Jackson County Board of Commissioners
Staff Report

Date: February 24, 2020

Project: WRGC AM Radio Tower
Applicant: Five Forty Broadcasting Company, LLC; Roy Burnette, Owner
Service Provider: WRGC Radio
Location: 928 Rufus Robinson Road, Dillsboro, NC; a portion of property PIN 7632-44-1567

Background:

Five Forty Broadcasting is proposing to construct a AM radio tower 199' in total height (196' tower structure, 3' concrete base) on the referenced property owned by Roy and Janice Burnette. This property is not located in a zoned jurisdiction, however, the Jackson County *Wireless Communications Ordinance* will apply. The tower structure and supporting appurtenances will be located near the center of the property with three guy wire assemblies extending from the structure 123.63' to 157.34'. In addition to the tower operation, approximately 120 copper grounding wires will be buried in an array surrounding the tower structure and vary in length from 60' to 160'. This tower type will be for broadcast radio and the introduction of security fencing (chain-link) will interfere with this use; a secured "compound" is not proposed, however, the applicant is proposing a wood fence surrounding the tower 12' from the base. The applicant also owns the adjacent property which will be the access to this tower site; a secured gate/barrier will be installed across the proposed access road and managed by the applicant. The subject property is moderately wooded with existing deciduous hard wood and evergreen trees, however, due to proposed grading and the required grounding array, existing vegetation will be removed leaving a natural vegetative buffer just beyond the buried grounding wires. Being that this tower use will be broadcast radio, future co-locate space will not be provided for any additional services due to interference concerns. The proposed tower structure will be accessed by a proposed 12' gravel driveway approximately 340' in length and 15% grade which will connect to the existing driveway of the applicant/owner residence. The applicant/owner property is accessed from Rufus Robinson Road (S.R. 1386) which is a public right-of-way maintained by the NCDOT. The proposed site construction plans show moderate grading to create the access driveway and associated stormwater drainage with no proposed retaining walls. The submitted site construction plans also include measures for erosion control/stormwater compliance; erosion control best management practices (BMP's) will be applied to this site. The power service for this proposed facility will be supplied by Duke Power and utility easements are not shown but may be required by Duke. The required balloon test was conducted on September 7, 2019; notice for this balloon test was published in the Sylva Herald on August 29th and September 5th, 2019; and formal notifications of this test were mailed to adjacent property owners on August 24, 2019. Jackson County Staff and the applicant met in a required "pre-application" meeting on December 11, 2019. The official Wireless Communication Application was received by the Jackson County Planning Department on January 23, 2020. The Jackson County Planning Department completed its administrative review of the submitted application on February 24, 2020. This proposed tower, supporting accessory structures, site construction and erosion control/stormwater measures will be required to obtain all necessary permits prior to commencement of construction. Advertising and posting for the quasi-judicial hearing is as follows:

- *At their scheduled Board meeting on April 7, 2020, the Board of County Commissioners called for a quasi-judicial hearing to be heard on June 23, 2020.*
- *The quasi-judicial hearing was advertised in the Sylva Herald on June 11 and June 18, 2020.*
- *Adjacent property owners were mailed notices of the quasi-judicial hearing on June 9, 2020.*
- *The property was posted with notice of the quasi-judicial hearing on June 9, 2020.*

Procedural Requirements for a Wireless Communication Facilities Permit (Conditional Use Permit):
The procedures set forth for the review and consideration of the proposed Wireless Communication Facilities permit shall be followed for new Wireless Support Structures, substantial modifications, and any other proposal requiring a Wireless Communication Facilities permit as required or otherwise specified in this section. The procedure for review and approval of a Wireless Communication Facilities permit shall be a Conditional Use Permit process, which will require a quasi-judicial hearing by the Jackson County Board of Commissioners**.**

Staff Review:
Planning Department review. Following submittal of the application for the Wireless Communication Facilities permit, the application shall be reviewed by the staff of the Planning Department for compliance with the requirements of this ordinance. The Planning Department may request input from consultants and/or experts to assist in the thorough review of the wireless communications permit application. The Planning Department shall review the permit application within 15 working days of its submittal to determine if the application is complete. When the Planning Department determines that the application is complete, it shall notify the applicant in writing via electronic mail. Responses to ordinance requirements are detailed in ***blue*** font.

Jackson County UDO – Article VI - Section 6.2 Wireless Communication Facilities

- **Section 6.2.3 Location and Design Standards for Wireless Communication Facilities**

a) Location of Wireless Communication Facilities

i. It is recommended that applicants for all Wireless Communication Facilities locate, site and construct said Wireless Communication Facilities in accordance with the following priorities, in order:

1) On existing Wireless Support Structures without substantial modification of the tower or structure.
2) On existing Wireless Support Structures with substantial modification(s).
3) On existing structures other than Wireless Support Structures, such as electrical transmission towers and buildings, capable of accommodating the facilities.
4) On properties in areas developed for business use.
5) On properties in areas developed for rural use.
6) On properties in areas developed for residential use.

ii. If the proposed site is not proposed for the highest priority listed above, then a detailed explanation and documentation (i.e. intermodulation study) must be provided in the application as to why a site of a higher priority designation was not selected.

iii. Notwithstanding the above, the County may approve any site located within an area in the above list of priorities, provided that the county finds that the proposed site is in the best interest of the health, safety and welfare of the county and its inhabitants, will not have a deleterious effect on the nature and character of surrounding properties and the community and is otherwise in compliance with this ordinance.

- ***The applicant has submitted a site selection justification narrative in the application package. Due to the "use" type of this proposed tower structure (Radio Broadcasting), co-location on another structure is not practical due to interference concerns and tower construction/ appurtenances.***

b) Type and height of Wireless Support Structures and towers.

i. The usual maximum height for Wireless Support Structures shall be 100 feet. The Jackson County Board of Commissioners may approve increases in Wireless Support Structure height up to a maximum height of 180 feet based on a showing of need and after consideration and satisfaction of the other requirements of this ordinance.

- ***The Jackson County Wireless Ordinance allows for a 180' total tower height (including appurtenances), the submitted plans indicate a proposed tower with a total height of 199'. The applicant is requesting a waiver from the Board of Commissioners for a tower height above 180'.***

ii. Wireless Support Structures and towers may be monopole or lattice type.

- ***This proposed broadcast tower structure will be lattice type.***

iii. Wireless Support Structures and towers may be located on a protected mountain ridge as defined in the Jackson County Mountain and Hillside Development Ordinance provided that:

1) The Wireless Support Structure does not extend more than 20 feet above the average height of the tree canopy within 100 feet of the tower site. If any antenna extends more than two feet from the side of the support structure, the portion of the tower extending above the vegetative canopy shall be camouflaged to appear like the top of a coniferous tree with all antennas concealed within simulated foliage
2) The Wireless Support Structure or tower is not visible from a public road within one half mile of the proposed site.
3) There is no other Wireless Support Structure or tower located on a ridge within one (1) mile of the proposed site.
4) The proposed Wireless Support Structure or tower is a monopole.
5) The proposed Wireless Support Structure or tower is not visible from and within two (2) miles of the Blue Ridge Parkway.
6) There are no other structures, including electrical transmission towers, within the search area capable of accommodating the wireless communications equipment.

- ***This proposed broadcast tower structure is not located on a Protected Mountain Ridge.***

c) *Section Reserved in the current ordinance*

d) Visibility and noise of Wireless Communication Facilities.

i. Lighting. Wireless Communication Facilities shall not be artificially lighted or marked, except as required by federal regulations. If lighting is legally required, the applicant shall provide a detailed plan for sufficient lighting of as unobtrusive and inoffensive an effect as is permissible under state and federal regulations. For any Wireless Communication Facilities for which lighting is required under the FAA's regulations, or that for any reason has lights attached, all such lighting shall be affixed with technology that enables the light to be seen as intended from the air, but that prevents the ground scatter effect so that it is not able to be seen from the ground to a height of at least 12 degrees vertical for a distance of at least one mile in a level-terrain situation. Such device must be compliant with or not in conflict with FAA regulations. A physical shield may be used, as long as the light is able to be seen from the air, as intended by the FAA. If lighting is required by the FAA or other government agency, then such lighting shall be installed pursuant to the FAA or other government agency standards. The applicant shall present the options for selection by the

county, being mindful of the impacts of the proposed lighting upon people whose residences are located at higher elevations.

- ***No tower lighting is required per FAA standards. The proposed site construction plans do not indicate the location of any proposed outdoor "yard" lighting.***

ii. Retrofitting. In the event a Wireless Communication Facilities that is lighted is modified, at the time of the modification the county may require that the tower be retrofitted with the technology set forth in the preceding subsection.

- ***Not Applicable***

iii. Camouflage/Concealment. All new Wireless Communication Facilities are encouraged to utilize camouflage and/or concealment techniques to the maximum extent feasible. Wireless Communications Facilities to be located within residential areas, rural areas, and scenic areas are encouraged to employ camouflage or concealment techniques.

- ***This proposed Wireless Communication Tower will be unpainted galvanized steel.***

iv. Wireless Communication Facilities finish/color. Structures shall be galvanized and/or painted with a rust-preventive paint of an appropriate color to harmonize with the surroundings and shall be maintained in accordance with the requirements of this section and subject to FAA requirements.

- ***The design of this proposed Wireless Communications Tower will be manufactured of galvanized material. Accessory buildings are not proposed.***

v. Noise. All facilities at a Wireless Communication Facilities, regardless of the owner of the facilities, shall comply with the county's noise control regulations, without exception.

- ***Accessory structures are not proposed for this tower type.***

e) Security of Wireless Communication Facilities.
All Wireless Communication Facilities shall be located, fenced or otherwise secured in a manner that prevents unauthorized access. Specifically:

i. All Wireless Communication Facilities, including antennas, towers and other supporting structures, including guy anchor points and wires, shall be made inaccessible to individuals and constructed or shielded in such a manner that they cannot be climbed or collided with; and

ii. Transmitters and communications control points shall be installed in such a manner that they are readily accessible only to persons authorized to operate or service them.

- ***This tower type will be for broadcast radio and the introduction of security fencing (chain-link) will interfere with this use; a secured "compound" is not proposed, however, the applicant is proposing a wood fence surrounding the tower 12' from the base. The applicant also owns the adjacent property which will be the access to this tower site; a secured gate/barrier will be installed across the proposed access road and managed by the applicant.***

f) Signage.
Wireless Communication Facilities shall contain a sign no larger than four square feet shall be installed to containing the name(s) of the owner(s) and operator(s) of the antenna(s) as well as emergency phone number(s). The sign shall be on the equipment shelter or cabinet of the applicant and be visible from the access point of the site and must identify the equipment owner of the shelter or cabinet. On tower sites, an FCC registration site, as applicable, is also to be present. The signs shall not be lighted,

unless applicable law, rule or regulation requires lighting. No other signage, including advertising, shall be permitted.

- ***Site signage and tower information will be posted on the fence surrounding the tower base.***

g) Setbacks.

i. Unless otherwise stated herein, each wireless support structure shall be set back from all property lines a distance equal to its engineered fall zone plus ten percent. The setback shall be measured from the nearest portion of the right-of-way of any public road or thoroughfare and any occupied building or domicile. Further, the nearest portion of any new access road leading to a wireless communication facility shall be no closer than 15 feet to the nearest property line.

ii. Accessory structures shall be located within the footprint of the approved facility and meet the minimum property line setbacks for the district or 30 feet from adjacent property lines whichever is more restrictive.

iii. There shall be no development of habitable buildings within the wireless support structure setback set forth in the preceding subsection.

- ***The required setback (fall zone) for this tower structure is 218.90' (tower height plus 10%). This proposed tower structure fall zone does not cross adjacent property lines of different ownership however would cross the westerly property line of a property owned by the applicant. There are no habitable buildings within the fall zone area. The applicant is requesting a waiver from the Board of Commissioners for the fall zone area to encroach on the adjacent property owned by the applicant.***

h) Accessory Structures.

The accessory structures associated with wireless communication facilities shall maximize the use of building materials, colors, and textures designed to blend with and harmonize with the natural surroundings.

- ***Accessory structures are not proposed for this tower type.***

i) Utilities.

All utilities at a wireless communication facilities site shall be installed underground if practical and in compliance with all laws, ordinances, rules and regulations of the county, including specifically, but not limited to, the National Electrical Safety Code and the National Electrical Code where appropriate.

- ***Proposed utilities will be installed overhead so as not to interfere with the proposed underground copper wire radial system.***

j) Site Access.

At a wireless communication facilities site an access road and turnaround space for an emergency vehicle shall be provided to assure adequate emergency and service access. Maximum use of existing roads, whether public or private, shall be made to the extent practicable. Road construction shall at all times minimize ground disturbance and the cutting of vegetation. Road design and construction shall comply with the private road standards set forth in the Jackson County Subdivision Regulations. Maintenance of the access roads shall be provided to assure vehicular access to the site at all times. All erosion control and storm water management facilities shall be maintained at all times. A maintenance log that documents inspections of the site and access roads shall be maintained at the communications

facility site. The required maintenance log shall be placed in a location accessible at all times to the Jackson County employees charged with review of the log. Inspections shall have made at least quarterly by the owner/lessee of the site to confirm that the access road and site are maintained with no erosion or storm water issues and that all equipment is in good order. The employee of the site owner/lessee conducting the inspection shall note the date of the inspection and condition of the site and access road on the inspection log. Inspections logs shall be reviewed at least biennially by the Jackson County Planning Department. Any failure to maintain the inspection log and/or to maintain the erosion control and storm water management measures at the site and on the access roads shall be considered a violation of this article.

- ***The proposed tower structure will be accessed by a proposed 12' gravel driveway approximately 340' in length and 15% grade which will connect to the existing driveway of the applicant/owner residence. The applicant/owner property is accessed from Rufus Robinson Road (S.R. 1386) which is a public right-of-way maintained by the NCDOT***

k) Code Compliance.
All wireless communication facilities, shall be constructed, operated, maintained, repaired, provided for removal of, modified, or restored in strict compliance with all current applicable technical, safety and safety-related codes adopted by the county, state, or United States, including, but not limited to, the most recent editions of the ANSI Code, National Electrical Safety Code, and the National Electrical Code, as well as accepted and responsible workmanlike industry practices and recommended practices of the National Association of Tower Erectors. The codes referred to are codes that include, but are not limited to, construction, building, electrical, fire, safety, health, and land use codes. In the event of a conflict between or among any of the preceding the more stringent shall apply.

- ***The proposed site and tower construction shall comply with all applicable codes and ordinances. The applicant has submitted FCC documentation/licensure governing this tower and operation type.***

l) Facilities Permit.
A holder of a wireless communication facilities permit granted under this section shall obtain, at its own expense, all permits and licenses required by applicable law, ordinance, rule, regulation or code, and must maintain the same, in full force and effect, for as long as required by the county or other governmental entity or agency having jurisdiction over the applicant.

- ***The proposed site, tower and building construction shall comply with all applicable codes and ordinances. The applicant has submitted FCC documentation/licensure governing this tower and operation type.***

m) Building Permit.
A building permit shall not be issued for construction of the wireless support structure unless there is an FCC authorized or licensed spectrum carrier which has indicated it will be installing equipment to use such spectrum on the wireless support structure.

- ***The applicant has submitted FCC documentation/licensure governing this tower and operation type. All appropriate building permits required will be reviewed/issued prior to commencement of construction.***

Additional Application Requirements:
The applicant has provided the following required documents.

- ***Applicants narrative and consulting information (attachment number 1)***
- ***Site Location Map (attachment number 2)***
- ***Balloon Test and Photo Simulation (attachment 3)***
- ***Radiation Efficiency Analysis with Proposed Ground System (attachment number 4)***
- ***Ground System and Proposed Non-Directional Antenna Patterns (attachment number 5)***
- ***Antenna Site Plat (attachment number 6)***
- ***Site Construction Plan (attachment number 7)***
- ***Tower Top Loading Design (attachment number 8)***
- ***FCC Application for Construction (attachment number 9)***
- ***FCC – Radio Station Registration (attachment number 10)***
- ***Antenna Element Plan (attachment number 11)***
- ***Proposed Tower Design (attachment number 12)***
- ***LLC Annual Report and Documents (attachment number 13)***
- ***FCC Ownership Report for Commercial Broadcast Stations (attachment number 14)***
- ***Geotechnical Exploration Proposal (attachment number 15)***

Staff Requests for Conditions of Application Approval:

- ***Condition of approval from the Board of Commissioners will be that the "Removal/Performance Security Bond" be active and a copy submitted/reviewed by staff prior to commencement of construction.***

Applicants Waiver Request:

- ***The applicant is requesting a waiver from the Board of Commissioners for a tower height above 180' (199' total).***

- ***The applicant is requesting a waiver from the Board of Commissioners for the fall zone area to encroach on the adjacent property (148.90' +/-) owned by the applicant.***

- ***The applicant is requesting a waiver from the Board of Commissioners for permit application fee of $5,000.***

- ***The applicant is requesting a waiver from the Board of Commissioners for the required landscape buffer surrounding a new wireless facility/compound. The subject property is moderately wooded with existing deciduous hard wood and evergreen trees, however, due to proposed grading and the required grounding array, existing vegetation will be removed leaving a natural vegetative buffer just beyond the buried grounding wires.***