AN ORDINANCE TO AMEND THE UNIFIED DEVELOPMENT ORDINANCE REGARDING WIRELESS COMMUNICATION FACILITIES (TC1200013)

WHEREAS, the Durham County Board of Commissioners wishes to amend certain provisions in the *Unified Development Ordinance* (UDO) regarding wireless communication facilities; and

WHEREAS, it is the objective of the Durham County Board of Commissioners to have the *Unified Development Ordinance* promote regulatory efficiency and consistency and the health, safety, and general welfare of the community;

NOW, THEREFORE, be it ordained that Article 3, Applications and Permits; Article 5, Use Regulations; and Article 16, Definitions, of the Unified *Development Ordinance* are amended to make the following changes set forth in the strikethroughs and underlining below:

PART 1

[Revise Sec. 3.2, Common Review Procedures, to increase the mailed notice distance for cases heard by the Board of Adjustment]

Sec. 3.2 Common Review Procedures

[Paragraphs and portions of tables not listed remain unchanged]

3.2.5 Notice and Public Hearings

B. Public Notice Requirements

2. Mailed Notice

- a. The director of the appropriate department, or designee, shall notify by first class mail:
 - (1) The applicant and all property owners, if applicable, of the property under consideration; and
 - (2) All property owners, as indicated by County tax listings of property ownership, within the applicable notification distance from the property under consideration as specified in the table below.

Procedure	Notification Distance (ft)
Board of Adjustment Hearings	300 <u>600</u>

PART 2

[Revise Sec. 5.1, Use Table, to clarify which zoning districts may require a minor or major special use permit for different types of wireless communication facilities, and to add the "unipole" WCF category]

Sec. 5.1 Use Table

[Paragraphs and portions of tables not listed remain unchanged]

5.1.2 Use Table

		RESIDENTIAL						NONRESIDENTIAL								PLANNED						
USE CATEGORY PUBLIC AND CIVIC US	SPECIFIC USE	RR	RS	RS-M	RU	RU-M	RC	CI	CN	Ю	50	SRP	=	_	PDR	οc	CC	∃	MU	QQ	CD	NOTES:
	Wireless Communication Facility, except as Listed Below	L /M¹	L	L	L	L	L	L	L	L	L	L	L	L	‡L	‡L	‡L	‡L	‡L	L	L	5.3.3N
	Unipole Wireless Communication Facility	<u>L/M¹/</u> <u>m²</u>	$\frac{L/M^1}{/m^2}$					<u>L/</u> <u>M</u> ¹		<u>L/</u> <u>M</u> ¹		<u>‡L/</u> <u>M</u> ¹	<u>‡L/</u> <u>M</u> ¹	<u>‡L/</u> <u>M</u> ¹	<u>‡L/</u> <u>M</u> ¹	<u>L/</u> <u>M</u> ¹	<u>L/</u> <u>M</u> ¹	<u>5.3.3N</u>				
Utilities	Wireless Communication Facility, Freestanding Concealed	<u>L/M¹/</u> <u>m²</u>	<u>L/M</u> ¹ <u>/m</u> ²	<u>L/</u> <u>M</u> ¹	<u>L/M</u> ¹	<u>L/M</u> ¹	<u>L/M</u> ¹	<u>L/M</u> ¹	<u>L/M</u> ¹	<u>L/M</u> ¹	$\frac{\pm L/}{M^1/}$ $\underline{m^2}$	<u>‡L/</u> <u>M</u> ¹	<u>‡L/</u> <u>M</u> ¹	<u>‡L/</u> <u>M</u> ¹	<u>‡L/</u> <u>M</u> ¹	<u>L/</u> <u>M</u> ¹	<u>L/</u> <u>M</u> ¹	<u>5.3.3N</u>				
	Wireless Communication Facility, Freestanding Non <u>-eC</u> oncealed	L/M ¹ / m	L/ M ¹ / m									L/ M ¹ / m	L/ M ¹ / m	L/ M ¹ / m		‡L/ <u>M¹/</u> m	‡L/ <u>M¹/</u> m	‡L/ M <u>¹/</u> <u>m</u>	‡L/ <u>M¹/</u> m	L/ M¹/ m		5.3.3N

If located within 300 feet of a designated North Carolina Scenic Byway.

To determine which freestanding concealed or unipole facilities require a minor special use permit, see paragraph 5.3.3N.

PART 3

[Revise paragraph 5.3.3N, Wireless Communication Facilities for Transmitting and Receiving Electronic Signals (WCFs), to revise and reorganize standards for different types of wireless communication facilities; and paragraph 5.5.2H, Mobile Communication Towers, to add time limits]

Sec. 5.3 Limited Use Standards

[Paragraphs not listed remain unchanged]

5.3.3 Public and Civic Use Standards

N. Wireless Communication Facilities for Transmitting and Receiving Electronic Signals (WCFs)

- **1.** The purpose of this section is to:
 - a. Minimize the safety and aesthetic impacts of wireless communication facilities (WCFs) on surrounding areas by establishing standards for location, setbacks, structural integrity, and compatibility;
 - b. Encourage the location and collocation of wireless communication 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 antenna-supporting structures;
 - c. Encourage coordination between suppliers of wireless communication services in the City and County of Durham;
 - d. Regulate in accordance with all federal and State law applicable to wireless communication facilities, including the *Telecommunications Act of 1996* and Section 6409(a) of the *Middle Class Tax Relief and Job Creation Act of 2012*; and
 - e. Protect the unique natural beauty and rural character of the City and County while meeting the needs of its citizens to enjoy the benefits of wireless communications services.

2. Exemptions

The following shall not be subject to the requirements of this section:

- **a.** Satellite earth stations (satellite dishes).
- **b.** Routine maintenance and/or in-kind replacement on any existing wireless communications facility that does not include the addition of any new antenna elements, feed lines, and/or associated support equipment on the facility or in the equipment compound, or the placement of any new wireless communications facility.
- c. A government-owned wireless 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 City or County designee; except that such facility must comply with all federal and State requirements. No wireless communications facility shall be exempt from the provisions of this section beyond the duration of the state of emergency.
- **d.** Antenna-supporting structures, antennas, and/or antenna arrays for AM/FM/TV/HDTV broadcasting transmission facilities that are licensed by the

- <u>Federal Communications Commission, unless it qualifies as an eligible facility</u> request.
- e. Temporary mobile communication towers pursuant to Sec. 3.12, Temporary Use Permit, and paragraph 5.5.2H, Mobile Communication Tower.

3. General Requirements

- **a.** WCFs and associated equipment shall be permitted in accordance with the use table in Section 5.1.
- **b.** Grading shall be limited only to the area necessary for the new WCF and equipment compound, and access to the facility.

c. Structural, Operational, and Insurance Requirements

The following shall be provided with any site plan application unless otherwise indicated.

- (1) Documentation sealed by a registered professional engineer with related expertise that the new WCF, or modification to an existing WCF, meets or exceeds all structural and American National Standards Institute (ANSI) requirements for the proposed improvements. Structural and ANSI standards shall be met or exceeded throughout the life of the WCF.
- (2) The owner of a freestanding WCF shall maintain general liability insurance for the WCF in the amount of at least \$1,000,000; and shall, as part of the original site plan application, site plan amendments, and subsequent modifications, provide documentation sufficient to demonstrate compliance with this requirement.

(3) Lighting

Lighting shall not exceed the Federal Aviation Administration (FAA) minimum standard. Any lighting required by the FAA shall be of the minimum intensity and the number of flashes per minute (i.e., the longest duration between flashes) allowed by the FAA. Dual lighting standards shall be required and strobe lighting standards prohibited unless required by the FAA. The lights shall be oriented so as not to project directly onto surrounding residential property, consistent with FAA requirements.

(4) Signage

- (a) Commercial messages shall not be displayed on any WCF.
- (b) For freestanding WCFs, a warning sign shall be posted and shall include the contact information of the owner of the WCF.

(5) Storage

- (a) A WCF equipment compound shall not be used for the storage of any excess equipment or hazardous materials, nor be used as habitable space.
- (b) No outdoor storage yard(s) shall be allowed in a WCF equipment compound.

(6) Interference

A WCF shall not interfere with City and/or County public safety communications, nor shall it interfere with normal radio and television reception.

(a) Documentation shall be provided by an expert in radio frequency interference (RFI) that the proposed WCF, or modification to an existing

- WCF, will not cause RFI with the City's and/or the County's public safety communications equipment.
- (b) When a specific WCF is identified as causing radio frequency interference (RFI) with the City's and/or the County's public safety communications equipment, the following steps shall be taken:
 - i. Upon notification by the City and/or County of interference with Public Safety Communications equipment, the owners of the WCF equipment shall utilize the hierarchy and procedures set forth in the Federal Communication Commission's (FCC) Wireless Telecommunications Bureau's Best Practices Guide. If the WCF owner fails to cooperate with the City and/or County in applying the procedures set forth in the Best Practices Guide in order to eliminate the interference, then the City and/or County may take steps to contact the FCC to eliminate the interference.
 - ii. If there is a determination of RFI with the City's and/or the County's public safety communications equipment, the party which caused the interference shall be responsible for reimbursing the City and/or County for all costs associated with ascertaining and resolving the interference, including but not limited to any engineering studies obtained by the City and/or County to determine the source of the interference.

4. Standards for Specific Wireless Communication Facilities (WCFs)

a. Collocation - Concealed, Attached

(1) Standards

(a) Height

The top of the WCF shall not be more than 20 feet above the facility to which it is attached.

(b) Setbacks

The facility to which the WCF will be attached shall maintain the normal setbacks of the zone.

(c) Aesthetics

Concealed, attached WCFs, including feed lines and antennas, shall be designed to match the existing structural design and color of the facade, roof, wall, or facility to which it is to be affixed.

(2) Approval

Site plan approval is required pursuant to Sec. 3.7, Site Plan Review.

b. Collocation – Non-Concealed, Attached

(1) Standard

Non-concealed, attached WCFs shall only be allowed on transmission towers and light stanchions, with the top of the WCF no more than 20 feet above the facility to which it is attached.

(2) Approval

<u>Site plan approval is required pursuant to Sec. 3.7, Site Plan</u> Review.





c. Collocation on an Existing, Freestanding WCF

(1) Standard

The collocation of additional wireless facilities on existing, freestanding WCFs shall be consistent with the existing concealment method, if applicable, of the freestanding WCF.

(2) Approval

<u>Site plan approval is required pursuant to Sec. 3.7, Site Plan</u> Review.

d. Eligible Facility Request/Substantial Change

<u>"Eligible facility requests" and "substantial changes" to existing WCFs shall be</u> regulated as follows:

- (1) Site plan approval is required pursuant to Sec. 3.7, Site Plan Review.
- (2) If an application qualifies as an eligible facility request, the modification shall be allowed with an approved site plan demonstrating compliance with applicable setbacks and requirements within paragraph 5.3.3N.3, General Requirements.
- (3) Eligible facility requests can be incremental, but shall not cumulatively result in creating a substantial change to the existing WCF.
 - **Example:** If 20 feet is the maximum additional height that can be added to a particular existing tower and maintain "eligible facility request status," then multiple applications to incrementally increase height can be submitted, so long as the cumulative additional height does not exceed the 20-foot addition maximum.
- (4) Measurements for modifications to a WCF in an application that claims an eligible facility request shall be based from the dimensions of the facility as approved prior to February 22, 2012. The measurements for modifications to all WCFs approved on or after February 22, 2012, shall be based from the dimensions of the facility as originally approved or subsequent amendments to the original approval.
- (5) Substantial changes shall be held to all applicable Ordinance requirements.

e. Freestanding, Concealed and Unipole WCF

(1) Standards

(a) Height

i. General

Calculations of height shall include the foundation of the wireless support structure at grade, but exclude lightning rods for the dissipation of lightning, or lights required by the FAA that do not provide support for any antennas.





ii. In the RR District

The maximum height shall be 120 feet.

iii. In PDR and All Residential Districts Other than the RR District

The maximum height shall be limited to 20 feet above the allowable building height of the underlying zoning district.

iv. In All Other Districts Pursuant to Sec. 5.1, Use Table
The maximum height shall be 180 feet.

(b) Setbacks

The following setback requirements are established to mitigate potential safety and aesthetic impacts upon surrounding properties.

- i. The minimum setback of the WCF from each property line shall be 120% of the height of the tower, or 85 feet, whichever is greater. Except in PDR and residential districts, a reduction in the minimum setbacks may be approved through the issuance of a minor special use permit pursuant to Sec. 3.9, Special Use Permit.
- <u>ii.</u> The minimum setback from the centerline of a natural gas line easement for gas lines measuring eight inches in diameter or greater shall be 120% of the height of the tower, or 85 feet, whichever is greater.

(c) Buffers

A project boundary buffer of at least 60% opacity and minimum 10-foot width, pursuant to the requirements of Sec. 9.4, Project Boundary Buffers, shall surround the base of the WCF equipment compound. Existing trees and shrubs on the site can be used pursuant to Sec. 9.3, Existing Vegetation Credits for Required Landscaping, or paragraph 9.4.4, Natural Buffers, as applicable.

(d) Fence/Wall

An eight-foot tall, 100% opaque fence or wall, per the requirements of Section 9.9, Fences and Walls, shall surround the WCF equipment compound.

(e) Required Expansion Capability

- i. Freestanding, concealed and unipole WCFs less than 120 feet in height shall be engineered and constructed to accommodate at least two antenna arrays.
- <u>ii.</u> Freestanding, concealed and unipole WCFs from 120 feet to 150 feet in height shall be engineered and constructed to accommodate at least three antenna arrays.
- <u>iii.</u> Freestanding, concealed and unipole WCFs above 150 feet in height shall be engineered and constructed to accommodate at least four antenna arrays.

(f) Monopines/Faux Trees

A monopine or faux tree WCF shall be considered concealed if the following criteria are met. If the following criteria are not met, then the proposed WCF will be considered non-concealed for regulatory purposes.

i. The WCF is incorporated within an existing cluster of trees that measures, after any necessary grading or clearing for the facility, at least 1,000 square feet with no individual dimension of less than 25 feet. Minimum tree size and root protection zone requirements shall be pursuant to paragraphs 8.3.1D.3.a, d, and e, Clusters of Trees.

- ii. Any root protection zone located off-site, for existing on-site trees that will be used to meet paragraph 5.3.3N.4.3(1)(f)i, above, shall be permanently protected through a conservation easement or method that provides similar protection from disturbance.
- iii. The tower shall be designed to match a species located within the existing cluster of trees, with the support structure to be designed as a tree trunk and antenna arrays flush-mounted and completely concealed by limbs, branches, and leaves.
- iv. Limbs, branches, and leaves shall cover at least the upper 50% of the support structure, and shall cover any of the support structure that extends above the tree line of the cluster of trees.

(2) Approval

<u>In addition to applicable site plan review, the following approvals are required:</u>

- (a) A minor special use permit pursuant to Sec. 3.9, Special Use Permit, and paragraph 5.3.3N.5, Applications Requiring Special Use Permit Approval, shall be required if the proposed WCF is:
 - (1) A monopine or faux tree of any height, or any other freestanding, concealed or unipole WCF above 60 feet in height; and
 - (2) Located on a property with residential or PDR zoning, or within 450 feet of property zoned as residential or PDR.
- (b) A major special use permit pursuant to Sec. 3.9, Special Use Permit, and paragraph 5.3.3N.5, Applications Requiring Special Use Permit Approval, shall be required for any freestanding, concealed or unipole WCF proposed within 300 feet of a designated State of North Carolina Scenic Byway.

f. Freestanding, Non-Concealed WCF

(1) Standards

(a) Site Area

In all residential districts, freestanding, non-concealed WCFs shall only be permitted on parcels with a minimum lot size of five acres.



(b) Height

i. General

<u>Calculations of height shall include the foundation of the WCF wireless</u> <u>support structure at grade, but exclude lightning rods for the dissipation of lightning, or lights required by the FAA that do not provide support for any antennas.</u>

ii. In the RS-20 District

The maximum height shall be limited to 20 feet above the allowable building height of the underlying zoning district.

iii. In the RR District

The maximum height shall be 120 feet.

iv. In All Other Districts Pursuant to Sec. 5.1, Use Table
The maximum height shall be 180 feet.

(c) Setbacks

The following setback requirements are established to mitigate potential safety and aesthetic impacts upon surrounding properties.

- i. The minimum setback of the WCF from each property line shall be 120% of the height of the tower, or 85 feet, whichever is greater. Except in residential districts, a reduction in the minimum setbacks may be approved through the issuance of a minor special use permit pursuant to Sec. 3.9, Special Use Permit.
- ii. The minimum setback from the centerline of a natural gas line easement for gas lines measuring at least eight inches in diameter shall be 120% of the height of the tower, or 85 feet, whichever is greater.

(d) Buffers

A project boundary buffer of at least 60% opacity and minimum 10-foot width, pursuant to the requirements of Sec. 9.4, Project Boundary Buffers, shall surround the base of the WCF equipment compound. Existing trees and shrubs on the site can be used pursuant to Sec. 9.3, Existing Vegetation Credits for Required Landscaping, or paragraph 9.4.4, Natural Buffers, as applicable.

(e) Fence/Wall

An eight-foot tall, 100% opaque fence or wall per the requirements of Section 9.9, Fences and Walls, shall surround the WCF equipment compound.

(f) Aesthetics

<u>Freestanding, non-concealed WCFs shall be limited to monopole-type</u> wireless support structures.

(g) Required Expansion Capability

- i. Freestanding, non-concealed WCFs up to 120 feet in height shall be engineered and constructed to accommodate at least two antenna arrays.
- <u>ii.</u> Freestanding, non-concealed WCFs from 120 feet to 150 feet in height shall be engineered and constructed to accommodate at least three antenna arrays.
- <u>iii.</u> Freestanding, non-concealed WCFs above 150 feet in height shall be engineered and constructed to accommodate at least four antenna arrays.

(2) Approval

In addition to applicable site plan review, the following additional approval is required.

- (a) A minor special use permit pursuant to Sec. 3.9, Special Use Permit, and paragraph 5.3.3N.5, Applications Requiring Special Use Permit Approval, shall be required for all freestanding, non-concealed WCFs unless proposed within 300 feet of a designated State of North Carolina Scenic Byway.
- (b) A major special use permit pursuant to Sec. 3.9, Special Use Permit, and paragraph 5.3.3N.5, Applications Requiring Special Use Permit Approval, shall be required for any freestanding, non-concealed WCF proposed within 300 feet of a designated North Carolina Scenic Byway.

5. Applications Requiring Special Use Permit Approval

- a. The following shall be required, as applicable, in addition to the findings required pursuant to paragraph 3.9.8A, General Findings, in order for the approving authority (the Board of Adjustment or governing body, as applicable) to approve the special use permit.
 - (1) Evidence that it is not reasonably feasible to collocate new antennas and equipment on an existing wireless support structure or structures within the applicant's geographic search area. Collocation on an existing WCF support structure is not reasonably feasible if collocation is technically or commercially impractical, or the owner of the existing WCF support structure is unwilling to enter into a contract at fair market value.
 - (2) That the use of existing facilities would prevent the provision of personal wireless services in the area of the City and/or County to be served by the proposed WCF.
 - (3) In determining whether a WCF is in harmony with the area, and the effects on and general compatibility of a WCF with adjacent properties, as specified in paragraph 3.9.8A, General Findings, the approving authority shall consider the aesthetic effects of the WCF as well as factors that mitigate the aesthetic effects.
 - (a) Documentation of balloon tests and other methodologies used to simulate the height and appearance of the proposed WCF shall be provided by the applicant, along with descriptions of the locations, distances, and vantage points that formed the basis of the simulation(s).
 - (b) Factors that the approving authority may consider in determining the aesthetic effects of a proposed WCF include:
 - i. The protection of the view in sensitive or particularly scenic areas and areas specially designated in adopted plans such as unique natural features, scenic roadways, and historic sites;
 - ii. The concentration of WCFs in the proposed area; and,
 - iii. Whether the height, design, placement, or other characteristics of the proposed WCF could be modified to have a less intrusive visual impact.
- b. The approving authority shall not make a determination on the electromagnetic field (EMF) effects of the WCF on the health of the public, as specified in the third finding in paragraph 3.9.8A, General Findings. Documentation that certifies that the facility meets or exceeds applicable American National Standards Institute (ANSI) standards as adopted by the FCC in order to protect the public from unnecessary exposure to electromagnetic radiation shall be sufficient. This shall not preclude other issues regarding the health, safety, and welfare of the public from being considered in order to satisfy the finding.

c. Required Balloon Test

A balloon test shall be required for all proposed WCFs that require a special use permit.

- (1) The balloon shall be at least three feet in diameter and oblong.
- (2) The color of the balloon shall be red or orange.
- (3) The test shall be within 50 feet of the proposed location of the WCF tower.

- (4) The balloon shall be raised to the height of the proposed WCF and stabilized for windy conditions.
- (5) The test shall be done during daylight hours and for at least four consecutive hours.
- (6) Weather conditions during the test shall be recorded.
- (7) Notification
 - (a) Owners of property within 600 feet of the property under consideration for a proposed WCF site shall be notified in writing, by first class mail, at least 14 days prior to the test date. Measurement shall be made from the property lines of the subject property.
 - (b) The notification shall include:
 - i. The date, time, and location of the test;
 - ii. An alternative date and time, as needed;
 - iii. A map indicating the location(s) of the test(s); and
 - iv. Contact information for the individual(s) requesting the test.
 - (c) At least one sign with a minimum dimension of two feet by three feet shall be posted on the site, and be legible and visible along the most prominent right(s)-of-way adjacent to the property of the proposed WCF site. The posting shall be at least 14 days before the test date. The sign shall indicate the purpose, and provide the date and time of the test, the alternate test date and time, and the contact information for the individual(s) requesting the test.
 - (d) A list of the notified property owners and their properties, a copy of the notification sent to each owner, and affidavits attesting to mailing and sign posting per Ordinance standards shall be submitted with the application for the special use permit.

6. Variance

Technical dimensional requirements shall not prohibit or have the effect of prohibiting the provision of personal wireless services, pursuant to the *Telecommunications Act of 1996*. Applicants may seek variances, pursuant to the requirements of Sec. 3.14, Variance, to technical dimensional requirements that an applicant claims have the effect of prohibiting the provision of personal wireless services.

7. Third Party Review

Due to the complexity of the methodology or analysis required to review certain applications for a wireless communication facility, review by a third party expert, the costs of which shall be the responsibility of the applicant and in addition to other applicable fees, shall be required for any special use permit or variance application, including all supporting documentation. The third party review shall be submitted as evidence to the Board of Adjustment or governing body, as applicable.

8. Abandonment

If it is determined by the Planning Department that a WCF has been inoperable for at least six consecutive months, the WCF will be considered abandoned. The owner of the facility shall remove the facility within 90 days of receipt of a notice of abandonment

from the Planning Department. After such time has elapsed, if the facility has not been removed, enforcement action pursuant to Article 15, Enforcement, shall commence.

The purpose of this section is to:

- 1. Minimize the impacts of wireless communication facilities (WCFs) on surrounding areas by establishing standards for location, structural integrity and compatibility;
- Encourage the location and collocation of wireless communication 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
 antenna-supporting structures;
- 3. Encourage coordination between suppliers of wireless communication services in the City and County of Durham;
- 4. 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 service or to prohibit or have the effect of prohibiting personal wireless service in the City and County;
- 5. Protect the unique natural beauty and rural character of the City and County while meeting the needs of its citizens to enjoy the benefits of wireless communications services: and
- 6. Encourage the use of public lands, buildings and structures as locations for wireless telecommunications infrastructure as a method to establish a precedence of quality concealment products that will minimize the aesthetic impact of related infrastructure while generating revenue for the City or County.

WCFs and associated equipment shall be permitted in accordance with the use table in Section 5.1 subject to the following:

7. General Requirements

- a. Application Requirements
 - In addition to all of the requirements of Sec. 3.7, Site Plan Review, and Sec. 3.9, Special Use Permit (if required), the following information must be supplied with the site plan and special use permit (if required) application for WCFs:
 - (1) Identification of the intended user(s) of the WCF.
 - (2) A report of diligent efforts to locate based on the hierarchy established elsewhere in this Section.
 - (3) Certification by a registered engineer or other qualified professional regarding service gaps or service expansions that are addressed by the proposed WCF ("the proposed service"), and accompanying maps and calculations.
 - (4) Evidence that no existing wireless communications facility can accommodate the applicant's proposed facility; or that use of such existing facilities would prohibit personal wireless services in the area of the City or County to be served by the proposed antenna-supporting structure. Evidence submitted to demonstrate that no existing wireless communications facility could accommodate the applicant's proposed facility may consist of any of the following:

- (a) No existing wireless communications facilities located within the Geographic Search Area meet the applicant's engineering requirements.
- (b) Existing wireless communications facilities are not of sufficient height to meet the applicant's engineering requirements, and cannot be increased in height.
- (c) Existing wireless communications facilities do not have sufficient structural strength to support the applicant's proposed wireless communications facilities and related equipment, and the existing facility cannot be structurally improved.
- (d) Other limiting factors that render existing wireless communications facilities unsuitable.
- (5) A report regarding the adequacy of alternative existing facilities or the mitigation of existing facilities to meet the applicant's need or the needs of the service providers desiring to locate on the proposed WCF, if the applicant is not a service provider, and the reasons these existing facilities cannot be used. Alternative existing facilities include all potentially useable utility distribution towers and other elevated structures within the proposed service area that would provide additional service to the users of the WCF. Documentation included in the report may include such things as calculations regarding coverage capability of supporting necessary equipment, or other relevant data; lease negotiations; or other information. Technical data included in such documentation shall be certified by a registered engineer or other qualified professional. The report shall include, in narrative form, the feasibility of any alternatives the applicant may have considered and their impact on adjacent properties, including, but not limited to:
 - (a) Height;
 - (b) Configuration;
 - (c) Location;
 - (d) Mass and scale;
 - (e) Materials and color;
 - (f) Illumination; and
 - (g) Information addressing the following items:
 - i. The extent of any commercial development within the Geographic Search Area of the proposed facility;
 - ii. The proximity of the antenna support structure to any residential dwellings;
 - iii. The proximity of the antenna support structure to any public buildings or facilities; and
 - iv. The existence of tall and like antenna support structures within the Geographic Search Area of the proposed structure.
- (6) Certification by a registered engineer that the WCF has sufficient structural integrity to accommodate multiple users, if required, and the number of additional users that can be accommodated on the proposed WCF.

- (7) Certification that the facility meets or exceeds applicable American National Standards Institute (ANSI) standards as adopted by the FCC in order to protect the public from unnecessary exposure to electromagnetic radiation.
- (8) A statement that the proposed facility is the Least Visually Obtrusive, as defined herein, and that the proposed facility conforms with State of the Art, as defined herein, or alternatively, that State of the Art technology is unsuitable for the proposed facility. Costs of State of the Art technology that exceed customary facility development costs shall not be presumed to render the technology unsuitable.
- (9) Simulated photographic evidence of the proposed WCFs appearance from all residential areas within 1,500 feet, and from other vantage points chosen by the Planning Director, or designee.
- (10) A statement to the following, in order to facilitate the City's and the County's regulation, placement, and construction of WCFs and their interaction with the City's and the County's public safety communications equipment:
 - (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 (RFI), 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 RFI; and
 - (c) In the case of co-location of telecommunications facilities, the applicant, together with the owner of the site, shall provide a composite analysis of all users of the site to determine that the applicant's proposed facilities will not cause RFI with the City's and County's public safety communications equipment.

(11)Third Party Review

Where due to the complexity of the methodology or analysis required to review an application for a wireless communication facility, the Planning Director may require the applicant to pay for a technical review by a third party expert, the costs of which shall be in addition to other applicable fees. Based on the results of the expert review, the approving authority may require changes to the applicant's application or submittals.

- b. Site Preparation Requirements
 - Grading shall be minimized and limited only to the area necessary for the new WCF and equipment compound.
- c. Building Requirements
 - WCFs shall be constructed and maintained in conformance with all applicable building code requirements.
- d. Operational Requirements
 - (1) Lighting
 - Lighting shall not exceed the FAA minimum standard. Any lighting required by the FAA shall be of the minimum intensity and the number of flashes per minute

(i.e., the longest duration between flashes) allowed by the FAA. Dual lighting standards shall be required and strobe lighting standards prohibited unless required by the FAA. The lights shall be oriented so as not to project directly onto surrounding residential property, consistent with FAA requirements.

(2) Signage

Commercial messages shall not be displayed on any WCF.

(3) Storage

A WCF equipment compound shall not be used for the storage of any excessequipment or hazardous materials, nor be used as habitable space. No outdoorstorage yards shall be allowed in a WCF equipment compound.

(4) Interference

(a) With Public Safety Communications

When a specific base station is identified as causing RFI with the City's or the County's public safety communications equipment, the following steps shall be taken:

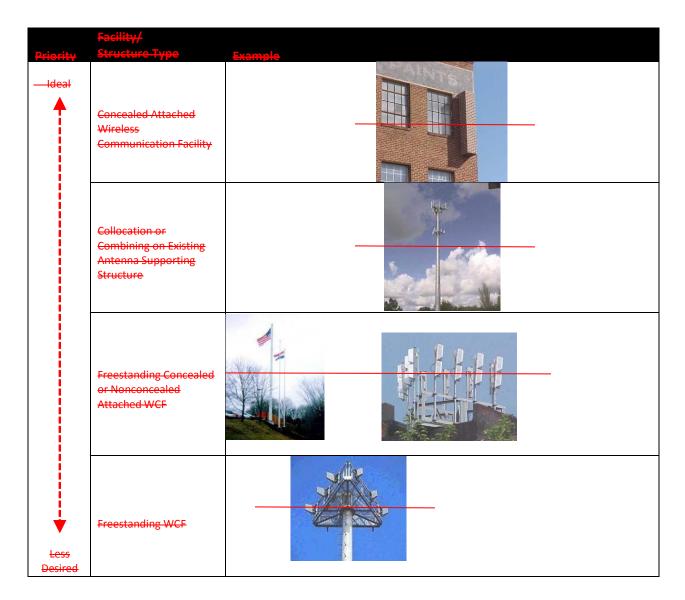
- i. Upon notification by the City and/or County of interference with Public Safety Communications equipment, the owners of the WCF equipment shall utilize the hierarchy and procedures set forth in the FCC's Wireless Telecommunications Bureau's Best Practices Guide. If the WCF owner fails to cooperate with the City and/or County in applying the procedures set forth in the Best Practices Guide in order to eliminate the interference, then the City or County may take steps to contact the FCC to eliminate the interference.
- ii. If there is a determination of RFI with the City's or the County's public safety communications equipment, the party which caused the interference shall be responsible for reimbursing the City and/or County for all costs associated with ascertaining and resolving the interference, including, but not limited to, any engineering studies obtained by the City and/or County to determine the source of the interference.

(b) With Radio or Television

WCFs shall not interfere with normal radio and television reception in the vicinity.

8. Siting Hierarchy

For all proposed WCFs other than those proposed as mitigation, siting shall be in accordance with the following siting alternatives hierarchy, with preference given to City or County owned sites, followed by other publicly owned sites and only then considering privately owned sites:



In determining the order of ranking preference, the facility/structure type shall be evaluated first, and only after the facility/structure type has been identified shall the location be evaluated. Where a lower ranked alternative is proposed, the applicant must file relevant information as indicated in paragraph 1.a, Application Requirements, above, 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, as determined by a qualified radio frequency engineer, higher ranked options are not technically feasible, practical, or justified given the location of the proposed WCF and the existing land uses of the subject property and surrounding properties within 300 feet of the subject property.

9. Mitigation

a. Defined

To qualify as WCF mitigation, a proposal shall accomplish a minimum of one of the following:

- (1) Reduce the number of overall WCFs;
- (2) Reduce the number of nonconforming WCF types; or,
- (3) Replace an existing WCF with a new WCF to improve network functionality resulting in compliance with this section.

b. Standards

(1) Height

The maximum height of a new WCF arising from mitigation shall not exceed—115% of the height of the tallest WCF that is being mitigated, to a maximum—height of 199 feet.

(2) Setbacks

A new WCF approved as mitigation shall not be required to meet setback-requirements so long as the new WCF is no closer to any property lines or dwelling units as the WCF being mitigated.

(3) Aesthetics

Freestanding nonconcealed WCFs used for mitigation shall be limited tomonopole type antenna support structures.

c. Approval Authority

The Planning Director shall be responsible for the approval of applications for the mitigation of existing WCFs.

10. Concealed Attached

a. Standards

(1) Height

The top of the WCF shall not be more than 20 feet above the facility to which it is attached.

(2) Setbacks

The facility to which the WCF will be attached shall maintain the normal setbacks of the zone.

(3) Aesthetics

Concealed attached WCFs, including feed lines and antennae, shall be designed so as to be compatible with the façade, roof, wall or facility on which it is affixing so that it matches the existing structural design, color and texture.

b. Approval Authority

The Planning Director shall be responsible for the approval of all concealed, attached WCFs.

11. Colocation

The Planning Director shall be responsible for the approval of the proposed collocation or combining on existing antenna supporting structures.

12. Nonconcealed Attached

a. Standard

Nonconcealed attached WCFs shall only be allowed on transmission towers and light stanchions with the top of the WCF no more than 20 feet above the facility to which it is attached.

b. Approval Authority

The Planning Director shall be responsible for the approval of nonconcealed attached WCFs.

13. Freestanding Concealed

a. Standards

(1) Height

(a) Generally

Calculations of height shall include the foundation of the WCF, but exclude lightning rods for the dissipation of lighting or lights required by the FAA that do not provide support for any antennae.

(b) In the RR or RS-20 Districts

The maximum height shall be 120 feet.

- (c) In All Residential Districts Other than RR and RS-20
 The maximum height shall be limited to 25 feet above the allowable building height of the underlying zoning district.
- (d) In Nonresidential Districts
 The maximum height shall be 199 feet.

(2) Setbacks

Setbacks shall be subject to the underlying zoning district. In residential districts, the WCF also shall not be any closer to an adjoining property line than the proposed facility is to the dwelling unit on the property on which it is proposed to be located.

(3) Buffers

A landscaped buffer consistent with the requirements of Sec. 9.4, Project Boundary Buffers, shall surround the base of the WCF equipment compound. Existing trees and shrubs on the site can be used pursuant to Sec. 9.3, Existing Vegetation Credits for Required Landscaping, or paragraph 9.4.4, Natural Buffers, as applicable. On sites in residential districts adjoining public rights-of-way an opaque fence consistent with the requirements of Section 9.9, Fences and Walls, shall surround the WCF equipment compound.

(4) Aesthetics

Freestanding concealed WCFs shall be designed so as to be compatible with adjacent structures and landscapes with specific design considerations as to height, scale, color and texture.

b. Approval Authority

(1) Generally

The Planning Director or designee shall be responsible for the approval of freestanding concealed WCFs, unless the WCF is proposed to be located within 300 feet of a designated State of North Carolina Scenic Byway.

(2) In Proximity to Scenic Byways

Freestanding concealed WCFs proposed for location within this proximity to a designated State of North Carolina Scenic Byway, shall be subject to a Major Special Use Permit pursuant to Sec. 3.9, Special Use Permit.

(a) In addition to the requirements for Special Use Permits found in Section 3.9, Special Use Permit, the governing body, in determining whether a WCF is

in harmony with the area (as specified in Section 3.9, Special Use Permit) or the effects and general compatibility of a WCF with adjacent properties (as specified in Section 3.9, Special Use Permit) may consider the aesthetic effects of the WCF as well as mitigating factors concerning aesthetics. The governing body may disapprove an application on the grounds that the WCFs aesthetic effects are unacceptable, or may condition approval on changes in WCF height, design, style, buffers, or other features of the WCF or its surrounding area. Such changes need not result in performance identical to that of the original application. Factors relevant to aesthetic effects include:

- i. The protection of the view in sensitive or particularly scenic areas and areas specially designated in adopted plans such as unique natural features, scenic roadways and historic sites;
- ii. The concentration of WCFs in the proposed area; and,
- iii. Whether the height, design, placement or other characteristics of the proposed WCF could be modified to have a less intrusive visual impact.
- (b) The governing body, when considering a Special Use Permit for freestanding WCFs, shall not be required to make a determination the electromagnetic field (EMF) effects of the WCF on the health of the public, as specified in Sec. 3.9, Special Use Permit. The documentation required by this section that stipulates that the WCF not exceed the federal limits for power density requirements shall satisfy the applicant's compliance with this required finding.
- (c) If the governing body determines that the proposed additional service, coverage, or capacity to be achieved by the location of the proposed WCF can be achieved by use of one or more alternative WCF addressed in paragraph 2, Siting Hierarchy, or by one or more WCFs sited in alternative locations that better serve the stated purposes set forth in this section, it may disapprove the proposed WCF application.

14. Freestanding Nonconcealed

a. Standards

(1) Site Area

In all residential districts, freestanding, nonconcealed_WCFs shall only bepermitted on parcels with a minimum lot size of five acres.

- (2) Height
 - (a) Generally

Calculations of height shall include the foundation of the WCF, but exclude lightning rods for the dissipation of lighting or lights required by the FAA that do not provide support for any antennae.

- (b) In the RR or RS-20 Districts
 - The maximum height shall be 120 feet.
- (c) In Nonresidential Districts

The maximum height shall be 199 feet.

(3) Setbacks

Setbacks for WCFs shall be determined according to the underlying zoningdistrict, an additional six inches for every one-foot of height. The approvingauthority may grant reductions to this setback requirement as a part of thespecial use permit approval.

(4) Buffers

(a) In the RR or RS 20 Districts

A buffer equivalent to that required for an Industrial use adjoining a-Residential use shall be provided around the WCF equipment compound. On-sites adjoining public rights-of-way an opaque fence consistent with the-requirements of Section 9.9, Fences and Walls, shall surround the WCF-Equipment Compound.

(b) In Nonresidential Districts

A buffer equivalent to that required for a Light Industrial use adjoining a Residential use around the WCF equipment compound shall be required.

(5) Aesthetics

Freestanding nonconcealed WCFs shall be limited to monopole--type antennasupport structures.

(6) User Standards

- (a) Freestanding nonconcealed WCFs up to 120 feet in height shall accommodate at least two antenna arrays.
- (b) Freestanding nonconcealed WCFs between 121 feet and 150 feet shall accommodate at least three antenna arrays.
- (c) Freestanding nonconcealed WCFs between 151 feet and 199 feet shall be engineered and constructed to accommodate at least four antenna arrays.

b. Approval Authority

(1) Generally

The Board of Adjustment, through issuance of a a Minor Special Use Permitpursuant to Sec. 3.9, Special Use Permit, shall be responsible for the approval of all nonconcealed freestanding WCFs (except those within 300 feet of a designated State of North Carolina Scenic Byway).

(2) In Proximity to Scenic Byways

Freestanding nonconcealed WCFs proposed for location within this proximity to a designated State of North Carolina Scenic Byway, shall be subject to a Major Special Use Permit pursuant to Sec. 3.9, Special Use Permit.

(3) Criteria for Use Permits

(a) In addition to the requirements for Special Use Permits found in Section 3.9, Special Use Permit, the approving authority, in determining whether a WCF is in harmony with the area (as specified in Section 3.9, Special Use Permit) or the effects and general compatibility of a WCF with adjacent properties (as specified in Section 3.9, Special Use Permit,) may consider the aesthetic effects of the WCF as well as mitigating factors concerning aesthetics. The approving authority may disapprove an application on the grounds that the WCFs aesthetic effects are unacceptable, or may condition approval on changes in WCF height, design, style, buffers, or other features of the WCF or

its surrounding area. Such changes need not result in performance identical to that of the original application. Factors relevant to aesthetic effects are:

- The protection of the view in sensitive or particularly scenic areas and areas specially designated in adopted plans such as unique natural features, scenic roadways and historic sites;
- ii) The concentration of WCFs in the proposed area; and,
- iii) Whether the height, design, placement or other characteristics of the proposed WCF could be modified to have a less intrusive visual impact.
- (b) The approving authority, when considering a Special Use Permit for freestanding WCFs, shall not be required to make a determination of the electromagnetic field (EMF) effects of the WCF on the health of the public, as specified in Sec. 3.9, Special Use Permit. The documentation required by this section that stipulates that the WCF not exceed the federal limits for power density requirements shall satisfy the applicant's compliance with this required finding.
- (c) If the approving authority determines that the proposed additional service, coverage, or capacity to be achieved by the location of the proposed WCF can be achieved by use of one or more alternative WCF addressed in paragraph M.1, or by one or more WCFs sited in alternative locations that better serve the stated purposes set forth in this section, it may disapprove the proposed WCF application.

15. Exemptions

The following shall not be subject to the requirements of this section:

- a. Satellite earth stations (satellite dishes).
- b. Regular maintenance and/or upgrade of antenna elements of any existing wireless communications facility that does not include the addition of any new antenna elements, feed lines, and associated support equipment on the facility or the placement of any new wireless communications facility.
- c. A government-owned wireless 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 City or County designee; except that such facility must comply with all federal and state requirements. No wireless communications facility shall be exempt from the provisions of this division section beyond the duration of the state of emergency.
- d. Antenna supporting structures, antennae and/or antenna arrays for AM/FM/TV/HDTV broadcasting transmission facilities that are licensed by the Federal Communications Commission.

Sec. 5.5 Temporary Uses

[Paragraphs not listed remain unchanged]

5.5.2 Specific Temporary Uses

H. Mobile Communication Towers

1. General

Mobile communication towers permitted as temporary uses shall not exceed 125 feet in height.

2. Permitted Purpose and Timeframe

A temporary use permit can be issued only for the following purposes and timeframes.

- a. Mobile communication towers associated with temporary events shall not be permitted for longer than one weekno more than seven days. No extension shall be granted.
- <u>b.</u> For instances when an existing, freestanding WCF loses functionality due to damage to the facility, a mobile communication tower may be permitted for no more than 60 days. One extension for an additional 60 days is allowed. This shall not apply to government-owned mobile communication towers required due to a declared state of emergency pursuant to paragraph 5.3.3N.2, Exemptions.

PART 4

[Revise Sec. 16, Definitions, to add, revise, and delete certain definitions related to wireless communication facilities]

Sec. 16.3 Defined Terms

[Definitions not included remain unchanged]

Antenna Array: A single or group of antennae antenna(s) and their 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-Supporting Structure: A vertical projection composed of metal, or other substance with or without a foundation that is for the express purpose of accommodating antennas at a desired height above grade. Antenna-supporting structures 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 20 feet. A wireless support structure is defined separately within this section.

Base Station: A structure or equipment at a fixed location that enables FCC-licensed or authorized wireless communications between user equipment and a communication network. The term does not encompass a wireless support structure as defined in this section or any equipment associated with a tower.

Collocation: The placement or installation of wireless facilities on existing structures including electrical transmission towers, water towers, buildings, and other structures capable of

structurally supporting the attachment of wireless facilities in compliance with applicable codes. The practice of installing and operating multiple and various wireless carriers, service providers, and/or Radio Common Carrier licensees from the same supporting structure or attached wireless communication facility, using different and separate antennae, feed lines, and Radio Frequency generating equipment.

Eligible Facility Request: A request for modification of an existing tower or base station that involves collocation of new transmission equipment, removal of transmission equipment, or replacement of transmission equipment but does not include a "substantial change" of the facility pursuant to the qualifications detailed in the FCC Report and Order FCC14-153, or as amended; and complies with all applicable building, structural, electrical, and safety codes and with all other laws codifying objective standards reasonably related to health and safety.

Least Visually Obtrusive: A Wireless Communication Facility (WCF) that is designed to present a visual profile that is the minimum profile necessary for the facility to properly function.

Monopine or Faux Tree: A type of freestanding, wireless communication facility that is designed to resemble a tree. The support structure is attached to a foundation and is designed to support itself without the use of guy wires or other stabilization devices.

Monopole: A style of free standing antenna supporting facility wireless support structure (tower) for a freestanding, wireless communication facility that is composed of a single shaft usually composed of two or more hollow sections that are in turn attached to a foundation. This type of antenna-supporting facilitytower is designed to support itself without the use of guy wires or other stabilization devices. These facilities are mounted to a, with a foundation that rests on or in the ground-or on a building's roof. Antennas and associated cables are not typically concealed within the shaft of the structure.

Structure: A walled and roofed building that is principally above ground, or; a manufactured home; vertical projections meeting the definition of antenna-supporting or wireless support structures; or when used in reference to Sec. 8.4, Floodplain and Flood Damage Protection Standards, a gas or liquid storage tank that is principally above ground.

<u>Substantial Change:</u> In regards to wireless communication facilities, a modification that substantially changes the physical dimensions of an existing tower or base station if it meets any of the criteria detailed in the *FCC Report and Order FCC14-153*, or as amended.

Wireless Ancillary Structures: Forms of development associated with a wireless communications facility, including but not limited to: foundations, concrete slabs on grade, guy wire anchors, generators, and transmission cable supports; however, specifically excluding equipment enclosures.

<u>Unipole:</u> A freestanding, wireless communication facility where the wireless support structure (tower) is composed of a single shaft usually made up of two 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 and the foundation rests on or in the ground. All antennas and associated components mounted onto the structure are completely concealed within the shaft of the structure.

Wireless Communication Facility (WCF): Any manned or unmanned location for the transmission and/or reception of radio frequency signals, or other wireless communications, and usually consisting of one or more of the following components: an antenna or group of antennae, transmission cables, and equipment enclosures, and may include an antenna-supporting formationa wireless facility, base station, equipment compound, and wireless support structure. The following facility types shall be considered as a Wireless Communication Facility: developments containing new or existing antenna-supporting structures, public antenna-supporting structures, replacement antenna supporting structures, collocation on existing antenna-supporting structures, attached wireless communications facilities, and non-concealed wireless communication facilities; but excluding Aamateur wireless facilities, satellite dish antennase, and antenna-supporting structures, and antennase and/or antenna arrays for TV/HDTV/AM/FM broadcasting transmission facilities shall be excluded from this definition.

Attached Wireless Communication Facility, Attached: An antenna or antenna array A wireless facility that is secured to an existing building with any accompanying pole or device which attaches it to the building, transmission cables, and an equipment enclosure, which and may be located either on the roof, inside, or outside of the existing building. An attached WCF can also be placed on utility poles, light poles, transmission towers, and other similar site features. An attached wireless communications facility is considered to be an accessory use to the existing principal use on a site.

Concealed Wireless Communications Facility, Concealed: A wireless communications facility, ancillary wireless support structure, or and WCF equipment compound that is not readily identifiable as such, and is designed to be aesthetically compatible camouflaged or hidden. with existing and proposed uses on a site. A concealed facility is camouflaged if designed to appear as, for example but not limited to a may have a secondary function, including, but not limited to the following: church steeple, windmill, bell tower, clock tower, cupola, light standard, flagpole, with or without a flag, or tree. A nonconcealed wireless communication facility is one that is readily identifiable such as a monopole or lattice tower.

Wireless Communication Facility Equipment Compound: A fenced outdoor area surrounding a wireless communication facility including the areas inside or under the antenna-support structure's framework and WCF support structure. An area, surrounding or near the base of a wireless support structure, consisting of components of a wireless facility not mounted on a wireless support structure.

<u>Wireless Communication Facility, Freestanding:</u> A WCF that is composed of a wireless support structure (tower) and associated wireless facilities.

Wireless Facility: Also known as "transmission equipment," it is the set of equipment and network components including antennas, transmitters, receivers, power supplies, cabling, and associated equipment necessary to provide wireless data and wireless telecommunications services; but exclusive of the underlying structure or tower, as described in the FCC Report and Order FCC14-153, as amended.

<u>Wireless Support Structure:</u> Also known as a "tower," it is a structure that is solely designed and built for the primary purpose of supporting wireless facilities. A building or other fixed object not originally designed to support wireless facilities is not a wireless support structure.

PART 5

That the *Unified Development Ordinance* shall be renumbered as necessary to accommodate these changes and clarifications.

PART 6

That this amendment of the *Unified Development Ordinance* shall become effective June 1, 2015. Any site plan or plat submitted prior to the effective date of this Ordinance may be reviewed and approved under the regulations in place at the time of submittal.