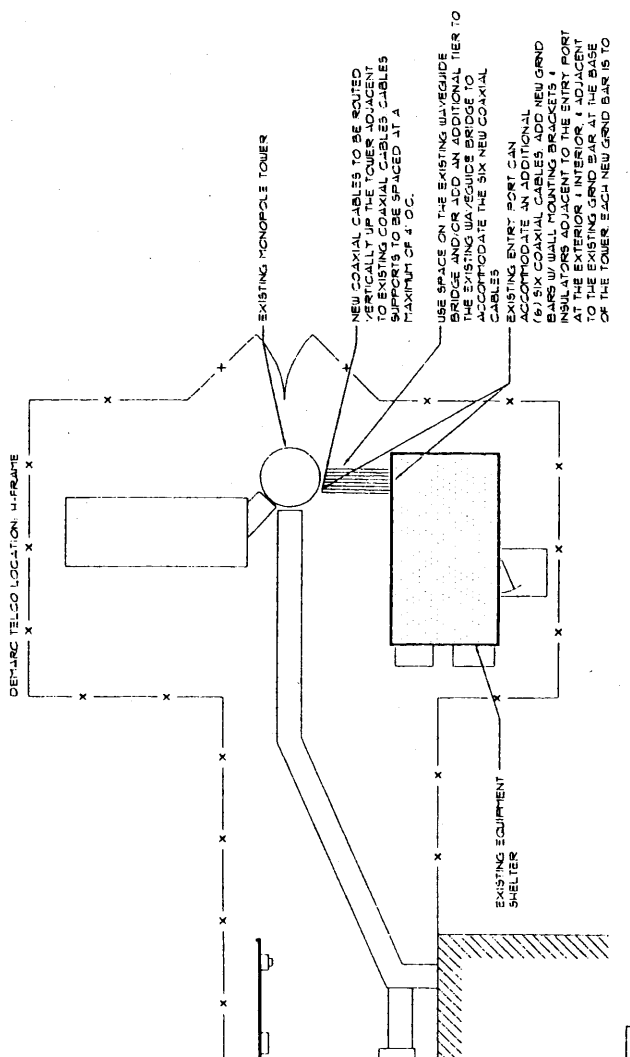


**2 EQUIPMENT LAYOUT PLAN**  
SCALE: 1/4" = 1'-0"



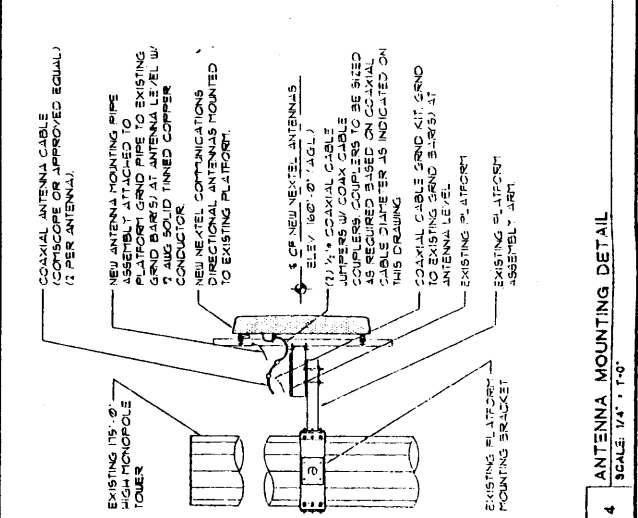
**1 ENLARGED SITE PLAN**  
SCALE: 3/8" = 1'-0"

**ANTENNA AND COAXIAL CABLES REQUIREMENT**

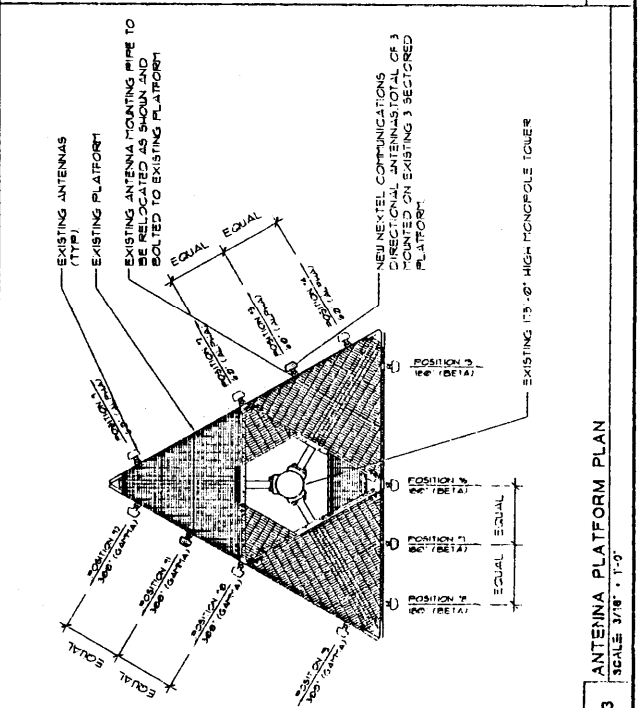
NO.	ANTENNA TYPE	SECTION	COAXIAL CABLE LENGTH DIA.	COLOR	REMARKS
1	1200000000	180'	1/4"	TBD	
2	1200000000	180'	1/4"	TBD	
3	1200000000	180'	1/4"	TBD	

**NOTES:**  
1. ANTENNA CABLE LENGTHS HAVE BEEN DETERMINED BASED ON THESE PLANS. CABLE LENGTHS WILL BE DETERMINED BY THE CONTRACTOR. ANTENNA CABLE LENGTHS WILL BE DETERMINED BY THE CONTRACTOR. ANTENNA CABLE LENGTHS WILL BE DETERMINED BY THE CONTRACTOR.  
2. ALL MAIN CABLES WILL BE COLOR CODED AT FOUR (4) LOCATIONS:  
A. THE ANTENNA LEVEL  
B. INSIDE THE EQUIPMENT SHELTER AT THE ENTRY PORT  
C. INSIDE THE EQUIPMENT SHELTER AT THE EXTERIOR PORT  
D. DISTANCE TO THE EXISTING ADJACENT GROUND BARS  
3. ALL MAIN CABLES WILL BE GROUND W/ COAXIAL CABLE GROUND KITS AT:  
A. THE ANTENNA LEVEL  
B. INSIDE THE EQUIPMENT SHELTER AT THE ENTRY PORT  
C. INSIDE THE EQUIPMENT SHELTER AT THE EXTERIOR PORT  
D. DISTANCE TO THE EXISTING ADJACENT GROUND BARS

**COAXIAL ANTENNA CABLE NOTES:**  
1. THE ANTENNA COAXIAL CABLE MUST BE RESPONSIBLE FOR PERFORMING AND SUPPORTING THE ANTENNA WITHIN THE ANTENNA SHELTER. THE ANTENNA RETURN LOSS TEST SHALL BE PERFORMED BY THE CONTRACTOR. THE ANTENNA RETURN LOSS TEST SHALL BE PERFORMED BY THE CONTRACTOR. THE ANTENNA RETURN LOSS TEST SHALL BE PERFORMED BY THE CONTRACTOR.  
2. THE ANTENNA COAXIAL CABLE MUST BE RESPONSIBLE FOR PERFORMING AND SUPPORTING THE ANTENNA WITHIN THE ANTENNA SHELTER. THE ANTENNA RETURN LOSS TEST SHALL BE PERFORMED BY THE CONTRACTOR. THE ANTENNA RETURN LOSS TEST SHALL BE PERFORMED BY THE CONTRACTOR.  
3. THE ANTENNA COAXIAL CABLE MUST BE RESPONSIBLE FOR PERFORMING AND SUPPORTING THE ANTENNA WITHIN THE ANTENNA SHELTER. THE ANTENNA RETURN LOSS TEST SHALL BE PERFORMED BY THE CONTRACTOR. THE ANTENNA RETURN LOSS TEST SHALL BE PERFORMED BY THE CONTRACTOR.



**4 ANTENNA MOUNTING DETAIL**  
SCALE: 1/4" = 1'-0"



**3 ANTENNA PLATFORM PLAN**  
SCALE: 3/8" = 1'-0"

A RESOLUTION APPROVING THE MINOR MODIFICATION TO THE CUP FOR  
THE CROWN CASTLE TELECOMMUNICATION TOWER LOCATED AT 625 OLD  
FAYETTEVILLE ROAD ALLOWING NEXTEL COMMUNICATIONS TO LOCATE  
AN ANTENNA ON THE TOWER AND INSTALL ADDITIONAL EQUIPMENT  
INSIDE THE FENCED IN AREA AT THE BASE OF THE TOWER

Resolution No. 19/2003-04

WHEREAS, the Carrboro Board of Aldermen approved a Conditional Use Permit for a telecommunications tower at 625 Old Fayetteville Road on February 9, 1999; and

WHEREAS, the Town of Carrboro Land Use Ordinance requires that additional users on a tower shall constitute a minor modification to the original Conditional Use Permit; and

WHEREAS, the Board of Aldermen finds that the applicant has satisfied the requirements related to minor modifications for towers contained in the Land Use Ordinance.

NOW, THEREFORE BE IT RESOLVED that the Carrboro Board of Aldermen approve the minor modification to the Crown Castle Conditional Use Permit located at 625 Old Fayetteville Road allowing Nextel Communications to install an antenna on the tower and install additional equipment within the fenced in area at the base of the tower.

This the 16<sup>th</sup> day of September 2003.

**Tower Ordinance Summary**

- (1) A tower may not be located within 1,500 feet of another tower.

*This is an existing tower owned by Crown Castle International.*

- (2) The base of the tower shall be set back from a street right-of-way line and every lot boundary line a distance that is not less than the height of the tower.

*This is an existing tower owned by Crown Castle International.*

- (3) Lighting shall not exceed the FAA minimum if lighting is required by the FAA.

*Lighting is not required.*

- (4) Towers and antennas shall be constructed and operated so as not to disturb or interfere with the use or operation on adjoining or nearby properties of radios, televisions, telephones, or similar equipment.

*The tower and antennas operate within Federal and state guidelines and do not cause interference.*

- (5) Commercial messages may not be displayed on any tower.

*Acknowledged: No response necessary.*

- (6) The output from the tower may not exceed federally approved levels for exposure to electronic magnetic force (EMF).

*The output from the tower does not exceed federally approved levels for exposure to EMF.*

- (7) If the tower exceeds 180 feet in height, the tower shall be engineered and constructed to accommodate at least two additional telecommunication users.

*The tower is 175'.*

- (8) The base of the tower and each guy anchor shall be surrounded by a fence or wall at least eight feet in height and constructed of material that cannot be easily climbed or penetrated.

*This is an existing monopole that currently has an eight-foot high security fence with barbed wire surrounding the tower.*

- (9) The base of the tower, any guy wires, and any associated structures, walls or fences shall be surrounded by a Type A screening. The site developer shall have the option of (i) providing the screening around the tower base and associated items individually, or (ii) providing the screening around the perimeter of the entire site.

*This tower site has screening around the base of the tower.*

- (10) Outdoor storage shall not be permissible on tower sites.

*Acknowledged: No response necessary.*

- (11) The application for a tower must contain the following information

- a. Identification of the intended user of the tower.

*Nextel*

- b. Documentation provided by a registered engineer that the tower has sufficient structural integrity to accommodate more than one user.

*See attached Structural Report Summary*

- c. Documentation that no suitable existing facilities exist.

*This is an existing tower and Nextel wishes to add 3 antennas and 6 lines of coax to their existing system.*

- d. A statement indicating the owner's intent to allow shared use of the tower and how many other users can be accommodated.

*Crown Castle is willing to co-locate additional carriers on this tower. As you can see Cingular, AT&T and Nextel are currently on this tower.*

- (12) The recipient of a permit for a tower shall be required as a continuing condition on the validity of the permit, to submit to the Zoning Administrator by January 31<sup>st</sup> of each year documentation, including but not limited to an FCC license, that the tower is being utilized. Towers which are not used for a period of 6 months or more shall be removed by the owner within 90 days thereafter. A statement of financial responsibility and performance security shall be posted for each tower to guarantee compliance with the requirement.

*Crown Castle acknowledges.*

- (13) The tower site shall not be used as an employment center for any worker. This does not prohibit the periodic maintenance or periodic monitoring of instruments and equipment.

*Acknowledged: No response necessary.*

- (14) The tower shall be constructed with a grounding system that provides adequate protection from destruction or damage by lightening.

*This is an existing tower site.*

- (15) The proposed addition of another user's antenna to a pre-existing tower, or any substantial change in the previously approved tower, shall constitute a minor modification as defined in Section 15-64.

*Acknowledged: No response necessary.*

- (16) Aesthetics for a new tower

*Not Applicable.*

**Duke University**  
**Pratt School of Engineering**  
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August 29, 2003

Mr. James Thomas  
Planner/Zoning Development Specialist  
Zoning Division  
Town of Carrboro  
301 West Main Street  
Carrboro, North Carolina 27510

Re: Impact of Minor Modification - adding another antenna to cell tower - on Electromagnetic Safety

Dear Mr. Thomas:

I have received your letter of 08/19/03 and the materials submitted to me for review and comment. To determine the impact on electromagnetic safety of adding Nextel to present users on the tower, I have extracted the following information from the attachment that you included with your letter:

- Name and location of tower - 625 Old Fayetteville Road, Carrboro, NC.
- Height of antenna radiation center AGL - 160 feet.
- Antenna manufacturer and model number - Decibel 932DG65T2E-B.

- User name - Nextel.
- Service - IDEN (ESMR)
- Operating frequency band - 1973.25 to 1975 MHz.
- Number of channels per sector - 1.
- EIRP in watts per channel - 20.
- Vertical beamwidth between half-power (3-dB) points - 6.6 degrees.

This one transmitting antenna with 20 watts of EIRP at a radiation center of 160 feet above ground level, acting alone, would not exceed a ground-level power density of 0.000035 milliwatts per square centimeter. When added to the existing ground-level power density produced by other transmitters on the tower, the total should be well below approved safety guidelines.

Sincerely,



William T. Joines  
Professor