



# **Radio Frequency Engineering Statement**

**in support of Application for**

**Proposed AT&T Mobility Wireless Communications Facility**

**2589 Blue Bird Road, Falls of the Rough, KY 40116**

**Site Name: Falling Branch**

## **INTRODUCTION**

This statement is provided in support of the Application requesting approval of a Certificate of Public Convenience and Necessity ("CPCN") for construction of a new wireless communications facility on property located at 2589 Blue Bird Road, Falls of the Rough, KY 40116.

AT&T Mobility ("AT&T") is an FCC-licensed wireless communications service provider that provides essential wireless voice and data services to residential and commercial customers. AT&T delivers these services over a network of sites (i.e., antennas mounted on a support structure, with associated radio transmitting equipment) which are linked to one another and which transmit and receive signals to and from mobile phones and other wireless communication devices.

Each site provides coverage for users located in a particular area. The geographic area covered by a given site is determined by factors such as site elevation, local topography, relative location and elevation of adjacent sites and customer usage patterns for the area. The volume of usage that can be handled by an individual site is limited, and sites must be carefully located to provide sufficient coverage for users in a given area. Sites must also be located with reference to other sites in the network to provide seamless mobile connectivity while also avoiding interference with one another.

## **THE FALLING BRANCH SITE**

AT&T's wireless communications antennas and associated equipment must be located within a prescribed area and at a specific elevation in order to be integrated into AT&T's existing network to provide needed coverage in Grayson County. The proposed 149-foot tall wireless communications tower (the "Proposed Facility") will provide the appropriate and necessary height for AT&T's antennas, and the location will accommodate integration of the Proposed Facility into AT&T's existing network to address the subject service need. AT&T's equipment will be constructed and operated in compliance with applicable Federal Communications Commission regulations, including such regulations regarding radio frequency interference.

## **SERVICE COVERAGE GAP**

AT&T uses industry standard propagation tools to identify the areas in its network where signal strength is too weak to provide reliable in-building service quality. This information is developed from many sources, including terrain and clutter databases which simulate the environment and propagation models that simulate signal propagation in the presence of terrain and clutter variation.

The extent of service coverage provided by existing AT&T sites in the subject area is shown on the map included as Exhibit A (page 4) with this Report. The green shading indicates areas with a signal strength level that provides acceptable in-building service coverage (i.e., where users are able to place or receive a call on the ground floor of a building). The blue shading indicates areas with a signal strength level that provides acceptable in-transit service coverage (i.e., where users should be able to place or receive a call from within a vehicle). The red shading indicates areas with a signal strength level where a customer might have difficulty receiving consistently acceptable service.

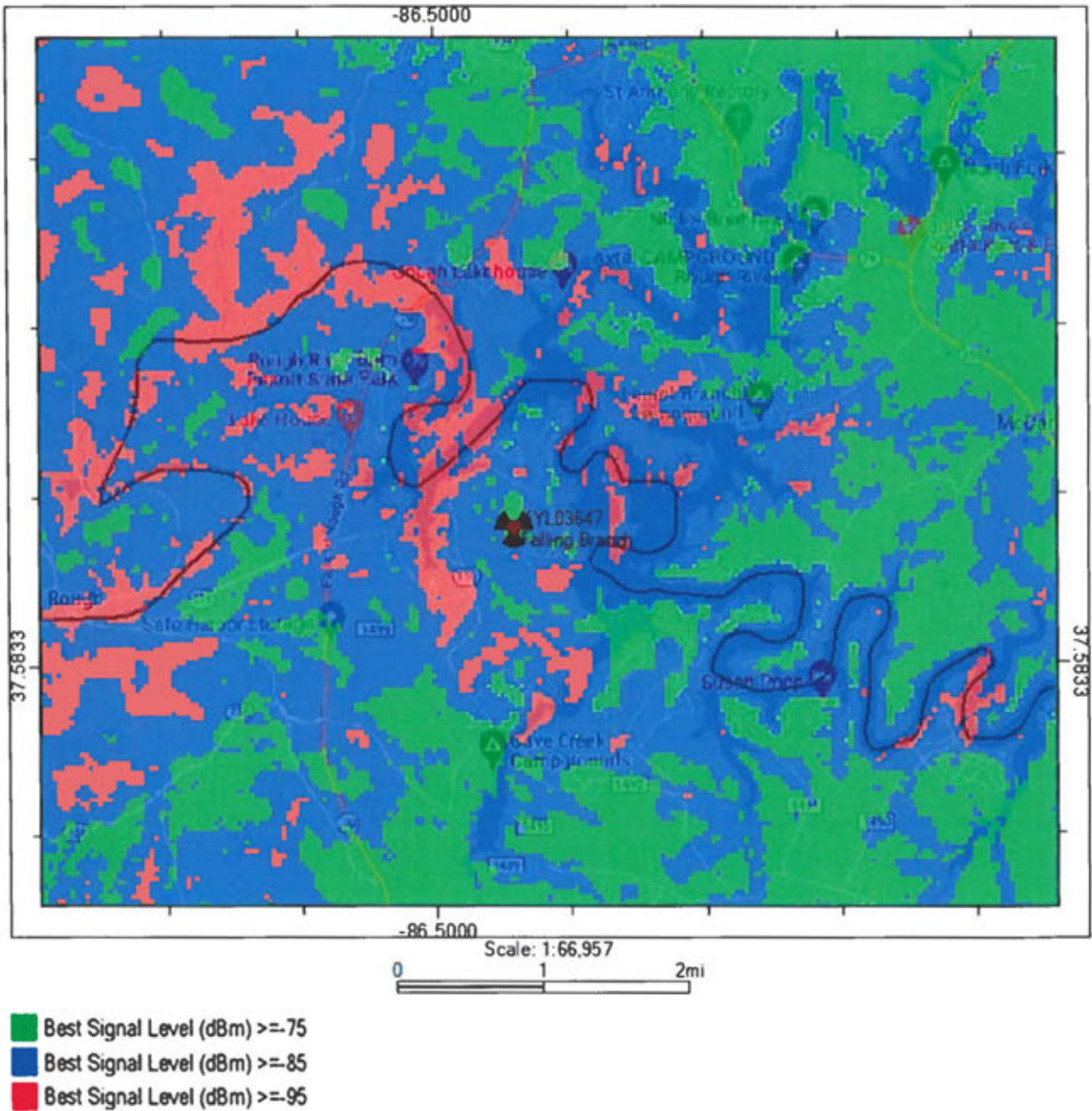
The quality of service experienced by any individual customer can differ greatly depending on whether the user is indoors, outdoors, stationary, or in transit. AT&T strives to provide consistent service to all users within a coverage area. Accordingly, the blue and red areas on Exhibit A are areas where there is currently inadequate service coverage, and a new facility is needed to close the coverage gaps that affect these areas.

AT&T proposes to construct the Proposed Facility to remedy the service issues and close the coverage gaps illustrated by Exhibit A. The map attached as Exhibit B (page 5) depicts coverage in the subject area once the Proposed Facility is built and integrated into AT&T's existing network. A comparison of Exhibit A (i.e., existing coverage) with Exhibit B (i.e., proposed coverage) clearly shows that gap areas will be significantly reduced once the Proposed Facility is operational, and this will expand coverage and improve service quality and availability in the subject area.

## EXHIBIT A

### Existing Service Coverage Without Proposed Site

This map illustrates existing coverage in the subject area. Note the clear gap in coverage in the vicinity of the Proposed Site location.

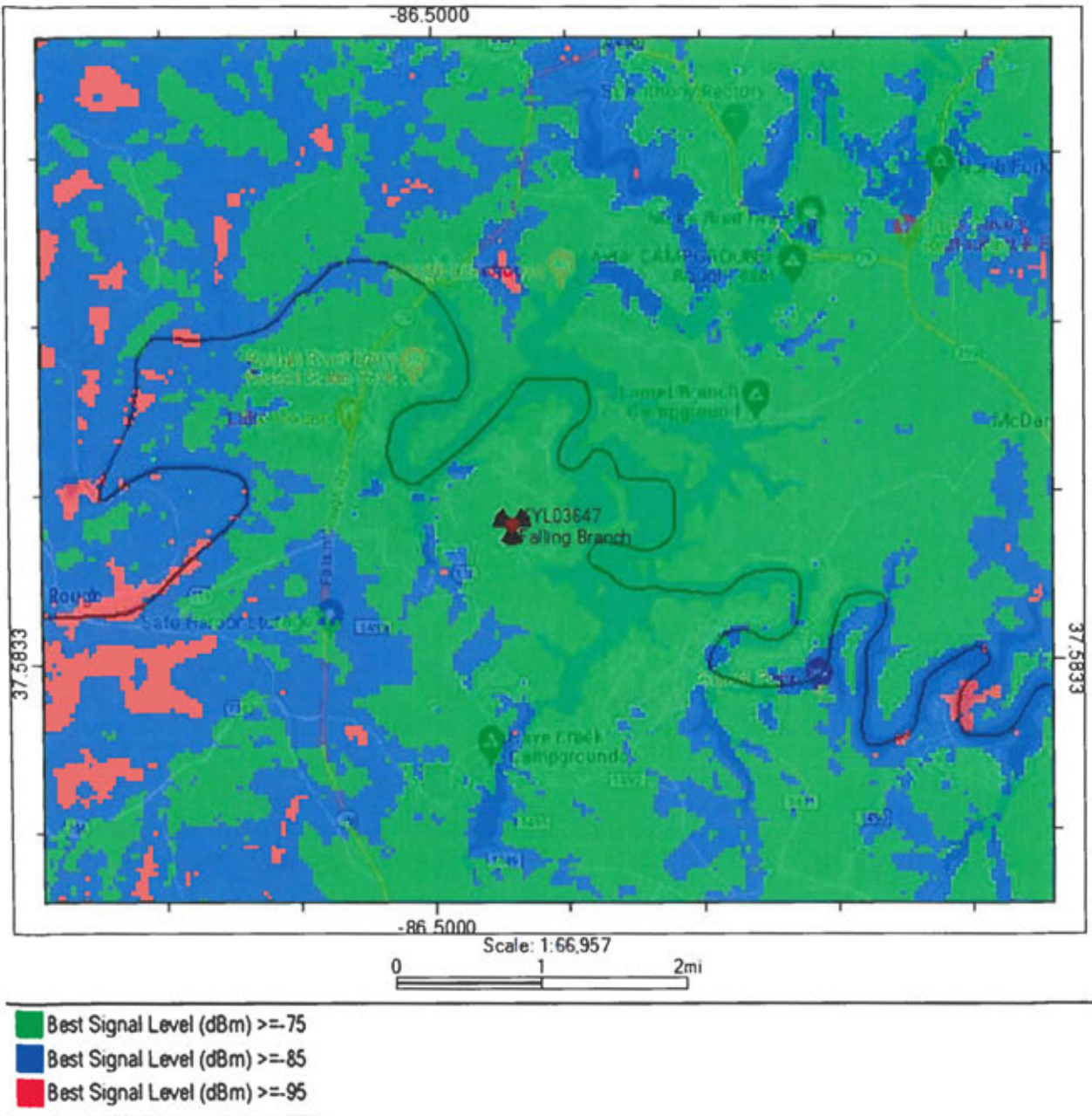




## EXHIBIT B

### Proposed Service Coverage With Proposed Site

This map illustrates coverage improvements that will be realized with the addition of the Proposed Facility.



## AT&T SEARCH AREA

The Search Area map below shows the area within which an AT&T wireless communications facility must be located in order to function properly within AT&T's network to provide service to its customers. Accordingly, the site selection process for this site was limited to this prescribed area, since locations outside the search area would not provide for adequate service and would not position the site appropriately for integration into AT&T's network.



Lat: 37.596529  
Long: -86.484175  
Radius: .35 miles

Falling Branch Search Area

**CONCLUSION**

The Proposed Facility will be a necessary link in AT&T's wireless network infrastructure. The location for the Proposed Facility was chosen to address the service issues described in this report, and the height of the tower proposed as part of the Proposed Facility is the minimum necessary to provide adequate service to the area.

Sh. Lewis

Sherri Lewis  
RAN Engineer  
AT&T Mobility

Date: 9/10/22

State of Indiana )

County of Posey )



On this, the 10<sup>th</sup> day of September 2022 before me, the subscriber, a Notary Public in and for the above state, personally appeared to me, Sherri Lewis, RAN Engineer for AT&T Mobility, and in due form of law, acknowledged, subscribed, and swore under oath that she signed the foregoing as her voluntary act and deed as certification that the within contents are true and accurate to the best of her knowledge, information, and belief formed after a reasonable inquiry.

In testimony whereof, I have hereunto set my hand and affixed my seal in said County and State on the day and year last above written.

My commission expires on: April 5<sup>th</sup>, 2024

Andrea Blythe  
Notary Public