

PROJECT TYPE: NETWORK VISION

DRAWN BY: CCR | CHECKED BY: | DATE: 03-20-12

SHEET TITLE: ANTENNA PLANS (ALL SECTORS)

SHEET NUMBER: **C04** | REV: **0**

K:\332_Sprint\332-1623-Alcatel-Lucent\332-1623_CTT72XC030_Mohawk Mountain Road, Mohawk State Forest\332-1623_CAD\332-1623_Construction\332-1623-C04.dwg, 8/9/2012 12:16:52 PM, mduffy

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

Sprint Existing Facility

Site ID: CT72XC030

CT046 - Ring to Existing - (R2E) PH1A
Mohawk Mountain Road
Litchfield, CT 06759

September 13, 2012

September 13, 2012

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

Re: Emissions Values for Site **CT72XC030 - CT046 - Ring to Existing - (R2E) PH1A**

EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at Mohawk Mountain Road, Litchfield, 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 97-01 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 is approximately 567 $\mu\text{W}/\text{cm}^2$, and the general population exposure limit for the PCS band 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 Mohawk Mountain Road, Litchfield, 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 APXVSP18-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 **60.2 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

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	
Sector 1																		
1a	RFS	APXVSP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	2	40	15.9	60.2	54.2	1/2 "	0.5	0	1386.9474	169.7334	16.97334%	
1a	RFS	APXVSP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	60.2	54.2	1/2 "	0.5	0	389.96892	47.72406	8.41694%	
Sector total Power Density Value:																25.390%		
Sector 2																		
2a	RFS	APXVSP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	2	40	15.9	60.2	54.2	1/2 "	0.5	0	1386.9474	169.7334	16.97334%	
2a	RFS	APXVSP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	60.2	54.2	1/2 "	0.5	0	389.96892	47.72406	8.41694%	
Sector total Power Density Value:																25.390%		
Sector 3																		
3a	RFS	APXVSP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	2	40	15.9	60.2	54.2	1/2 "	0.5	0	1386.9474	169.7334	16.97334%	
3a	RFS	APXVSP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	60.2	54.2	1/2 "	0.5	0	389.96892	47.72406	8.41694%	
Sector total Power Density Value:																25.390%		

Site Composite MPE %	
Carrier	MPE %
Sprint	76.171%
	No Additional Carriers Listed in CSC Databas
Total Site MPE %	76.171%

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 **76.171% (25.390% 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 **76.171%** 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



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