

**Communications Tower Ordinance  
of  
Harnett County, North Carolina**



**Harnett**  
**C O U N T Y**  
NORTH CAROLINA

**Regulating the Deployment of  
Telecommunications Infrastructure**

**Adopted March 17, 2008**

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## **ARTICLE I. TITLE, PURPOSE, AUTHORITY, & EFFECTIVE DATE**

### SECTION 1.0 TITLE

This Ordinance shall be known and may be cited as the “Communications Tower Ordinance of Harnett County, North Carolina” also known as “the Ordinance”, “this Ordinance”, and “Ordinance” herein.

### SECTION 2.0 PURPOSE

The purpose of this Ordinance is to establish general guidelines for the locating of telecommunications towers, antenna, ground equipment and related accessory structures. The purpose and intent of this Ordinance are to:

- A. Promote the health, safety, and general welfare of the public by regulating the locating of telecommunication facilities.
- B. Minimize the impacts of telecommunication facilities on surrounding land uses by establishing standards for location, structural integrity, and compatibility.
- C. Encourage the location and co-location of telecommunication equipment on existing structures thereby minimizing new visual, aesthetic, and public safety impacts, effects upon the natural environment and wildlife, and to reduce the need for additional towers.
- D. Accommodate the growing need and demand for telecommunication services.
- E. Encourage coordination between suppliers and providers of telecommunication services.
- F. Establish predictable and balanced codes governing the construction and location of telecommunications facilities within the confines of permissible local regulations.
- G. Establish review procedures to ensure that applications for telecommunications facilities are reviewed and acted upon within a reasonable period of time.
- H. Respond to the policies embodied in the Telecommunications Act of 1996 in such a manner as not to unreasonably discriminate between providers of functionally equivalent personal wireless services or to prohibit or have the effect of prohibiting personal wireless services.
- I. Protect the character of the County while meeting the needs of its citizens to enjoy the benefits of telecommunications services.
- J. Encourage the use of public lands, buildings, and structures as locations for telecommunications infrastructure demonstrating concealed technologies and revenue generating methodologies.

### SECTION 3.0 AUTHORITY

The provisions of this Ordinance are adopted under authority granted by the General Assembly of the State of North Carolina with particular reference to Article 6 of Chapter 153A of the North Carolina General Statutes.

#### SECTION 4.0 EFFECTIVE DATE

This Ordinance shall be effective from and after the date of its adoption by the Harnett County Board of Commissioners.

#### SECTION 5.0 REPEAL OF PRE-EXISTING COMMUNICATIONS TOWER ORDINANCE

The provisions and requirements of this Ordinance supersede all the provisions and requirements of the pre-existing Harnett County Communications Tower Ordinance adopted on December 4, 2000 and amended through June 17, 2002.

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### **ARTICLE II. JURISDICTION**

These regulations shall govern the establishment and maintenance of communications towers. Provisions of this Ordinance shall apply uniformly to all areas within the jurisdiction of Harnett County.

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### **ARTICLE III. EXEMPTIONS**

#### SECTION 1.0 EXISTING COMMUNICATIONS TOWERS

Communications towers existing prior to the adoption of the Communications Tower Ordinance on December 4, 2000 or permitted prior to the adoption of this Ordinance shall be allowed to continue to operate provided they met the requirements set forth by Harnett County at the time of final inspection; not including any communications towers that are currently in violation of this Ordinance and pre-existing Communications Tower Ordinance of Harnett County.

#### SECTION 2.0 EXEMPT FACILITIES

The following items are exempt from the provisions of this Ordinance; notwithstanding any other provisions:

- A. Any tower less than fifty (50) feet in height or communications towers existing or permitted prior to the adoption of this Ordinance.
- B. Satellite earth stations that are one (1) meter (39.37 inches) or less in diameter in all residential zoning districts and two (2) meters or less in all other zoning districts.
- C. A government-owned communications facility, upon the declaration of a state of emergency by federal, state, or local government, and a written determination of public necessity by the County designee; except that such facility must comply with all federal and state requirements. No communications facility shall be exempt from the provisions of this division beyond the duration of the state of emergency.
- D. A government-owned communications facility erected for the purposes of installing antenna(s) and ancillary equipment necessary to provide communications for public health and safety.
- E. A temporary, commercial communications facility, upon the declaration of a state of emergency by federal, state, or local government, or determination of public necessity by the County and approved by the County; except that such facility must comply with all federal and state requirements. The communications facility may be exempt from the provisions of

this division up to three (3) months after the duration of the state of emergency.

- F. A temporary, commercial communications facility, for the purposes of providing coverage of a special event such as news coverage or sporting event, subject to approval by the County, except that such facility must comply with all federal and state requirements. Said communications facility may be exempt from the provisions of this division up to one (1) week after the duration of the special event.

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## **ARTICLE IV. GENERAL PROVISIONS**

### SECTION 1.0 APPLICATION OF THIS ORDINANCE

This Ordinance shall apply to the development activities including installation, construction, or modification of all antenna and tower facilities including but not limited to:

- A. Non-commercial, amateur radio station antennas.
- B. Existing towers.
- C. Proposed towers.
- D. Public towers.
- E. Mitigation of towers.
- F. Co-location on existing towers.
- G. Attached wireless communications facilities.
- H. Concealed wireless communications facilities.
- I. Non-concealed towers
- J. Broadcast facilities.

### SECTION 2.0 ABANDONMENT (DISCONTINUED USE)

- A. Towers, antennas, and the equipment compound shall be removed, at the owner's expense, within 180 days of cessation of use, unless the abandonment is associated with a mitigation as provided in the 'Mitigation' section of this Ordinance, in which case the removal shall occur within ninety (90) days of cessation of use.
- B. An owner wishing to extend the time for removal or reactivation shall submit an application stating the reason for such extension. The County may extend the time for removal or reactivation up to sixty (60) additional days upon a showing of good cause. If the tower or antenna is not removed within this time, the County may give notice that it will contract for removal within thirty (30) days following written notice to the owner. Thereafter, the County may cause removal of the tower with costs being borne by the owner.
- C. Upon removal of the tower, antenna, and equipment compound, the development area shall be returned to its natural state and topography and vegetated consistent with the natural surroundings or consistent with the current uses of the surrounding or adjacent land at the time of removal, excluding the foundation, which does not have to be removed.

### SECTION 3.0 CONFLICT WITH OTHER LAWS OR REGULATIONS

When the requirements of this Ordinance conflict with the requirements of other lawfully adopted rules, regulations, or ordinances of Harnett County, or deeds restrictions imposed by the developer or subdivider, the more stringent requirements shall govern.

### SECTION 4.0 SEVERABILITY OF ORDINANCE

Should any section or provisions of this Ordinance be decided by a court of competent jurisdiction to be unconstitutional or invalid, such decision shall not affect the validity of the Ordinance as a whole or any part thereof other than the part so declared to be unconstitutional or invalid.

### SECTION 5.0 INTERFERENCE WITH PUBLIC SAFETY COMMUNICATIONS

In order to facilitate the regulation, placement, and construction of antenna, and to ensure that all parties are complying to the fullest extent possible with the rules, regulations, and/or guidelines of the FCC, each owner of an antenna, antenna array or applicant for a co-location shall agree in a written statement to the following:

- A. Compliance with “Good Engineering Practices” as defined by the FCC in its rules and regulations.
- B. Compliance with FCC regulations regarding susceptibility to radio frequency interference, frequency coordination requirements, general technical standards for power, antenna, bandwidth limitations, frequency stability, transmitter measurements, operating requirements, and any and all other federal statutory and regulatory requirements relating to radio frequency interference (RFI).
- C. In the case of an application for co-located telecommunications facilities, the applicant, together with the owner of the subject site, shall use their best efforts to provide a composite analysis of all users of the site to determine that the applicant’s proposed facilities will not cause radio frequency interference with the County’s public safety communications equipment and will implement appropriate technical measures, as described in antenna element replacements, to attempt to prevent such interference.
- D. Whenever the County has encountered radio frequency interference with its public safety communications equipment, and it believes that such interference has been or is being caused by one or more antenna arrays, the following steps shall be taken:
  1. The County shall provide notification to all wireless service providers operating in the County of possible interference with the public safety communications equipment, and upon such notifications, the owners shall use their best efforts to cooperate and coordinate with the County and among themselves to investigate and mitigate the interference, if any, utilizing the procedures set forth in the joint wireless industry-public safety “Best Practices Guide,” released by the FCC in February 2001, including the “Good Engineering Practices,” as may be amended or revised by the FCC from time to time.
  2. If any equipment owner fails to cooperate with the County in complying with the owner’s obligations under this section or if the FCC makes a determination of radio frequency interference with the County public safety communications equipment, the owner who failed to cooperate and/or the owner of the equipment which caused the interference shall be responsible, upon FCC determination of radio frequency interference, for reimbursing the County for all costs associated with ascertaining and resolving the interference, including but not limited to any

engineering studies obtained by the County to determine the source of the interference. For the purposes of this subsection, failure to cooperate shall include failure to initiate any response or action as described in the “Best Practices Guide” within twenty-four (24) hours of County’s notification.

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**ARTICLE V. ANTENNAS, TOWERS, & ASSOCIATED EQUIPMENT**

**SECTION 1.0 BUILDING CODE REQUIREMENTS**

Towers shall be constructed and maintained in conformance with all applicable building code requirements.

**SECTION 2.0 PERMITS REQUIRED**

- A. Permit (Level I)- The permit issued by the Ordinance Administrator as designated by this Ordinance, to an individual, corporation, partnership, or other entity to engage in the creation of amateur radio tower.
- B. Permit (Level II)- The permit issued by the Ordinance Administrator as designated by this Ordinance to an individual, corporation, partnership, or other entity to engage in co-location, attached antennas, antenna element replacements, tower mitigation, or new concealed towers, excluding amateur radio towers.
- C. Permit (Level III)- The Conditional Use Permit issued by the Ordinance Administrator (after public hearing and approval by the Board of Adjustment) as designated by this Ordinance, to an individual, corporation, partnership, or other entity to engage in the creation of new towers, excluding amateur radio towers.
- D. Permit (Level IV)- The Conditional Use Permit issued by the Ordinance Administrator (after public hearing and approval by the Board of Adjustment) as designated by this Ordinance, to an individual, corporation, partnership, or other entity to engage in the creation of new towers, specifically broadcast facilities.

2.1 Permit Level Requirements

<b>PERMIT LEVEL</b>	<b>ISSUED BY</b>	<b>PERMIT TYPE</b>	<b>USE</b>
I	Zoning Administrator	P	Amateur radio no greater than fifty (50) feet in height
II	Zoning Administrator	P	Co-location, attached antennas, replacement and mitigation, and new concealed towers
III	BOA	C	New non-concealed towers
IV	BOA	C	Broadcast facilities

Note: P- Permitted by Right C- Permitted Conditionally BOA- Board of Adjustment

## SECTION 3.0 LOCATING ALTERNATIVES ORDER

### 3.1 Locating of New Antenna Array & New Towers

Locating of a new antenna array and new tower shall be in accordance with the preferred locating alternatives order:

- A. Concealed attached antenna
  - 1. On publicly-owned property
  - 2. On non publicly-owned property
- B. Co-located or combined antenna on existing tower
  - 1. On publicly-owned property
  - 2. On non publicly-owned property
- C. Non-concealed attached antenna
  - 1. On publicly-owned property
  - 2. On non publicly-owned property
- D. Mitigation of existing tower
  - 1. On publicly-owned property
  - 2. On non publicly-owned property
- E. Concealed freestanding tower
  - 1. On publicly-owned property
  - 2. On non publicly-owned property
- F. Non-concealed freestanding tower
  - 1. On publicly-owned property
  - 2. On non publicly-owned property

### 3.2 Locating of Attached, Co-located, and Combined Antenna

For attached, co-located, or combined antenna, the order of ranking preference, highest to lowest, shall follow the same ranking as provided in A1 through D2 of 'Locating of New Antenna Array & New Towers' section above. Where a lower ranked alternative is proposed, the applicant must file relevant information as required including, but not limited to, an affidavit by a radio frequency engineer demonstrating that despite diligent efforts to adhere to the established hierarchy within the geographic search area, higher ranked options are not technically feasible, practical or justified given the location of the proposed communications facility.

### 3.3 Mitigation & Freestanding Towers

Where a mitigated or freestanding tower is permitted the order of ranking preference from highest to lowest shall follow the same ranking as provided in D1 through F2 of 'Locating of New Antenna Array & New Towers' section above. Where a lower ranked alternative is proposed, the applicant must file relevant information as required and demonstrate higher ranked options are not technically feasible, practical, or justified given the location of the proposed communications facility, and the existing land uses of the subject and surrounding properties within 300 feet of the subject property.

**SECTION 4.0 FACILITY USE REGULATIONS & REQUIRED PERMITS**

New antennas and towers shall be permitted in Harnett County according to the table below.

Zoning District	Concealed Attached Antenna	Co-located or Combining on Existing Tower	Non-concealed Attached Antenna*	Mitigation of Existing Tower	Concealed Freestanding Tower	Non-Concealed Freestanding Tower	Antenna Element Replacement
RA-40	Level II	Level II	Level II	Level II & III	Level II		Level II
RA-30	Level II	Level II	Level II	Level II & III	Level II		Level II
RA-20M	Level II	Level II	Level II	Level II & III	Level II		Level II
RA-20R	Level II	Level II	Level II	Level II & III	Level II		Level II
IND	Level II	Level II	Level II	Level II & III	Level II	Level III & IV	Level II
COMM	Level II	Level II	Level II	Level II & III	Level II	Level III & IV	Level II
CONS	Level II	Level II	Level II	Level II & III	Level II	Level III	Level II
O&I	Level II	Level II	Level II	Level II & III	Level II		Level II
HCO	Level II	Level II	Level II	Level II & III	Level II		Level II
UNZONED LAND	Level II	Level II	Level II	Level II & III	Level II	Level III	Level II
HEIGHT CONTROL ORDINANCE	Level II	Level II	Level II	Level II & III	Level II		Level II

Note: Level I towers are permitted in all zoning districts.

\*Non-concealed attached antennas are only allowed on transmission towers and light stanchions.

**ARTICLE VI. PERMIT (LEVEL I) AMATEUR RADIO TOWERS**

**SECTION 1.0 APPLICATION REQUIREMENTS**

All Permit (Level I) applications shall contain the following:

- A. Completion of the “Communications Tower Ordinance of Harnett County, North Carolina Application Permit.”
- B. Application Fee
- C. Site Plan (see also ‘Application Requirements’)
- D. Valid FCC amateur operator’s license.

**SECTION 2.0 TOWER HEIGHT**

Tower height and location shall comply with federal and state law. Towers shall not exceed 199 feet unless FCC approval is demonstrated.

### SECTION 3.0 SETBACKS

A distance equal to the height of the tower shall separate new amateur radio towers from all structures not located on the same parcel as the tower, property lines, right-of-way lines and/or easements. Any relocation of amateur radio towers shall remain on same parcel and must comply with stated Ordinance setback requirements, or, if compliance is not possible, the relocation must not increase the amount by which setbacks are nonconforming, other than increases necessitated solely by changes in size of the base to support the new tower.

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## **ARTICLE VII. PERMIT (LEVEL II) CO-LOCATION, COMBINATION, ATTACHMENT, ANTENNA ELEMENT REPLACEMENT, REPLACEMENT TOWERS, AND CONCEALED TOWERS**

### SECTION 1.0 APPLICATION REQUIREMENTS

All Permit (Level II) applications shall contain the following:

- A. Completion of the “Communications Tower Ordinance of Harnett County, North Carolina Application Permit”
- B. Application Fee
- C. Site Plan (see also ‘Application Requirements’)

### SECTION 2.0 CO-LOCATION & COMBINATION

Harnett County requires co-location and combining of antennas on existing communications towers as a first priority where co-location is possible. Upon enactment of this Ordinance, any person, corporation, partnership, or other entity which intends to co-locate on an existing communications tower within the jurisdiction of this Ordinance must obtain a Permit (Level II). Co-locations are subject to the following:

- A. A co-located or combined antenna or antenna array shall not exceed the maximum height prescribed in the Conditional Use Permit (if applicable) or increase the height of an existing tower by more than twenty (20) feet and shall not affect any tower lighting.
- B. New antenna mounts shall be flush-mounted onto existing structures, unless it is demonstrated through radio frequency (RF) propagation analysis that flush-mounted antennas will not meet the network objectives of the desired coverage area.
- C. The equipment cabinet shall be subject to the setback requirements of the underlying zoning district.
- D. When a co-located or combined antenna is to be located on a nonconforming building or structure, then the existing permitted nonconforming setback shall prevail.
- E. Applications entitled to the streamlined processes described in Section 160A-400.53, North Carolina General Statutes, shall meet all the following requirements:
  1. The additional antenna array, transmission lines, and related ancillary equipment including the base station do not exceed the number of same items previously approved for such tower when originally approved, and the collocated facility is in complete conformance with the original conditions imposed on the tower upon which it is being attached.
  2. The proposed co-location shall not increase the overall height and width of the tower or support structure to which the proposed infrastructure is to be attached.

3. The co-location shall not increase the ground space area approved in the communications tower site plan for equipment enclosures and ancillary facilities.
4. The existing tower on which the co-location will attach shall comply with applicable regulations, restrictions, and/or conditions, if any, applied to the initial wireless facilities placed on the tower.
5. The proposed additional co-location and tower shall comply with all federal, state, and local safety requirements.
6. The proposed co-location and ancillary equipment shall not exceed the applicable weight limits for the tower.

### SECTION 3.0 ATTACHMENT: CONCEALED & NONCONCEALED

Antennas may be mounted onto a structure which is not primarily constructed for the purpose of holding attachment antennas but on which one (1) or more antennas may be mounted. Upon enactment of this Ordinance, any person, corporation, partnership, or other entity which intends to place an antenna on an alternative structure within the jurisdiction of this Ordinance must obtain a Permit (Level II). Attached antenna shall be subject to the following:

- A. The top of the attached antenna shall not be more than twenty (20) feet above the existing or proposed building or structure
- B. Non-concealed attachments shall only be allowed on electrical transmission towers and existing light stanchions subject to approval by the Planning Department and utility company.
- C. When an attached antenna is to be located on a nonconforming building or structure, the existing permitted nonconforming setback shall prevail.
- D. Except for non-concealed attached antennas, feed lines and antennas shall be designed to architecturally match the façade, roof, wall, and/or structure on which they are affixed so that they blend with the existing structural design, color, and texture.

### SECTION 4.0 ANTENNA ELEMENT REPLACEMENT

For any replacement of an existing antenna element on an antenna, the applicant must, prior to making such modifications, submit the following:

- A. A written statement setting forth the reasons for the modification.
- B. A description of the proposed modifications to the antenna, including modifications to antenna element design, type and number, as well as changes in the number and/or size of any feed lines, from the base of the equipment cabinet to such antenna elements.
- C. A signed statement from a qualified person, together with their qualifications, shall be included representing the tower's owner or owner's agent that the radio frequency emissions comply with FCC standards for such emissions. The statement shall also certify that both individually and cumulatively, and with any other facilities located on or immediately adjacent to the proposed facility, the replacement antenna complies with FCC standards.
- D. A stamped or sealed structural analysis of the existing structure prepared by a registered professional engineer licensed by the State of North Carolina indicating that the existing tower as well as all existing and proposed appurtenances meets North Carolina Uniform Statewide Building Code (USBC) requirements, including wind loading, for the tower.

## SECTION 5.0 MITIGATION

### 5.1 Minimum Mitigation Accomplishments

Mitigation shall accomplish a minimum of one (1) of the following:

- A. Reduce the number of towers
- B. Reduce the number of nonconforming towers
- C. Replace an existing tower with a new tower to improve network functionality resulting in compliance with this Ordinance.

### 5.2 Mitigation Requirements

Mitigation is subject to the following:

- A. No tower shall be mitigated more than one (1) time.
- B. Height: Level II and Level III
  1. Level II: The height of a tower approved for mitigation shall not exceed one hundred and fifteen percent (115%) of the height of the tallest tower that is being mitigated. (For example, a 250 foot existing tower could be rebuilt at 287.5 feet)
  2. Level III: The height of a tower may exceed one hundred and fifteen percent (115%) of the height of the tallest tower that is being mitigated approved for mitigation with undisputable evidence that the new tower will eliminate the need for an additional antenna array within a distance of two (2) miles. Under no circumstance shall any mitigated tower exceed a height of 300 feet.
- C. Setbacks: A new tower approved for mitigation of an existing tower shall not be required to meet new setback standards so long as the new tower and its equipment compound are no closer to any property lines or dwelling units as the tower and equipment compound being mitigated. The intent is to encourage the mitigation process, not penalize the tower owner for the change out of the old facility. (For example, if a new tower is replacing an old tower, the new tower is permitted to have the same setbacks as the tower being removed, even if the old tower had nonconforming setbacks.)
- D. Breakpoint technology: A newly mitigated monopole or lattice tower shall use breakpoint technology in the design of the replacement facility.
- E. Buffers: At the time of mitigation, the tower equipment compound shall be brought into compliance with any applicable buffer requirements.
- F. Visibility: Mitigated antenna-supporting structures shall be configured and located in a manner that minimizes adverse effects on the landscape and adjacent properties, with specific design considerations as to height, scale, color, texture, and architectural design of the buildings on the same and adjacent zoned lots.

## SECTION 6.0 CONCEALED TOWERS

All new communications towers intended to replace an existing tower where the new tower meets the following requirements:

- A. Completion of the “Communications Tower Ordinance of Harnett County, North Carolina Application Permit.”

- B. Application Fee
- C. Site Plan (see also ‘Application Requirements’)

### 6.1 Determination of Need

No new or mitigated freestanding tower shall be permitted unless the applicant demonstrates that no existing tower can accommodate the applicant’s proposed use; or that use of such existing facilities would prohibit personal wireless services in the geographic search area to be served by the proposed tower.

### 6.2 Height

New concealed towers shall be limited to 199 feet or less in height. In HCO zones the maximum height shall be 125 feet. Height calculations shall include above ground foundations, but exclude lightning rods or lights required by the FAA that do not provide any support for antennas.

### 6.3 Setbacks

New freestanding towers and equipment compounds shall be subject to the setbacks described below for breakpoint technology:

- A. If the tower has been constructed using breakpoint design technology (see ‘Definitions’), the minimum setback distance shall be equal to 110 percent (110%) of the distance from the top of the structure to the breakpoint level of the structure, or the minimum side and rear yard requirements, whichever is greater. Certification by a registered professional engineer licensed by the State of North Carolina of the breakpoint design and the design’s fall radius must be provided together with the other information required herein from an applicant. (For example, on a 100-foot tall monopole with a breakpoint at eighty (80) feet, the minimum setback distance would be twenty-two (22) feet (110 percent of twenty (20) feet, the distance from the top of the monopole to the breakpoint) plus the minimum side or rear yard setback requirements for that zoning district.)
- B. If the tower is not constructed using breakpoint design technology, the minimum setback distance shall be equal to the height of the proposed tower.

### 6.4 Equipment cabinets

Cabinets shall not be visible from pedestrian and right-of-way views. Cabinets may be provided within the principal building, behind a screen on a rooftop, or on the ground within the fenced-in and screened equipment compound.

### 6.5 Fencing

All equipment compounds shall be enclosed with an opaque fence or masonry wall in residential zoning districts, and in any zoning district when the equipment compound adjoins a public right-of-way. Alternative equivalent screening may be approved through the site plan approval process described in section 6.6(E) below.

## 6.6 Buffers

The equipment compound shall be landscaped with a minimum ten (10) foot wide perimeter buffer containing the following planting standards:

- A. All plants and trees shall be indigenous to this part of North Carolina.
- B. Existing trees and shrubs on the site should be preserved and may be used in lieu of required landscaping as approved by the Planning Department.
- C. One (1) row of evergreen trees with a minimum two (2) inch caliper, twenty-five (25) foot on center.
- D. Evergreen shrubs capable of creating a continuous hedge and obtaining a height of at least five (5) feet shall be planted, minimum three (3) gallon or twenty-four (24) inches tall at the time of planting, five (5) foot on center.
- E. Alternative landscaping plans which provide for the same average canopy and understory trees but propose alternative locating on the entire subject property may be considered and approved by the Planning Department, provided the proposed alternative maximizes screening as provided above, and is otherwise consistent with the requirements of this section.

## 6.7 Signage

Commercial messages shall not be displayed on any tower. Required noncommercial signage shall be subject to the following:

- A. The only signage that is permitted upon a tower, equipment cabinets, or fence shall be informational, and for the purpose of identifying the tower (such as ASR registration number), as well as the party responsible for the operation and maintenance of the facility, and any additional security and/or safety signs as applicable.
- B. If more than 220 voltage is necessary for the operation of the facility and is present in a ground grid or in the tower, signs located every twenty (20) feet and attached to the fence or wall shall display in large, bold, high contrast letters, minimum height of each letter four (4) inches, the following: "HIGH VOLTAGE - DANGER."
- C. Name plate signage shall be provided, in an easily visible location, including the address and telephone number of the contact to reach in the event of an emergency or equipment malfunction, including property manager signs as applicable.

## 6.8 Lighting

Lighting on towers shall not exceed the Federal Aviation Administration (FAA) minimum standards. All other lighting shall be subject to the following.

- A. Any lighting required by the FAA must be of the minimum intensity and number of flashes per minute (i.e., the longest duration between flashes) allowable by the FAA. Dual lighting standards are required and strobe light standards are prohibited unless required by the FAA.
- B. Lights shall be oriented so as not to project directly onto surrounding property or rights-of-way, consistent with FAA requirements.

## 6.9 Equipment Compound

The fenced-in compounds shall not be used for the storage of any excess equipment or hazardous materials. No outdoor storage yards shall be allowed in a tower equipment compound. The compound shall not be used as habitable space.

## 6.10 Visibility

- A. New towers shall be configured and located in a manner that shall minimize adverse effects including visual impacts on the landscape and adjacent properties.
- B. New freestanding towers shall be designed to match adjacent structures and landscapes with specific design considerations such as architectural designs, height, scale, color, and texture.
- C. A balloon test shall be required subsequent to the receipt of the photo simulations in order to demonstrate the proposed height of the tower. The applicant shall arrange to raise a colored balloon no less than three (3) feet in diameter at the maximum height of the proposed tower, and within fifty (50) horizontal feet of the center of the proposed tower.
- D. The applicant shall meet the following for the required balloon test:
  1. Applicant must inform the Planning Department and abutting property owners in writing of the date and times, including alternative date and times, of the test at least fourteen (14) days in advance.
  2. The date, time, and location, including alternative date, time and location, of the balloon test shall be advertised in a locally distributed paper by the applicant at least seven (7) but no more than fourteen (14) days in advance of the test date.
  3. The balloon shall be flown for at least four (4) consecutive hours during daylight hours on the date chosen. The applicant shall record the weather during the balloon test.
  4. Re-advertisement will not be required if inclement weather occurs.
- E. New antenna mounts shall be flush-mounted, unless it is demonstrated through RF propagation analysis that flush-mounted antennas will not meet the network objectives of the desired coverage area.
- F. In residential zoning districts, new towers shall only be permitted on lots whose principal use is not single-family residential, including schools, churches, synagogues, fire stations, parks, and other public property.
- G. Towers shall be constructed to accommodate antenna arrays as follows:
  1. All freestanding towers up to 120 feet in height shall be engineered and constructed to accommodate no less than four (4) antenna arrays.
  2. All towers between 121 feet and 150 feet shall be engineered and constructed to accommodate no less than five (5) antenna arrays.
  3. All towers between 151 feet and taller shall be engineered and constructed to accommodate no less than six (6) antenna arrays.
- H. Grading shall be minimized and limited only to the area necessary for the new tower and equipment.

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## **ARTICLE VIII. PERMIT (LEVEL III) NEW NON-CONCEALED TOWERS**

### **SECTION 1.0 APPLICATION REQUIREMENTS**

All Permit (Level III) applications shall contain the following:

- A. Completion of the “Communications Tower Ordinance of Harnett County, North Carolina Application Permit.”
- B. Application Fee
- C. Site Plan (see also ‘Application Requirements’)

### **SECTION 2.0 DETERMINATION OF NEED**

No new or mitigated freestanding tower shall be permitted unless the applicant demonstrates that no existing tower can accommodate the applicant’s proposed use; or that use of such existing facilities would prohibit personal wireless services in the geographic search area to be served by the proposed tower.

### **SECTION 3.0 HEIGHT**

Height calculations shall include above ground foundations, but exclude lightning rods or lights required by the FAA that do not provide any support for antennas. It is intended that all new non-broadcasting towers be 199 feet or less in height. However, should a tower be required in excess of 200 feet, under no circumstance shall any tower exceed 300 feet. All new towers in excess of 199 feet shall be subject to the following additional requirements:

- A. Undisputable evidence that the antenna service area will be so substantially compromised that there would be a requirement of additional antenna array within a distance of two (2) miles.
- B. The tower shall be designed to allow for a future reduction of elevation to no more than 199 feet, or the replacement of the tower with a monopole type structure at such time as the wireless network had developed to the point that such heights can be justified.
- C. In HCO zones the maximum height shall be 125 feet.

### **SECTION 4.0 SETBACKS**

New freestanding towers and equipment compounds shall be subject to the setbacks described below for breakpoint technology:

- A. If the tower is constructed using breakpoint design technology (see Definitions), the minimum setback distance shall be equal to 110 percent of the distance from the top of the structure to the breakpoint level of the structure, or the minimum side and rear yard requirements, whichever is greater. Certification by a registered professional engineer licensed by the State of North Carolina of the breakpoint design and the design’s fall radius must be provided together with the other information required herein from an applicant. (For example, on a 100 foot tall monopole with a breakpoint at eighty (80) feet, the minimum setback distance would be twenty-two (22) feet (110 percent of 20 feet, the distance from the top of the monopole to the breakpoint) plus the minimum side or rear yard setback requirements for that zoning district.)
- B. If the tower is not constructed using breakpoint design technology, the minimum setback

distance shall be equal to the height of the proposed tower.

#### SECTION 5.0 EQUIPMENT CABINETS

Cabinets shall not be visible from pedestrian and right-of-way views. Cabinets may be provided within the principal building, behind a screen on a rooftop, or on the ground within the fenced-in and screened equipment compound.

#### SECTION 6.0 FENCING

All equipment compounds shall be enclosed with an opaque fence or masonry wall in residential zoning districts, and in any zoning district when the equipment compound adjoins a public right-of-way. Alternative equivalent screening may be approved through the site plan approval process described in section 7(E) below.

#### SECTION 7.0 BUFFER

The equipment compound shall be landscaped with a minimum ten (10) foot wide perimeter buffer containing the following planting standards:

- A. All plants and trees shall be indigenous to this part of North Carolina.
- B. Existing trees and shrubs on the site should be preserved and may be used in lieu of required landscaping as approved by the Planning Department.
- C. One (1) row of evergreen trees with a minimum two (2) inch caliper, twenty-five (25) foot on center.
- D. Evergreen shrubs capable of creating a continuous hedge and obtaining a height of at least five (5) feet shall be planted, minimum three (3) gallon or twenty-four (24) inches tall at the time of planting, five (5) foot on center.
- E. Alternative landscaping plans which provide for the same average canopy and understory trees but propose alternative locating on the entire subject property may be considered and approved by the Planning Department, provided the proposed alternative maximizes screening as provided above, and is otherwise consistent with the requirements of this section.

#### SECTION 8.0 SIGNAGE

Commercial messages shall not be displayed on any tower. Required noncommercial signage shall be subject to the following:

- A. The only signage that is permitted upon a tower, equipment cabinets, or fence shall be informational, and for the purpose of identifying the tower (such as ASR registration number), as well as the party responsible for the operation and maintenance of the facility, and any additional security and/or safety signs as applicable.
- B. If more than 220 voltage is necessary for the operation of the facility and is present in a ground grid or in the tower, signs located every twenty (20) feet and attached to the fence or wall shall display in large, bold, high contrast letters, minimum height of each letter four (4) inches, the following: "HIGH VOLTAGE - DANGER."
- C. Name plate signage shall be provided, in an easily visible location, including the address and telephone number of the contact to reach in the event of an emergency or equipment

malfunction, including property manager signs as applicable.

### SECTION 9.0 LIGHTING

Lighting on towers shall not exceed the Federal Aviation Administration (FAA) minimum standards. All other lighting shall be subject to the following.

- A. Any lighting required by the FAA must be of the minimum intensity and number of flashes per minute (i.e., the longest duration between flashes) allowable by the FAA. Dual lighting standards are required and strobe light standards are prohibited unless required by the FAA.
- B. Lights shall be oriented so as not to project directly onto surrounding property or rights-of-way consistent with FAA requirements.

### SECTION 10.0 EQUIPMENT COMPOUND

The fenced-in compounds shall not be used for the storage of any excess equipment or hazardous materials. No outdoor storage yards shall be allowed in a tower equipment compound. The compound shall not be used as habitable space.

### SECTION 11.0 VISIBILITY

- A. New towers shall be configured and located in a manner that shall minimize adverse effects including visual impacts on the landscape and adjacent properties.
- B. New freestanding towers shall be designed to match adjacent structures and landscapes with specific design considerations such as architectural designs, height, scale, color, and texture.
- C. A balloon test shall be required subsequent to the receipt of the photo simulations in order to demonstrate the proposed height of the tower. The applicant shall arrange to raise a colored balloon no less than three (3) feet in diameter at the maximum height of the proposed tower, and within fifty (50) horizontal feet of the center of the proposed tower.
- D. The applicant shall meet the following for the required balloon test:
  1. Applicant must inform the Planning Department and abutting property owners in writing of the date and times, including alternative date and times, of the test at least fourteen (14) days in advance.
  2. The date, time, and location, including alternative date, time and location, of the balloon test shall be advertised in a locally distributed paper by the applicant at least seven (7) but no more than fourteen (14) days in advance of the test date.
  3. The balloon shall be flown for at least four (4) consecutive hours during daylight hours on the date chosen. The applicant shall record the weather during the balloon test.
  4. Re-advertisement will not be required if inclement weather occurs.
- E. New antenna mounts shall be flush-mounted, unless it is demonstrated through RF propagation analysis that flush-mounted antennas will not meet the network objectives of the desired coverage area.
- F. Towers shall be constructed to accommodate antenna arrays as follows:
  1. All freestanding towers up to 120 feet in height shall be engineered and constructed to accommodate no less than four (4) antenna arrays.

2. All towers between 121 feet and 150 feet shall be engineered and constructed to accommodate no less than five (5) antenna arrays.
  3. All towers between 151 feet and taller shall be engineered and constructed to accommodate no less than six (6) antenna arrays.
- G. Grading shall be minimized and limited only to the area necessary for the new tower and equipment.
- H. Freestanding non-concealed tower shall be limited to monopole type towers, unless the applicant demonstrates that such design is not feasible to accommodate the intended uses.

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## **ARTICLE IX. PERMIT (LEVEL IV) BROADCAST FACILITIES**

### SECTION 1.0 APPLICATION REQUIREMENTS

All new broadcast towers shall meet the following requirements:

- A. Completion of the “Communications Tower Ordinance of Harnett County, North Carolina Application Permit”
- B. Application Fee
- C. Site Plan (see also ‘Application Requirements’)

### SECTION 2.0 DETERMINATION OF NEED

No new broadcast facilities shall be permitted unless the applicant demonstrates that no existing broadcast tower can accommodate the applicant’s proposed use.

### SECTION 3.0 HEIGHT

Height for broadcast facilities shall be evaluated on a case by case basis. The determination of height contained in the applicant's FCC Form 351/352 Construction Permit or application for Construction Permit and an FAA Determination of No Hazard (FAA Form 7460/2) shall be considered prima facie evidence of the tower height required for such broadcast facilities.

### SECTION 4.0 SETBACKS

New broadcast facilities and anchors shall be subject to the setbacks described below:

- A. Minimum of 500 feet from any single-family dwelling unit on same lot
- B. Minimum of one (1) foot for every one (1) feet of tower height from all adjacent lots of record.

### SECTION 5.0 EQUIPMENT CABINETS

Except for AM broadcast facilities, cabinets shall not be visible from pedestrian and right-of-way views.

### SECTION 6.0 FENCING

All broadcast facility towers, AM antenna(s) towers, and guy anchors shall each be surrounded with an anti-climbing fence compliant with applicable FCC regulations.

## SECTION 7.0 BUFFER

Except for AM broadcast facilities, it is the intent that all pedestrian views from public rights-of-way and adjacent residential land uses be screened from proposed broadcast facilities using existing vegetation or be landscaped with a minimum ten (10) foot wide perimeter buffer containing the following planting standards:

- A. All plants and trees shall be indigenous to this part of North Carolina.
- B. Existing trees and shrubs on the site should be preserved and may be used in lieu of required landscaping where approved by the Planning Department.
- C. One (1) row of evergreen trees with a minimum two (2) inches caliper, twenty-five (25) foot on center.
- D. Evergreen shrubs capable of creating a continuous hedge and obtaining a height of at least five (5) feet shall be planted, minimum three (3) gallon or twenty-four (24) inches tall at the time of planting, five (5) foot on center.
- E. Alternative landscaping plans which provide for the same average canopy and understory trees but propose alternative locating on the entire subject property may be considered and approved by the Planning Department, provided the proposed alternative maximizes screening as provided above, and is otherwise consistent with the requirements of this section.

## SECTION 8.0 SIGNAGE

Commercial messages shall not be displayed on any tower. Required noncommercial signage shall be subject to the following:

- A. The only signage that is permitted upon a tower, equipment cabinets, or fence shall be informational, and for the purpose of identifying the tower (such as ASR registration number), as well as the party responsible for the operation and maintenance of the facility, and any additional security and/or safety signs as applicable.
- B. If more than 220 voltage is necessary for the operation of the facility and is present in a ground grid or in the tower, signs located every twenty (20) feet and attached to the fence or wall shall display in large, bold, high contrast letters, minimum height of each letter four (4) inches, the following: "HIGH VOLTAGE - DANGER."
- C. Name plate signage shall be provided, in an easily visible location, including the address and telephone number of the contact to reach in the event of an emergency or equipment malfunction, including property manager signs as applicable.

## SECTION 9.0 LIGHTING

Lighting on towers shall not exceed the Federal Aviation Administration (FAA) minimum standards. All other lighting shall be subject to the following.

- A. Any lighting required by the FAA must be of the minimum intensity and number of flashes per minute (i.e., the longest duration between flashes) allowable by the FAA. Dual lighting standards are required and strobe light standards are prohibited unless required by the FAA.
- B. Lights shall be oriented so as not to project directly onto surrounding property, consistent with FAA requirements.
- C. Any security lighting for on-ground facilities and equipment shall be in compliance with dark sky lighting standards as approved by the County.

## SECTION 10.0 EQUIPMENT COMPOUND

The fenced in compounds shall not be used for the storage of any excess equipment or hazardous materials. No outdoor storage yards shall be allowed in a tower equipment compound. The compound shall not be used as habitable space.

## SECTION 11.0 VISIBILITY

Grading shall be minimized and limited only to the area necessary for the new tower and equipment.

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# **ARTICLE X. APPLICATION REQUIREMENTS**

## SECTION 1.0 REQUIREMENTS FOR CO-LOCATION AND ATTACHMENT

- A. A signed statement from the tower owner or owner's agent agreeing to allow the co-location of other wireless equipment on the proposed tower, if the structure is designed or capable of additional wireless equipment.
- B. Compliance with American National Standards Institute (ANSI) standards for electromagnetic radiation: In order to protect the public from excessive exposure to electromagnetic radiation, the facility applicant shall certify through a written statement that the facility meets or exceeds current ANSI standards as adopted by the FCC.
- C. Certification furnished by a registered professional engineer licensed in the State of North Carolina that the structure has sufficient structural integrity to support the proposed antenna and feed lines in addition to all other equipment located or mounted on the structure.
- D. One (1) original and two (2) copies of a survey of the property completed by a registered professional engineer, licensed in the State of North Carolina showing all existing uses, structures, and improvements.
- E. Any applicant for facilities under this section shall certify that such proposed facility shall comply with all applicable federal regulations regarding interference protection, including but not limited to federal regulations regarding adjacent channel receiver (blanket) overload and intermodulation distortion.
- F. Streamlined process for co-location approvals are subject to the following:
  1. A co-location application entitled to streamlined processing shall be reviewed by the County within forty-five (45) days of submission, (or within some other mutually agreed upon timeframe). Approval or denial of the application shall be in writing and shall be postmarked to the applicant by the forty-fifth (45) day from the date of receipt. Denials shall identify the deficiencies in the application which, if cured, would take the application complete.
  2. Upon resubmitting of the revised site plan and paperwork the County shall follow the process identified in this section, above, until all deficiencies identified are deemed cured.
  3. If the County does not respond in writing to the applicant within the specified timeframe detailed above, then the application shall be deemed approved.
  4. Application entitled to the streamlined review process shall not be subject to design or placement requirement, or public hearing review.

## SECTION 2.0 REQUIREMENTS FOR MITIGATION & NEW LEVEL II & III TOWERS

- A. A report and supporting technical data shall be submitted, demonstrating the following:
  1. All antenna attachments and co-locations, including all potentially useable cross country utility distribution towers and other elevated structures within the proposed service area and alternative antenna configurations have been examined, and found unacceptable.
  2. Reasoning as to why existing facilities such as cross country utility distribution and other elevated structures are not acceptable alternatives to a new freestanding tower.
  3. Reasoning as to why the adequacy of alternative existing facilities or the mitigation of existing facilities are not acceptable in meeting the applicant's need or the needs of service providers, indicating that no existing communications facility could accommodate the applicant's proposed facility shall consist of any of the following:
    - a. No existing towers located within the geographic area meet the applicant's engineering requirements, and why.
    - b. Existing towers are not of sufficient height to meet the applicant's engineering requirements, and cannot be mitigated to increase in height.
    - c. Existing towers do not have sufficient structural integrity to support the applicant's proposed wireless communications facilities and related equipment, and the existing facility cannot be sufficiently improved.
    - d. Other limiting factors that render existing wireless communications facilities unsuitable.
- B. Technical data included in the report shall include certification by a registered professional engineer licensed in the State of North Carolina or other qualified professional, which qualifications shall be included, regarding service gaps or service expansions that are addressed by the proposed tower, and accompanying maps and calculations demonstrating the need for the proposed tower.
- C. Proof that a property and/or tower owner's agent has appropriate authorization to act upon the owner's behalf (if applicable).
- D. Signed statement from a qualified person, together with their qualifications, shall be included that warrants radio frequency emissions from the antenna array(s) comply with FCC standards. The statement shall also certify that both individually and cumulatively, and with any other facilities located on or immediately adjacent to the proposed facility, the replacement antenna complies with FCC standards.
- E. A stamped or sealed structural analysis of the proposed tower prepared by a registered professional engineer licensed by the State of North Carolina indicating the proposed and future loading capacity of the tower is compliant with EIA/TIA-222-G (as amended).
- F. An affidavit by a radio frequency engineer demonstrating compliance with 'Locating Alternatives Order' section of this Ordinance. If a lower ranking alternative is proposed the affidavit must address why higher ranked options are not technically feasible, practical, and/or justified given the location of the proposed communications facility.
- G. Statement as to the potential visual and aesthetic impacts of the proposed tower and equipment on all adjacent residential zoning districts.
- H. Written statement by a registered professional engineer licensed by the State of North Carolina specifying the design structural failure modes of the proposed facility.
- I. Statement certifying that no unusual sound emissions such as alarms, bells, buzzers, or the

like are permitted. Emergency Generators are permitted. Sound levels shall not exceed seventy decibels (70 db).

- J. A map showing the designated search ring.
- K. Materials detailing the locations of existing antenna and tower facilities to which the proposed antenna will be a handoff candidate; including latitude, longitude, and power levels of the proposed and existing antenna is required.
- L. A radio frequency propagation plot indicating the coverage of existing antenna sites, coverage prediction, and design radius, together with a certification from the applicant's radio frequency (RF) engineer that the proposed facility's coverage or capacity potential cannot be achieved by any higher ranked alternative such as a concealed facility, attached facility, replacement facility, co-location, or new tower.
  - 1. These documents are needed to justify a facility and to determine if the proposed location is the best suitable land use in the designated geographic area of the proposed facility.
- M. One (1) original and two (2) copies of a survey of the property completed by a registered professional engineer, licensed in the State of North Carolina showing all existing uses, structures, and improvements.
- N. Six (6) sets (24"×36") of signed and sealed site plans shall include the following:
  - 1. Name of project and date
  - 2. Deed Book, and Page and Map Book and Page Reference
  - 3. Scale, north arrow, and vicinity map
  - 4. Subject property information including zoning, watershed classification, percent coverage of lot to be impervious surface (if located in a designated watershed area)
  - 5. Adjacent property information, including land owners, land uses, height of principal building, size of lots, zoning, and land use designation.
  - 6. Tower elevations
  - 7. Landscape buffering plans
  - 8. Maximum height of the proposed tower and proposed and future mounting elevations of future antenna, including individual measurement of the base, the tower, and lightning rod
  - 9. One (1) parking space is required for each tower development area. The space shall be provided within the leased area, or equipment compound, or the development area as defined on the site plan.
  - 10. Location, classification, and size of all major public or private streets and rights-of-way
  - 11. Identify adjacent features within 500 feet of property boundary including driveways, public parking areas, pedestrian ways, trails, and any other pertinent features
  - 12. Two (2) reduced copies (8½"×11"), of the foregoing preliminary grading plans may be included on site plans or separately submitted in equal quantities.
- O. Title report or American Land Title Association (A.L.T.A.) survey showing all easements on the subject property, together with a full legal description of the property.
- P. List of adjacent property owners and keyed to the map. The list must be from the most

current ownership information supplied by the Harnett County Tax Department, together with two (2) sets of mailing labels for such property owners. Applicant will also provide a notarized Certification Letter stating the ownership list referenced herein is accurate to the best of the applicant's ability.

- Q. Simulated photographic evidence of the proposed tower and antenna appearance from any and all residential areas within 1,500 feet and vantage points approved by the Planning Department including the facility types the applicant has considered and the impact on adjacent properties including:
1. Overall height
  2. Configuration
  3. Physical location
  4. Mass and scale
  5. Materials and color
  6. Illumination
  7. Architectural design
- R. All other documentation, evidence, or materials necessary to demonstrate compliance with the applicable approval criteria set forth in this Ordinance.
- S. A pre-application conference will be required for any new tower. The applicant shall demonstrate that the following notice was mailed (via certified mail) to all other wireless service providers licensed to provide service within the County as indicated on the list of wireless service providers provided by the County:
- “Pursuant to the requirements of the Harnett County Zoning Ordinance, Article 9 is hereby providing you with notice of our intent to meet with the County Staff in a pre-application conference to discuss the location of a free-standing wireless communications facility that would be located at \_\_\_\_\_ (physical address, latitude and longitude (NAD-83)). In general, we plan to construct a tower of \_\_\_\_\_ feet in height for the purpose of providing \_\_\_\_\_ (type of wireless service)\_\_\_\_\_. Please inform the County Staff if you have any desire for placing additional wireless facilities or equipment within 2 miles of our proposed tower. Please provide us with this information within twenty business days after the date of this letter. Your cooperation is sincerely appreciated.
- Sincerely, (pre-application applicant, wireless provider)”
- T. Prior to issuance of a building permit, proof of FAA compliance with Subpart C of the Federal Aviation Regulations, Part 77, and “Objects Affecting Navigable Airspace,” if applicable.

### SECTION 3.0 REQUIREMENTS FOR NEW LEVEL IV TOWERS

- A. Technical data included in the report shall include the purpose of the proposed facility as described in the FCC Construction Permit Application.
- B. Proof that a property and/or tower owner's agent has appropriate authorization to act upon the owner's behalf, if applicable.
- C. Signed statement from a qualified person, together with their qualifications, shall be included that warrants radio frequency emissions from the antenna array(s) comply with FCC

standards regarding interference to other radio services. The statement shall also certify that both individually and cumulatively, and with any other facilities located on or immediately adjacent to the proposed facility, the replacement antenna complies with FCC standards regarding human exposure to RF energy.

- D. A stamped or sealed structural analysis of the proposed tower prepared by a registered professional engineer licensed by the State of North Carolina indicating the proposed and future loading capacity of the tower is compliant with EIA/TIA-222-G (as amended).
- E. A written statement by a registered professional engineer licensed by the State of North Carolina specifying the design structural failure modes of the proposed facility.
- F. Statement certifying that no unusual sound emissions such as alarms, bells, buzzers, or the like are permitted. Emergency Generators are permitted. Sound levels shall not exceed seventy decibels (70 db).
- G. One (1) original and two (2) copies of a survey of the property completed by a registered professional engineer, licensed in the State of North Carolina showing all existing uses, structures, and improvements.
- H. Six (6) sets (24"×36") of signed and sealed site plans shall include the following:
  - 1. Name of project and date
  - 2. Deed Book, and Page and Map Book and Page Reference
  - 3. Scale, north arrow, and vicinity map
  - 4. Subject property information including zoning, watershed classification, percent coverage of lot to be impervious surface (if located in a designated watershed area)
  - 5. Adjacent property information including land owners, land uses, height of principal building, size of lots, and existing zoning and land use
  - 6. Landscape buffering plans
  - 7. Maximum height of the proposed tower and/or antenna, including individual measurements of the base, tower, and lightning rod
  - 8. One (1) parking space is required for each tower development area. The space shall be provided within the leased area, or equipment compound, or the development area as defined on the site plan.
  - 9. Location, classification, and size of all major public or private streets and rights-of-way
  - 10. Identify adjacent features within 500 feet of property boundary including driveways, public parking areas, pedestrian ways, trails, and any other pertinent features
  - 11. Two (2) reduced copies (8½"×11"), of the foregoing preliminary grading plans may be included on site plans or separately submitted in equal quantities. The site plans shall
  - 12. Structure elevations
- I. Title report or American Land Title Association (A.L.T.A.) survey showing all easements on the subject property, together with a full legal description of the property.
- J. List of property owners within 1,000 feet in residential zoning districts and 500 feet in all other zoning districts and keyed to the map. The list must be from the most current ownership information supplied by the Harnett County Tax Department, together with two (2) sets of mailing labels for such property owners. Applicant will also provide a notarized Certification Letter stating the ownership list referenced herein is accurate to the best of the applicant's ability.
- K. A pre-application conference will be required for any new broadcast facility.
- L. Prior to issuance of a building permit, proof of FAA compliance with Subpart C of the Federal Aviation Regulations, Part 77, and "Objects Affecting Navigable Airspace," if applicable.

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## **ARTICLE XI. REVIEW & DECISION MAKING BODIES**

### SECTION 1.0 ESTABLISHMENT OF THE BOARD OF ADJUSTMENT

There Harnett County Board of Adjustment shall serve as review and decision making body.

#### 1.1 Rules of Conduct for Members

The Board of Adjustment shall operate consistent with the adopted By-Laws for the Harnett County Board of Adjustment.

#### 1.2 Powers and Duties of the Board of Adjustment

The Board of Adjustment shall have the following powers and duties:

- A. Administrative Review- To hear and decide appeals where it is alleged there is error in any order, requirement, decision, or determination made by the Zoning Administrator in the enforcement of this Ordinance.
- B. Variances- The Board of Adjustment shall have the power to authorize, in specific cases, minor variances from the terms of this Ordinance as will not be contrary to the public interests where, owing to special condition, a literal interpretation of this Ordinance will result in practical difficulties or unnecessary hardship, so that the spirit of this Ordinance shall be observed, public safety and welfare secured, and substantial justice done. Such variances may be granted in such individual case of unnecessary hardships only upon findings of the Board of Adjustment after a public hearing that the following conditions exist:
  1. There are extraordinary and exceptional conditions pertaining to the particular piece of property in question because of its size, shape, or topography that are not applicable to other lands or structures.
  2. Granting the variance requested will not confer upon the applicant any special privileges that are denied to other residents of the district in which the property is located.
  3. A literal interpretation of the provisions of this Ordinance would deprive the applicant of rights commonly enjoyed by other residents of the district in which the property is located.
  4. The requested variance will be in harmony with the purpose and intent of this Ordinance and will not be injurious to the neighborhood or to the general welfare.
  5. The special circumstances are not the result of the actions of the applicant.
  6. The variance requested is the minimum variance that will make possible the legal use of the land, building or structure.

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## **ARTICLE XII. CHANGES & AMENDMENTS**

### SECTION 1.0 AMENDMENTS

The Harnett County Board of Commissioners may from time-to-time amend the terms of this Ordinance (but no amendment shall become effective unless it shall have been proposed by or shall have been submitted to the Planning Board for review and recommendation.) If the Planning Board fails to submit a report within

thirty (30) days of the public hearing by the Harnett County Board of Commissioners, the proposed amendment shall be deemed to have recommended approval by the Planning Board.

No amendment shall be adopted by the governing body until they have held a public hearing on the amendment. Notice of the hearing shall be published in a newspaper of general circulation in Harnett County at least once a week for two (2) successive weeks prior to the hearing, the first publication being not less than ten (10) days nor more than twenty-five (25) days before the date of the hearing. In computing the ten (10) day, twenty-five (25) day period, the date of publication is not to be counted, but the date of the hearing is to be counted.

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## **ARTICLE XIII. ADMINISTRATION, ENFORCEMENT, & PENALTIES**

### SECTION 1.0 ADMINISTRATION

This Ordinance shall be administered and enforced by the Zoning Administrator of Harnett County or designee. The County may, through contract, secure the professional services of telecommunications consultants to assist County staff in the implementation of this Ordinance. Such professional, services include, but are not limited to, review and evaluation of permit applications, determination of compliance with existing and proposed Federal regulations, minimization of the aesthetic impact, review of the technical data and expert testimony as needed.

### SECTION 2.0 ENFORCEMENT

If the Ordinance Administrator shall find that any of the provisions of this Ordinance are being violated, it shall notify in writing the person responsible for the violation, specifying the nature of the violation and what corrective measures must be taken. The Ordinance Administrator shall order discontinuance of illegal use of land, buildings, or structures; removal of illegal buildings or structures or of additions, alterations, or structural changes thereto; discontinuance of any illegal work being done; or shall take any other action authorized by law to insure compliance with or to prevent violation of the provisions of this Ordinance.

### SECTION 3.0 PENALTIES

Any person failing to take corrective action within a reasonable time after receiving written notice from the Planning Department and any person operating a Communications Tower without a valid permit shall be guilty of a misdemeanor and may be punished by a fine not to exceed five-hundred dollars (\$500.00) or imprisonment not to exceed thirty (30) days. Each day such violation shall be permitted to exist shall constitute a separate offense.

### SECTION 4.0 FEES

The Harnett County Board of Commissioners shall set a fee, payable to the Harnett County Planning Department, to cover the necessary processing cost of all Communications Tower Permits. The set fee shall be posted in the Planning Department.

#### 4.1 Variances or Appeals

The County Board of Commissioners shall set a fee, payable to Harnett County, North Carolina, to cover the necessary administrative costs and advertising of each application for a variance or appeal.

The set fee shall be posted in the County's Planning Department office.

#### 4.2 Supplemental Review

The County reserves the right to require a supplemental review for any Permit (Level I, II, III, or IV) subject to the following:

- A. Where due to the complexity of the methodology or analysis required to review an application for a Permit (Level I, II, III or IV) facility, the County may require the applicant to pay for a technical review by a third party expert, the costs of which shall be borne by the applicant and be in addition to other applicable fees. Schedules of current fees are listed in the Harnett County Fee Schedule.
- B. Based on the results of the expert review, the approving authority may require changes to the applicant's application or submittals.
- C. The supplemental review may address any or all of the following:
  1. The accuracy and completeness of the application and any accompanying documentation.
  2. The applicability of analysis techniques and methodologies.
  3. The validity of conclusions reached.
  4. Whether the proposed communications facility complies with the applicable approval criteria set forth in these codes.
  5. Other items deemed by the County to be relevant to determining whether a proposed communications facility complies with the provisions of these codes.

### SECTION 5.0 APPEAL

Appeals from the enforcement and interpretation of this Ordinance and requests for variances shall be filed with the Ordinance Administrator specifying the grounds thereof. The Ordinance Administrator shall transmit to the Board of Adjustment all applications and records pertaining to such appeals and variances. The Board shall fix a thirty (30) day period for the hearing of appeals, giving notice to all participants by first class mail. An appeal stays all proceedings in furtherance of the action appealed from unless the Ordinance Administrator certifies to the Board that by reason of facts stated in the record a stay would, in his opinion, cause eminent peril to life and or property. In such a case proceedings shall not be stayed other than by an order from the Harnett County Superior Court.

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## **ARTICLE XIV. INTERPRETATION OF CERTAIN TERMS & DEFINITIONS**

### SECTION 1.0 INTERPRETATION

The following assumptions shall be made:

- A. Words used in the present tense include the future tense.
- B. Words used in the singular number include the plural, and words used in the plural number include the singular.
- C. The word "shall" is always mandatory and not merely directory.
- D. The word "may" is permissive.
- E. The words "used" or "occupied" include the words intended, designed, or arranged to be used or

occupied.

## SECTION 2.0 DEFINITIONS

Alternative Structure- A structure that is not primarily constructed for the purpose of holding antennas but on which one (1) or more antennas may be mounted, including buildings, water tanks, pole signs, billboards, church steeples, and electric power transmission towers.

Amateur Radio Tower- Any tower used for amateur radio transmissions consistent with the “Complete FCC U.S. Amateur Part 97 Rules and Regulations” for amateur radio towers.

Ancillary Structure- For the purposes of this Ordinance, any form of development associated with a communications facility, including foundations, concrete slabs on grade, guy anchors, generators, and transmission cable supports, but excluding equipment cabinets.

Anti-Climbing Device- A piece or pieces of equipment, which are either attached to a tower, or which are freestanding and are designed to prevent people from climbing the structure, including fine mesh wrap around structure legs, “squirrel-cones,” and other approved devices, but excluding the use of barbed or razor wire.

Antenna- Any apparatus designed for the transmitting and/or receiving of electromagnetic waves, including telephonic, radio or television communications. Types of elements include omni-directional (whip) antennas, sectionalized (panel) antennas, multi or single bay (FM & TV), yagi, or parabolic (dish) antennas.

Antenna Array- A single or group of antenna elements and associated mounting hardware, transmission lines, or other appurtenances which share a common attachment device such as a mounting frame or mounting support structure for the sole purpose of transmitting or receiving electromagnetic waves.

Antenna Element- Any antenna or antenna array.

ASR- The Antenna Structure Registration Number as required by the FAA and FCC.

Base Station- The electronic equipment utilized by the wireless providers for the transmission and reception of radio signals.

Board of Adjustment- The Board of Adjustment of Harnett County as defined by the Harnett County Zoning Ordinance.

Breakpoint Technology- The engineering design of a monopole wherein a specified point on the monopole is designed to have stresses concentrated so that the point is at least five percent (5%) more susceptible to failure than any other point along the monopole so that in the event of a structural failure of the monopole, the failure will occur at the breakpoint rather than at the base plate, anchor bolts, or any other point on the monopole.

Broadcast Facilities- Towers, antennas, and/or antenna arrays for AM/FM/TV/HDTV broadcasting transmission facilities that are licensed by the Federal Communications Commission.

Co-location- The practice of installing and operating multiple wireless carriers, service providers, and/or radio common carrier licensees on the same tower or attached communication facility using different and separate antenna, feed lines, and radio frequency generating equipment.

Combined Antenna – An antenna or an antenna array designed and utilized to provide services for more than one (1) wireless provider, or a single wireless provider utilizing more than one (1) frequency band or spectrum, for the same or similar type of services.

Concealed- A tower, ancillary structure, or equipment compound that is not readily identifiable as such, and is designed to be aesthetically compatible with existing and proposed building(s) and uses on a site.

There are two (2) types of concealed facilities: 1) Antenna Attachments, including painted antenna and feed lines to match the color of a building or structure, faux windows, dormers or other architectural features that blend with an existing or proposed building or structure and 2) Freestanding. Freestanding concealed tower's usually have a secondary, obvious function which may include church steeple, windmill, bell tower, clock tower, light standard, flagpole with or without a flag, or tree.

Development Area- The area occupied by a communications facility including areas inside or under an antenna-support structure's framework, equipment cabinets, ancillary structures, and/or access ways.

Discontinued- Any tower without any mounted transmitting and/or receiving antennas in continued use for a period of 180 consecutive days.

Equipment Compound- The fenced-in area surrounding the ground-based wireless communication facility including the areas inside or under a tower's framework and ancillary structures such as equipment necessary to operate the antenna on the structure that is above the base flood elevation including cabinets, shelters, pedestals, and other similar structures.

Equipment Cabinet- Any structure above the base flood elevation including cabinets, shelters, pedestals, and other similar structures and used exclusively to contain radio or other equipment necessary for the transmission or reception of wireless communication signals.

FAA- The Federal Aviation Administration.

FCC- The Federal Communications Commission.

Feed Lines- Cables used as the interconnecting media between the transmission/receiving base station and the antenna.

Flush-Mounted- Any antenna or antenna array attached directly to the face of the support structure or building such that no portion of the antenna extends above the height of the support structure or building. Where a maximum flush-mounting distance is given, that distance shall be measured from the outside edge of the support structure or building to the inside edge of the antenna.

Guyed Structure - (see Tower)

Geographic Search Ring- An area designated by a wireless provider or operator for a new base station, produced in accordance with generally accepted principles of wireless engineering.

Handoff Candidate- A wireless communication facility that receives call transference from another wireless facility, usually located in an adjacent first "tier" surrounding the initial wireless facility.

Lattice Structure- (see Tower)

Least Visually Obtrusive Profile- The design of a wireless communication facility intended to present a visual

profile that is the minimum profile necessary for the facility to properly function.

Mitigation- A modification of an existing tower to increase the height, or to improve its integrity, by replacing or removing one (1) or several tower(s) located in proximity to a proposed new tower in order to encourage compliance with this Ordinance, or improve aesthetics or functionality of the overall wireless network.

Monopole Structure- (see Tower)

Non-concealed- A wireless communication facility that is readily identifiable as such and can be either freestanding or attached.

Personal Wireless Service- Commercial mobile services, unlicensed wireless services, and common carrier wireless exchange access services as defined in the *Telecommunications Act of 1996*.

Public Safety Communications Equipment- All communications equipment utilized by a public entity for the purpose of ensuring the safety of the citizens of the County and operating within the frequency range of 700 MHz and 1,000 MHz and any future spectrum allocations at the direction of the FCC.

Radio Frequency Emissions- Any electromagnetic radiation or other communications signal emitted from an antenna or antenna-related equipment on the ground, tower, building, or other vertical projection.

Radio Frequency Propagation Analysis- Computer modeling to show the level of signal saturation in a given geographical area.

Replacement- (see Mitigation)

Satellite Earth Station- A single or group of parabolic or dish antennas mounted to a support device that may be a pole or truss assembly attached to a foundation in the ground, or in some other configuration, including the associated separate equipment cabinets necessary for the transmission or reception of wireless communications signals with satellites.

Streamlined Processing- Expedited review process for co-locations.

Structure- Anything constructed or erected, the use of which required permanent location on the ground, or attachment to something having a permanent location on the ground, including advertising signs.

Tower- Any staffed or unstaffed location for the transmission and/or reception of radio frequency signals or other wireless communications, and usually consisting of an antenna or group of antennas, transmission cables, equipment cabinets, and may include a tower. The following developments shall be deemed a communications facility: new, mitigated, or existing towers, public towers, replacement towers, co-location on existing towers, attached wireless communications facilities, concealed wireless communication facilities, and non-concealed wireless communication facilities. Towers do not include any device used to attach antennas to an existing building, unless the device extends above the highest point of the building by more than twenty (20) feet. Types of support structures include the following:

Guyed Tower- A style of tower consisting of a single truss assembly composed of sections with bracing incorporated. The sections are attached to each other, and the assembly is attached to a foundation and supported by a series of wires that are connected to anchors placed in the ground or on a building.

Lattice Structure- A tapered style of tower that consists of vertical and horizontal supports with

multiple legs and cross bracing, and metal crossed strips or bars to support antennas.

Monopole Structure- A style of freestanding tower consisting of a single shaft usually composed of two (2) or more hollow sections that are in turn attached to a foundation. This type of tower is designed to support itself without the use of guy wires or other stabilization devices. These facilities are mounted to a foundation that rests on or in the ground or on a building's roof. All feed lines shall be installed within the shaft of the structure.

Tower Base- The foundation, usually concrete, on which the tower and other support equipment are situated. For measurement calculations, the tower base is that point on the foundation reached by dropping a perpendicular from the geometric center of the tower.

Tower Height- The vertical distance measured from the grade line to the highest point of the tower, including any antenna, lighting or other equipment affixed thereto.

Tower Site- The land area that contains, or will contain, a proposed tower, support structures and other related buildings and improvements.

Variance- A modification of the terms of this Ordinance where a literal enforcement of this Ordinance would result in an unnecessary hardship and shall be reviewed and issued by the Board of Adjustment.

Duly adopted this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

Harnett County Board of Commissioners

\_\_\_\_\_  
Chairman

Attest:

\_\_\_\_\_  
Clerk to the Board