

From: Bill Fritz

Sent: Friday, February 23, 2024 11:19 AM

To: Planning Commission <PlanningCommission@albemarle.org>

Subject: FW: Comments regarding Cell Towers and Human Health

I have been asked to forward these comments to you. I was unable to locate an email from Barbara Cruickshank from February. It may not have been delivered or was deleted in error.

Please be aware that the Planning Commission cannot make any decisions based on environmental factors. We are specifically prohibited from making these considerations by Federal law. Sec 332 of the 1996 Telecommunications act states "No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions."

William D. Fritz, AICP

Development Process Manager

[Albemarle County](#)

bfritz@albemarle.org

434-296-5823 ext. 3242

401 McIntire Road, North Wing, Charlottesville, VA 22902

From: Cruickshank Barbara <bcruickshank4@gmail.com>

Sent: Friday, February 23, 2024 10:27 AM

To: Bill Fritz <BFRITZ@albemarle.org>

Cc: Cruickshank Barbara <bcruickshank4@gmail.com>

Subject: Fwd: Comments regarding Cell Towers and Human Health

CAUTION: This message originated outside the County of Albemarle email system. DO NOT CLICK on links or open attachments unless you are sure the content is safe.

My comments regarding changes to the cell tower policies in Albemarle County have not been included in the executive summary. This email was sent to you on 2/18/24, and I do not see the comments that I sent to you included.

I want to be assured that my comments are added to the summary and I await your response.

Thank you

Barbara Cruickshank

----- Forwarded message -----

From: **Cruickshank Barbara** <bcruickshank4@gmail.com>

Date: Sun, Feb 18, 2024 at 12:18 PM

Subject: Fwd: Comments regarding Cell Towers and Human Health

To: Cruickshank Barbara <bcruckshank4@gmail.com>

----- Forwarded message -----

From: **Cruickshank Barbara** <bcruckshank4@gmail.com>

Date: Wed, Dec 6, 2023 at 3:33 PM

Subject: Comments regarding Cell Towers and Human Health

To: <bfritz@albemarle.org>, Superintendent Office <superintendentoffice@k12albemarle.org>, School Board <schoolboard@k12albemarle.org>, Board of Supervisors Members <bos@albemarle.org>

Cc: Cruickshank Barbara <bcruckshank4@gmail.com>

Mr. Fritz,

I want to provide you with my concerns about the proliferation of cell towers in Albemarle County.

As a health professional, grandparent, and a person with electromagnetic hypersensitivity, there is a great deal at stake for the citizens of Albemarle County, with the children having the most to lose. The health effects of continuously pulsed radiofrequency radiation have been well documented.

Please take the time to review what I am sending. If you have any questions or comments, please let me know.

The last link is an article that I wrote which was published in the Crozet Gazette in November.

Barbara Cruickshank

1. The American Academy of Pediatrics

<https://www.healthychildren.org/English/safety-prevention/all-around/Pages/Electromagnetic-Fields-A-Hazard-to-Your-Health.aspx>

"... concern has increased about exposure to radio frequency electromagnetic radiation emitted from cell phones and phone station antennae. An Egyptian study confirmed concerns that living nearby mobile phone base stations increased the risk for developing

- [Headaches](#)
- Memory problems
- [Dizziness](#)
- [Depression](#)
- Sleep problems

2. National Institutes of Health - <https://pubmed.ncbi.nlm.nih.gov/20662418/>

increased adverse neurobehavioral symptoms and cancers in people who live < 500 meters from a base station

3. Environmental Reviews - <https://cdnsiencepub.com/doi/full/10.1139/A10-018>

studies have found headaches, skin rashes, sleep disturbances, depression, decreased libido, increased rates of suicide, concentration problems, dizziness, memory changes, increased risk of cancer, tremors, and other neurophysiological effects in populations near base stations.

a base station should not be located less than 1500 feet from people and at a height of 150 feet.

4. <https://journals.sagepub.com/doi/full/10.1177/1557988318816914>

Mobile Phone Base Station Tower Settings Adjacent to School Buildings: Impact on Students' Cognitive Health

High exposure to RF-EMF produced by MPBSTs was associated with delayed fine and gross motor skills, spatial working memory, and attention in school adolescents compared to students who were exposed to low RF-EMF.

CELL TOWERS - A THREAT TO COMMUNITY HEALTH

The use of wireless technology has rapidly increased in the past years and has provided many benefits to our daily lives. However, along with the benefits there has been a dramatic increase in exposure to man-made microwave radiofrequency radiation (RFR) never before experienced by humans, animals and plants. We live surrounded by wireless radiation in our homes, work place, schools, and outdoor spaces. Many have whole body continuous exposures 24/7. The Federal Communication Commission (FCC) has assurance from the telecom industry that the technology is safe. FCC safety limits for human exposure were established in 1996 and have never been updated.

Cell towers continuously receive and transmit data using microwave radiofrequency radiation waves. Wireless devices in our homes operate similarly when turned on. A typical family may have multiple layered sources of RFR in their home: phones, lap tops, microwave ovens, WIFI, smart TV's, gaming devices, baby monitors, house security systems, smart meters, and wearable devices. RFR moves through most building materials and we are exposed to indoor and outdoor sources. It penetrates and is absorbed by the human body, flora and fauna. Children and the developing fetus are at greatest risk to the effects of this radiation.

There are over 2,000 peer-reviewed abstracts documenting the effects of RFR exposures on human health and the environment.¹ Cancer, neuropsychiatric disorders, autoimmune and metabolic disease, sleep disturbance and electromagnetic hypersensitivity are but a few of the effects of exposure. Every organ system in the body may be affected. In 2011, The World Health Organization classified microwave radiation as a class 2B carcinogen.² Most countries have continued to update their safe exposure limits based on current science. The US has not. Radiofrequency radiation is a threat to our health and to the health of our ecosystem.

ALBEMARLE HIGH SCHOOL - 2023

The Albemarle County School District allowed a large cell tower to be built on the campus of Albemarle High School. The tower is less than 600 feet from the school building and approximately 55 feet from the AHS athletic fields. Children and staff are exposed to whole body radiofrequency radiation 30-40+ hours a week from the tower in addition to exposures from all sources within the building – multiple roof top antenna, whole building WIFI, lap tops, cell phones, whiteboards, etc.

In 2022, I measured extremely high levels of radiation on the school campus with my meter. I contacted school officials and asked that a formal evaluation be done to determine whether the school was safe for the children and staff. Albemarle County officials hired an engineering firm to conduct the evaluation. The engineer determined that the levels of radiation were within the FCC legal limits for RFR exposures set in 1996. They did not comment on the safety of the levels. Two Building Biologists certified in electromagnetic radiation reviewed the evaluation, using updated safety standards adopted by many countries. They determined that high levels of radiation on the campus and in the school were unsafe for prolonged, continuous exposures of children and adults. They expressed “extreme concern” for the safety of the children and staff at Albemarle High School. To date Albemarle County School officials have not felt the need for additional action at the school.

T Mobil, an American Telecom company with the controlling stockholder Germany's Deutsche Telekom, released a document to their shareholders in 2000 entitled “**Mobile Telecommunications and Health - Review of the current scientific research in view of precautionary health protection**”. The report recommended the precautionary limit for humans near a base station cell tower to be **0.01W/m² or 10,000 uW/m²**.

8.1 Precautionary Health Protection in Relation to Exposures to Electromagnetic Fields of Mobile Telecommunications *With mobile telecommunications we have to differentiate to exposure situations: ■ exposure of residents near base stations ■ exposure of mobile users*

when using the devices. To limit exposure to an acceptable degree, if this is possible at all, there need to be different strategies for the two different exposure groups. Exposures from Base Stations In humans, harmful organic effects of high frequency electromagnetic fields as used by mobile telecommunications have been demonstrated for power flux densities from 0.2W/m² (see Chapter 7). Already at values of 0.1 W/m² such effects cannot be excluded. If a security factor of 10 is applied to this value, as it is applied by ICNIRP and appears appropriate given the current knowledge, the precautionary limit should be 0.01W/m².

This should be rigorously adhered to by all base stations near sensitive places such as residential areas, schools, nurseries, playgrounds, hospitals and all other places at which humans are present for longer than 4 hours. We recommend the precautionary limit of 0.01 W/m² independent of the carrier frequency.”³

T Mobil safe RFR levels (near a cell towers) - (.01 W/m²) equals 10,000 uW/m² - (2000)

Bioinitiative Report – safe RFR levels - 1 uW/m² - (2012)

Building Biologist safe RFR levels - .1 – 10 uW/m² extreme range > 1,000 uW/m² - (2023)

Albemarle High School levels of RFR - 400,000 uW/m² - (2023)

The citizens of Albemarle County must become informed about this issue. County officials are partnering with the telecom industry to add many large towers into an expanded area in Albemarle County near homes, businesses, and natural areas. Citizens will have no right to object to the placement of the towers. In the US, a citizen may not claim health effects as a reason for the local government to reject application for a cell tower placement.⁴ The County plans to erect many large cell towers that will blanket the area with additional microwave radiation that may cause many of us to become sick. Are we willing to jeopardize our health, and the health of our children and ecosystem, for perfect cell phone coverage?

Barbara Cruickshank RN, MSN Community Health
Earlsville, Virginia

1. ⁵<https://bioinitiative.org/conclusions/>.

2. <https://www.who.int/india/health-topics/electromagneticfields#:~:text=The%20International%20Agency%20for%20Research,ruled%20out%20with%20reasonable%20confidence.>
3. <https://ehtrust.org/wp-content/uploads/T-mobile-RF-Radiation-Ecolog-2000-Report-.pdf>
4. https://www.honigman.com/media/site_files/401_imgimgWeissA406289

How to reduce RFR in your home – Environmental Health Trust

<https://ehtrust.org/>

<https://ehtrust.org/educate-yourself/ten-steps-to-safe-tech/>



TO: Members of Albemarle County Architectural Review Board

FR: Neil Williamson, President Free Enterprise Forum

RE: Wireless Communication Facility Review

CC: Margaret Maliszewski, Kris Taggart, William Fritz

DT: 18 February 2024

As you are well aware, Albemarle County is in the process of updating its wireless facility policy.

Each of you I know have experienced “call drops” in parts of the County. We can, and should, do more to promote safety and connectivity in our community, especially along the Entrance Corridors.

The consultant’s report to the County advised the benefits of increasing tower heights:

“To maximize efficiency from existing towers CityScape suggests the possibility of allowing tower heights to increase from 10’ to 30’ above the tallest treetop (within 25’ of the tower) and to allow standoff mounts for antennas and radios. The image below illustrates how this increase in height can increase coverage distance along a roadway by over 40% and the overall coverage area around the tower by 90%.”

The Planning Commission work session on this topic highlighted the potential benefit of increased coverage, specifically fewer towers. In addition, Planning Commissioners voiced their support for fewer access roads and increased tree canopy as potential benefits of these taller towers.

Over the past several meetings the ARB discussions have not seemed as supportive as the Planning Commission. The Free Enterprise Forum is hopeful you have not formulated your final opinion on this issue.

From both a technological and environmental standpoint, the Free Enterprise Forum believes fewer, taller, towers result in a better, safer community.

The Free Enterprise Forum believes the ARB has a unique opportunity to help formulate and codify their design concerns into the county wide ordinance itself and then remove ARB approval from the process.

I regret I will not be able to join you on February 19th due to a family vacation. I hope if you do have the opportunity to discuss the matter, you will consider being a part of the County wide wireless facilities ordinance development.

Thank you for your tireless service to our community.

MEMORANDUM

TO: Albemarle County
Attention: Bill Fritz

FROM: Valerie Long and Lori Schweller

DATE: December 14, 2023

RE: Proposed Amendments to Wireless Telecommunications Ordinance, dated
November 13, 2023 (the "Ordinance")

The proposed Ordinance amendment would meaningfully increase the wireless industry's ability to provide good service in the County and should reduce County officials' meeting time spent on wireless facility applications.

We strongly support the following proposed revisions:

- The standard for a Tier II treetop tower is 30' above the reference tree, not 10';
- The definition of Tier I Personal Wireless Service Facility (PWSF) includes the administrative extension of an existing Tier II site to 30' above the reference tree;
- The definition of "concealment elements of the eligible support structure" provides that only an extension of an existing treetop tower more than 30' above the tallest tree within 25' would be a substantial change as to height;
- The amendment eliminates limitations on the number of antennas on a support structure, the size of antennas, antenna standoff, pole diameter, and number of Tier III facilities within a certain radius; and
- The amendment removes Agricultural-Forestal districts as an "Avoidance Area," which means that a treetop tower in such district will be classified as Tier II, not Tier III, thus avoiding the special use permit process for Tier II sites in Agricultural Forestal districts.

We appreciate the opportunity to comment on the draft Ordinance and make the following additional comments and recommendations:

1. **Minimizing Visibility.** Sec. 5.1.40(b)(6) requires every wireless facility to be "sited to minimize its visibility from adjacent parcels and streets." In fact, staff analysis of wireless facilities entails evaluating visibility from *all* streets from which the facilities are visible, not just adjacent streets. Historically, **this visibility analysis has been the core of the County's evaluation of every wireless facility.** It is unclear how staff will evaluate facilities that are 30' above the reference tree. The discretion established by (b)(6) for how visible a facility may be could undermine the new height limit unless this subsection is modified with a phrase such "subject to the allowable height provisions." In the alternative, this section could be revised to be specific about desired methods for minimizing visibility. For example, it could require facilities to be located within areas with enough trees so that the ground equipment and bottom portion of the support structure would be screened by the trees.

2. **Conservation Easements.** Section 5.1.40(b)(6) should be modified to delete the last sentence regarding conservation easements. The County should let the easement holders administer their own conservation easements, just as it allows property owners in common schemes of development to administer their own deed restrictions and declarations of covenants, conditions, and restrictions. If a facility is proposed on property under conservation easement, the County could require the applicant to provide a confirmation letter from the easement holder (grantee) that the facility is allowed under the terms of the easement (though, unless the easement holder is the County, that is a private contractual matter, which the County generally refrains from including in a land use matter). The County should not restrict the use of parcels that are adjacent to properties under conservation easement but are themselves *not* under conservation easement, especially with such ambiguous language as “the facility shall be sited so that it is not visible *from any resources specifically identified for protection* in the deed of easement” (emphasis added). Typically, conservation easements in the county cite a wide variety of conservation values to justify acceptance of the easement, including open spaces and viewsheds benefitting the traveling public, forests, streams, wildlife, and other natural resources. The language of this section could be read broadly to prevent *any* visibility of a wireless facility *anywhere* on the eased property. If read narrowly to apply only to specific structures called out by name, then so few conservation easements would be affected that the provision would be meaningless. Regardless of the near impossibility of administering this provision, it gives outsized power to neighbors, whose property is subject to conservation easement and may have already received generous tax benefits, to oppose a facility on the property of a neighbor who has not encumbered his property and received such benefits.
3. **Open Space Plan Resources.** Section 5.1.40(b)(7) should be deleted: “The facility shall not adversely impact resources identified in the natural resources chapter of the county’s comprehensive plan and the parks and green systems chapters in any county master plan.” This provision is overly inclusive and subjective. Further, the Avoidance Area concept was developed to control placement of facilities.
4. **Avoidance Areas.** According to CityScape’s June 13, 2023 Planning Commission Work Session Memo, **over 48%** of the County’s land area is within an Avoidance Area. Unsurprisingly, the Memo reports that over 46% of the existing 140 wireless facilities are in at least one Avoidance Area. Though two categories were eliminated from the definition of Avoidance Area (Agricultural-Forestal districts and sites with three or more facilities within 200’ radius), continuing to designate historic districts and scenic highways or byways as Avoidance Areas will continue to lengthen unnecessarily the review and approval process time for staff and applicants. Avoidance Areas are unnecessary if the County reviews every site in the same way for visual impact. The effect of having Avoidance Areas is to require a legislative approval process for sites that would otherwise be Tier II administrative sites. (We note also that Architectural Review Board review of wireless facilities on Entrance Corridors is redundant to staff’s visibility evaluation and not a good use of ARB meeting time.)
5. **Horizontal Separation of Multiple Facilities.** Section 5.1.40(b)(8) should be deleted; this section prohibits a Tier II facility from being located so that it and three or more existing or approved facilities would be within a radius of 200 feet. This situation was eliminated as an Avoidance Area, so it would be consistent to eliminate this subsection as well. This provision is counterproductive to the County’s desire for well-sited facilities. If a site has good tree coverage and/or screening topography, it is likely good for multiple

sites, thus preventing sites with greater visibility. There are many examples of such groups of three or more Tier II sites with excellent screening and visibility, including (a) the nearly invisible cluster of four wireless providers' sites on Newtown Heights on the mountain slope to the right of westbound I-64 traffic across from the VDOT Memorial (site nos. A34, A35, A36, and A37 in the Inventory); (b) the three PWSFs on Wild Turkey Lane off U.S. 250W (A44, A45, A46); and (c) three carriers' facilities on Dry Bridge Road (A62, A63, A64) off I-64W near Ivy. These are just a few of many examples of groups of three or more facilities notable for being very well-screened.

6. **Color of the Monopole.** To make it easier for new applicants to comply with Section 5.1.40(b)(11), we suggest that this section state that the County maintains a list of approved paint colors but that it will review and approve other colors proposed by the applicant. Since the County has approved so many sites, it is more efficient for the County to maintain an approved list rather than require applicants to figure out how to satisfy the requirement.
7. **Placement of Cables, Wiring, and Similar Attachments.** Rather than requiring all cables and wires to be placed within metal support structures, Section 5.1.40(b)(12) should allow them to be run along the inside of the structure if they don't all fit inside. With the amount of equipment on monopoles today, it may be more attractive to have a narrower pole than a pole with a diameter wide enough to fit all cables and wires.
8. **Grounding Rod.** Section 5.1.40(b)(1)(e) limits the height of lightning rods to two feet. This section should clarify that the lightning rod is not counted in the height of the monopole (which is why it is separately regulated). Because their diameters are so small and they are so high above the ground, lightning rods are minimally visible. Regulating dimensions of lightning rods seems unnecessary, but, if needed, we suggest allowing up to 4' tall, which is routinely used for facilities in other jurisdictions.
9. **Tree Surveys:** Section 5.1.40(a)(4)(f) requires a tree survey with the caliper and species of all trees with dripline within 50' of the facility. The height must be provided for the reference tree and all trees relied on for screening. For some sites, particularly taller sites, an expensive tree survey may be unnecessary. We suggest adding a provision that, if the agent determines that the survey is not needed for evaluation of the site, the agent may waive the provision. A tree conservation plan is already required under Section 5.1.40(b)(3) for all sites in order to identify trees that need to be protected and those that need to be removed for construction.
10. **Submittal Dates/Time for Action:** Section 5.1.40(e)(3) should be revised to be consistent with state and federal statutes and regulations. For all facilities, the date of actual submission, not the date of acceptance, should be the commencement date for measuring approval times. If the application is found to be incomplete, the date of completeness may be the start date. The timeline for deeming an application complete is 10 days for all applications per Va. Code Sec. 15.2-2316.4:1.C(1). Pursuant to Va. Code Sec. 15.2-2316.4:1, approval times for new facilities must be 150 days after complete submission is received, and, for collocations, 90 days after complete submission is received. For eligible facilities requests and small cells, they must be acted on within 60 days, or they are deemed approved.