

Renee Mawyer

From: Schweller, Lori <lschweller@williamsmullen.com>
Sent: Friday, July 11, 2025 10:58 AM
To: Schweller, Lori; Troy Painting; Toni Williams; Tom Egeland; Renee Mawyer; George Goodwin
Cc: PlanningZoning; Planning Commission; stuart.squier@gdnsites.com; Patricia Smith
Subject: Wireless Communications Facilities Height [WMIMAN-IW0VRIC.FID2712548]
Attachments: Louisa County Wireless Ordinance.pdf; Louisa Wireless Ordinance Amendment Setbacks.pdf; LOUISA COUNTY ORDINANCE WIRELESS DEFINITIONS.docx

CAUTION: External email

Good morning, Planning Commissioners,

Thank you for your review of the two Verizon Wireless matters at your hearing yesterday evening. We appreciate your support of these projects.

I would like to revisit Commissioner Goodwin's question: why do applications for wireless communications facilities* in the County always request 199' in height? The simple answer to that question is that the Louisa County Zoning Ordinance provides as follows: "*Height. It is intended that all new WCFs be 199 feet or less in height.*" Sec. 86-666(4). (Please see Ordinance excerpt pasted below, which provides additional requirements for towers taller than 199"; complete WCF Ordinance is attached.) This common height limitation is intended to mitigate the visual impact of cell towers on the community. The Federal Aviation Administration requires that cell towers 200' and taller must have FAA lighting for aircraft safety. When localities adopted wireless ordinances in the early 2000s, mitigating visual impact was their primary goal. As wireless communications consultants developed model wireless ordinances, this 199' height limitation became common across the Commonwealth. Citizens often express concern about potential flashing lights on towers. Restricting the height to 199' eliminates that particular concern as long as the tower is not in a flight path for an airport. The 199-foot threshold represents a practical compromise between adequate coverage and minimizing visual impact.

Though wireless communications have become indispensable, the focus of wireless telecommunications zoning ordinances continues to be visual impact, and cell towers continue to be opposed by citizens based on visual impact, so wireless providers seek to balance the need to provide state-of-the-art service to customers within zoning limitations. Some counties, like Louisa, do permit taller towers; and, in some cases, wireless providers do request taller heights when the coverage is needed. However, most counties in Virginia express a preference for towers no taller than 199'. The zoning ordinances in these counties typically state the goal of limiting the number of towers and promoting collocation of multiple wireless providers on each tower. They permit the tallest towers that require no lighting (i.e. 199') because such towers provide multiple collocation opportunities, thus limiting the number of towers. Counties and cities that have shorter height limits are more interested in limiting the visibility of individual towers than limiting the number of towers, and these localities do not promote collocation.

Generally, taller towers propagate signal farther because they can overcome the obstructions caused by topography and trees. However, that statement must be qualified by the type of signal being propagated. Early cell towers used lower frequency signals that travel many miles and so benefitted from 200'-400' tower height. Mid-band spectrum used today doesn't travel as far. Towers 199' tall may propagate a radius of 2-3 miles, depending on terrain and obstacles. Also, wireless use has been increasing rapidly over the years, requiring more towers in an area for capacity, not just coverage. If more towers are needed in an area to densify service to handle high wireless traffic, and the signals travel shorter distances, then there may be no advantage in making them taller. Further, where a network is composed of 199' towers, there may be no benefit to adding a taller tower

because the network, which uses line of sight technology, is operating at a certain height. That's why you may see very tall old radio towers or lattice towers with antennas low on the tower, not at the top.

In summary, radiofrequency engineers request the height that is needed to provide the best service possible in a target area while adhering to zoning limitations. Sometimes height limitations and flush-mounting antennas compromise service, but we must consider localities' interest in mitigating visual effects of cell towers. The 199' height limit has become an industry standard and appears in many local zoning ordinances where communities want to balance the need for wireless coverage with aesthetic and safety concerns.

I hope this response is helpful. Please do not hesitate to contact me by phone or email if you have any questions.

Best regards,

Lori Schweller

- (4) *Height.* It is intended that all new WCFs be 199 feet or less in height. Under no circumstances may any WCF exceed 300 feet. All new WCFs in excess of 199 feet shall be subject to the following additional requirements:
 - a. Evidence that the WCF service area will be so substantially compromised that there would be a requirement of additional WCFs within a distance of two miles.
 - b. The WCF shall be designed to allow for a future reduction of elevation to no more than 199' or the replacement of the WCF with a monopole-type structure at such time as the wireless network had developed to the point that such heights can be justified.
- (5) *Design for collocation.* All freestanding WCFs should be engineered and constructed to accommodate collocation.

***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 an antenna or group of antennas, transmission cables, and equipment cabinets, and may include an antenna support structure and an equipment compound.



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From: Schweller, Lori <lschweller@williamsmullen.com>
Sent: Friday, March 14, 2025 3:01 PM
To: tpainting@louisacounty.gov; LCBS_JD@louisacounty.gov; Tom Egeland <TEgeland@louisacounty.gov>; Renee Mawyer <rmawyer@louisacounty.gov>
Cc: PlanningZoning <PlanningZoning@louisacounty.gov>; Planning Commission <planningcommission@louisa.org>; stuart.squier@gdnsites.com
Subject: Verizon Wireless Balloon Test Notice [WMIMAN-IWOVRIC.FID2712548]

Good Afternoon, Supervisor Williams, Commissioner Painting, and Planning and Zoning Officials and Staff,

As discussed in a recent pre-application meeting, Verizon Wireless is planning a new wireless facility to be located at Jouett Elementary School. This proposed facility would replace the existing County guy-wired tower on that parcel. In accordance with Section 86-667(2) of the Zoning Ordinance, Verizon Wireless is planning a balloon test for the proposed monopole. Please see attached the public notice of the balloon test. This letter is being mailed today to all adjoining property owners.

Photo simulations produced from the balloon test will be included in the conditional use permit application package we plan to submit by the April 18th filing deadline and will be presented at the May community meeting. We look forward to presenting the application to the Planning Commission at the June 12th hearing.

Please call any time with questions about this project.

Best regards,

Lori


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