

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

THE APPLICATION OF)
NEW CINGULAR WIRELESS PCS, LLC,)
A DELAWARE LIMITED LIABILITY COMPANY,)
D/B/A AT&T MOBILITY)
AND TILLMAN INFRASTRUCTURE LLC, A DELAWARE)
LIMITED LIABILITY COMPANY)
FOR ISSUANCE OF A CERTIFICATE OF PUBLIC) CASE NO.: 2024-00284
CONVENIENCE AND NECESSITY TO CONSTRUCT)
A WIRELESS COMMUNICATIONS FACILITY)
IN THE COMMONWEALTH OF KENTUCKY)
IN THE COUNTY OF GRAYSON)

SITE NAME: FALLING BRANCH

* * * * *

**APPLICANTS’ REBUTTAL TESTIMONY IN SUPPORT OF APPLICATION FOR
CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY**

New Cingular Wireless PCS, LLC, a Delaware limited liability company, and Tillman Infrastructure LLC, a Delaware limited liability company (“Applicants”), by counsel, hereby timely submit their attached and incorporated Rebuttal Testimony in support of their request for issuance of a Certificate of Public Convenience and Necessity (“CPCN”) consistent with the Procedural Schedule established by the PSC’s Order of January 7, 2025. Said Rebuttal Testimony includes:

- Exhibit A** – Radio Frequency Engineering Statement previously Filed herein on December 12, 2024

- Exhibit B** – Drawing Prepared by G. Darryl Taylor – February 24, 2025

- Exhibit C** – Plat Recorded in Plat Cabinet 2, Slide 600 in the Office of the Grayson County, Kentucky Clerk

- Exhibit D** – Deed to Terry L. Newton and Kimberly D. Newton Recorded in Deed Book 441, Page 461 in the Office of the Grayson County, Kentucky

Clerk

Exhibit E – Report of Appraiser Glen Katz previously filed in PSC Case No. 2021-00398

The PSC’s Order of April 12, 2024 in Case No. 2021-00398 states that if the applicants file a new case, that the record of such case shall be incorporated in the new case. The PSC’s Order of January 7, 2025 states in pertinent part: “... *in order to facilitate efficiency in processing this case as noted in the final Order of Case No. 2021-00398, the entirety of the record in Case No. 2021-00398 should be incorporated by reference into this case.*” Consistent with these Orders, Applicants incorporate by reference all of Applicants’ testimony, reports, and documentary evidence from Case No. 2021-00398 as additional Applicants’ Rebuttal Testimony in the within proceeding.

CERTIFICATE OF SERVICE

We hereby certify that the within was served on Interveners Roger & Janelle Nicolai 2663 Blue Bird Road, Falls of Rough, KY 40119, by First Class U.S. Postal Service Mail, postage prepaid, and via e-mail to janelle.nicolai.com on this 28thth day of February 2025.

Respectfully submitted,



David A. Pike

and



F. Keith Brown

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EXHIBIT A



2024 Radio Frequency Engineering Statement

in support of Application for

Proposed Wireless Communications Facility

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

PSC Case No. 2024-00284

Site Name: Falling Branch

(Site Location Moved from location proposed in Case No. 2021-00398)

BACKGROUND

New Cingular Wireless PCS, LLC (“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.

There is a significant gap in AT&T’s wireless coverage in the vicinity of the proposed site. The gap exists because there is insufficient wireless service infrastructure in the subject area. As part of AT&T’s overall plan for the county, a new wireless communications facility is needed to substantially close this gap so that quality service may be provided to wireless service users.

To remedy this problem, new wireless communications antennas and associated equipment must be located geographically (as discussed further below) and placed at a specific elevation in order to be integrated into AT&T’s existing network to provide coverage in the subject area. Accordingly, AT&T proposes to locate its equipment on a 111-foot tall monopole tower proposed for construction on property located at 2589 Blue Bird Road, Falls of the Rough, KY 40116 (the “Proposed Facility”). Said location has been moved approximately 240 feet further from the Intervenors’ residence compared to the location originally proposed in Case No. 2021-00398. The proposed tower height and selected location are necessary for the Proposed Facility to function properly within AT&T’s network to substantially close the coverage gap, and AT&T’s equipment will be installed and operated in compliance with applicable Federal Communications Commission regulations.

The proposed location is a compromise site. It may not provide the same coverage as the location proposed originally in Case No. 2021-00398. However, it will provide adequate coverage to substantially reduce the significant gap in AT&T’s coverage for the subject area.

BENEFIT TO THE COMMUNITY

In addition to voice service in the subject area, AT&T provides high speed data service, with the goal of providing the most advanced personal wireless experience available to AT&T customers. Phones, tablets and even laptop computers now access the internet quickly and efficiently without the need to be connected to a cable or restricted to a small Wi-Fi hotspot as was the case in the past. This has brought about many new innovations, including devices such as parking meters that can report their status, vending machines that can report their inventory levels, delivery vehicles

that report package delivery and receipt and the “connected car,” which will not only stream audio but also be able to share diagnostic information, provide real-time traffic updates, report accidents and caution its owner about speeding or aggressive driving.

Expanded wireless communications services are also important to businesses that use these services to support their operations. It is becoming common for AT&T to receive service quality inquiries from businesses when they are planning to locate to a new area. They want to know what infrastructure and technology is in place prior to making a move decision. Wireless carriers also provide real-time internet access for law enforcement, fire and medical transport vehicles, which not only allows immediate access to information when needed, but can also help determine the closest unit to an area of need and help determine the fastest route to the site of an emergency based on current conditions.

FIRSTNET

AT&T is pleased to have been selected as the nationwide public safety broadband network provider for the First Responder Network Authority (“FirstNet”), an advanced broadband network dedicated specifically to public safety communications. Congress created FirstNet to address emergency response communications shortcomings that were initially identified in the aftermath of the September 11, 2001 terrorist attacks.

All 50 U.S. states and 2 territories have opted in to FirstNet, which means that this will truly be a national network that is completely interconnected and will not stop at any state lines.

The proposed site is designed to be part of FirstNet and will provide coverage and capacity for the FirstNet platform. Availability of FirstNet in the subject area improves public safety by providing advanced communications capabilities to assist public safety agencies and first responders.

The following documents are attached as addenda to this report to provide the Commission with additional information regarding the benefits of FirstNet:

1. AT&T Press Release: *AT&T Selected by FirstNet to Build and Manage America’s First Nationwide Public Safety Broadband Network Dedicated to First Responders*
2. FirstNet Authority Top 10 Frequently Asked Questions
3. FirstNet Authority - FirstNet for 911 Telecommunicators
4. FirstNet Authority Press Release: *FirstNet Authority, AT&T Announce 10-Year Investment to Transform America’s Public Safety Broadband Network*

5G (FIFTH GENERATION MOBILE NETWORK)

The proposed facility will also support the addition of 5G (Fifth Generation Mobile Network) service to provide significantly enhanced data speeds, as well as network capacity and efficiency to carry more traffic than conventional 4G wireless facilities. The data speeds are significantly higher than comparable 4G sites and provide a “fiber like” mobile experience that improves speeds for uploading, downloading, streaming, and sharing content for area users. The increased bandwidth and capacity, reduced latency, and enhanced support for edge computing from AT&T 5G coverage can provide coverage and support for cities and areas where the deployment of smart devices for public safety and convenience will provide a new level of connectivity.

Adding 5G coverage to the AT&T network will also support improvements to FirstNet to meet first responders’ needs and support innovative new technologies to help them stay mission ready. Because reliability is critical, first responders will maintain access to AT&T’s LTE spectrum bands, with “always-on” priority and preemption, while also gaining access to AT&T’s 5G spectrum for enhanced speed and capacity. The Proposed Facility will be a key network component of the dedicated FirstNet network core for reliable, secure 5G service to support public safety.

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 6) 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, and white indicates areas where there is little or no measurable signal strength.

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, red and white 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.

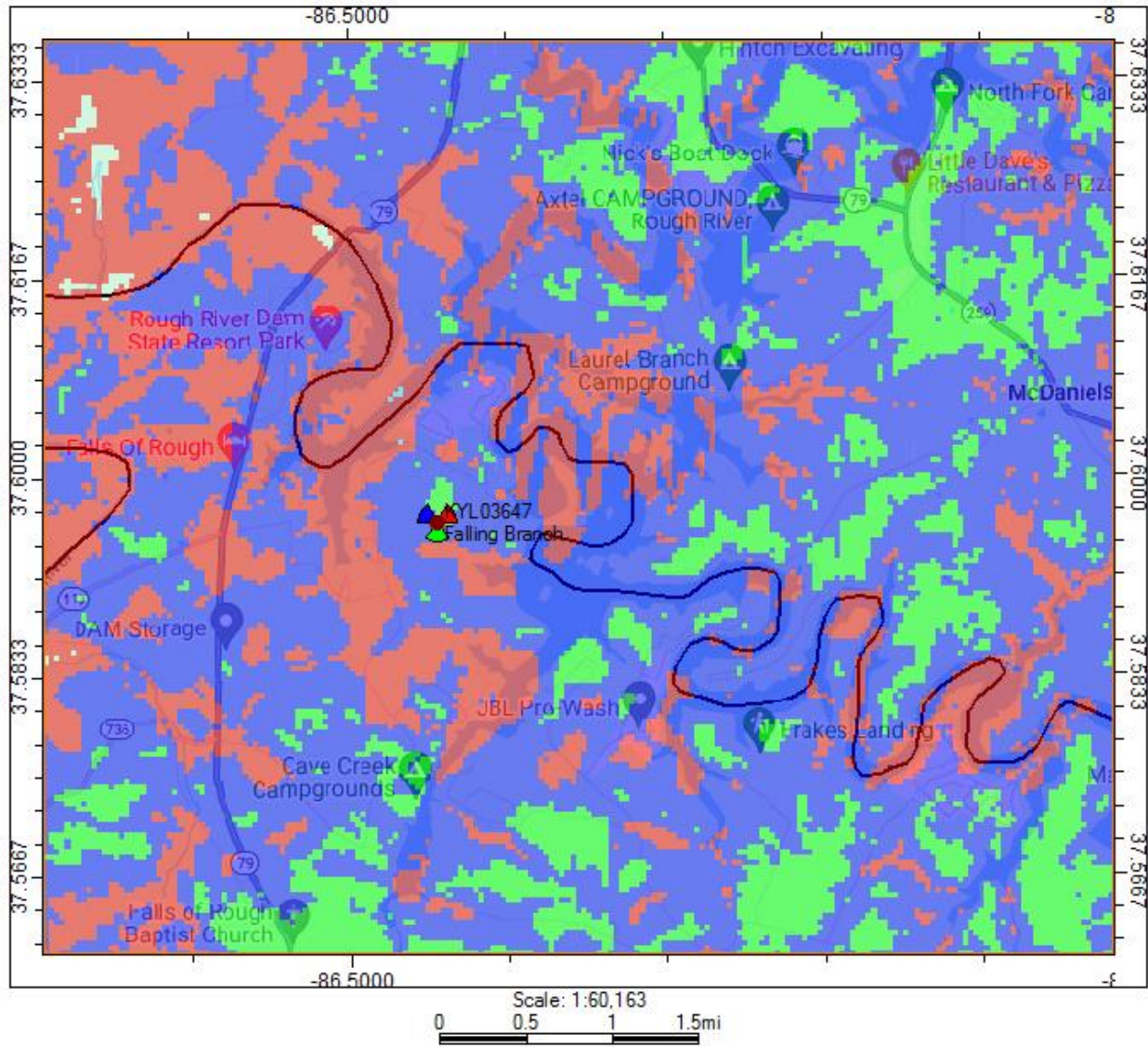
AT&T proposes to construct the Proposed Facility to substantially remedy the service issues and substantially close the coverage gaps illustrated by Exhibit A. The map attached as Exhibit B (page 7) depicts coverage in the subject area once the Proposed Facility is built and integrated into AT&T's existing 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.

A particular benefit of this proposed facility will be the expansion of coverage and improvement of service quality and availability for a portion of Rough River Lake, a popular boating and recreation area.

EXHIBIT A

Existing Service Coverage Without Relocated 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.

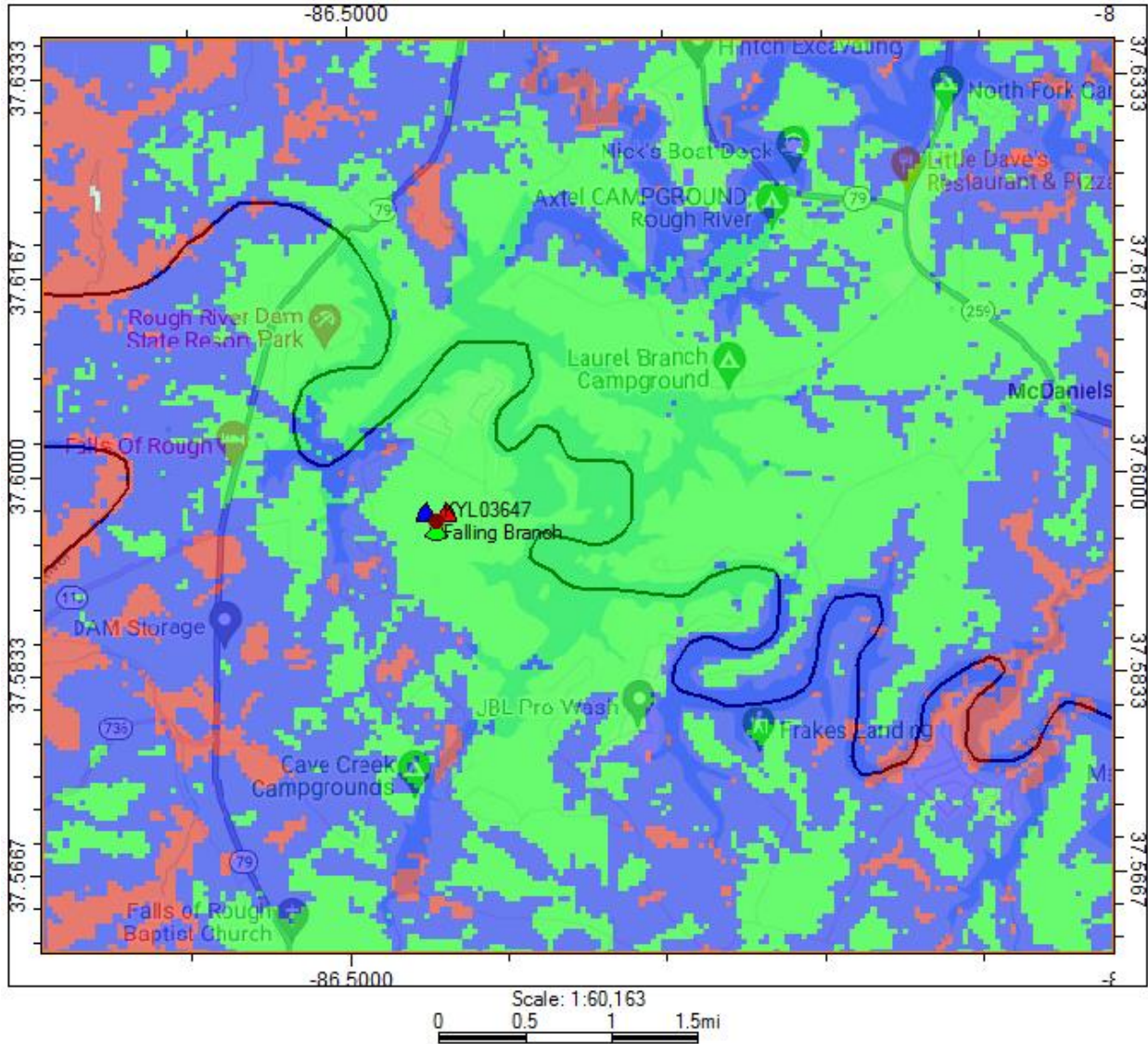


- Best Signal Level (dBm) >=-75
- Best Signal Level (dBm) >=-85
- Best Signal Level (dBm) >=-95

EXHIBIT B

Proposed Service Coverage With Relocated Proposed Site

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



AT&T SEARCH AREA

The following Search Area map included as Exhibit C below shows the area within which an AT&T wireless communications facility should be located in order to function optimally within AT&T's network and fulfill the coverage objectives and network design criteria discussed herein.

Whenever possible, AT&T seeks to co-locate its equipment on existing structures, since co-location speeds deployment of new facilities and reduces tower proliferation. However, there are no reasonably available opportunities to co-locate AT&T's antennas on an existing structure within the Search Area that will satisfy the service objectives for this site.

EXHIBIT C

Search Area Map

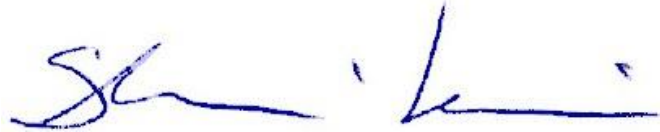


Lat: 37.596529
Long: -86.484175
Radius: .35 miles

Falling Branch Search Area

CONCLUSION

The Proposed Facility will provide necessary infrastructure as part of AT&T's wireless network. 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. Once operational, the Proposed Facility will provide and improve the wireless communications services in the area, and the Proposed Facility will be constructed and operated in accordance with all applicable FCC regulations and requirements.

A handwritten signature in blue ink, appearing to read 'Sherri Lewis', is written above a horizontal line.

Sherri Lewis
RAN Engineer

ADDENDUM 1

AT&T Press Release: AT&T Selected by FirstNet to Build and Manage America's First Nationwide Public Safety Broadband Network Dedicated to First Responders

AT&T Selected by FirstNet to Build and Manage America's First Nationwide Public Safety Broadband Network Dedicated to First Responders

[Our Company](#) / Dallas, Texas, Mar 30, 2017

Public-Private Infrastructure Investment Helps Police, Firefighters & Other First Responders Keep America Safe

FirstNet Investments Expected to Create 10,000 Jobs

[AT&T*](#) has been selected by the First Responder Network Authority (FirstNet) to build and manage the first [broadband network](#) dedicated to America's police, firefighters and emergency medical services (EMS). The FirstNet network will cover all 50 states, 5 U.S. territories and the District of Columbia, including rural communities and tribal lands in those states and territories.

This is a much needed investment in America's communications infrastructure to support millions of first responders and public safety personnel nationwide who protect and serve more than 320 million people across the U.S. This significant public-private infrastructure investment is expected to create 10,000 U.S. jobs over the next two years from AT&T's work for FirstNet. The network buildout will begin later this year.

Randall Stephenson, AT&T chairman and CEO, said, “We are honored to work with FirstNet to build a network for America’s police, firefighters and EMS that is second to none. This is an unprecedented public-private investment in infrastructure that makes America a leader and public safety a national priority.”

“Today is a landmark day for public safety across the Nation and shows the incredible progress we can make through public-private partnerships,” said U.S. Department of Commerce Secretary Wilbur Ross. “FirstNet is a critical infrastructure project that will give our first responders the communications tools they need to keep America safe and secure. This public-private partnership will also spur innovation and create over ten thousand new jobs in this cutting-edge sector.”

Today, first responders use commercial networks – the same ones used by consumers and businesses – for mobile data and applications. That can be an issue when a significant public safety crisis happens and commercial networks quickly become congested. It makes it difficult for first responders to communicate, coordinate and do their jobs.

Plus, first responders use more than 10,000 networks for voice communications. These networks often do not interoperate, which severely limits their ability to communicate with each other when responding to a situation.

FirstNet’s mission is to fix this. Through this new public-private partnership with FirstNet, AT&T will deliver a dedicated, interoperable network and ecosystem that will give first responders the *technology they need to better communicate and collaborate across agencies and jurisdictions – local, state and national.*

“There’s no connection more important than one that can save a life,” said Kay Kapoor, president, AT&T Global Public Sector. “FirstNet is

unprecedented in its vision, scope and importance to our nation and the future of public safety communications. We're honored to be selected for this historic and critical initiative.”

“This partnership brings together FirstNet as the voice of public safety and a global technology team with a proven track record and commitment to public safety,” said FirstNet CEO Mike Poth. “Together, FirstNet and AT&T will move with precision and urgency to deliver this much-needed infrastructure to those who need it the most: the first responders we rely on in disasters and emergencies.”

In addition to creating a nationwide seamless, IP-based, high-speed mobile communications network that will give first responders priority access, the network will help:

- Improve rescue and recovery operations to help keep first responders out of harm's way
- Better connect first responders to the critical information they need in an emergency
- Further the development of public safety focused [IoT](#) and Smart City solutions such as providing near real-time information on traffic conditions to determine the fastest route to an emergency
- Enable advanced capabilities, like wearable sensors and cameras for police and firefighters, and camera-equipped drones and robots that can deliver near real-time images of events, such as fires, floods or crimes

FirstNet and AT&T will innovate and evolve the network to keep the public safety community at the forefront of technology advances. For example, as 5G network capabilities develop in the coming years, FirstNet and AT&T will work together to provide the exponential increases in the speed with which video and data travel across the FirstNet network.

To help FirstNet achieve its public safety mission, AT&T has assembled a team that includes Motorola Solutions, General Dynamics, Sapient Consulting and Inmarsat Government.

The broad terms of this 25-year agreement between FirstNet and AT&T are:

- FirstNet will provide 20 MHz of high-value, telecommunications spectrum and success-based payments of \$6.5 billion over the next five years to support the network buildout; FirstNet's funding was raised from previous FCC spectrum auctions.
- AT&T will spend about \$40 billion over the life of the contract to build, deploy, operate and maintain the network, with a focus on ensuring robust coverage for public safety users.
- Additionally, AT&T will connect FirstNet users to the company's telecommunications network assets, valued at more than \$180 billion.

The strong participation of states in the FirstNet network will help make this significant investment in America's communications infrastructure a reality. As states join FirstNet, investment in infrastructure and job creation will follow.

For more information on AT&T's selection, please visit att.com/FirstResponderNews. For more information about FirstNet, please visit FirstNet.gov/mediakit.

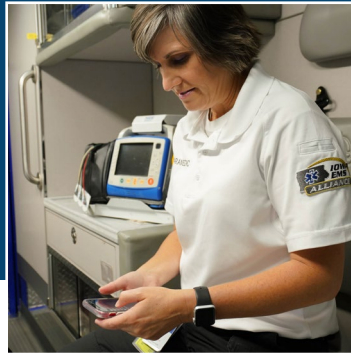
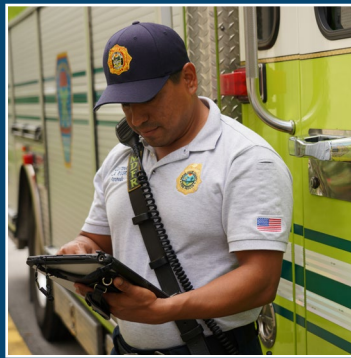
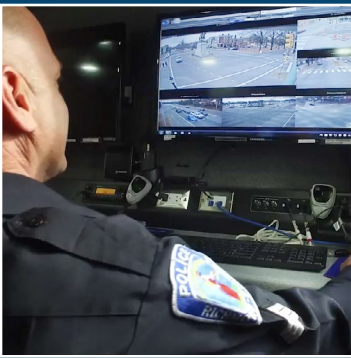
*AT&T products and services are provided or offered by subsidiaries and affiliates of AT&T Inc. under the AT&T brand and not by AT&T Inc.

ADDENDUM 2

FirstNet Authority Top 10 Frequently Asked Questions

Top 10

Frequently Asked Questions



1. What is the First Responder Network Authority?

The First Responder Network Authority is the independent authority established by Congress to deliver a nationwide broadband network dedicated to public safety. The network is strengthening public safety users' communications capabilities, enabling them to respond more quickly and effectively to accidents, disasters, and emergencies.

The First Responder Network Authority is led by a Board of leaders and executives from the public safety community; federal, state, and local governments; and the technology, finance, and wireless sectors. It has a staff of about 200 employees with expertise in public safety, telecommunications, customer service, technology, procurement, and other areas needed to develop the network.

It is headquartered in Reston, Virginia, and has a technology center and lab in Boulder, Colorado.

2. What led to the creation of the First Responder Network Authority?

The 9/11 terrorist attacks brought to the forefront the many communications challenges that first responders face during emergencies and disasters. These issues were captured in the *9/11 Commission Report*, which identified gaps in emergency communications and recommended a nationwide network for law enforcement, fire, and emergency medical personnel communications.

The public safety community united to fulfill the 9/11 Commission's recommendation. Public safety organizations and associations advocated before Congress for a dedicated, reliable wireless network for first responders. Their advocacy efforts led to the passage of legislation in 2012 to create the agency to deploy the Network in all U.S. states and territories, including rural communities and tribal nations.

3. How has public safety been involved in the vision for the FirstNet network?

Public safety officials have worked closely with the First Responder Network Authority since its inception in 2012 to ensure the network meets first responders' needs – today and in the future. The agency's outreach and consultation efforts have connected the organization to more than 3 million first responders and state public safety and technology executives across the country.

Specifically, the First Responder Network Authority has consulted extensively with **state single points of contact (SPOCs)** in each of the 50 U.S. states, 5 territories, and the District of Columbia, as well as local/municipal, tribal and federal public safety leaders. It also coordinates with public safety through the **Public Safety Advisory Committee (PSAC)**, which provides guidance and subject matter expertise from a first responder perspective. Public safety leaders at the national, state and local levels continue to advocate for and support deployment of the network.

4. How was AT&T selected to build, operate, and maintain the FirstNet network?

The First Responder Network Authority and the Department of Interior made the 25-year award based on the determination of the overall best value solution for FirstNet and public safety. The buildup to the award included a fair, competitive procurement process that began in January 2016 with **release of the Network RFP**.

The procurement process followed the Federal Acquisition Regulation (FAR) and encouraged offerors to provide innovative solutions that could meet or exceed the needs of public safety.

The procurement was open to all entities, whether traditional wireless companies or new entrants, provided their proposal could meet the RFP's statement of objectives. AT&T was selected on a best-value award that considered financial sustainability and was based on more than just a technically acceptable solution at the lowest cost. The evaluation of proposals assessed the offerors' ability to submit a cost-effective and innovative model, and to meet or exceed the 16 objectives and evaluation factors outlined in the FirstNet RFP.

5. Why is the Network being built and operated through a public-private partnership?

The First Responder Network Authority and AT&T are modernizing and improving public safety communications by leveraging private sector resources, infrastructure, and cost-saving synergies to deploy and operate the network. This public-private model also helps keep costs down for American taxpayers. To do this, Congress used the sale of communications airwaves (or spectrum) to fund FirstNet's initial operations and help start network deployment; the \$7 billion FirstNet received in initial funding came from FCC spectrum auction revenue, not taxpayer funds.

If the federal government were to build, maintain and operate this network, the estimated cost would be tens of billions of dollars over 25 years. **The Government Accountability Office has estimated** it could cost up to \$47 billion over 10 years to construct and operate the Network.

With this partnership approach, the First Responder Network Authority and AT&T do not need any additional federal funding to build and operate the network – it is a fully funded and self-sustaining. In return, America's first responders get services far above and beyond what they have today over a first-class broadband network dedicated to their communications needs.

6. What are the key terms this public-private partnership?

Congress intended for the network to be built and operated as a public-private partnership that brings together the best of the private sector, including commercial best practices, infrastructure, and resources – with the First Responder Network Authority's public safety expertise. This approach will lead to a fully-funded, self-sustaining Network that will serve public safety for years to come. This business model is built upon the efficient use of resources, infrastructure, cost-saving synergies, and incentives, including:

- 20 MHz of federally owned spectrum and \$6.5 billion in initial funding to the partnership; in return AT&T will deploy and operate a nationwide high-speed broadband network for public safety over 25 years.
- AT&T will invest about \$40 billion over the life of the contract to build, operate, deploy, and maintain the Network, and together with the First Responder Network Authority will help ensure the Network evolves with the needs of public safety.
- AT&T can use FirstNet's spectrum when it is not being used by public safety for other, commercial purposes. The company will prioritize first responders over any other commercial users.
- First Responder Network Authority will oversee the contract to ensure it delivers innovation, technology and customer care to public safety through various mechanisms, including subscriber adoption targets, milestone build-outs, disincentive fees and other mechanisms outlined in the contract.

7. What will the FirstNet Network provide first responders that they don't have today?

Today, in emergencies and at large events, heavy public use can lead to wireless communications networks becoming overloaded and inaccessible. In those instances, public safety users are treated the same as any other commercial or enterprise user, and communications can be limited due to congestion and capacity issues.

With the FirstNet network, public safety get a dedicated "fast lane" that provides highly secure communications every day and for every emergency. It delivers specialized features to public safety that are not available on wireless networks today – such as priority access; preemption; more network capacity; and a resilient, hardened connection. The network also delivers more than just a public-safety-dedicated wireless connection – it creates devices and apps ecosystems that connect first responders to innovative, life-saving technologies.

8. How will the Network benefit first responders and help them do their jobs better?

FirstNet improves communications, response times and outcomes for first responders from coast-to-coast, in rural and urban areas, inland and on boarders – leading to safer, and more secure communities. The network provides first responders with innovation and robust capacity so they can take advantage of advanced technologies, tools and services during emergencies, such as:

- Applications that allow first responders to reliably share videos, text messages, photos and other information during incidents in near real-time;
- Advanced capabilities, like camera-equipped connected drones and robots, to deliver images of wildfires, floods or other events;
- Improved location services to help with mapping capabilities during rescue and recovery operations; and
- Wearables that could relay biometric data of a patient to the hospital or alert when a fire fighter is in distress.

Network technology will also be tested and validated through the **FirstNet Innovation and Test Lab**, located in Boulder, Colorado, so first responders will have the proven tools they need in disasters and emergencies.

9. What's happening with FirstNet now?

All 50 states, five U.S. territories and Washington, D.C., have “opted in,” to FirstNet, meaning each has accepted its individual State Plan detailing how the network will be deployed in their state/territory.

The First Responder Network Authority's public-private partnership with AT&T provides first responders with immediate access to mission-critical capabilities over the FirstNet network. This includes priority and preemption features that give first responders their own “fast lane” on the public safety network to communicate and share information during emergencies, large events, or other situations when commercial networks could become congested. FirstNet is the only broadband network with dedicated spectrum for public safety (Band 14) and ‘always on’ priority and preemption for access to the network even during times of network congestion.

Key FirstNet activities include:

Expanding the network and building out Band 14: The First Responder Network Authority has issued work orders to deploy the RANs. This gave AT&T the green light to expand FirstNet's footprint and deploy Band 14 capacity and coverage throughout the nation, providing first responders with the bandwidth, capacity, and public safety features they need to communicate, share information, and use innovative technologies every day and in every emergency.

Driving public safety innovation: FirstNet is also unlocking a new technology marketplace for public safety, enabling first responders to benefit from advancements in innovation. The FirstNet App Catalog is filling up with FirstNet-approved mobile apps that are optimized for public safety use over the Network.

Securing emergency communications: FirstNet's first-of-its-kind core infrastructure gives first responders the dedicated, highly secure, non-commercial network they deserve. The FirstNet Core, delivered in March 2018, provides encryption of public safety data over FirstNet and end-to-end cyber security. FirstNet subscribers also have access to a dedicated Security Operations Center, offering 24/7/365 support.

Creating a differentiated broadband communications experience for public safety: The First Responder Network Authority developed a new Roadmap to advance and evolve FirstNet beyond the current contractual commitments and to create opportunities for public safety to shape the future of their network. Based on input from the public safety community, the **First Responder Network Authority Roadmap** provides a view of emergency responders' critical communications needs and technology trends for mobile broadband communications over the next five years. The First Responder Network Authority will use the Roadmap to prioritize its programs, activities, and investments to ensure first responders have the communications tools they need to save lives and protect communities.

Engaging with public safety: The First Responder Network Authority will continue to engage with public safety in the states, territories, federal agencies, and tribal nations to understand their trends, drivers and priorities and collaborate with them to realize the operational benefits of FirstNet's differentiated broadband communications experience. Input gathered from public safety on their critical communications needs will continuously be incorporated into the First Responder Network Authority's Roadmap to help guide the growth, evolution, and advancement of FirstNet.

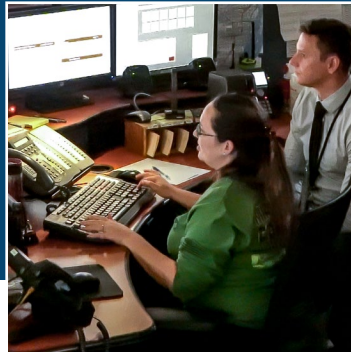
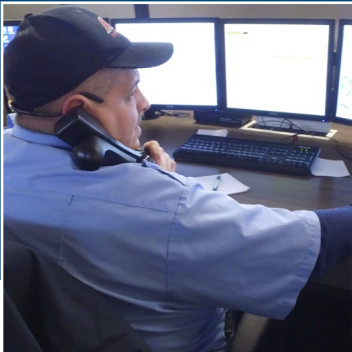
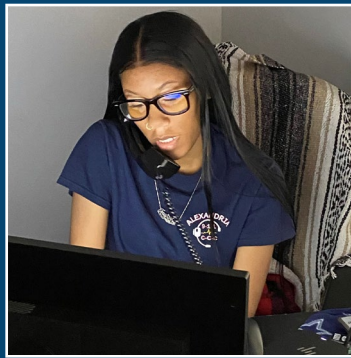
10. How can I learn more?

Stay up-to-date on the First Responder Network Authority activities and the building and deployment of FirstNet at **FirstNet.gov**. Follow us on Twitter, Facebook and YouTube.

ADDENDUM 3

FirstNet Authority - FirstNet for 911 Telecommunicators

FirstNet for 911 Telecommunicators



As a 9-1-1 Telecommunicator, you know that speed is of the essence. The faster you can deliver accurate, robust information to on-scene responders, the safer our communities are. FirstNet provides our nation's emergency communicators with a secure, reliable broadband connection to communicate with both the public and first responders.

Always-on connection, innovative tools

As the first touchpoint during an emergency, you need a network you can count on to relay information to first responders in the field. FirstNet provides a reliable network that includes priority, preemption, and quality of service—key features that ensure your communications are heard, even when networks are congested.

The FirstNet network also enables you to:

- Quickly and reliably connect to first responders in the field and other agencies and jurisdictions, as an emergency unfolds.
- Track assets and personnel.
- Have the ability to “uplift” all users, including extended primary users, to a higher priority status when needed.
- Stream high-volume data—including videos, photos, and texts—to and from your Public Safety Answering Point (PSAP) or Emergency Communications Center (ECC) to the field.
- Access 150+ FirstNet-dedicated network deployable assets, available at no cost to FirstNet subscribers, which can be used to reestablish a network connection to your ECC during a disaster that destroys existing infrastructure.

Quality of service, priority, and preemption

FirstNet's high-quality Band 14 spectrum is reserved for public safety. Because of FirstNet's built-in priority and preemption capabilities, first responders stay connected even when commercial networks are overloaded.

FirstNet supports:

Mission critical applications

- CAD
- Criminal queries/databases
- Incident Management
- Record Management Systems
- GIS/mapping
- Weather/traffic
- Video sharing
- Emergency guides
- Push-to-talk

Administrative applications

- Email/text/calendar
- Office tools (PDF, Word)
- Records management
- Reporting
- Database access
- Medical references

Secure connectivity

- Strong user authentication
- Application VPN
- Secure mobile gateway
- Mobile Device Management (MDM) policy controls
- End-to-end encryption



“FirstNet gives our tactical dispatch teams the ability to function in the field supporting the first responders on long-term, high-profile incidents with the same technical capabilities they would have if they were sitting in their dispatch center.”

Andrew Knapp
Executive Director
Hamilton County, Ohio
911 Emergency Communications Center

Remote call-taking

You can combine existing E9-1-1/NG9-1-1 call handling remote laptop solutions with FirstNet Ready™ smartphones and Wi-Fi devices for highly secure connectivity to set up remote call taking. This allows staff to handle dispatch and calls from home or other remote locations when physical access to the ECC is not possible.

Transport diversity for CAD and Call Handling

You can use the FirstNet LTE network to route calls if the terrestrial network fails. Systems can be designed to use FirstNet as a secondary or tertiary network for transport diversity.

Lowered barrier-to-entry to cloud-based intelligent dispatching

You can tie into third-party, cloud-based solutions and applications that route video and IoT feeds back into the 9-1-1 Call Center for more intelligent dispatching and routing. Applications like cloud-based CAD solutions can have a direct connection back to the ECC and can also utilize FirstNet to deliver critical information out to the field.

Mobile communication directly with first responders in the field

FirstNet can connect your ECC to the people, units and resources in the field wirelessly. So, you can use FirstNet to relay critical information to first responders and complement existing radio network communications.

Additional information:

- For use cases and testimonials, visit [FirstNet.gov/FirstNetinAction](https://www.firstnet.gov/FirstNetinAction).
- For more info about how FirstNet serves the 911 Telecommunicator community, visit [FirstNet.gov/911](https://www.firstnet.gov/911).
- Learn more about the First Responder Network Authority at [FirstNet.gov](https://www.firstnet.gov).
- Learn about FirstNet products and services on [FirstNet.com](https://www.firstnet.com).

ADDENDUM 4

**FirstNet Authority, AT&T Announce 10-Year Investment
to Transform America's Public Safety Broadband Network**

Springfield, Va., Feb. 13, 2024

FirstNet Authority, AT&T Announce 10-Year Investment to Transform America's Public Safety Broadband Network

First Responder Communications Stay at the Forefront of Innovation with 5G Upgrades, Coverage Enhancements, and Mission-Critical Services.

Key Takeaways:

- The First Responder Network Authority (FirstNet Authority) is launching the next phase of FirstNet through a series of strategic investments totaling more than \$8 billion over 10 years.¹
- Today, the FirstNet Authority and its network partner, AT&T, join to unveil the latest network investment of \$6.3 billion, delivering full 5G capabilities on FirstNet, expanded mission-critical services, and enhanced coverage. The FirstNet Authority anticipates an additional \$2 billion in ongoing investments dedicated to coverage enhancements, which is currently under discussion by the parties.
- Starting in March, FirstNet will provide America's first responders with *always-on* priority and preemption across 5G, expanding to include all AT&T 5G commercial spectrum.
- AT&T is deploying a new standalone FirstNet 5G network core built on the latest industry standards with dedicated public safety functionality and features.
- The FirstNet Authority and AT&T will continue to work with public safety officials and government stakeholders to grow and enhance the network.

What's the news? The FirstNet Authority and its network partner, AT&T*, are announcing a major investment in the future of public safety communications. The FirstNet Authority's 10-year, \$8 billion investment initiative will evolve and expand **FirstNet**[®] — America's public safety network. The FirstNet Authority plans to invest \$6.3 billion through its network contract with AT&T and anticipates an additional \$2 billion for ongoing investments in coverage enhancements for public safety, which is currently under discussion by the parties. These strategic investments will expand and evolve FirstNet so public safety stays at the forefront of innovative, lifesaving technologies.

As public safety's partner, AT&T has already grown FirstNet — the *only* network built with and for America's first responders and the extended public safety community — to cover more first responders than any network nationwide. With **more than 5.5 million connections and about 27,500 public safety agencies and organizations on FirstNet**,² first responders can reliably communicate with one another during everyday operations, big events, emergencies in the field, and more.

This landmark announcement launches the next phase of FirstNet with a 10-year investment initiative that will:

- Provide first responders on FirstNet with *always-on* **priority and preemption across all AT&T 5G commercial spectrum** bands, starting in March.
- Build thousands of new, purpose-built FirstNet cell sites across the country – including **1,000 new sites within the next two years**. Beyond the initial \$6.3 billion investment, the FirstNet Authority anticipates additional investments over the next decade to deliver Band 14 coverage enhancements. These coverage investments will reflect public safety factors and network considerations, all in support of public safety response operations.
- Create a **standalone 5G core** to enhance current 5G functionality with specific public safety features on FirstNet and support the transition of public safety's Band 14 spectrum from LTE to 5G.

- Expand **mission-critical services** — voice, video, data, and location — to complement public safety’s localized, voice-only radio systems with reliable, wireless connectivity.
- Upgrade public safety’s dedicated **fleet of deployable network assets with 5G connectivity** to improve operational safety, security, and resiliency.
- Ready the network to **evolve beyond 5G**, while remaining focused on public safety’s unique needs and emerging requirements when implementing future technological advancements.

Why is this important? FirstNet is a catalyst for technology and innovation for public safety. The network has created a robust ecosystem of mission-centric apps, solutions, and dedicated connectivity for public safety operations. This strategic investment initiative ensures FirstNet remains at the forefront of technology, continues to solve the communications challenges facing public safety today, and has the flexibility to adapt to public safety’s future needs.

With the [initial buildout of FirstNet complete](#) - covering more than 2.97 million square miles - this investment initiative will expand access to public safety’s Band 14 spectrum in the near term, with plans for additional coverage enhancements on a recurring basis. The FirstNet Authority will work closely with public safety across the states, territories, and tribal lands to identify areas that could benefit from broader coverage. The FirstNet Authority will take this information into account, along with other public safety factors and network considerations, to ensure future coverage enhancements maximize investment dollars and make the biggest impact to public safety operations.

The transition to a full 5G network will enable FirstNet to keep pace with current evolutions in technology and 3GPP standards-based mission critical advancements. The planned 5G network upgrades will generate faster speeds, increase capacity, enhance the quality of service for FirstNet users, and drive innovations in 5G mission critical services. Throughout this multi-year transition to a full 5G network, the existing FirstNet 4G LTE network will remain fully operational and maintain the high level of service that first responders have come to rely on.



Press Release



This announcement does not change AT&T's financial guidance information provided during its January 2024 earnings.

Why does public safety need a unified, standalone 5G core? By delivering a standalone 5G core, FirstNet will be able to evolve with public safety-specific technological advancements in the coming years that simply aren't possible with 4G, while maintaining its *always-on* priority and preemption that is critical for mission-critical communications.

5G's ability to handle large amounts of data and connect more devices at once is essential to enabling the future of emergency response. From using drones to transmit high-definition video during search and rescue operations to opening the door to an influx of Internet of Things (IoT) data that will enhance situational awareness and improve emergency patient care, 5G is the foundation for the future of first responder-centric technologies.

Plus, by integrating 5G on FirstNet with [9-1-1](#), public safety will be able to leverage the full potential of this technology, allowing for a more informed and rapid response to emergencies.

What is FirstNet? FirstNet was [shaped](#) by the vision of Congress and the first responder community following the 9/11 terrorist attacks. Built in an unprecedented [public-private partnership](#), FirstNet stands above commercial offerings. The FirstNet network provides first responders with truly dedicated coverage and capacity when they need it, unique benefits like mission-critical services, and high-quality Band 14 spectrum to help save lives and protect communities. The FirstNet Authority has a legislative mandate and self-sustaining business model that requires it to invest program generated funds back into the network.

Where can I find more information? Visit [FirstNet.gov](#) to learn more about the FirstNet Authority and how the federal government is delivering on its promise to public safety. For more about the value FirstNet is bringing to public safety, check out [FirstNet.com](#). And go [here](#) for more FirstNet news.

What are people saying?

Joe Wassel

Executive Director and CEO, FirstNet Authority

“We are dedicated to the future of public safety communications, and that starts with expanding and evolving FirstNet to meet first responders’ needs. With this investment, we are ensuring FirstNet remains at the forefront of technology so that public safety can respond smarter, safer, and more effectively. I look forward to our continued partnership with the public safety community and AT&T to deliver the most reliable, innovative communications network for public safety.”

Jim Bugel

President—FirstNet, AT&T

"Our partnership with the federal government has given us the distinct privilege of delivering America's public safety network. FirstNet is critical infrastructure that is reliably connecting those who tirelessly protect and serve. With 5G, public safety will unlock new and innovative tools to keep them mission ready — and we aren't stopping there. Together with the FirstNet Authority, we will continue to expand and enhance public safety’s network based on their feedback, giving them the solutions and connectivity they need, both now and in the future. That's the FirstNet promise — continually prioritizing first responders and the communities they serve.”

Chief John S. Butler

International Association of Fire Chiefs (IAFC) President and Board Chair and Fairfax County, Virginia Fire and Rescue Chief

“The IAFC is excited about today’s investment announcement — the FirstNet Authority is listening to public safety’s needs and putting resources to action to continue to improve the network for our nation’s fire and emergency services. We look forward to seeing how these continued improvements and enhancements help us in our lifesaving mission every day.”

¹Figure based upon ongoing sustainability payments.

²As of Q4 2023



Press Release



FirstNet and the FirstNet logo are registered trademarks and service marks of the First Responder Network Authority. All other marks are the property of their respective owners.

About the First Responder Network Authority

The First Responder Network Authority (FirstNet Authority) is an independent authority within the U.S. Department of Commerce. Created in 2012, its mission is to ensure the building, deployment, and operation of the nationwide broadband network that equips first responders to save lives and protect U.S. communities. Learn more at [FirstNet.gov](https://www.firstnet.gov) and follow the FirstNet Authority (@FirstNetGov) on LinkedIn, Facebook, Instagram, and Twitter for updates.

***About AT&T**

We help more than 100 million U.S. families, friends and neighbors, plus nearly 2.5 million businesses, connect to greater possibility. From the first phone call 140+ years ago to our 5G wireless and multi-gig internet offerings today, we @ATT innovate to improve lives. For more information about AT&T Inc. (NYSE:T), please visit us at [about.att.com](https://www.about.att.com). Investors can learn more at [investors.att.com](https://www.investors.att.com).

For more information, contact:

Ryan Oremland
FirstNet Authority Communications Director
Phone: 202.770.5761
Email: ryan.oremland@firstnet.gov

Jeff Kobs
AT&T Corporate Communications
Phone: 214.236.0113
Email: jeffrey.kobs@att.com

EXHIBIT B

**AFFIDAVIT AS TO EXHIBIT DRAWING PREPARED
FOR TILLMAN INFRASTRUCTURE**

The undersigned, G. DARRELL TAYLOR (Ky. Professional Land Surveyors #4179), under penalty of perjury, hereby swears and/or affirms that he is the preparer of an Exhibit Drawing for Tillman Infrastructure for which he signed the Surveyor's Certificate on such Drawing on Feb. 24, 2025. A copy of said Exhibit is attached hereto and incorporated by Reference as Exhibit A.

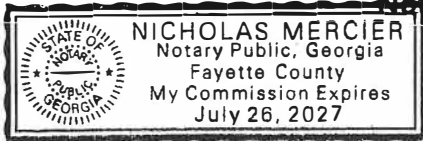

_____ (Signature)
G. DARRELL TAYLOR

STATE OF GEORGIA
COUNTY OF Fayette

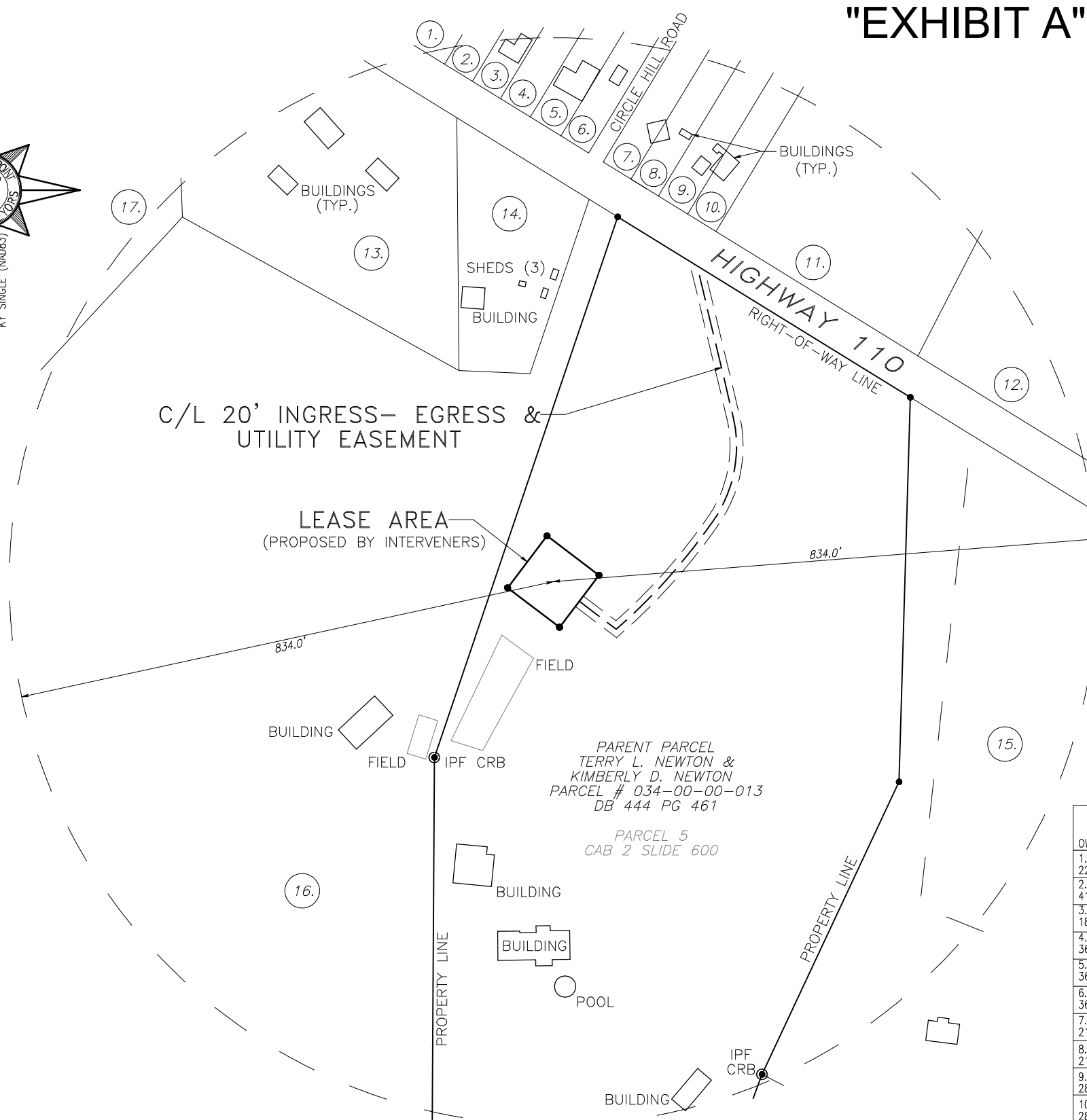
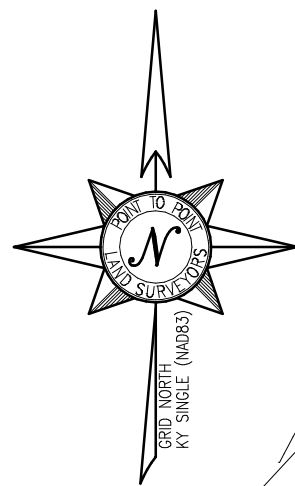
This instrument was subscribed, sworn to, and acknowledged before me by G. Darrell Taylor on this 24 day of February, 2025.
My Commission expires: 7/26/2027. My I.D. Number is:
N/A


_____ (signature)

Notary Public, STATE OF GEORGIA



"EXHIBIT A"

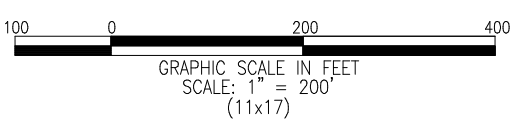


VICINITY MAP
NOT TO SCALE

834' RADIUS AND
ADJOINER DRAWING
PVA DATA OBTAINED
01/29/2025
PROVIDED BY CLIENT

ADJOINER TABLE

OWNER (PER PVA)	PARCEL NO.	DEED REF.	HOUSE ON PARCEL (PER PVA)
1. GEORGE FENTRESS FAMILY LLC 2230 JUNCTION RD, FALLS OF ROUGH, KY 40119	FENTRS CS-000.OW	N/A	
2. JAMES L. PEARL 416 BABE DR, FAIRDALE, KY 40118	FENTRS CS-053	335-17A	HOUSE
3. ROGER W. THOMPSON 187 WYNDINGBROOK RD, SHEPHERSVILLE, KY 40165	FENTRS CS-054	515/734	HOUSE
4. EMILY LIVERS 36 CIRCLE HILL RD, FALLS OF ROUGH, KY 40119	FENTRS CS-055	508/638	
5. EMILY LIVERS 36 CIRCLE HILL RD, FALLS OF ROUGH, KY 40119	FENTRS CS-056	508/638	HOUSE
6. EMILY LIVERS 36 CIRCLE HILL RD, FALLS OF ROUGH, KY 40119	FENTRS CS-057	508/638	
7. HANNAH R. & WHEATLEY T. RITO 21 CIRCLE HILL RD, FALLS OF ROUGH, KY 40119	FENTRS CS-058	514/575	HOUSE
8. HANNAH R. & WHEATLEY T. RITO 21 CIRCLE HILL RD, FALLS OF ROUGH, KY 40119	FENTRS CS-059	514/575	
9. NICHOLAS & WHITNEY STREBLE 2878 WEAVERS RUN RD, WEST POINT, KY 40177	FENTRS CS-060	485/171	
10. NICHOLAS & WHITNEY STREBLE 2878 WEAVERS RUN RD, WEST POINT, KY 40177	FENTRS CS-061	485/171	HOUSE
11. ADAM THIMPSON & TRAVIS MICHELS 9708 NORDIC DR, LOUISVILLE, KY 40272	FENTRS CS-062	504/503	
12. GEORGE FENTRESS FAMILY LLC 2230 JUNCTION RD, FALLS OF ROUGH, KY 40119	LOOK 0-000.OX	N/A	
13. DONA R. & STEVEN F. DRUEN & BRADLEY ISAAC 3963 HAWKINS RD, HODGENVILLE, KY 42748	034-00-00-012	526/91	MOBILE HOME
14. DONA R. & STEVEN F. DRUEN & BRADLEY ISAAC 3963 HAWKINS RD, HODGENVILLE, KY 42748	034-00-00-013.0A	526/96	
15. ROGER & JANELLE NICOLA 2663 BLUE BIRD RD, FALLS OF ROUGH, KY 40119	034-00-00-013.0D	452/205	HOUSE
16. MARTHA R. COPPAGE 187 CHIPMUNK LN, FALLS OF ROUGH, KY 40119	034-00-00-013.0C	443/459	
17. JOSHUA & BEVERLY DOWELL 2455 BLUE BIRD RD, FALLS OF ROUGH, KY 40119	BLUE B-027	443/459	



SURVEYOR'S CERTIFICATE

I, G. DARRELL TAYLOR, A KENTUCKY PROFESSIONAL LAND SURVEYOR, CERTIFY THAT THE INFORMATION SHOWN HEREON WAS COMPILED USING DATA FROM AN ACTUAL FIELD SURVEY MADE UNDER MY DIRECT SUPERVISION BY METHOD OF RANDOM TRAVERSE WITH SIDE SHOTS. THE UNADJUSTED PRECISION RATIO OF THE TRAVERSE EXCEEDED 1:10,000 AND WAS NOT ADJUSTED FOR CLOSURE. THIS SURVEY MEETS OR EXCEEDS THE MINIMUM STANDARDS FOR AN URBAN SURVEY AS ESTABLISHED BY THE STATE OF KENTUCKY, PER 201 KAR 18:150 AND IS IN EFFECT ON THE DATE OF THIS SURVEY.

G. DARRELL TAYLOR, PLS 4179
DATE: 02/24/2025

LEGEND

POB	POINT OF BEGINNING
POC	POINT OF COMMENCEMENT
IPF	IRON PIN FOUND
CRB	CAPPED REBAR
N/F	NOW OR FORMERLY
C/L	CENTERLINE
TYP	TYPICAL
UP	UTILITY POLE
OU	OVERHEAD UTILITY
TR	TRANSFORMER
GW	GUY WIRE ANCHOR
CPP	CORRUGATED PLASTIC PIPE
IE	INVERT ELEVATION
CO	CLEANOUT
CP	CONCRETE PAD
EP	EDGE OF PAVEMENT
MB	MAILBOX
WM	WATER METER

STATE of KENTUCKY
G. DARRELL TAYLOR
4179
LICENSED PROFESSIONAL LAND SURVEYOR

NO.	DATE	REVISION
1.	02/20/25	COMMENTS
2.	02/24/25	COMMENTS

* SPECIFIC PURPOSE SURVEY PREPARED BY:
POINT TO POINT LAND SURVEYORS
100 Governors Trace, Ste. 103
Peachtree City, GA 30269
(p) 678.565.4440 (f) 678.565.4497
(w) pointtopointsurvey.com

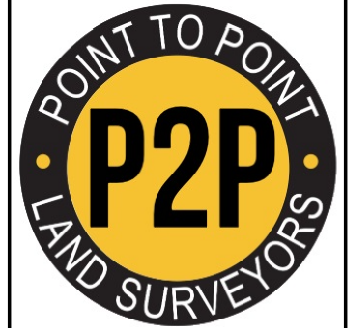


EXHIBIT DRAWING PREPARED FOR:
TILLMAN INFRASTRUCTURE
TILLMAN INFRASTRUCTURE, LLC
152 W 57TH STREET, 27TH FLOOR
NEW YORK, NY 10019

FALLING BRANCH
SITE NO. TI-OPP-17878
FA NO. 15346957
GRAYSON COUNTY, KENTUCKY

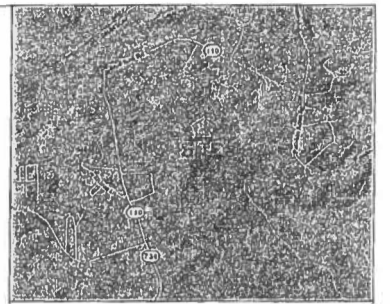
DRAWN BY: AJT/REE
CHECKED BY: JKL
APPROVED: D. MILLER
DATE: FEBRUARY 6, 2025
P2P JOB #: 250238KY

SHEET:
1
OF 1

EXHIBIT C

plat cab. 2 / slide 600

Revd. 20.00
Ex. Pg.
Date 10-27-15



VICINITY MAP (NTS)
NOTES & RESERVATIONS

1. THIS PROPERTY IS SUBJECT TO ANY AND ALL RIGHT-OF-WAY, APPURTENANCES, RESTRICTIONS AND OR EASEMENTS IN EFFECT TO DATE.
2. ALL SET CORNERS ARE 1/2" X 18" STEEL REBARS WITH IDENTIFIER CAP STAMPED "K. CLEMONS PLS 2011"
3. ADJOINING PROPERTY OWNERS ARE SHOWN ACCORDING TO PROPERTY VALUATION OFFICE.
4. SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, OWNERSHIP TITLE EVIDENCE, OR ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.

GRAPHIC SCALE



LEGEND

- 1/2" X 18" STEEL REBAR SET WITH ID CAP #2811
- CALCULATED MEANDER POINTS
- 1/2" REBAR FOUND
- 1/2" X 18" STEEL CONCRETE CYLINDER FOUND
- ▲ PK NAIL SET W/ID WASHER J38J
- 1/2" X 18" STEEL WITNESS REBAR SET W/WITNESS ID CAP J38J
- ▽ 3/8" REBAR FOUND - 3" TALL
- ▽ 1/2" X 18" STEEL WITNESS REBAR SET W/WITNESS ID CAP 2811
- △ 1/4" PIPE FOUND
- 1.25" PIPE FOUND
- 1/2" REBAR FOUND W/ID CAP 3701
- UTILITY POLE
- E — ELECTRIC LINE

LINE	BEARING	DISTANCE
L1	N 08°13'57" E	97.44
L2	N 54°50'59" W	87.37
L3	N 48°19'07" W	88.89
L4	N 27°09'27" E	237.85
L5	S 22°33'33" W	138.70
L6	S 18°48'30" W	40.00
L7	S 18°45'30" W	21.74
L8	S 11°45'43" W	83.41
L9	S 11°48'43" W	18.13
L10	S 84°01'18" E	100.38
L11	S 72°58'23" E	40.20
L12	N 88°00'21" E	70.10
L13	N 80°00'41" E	55.17
L14	S 88°03'43" E	52.34
L15	S 89°03'38" E	43.31
L16	S 88°44'48" E	185.13
L17	S 87°33'59" E	48.81
L18	S 44°31'25" E	37.74
L19	S 36°02'38" E	55.78
L20	S 35°42'55" E	52.08
L21	S 37°29'19" E	43.31
L22	N 69°53'09" E	47.40
L23	N 50°30'09" E	74.27
L24	N 88°05'50" W	170.13
L25	N 82°51'14" E	132.08
L26	N 41°13'34" W	84.47
L27	S 59°37'25" E	119.80
L28	N 88°15'51" E	99.87
L29	N 72°39'13" E	97.20
L30	N 58°59'11" E	183.80
L31	S 19°18'13" W	130.78
L32	N 14°43'41" E	160.40
L33	S 04°08'18" E	82.77
L34	S 49°39'09" W	89.83
L35	S 14°38'09" W	44.36
L36	S 18°58'14" W	58.45
L37	S 49°09'48" W	38.55
L38	S 03°37'15" E	31.48
L39	N 80°05'17" E	95.98
L40	N 54°48'41" E	85.10
L41	N 41°05'28" W	151.04
L42	N 23°22'14" E	175.81
L43	S 81°19'22" E	67.40
L44	N 85°53'53" E	40.08
L45	N 22°53'53" E	132.38
L46	N 09°04'33" E	193.47
L47	N 19°13'53" E	133.82
L48	N 29°08'33" E	111.03
L49	N 30°29'33" E	108.93
L50	N 39°03'33" E	60.57
L51	N 53°28'53" E	43.83
L52	N 71°58'53" E	34.81
L53	N 81°43'28" E	8.84
L54	N 16°31'45" W	84.89
L55	N 08°29'09" W	115.58
L56	N 43°42'58" W	117.28
L57	N 44°55'51" E	82.08
L58	N 42°17'44" E	83.74
L59	N 69°43'27" E	134.08
L60	N 87°28'51" W	109.27

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	598.011	218.00	218.87	S 88°14'51" E	20°53'55"
C2	124.88	32.45	32.35	N 09°54'20" W	14°53'10"
C3	116.07	70.06	89.00	N 32°14'13" W	34°34'52"

RIGHT-OF-WAY FOR HWY. 110 SHOWN ACCORDING TO KY. D.O.T. PLAN & PROFILE SHEETS PROJECT NO. 12 SECTION C-G; SHEETS 10 & 11; DATED 1933
RIGHT-OF-WAY FOR BLUE RIDGE ROAD SHOWN ACCORDING TO RECORD PLAT OF BLUE RIDGE DEVELOPMENT - PC. 1, SLIDE 152
RIGHT-OF-WAY FOR PARADISE ACRES ROAD SHOWN ACCORDING TO RECORD PLAT OF CAMP WET-A-LINE - PC. 1, SLIDE 79

BOUNDARY AND DIVISION SURVEY OF:

THE KENNETH AND MYRNA FENTRESS FARM DIVISION

LOCATION: 2663 BLUEBIRD ROAD, FALLS OF ROUGH, KY 40119

CLIENT/OWNER: FRANCES EDWARDS AND BEVERLY RAZOR
168 JOSEPH AVENUE
CECILIA, KY 42724

SCALE: 1" = 200' SOURCE OF TITLE: DB.382, PG.440 COUNTY: GRAYSON

AREA: AS SHOWN DATE: 09/28/2015 PROJECT: EDWARDS, FRANCES 2015

DISTANCES: GPS DRAWN BY: CJB APPROVED BY: K.C. DRAWING #:

CLEMONS & ASSOCIATES
LAND SURVEYING
103 SOUTH CLINTON STREET
LEITCHFIELD, KY 42754
PHONE: (270) 259-5898 OR 259-6674
522 NORTH MULBERRY
ELIZABETHTOWN, KY. 42701
PHONE: (270) 766-1112

State of Kentucky, County of Grayson...SC1
This instrument was filed for record on the
21st day of October, 2015
at 10:00 o'clock P.M. and duly recorded in
Part DB Book 382 Page 440
of the records of this office.
Att. Sherry Woodman, Clerk
By Kendall Clemons, Deputy Clerk

SURVEYOR'S CERTIFICATION

THERE IS AN EASEMENT FOR THE USE OF AND MAINTENANCE REPAIR/REPLACE FOR THE SPRING SHOWN HEREON AND THE SERVICE LINES TO THE HOUSE LOCATED ON LOT 1. IF THE HOUSE CEASES USE OF SAID SPRING, THIS EASEMENT IS DISSOLVED.

I HEREBY EXCLUSIVELY CERTIFY TO THE PARTIES NAMED HEREON THAT THIS PLAT DEPICTS A SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION BY THE METHOD OF "RTK" GPS MEASUREMENT OR BY RANDOM TRAVERSE. 100% OF THIS SURVEY WAS PERFORMED USING DUAL FREQUENCY TOPCON HIPER V OR JAVAD TRIUMPH GPS EQUIPMENT, WITH THE REMAINDER USING A TOPCON GTS SERIES TOTAL STATION. THIS SURVEY IS A RURAL SURVEY AND MEETS ALL OF THE ACCURACY & PRECISION SPECIFICATIONS OF THIS CLASS AND/OR THE RELATIVE POSITIONAL ACCURACY OF EACH MONUMENT IS +0.05 (100PPM). THE ANGULAR & LINEAR MEASUREMENTS HAVE NOT BEEN ADJUSTED FOR CLOSURE AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ALSO CERTIFY THAT ALL MONUMENTS INDICATED HERE DO ACTUALLY EXIST AND THAT THEIR LOCATIONS, SIZES AND MATERIALS ARE CORRECTLY INDICATED.

COMPLIES WITH 201 KAR 18.150.
HORIZONTAL DATUM - NAD 83; VERTICAL DATUM - NAVD83
GEOID MODEL - GEOID 03

Kendall Clemons
SIGNATURE

7241 10-26-15
REGISTRATION NUMBER DATE

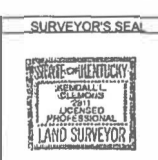


EXHIBIT D

Mailed to
Foreman Watson
Land Title LLC

444/401

03.00 Rec'd 17 00
Ex. Pg. 17
Tax 116.10
Date 12/23/2015

D E E D

THIS DEED made and entered into this the 11 day of ~~November~~ ^{December}, 2015, by and between **FRANCES EDWARDS and JOSEPH EUGENE EDWARDS, her husband**, of 168 Joseph Avenue, Cecilia, Kentucky 42724; and **BEVERLY RAZOR and RICKY RAZOR, her husband**, of 1400 Moser Road, Louisville, Kentucky 40299; whether one or more, hereinafter called First Party; and **TERRY L. NEWTON and KIMBERLY D. NEWTON, his wife**, of 2930 Lake View Boulevard, Evansville, Indiana 47720-5944; or the survivor of them, whether one or more, hereinafter called Second Party.

WITNESSETH: That for a valuable consideration paid, the receipt of which is hereby acknowledged, the First Party has this day and does by this instrument grant, bargain, sell and convey unto the Second Party, for and during their joint lives, with remainder in fee simple to the survivor of them, his or her heirs and assigns forever, the following described property located in Grayson County, Kentucky, to wit:

Certain tract or parcel of land lying on or being near the waters of Rough Creek, in Grayson County, Kentucky, and being more fully described as follows:

Being PARCEL NUMBER 5 (22.555 acres) of THE KENNETH AND MYRNA FENTRESS FARM DIVISION, as shown by plat completed September 28, 2015, appearing of record in Plat Cabinet 2, Slide 600, records of the Grayson County Clerk's Office.

BEING SUBJECT TO AN EASEMENT granted to the owners of Parcels # 1, #2 and #6 for the use water from the spring located subject property together with the 30' utility easement designated on Plat appearing in Plat Cabinet 2, Slide 600, as "water line easement leading from spring to house and barn".

Being a new survey description of a portion of that property conveyed to Frances Edwards and Beverly Razor by deed from Myrna Frances Fentress, a widow and single person, dated April 29, 2008, appearing in Deed Book 382, Page 440, records of the Grayson County Clerk.

The Tax Bill for the current year may be sent c/o Terry L. Newton, 2930 Lake View Blvd., Evansville, IN 47720-5944.

att: recording return to:
FOREMAN WATSON LAND TITLE, LLC
30 FREDERICA STREET
EVANSVILLE, KENTUCKY 42301

THE CASH CONSIDERATION FOR THIS CONVEYANCE IS \$ 45,899.42.

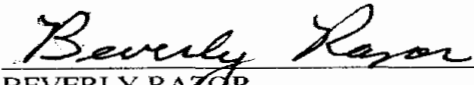
TO HAVE AND TO HOLD the above described property, together with all the rights, privileges and appurtenances thereunto belonging unto the Second Party, for and during their joint lives, with remainder in fee simple to the survivor of them, his or her heirs and assigns forever, with Covenant of GENERAL WARRANTY.

CONSIDERATION CERTIFICATE. The parties hereto state the consideration reflected in this deed is the full consideration paid for the property. The grantees join in the execution of this deed for the sole purpose of certifying the consideration pursuant to the provisions of Chapter 382 of the Kentucky Revised Statutes.

IN TESTIMONY WHEREOF, witness the signatures of the First Party and Second Party on this the day, month and year first hereinabove written.


FRANCES EDWARDS


JOSEPH EUGENE EDWARDS


BEVERLY RAZOR


RICKY RAZOR


TERRY L. NEWTON


KIMBERLY D. NEWTON

STATE OF KENTUCKY
COUNTY OF GRAYSON

I, the undersigned, a Notary Public, in and for the State and County, aforesaid, do hereby certify that the forgoing Deed and Consideration Certificate was acknowledged and sworn to before me by **FRANCES EDWARDS and JOSEPH EUGENE EDWARDS, her husband**, First Party,

to be their free act and deed.


Witness my hand, this the 11 day of ^{December}~~November~~, 2015.


NOTARY PUBLIC, STATE AT LARGE
MY COMM. EXPIRES: 12-21-2016

STATE OF KENTUCKY
COUNTY OF Jefferson

I, the undersigned, a Notary Public, in and for the State and County, aforesaid, do hereby certify that the forgoing Deed and Consideration Certificate was acknowledged and sworn to before me by **BEVERLY RAZOR and RICKY RAZOR, her husband**, First Party, to be their free act and deed.


Witness my hand, this the 29 day of November, 2015.


NOTARY PUBLIC, STATE AT LARGE
MY COMM. EXPIRES: July 7, 2018
ID# 514818

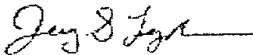
STATE OF KENTUCKY
COUNTY OF GRAYSON

I, the Undersigned, a Notary Public, in and for the State and County, aforesaid, do hereby certify that the foregoing Consideration Certificate was acknowledged and sworn to before me by **TERRY L. NEWTON and KIMBERLY D. NEWTON, his wife**, Second Party, to be their free act and deed.

Witness my hand, this the 11 day of ^{December}~~November~~, 2015.


NOTARY PUBLIC, STATE AT LARGE
MY COMM. EXPIRES:

INSTRUMENT PREPARED BY:





JEREMY S. LOGSDON
ATTORNEY AT LAW
62 PUBLIC SQUARE
LEITCHFIELD, KY 42754
(270) 259-4828

State of Kentucky, County of Grayson...SCT
This instrument was filed for record on the
23rd day of December 2015
at 1:40 o'clock P. M and duly recorded in
Deed Book 444 Page 461
of the records of this office.
Att. Sherry Weedman, Clerk
By Sherry Weedman Deputy Clerk
nr

EXHIBIT E

Real Estate Value Impact Study

For

**Proposed Wireless Communications Facility
New Cingular Wireless, PSC, LLC, d/b/a AT&T Mobility, & Tillman
Infrastructure LLC**

Site Name: Falling Branch

PCS Case No.: 2021-00398

Assessor Parcel Number: 034-00-00-013

2589 Blue Bird Road

Falls of Rough, Grayson County, Kentucky 40119

Date of Report:

November 23, 2021

Prepared For:

**Kent Chandler, Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
P.O. Box 615
Frankfort, Kentucky 40602-00384**

Prepared By:

**Glen D. Katz, MAI, SRA, AI-GRS, AI-RRS
Realty Solutions Co., Inc.
P.O. Box 20983
Louisville, KY 40250**

November 23, 2021

Kent Chandler, Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
P.O. Box 615
Frankfort, Kentucky 40602-00384

Realty Solutions Co., Inc.
Finding Answers to Real Estate Questions

Subject: Real Estate Value Impact Study
Proposed Wireless Communications Facility
New Cingular Wireless, PSC, LLC, d/b/a AT&T Mobility, & Tillman Infrastructure LLC
Site Name: Falling Branch
PCS Case No.: 2021-00398
2589 Blue Bird Road
Falls of Rough, Grayson County, Kentucky 40119

Commissioners:

I have completed an impact study regarding potential influence of wireless communications tower facilities on market value of surrounding properties. The study consists of analyzing sale activity and value trends of properties located in proximity to tower structures and tower systems, as compared to properties which are not in proximity but are otherwise competitive as replacements in the market.

Public utilities provide a platform for economic sustainability, community growth, safety and education. These factors in turn influence value and demand for real estate. Based on the actions of buyers, occupants, and sellers of real estate, it is clear that communications towers are part of this platform. Consistently, market activity shows this type of facility has not, and does not, negatively impact surrounding property, and instead provides significant positive influences on value and demand for real estate. There are no indications for value diminution of properties with suburban, low-density residential, recreational, and agricultural characteristics similar to the project neighborhood, or neighborhoods in general.

This report is intended solely for use by Applicant, and the identified governmental review panel for the project, Kentucky Public Service Commission. The intended use of the reported opinions and conclusions is to assist Applicant, and the governmental review panel in making permitting decisions regarding the subject project. The undersigned, Glen D. Katz, recognizes this report will be submitted as part of the public record.

The attached report is a summary of the research and analysis performed. Thank you for the opportunity to present this information. Please contact me if you have questions or comments.

Respectfully,



Glen D. Katz, MAI, SRA, AI-GRS, AI-RRS
Realty Solutions Co., Inc.
P.O. Box 20983
Louisville, Kentucky 40250

Office: (502) 396-6664

Email: gkatz@usa.net

Web: www.rsappraise.com

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Scope of Work

Project identification

The project is identified by site and neighborhood analysis. Construction plans, aerial maps, and government census data are reviewed. Neighborhood and market characteristics are identified to understand the four forces that affect value:

- social forces;
- economic forces;
- governmental forces, and;
- environmental forces

Facility Description

The facility will be in a low-density residential, recreational, and agricultural area. Construction will be comprised of a 145' self-support structure with 4' lightning arrestor, totaling a height of 149 feet. Base elevation will be ~639.9 feet. The construction will be located on an approximately 100' x 100' leased site with a 60' x 60' fenced compound. There will be supporting storage cabinets and gravel ground cover. There is designed space for co-location of other wireless service providers in the facility. The facility will be accessed by a gravel-covered easement driveway extending from the south side of Highway 110 - Blue Bird Road. These characteristics comprise the most common features of wireless communications facilities in similar areas of the United States.

Data researched

Existing tower facilities, wireless communications, high voltage electric overhead transmission, or water tower storage tanks, are identified for analysis based on residential and commercial exposures. In some cases, there are multiple towers involved in a public utility system, such as high voltage electric overhead transmission lines.

Value Definition

The research analysis is based on 'market value' of real estate. The federal definition via the FDIC contains the most widely accepted components of market value.

Market value means the most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

- (1) Buyer and seller are typically motivated;*
- (2) Both parties are well informed or well advised, and acting in what they consider their own best interests;*
- (3) A reasonable time is allowed for exposure in the open market;*
- (4) Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and*
- (5) The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.*

Analysis Applied

Sales of residential properties are tracked to establish rates of change in value due to external exposures, market conditions, and determine potential influence from proximity to tower facilities. Comparison is made between value trends of properties in proximity, and without proximity to tower facilities. Three methods of data extraction are discussed:

- Analysis of “before and after” sale data. This method tracks value trends before and after installation of a tower facility. Property sale data before a facility is installed is compared to sale data occurring after a facility is installed. This method will have limitations when a facility installation occurred in the distant past. Older sales occurring before the installation frequently experience significant changes before they are resold: physical changes such as renovation, updating, addition, and/or economic changes (i.e., 2007-2009 recession, Covid-19 pandemic, changes in highest and best use, etc.) In these cases, value change over a long time period may attributed to multiple overriding sources, and allocating value change solely to tower influence can be misleading.
- Comparison of “unit-value” of properties that are functionally identical in all aspects except proximity. The unit value will typically be price per-square-foot of gross living area (sale price / above-grade living area). The information will reveal any differences between proximity categories. While providing excellent evidence, this method has limitations due to the variety of property differences and related difficulty in matching properties that are adequately similar with the exception of proximity.
- One of the most common analysis methods is “market conditions” value trend analysis. This compares value trends of properties located with proximity to existing tower facilities, to value trends of properties located without proximity. Rates of value change due to market conditions are compared between the two property types to extract any differences due to proximity to a tower facility.

In all cases, the methodologies allow controlling physical and locational attributes of the two sets of properties. Price and value effects or differences due to other characteristics of the properties are held constant, and any effect due to proximity is isolated. For this study, because of the data available, the “before and after” and “market conditions” methods are utilized.

Data Summary

History of Proximity Impact

Proximity impact is a frequent question in real estate. In the course of studying value impact due to proximity of private or public utility facilities to residential, commercial and agricultural properties, I have analyzed wireless communications tower facilities, high-voltage overhead transmission lines (HVOT), storage towers, oil pipelines, agricultural facilities, and federal interstates. For this report, the analysis consists of analyzing value trends of properties in proximity to public utility tower facilities.

Residential and commercial properties, whether urban, suburban or rural, and agricultural properties, follow similar demand patterns. In an article published in *The Appraisal Journal*, (no. 1 (Winter 2012): 30-45), James A. Chalmers identifies three general characteristic that drive property sensitivity to price effects:

- use;
- size; and
- uniqueness.

Of all property types, if there is an impact from an external source, urban and suburban residential properties will be the most sensitive.

Non-suburban, rural residential and commercial properties are often part of agricultural or recreational environments. Site sizes are larger, or they may be adjacent to large land parcels. They are also unique; because of the low-density development characteristics, there are fewer available, and even fewer available with specific classes of features such as site size, quality, floor plan, or auxiliary buildings. Low density development area properties are similar to urban and suburban properties in terms of use, but are superior in the sensitivity categories of site size and uniqueness/scarcity. In summary, they share the same use characteristics, but are more resilient than other residential and commercial categories.

In this study, urban/suburban residential properties are researched because of high sale volume, and because they would be the first to show sensitivity. As shown, these properties and their values are not adversely sensitive to, and are not negatively impacted by, wireless communications tower facilities. Respectively, rural, agricultural, recreational, and commercial properties follow the same pattern.

Grayson County has not adopted planning and zoning for unincorporated areas of the County, and the project neighborhood is not subject to local zoning regulation. This is a frequent occurrence in low-density development and rural areas, and there are risks accepted by property owners because of the lack of control on land uses. Without localized land-use regulations, all legal uses of land are available. Land uses with a high impact on surrounding properties or a community in general, typically are characterized as producing adverse noise, odor, traffic, lighting, view, or neglected construction.

As a result, there is a higher risk expectation by buyers when making purchase decisions, regarding the quality and type of use of neighboring un-zoned properties. These risks are reflected in prices paid and resulting value trends. Regardless of these risks and buyer activity, communities without strict land-use controls continue to expand and develop need and demand for public utilities. The neighborhoods and communities remain influenced by social, economic, governmental, and environmental forces. There is no difference in regard to the positive impact from public utilities on surrounding values if a neighborhood does not have strict land-use zoning regulations.

Questions on Property Ownership

Concepts regarding property rights, property insurability, and mortgages, are frequent topics on value influence for discussion from property owners. The following information is provided for insight.

Property Rights: Property owners near cell tower facilities retain all rights normally associated with ownership. There are no additional easements, encroachments, or use restrictions on surrounding properties.

Insurability: There are no insurability risk changes to physical property, ownership, or insurance availability or cost change. Interviews with property owners, insurance professionals, lenders, and title companies, confirms there are no conflicts on availability or premiums for physical property, or title insurance, for properties located near cell towers.

Mortgage Terms: The following national programs influencing mortgages are researched to determine status of cell towers in relation to mortgage financing. In all cases, there is no influence on mortgage availability or terms.

FHA: Federal Housing Administration (FHA) through the Dept. of Housing and Urban Development (HUD), is the largest insurer of mortgage in the world and provides mortgage insurance on loans made by FHA-approved lenders throughout the U.S. FHA has minimum property standards contained in *HUD Handbook 4000.1*. In particular, there is a section on “Externalities” and requirements for property compliance. Externalities are off-site conditions that have an adverse influence on a property, such as heavy traffic, special airport hazards, proximity to high pressure gas lines, high voltage electric overhead transmission lines and local distribution lines, smoke, fumes, and other offensive or noxious odors, and stationary storage tanks.

Cell towers are not identified as a specific hazard for surrounding properties, and are not a specific criterion for hazard analysis in obtaining FHA/HUD funding insurance for mortgage lenders.

VA: Veterans Administration (VA) helps Servicemembers, Veterans, and eligible surviving spouses become homeowners. VA provides home loan guaranty benefits and other housing-related programs to help buy, build, repair, retain, or adapt homes for occupancy. VA Home Loans are provided by private lenders such as banks and mortgage companies. VA guarantees a portion of the loan and lowers risk as a result, enabling lenders to provide borrowers with more favorable terms.

VA guidelines (Chapters 10 and 12) identifies *HUD Handbook 4000.1* as the resource for minimum property requirements. In addition, in reiterating hazard issues in the VA guidelines, cell towers are not identified or mentioned as a specific hazard for surrounding properties. Cell towers are not a criterion for hazard analysis in obtaining VA loans.

USDA: United States Department of Agriculture (USDA), through its Rural Development program (RD), makes direct loans as well as assisting approved lenders in providing low- and moderate-income households the opportunity to own adequate, modest, decent, safe and sanitary dwellings as their primary residence in eligible rural areas. The program provides loan guarantees to approved lenders in order to reduce the risk of extending 100% loans to eligible rural homebuyers. USDA publishes *Handbook 3550 (HIB 3550)* containing minimum property requirements for USDA

loan programs. Cell Towers are not included for consideration, and are not a specific criterion in hazard analysis for obtaining loans under USDA programs.

FNMA: Federal National Mortgage Association (FNMA, aka Fannie Mae) is a government-sponsored enterprise (GSE). Fannie Mae purchases and guarantees mortgages made to borrowers via the secondary mortgage market. The mortgages it purchases and guarantees must meet strict criteria. Its “*Selling Guide*” publication is a primary information guide for secondary mortgage market lending. The *Selling Guide* does not include cell towers for specific analysis in the publication. Cell towers are not, and historically have not been, a hazard criterion in analysis for obtaining mortgage loans that will be purchased by Fannie Mae.

FHLMC: The Federal Home Loan Mortgage Corporation, (FHLMC, aka Freddie Mac) is a government-sponsored enterprise (GSE). Freddie Mac purchases and guarantees mortgages made to borrowers via the secondary mortgage market. The mortgages it purchases and guarantees must meet strict criteria. Its “*Seller/Servicer Guide*” publication is a primary information guide for secondary mortgage market lending. The *Seller/Servicer Guide* does not include cell towers for any specific analysis in the publication. Cell towers are not, and historically have not been, a hazard criterion in analysis for obtaining mortgage loans that will be purchased by Freddie Mac.

In addition, national, regional, local, and private sources of mortgage financing for commercial, industrial, agricultural, and residential property, have similar guidelines. In summary, cellular tower structures are not identified as a hazard criterion in making mortgage loan decisions.

Impact Study Methodology

This impact study consists of studying real estate value trends at existing tower locations. The methodology is comprised of;

- paired sales and sale/resale analyses, focusing on measurement of value change due to market conditions, and;
- direct comparison of properties with, and without, physical or view proximity exposure.

Specifically, the following steps form the analysis:

- Identify existing tower locations with surrounding developed land uses.
- Examine the neighborhood and market area to determine if there are compatible and competing properties with adequate sale volume to provide reliable and valid results.
- Categorize sales by proximity characteristics for measurement of influence: A distance of 500’ to 750’ is the threshold of measure for the close-proximity category, depending on the topography and direction of development characteristics. At further distances, the category changes to non-proximity, as tower views become blurred or obscured by topography, trees, roofs, tanks, power lines, or other towers.
- Track value change over time for the two proximity categories and compare the results to determine if there is a difference due to tower facility exposure, or;
- Track value change of properties before and after a tower facility is constructed. Then compare results to determine if is a difference between the categories attributed to tower facility exposure.

Based on the data and analysis for tower projects; values and rates of value change for proximity and non-proximity properties are similar. There is no compelling evidence that either the anticipation of, or

the existence of, tower facilities negatively impacts surrounding property values. This is not unexpected. Market forces that drive real estate value also create complimentary demand for public utility projects. These market forces are discussed as follows:

- **Social Forces:** Social forces are influenced by; population, education, and lifestyles. There has been an exponential increase in digital data, and the public demands satisfying that need as part of the core supply of public services. In particular, cellular service is essential infrastructure and has become a predominant function in businesses, schools, and social services. Regarding U.S. households, over 59% are served solely by cellular phone service, and only 2.5% of households have only landline service. Over 70% of children live in homes with only cellular service, and less than 1% live in homes with only landline service. Regarding emergency services, over 70% of emergency calls are made with cellular phones. As a result, anything less than consistent in-building service is detrimental to value and demand for real estate.
- **Economic Forces:** Economic forces are influenced by; employment, wages, business, schools, and regional community development. Communications facilities are required for education and efficient and competitive diversification of work forces. Cellular service has a direct connection to economic development. Cellular signal capacity creates a significant number of positive impacts for its users and their communities.
- **Governmental Forces:** Government responds to community needs for, laws and policies, public services, zoning, and building codes. Many jurisdictions have comprehensive plans requiring government agencies to expand public utilities and services. The regulations enabling public utilities are a direct reaction to public needs, particularly for education, economic purposes, and health and safety services. Another major impact of governmental influence in expansion of public services is developing wider choices of service providers, which translates to competition in service quality and costs for consumers. This helps erase the digital divide problem, which is the economic gap between those who have adequate access to services and those who do not. This gap is influenced by income, location, and level of education among other factors, and can affect further development in areas where the divide exists.

As indicated, the subject neighborhood does not have strict land-use zoning regulations. Buyers have absorbed the risk associated with lack of zoning when making purchase decisions regarding the quality and type of use of neighboring un-zoned properties, and related influences on value. Regardless of these risks and buyer activity, communities without strict land-use controls continue to expand and develop need for public utilities on a positive trend.

- **Environmental Forces:** Environmental forces are the final determining factor. They deal with climate, topography/soil, natural barriers, transportation systems and linkages, and the nature and desirability of the neighborhood surrounding a property. These forces shape population location, growth, and where supporting infrastructure will be most effective and valuable as a resource.

Study Conclusions

As illustrated by measured market response, both in this report and in nationally published studies, the forces of value are consistent. Public utilities and related services are essential to meeting current and future requirements for progressive standards of living. Public utilities and related services, by nature, expand to meet demands of expanding population and community growth. The benefits of communication facilities for economic and community development are clear. Without adequate services, there will be a tendency for decreasing demand and property values in a community. Where services already exist, coverage and data capacity may need to be adjusted due to population changes. As a result of meeting population needs, telecommunications facilities have become a part of the landscape in the same way that power, telephone, and other utilities have. Like all utilities, there is requirement for telecommunications facilities in strategic locations in any community.

Property owners near tower facilities, highly visible utility structures, associated easements, etc., are not penalized on value. There are no changes to ownership rights. Insurability is not affected. Mortgage terms to buyers and owners are not influenced. Consistently, communications tower structures, like overhead electric distribution lines, water towers, and buried utility easements, are beneficial and necessary infrastructure. As a result of expanding utilities and increased services, neighborhoods and properties experience positive influences. Because of the deployment of cellular facilities over the past several decades, owners and buyers of real estate expect excellent cell phone reception, and that connectivity requires adequate infrastructure. Cell towers satisfy demand and are visibly absorbed by the landscape of a neighborhood and lifestyles of the population. Cell towers are much like other modern infrastructure. Although cell towers may be noticed initially, they quickly fade into the background and have no negative effect on value – just as streets, easements, telephone poles, utility lines, streetlights, and the other visible infrastructure components of modern life do not generally have negative influences on real estate values.

Therefore, based on the actions of market participants buying, occupying, investing, and selling real estate properties, consistent market evidence shows this type of tower facility has not, and does not, negatively impact surrounding property, and supports the positive influences on value and demand for real estate due to expansion of public utilities, which includes wireless telecommunications tower infrastructure.

Addendum

Professional Disclosure

I certify that:

- The statements of fact contained in this report are true and correct to the best of my knowledge and belief.
- The reported analyses, opinions and conclusions are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.
- I have no present or prospective interest in the project that is the subject of this report and no personal interest with respect to the parties involved.
- I have no bias with respect to the project that is the subject of this report or to the parties involved with this assignment.
- My engagement and compensation for completing this assignment is not contingent upon the development or reporting of a predetermined opinion that favors the cause of the client, the magnitude of the opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this report.
- This report complies with applicable sections of the Uniform Standards of Professional Appraisal Practice for Valuation Services and Appraisal Practice: Preamble, Definitions, Ethics Rule, Jurisdictional Exception Rule, Competency Rule.



Glen D. Katz, MAI, SRA, AI-GRS, AI-RRS

Professional Qualifications

Glen Katz has been in the field of real estate analysis for over 25 years. Beginning in both the commercial and residential arenas, he has transitioned to roles as consultant, reviewer, subject matter expert witness, and appraisal practice instructor. As principal of Realty Solutions Co. Inc., relationships have been developed with user-clients, peer appraisers, and appraisal firms. Resulting projects have been performed individually and as coordinating peer groups.

In appraisal practice, Mr. Katz has achieved the Appraisal Institute MAI (general/commercial) designation, and SRA (residential) designation. In specialized appraisal practice, Mr. Katz has achieved the Appraisal Institute appraisal review designations of AI-GRS (general/commercial) and AI-RRS (residential), as well as completing the following Appraisal Institute Professional Development Programs:

- Litigation
- Valuation of the Components of a Business Enterprise
- Valuation of Conservation Easements
- Valuation of Sustainable Buildings: Residential
- Valuation of Sustainable Buildings: Commercial

As a reviewer of appraisals, Mr. Katz serves clients in both the litigation and lending fields. Appraisal review reports are commonly performed under Uniform Standards of Professional Appraisal Practice (USPAP), Uniform Appraisal Standards for Federal Land Acquisitions (Yellowbook), and local jurisdictional guidelines.

As a subject matter expert witness, Mr. Katz has participated in cases regarding land and building damage, proximity influence, insurance claims, property tax assessment, construction defects, divorce settlements, boundary disputes, zoning noncompliance, bankruptcy, and alleged fraud.

As an appraisal practice instructor, Katz is qualified to teach the following Appraisal Institute residential, commercial, and specialized practice classes and seminars.

- Basic Appraisal Principles
- Basic Appraisal Procedures
- General Appraiser Sales Comparison Approach
- General Appraiser Site Valuation and Cost Approach
- Residential Market Analysis and Highest and Best Use
- Residential Sales Comparison and Income Approaches
- Residential Site Valuation and Cost Approach
- Appraisal of Manufactured Homes Featuring Next Generation Manufactured Homes
- Residential Applications: Using Technology to Measure and Support Assignment Results
- Rural Area Appraisals: Freddie Mac Guidelines and Property Eligibility Requirements
- Desktop Appraisals (Bifurcated, Hybrid) and Evaluations
- FHA Appraising for Valuation Professionals: FHA Single Family Housing Appraisal Requirements
- Ignorance Isn't Bliss: Understanding an Investigation by a State Appraiser Regulatory Board or Agency

Areas of appraisal expertise include:

- Commercial, industrial, complex residential, agricultural, special purpose properties
- Appraisal review, commercial and residential
- Proximity impact
- Eminent domain
- Expert witness/litigation support
- Property damages
- Insurance claims and reconstruction cost analysis
- Tax Appeal
- Estate valuation
- Green/high performance residential and commercial construction (sustainable/energy efficient)

Education

- Bachelor of Science in Business Administration, Marketing, University of Louisville
- Study focusing on real estate economics, Eastern Kentucky University
- Ongoing real estate economics education since 1993 has been obtained through the Appraisal Institute, and other professional groups serving specific real estate related fields.

Professional Qualifications and Memberships

- Certified General Real Property Appraiser, Kentucky License #1533
- MAI designated Member, Appraisal Institute
 - *(MAI designation is held by professionals who can provide services relating to all types of real property, such as value opinions, evaluations, review, consulting and advice regarding investment decisions, among others. Property types may include commercial, industrial, agricultural, residential, vacant land and others.)
- SRA designated Member, Appraisal Institute
 - *(SRA designation is held by professionals who can provide services relating to residential properties, including opinions of value, evaluations, review, consulting and advice regarding investment decisions, among others)
- AI-GRS designated Member, Appraisal Institute
 - *(AI-GRS designation is held by professionals who can provide reviews of appraisals, including commercial, industrial, agricultural, residential, vacant land and others.
- AI-RRS designated Member, Appraisal Institute
 - *(AI-RRS designation is held by professionals who have the tools to provide reviews and address the related issues unique to residential real property appraisals.
- Professional Development Programs – Appraisal Institute
 - Litigation
 - Valuation of the Components of a Business Enterprise
 - Valuation of Conservation Easements
 - Valuation of Sustainable Buildings: Commercial
 - Valuation of Sustainable Buildings: Residential

Appraisal Institute Service

- 2018 to present – Appraisal Institute National Education Committee Liaison, Region V (Indiana, Kentucky, North Carolina, Ohio, Virginia, West Virginia)
- 2008 to 2017, 2020 to present – Education Chair, Bluegrass Chapter, Appraisal Institute
- 2018 – President, Bluegrass Chapter, Appraisal Institute
- 2014 to 2017 – Vice President, Bluegrass Chapter, Appraisal Institute
- 2016 and 2017 – Government Relations Committee, Bluegrass Chapter, Appraisal Institute
- 2016 and 2017 – Regional Representative, Bluegrass Chapter, Appraisal Institute
- 2013, 2014 and 2016 – Leadership Development & Advisory Council, Appraisal Institute
- Candidate Advisor - MAI, SRA, AI-GRS, and AI-RRS, Appraisal Institute

ADVANCED STUDY CURRICULUM

Provider/Title
Appraisal Institute Professional Development Programs
Valuation Of Sustainable Buildings: Commercial - Registry Valuation of Sustainable Buildings: Residential - Registry Valuation of the Components of A Business Enterprise - Registry Litigation Professional Development Program - Registry Valuation of Conservation Easements - Registry
Appraisal Institute, Courses
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Case Studies

The case studies are developed through researching market activity of residential properties in neighborhoods adjacent to tower facilities. After identification of a tower facility, whether wireless communications, high voltage electric overhead transmission, or water storage tower, sale activity of homes are analyzed. The following methods of data extraction are discussed.

Market Conditions Value Trend Analysis

For projects that have been in place for a long period, market conditions analysis is very applicable. The steps of analysis consist of:

- Research properties with tower proximity that have sold repeatedly in the identified period.
- Determine the periodic rate of market value change, appreciation or depreciation, for properties in the proximity category.
- Research properties in the same neighborhood, without tower proximity, with repeat or back-to-back sales.
- Determine the periodic rate of market value change, appreciation or depreciation for properties in the non-proximity category.
- Compare value change trends between the two groups of properties to extract any value change differences related to proximity influence.

Before and After Method

For projects recently constructed, the before and after method steps of analysis consist of:

- Research residential properties with tower proximity that sold prior to the tower installation, and then sold again after the tower installation.
- Determine the periodic rate of market value change, appreciation or depreciation, for properties in the proximity category.
- Research properties in the same neighborhood without tower proximity that sold prior to the tower installation, and then sold again after the tower installation.
- Determine the periodic rate of market value change, appreciation or depreciation, for properties in the non-proximity category.
- Compare value change trends between the two groups of properties to extract any value change differences related to proximity influence.

Methodology Summary

The time range for sale data is from 2011 to the market prior to the Covid-19 pandemic. This minimizes potential influence from the 2007-2009 recession, and removes influence from significant imbalance between supply and demand resulting from the pandemic. In order to track rates of value change during the period, repeat or back-to-back sales of individual residential properties inside and outside a proximity distance range of 500' to 750' from a facility are researched.

In order to focus on the influence market conditions and proximity on appreciation or depreciation, emphasis is placed on properties with stable physical characteristics, and without unusual sale conditions or buyer/seller motivation influences. Specifically, sales involving properties with the following characteristics are discounted from analysis:

- Properties with substantial physical changes that influence value between the initial and subsequent transfers, such as renovation, construction addition, or suffering from deferred maintenance or neglect resulting in unusual physical deterioration and market response.
- Properties with distress socioeconomic characteristics, such as foreclosure, short-sales, auctions, and sales of bank-owned homes.
- Properties with unusual buyer or seller motivations, such as family transactions, estate liquidation, or investor activity in a predominantly owner-occupied market.
- Properties close to interstates and limited access roads are avoided to ensure home sales were not affected by highway access or traffic noise variables.
- In the study, sale price is adjusted by netting out seller-paid concessions if they occur.

If the above types of transfer activity are prevalent in a neighborhood, the facility and neighborhood is removed from consideration. The focus is to measure market activity that is not influenced by unusual property-specific or market-specific characteristics.

The following case studies illustrate analysis for two categories of tower facilities; wireless communications tower facilities and high voltage electric overhead transmission lines (HVOT). Two of the case studies compare rates of value change between proximity and non-proximity properties at existing facilities, and one case study additionally compares values of proximity and non-proximity properties before and after installation of a tower facility. In the case of the HVOT study, there are multiple towers involved in the utility system.

Case Study Introduction

Case Study 1 – This study involves a high voltage electric overhead transmission power line corridor with 100' height lattice construction towers. The corridor traverses a residential single-family and condominium neighborhood. The tower structures and overhead electric lines in this location are located in easements amidst residential subdivision development, crossing a public street in a long diagonal direction, and continuing through residential subdivision development. The tower structures are generally spaced approximately 1,000' apart.

The project was installed pre-1993. The value evidence represents sales and resales of properties within 500' proximity to the facility, and outside 500' proximity to the facility. Rates of value change for each of the categories measured, and the results of the two categories of proximity are compared to analyze any potential impact.

Case Study 2 – This study involves a wireless communications facility adjacent to a residential single-family and condominium neighborhood. The tower structure is 219’ height, self-support construction.

Installation of the project occurred in 2002. The value evidence represents sales and resales of properties within 500’ proximity to the facility, and outside 500’ proximity to the facility. Rates of value change of each of the categories are measured, and the two categories are compared to analyze any potential impact.

Case Study 3 – This study involves a wireless communications facility adjacent to a residential single-family detached neighborhood. The structure is 140’ height, monopole construction.

Installation of the project occurred in 2016. The value evidence represents sales and resales of properties within 750’ proximity to the facility, and outside 750’ proximity to the facility. Rates of value change in each of the categories are measured, and the two categories are compared to analyze any potential impact.

For Case Study 3, it is important to note there are repeat sales of individual properties in each category, before and after installation, that illustrate consistent values and rates of value change.

Case Study 1 – Group 1 (Proximity Sales)

- Facility: High voltage electric overhead transmission power lines and lattice construction towers, residential single-family detached and condominium subdivision location.
- Address: Gutenberg Road, Louisville, Jefferson County, Kentucky
- FCC Identification: N/A
- Year of installation: Pre-1993
- Information source: Maps and individual research
- Neighborhood location: Jeffersontown
- Property Group Identification: Within 500’ proximity to facility installation
- Reconciliation: The data represents sale activity beginning 01/01/2013. Each property transferred two or more times in the period. The price difference between transfers of each property is value change due to market conditions. The range of annual value change is 0.84% to 9.10%. The average rate of annual appreciation is 4.07%, and the median or middle point of the range is 4.28%.

Address		Sale Date	Sale Price	% Change	Months	% Change /Month	% Change /Year
4701 Silverado	Pl	10/26/2018	\$273,000	3.41%	23	0.15%	1.79%
		11/30/2016	\$264,000				
4704 Silverado	Pl	9/1/2016	\$270,000	14.89%	41	0.36%	4.31%
		3/21/2013	\$235,000				
4709 Stony Brook	Dr	5/31/2019	\$195,000	4.84%	24	0.20%	2.44%
		6/8/2017	\$186,000				
4723 Ferrer	Way	6/15/2018	\$185,000	32.14%	42	0.76%	9.10%
		12/5/2014	\$140,000				
4916 Bova	Way	4/29/2019	\$193,000	24.52%	59	0.42%	4.98%
		5/30/2014	\$155,000				
8804 Loch Lea	Ln	12/2/2016	\$149,900	12.71%	36	0.35%	4.24%
		12/6/2013	\$133,000				
9319 Villa Fair	Ct	5/18/2018	\$174,000	16.00%	40	0.40%	4.82%
		1/22/2015	\$150,000				
10509 Vintage Creek	Dr	9/11/2015	\$255,000	1.19%	17	0.07%	0.84%
		4/15/2014	\$252,000				
Average						0.34%	4.07%
Median						0.36%	4.28%

Case Study 1 – Group 2 (Non-Proximity Sales)

- Facility: High voltage electric overhead power lines and lattice construction towers, residential single-family detached and condominium subdivision location.
- Address: Gutenberg Road, Louisville, Jefferson County, Kentucky
- FCC Identification: N/A
- Year of installation: Pre-1993
- Information source: Maps and research
- Neighborhood location: Jeffersontown
- Property Group Identification: Outside 500' proximity to facility installation
- Reconciliation: The data represents sale activity beginning 01/01/2015. Each property transferred two or more times in the period. The price difference between transfers of each property is value change due to market conditions. The range of annual value change is 1.12% to 6.59%. The average rate of annual appreciation is 4.00%, and the median or middle point of the appreciation range is 3.64%.

Address		Sold Date	Sale Price	% Change	Months	% Change /Month	% Change /Year
4310 Lochridge	Pkwy	1/14/2016	\$195,000	0.52%	6	0.09%	1.12%
4310 Lochridge	Pkwy	7/30/2015	\$194,000				
4510 Jolynn	Dr	6/24/2019	\$225,400	12.70%	31	0.42%	4.98%
4510 Jolynn	Dr	12/6/2016	\$200,000				
5003 Fairwood	Ln	3/28/2019	\$175,000	21.53%	39	0.55%	6.57%
5003 Fairwood	Ln	12/18/2015	\$144,000				
5008 Bowcester	Dr	3/4/2019	\$176,000	21.38%	39	0.55%	6.59%
5008 Bowcester	Dr	12/7/2015	\$145,000				
5105 Cynthia	Dr	1/4/2019	\$163,500	7.57%	34	0.22%	2.69%
5105 Cynthia	Dr	3/15/2016	\$152,000				
8711 Michael Edward	Dr	11/13/2018	\$175,000	12.54%	44	0.28%	3.39%
8711 Michael Edward	Dr	3/4/2015	\$155,500				
8902 Loch Lea	Ln	8/7/2019	\$182,000	10.98%	52	0.21%	2.54%
8902 Loch Lea	Ln	4/16/2015	\$164,000				
9105 Talitha	Dr	2/22/2019	\$187,000	5.95%	27	0.22%	2.61%
9105 Talitha	Dr	11/14/2016	\$176,500				
9115 Marse Henry	Dr	5/15/2017	\$188,000	13.25%	24	0.55%	6.54%
9115 Marse Henry	Dr	5/7/2015	\$166,000				
9402 Talitha	Dr	9/27/2019	\$200,000	11.11%	34	0.32%	3.90%
9402 Talitha	Dr	11/21/2016	\$180,000				
10202 Saint Rene	Rd	5/9/2018	\$222,513	11.31%	32	0.35%	4.21%
10202 Saint Rene	Rd	9/1/2015	\$199,900				
10609 Wildflower Woods	Ct	9/4/2019	\$248,000	12.73%	54	0.24%	2.84%
10609 Wildflower Woods	Ct	3/13/2015	\$220,000				
Average						0.33%	4.00%
Median						0.30%	3.64%

Case Study 1 Reconciliation

The sale evidence represents sales and resales of residential properties in a neighborhood containing a high voltage electric overhead transmission power lines with lattice construction towers. The tower facility existed prior to construction of homes in the neighborhood. There is volume sale evidence for analysis between 2013 and 2020. The proximity sales show a slightly higher average rate of appreciation, and a slightly higher median rate. The difference is negligible.

Additionally, the average sale price per square foot of gross living area and total living area for each proximity category is illustrated in the following table.

Category	In Proximity	Outside Proximity
Price Per Square Foot Gross Living Area	\$124	\$121
Price Per Sq. Foot Total Finished Area	\$103	\$95

The difference between all indications is negligible and not statistically significant. Comparing proximity sales to non-proximity sales in the neighborhood, both categories show a consistent trend of value change, and price based on dwelling size per square foot. In summary, there is no negative value impact from the tower facility.

Case Study 2 – Group 1 (Proximity Sales)

- Facility: Wireless Communications Facility, self-support construction, 219’ height, residential single-family detached and condominium subdivision location
- Address: 8400 Bardstown Road, Louisville, Jefferson County, Kentucky
- FCC Registration: 1232839
- Year of installation: 03/7/2002
- Information source: FCC recordings, maps and individual research
- Neighborhood location: Fern Creek
- Property Group Identification: Inside 500’ proximity to facility installation
- Reconciliation: The data represents sale activity beginning 01/01/2014. Each property transferred two or more times in the period. The price difference between transfers of each property is value change due to market conditions. The range of annual value change is 0.64% to 3.29%. The average annual appreciation is 2.25%, and the median or middle point of the range is 2.67%.

Address	Sold Date	Sale Price	% Change	Months	% Change /Month	% Change /Year
8503 Missionary Ct	9/27/2018	\$302,000	12.48%	50	0.25%	3.02%
	8/12/2014	\$268,500				
8505 Missionary Ct	8/25/2017	\$239,000	6.22%	28	0.22%	2.67%
	4/28/2015	\$225,000				
8931 Gentlewind Way	5/15/2018	\$280,000	1.82%	34	0.05%	0.64%
	7/13/2015	\$275,000				
8937 Gentlewind Way	3/15/2019	\$282,000	5.22%	38	0.14%	1.64%
	1/8/2016	\$268,000				
10619 Glenmary Springs Dr	11/14/2016	\$244,900	6.50%	24	0.27%	3.29%
	11/24/2014	\$229,950				
Average					0.19%	2.25%
Median					0.22%	2.67%

Case Study 2 – Group 2 (Non-Proximity Sales)

- Facility: Wireless Communications Facility, self-support construction, 219’ height, residential single-family detached and condominium subdivision location
- Address: 8400 Bardstown Road, Louisville, Jefferson County, Kentucky
- FCC Registration: 1232839
- Year of installation: 03/7/2002
- Information source: FCC recordings, maps and individual research
- Neighborhood location: Fern Creek
- Property Group Identification: Outside 500’ proximity to facility installation
- Reconciliation: The data represents sale activity beginning 01/01/2014. Each property transferred two or more times in the period. The price difference between transfers of each property is value change due to market conditions. The range of annual value change is -0.25% to 3.60%. The average annual appreciation is 2.26%, and the median or middle point of the range is 2.22%.

Address	Sold Date	Sale Price	% Change	Months	% Change /Month	% Change /Year
8607 Sanctuary Ln	3/30/2016	\$245,000	6.06%	20	0.30%	3.60%
	7/25/2014	\$231,000				
8622 Sanctuary Ln	12/21/2017	\$265,000	2.91%	29	0.10%	1.19%
	7/13/2015	\$257,500				
8627 Sanctuary Ln	10/31/2018	\$279,300	-0.57%	27	-0.02%	-0.25%
	8/5/2016	\$280,900				
8728 Broadwood Ct	6/11/2019	\$204,000	22.89%	40	0.57%	6.90%
	2/16/2016	\$166,000				
8737 Broadwood Ct	4/29/2019	\$188,900	16.25%	59	0.28%	3.31%
	6/6/2014	\$162,500				
8819 Gentlewind Way	5/18/2018	\$255,000	4.94%	36	0.14%	1.65%
	5/22/2015	\$243,000				
8903 Gentlewind Way	9/30/2016	\$307,500	6.03%	26	0.23%	2.78%
	8/1/2014	\$290,000				
10105 Cedar Garden Dr	11/1/2019	\$299,900	4.81%	17	0.28%	3.38%
	5/30/2018	\$286,130				
10500 Parkhurst Ct	8/27/2018	\$220,000	0.23%	13	0.02%	0.20%
	7/14/2017	\$219,500				
10502 Gentlewind Ct	2/29/2016	\$270,000	0.93%	24	0.04%	0.46%
	2/19/2014	\$267,500				
10504 Providence Dr	10/19/2017	\$254,000	2.13%	40	0.05%	0.65%
	7/3/2014	\$248,700				
10614 Providence Dr	9/20/2019	\$290,000	18.37%	67	0.27%	3.28%
	2/18/2014	\$245,000				
Average					0.19%	2.26%
Median					0.18%	2.22%

Case Study 2 Reconciliation

The evidence represents sales and resales of residential properties in a neighborhood containing a wireless communications tower facility. The tower existed prior to construction of homes in the project. There is volume sale evidence for analysis between 2014 and 2020. The rates of value change between the two categories are consistent. The non-proximity sales show a slightly higher average rate of appreciation, and the proximity sales show a slightly higher median rate.

Additionally, the average sale price per square foot of gross living area and total living area for each proximity category is illustrated in the following table.

Category	In Proximity	Outside Proximity
Price Per Square Foot Gross Living Area	\$111	\$116
Price Per Sq. Foot Total Finished Area	\$99	\$108

The difference between all indications is negligible and not statistically significant. Comparing proximity sales to non-proximity sales in the neighborhood, both categories show a consistent trend of value change, and price based on dwelling size per square foot. In summary, there is no negative value impact from the tower facility.

Case Study 3 – Group 1 (Proximity Sales)

- Facility: Wireless Communications Facility, monopole construction, 140’ height, residential single-family detached location
- Address: 7200 Woodhaven Road, Louisville, Jefferson County, Kentucky
- FCC Registration: 1298049
- Year/Date of installation: 05/13/2016
- Information source: FCC recordings, maps and individual research
- Neighborhood location: Woodhaven
- Property Group Identification: Inside 750’ proximity to facility installation
- Reconciliation: The data represents sale activity beginning 01/01/2011. Each property transferred two or more times in the period. The price difference between transfers of each property is value change due to market conditions. The range of annual value change is 2.79% to 9.47%. The average appreciation is 5.73%, and the median or middle point of the range is 5.58%. Note that sales of 5900 Woodhaven Ridge Court, 5921 Woodhaven Ridge Court, and 6005 Hurstview Road occur before and after the facility installation. The rates of value change are consistent.

Street #	Street	St	Sale Date	Adj Sale Price	Percent Change	Months	% Annual Change
5900	Woodhaven Ridge	Ct	8/22/2011	\$180,000			
5900	Woodhaven Ridge	Ct	10/19/2017	\$211,000	17.22%	74	2.79%
5914	Woodhaven Ridge	Ct	12/14/2012	\$155,000			
5914	Woodhaven Ridge	Ct	8/1/2014	\$172,675	11.40%	20	7.00%
5921	Woodhaven Ridge	Ct	12/20/2011	\$125,000			
5921	Woodhaven Ridge	Ct	1/24/2013	\$138,000	10.40%	13	9.47%
5921	Woodhaven Ridge	Ct	10/22/2014	\$148,000	7.25%	21	4.16%
5921	Woodhaven Ridge	Ct	7/25/2018	\$187,400	26.62%	45	7.08%
6005	Hurstview	Rd	7/30/2013	\$124,900			
6005	Hurstview	Rd	4/20/2018	\$148,000	18.49%	57	3.91%
					Annual Average		5.73%
					Annual Median		5.58%

Case Study 3 – Group 2 (Non-Proximity Sales)

- Facility: Wireless Communications Facility, monopole construction, 140’ height, residential single-family detached and condominium subdivision location
- Address: 7200 Woodhaven Road, Louisville, Jefferson County, Kentucky
- FCC Registration: 1298049
- Year/Date of installation: 05/13/2016
- Information source: FCC recordings, maps and individual research
- Neighborhood location: Woodhaven
- Property Group Identification: Outside 750’ proximity to facility installation
- Reconciliation: The data represents sale activity beginning 01/01/2011. Each property transferred two or more times in the period. The price difference between transfers of each property is value change due to market conditions. The range of annual value change is 2.31% to 7.99%. The average appreciation is 4.97%, and the median or middle point of the range is 5.21%. Note that sales of 7118 Ridge Creek Road, 7102 Ridge Creek Road, and 7403 Covey Place occurred before and after the tower facility installation. The rates of value change are consistent.

Street #	Street	St	Sale Date	Adj Sale Price	Percent Change	Months	% Annual Change	
5904	Bluffington	Ct	7/28/2011	\$124,000				
5904	Bluffington	Ct	11/21/2012	\$130,685	5.39%	16	4.08%	
7102	Ridge Creek	Rd	10/3/2011	\$135,500				
7102	Ridge Creek	Rd	5/6/2016	\$149,900	10.63%	55	2.31%	
7118	Ridge Creek	Rd	3/28/2011	\$119,000				
7118	Ridge Creek	Rd	3/25/2016	\$150,000	26.05%	60	5.21%	
7215	Chestnut Tree	Ln	6/10/2011	\$131,000				
7215	Chestnut Tree	Ln	11/1/2013	\$140,000	6.87%	29	2.87%	
7403	Covey	Pl	2/26/2014	\$135,500				
7403	Covey	Pl	10/31/2016	\$156,000	15.13%	32	5.65%	
7404	Covey	Pl	2/8/2013	\$109,000				
7404	Covey	Pl	12/30/2015	\$130,000	19.27%	35	6.67%	
7405	Stone Bluff	Ct	3/28/2017	\$190,000				
7405	Stone Bluff	Ct	8/27/2018	\$211,500	11.32%	17	7.99%	
							Annual Average	4.97%
							Annual Median	5.21%

Case Study 3 Reconciliation

The evidence represents sales and resales of residential properties in a neighborhood containing a wireless communications tower facility. Tower installation occurred after homes were constructed in the neighborhood. There is volume sale evidence for analysis between 2011 and 2020. The non-proximity sales show a slightly higher median rate of appreciation, and the proximity sales show a slightly higher average rate. As noted, properties with sales both before and after the installation date illustrate consistent values trends.

Additionally, the average sale price per square foot of gross living area and total living area for each proximity category is illustrated in the following table.

Category	In Proximity	Outside Proximity
Price Per Square Foot Gross Living Area	\$116	\$115
Price Per Sq. Foot Total Finished Area	\$93	\$88

The difference between all indications is negligible and not statistically significant. Comparing proximity sales to non-proximity sales in the neighborhood, both categories show a consistent trend of value change, and price based on dwelling size per square foot. In summary, there is no negative value impact from the tower facility.