



STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

Ten Franklin Square  
New Britain, Connecticut 06051  
Phone: (860) 827-2935  
Fax: (860) 827-2950

September 14, 2001

Thomas J. Regan, Esq.  
Brown, Rudnick, Freed & Gesmer, P.C.  
185 Asylum Street, CityPlace I  
Hartford, CT 06103-3402

RE: **TS-SPRINT-034-010820** - Sprint Spectrum, L.P. request for an order to approve tower sharing at an existing telecommunications facility located at Western Connecticut State University on Boxwood Lane, Danbury, Connecticut.

Dear Attorney Regan:

At a public meeting held September 12, 2001, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures. 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. Any additional change to this facility may require an explicit request to this agency pursuant to General Statutes § 16-50aa or notice pursuant to Regulations of Connecticut State Agencies Section 16-50j-73, as applicable. Such request or notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction.

The proposed shared use is to be implemented as specified in your letter dated August 20, 2001.

Thank you for your attention and cooperation.

Very truly yours,

Mortimer A. Gelston  
Chairman

MAG/RKE/laf

- c: Honorable Gene F. Eriquez, Mayor, City of Danbury  
Dennis Elpern, City Planner, City of Danbury  
James Roach, President, Western Connecticut State University (WCSU)  
Richard Sullivan, Vice President for Finance and Administration, WCSU  
Thomas Carlone, Director of Engineering, WCSU  
Ronald C. Clark, Nextel Communications, Inc.

THOMAS J. REGAN  
ATTORNEY AT LAW

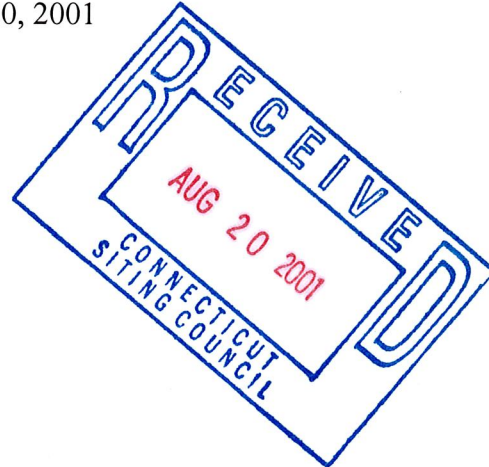
Direct Dial: 860.509.6522  
E-Mail: tregan@brfg.com

<http://www.brownrudnick.com>

August 20, 2001

**VIA HAND DELIVERY**

Mortimer A. Gelston, Chairman  
Connecticut Siting Council  
10 Franklin Square  
New Britain, Connecticut 06051



**RE: Tower Sharing Proposal**

Dear Chairman Gelston:

Enclosed please find an original and twenty-five copies of Sprint Spectrum, L.P.'s Tower Sharing Proposal to co-locate on the existing tower located at Western Connecticut State University on Boxwood Lane, Danbury, Connecticut. Also enclosed is a check for \$500.00 to cover the filing fee.

The Mayor of the Town of Danbury was sent a complete copy of this Tower Sharing Proposal.

Very truly yours,

**BROWN RUDNICK FREED & GESMER, P.C.**

By: Thomas J. Regan / bh  
Thomas J. Regan

TJR/bh  
Enclosures  
cc: The Honorable Gene F. Eriquez, Mayor

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A Partnership of  
Professional Corporations

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185 ASYLUM STREET  
HARTFORD, CONNECTICUT 06103-3402  
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Boston / Providence / London / Belgium

**CONNECTICUT SITING COUNCIL**

In re:

Request of Sprint Spectrum, L.P. d/b/a Sprint :  
PCS for the Approval of the Shared Use of the :  
Existing Telecommunications Facility Located at :  
303 Boxwood Lane in Danbury, Connecticut : August 20, 2001

**TOWER SHARING PROPOSAL**

Sprint proposes herein to share a telecommunications tower (“Tower”) and associated compound located off of Boxwood Lane in Danbury, Connecticut (collectively, the “Facility”). Pursuant to Connecticut General Statutes § 16-50aa (the “Statute”), Sprint requests a finding from the Connecticut Siting Council (“Council”) that the shared use of this Facility is technically, legally, environmentally and economically feasible, and will meet public safety concerns, will avoid the unnecessary proliferation of towers and is in the public interest. Sprint further requests an order approving the proposed shared use of this Facility.

The purpose of this request is to use an existing facility to meet Sprint’s coverage needs in the Danbury area and to avoid the construction of an additional tower in Danbury.

A. Existing Facility

The Facility is located at 303 Boxwood Lane as shown on Assessor’s Map F-14, Lot 96 in Danbury and is owned by the State of Connecticut, Connecticut State University System (see Exhibit A - drawing number T-1, vicinity and topography maps). The Facility currently consists

of a one hundred foot (100') lattice tower and a seventy-five feet by seventy-five feet (75' x 75') compound area. Nextel Wireless Services, Inc. ("Nextel") has antennas located on the Tower at one hundred feet (100') and Western Connecticut State University has four existing FM directional antennas located at intervals from fifty-five feet (55') to seventy-five feet (75').

### B. Proposed Project

Sprint proposes the installation of twelve (12) antennas mounted on a triangular platform with four (4) antennas per sector, with the centerline at eighty-nine feet (89') (see Exhibit B - drawing number C-2, tower elevation). Sprint also proposes the installation of a small global positioning system antenna at thirty feet (30'). The base station equipment associated with the antennas will be located in a fifteen feet by twenty-five feet (15' x 25') lease area at the base of the Tower (see Exhibit B, compound plan) inside the existing compound area. The concrete equipment pad measures approximately eight feet and six inches by twenty feet (8'-6" x 20') and is equipped with an ice cover. There is also an ice bridge running from Sprint's lease area to the existing Tower.

### C. Technical Feasibility

Consistent with the requirements of the Statute, it is technically feasible for Sprint to co-locate on this Tower. Sprint has reviewed the existing communication facilities on the Tower, and has determined interference is unlikely due to the position and vertical separation of Sprint's antennas. Should any interference occur, Sprint will correct it after the antennas are installed.

The existing Tower was designed and constructed to support two (2) carriers plus high-powered FM antennas. Sprint will be the second carrier located on the Tower. The structural capability of the Tower is described in a Structural Tower Analysis from Natcomm, LLC dated June 26, 2001, which is attached hereto as Exhibit C.

#### D. Legal / Economic Feasibility

The Board of Trustees of the Connecticut State University System has approved the University entering into an Agreement with Sprint (the "Lease") for the purpose of locating Sprint's antennas and associated equipment at the Facility. See Exhibit D. The Council has the authority pursuant to the Statute to issue orders approving the shared use of the Facility. Therefore, consistent with the Statute, the proposal is both economically and legally feasible.

#### E. Environmental Feasibility

Pursuant to the Statute, the proposal will be environmentally feasible for the following reasons:

- The overall impact on the Town of Danbury will be decreased with the sharing of a singular tower versus the proliferation of many towers.
- The proposal will not increase the height of the Tower or the size of the compound.
- The proposal will have an insignificant visual impact with the addition of four panel antennas per sector.

- There will be no increased impact on any wetlands or water resources.
- There will be no increased impact on air quality because no air pollutants will be generated during the normal operation of the Facility.
- There will only be a brief, slight increase in noise pollution during the construction of the equipment building pad and the attachment of the antennas.
- During construction, the proposed project will generate a small amount of traffic as workers arrive and depart and materials are delivered. Upon completion, traffic will be limited to an average of one monthly maintenance and inspection visit.
- The total frequency electromagnetic radiation of the power density measured at the site will not be at or above the standard adopted by the Federal Communications Commission. Attached as Exhibit E is the worst-case power density analyses for each individual set of antennas (Sprint, Nextel, radio antennas) and the cumulative analysis, all of which were measured at the base of the Tower. The calculated power density for Sprint's antennas is 0.000257 mW/cm<sup>2</sup>, for Nextel's 0.033058 mW/cm<sup>2</sup> and for the radio antennas 0.002556213 mW/cm<sup>2</sup>. The cumulative maximum permissible exposure is 7.1307% based on the NCRP standard. These calculations show that Sprint will be well below the FCC mandated limits in all locations around the existing Tower, even with extremely conservative assumptions.


F. Public Safety Concerns / Benefits

In accordance with the Statute, there are no known public safety concerns associated with this proposal. Moreover, Sprint will be enhancing the communication needs of the citizens of the community. In this area of Danbury there is a mixture of commercial and residential development, including the Danbury Fair Mall and smaller retail stores, and several roads with significant levels of traffic. By locating its antennas on this existing Tower, Sprint will be providing continuous coverage to its customers for approximately three (3) miles on Interstate 84 and two and a half (2 ½) miles on Route 7.

Conclusion

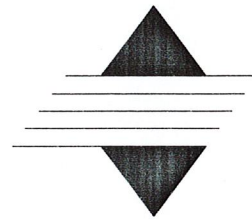
For the reasons stated above, the attachment of Sprint's antennas to this Tower would meet all the requirements set forth in the Statute. This proposal is technically, legally, environmentally and economically feasible and meets all public safety concerns. Therefore, Sprint respectfully requests that the Council approve this request for the shared use of the existing telecommunications facility located on Boxwood Lane in Danbury, Connecticut.

Sprint Spectrum, L.P.  
d/b/a Sprint PCS

By:  \_\_\_\_\_  
Thomas J. Regan, Esq.  
Brown, Rudnick, Freed & Gesmer, P.C.  
185 Asylum Street, CityPlace I  
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Phone - (860) 509-6522  
Fax - (860) 509-6501

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# Sprint PCS

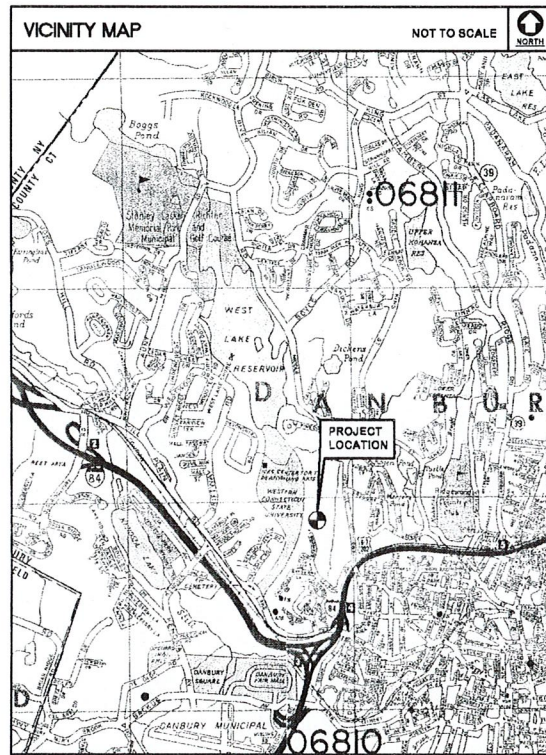
## WIRELESS COMMUNICATIONS FACILITY

### SITE No.: CT43XC836c

### WCSU

### BOXWOOD LANE

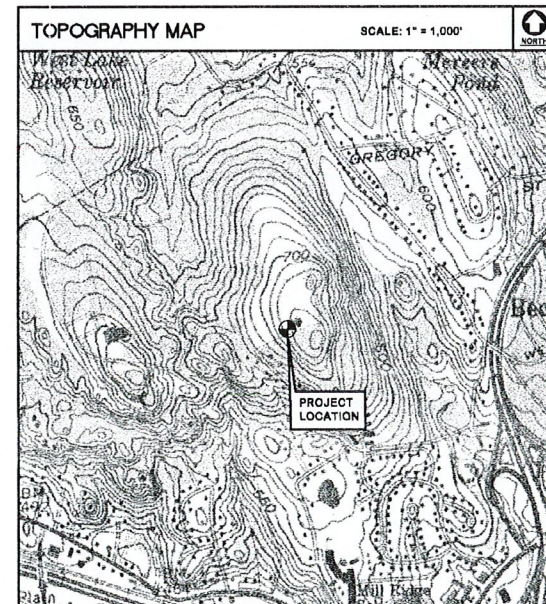
### DANBURY, CONNECTICUT 06810



PROJECT SUMMARY	
SITE NAME:	WCSU TOWER
SITE NUMBER:	CT43XC836c
SITE ADDRESS:	BOXWOOD LANE DANBURY, CONNECTICUT 06810
SITE OWNER:	WESTERN CONNECTICUT STATE UNIVERSITY MILL PLAIN ROAD DANBURY, CONNECTICUT 06810
TENANT:	SPRINT SPECTRUM LP 1 INTERNATIONAL BLVD.~SUITE 300 MAHWAH, NJ 07495
CENTER OF TOWER:	LATITUDE: 41° 23' 41.93" LONGITUDE: 73° 29' 12.27" GROUND ELEVATION: ±730.4' AMSL

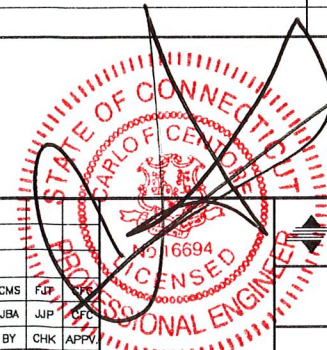
GENERAL NOTES
1. PROPOSED ANTENNA AND MOUNTING PLATFORM ELEVATIONS WERE PROVIDED BY SPRINT PCS. EXISTING PLATFORM HEIGHT INFORMATION PROVIDED BY THE SITE OWNER.
2. COMPOUND LAYOUT IS BASED FIELD MEASUREMENTS AND SITE SURVEY.
3. UNDERGROUND UTILITY LOCATIONS ARE SCHEMATIC AND ARE PRESUMED BASED ON SITE LAYOUT FINAL APPROVAL BY LOCAL UTILITY COMPANY.
4. ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF SPRINT SPECTRUM (SSLP) "STANDARD CONSTRUCTION SPECIFICATIONS" IN CASE OF A CONFLICT BETWEEN THE CONSTRUCTION SPECIFICATIONS AND THE DRAWINGS, THE DRAWINGS SHALL GOVERN. IN CASE OF A CONFLICT BETWEEN SSSLP STANDARD PRACTICES AND EITHER THE CONSTRUCTION SPECIFICATIONS OR THE DRAWINGS, THE SSSLP STANDARD PRACTICES SHALL GOVERN.
5. FOR ADDITIONAL NOTES AND DETAILS REFER TO THE ACCOMPANYING DRAWINGS.

SITE DIRECTIONS
FOLLOW ROUTE 84 EAST TO EXIT 4. TAKE A RIGHT AT BOTTOM OF RAMP AND TAKE SECOND RIGHT ON TO MILL RIDGE ROAD. FOLLOW AND TAKE SECOND RIGHT ONTO HIGH RIDGE ROAD, TAKE FIRST LEFT AND THEN QUICK LEFT. KEEP VEERING TO THE RIGHT SITE WILL BE UP HILL ON THE RIGHT.



LEGEND	
SYMBOL	DESCRIPTION
	SECTION OR DETAIL NUMBER SHEET WHERE DETAIL/SECTION OCCURS
	ELEVATION NUMBER
	SHEET WHERE ELEVATION OCCURS

SHEET INDEX		
SHT. NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	0
C-1	SITE PLAN	0
C-2	COMPOUND PLAN AND ELEVATION	0



<b>Natcomm, L.L.C.</b> 63-2 North Branford Road Branford, Connecticut 06405 Tel. (203) 488-0580 Fax (203) 488-8587 Consulting Engineers-Project Management Civil-Structural-Mechanical-Electrical	<b>Martinez Couch &amp; Associates LLC</b> 464 Washington Avenue North Haven, Connecticut 06473 Tel (203) 985-9012 Fax (203) 985-9064 email richardcouch@email.msn.com Land Surveyors, Engineers, Environmental Consultants	<b>WCSU TOWER</b> BOXWOOD LANE DANBURY, CONNECTICUT SITE NO. : CT43XC836c	<b>Sprint Spectrum LP</b> 1 International Blvd. ~Suite 300 Mahwah, NJ 07495	08/17/01 ISSUED FOR SITING COUNCIL REVISED CMS JJP 08/01/01 ISSUED FOR SITING COUNCIL JBA JJP NO. DATE REVISIONS BY CHK APPR	TITLE SHEET JOB NO. 361A DRAWING NUMBER T-1 REV. 1
				DRAWN BY: JBA CHECKED BY: JJP SCALE: AS NOTED DATE: 04/03/01 PROFESSIONAL ENGINEER SEAL	

DRAWING 1-84-C 8/2008 BY JBT



**SURVEY NOTES**  
 THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300B-1 THRU 20-300B-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES - "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPT. 26, 1996. IT IS AN EASEMENT LOCATION SURVEY AND IS BASED UPON A DEPENDENT RESURVEY CONFORMING TO HORIZONTAL ACCURACY CLASS TYPE D AND IS INTENDED TO BE USED FOR THE PURPOSE OF SHOWING AN EASEMENT AND OBTAINING SITE PLAN APPROVAL.

THE PROPERTY/BOUNDARY LINES DEPICTED HEREON ARE COMPILED FROM OTHER MAPS, DEEDS AND LIMITED FIELD SURVEY. THESE LINES ARE NOT TO BE CONSTRUED AS A BOUNDARY OPINION AND ARE SUBJECT TO CHANGE AS AN ACCURATE FIELD SURVEY MAY DISCLOSE. PROPERTY MAY BE SUBJECT TO ENCUMBRANCES, EASEMENTS, RIGHTS OF WAY AS A TITLE SEARCH REPORT MAY DISCLOSE.

VERTICAL DATUM IS BASED ON NGVD 29.

COORDINATES REFER TO NAD 83.

THE INTENTION OF THIS MAP IS TO SHOW THE LOCATION OF THE WIRELESS COMMUNICATIONS FACILITY TO BE CONSTRUCTED BY SPRINT PCS.

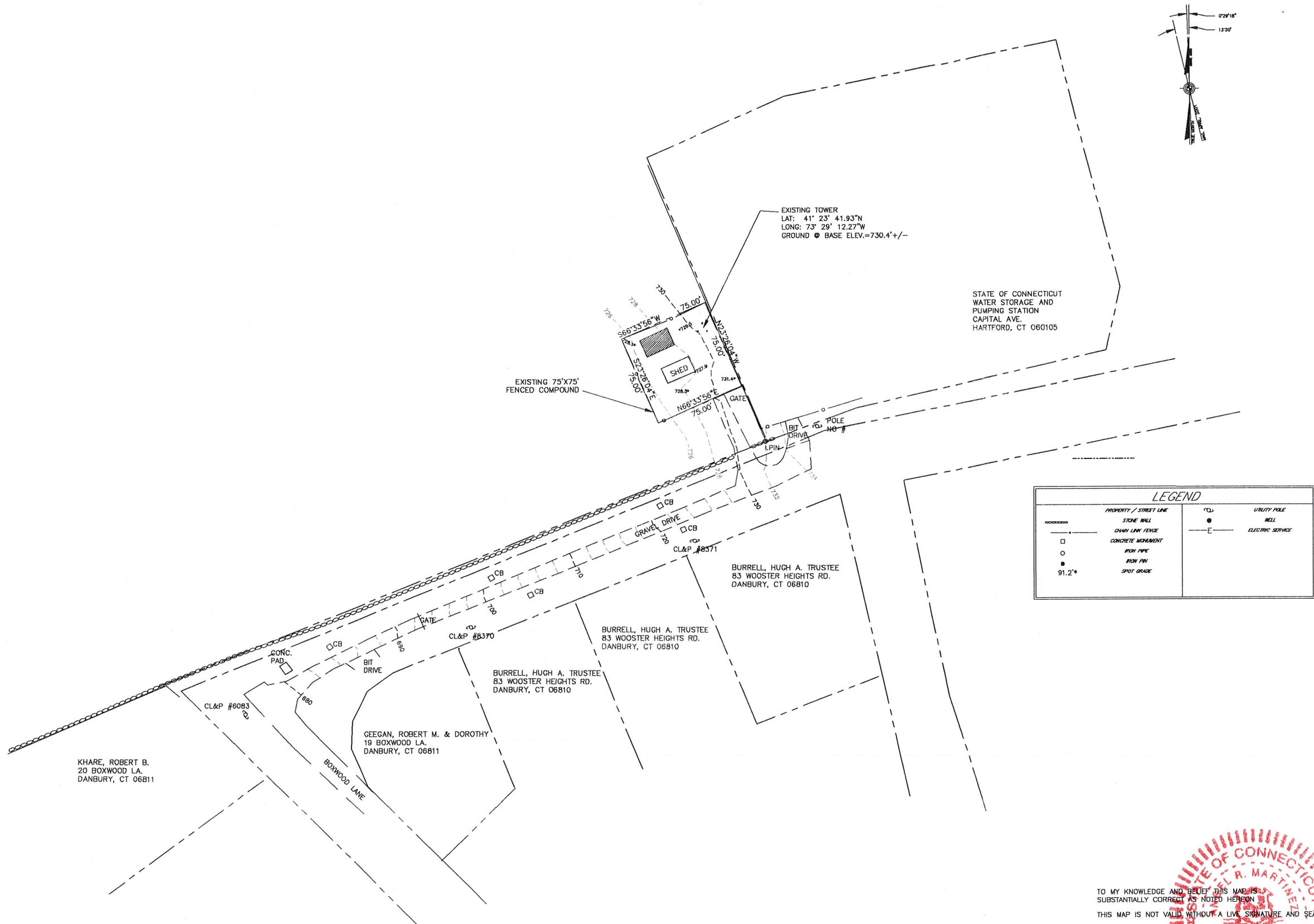
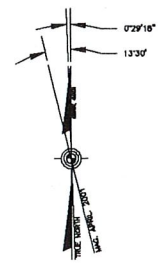
REFERENCE IS MADE TO THE FOLLOWING MAPS ENTITLED:

A. "CITY OF DANBURY TAX MAP # F-14"

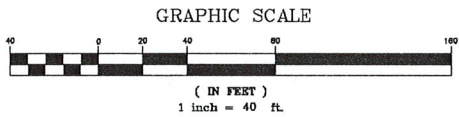
OWNER OF RECORD:  
 N/F WESTERN CONNECTICUT STATE UNIVERSITY  
 MILL PLAIN ROAD,  
 DANBURY, CT

THE PROPOSED EASEMENT LINES SHOWN ARE BASED UPON INFORMATION PROVIDED TO MCA BY THE CLIENT.

FIELD SURVEYED ON MAY 10, 2001.



LEGEND	
-----	PROPERTY / STREET LINE
-----	STONE WALL
-----	CHAIN LINK FENCE
□	CONCRETE MONUMENT
○	IRON PIPE
●	IRON PIN
91.2'	SPOT GRADE
○	UTILITY POLE
●	WELL
—E—	ELECTRIC SERVICE



**1 SITE PLAN**  
 C-1 SCALE: 1" = 40'-0"

TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON. THIS MAP IS NOT VALID WITHOUT A LIVE SIGNATURE AND SEAL.

STATE OF CONNECTICUT  
 R. MARTINEZ  
 NO. 18833  
 LICENSED  
 AND SURVEYOR

STATE OF CONNECTICUT  
 R. MARTINEZ  
 NO. 16894  
 LICENSED  
 PROFESSIONAL ENGINEER

**Natcomm, L.L.C.**  
 63-2 North Branford Road  
 Branford, Connecticut 06405  
 Tel: (203) 488-0580  
 Fax: (203) 488-8587  
 Consulting Engineers-Project Management  
 Civil-Structural-Mechanical-Electrical

**WCSU TOWER**  
 BOXWOOD LANE  
 DANBURY, CONNECTICUT  
 SITE NO.: CT43XC836c

**Sprint Spectrum LP**  
 1 International Blvd. ~ Suite 300  
 Mahwah, NJ 07495

△				
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△				
△	06/17/01	ISSUED FOR SITING COUNCIL REVISED	GMS	JUT
△	08/01/01	ISSUED FOR SITING COUNCIL	JBA	JJP
NO.	DATE	REVISIONS	BY	CHK
DRAWN BY: ARM		CHECKED BY: JJP	SCALE: AS NOTED	DATE: 04/03/01

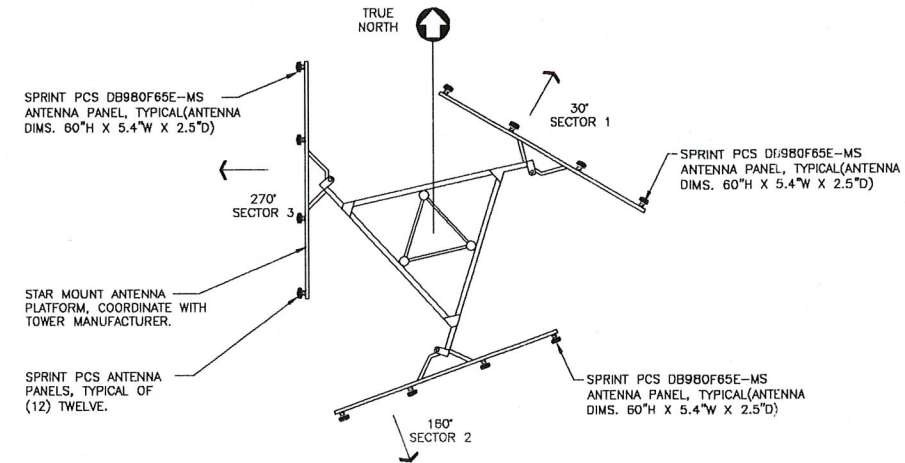
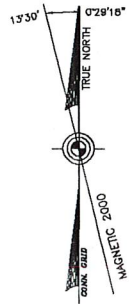
**Sprint Spectrum LP**

**SITE PLAN**

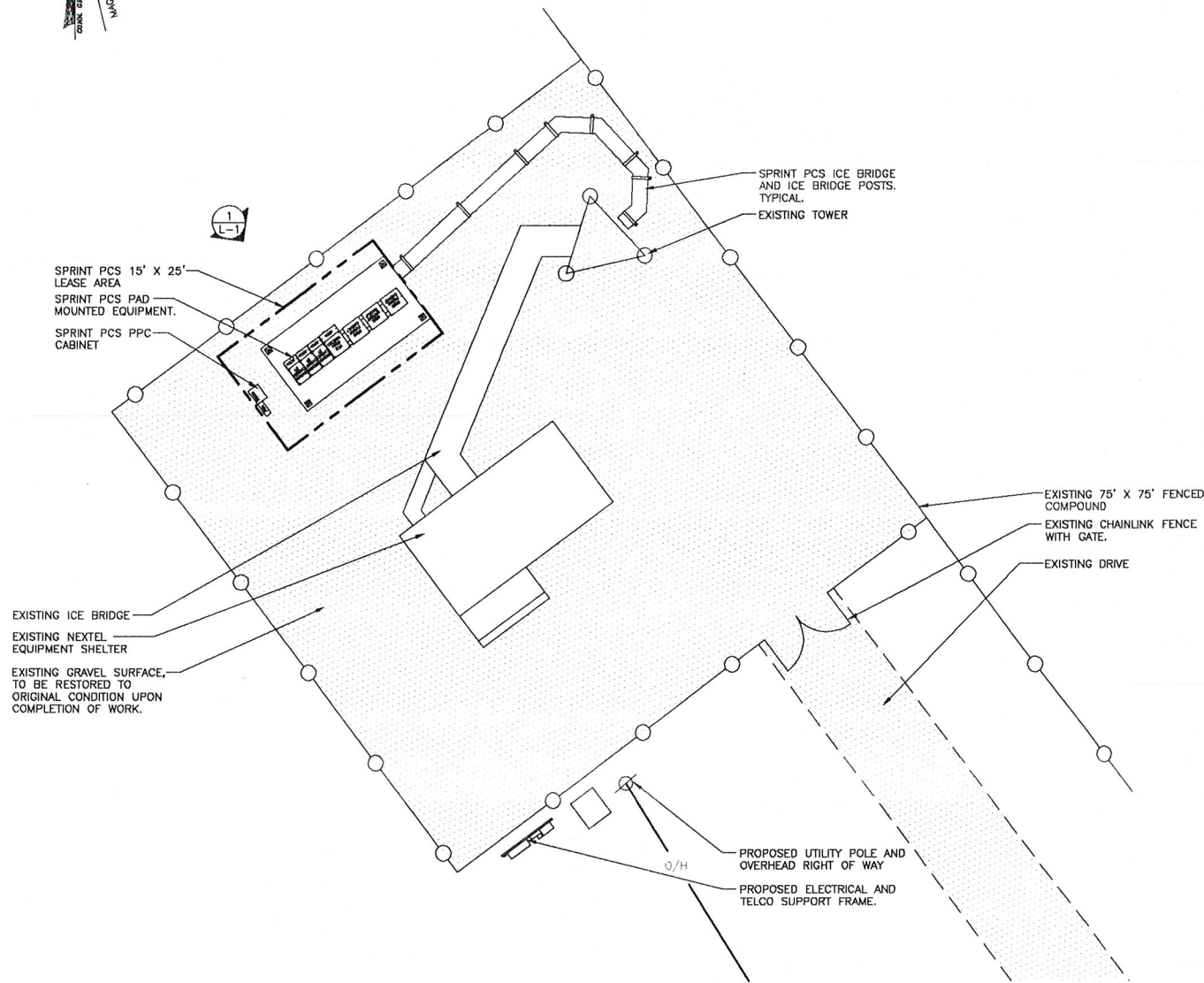
JOB NO.	DRAWING NUMBER	REV.
361A	C-1	1

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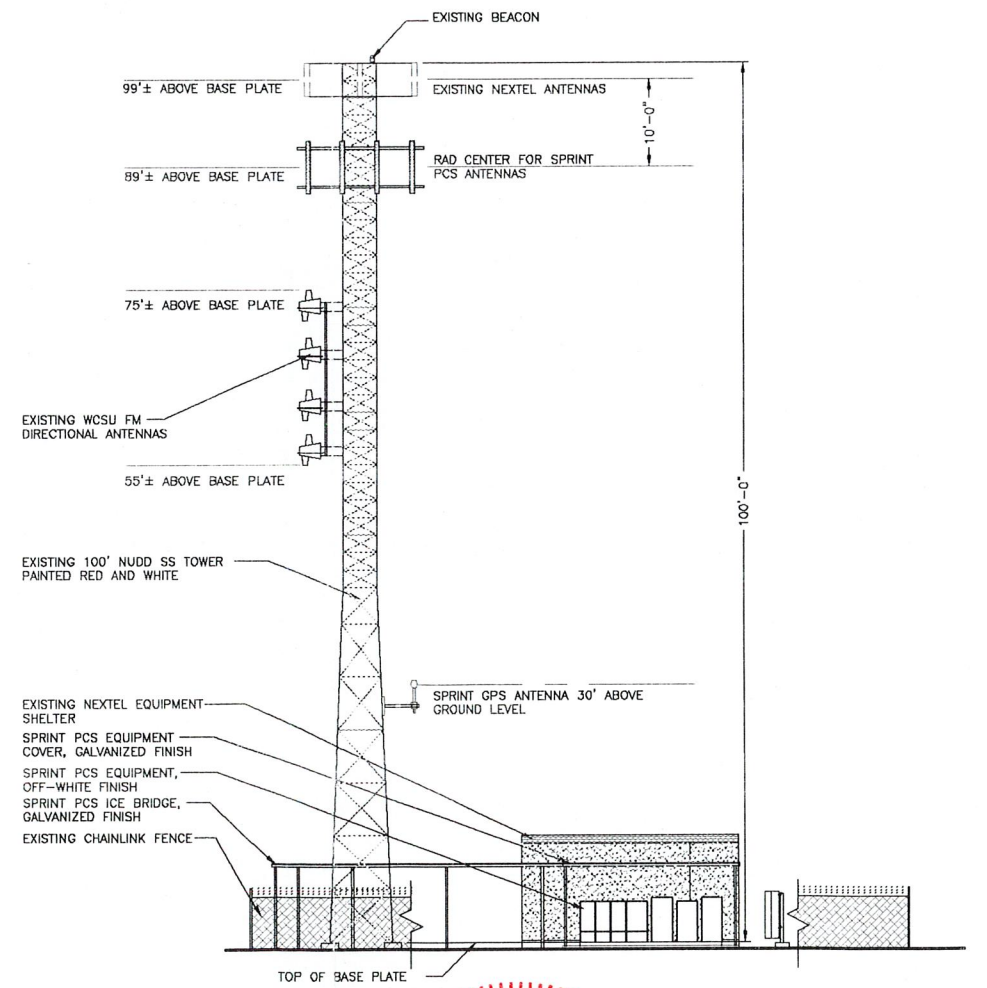




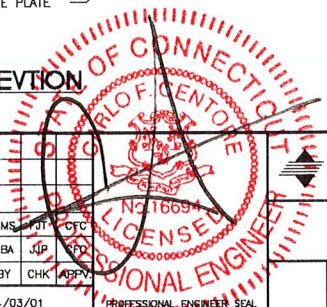
**3 ANTENNA MOUNTING CONFIGURATION**  
SCALE: NONE



**1 COMPOUND PLAN**  
SCALE: 1"=10'-0"



**2 TOWER ELEVATION**  
SCALE: 1"=10'-0"



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Fax (203) 488-8587  
Consulting Engineers-Picad. Management  
Civil-Structural-Mechanical-Electrical

**WCSU TOWER**  
BOXWOOD LANE  
DANBURY, CONNECTICUT  
SITE NO. : CT43XC836c

**Sprint Spectrum LP**  
1 International Blvd. ~ Suite 300  
Mahwah, NJ 07495

NO.	DATE	REVISIONS	BY
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△	08/17/01	ISSUED FOR SITING COUNCIL REVISED	CMS
△	08/01/01	ISSUED FOR SITING COUNCIL	JBA JJP
DRAWN BY: JBA		CHECKED BY: JJP	SCALE: AS NOTED
DATE: 04/03/01		DATE: 04/03/01	

**Sprint Spectrum LP**

COMPOUND PLAN AND ELEVATION		
JOB NO.	DRAWING NUMBER	REV.
361A	C-2	1

Structural Tower Analysis

*Existing Latticed Tower*

*Type "Three-Sided Latticed Tower"  
100' S12BPA CELLULAR TOWER  
to Support Additional Antenna Loads*

*Boxwood Lane  
Danbury, Connecticut*

*Natcomm Project No. 361a*

*Date: June 26, 2001*

*Client: Sprint Spectrum LP  
1 International Blvd-Suite 300  
Mahwah, New Jersey*

## Introduction

The purpose of this report is to summarize the results of the structural analysis performed on the existing 100' latticed tower to determine the effects of adding the following antenna types to structure:

- Sprint: Twelve (12) DB980F65E-MS antennas mounted to starmount platform at an elevation of 89'-0"(+/-).

Existing antenna configuration as follows:

- Nextel: Twelve (12) DB844H90GXY antennas mounted to starmount platform at an elevation of 100'-0"(+/-).
- WCSU FM: Shively labs 6810 High-Power FM antenna.

The tower carries the horizontal and vertical loads due to the weight of antennas, transmissions lines, ice load and wind.

## Primary assumptions used in the analysis

- Allowable steel stresses are defined by AISC-ASD 9<sup>th</sup> Edition.
- All tower members adequately galvanized to prevent corrosion of steel members
- All proposed antenna mount are modeled as listed above.
- No residual stresses due to incorrect tower erection.
- All bolts are appropriately tightened providing the necessary connection continuity.
- All welds conform to the requirements of AWS D1.1.
- Any deviation from the analyzed antenna loading will require a tower analysis for verification of structural integrity.

## Analysis

The existing tower was analyzed using a comprehensive computer program entitled "SAFI". The program analyzes the tower, considering the worst case loading condition. The tower is considered as loaded by concentric forces along the main legs joints, and the model assumes that the legs members are subjected to combined bending, axial, and shear stresses.

The tower analysis was based on the existing Fred A. NUDD Corporation design drawing #96-4992-1 & 2 dated January 21<sup>st</sup>, 1997.

The existing tower was analyzed for 85mph basic wind speed with no ice and 75% wind load with ½ inch accumulative ice to determine stresses in members as per guidelines of TIA/EIA-222- F - 1996 edition.

## Results

### 1- Tower's Members:

Based on our analysis and other checks, the tower's members were found overstressed as described below:

- Maximum overstresses of main legs members up to El. 40 ft. were found 18%.

*Report Date: June 26, 2001  
Revision Date: July 13, 2001  
Revision Date : August 16, 2001*

- Maximum overstresses of diagonal members from El. 40 ft. to El. 50ft were found 8%.

Our analysis in conjunction with a review of the initial tower design information finds the main leg members located between El. 40 ft. to El. 60ft. designed based on steel material type ASTM A500 with  $F_y=61$  ksi. as per NUDD construction drawing. However the specified steel designation as per AISC indicates the maximum yield stresses for round section is 46 ksi.

Although our analysis used the yield stress given by NUDD ( $F_y=61$  ksi), a 52% overstress occurred on the main leg members.

## 2- Tower's Foundation:

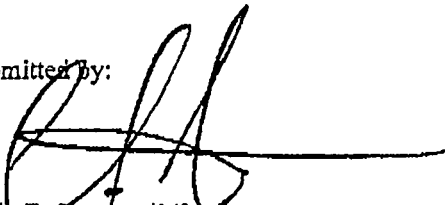
- The soil is adequate to support the proposed load.
- Existing anchor bolts are adequate to support the proposed load.
- Footing dimension is sufficient to transfer the over turning moment and axial load to soil. It is noted that percentage of footing reinforcement does not meet the minimum requirement as per ACI 318-99.

## Conclusions

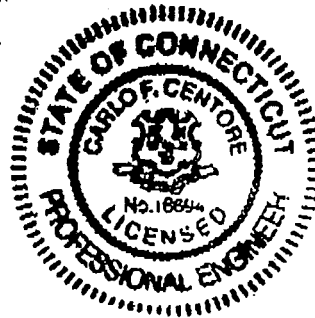
The existing 100 ft. latticed tower will require additional reinforcement or replacement of overstressed members. Foundations, and anchor bolts are adequate to support the proposed loads. No additional antennas shall be installed on this tower without a reinforcement design prepared by a licensed professional engineer experienced in tower structures.

This report is not intended to serve as a specification for remedial items that may be recommended herein. Additional details and/or specific repair procedures should be prepared for any remedial work.

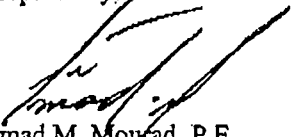
Submitted by:



Carlo E. Centore, P.E.



Prepared by:



Emad M. Moprad, P.E.

Report Date: June 26, 2001

Standard Conditions for Furnishing of Professional Engineering Services on Existing Structures

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

- Information supplied by the client regarding the structure itself, its foundations, the soil conditions, the antenna and feedline loading on the structure and its components, or other relevant information.
- Information from the field and/or drawings in the possession of *Natcomm, LLC* or generated by field inspections or measurements of the structure.
- It is the responsibility of the client to ensure that the information provided to *Natcomm, LLC* 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 are in an un-corroded condition and have not deteriorated. It is therefore assumed that its 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 revision of ANSI/ASCE10 & ANSI/EIA-222
- All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. *Natcomm, LLC* is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

Report Date: June 26, 2001

## GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM

Structural Analysis for Frame Installation (SAFI), is an integrated structural analysis and design software package for buildings, bridges, tower structures, and more.

### General Features:

- 2D/3D analysis based on matrix method to handle large structural models.
- Non-linear analysis with automatic load and stiffness correction. Multiple analysis within the same run. Account for internal and external load balance.
- Beams, trusses, plates and shells, springs, pre-stressed cables.
- Finite element plates with or without transverse shear.
- Full/Partial end releases.
- Fixed, pinned and spring supports with releases.
- Standard sections (CISC, AISC and European)
- Customized section libraries
- Tubular sections with variable inertia: 4, 6, 8, 10, 12, 16 sided sections and circular sections.
- Automatic detection of unstable degrees of freedom.
- Extensive verification commands filter the user input.
- No limit for problem size, joints, members and loads. Only the computer's memory limits the solution of very large structures.
- Metric, Imperial and mixed units system which can be modified at any time before or after the solution. Reports can be printed in any unit system following the solution of the problem.
- Supports the American standards ASD and LRFD.
- Optimization and verification of standard steel sections:
- AISC standard sections
- Graphical assignment of steel design parameters.
- Color chart presentation of limit states for any or all combined loads.

*Report Date: June 26, 2001*



# Power Density Analysis Table

**CT43XC836 - WXCI Tower, Boxwood Lane, Danbury, CT**

**Cumulative Power Density Analysis of Sprint PCS, Nextel and WXCI FM Antennas**

Operator	Operating Frequency (MHz)	Distance to Target (ft)	Calculated Power Density (mW/cm <sup>2</sup> )	Maximum Permissible Exposure* (mW/cm <sup>2</sup> )	Fraction of MPE
<b>Sprint PCS<sup>a</sup></b>	1962.5	89	0.000257	1.00	0.0257%
<b>Nextel</b>	851	99	0.033058	0.5673	5.8269%
<b>WXCI<sup>b</sup></b>	91.7	65	0.002556213	0.2	1.2781%
<b>Total Percentage of Maximum Permissible Exposure</b>					<b>7.1307%</b>

<sup>a</sup> Per OET Bulletin 65, factor of 0.0009 is included to account for the vertical antenna characteristics of Sprint's antenna.

<sup>b</sup> Per OET Bulletin 65, factor of 0.01 is included to account for the vertical antenna characteristics of WXCI's antenna.

# Power Density Analysis Table

**CT43XC836 WXCI Tower, Boxwood Lane, Danbury, CT**

**Worst Case Power Density Analysis of Sprint PCS Antennas at the Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Transmitters	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance from Base of Tower (Feet)	Calculated Power Density (mW/cm <sup>2</sup> )	Maximum Permissible Exposure	%MPE
1962.5	11	571.54	6286.94	89	0	0.000257	1	0.0257%
1962.5	11	571.54	6286.94	89	50	0.000195	1	0.0195%
1962.5	11	571.54	6286.94	89	100	0.000114	1	0.0114%
1962.5	11	571.54	6286.94	89	150	0.000067	1	0.0067%
1962.5	11	571.54	6286.94	89	200	0.000043	1	0.0043%
1962.5	11	571.54	6286.94	89	250	0.000029	1	0.0029%
1962.5	11	571.54	6286.94	89	300	0.000021	1	0.0021%
1962.5	11	571.54	6286.94	89	350	0.000016	1	0.0016%
1962.5	11	571.54	6286.94	89	400	0.000012	1	0.0012%
1962.5	11	571.54	6286.94	89	450	0.000010	1	0.0010%
1962.5	11	571.54	6286.94	89	500	0.000008	1	0.0008%

\*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

# Power Density Analysis Table

**CT43XC836 WXCI Tower, Boxwood Lane, Danbury, CT**

Worst Case Power Density Analysis of Nextel Antennas at the Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment

Operating Frequency (MHz)	Number of Transmitters	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance From Base of Tower (Feet)	Calculated Power Density (mW/cm <sup>2</sup> )	Maximum Permissible Exposure*	%MPE
851	9	100	900	99	0	0.033058	0.5673	5.8269%
851	9	100	900	99	50	0.026339	0.5673	4.6427%
851	9	100	900	99	100	0.016363	0.5673	2.8842%
851	9	100	900	99	150	0.010031	0.5673	1.7680%
851	9	100	900	99	200	0.006506	0.5673	1.1467%
851	9	100	900	99	250	0.004481	0.5673	0.7899%
851	9	100	900	99	300	0.003246	0.5673	0.5722%
851	9	100	900	99	350	0.002449	0.5673	0.4317%
851	9	100	900	99	400	0.001908	0.5673	0.3363%
851	9	100	900	99	450	0.001526	0.5673	0.2690%
851	9	100	900	99	500	0.001247	0.5673	0.2198%

\*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1-1992

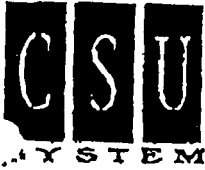
# Power Density Analysis Table

**CT43XC836 WXCI Tower, Boxwood Lane, Danbury, CT**

**Worst Case Power Density Analysis of WXCI Antennas at the Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Transmitters	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance From Base of Tower (Feet)	Calculated Power Density (mW/cm <sup>2</sup> )	Maximum Permissible Exposure	%MPE
91.7	1	3000	3000	65	0	0.002556	0.2	1.2781%
91.7	1	3000	3000	65	50	0.001606	0.2	0.8030%
91.7	1	3000	3000	65	100	0.000759	0.2	0.3796%
91.7	1	3000	3000	65	150	0.000404	0.2	0.2021%
91.7	1	3000	3000	65	200	0.000244	0.2	0.1221%
91.7	1	3000	3000	65	250	0.000162	0.2	0.0809%
91.7	1	3000	3000	65	300	0.000115	0.2	0.0573%
91.7	1	3000	3000	65	350	0.000085	0.2	0.0426%
91.7	1	3000	3000	65	400	0.000066	0.2	0.0329%
91.7	1	3000	3000	65	450	0.000052	0.2	0.0261%
91.7	1	3000	3000	65	500	0.000042	0.2	0.0212%

\*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992



Connecticut State University System

Developing a State of Minds

BR#01-18



RESOLUTION

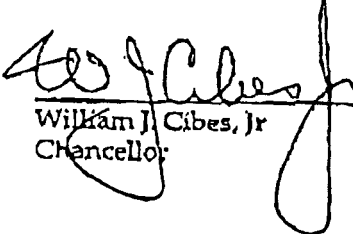
concerning

LEASE OF A PORTION OF THE COMMUNICATIONS TOWER  
AT  
WESTERN CONNECTICUT STATE UNIVERSITY  
TO  
SNET CELLULAR, LLC; SPRINT PCS; AND METRICOM, INC.

April 5, 2001

- WHEREAS, Section 4b-38 of the Connecticut General Statutes provides that the Board of Trustees may lease land or buildings and facilities under their control and supervision, and
- WHEREAS, SNET Cellular, LLC, Sprint PCS, and Metricom, Inc. have requested permission from Western Connecticut State University to lease a portion of the communications tower for installation of antennas, and
- WHEREAS, It has been determined by Western that the space is not needed for use by the university, and
- WHEREAS, The lease agreement stipulates that use of the property is contingent upon meeting all policies, regulations and laws of local, state and federal agencies, therefore be it
- RESOLVED, That the Board of Trustees for the Connecticut State University System approve the agreement with SNET Cellular, LLC, Sprint PCS, and Metricom, Inc. to lease space at Western Connecticut State University's communication tower for the installation of communications equipment.

A Certified True Copy:

  
 William J. Cibes, Jr  
 Chancellor