

Executive Summary

EXECUTIVE SUMMARY: (no character limit) summarize project, geographic area, deployment model (wireless vs wireline) timeline, how will project comply with terms.

Lockridge Networks is a Limited Liability Corporation that is headquartered in Seymour, Wayne County, Iowa. The company is proposing to expand fixed wireless service for a minimum of 25/3Mbps to the southern counties of Appanoose, Decatur, Lucas, Monroe and Wayne Counties. Four of these counties are consistently among the top ten poorest counties in Iowa over the past five years. Broadband service is an amenity of life for many people, however, it is a limited service to this area. Lockridge Networks wants to provide efficient broadband service for residents to have access to greater opportunities that could enhance their way of life. Impacts will affect job opportunities, businesses, farming operations, education delivery and opportunities, as well as medical practices and overall personal enrichment for residents. "Connectivity means access to healthcare, education, job creation, and everything. Broadband has to be there to ensure the virility and sustainability of the community. Previously, the vitality of America was based on infrastructure—roads and highways. Now it's broadband infrastructure. If people can't access reliable internet in an affordable way, they will be relegated to industries that are stagnating. Or they will move."

https://www.cjr.org/special_report/midterms-2018-iowa-rural-broadband.php/

The proposed project would strive to "Connect Every Iowan" by strategically place multiple towers in the 'Target Service Areas' (TSA) as identified by the Office of the Chief Information Officer. The counties have been prioritized to begin with Appanoose County. The 2019 priority was placed on Appanoose County because it is the most populous underserved territory identified as Target Service Areas by the OCIO. This will provide service to an estimated 3,889 households, two schools, 507 businesses and 45 farming operations. The current expansion strategy places emphasis on how quickly all required resources develop, if it can be readily accomplished when funds are available and when partnership allow construction. However, with the award of the 2019 OICO grant it will assure that the TSA locations in Appanoose County receive priority to provide service within one calendar year.

The second phase of the project will occur (as funds allow) in Lucas and Wayne Counties with the remaining service to Monroe and Decatur Counties as phase three. Development over the next several years will occur when locations and funding are identified. Service to all these counties could impact the TSA census locations in an estimated 1,347 square mile area, 7332 households, 6 schools and 975 businesses that account for 8,313 units.

Lockridge Networks plans to begin installing towers when the ground thaws in the spring of 2019. The company is confident that their method of service provides an ideal fit for the terms identified in the 'Broadband Grant Program- Connect Every Iowan'. Upon receiving this funding, more rural residents will receive high quality, efficient broadband service in Appanoose, Decatur, Lucas, Monroe and Wayne Counties. The fixed wireless service will be provide via strategically placed towers within the TSA locations identified.

Lockridge Networks LLC – Broadband Application***APPLICATION QUESTIONS*****1.4 Describe any CURRENT broadband initiatives sponsored by you within the service are:**

Lockridge Networks began providing service in 2017 and has grown to provide fixed wireless service to 50 customers. We utilize existing equipment located at our family-owned Lockridge Lumberyards in southern Iowa and northern Missouri. Our customers reside in Appanoose and Wayne Counties where they are in range of 8 service towers. Satisfied customers have shared their experiences and interest continues to mount greater than the current service capabilities, so we have a rapid expansion program in place.

Obtaining service begins when residents provide details about their address and contact information at www.lockridge.net. Our team prepares a digital line of sight analysis from an existing tower location to the customer site, and to ensure the customer can obtain service. Challenges can arise when the customer is in a valley and out of range of line of sight options. In this situation, we work with neighbors who may be able to implement a relay connectivity using a shared pole or high structure, such as a grain leg, barn, or existing TV antenna. Lockridge Networks employees install service by placing a receiver on the client property and wire it to a network router in the residence. Our custom telemetry systems gathers statistic on performance to ensure quality service is provided. Lockridge Networks has two fiber connections in geographically different portions of our network, to geographically disparate datacenters, to deliver high speed, reliability and fault tolerance.

1.5 Describe any FUTURE broadband initiatives to be sponsored by you within the service area:

Satisfied customers have shared their positive experience with neighbors and expanded interest continues to mount beyond our current service capabilities. Lockridge Networks conducted private analysis and resident surveys to determine the locations for greatest impact are in Appanoose, Decatur, Lucas, Monroe and Wayne Counties. Survey results indicate the greatest complaint about existing services in this area are slow speeds, high cost and the desire to stream video for many devices (but didn't have the ability to).

Lockridge Networks has been carefully gathering data to determine where services have the greatest demand, where accessible tower installation location can be identified, and identify which possible partnerships could effectively grow the business. Future tower locations may or may not include Target Service Areas identified by the Chief Information Officer. The current expansion strategy places emphasis on how quickly all required resources develop and if it can be readily accomplished when funds and partnership allow. The award of the 2019 OCIO grant will assure that all TSA locations in Appanoose County are prioritized to provide service in one calendar year.

A clear expansion plan includes adding POPs (points of presence) and relays to extend our current network through the four aforementioned areas. Lockridge Networks continues to experiment with various inside and outside plant (OSP) methods of customer connectivity including but not limited to fixed wireless LOS (line of sight), fixed wireless NLOS (non line of sight), fixed wireless to local community fiber distribution, and relay technology. At any point of presence, we can accommodate up to 480 individual subscriber units. Customer-facing sectors on our towers provide between 30 and 60 degrees of coverage per sector and provide connectivity of over 25Mbps in distances of approximately 15 kilometers.

The five county region identified as the company's immediate service area has tremendous need for broadband service. This demand has forced Lockridge Networks to develop a phased approach to accomplish providing service to the desired areas. The 2019 priority was placed on Appanoose County because it is the most populous territory and would

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provide for greatest impact. Second priority will be given to Lucas County where 95% of the rural area is identified as Target Service Areas by the OCIO and local demand is high.

2.1.3 How do your advertised speeds compare to actual speeds?

SOURCE; June 20, 2018 "The FCC says all of Iowa has access to broadband internet. Speed tests tell a different story." By Sam Bloch. In Iowa, broadband internet is supposed to be available to all. It's not. :

The Federal Communications Commission (FCC) recently released a national broadband map showing the parts of the country that has access to high-speed internet. The map was intended to identify target locations across the United States Midwest states to improve service. It indicated that Iowa is one of a few states that provide high-speed internet to all 99 counties, however, it appears the data sets tell a partial story. The 'Open Technology Institute' (an arm of the New American Foundation) conducted speed checks on approximately one half million locations. They discovered that while the baseline speeds of 25 megabits per second are offered in the region, the actual speed only occurs about 22% of the time the internet is used. The predominantly rural counties along the southern Iowa and Missouri border were among the worst service tested in the study. "According to the FCC map, 100% of residents in Appanoose, Davis, Lucas, Marion, Monroe, Wapello and Wayne Counties have access to a download speed of 25 Mbps, the speed at which three people can simultaneously stream HD video. But tests in these counties show that can only happen 14% of the time." The discrepancy can partially be found in the information supplied to FCC. It originates from a form that is completed twice annually by providers. Providers supply information that states if they offer service to at least one location in a census block. It doesn't require providers to identify how many people live in that census block or what the actual 'on-the-ground' internet speeds are. FCC Commissioner and attorney Jessica Rosenworcel stated that it was 'presumed that it was available throughout the block'however, "I think we all know that is not a fair assumption anymore, and we're leaving too many households behind."

Lockridge Networks has designed custom telemetry to immediately identify areas where there is a deviation from posted speeds. Since packages for customers vary from 25Mbps (Basic plan) to 100Mbps custom service, there is no speed average, only package averages. For example, 25Mbps Family Plan customer have an average speed during peak utilization time of 30.5Mbps.

Lockridge Networks dedicates 2 Gbps to service to internet patrons through two redundant fiber optics that connect to Kansas City and St Louis. This amount of infrastructure can supply service to an equivalent of 1950 businesses and nearly 6000 households, which is well beyond the population of the five counties combined. This will eliminate any concerns of latency as additional units are installed. Lockridge Networks is assuring customers that 25Mbps is a minimum service that will be provided. Lockridge Networks also provides customer status pages to demonstrate network speed on demand by the end user to ensure optimum service.

2.1.4 Please describe your product's latency attributes.

There are four key latency attributes:

Customer to Tower: average latency 10ms

Tower to our fiber uplink: average latency 5ms

Fiber uplink to our datacenter: average latency 15ms

Datacenter to Internet Backbone (IXP), average latency 1ms.

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2.2 Please describe how new speed tiers will be utilized by customers in project area and specifically how different types of customers (homes, businesses, schools, farms) are likely to utilize different speeds. (Streaming video, distance education, telemedicine?) This factor takes into consideration the specific product attributes resulting from the proposed broadband infrastructure an applicant will deploy in the projected area. Apps that will supply higher upload/download speeds with lower latency at lower costs will score higher.

(SOURCE: Wireless Infrastructure Association; "Rural America: How Wireless Technologies Could Impact America's Heartland.)

Since 2011, the University of Wisconsin Population Health Institute and the Robert Wood Johnson Foundation have partnered together to publish an annual resource called 'County Health Rankings'. Each county in every state is evaluated and ranked according to two basic categories: Health Outcomes and Health Factors. Appanoose County's poor health condition was brought to light at the first release of this data in 2011. Appanoose County ranked the lowest of all 99 Iowa counties in Health Outcomes including the length of life and quality of life. Over the past seven years, there has been improvements to reduce the number of premature deaths, the number of residents in poor/fair health, and reducing the number of low birthweight babies. However, during that same period of time, Appanoose County has fallen from 88 of 99 to 97 of 99 in the Health Factors. This includes declines to health behaviors, clinical care, and social and economic factors.

Efficient broadband services could positively affect healthcare in Appanoose County in the following manners: It will allow next-generation EMT services to use mobile communications technology, aimed at providing a significant time advantage, expediting critical treatment, and improving patient outcomes. Vital signs of patients and digital cameras can be used to remotely evaluate patient health in an ambulance or rural medical clinics to provide the hospital with instant critical information via a wireless network. Medical professionals can also evaluate patient health through remote monitoring. Digital medical records allow for professionals and patients to view information online to improve case management. Referring medical providers will also be able to digitally share patient files for prompt service and care of patients. Area school systems would like to explore the options of offering telemedicine for children with potential medical or mental health needs to improve the child's health and well-being.

FARMING- Precision agriculture enables growers to provide a quality product that is profitable using technology and best practices. Precision agriculture uses information and technology to manage site-specific inputs to reduce cost and increase yields for profitability, for improved sustainability, and environmental protection. High-accuracy, low latency and broadband connectivity are becoming integral components of daily agricultural operations. Without modern technologies to access these critical technologies, agriculture producers are not able to capitalize on the potential.

The 2012 Ag Census shows the state rank for market value of ag products sold (crops and livestock) out of 99 Counties placing Appanoose County 99th, Lucas County 98th, Wayne County 96th, and Decatur County 93rd. "Corn farmers in Appanoose and Monroe Counties are among the states least productive. We've had some of our members that want to take advantage of precision planting and spraying, but they just don't have access to high-speed internet to be able to do it", Bryon Stilley, CEO of Chariton Valley Electric Cooperative. **SOURCE; June 20, 2018 "The FCC says all of Iowa has access to broadband internet. Speed tests tell a different story." By Sam Bloch. In Iowa, broadband internet is supposed to be available to all. It's not.** The 2012 Ag census indicates that there are approximately 3,386 farms in this five county area and the OCIO census track calculations state 122 farming operations would be directly impacted by

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Lockridge Networks. Although rural farmers in this region may not show the greatest productivity, agriculture and Ag products are the backbone of the local economy and account for over \$158.3M annually in crop sales alone. 2012 Ag

Census shows that Appanoose County is comprised of 744 farms that is 187,713 acres. This is a slight increase in the number of farm operations since 2007, however, the average size of farm operation decreased in acres to offset this. Appanoose County has annual average crop sales market value of \$38.4 million and approximately \$17.1 million of livestock sales. The OCIO has identified 45 farm operations will benefit from the expansion of Lockridge Networks into the TSA properties. Utilizing the Ag Census data one could calculate 45 farms would produce approximately \$1,228,246 in crop sales and/or \$1,034,637 would be impacted and potentially increase a profit margin.

The digital divide between rural and urban areas is well known and documented and is at risk of becoming a wider gap going forward. Data shows that unemployment is higher where broadband adoption is lowest, causing household incomes to decrease, and lower education rates are common. The US census data supports this and can be illustrated with the counties of Appanoose, Decatur, Lucas, Monroe and Wayne. Four of these counties have consistently ranked among the lowest eight per capita income levels in Iowa for many years. Appanoose County's is more than \$5,000 below Iowa's state per capita personal income. Improved internet speed tiers can allow rural residents access to online occupations, online job applications, online education opportunities for GED attainment or obtaining a certification. School districts will also be able to increase the distance learning class options and embark on partnerships with colleges to offer dual credit classes.

The TSA identifies approximately 507 business in Appanoose County that could be positively impacted by efficient Broadband. Efficient internet access allows businesses to go beyond the local economy and have a presence in a global economy. Small rural business will be able to prosper and expand to meet the needs of a greater clientele located at distant communities. Connection to the World Wide Web also allows for businesses access to supplies and potential lower costs that can enhance profitability. The internet also allows for improved communication, accessibility and customer satisfaction. Collaboration with new partners could expand opportunities for employees, students and professionals to enhance skills or traits.

3.1 Estimate (miles) how close your proposed project is to other broadband infrastructure that already facilitates 25/3 broadband and known barriers that may inhibit the expansion to your proposed project.

Maps provided by www.broadbandnow.com illustrates the scattered service available to residents in the rural county of Appanoose. The availability of providers greatly varies by individual census tracts to another across 564 square miles target service area. This source also indicates that approximately 4,594 people in the county receive service that is below 25mbps. In some situations a neighboring tract can be identified as having 2-3 providers, but the adjacent tract will have zero service providers. This creates a difficult calculation for how close the proposed project is to other broadband infrastructure.

Appanoose County has service provided by Mediacom, Windstream, GRM and Farmers Mutual Cooperative Telephone Company of Moulton. The service provider is determined by locations within the county. Centerville is the county seat and has broadband coverage provided by Mediacom and Windstream. There are four TSA locations in the extreme northwest corner of the county that receive service from GRM. This provides service to approximately 24 households and 3 businesses. One-third of the southeast corner of Appanoose County is served by the local provider, Farmer's Mutual Cooperative Telephone Company of Moulton.

When analyzing the efficiency data it becomes clear that although residents may have service available through a provider, more than 75% of the time the internet speed is below the acceptable rate of 25mbps. Frequently, people are disappointed by the options, many rely on using tethered internet service from cell phones at a significant cost. For

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example, \$400/month in fees were charged to MIL-NE-RMITTINESS. In cities, consumers often have their choice of providers, but not so in rural areas where the phone company maybe the only provider and where internet connections diminish with distance and investment in infrastructure is lacking.

SOURCE; June 20, 2018 “The FCC says all of Iowa has access to broadband internet. Speed tests tell a different story.” By Sam Bloch. In Iowa, broadband internet is supposed to be available to all. It’s not.

Bryon Stilley, CEO of Chariton Valley Electric Cooperative also stated that “Rural members are buying from internet from one of four companies: **Windstream** (the local phone company) which offers DSL; **Rise Broadband**, a ‘fixed wireless’ provider that transmits a wireline connection from towers; and two satellite companies named **HughesNet** and **ViaSat**. Disappointed by the options, many rely on using service from cell phones.” **SOURCE; June 20, 2018 “The FCC says all of Iowa has access to broadband internet. Speed tests tell a different story.” By Sam Bloch. In Iowa, broadband internet is supposed to be available to all. It’s not.**

This application proposes the erection of four towers in Appanoose County. The Udell tower will abut service provided by Farmer’s Mutual Cooperative Telephone Company of Moulton, Mediacom, and Windstream. The Cincinnati tower will provide service adjacent to the zones covered by Farmer’s Mutual Cooperative Telephone Company of Moulton, Mediacom, and Windstream. The Plano tower will service to TSA areas that are next to Windstream and GRM. The remaining tower near the tail waters of Lake Rathbun will have service next to GRM.

Known barriers for service have include low-lying valleys situated between large hills and large clusters of mature trees. Regions that have more variation in elevation and/ or tall trees simply require a taller tower to be placed in a strategic location. The height allows direct delivery service to receivers within the service area. This solution may also need to be utilized for the service region surrounding Rathbun Lake in Appanoose County.

3.2 How the project will positively affect any anchor institutions in the area?

EMT services will be able to use mobile communications technology, providing a significant time advantage, expediting critical treatment, and improving patient outcomes. New equipment will be able to send videos and information via broadband signals to remotely evaluate patient health in an ambulance or rural medical clinics to provide the hospital with instant critical information via a wireless network. Medical professionals can also evaluate patient health through remote monitoring. Referring medical providers and rural medical clinics will also be able to digitally share patient files for prompt service and care of patients.

Long term care facilities are challenged with communication to multiple family members of a loved one being cared for in a facility. Efficient broadband will allow for improved care with greater access to patient notes, communication and possible concerns.

School districts will also be able to increase the distant learning class options and embark on partnerships with colleges to offer dual credit classes. There are six school districts and two colleges in the target counties identified that could be impacted. Learning institutions of all levels now operate with digital ‘chalkboards’ that allow students to upload and submit assignments, communication with instructors, and review deadlines. Students in the TSA regions may struggle to stay up to date on classes, especially any online classes they may be enrolled in.

Rural communities provide critical services through the city hall and local libraries. Internet service to both of these locations can greatly impact the efficiency and communication of residents. Much of the communication from state and

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federal government is issued via email so the service to a local government agency is critical. In many small communities the local library is a hub for families to gather and enjoy resources. Internet connect supplies unlimited resources for people and an efficient option to communicate with loved ones at distant locations.

5.1 How your project will generate new jobs in the projected area (including jobs impacted) **Specific job creations estimates and methodology deployed to determine numbers should be provide.**

LN expansion of four jobs with this application:

1 maintenance tech/installer (in the future there will be one tech per county)

1 office personnel

1 customer support

1 network operations

Trends of the future indicate that a rapid growth in agencies allowing employees who work from home. "Rural connectivity is the key, key thing in building rural Iowa," said Grant Menke, state director for rural development of the U.S. Department of Agriculture. "Reports show that over 50% of the working population will be able to work remotely by 2020. As broadband becomes more accessible and efficient to satisfy this trend, there could greatly impact southern Iowa residents seeking employment options.

Efficient broadband could have a significant impact on many cottage businesses who could expand to online sales and add more employees. TSA census map indicate that there are 507 businesses in the project area that could receive direct impact and have the possibility for expansion. If half of those small businesses could increase by one employee it would be a boost of 254 jobs and if 25% were to add one employee it would equate to 127 new positions.

5.2 How the project will impact the retention of existing jobs in the area and communities. **Job retention #s and methodology should be provided but not required.**

High speed, reliable internet service has become a crucial component to businesses throughout Iowa. Lockridge Networks will offer this broadband service to southern Iowa where efficient service has been sparse. Local real estate agents tell Lockridge Networks that the lack of internet service has deterred potential residents/employees from locations that service was not provided. "Being a real estate broker, access for high speed internet is always a question from my clients. I can't always guarantee they can get it, therefore, if they choose to go elsewhere because of this issue, the county as a whole loses out on new families with various occupations" and the county's paying tax base, Kim Hicks, Hick Realty LLC.

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"Rural connectivity is the key, key thing in building rural Iowa," said Grant Menke, state director for rural development of the U.S. Department of Agriculture. "Reports show that over 50% of the working population will be able to work remotely by 2020. People could have more options than ever to work city-based jobs from rural locations. Data shows that unemployment is higher where broadband adoption is lowest, causing household incomes to decrease, and lower

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education rates are common. The US census data supports this and can be illustrated with Appanoose County. It has consistently ranked among the lowest eight per capita income levels in Iowa for many years. Improved internet speed tiers can allow rural residents access to online occupations, online job applications, online education opportunities for GED attainment or obtaining a certification. School districts will also be able to increase the distant learning class options and embark on partnerships with colleges to offer dual credit classes. There are six school districts and two colleges in the target counties identified that could be impacted.

5.3 Describe how your project will positively impact businesses (including ag)

Rural regions struggle to get basic care and services because distances separate residents from social services, employers, and neighbors. Reliable broadband not only keeps rural Americans apace with the modern world – it's a critical economic lifeline. Connectivity will allow rural communities to realize the many benefits of the internet of things – enabling farmers to further advance precision farming, bringing healthcare advances to rural communities, and empowering local businesses to better compete with their urban counterparts.

According to the 2011 Connect Iowa Business Technology Assessment, 80% of Iowa businesses use the internet to handle their daily business functions. Among these businesses, 38% go online to recruit new employees.

Bringing broadband connectivity to cropland farmers it will provide the ability to make real-time data transfers and design prescriptions that minimize the amount of necessary seed, fertilizer and pesticides; reduce costs for fuel, labor, and water; and dynamically identify best practices. Some reports estimate that 50% of today's farmers use at least one precision farming practice and that those decisions about irrigation, fertilization, and harvesting can increase corn farm profitability by \$5 to \$100 per acre. <https://agfundernews.com/what-is-precision-agriculture.html> The OCIO census track calculates that 45 farming operations would be directly impacted by Lockridge Networks. Although rural farmers in this region may not show the greatest productivity, agriculture and ag products are the backbone of the local economy and account for over \$38.4M annually in crop sales and \$17.1M in livestock sales.

Internet shopping and services provide a magnitude of opportunities for all rural businesses. Connecting with patrons through social media has become an essential component to economic success and will become essential in the future. Forbes Magazine article "Forbes Survey Reveals What Millennials Really Want" (6/6/2016) indicates that 65% of Millennials prefer shopping online versus going to a store. Providing access to greater internet speeds will have a tremendous impact to 975 businesses across the region.

Efficient broadband could have a significant impact on many cottage businesses who could expand to online sales and add more employees. TSA census map indicate that there are 392 business in the project area that could receive direct impact and have the possibility for expansion.

D.1.2 Why is reimbursement for such Broadband Infrastructure facilitates and/or is essential to or inextricably intertwined with facilitating 25/3 Broadband in target service areas forming the basis of your project such that the related costs/expenditures cannot otherwise be excluded from your application?

Lockridge Networks is striving to provide service to counties across the southern tier of Iowa. This region is overwhelmingly underserved and epitomizes the "Digital Divide" that occurs with urban and rural settings. The TSA maps show that approximately 50-90% of the Appanoose, Decatur, Lucas, Monroe and Wayne

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counties do not have access to efficient broadband service. Providing this service is a huge feat for a small business, but yet we are determined to minimize the divide. Currently, our plan to provide service to these five counties will occur over time and as funds allow. We will continue to grow and invest in our network, but state funding is a boost that will allow homes, businesses and schools to expeditiously connect to broadband service. This in turn increases economic activity and thus tax revenue to the state. This virtuous circle will enhance lifestyles, rural economy and income for the state.

D.1.3 Please identify and describe the specific methods/formulas you will utilize in proportionally allocating the costs of and for such broadband infrastructure installed outside of the target service areas to targeted service area(s) forming the basis of your project to which broadband service is facilitated by such infrastructure.

Lockridge Networks uses Poisson arrival data to map potential service areas and areas of increasing demand. This leads to sector and tower site expansion plans, and thus investment plans. Grant funds will be utilized to install towers and service to underserved locations identified through these expansion plans and by the Chief Information Officer reports. Lockridge Networks is currently working to develop partnerships with communities, Rathbun Regional Water Association, and multiple private businesses to gain access to existing high elevation structures or towers. This collaboration will be used to minimize cost to customers that reside inside target service areas and beyond. Grant funds will only be used to purchase equipment that provide service to customers in TSA identified cells and is approximately 4,398 units. The funds will purchase towers that are in regions not serviceable by other options and equipment as identified in Exhibit D.

Lockridge Networks has been gathering data where services are at the greatest demand, an accessible tower installation location can be identified, and possible partnerships that could effectively grow the business. Future tower locations may or may not include Target Service Areas identified by the Chief Information Officer. The current expansion strategy places emphasis on how quickly all required components develop and if it can be readily accomplished when funds and partnership allow. The award of this grant will assure that all TSA locations are prioritize to provide service and any other projects outside the TSA regions are funded solely by private allocations.

ADDITIONAL NARRATIVES

EXECUTIVE SUMMARY: (no character limit) summarize project, geographic area, deployment model (wireless vs wireline) timeline, how will project comply with terms.

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healthcare, education, job creation, and everything. Broadband has to be there to ensure the virility and sustainability of the community. Previously, the vitality of America was based on infrastructure—roads and highways. Now it's broadband infrastructure. If people can't access reliable internet in an affordable way, they will be relegated to industries that are stagnating. Or they will move." https://www.cjr.org/special_report/midterms-2018-iowa-rural-broadband.php/ The proposed project would strive to "Connect Every Iowan" by strategically place multiple towers in the 'Target Service Areas' (TSA) as identified by the Office of the Chief Information Officer. The counties have been prioritized to begin with Appanoose County. The 2019 priority was placed on Appanoose County because it is the most populous underserved territory identified as Target Service Areas by the OCIO. This will provide service to an estimated 3,889 households, two schools, 507 businesses and 45 farming operations. The current expansion strategy places emphasis on how quickly all required resources develop, if it can be readily accomplished when funds are available and when partnership allow construction. However, with the award of the 2019 OICO grant it will assure that the TSA locations in Appanoose County receive priority to provide service within one calendar year.

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DEMONSTRATED EXPERIENCE:

Lockridge Networks has been providing fixed wireless service to approximately 50 customers in Appanoose and Wayne County for 2 years. The service is provided through eight existing towers strategically placed in the counties. The company has invested \$250,000 to get 2 Gbp's of dedicated fiber capacity to provide efficient service to rural customers.

The current monthly residential rate is approximately \$69 per month. This option is less expensive than the most common rural option of utilizing telephone lines for approximately \$83/mo. Residential telephone landlines are becoming obsolete but may be a requirement for rural residents if it's the only internet service available. This is an additional financial burden for struggling families. Satisfied Lockridge Network's customers have shared their positive experience with neighbors and expanded interest continues to mount beyond our current service capabilities.

WHY STATE FUNDS NECESSARY INITATE/COMPLETE:

Lockridge Networks is committed to providing southern Iowa residents with the opportunity to connect to worldwide resources that will impact how residents live and work. The company plans to expand broadband

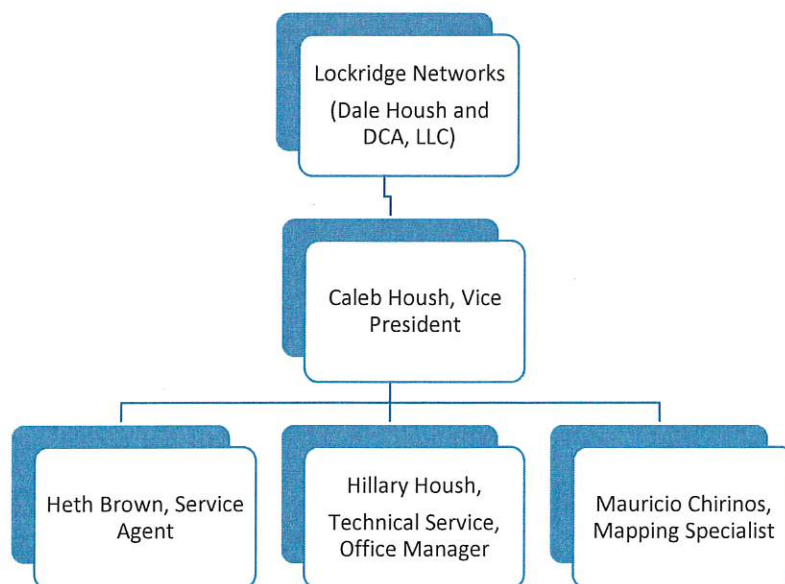
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services to satisfy the growing demand for efficient service in southern Iowa. Financial investments will determine how quickly the company and services grow in the near future. Current private investment will allow the installation 1-2 towers annually assisting in service to 35-70 households a year and will begin as the company desires. State funds would allow for immediate growth and service to potentially over 7,000 households identified by the OICIO over the next 4 years. Lockridge Networks foresees the possibility of installing 12-15 towers over this multi-year period with state funded assistance. When considering the number of households that would potentially see improvement, there could be tremendous impact in Southern Iowa with private funds and state grant contributions.

ADDITIONAL INFORMATION (business structure, history, table of organization):

HISTORY: Lockridge, Inc. is a family-owned building materials company with locations in four counties of southern Iowa and Northern Missouri. In 2016, the company was experiencing challenges with poor internet speed and service for several years. The developed a solution to the problem by teaming up with an internet networking professional and establishing their own wireless network. This wireless network comprised of 6 initial towers to connect the four Lockridge Lumberyards stores to one another. This system allows for multiple business locations to have access to shared files and deliver more efficient customer service without outages. The broadband service was slowly expanded to employees and eventually to a few residents (totaling 50) in the communities they serve. There were challenges to overcome with the trees and rolling hills common in southern Iowa, but those gaps in service have been taken care of. Two years later, word has spread throughout the area and there is now more demand than equipment available. Word had also spread to Des Moines and got the attention of Governor Kim Reynolds and Lt. Governor Adam Gregg. They paid an onsite visit to the company in December 2018. The Governor and Lt Governor were encouraged by the efforts of Lockridge Networks and the contribution it can make to the 'Connect Every Iowan' Broadband Initiative.

Dale Housh and DCA, LLC partnered together to develop Lockridge Networks as a Limited Liability Corporation in 2017. This designation allowed co-business owner's liability protection that a corporation provides without the double taxation. The small business operates with four employees but foresees additional staff necessary in the near future.





1201 Strome Seymour, IA 52590

641-426-2400

www.lockridge.net

The purpose of this letter is to authorize Caleb Housh to sign on behalf of Lockridge Networks.

X

DCA Online
Co-Owner



X

Dale Housh
Co-Owner

Dale Housh Pres.
3-1-19



1201 Strome Seymour, IA 52590

641-426-2400

3-05-19

Grant Committee;

Lockridge Networks will be able to meet all financial requirements outlined in the grant application. Financing will come from line of credit with Lockridge Networks' bank, personal investments from Dale Housh 50% owner, and DCA, LLC 50% owner of Lockridge Networks.

Dale Housh

DCA, LLC



1201 Strome Seymour, IA 52590

641-426-2400

www.lockridge.net

2019 Grant Application Implementation Plan

The purpose of the Lockridge Networks grant applications is to install four new towers to expand our current coverage area. We anticipate ordering our towers and equipment upon receiving notice that we have been awarded the grant. I would estimate that by the middle of July we will have everything here.

July 2019

- Begin site prep on four new tower locations
- Dig and pour the base and install tower huts at all four locations

August-September 2019

- Erect Camp Appanoose tower and install the sector horns, wiring and equipment.
- We anticipate each tower install to take at least a week.
- Once a tower is active we will be able to start installing service in the coverage area

Our goal is to have our project finished up by no later than September 30, 2019.



1201 Strome Seymour, IA 52590

641-426-2400

www.lockridge.net

Residential Family Internet 25/3 megabit \$69/month

- Web browsing, Netflix, Hulu, Roku, streaming and more
- High Speed and Reliability

Residential Pro Package 30/10 megabit \$99/month

- Designed for home office workers
- Voice over IP
- Web browsing, email, streaming, gaming and more

Business Package \$125-\$199/month

- Dedicated Bandwidth for your Business
- High Speed and Reliability
- Voice over IP

All plans include an additional \$99 installation fee. Lockridge Networks will provide the following installation equipment. One mounting bracket, client radio, client router and 100' of cable. Some locations will require additional equipment to complete the installation. All interested customers are subject to a site survey to determine feasibility. Lockridge Networks will provide the customer with an installation quote before any work commences.



Wayne Community Schools

102 North Dekalb Street Corydon, IA 50060

Visit our website: www.wayne.k12.ia.us

February 19, 2019

Dave Daughton
Superintendent
Ph: 641-872-2184
F: 641-872-2091

To whom it may concern:

The Lockridge Network is endeavoring to provide affordable high speed internet to rural Wayne County. The availability of this service will allow school age students(as well as others) to access affordable internet service from home, something not all of them currently have. This will impact students in at least two different school districts.

As a point of reference, I actually live in the Seymour School District in a rural area, and we have experienced multiple challenges in attempting to get quality internet service. I believe that the Lockridge Network will fill that need.

This is a hometown company stepping out here in an effort to assist rural students and residents, and I believe that they would be very worthy recipients of a grant.

Please contact me if I can be of further assistance.

Sincerely,

Dave Daughton

Dave Daughton
Superintendent
Wayne Community Schools
FALCON PRIDE!!

Stacy Snyder
Secondary
Principal
Ph: 641-872-2184
F: 641-872-2091

Boyd Sinclair
Elementary
Principal
Ph: 641-872-1034
F: 641-872-2543

February 18, 2019

To Whom It May Concern:

I am writing this letter in support of Lockridge Networks and the need for wireless internet service providers in rural Iowa.

I am a resident of Russell Iowa and serve as a council member for the City of Russell. We live in a world where businesses and households alike are dependent upon reliable internet service and like a lot of small communities in Iowa, we are plagued by poor quality internet service and outdated technology. Today's demands call for higher speeds and more bandwidth and it is no longer possible for old telephone lines to meet this demand.

It is not economically feasible to provide every single household in Iowa with their own personal fiber optic line, so we look forward to newer technologies from wireless internet service providers like Lockridge Networks. They are able to cost-effectively provide fast, reliable internet service for a fraction of the cost that it would take to install fiber and I am fully in support of making funds available for Lockridge Networks through the state's grant system.

Sincerely,

A handwritten signature in black ink, appearing to read 'CP', with a long horizontal stroke extending to the right.

Corey Paige
Council Member
City of Russell

315 E. Maple Street
Centerville, IA 52544
641-437-1060
www.hometownonline.com




To Whom it May Concern,

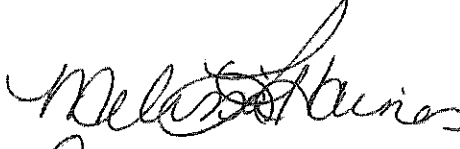
Hometown Realty has assisted homeowners buy and sell homes for many years. Homeowner priorities have evolved over the years. One of the most common priorities our clients have today is access to high speed, reliable internet. Our clients are using more bandwidth today than ever before and that usage will only continue to grow over the next decade. Unfortunately for many potential homeowners in southern Iowa access to high speed, reliable internet is not available.

We fully support Lockridge Networks and their goal of connecting rural Iowa. Having a local business serving our internet needs will be beneficial to fulfilling our current clientele's needs and attracting new residents to the area.

Please consider awarding Lockridge Networks a grant to help expedite this process.

Thank you for your time.


Jami M. Sheering
Rodie B. McCoy


Anna Pyars

100 N. Franklin, Suite 1
Corydon, IA 50060
641-872-8000

2121 Washington
Unionville, MO 63565
660-947-3400

Hicks Realty, LLC

Kim Hicks Broker/Owner-641-895-8471

"Strength in all fields"

2/14/19

To Whom It May Concern:

This letter is in regards to Lockridge Networks and their desire to give the people of South Central Iowa all a chance to have access to high speed internet. As of now high speed internet is not available in many rural and urban areas, especially in Wayne County. Being a real estate broker, access for high speed internet is always a question from my clients; I can't always guarantee they can get it, therefore if they choose to go elsewhere because of this issue, the county as a whole loses out on new families with various occupations.

High speed internet is also very important for my business, nowadays, if able; most clients have already done their homework because of the internet. For example, they know where the property is, what it looks like, how much it costs and so on. This makes my job less stressful, because when they come to see a home in person, they usually know what to expect.

Everything is turning to the internet; it only seems fair that everyone has equal access, regardless of where they live.

Please take into consideration a grant for Lockridge Networks for striving to provide equal internet opportunities throughout South Central Iowa.

Thank you

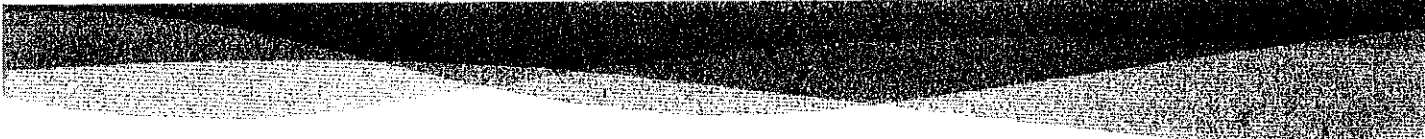


Kim Hicks

Broker/Owner-641-895-8471 1526 King Rd Allerton IA 50008

www.hicksrealtyllc.com khcorydon@yahoo.com

Licensed real estate broker in the state of Iowa



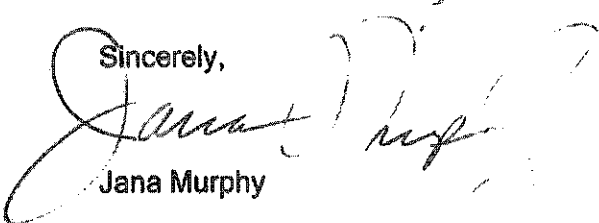
31683 Hwy 34
Russell, IA 50238

Russell Livestock Market, LLC

To whom this may concern,

I am writing this letter to tell what a wonderful experience we have had with Lockridge Net. We are a livestock marketing business located in a rural area. Part of our business is having an online auction that is broadcast over the internet where buyers can place bids as well as the sellers viewing their livestock being sold if they cannot make it to the sale. For the 11 years we have been in business we have had very poor internet connection & speed. So poor that we could not make the bidding option available to buyers because of such a delay. We tried long reach DSL, Satellite internet and had the same results with each. Then Lockridge Net came along, we now broadcast our sale online with no delay, broadcasts real time, & a very clear video. We are very pleased with this service & would recommend it to anyone.

Sincerely,



Jana Murphy

Owner/office manager



Feb. 15th 2019

To whom it may concern:

There are many advantages and disadvantages to living in rural Iowa. One of the things that I am most proud of as a board member for the Seymour Community School District is that in 2016 we were able to provide each student 4th-12th with their own personal Chrome book. Teachers send and grade assignments on them for the students. The teachers and students really like the technology. The only complaint that I have heard is that some of the students cannot finish their assignments from home due to the fact that there is not a reliable internet provider available where they live. Eventually Lockridge Networks will be able to fill this gap in coverage for our area. Please consider them for this grant. With help from you the expansion of coverage will be quickened immensely.

A handwritten signature in black ink, appearing to read "Drew Power". The signature is stylized with a large, looped "D" and a cursive "Power".

Drew Power
Board of Directors
Seymour Community Schools

The Wayne County Board of Supervisors

100 Lafayette Street, P O Box 435, Corydon, Iowa 50069-0435

Telephone # 641-872-2221 Fax # 641-872-2843

Duffy Kester David Dotts Tom Swearingin

February 19, 2019

To Whom It May Concern:

Wayne County is located in a rural area of south central Iowa and is classified at the highest level of "rural and remote" geography using any of the current rural grading methodologies. Our residents pride themselves in remaining progressive despite statistics that label us a poverty stricken area.

As a member of the Wayne County Board of Supervisors, I fully support the efforts of Lockridge Networks as they pursue grant funds for their internet project. Lack of connectivity for Wayne County has always been a concern and was very apparent as I worked with other community leaders when the town of Seymour experienced tornado damage in March of 2017. Seymour is representative of many areas of Wayne County where limited internet services could result in a lack of critical care for residents, many of whom are elderly.

Recently a company has announced an expansion in Wayne County that will increase their workforce by 200+ jobs. Many of those jobs require that employees are technologically literate, making it even more important for our citizens to have access to high level internet speeds.

Please feel free to contact me at 641-872-2221 if you have any questions concerning my support for this project.

Sincerely,



David Dotts

Office of the Lt. Governor of Iowa**ADAM GREGG**

Search



Idea Submitted by Caleb Housh

Idea

We have established our own wireless network in southern Iowa called Lockridge Networks. We currently have seven towers strategically placed in Lucas, Wayne and Appanoose counties. My family owns a small chain of four lumberyards throughout the area. Our business has been on the Network for a year and a half now without any major issues. We have had some hardware issues but that is it. We have started installing wireless internet to residential properties over the past 2 months. These customers are test customers to see how the Network performs and what hardware works best in each scenario. We hope to have 2 G's of fiber connected to our system within the next 30-60 days. We have invested about \$250 K to get where we are now. Each residential installation costs about \$300. We charge \$99 to install and our average monthly rate will be \$69/ month. Most rural Iowans are forced to also pay for a phone line that they do not use and we do not require that. We do offer phone service if the customer requests it. Our solution is less expensive and faster to install than fiber optic cable. The amount of interest and customer orders coming in is almost overwhelming. I feel that this is the most efficient and quickest way to get rural Iowa connected.

County Wayne**City** Seymour

Governor Pays Visit to Lumberyard-Run Internet Provider

Governor pays visit to lumberyard-run internet provider.

Dec. 30, 2018

BY KYLE OCKER, DAILY lowegian

PROMISE CITY, Iowa (AP) — Local builders and avid do-it-yourselfers have long turned to Lockridge, Inc. for construction materials. Many residents are beginning to turn to them for high-speed Internet.

Challenges with getting high-speed Internet in rural areas and even small towns have proved a struggle, the Daily lowegian reported . Even in places in which federal data states an area has access to high-speed internet, that data doesn't always prove true.

Lockridge, Inc., a family-owned building materials company with locations in Wayne, Appanoose, Lucas and Putnam counties, set out about two years ago to come up with a solution to their own internal problem. That solution may end up solving a societal problem faced by many in rural southeastern Iowa.

The Lockridge company is headquartered where the business began in the 1940s in Promise City, population 113. This location houses their company network, including point-of-sale and their estimate generation systems.

Getting their other locations in Centerville, Chariton and Unionville, Missouri able to connect to that network, however, was sometimes a challenge due to the lack of broadband access in the area.

Around the same time, they were aiding in the construction of a home for Pete Krebs, who has an Internet networking background. Together, they came up with a solution: Create Lockridge's own wireless Internet network.

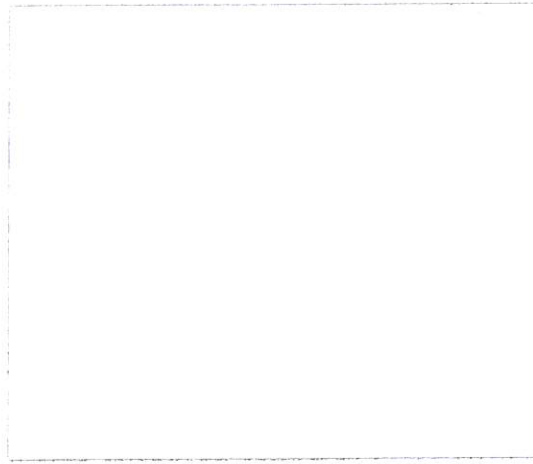
This involved setting up various towers in the area, which drew questions from curious residents in the sparsely populated rural areas.

Caleb Housh, a sales manager of the family-run business, said at first some employees of Lockridge themselves got connected with the system. The firm is now offering the service to the communities they serve.

We are running a quick survey.
Would you like to participate?

[Start Survey](#)

[No Thanks](#)



The unique scenario drew the attention of Gov. Kim Reynolds and her Lt. Gov. Adam Gregg as they stopped at the company's Promise City location during a southern Iowa swing.

Housh said the service is still in a pre-launch stage. Krebs said over two years the new Internet service company has grown confident in their network and service options.

Krebs, who co-owns the new Lockridge Networks company, told Reynolds that just a few feet in elevation change can make a major difference in the kind of power or radios that need to be used to establish service.

The trees and rolling hills of southern Iowa create problems and are among the reasons the service still has some gaps in its pre-launch phase. The company plans to continue expanding, and filling in those service gaps over time.

One day, Housh told Reynolds, the dream is that service would be available south of the Highway 34 corridor between Interstate 35 and the [Mississippi River](#). For now, the service is expected to remain in somewhat of a soft-launching phase until the first part of 2019.

Those interested in obtaining services can contact Lockridge Network, which is a separate company operated by many of the same people as the lumber company. The best way, Housh said, is through Facebook via the Lockridge Networks page.

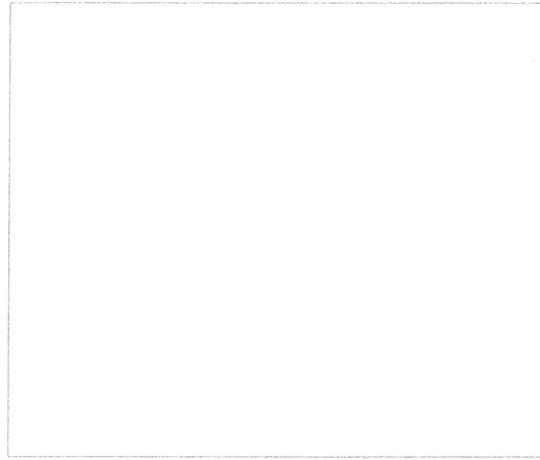
Potential customers will be put onto a waiting list, though if they happen to be at an address serviceable by current equipment the company can begin connecting them immediately.

Krebs showed Reynolds data that a random home in Seymour is achieving 60 Mbps download speeds, well above the federal standard for broadband. It's much quicker than what the only other fixed broadband service can deliver to the town of 706 people

We are running a quick survey.
Would you like to participate?

[Start Survey](#)

No Thanks



"We've promised them 25 Mbps, we're actually giving them 60," Krebs said. "We want to be able to consistently provide better quality service. ... They had upgraded previously from a three-megabit service."

Information from: Daily Iowan (Campus Paper), <http://www.dailyiowan.com>

An AP Member Exchange shared by the Daily Iowegian.

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We are running a quick survey.
Would you like to participate?

[Start Survey](#)

No Thanks

2012 CENSUS OF AGRICULTURE

COUNTY PROFILE

Appanoose County – Iowa

Ranked items among the 99 state counties and 3,079 U.S. counties, 2012

Item	Quantity	State Rank	Universe ¹	U.S. Rank	Universe ¹
MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD (\$1,000)					
Total value of agricultural products sold	38,405	99	99	1,968	3,077
Value of crops including nursery and greenhouse	21,299	99	99	1,669	3,072
Value of livestock, poultry, and their products	17,106	97	99	1,744	3,076
VALUE OF SALES BY COMMODITY GROUP (\$1,000)					
Grains, oilseeds, dry beans, and dry peas	(D)	99	99	(D)	2,926
Tobacco	-	-	-	-	436
Cotton and cottonseed	-	-	-	-	635
Vegetables, melons, potatoes, and sweet potatoes	18	82	97	2,480	2,802
Fruits, tree nuts, and berries	7	66	89	2,468	2,724
Nursery, greenhouse, floriculture, and sod	(D)	(D)	93	(D)	2,678
Cut Christmas trees and short rotation woody crops	-	-	62	-	1,530
Other crops and hay	1,645	15	99	1,513	3,049
Poultry and eggs	9	90	99	2,392	3,013
Cattle and calves	13,388	83	99	1,104	3,056
Milk from cows	890	55	80	1,306	2,038
Hogs and pigs	879	97	99	886	2,827
Sheep, goats, wool, mohair, and milk	207	49	99	775	2,988
Horses, ponies, mules, burros, and donkeys	(D)	(D)	99	(D)	3,011
Aquaculture	(D)	1	29	(D)	1,366
Other animals and other animal products	(D)	(D)	98	(D)	2,924
TOP CROP ITEMS (acres)					
Soybeans for beans	35,243	95	99	729	2,162
Corn for grain	24,677	98	99	885	2,638
Forage-land used for all hay and haylage, grass silage, and greenchop	23,467	9	99	819	3,057
Corn for silage	3,543	31	99	508	2,237
Oats for grain	250	64	98	811	1,825
TOP LIVESTOCK INVENTORY ITEMS (number)					
Cattle and calves	22,800	65	99	1,229	3,063
Hogs and pigs	(D)	97	99	(D)	2,889
Goats, all	817	17	99	719	2,996
Layers	791	77	99	2,047	3,040
Horses and ponies	627	45	99	1,794	3,072

Other County Highlights, 2012

Economic Characteristics	Quantity	Operator Characteristics	Quantity
Farms by value of sales:		Principal operators by primary occupation:	
Less than \$1,000	225	Farming	343
\$1,000 to \$2,499	65	Other	401
\$2,500 to \$4,999	59	Principal operators by sex:	
\$5,000 to \$9,999	71	Male	684
\$10,000 to \$19,999	81	Female	60
\$20,000 to \$24,999	27	Average age of principal operator (years)	
\$25,000 to \$39,999	56		57.6
\$40,000 to \$49,999	17	All operators by race ²:	
\$50,000 to \$99,999	67	American Indian or Alaska Native	-
\$100,000 to \$249,999	43	Asian	-
\$250,000 to \$499,999	20	Black or African American	-
\$500,000 or more	13	Native Hawaiian or Other Pacific Islander	-
Total farm production expenses (\$1,000)	44,241	White	1,086
Average per farm (\$)	59,464	More than one race	1
Net cash farm income of operation (\$1,000)	5,595	All operators of Spanish, Hispanic, or Latino Origin ²	
Average per farm (\$)	7,520		-

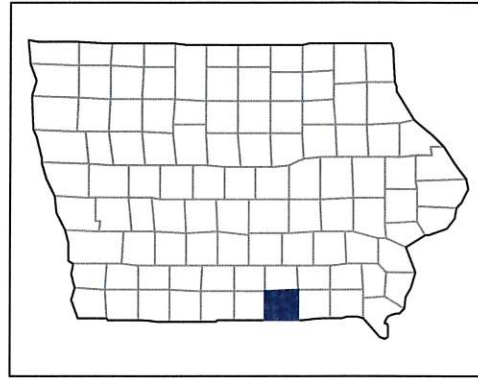
See "Census of Agriculture, Volume 1, Geographic Area Series" for complete footnotes, explanations, definitions, and methodology.

- Represents zero. (D) Withheld to avoid disclosing data for individual operations.

¹ Universe is number of counties in state or U.S. with item. ² Data were collected for a maximum of three operators per farm.

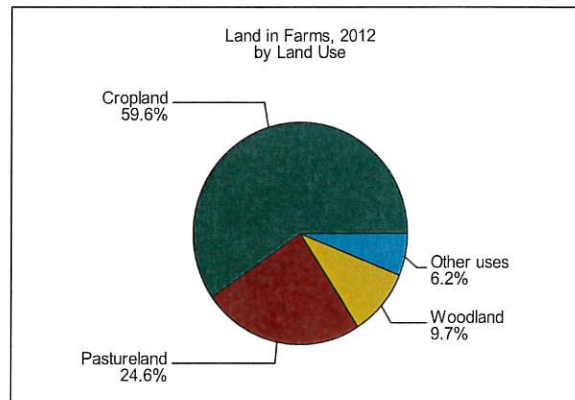
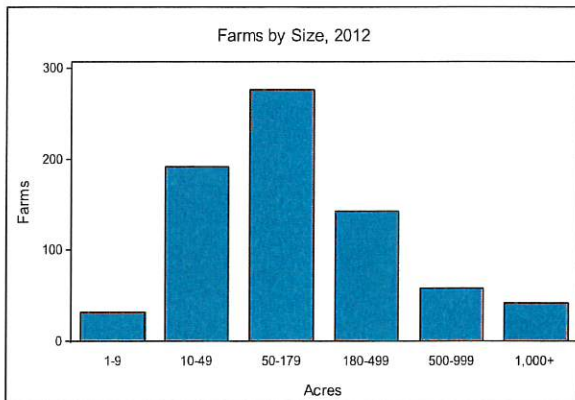
2012 CENSUS OF AGRICULTURE

COUNTY PROFILE



Appanoose County Iowa

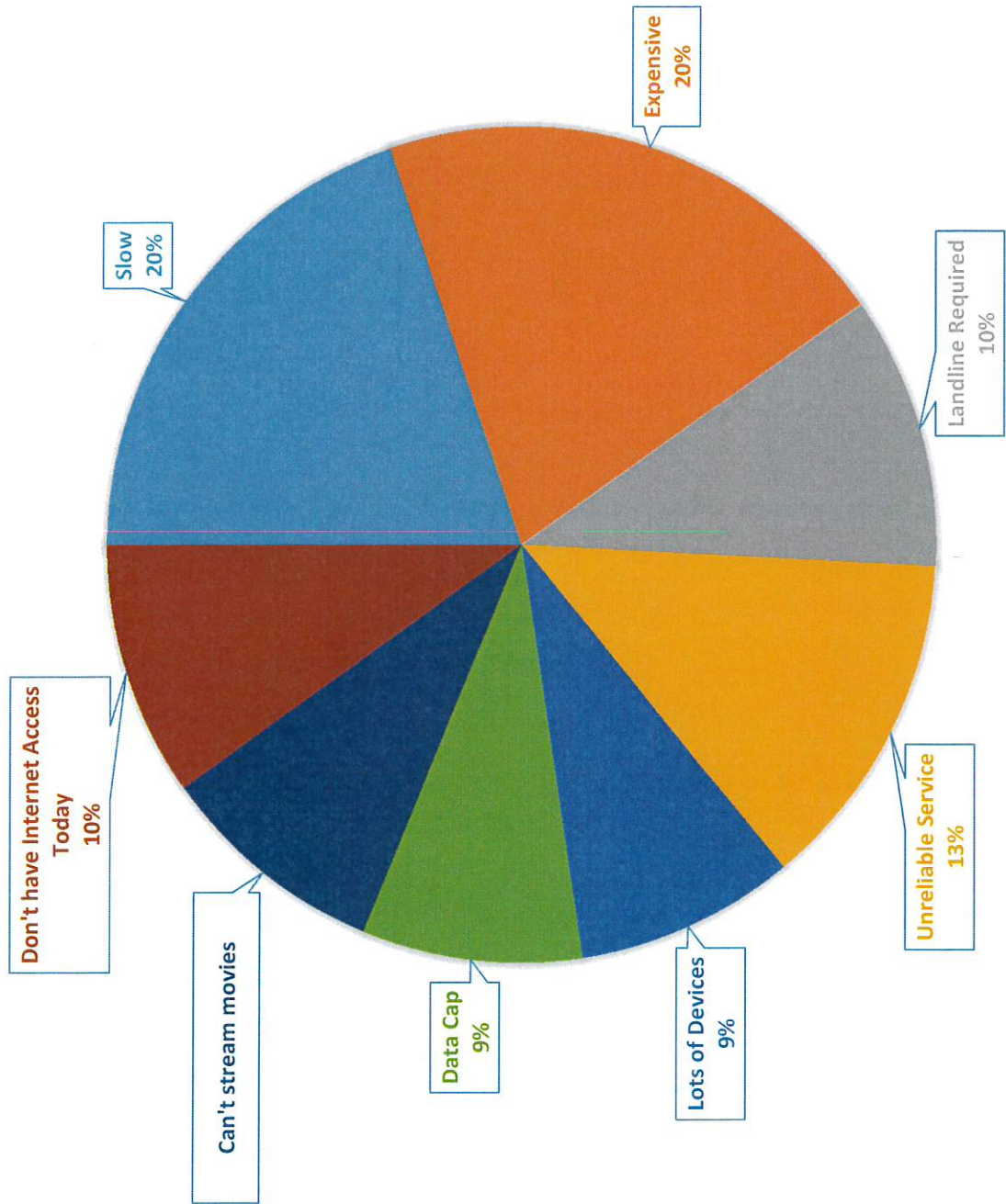
	2012	2007	% change
Number of Farms	744	731	+ 2
Land in Farms	187,713 acres	197,904 acres	- 5
Average Size of Farm	252 acres	271 acres	- 7
Market Value of Products Sold	\$38,405,000	\$37,881,000	+ 1
Crop Sales \$21,299,000 (55 percent)			
Livestock Sales \$17,106,000 (45 percent)			
Average Per Farm	\$51,620	\$51,821	0
Government Payments	\$3,704,000	\$3,872,000	- 4
Average Per Farm Receiving Payments	\$7,206	\$7,170	+ 1



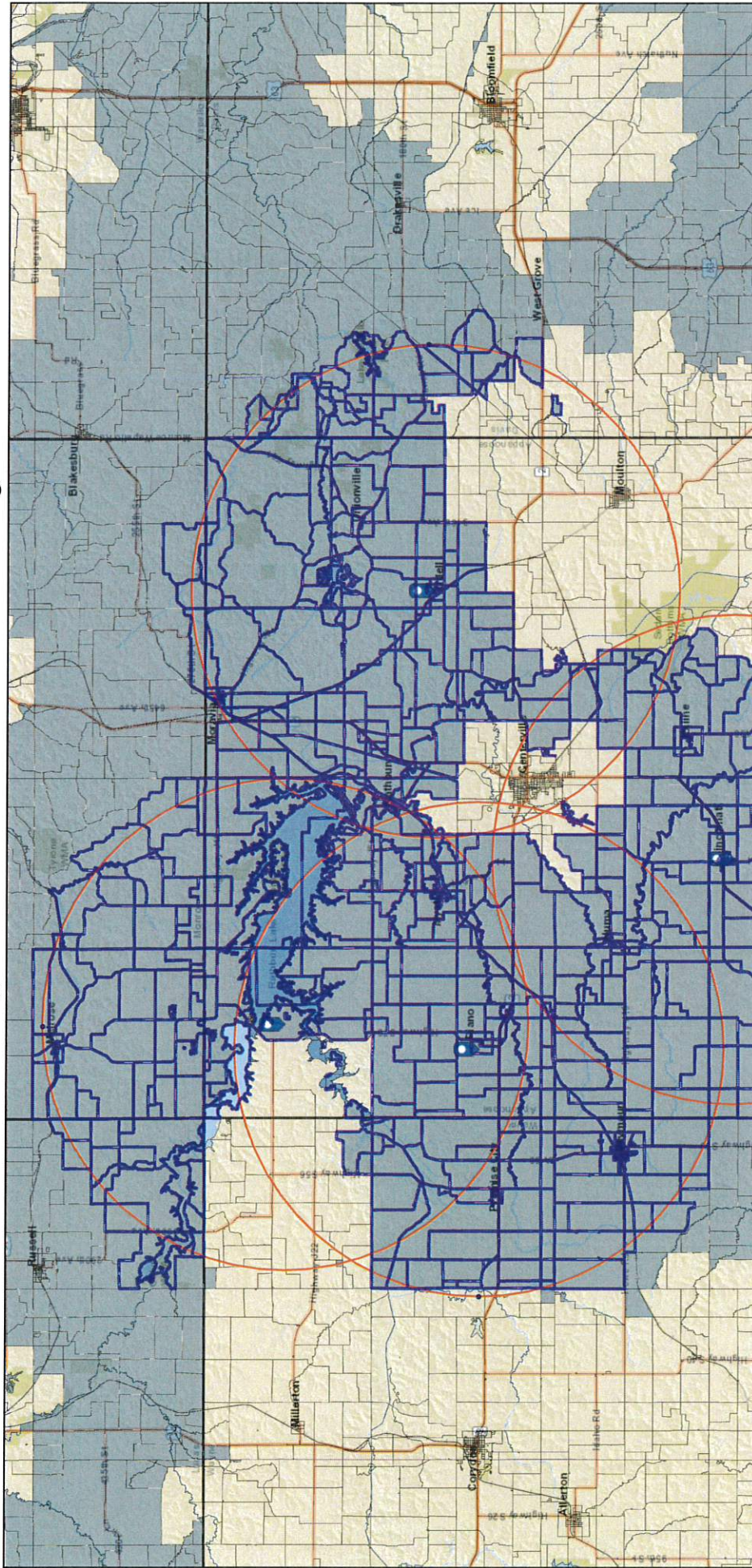
US Department of Agriculture
National Agricultural Statistics Service

www.agcensus.usda.gov

**CUSTOMER SURVEY- WHY NEW CUSTOMERS LEFT THEIR EXISTING
SERVICE - WHY THEY ARE SETTING UP NEW SERVICE WITH LOCKRIDGE
NETWORKS**



Lockridge Networks - Towers TSA Coverage



3/6/2019, 6:50:57 PM

Iowa County Boundaries

Iowa Broadband Information By Block

Targeted Service Area (TSA)

Non-TSA

1:288,895

0 2.5 5 10 mi

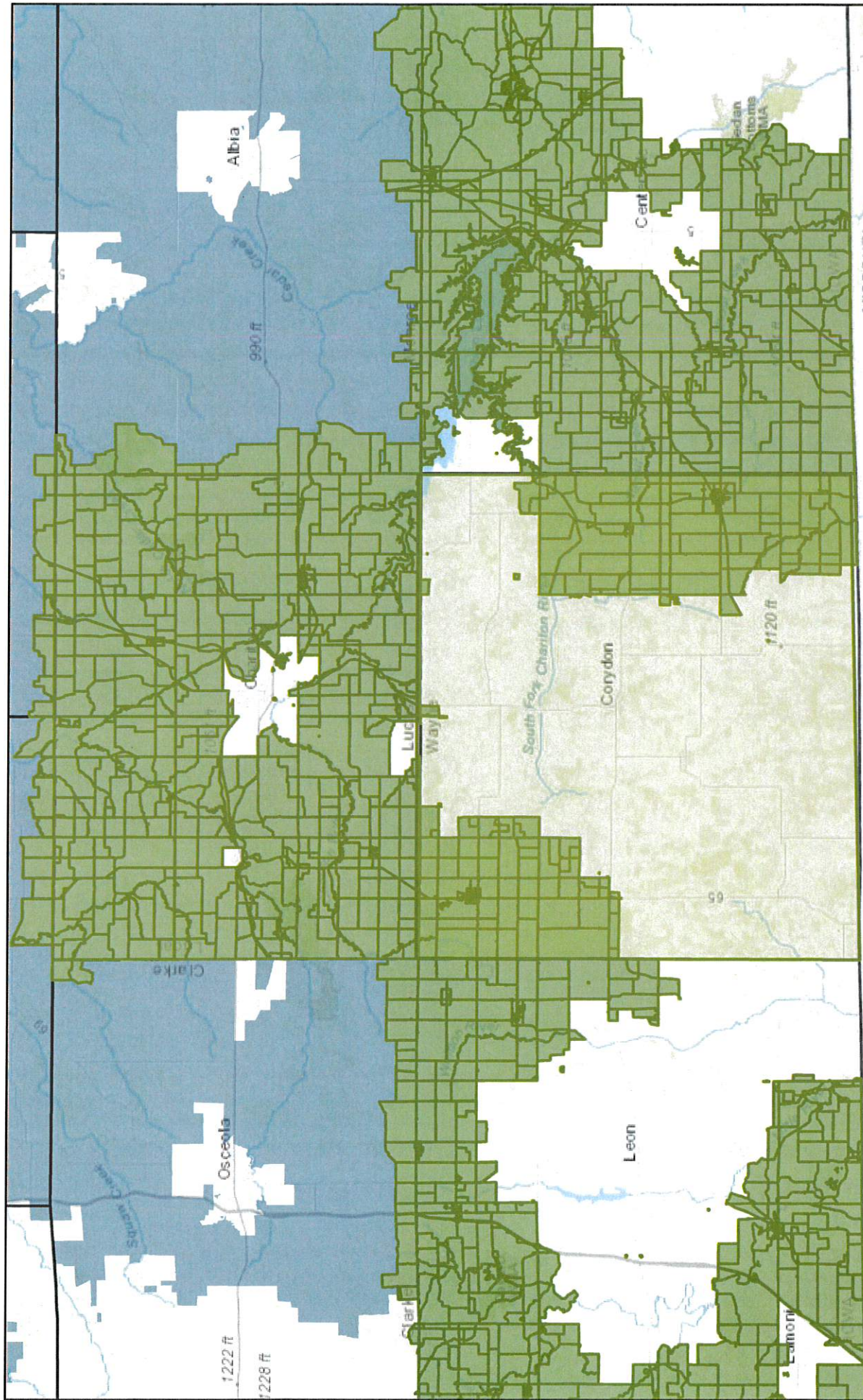
0 4.25 8.5 17 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

Project Name or Identifier
Iowa Legislative Services Agency | Iowa DNR, Esri, HERE, Garmin, NGA, USGS, NPS |

Control Number: 298223

Lockridge Networks



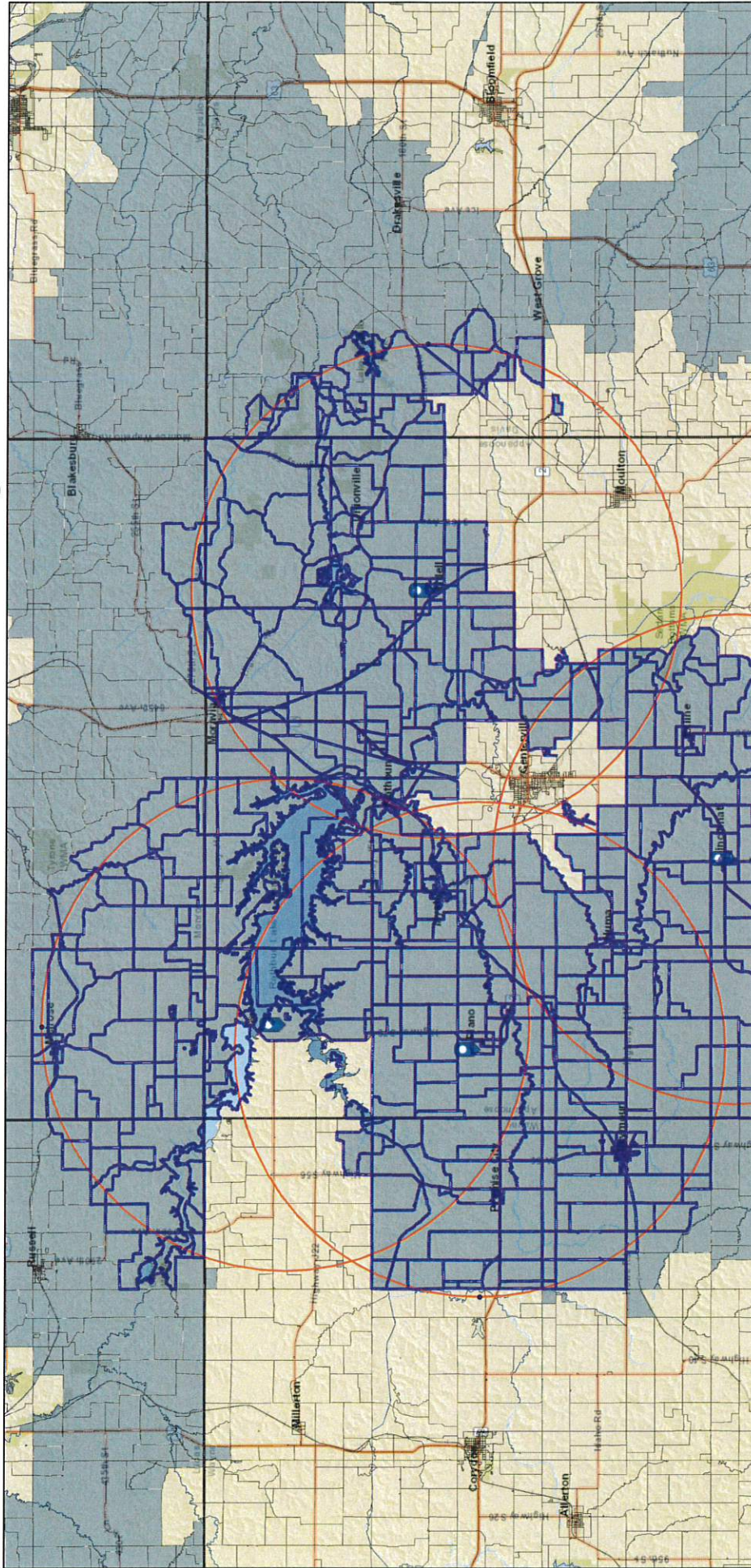
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- ☐ Iowa County Boundaries
- ☐ Override 1
- ☐ Select census block that ... _Query result
- ☐ TSA Overview

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS,

Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS]

Lockridge Networks - Towers TSA Coverage



3/6/2019, 6:50:57 PM

Iowa County Boundaries

Iowa Broadband Information By Block

Targeted Service Area (TSA)

Non-TSA

Control Number: 298223

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

Iowa Legislative Services Agency | Iowa DNR, Esri, HERE, Garmin, NGA, USGS, NPS | Project Name or Identifier

This is a detailed map of the Potosi, Missouri area. The map shows the Potosi River flowing through the center, with the town of Potosi located on its banks. Other towns shown include Canton, Potosi, and Potosi. The Missouri River is visible on the right side of the map. The map includes a grid of latitude and longitude lines and a scale bar. The map is oriented with North at the top.

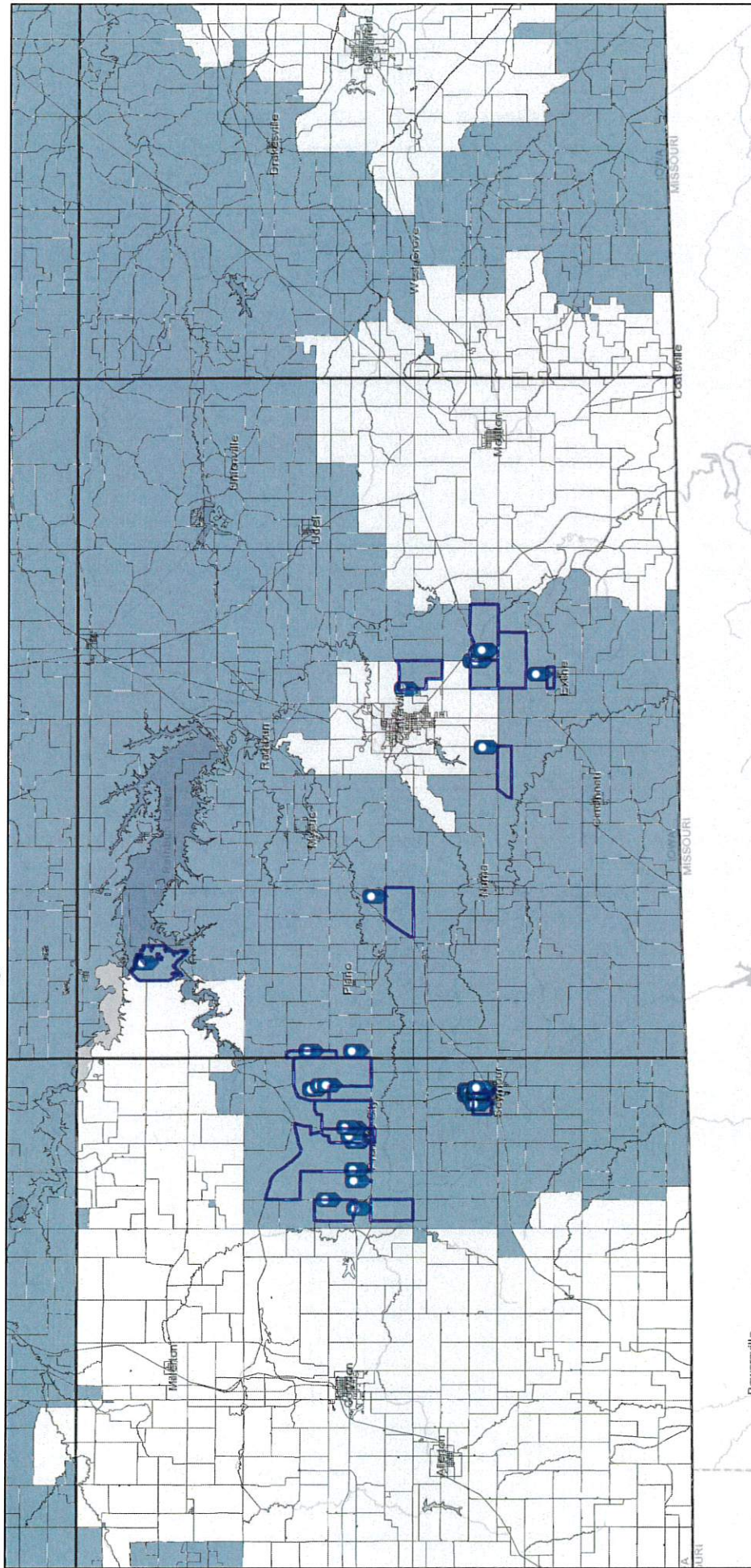
☐ Iowa County Boundaries

Targeted Service Area (TSA)

Non-TSA

Project Name or Identifier
Iowa DNR, Esri, HERE, Garmin, NGA, USGS, NPS | Iowa Legislative Services Agency |

Lockridge Networks - Actual TSAs Served



3/6/2019, 1:15:49 AM

Iowa County Boundaries

Iowa Broadband Information By Block

Targeted Service Area (TSA)

Non-TSA

1:288,895

0 2.5 5 10 mi

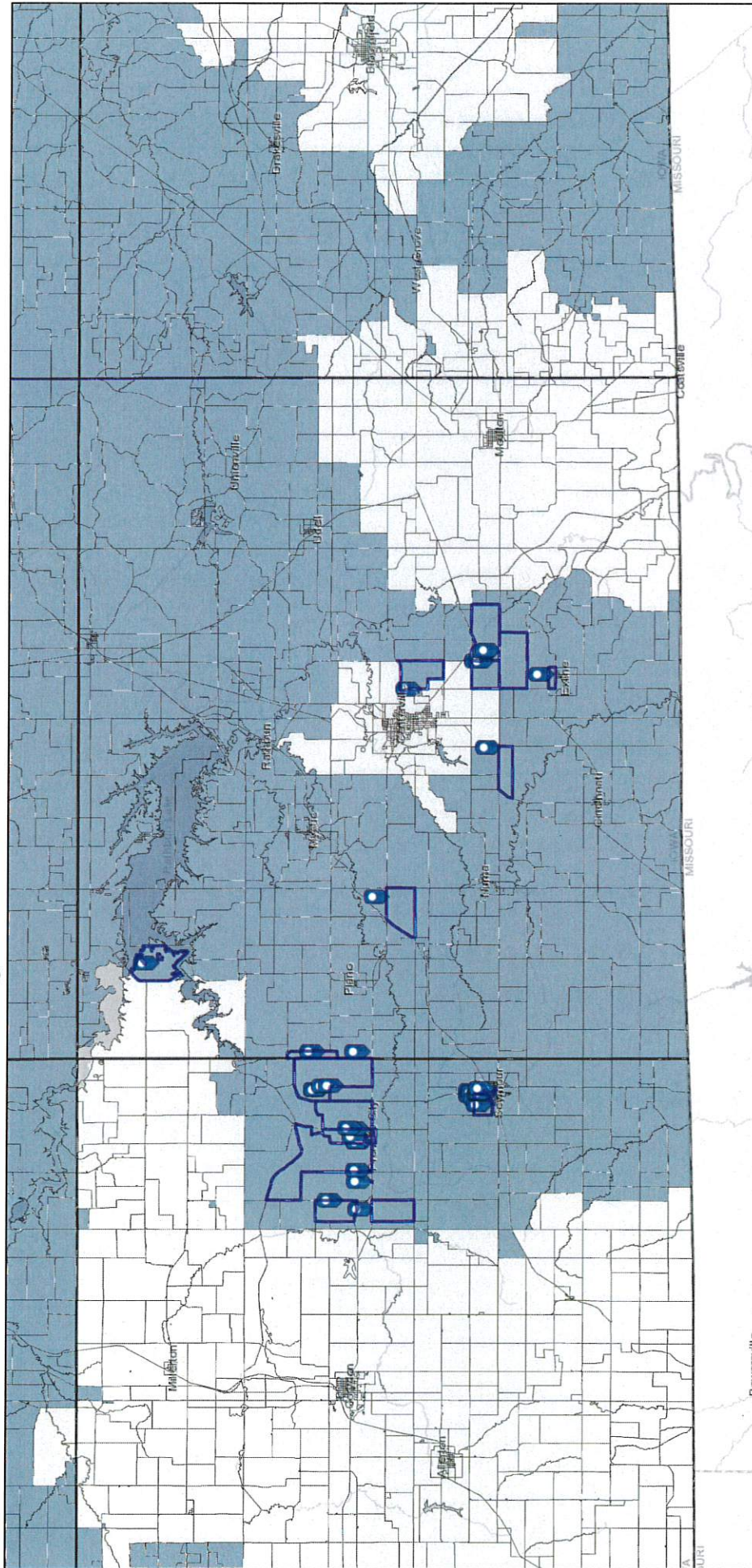
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Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community

Iowa Legislative Services Agency | Esri, HERE, Garmin, NGA, USGS, NPS | Esri, HERE, NPS | Project Name or Identifier

Control Number: 298223

Lockridge Networks - Actual TSAs Served



3/6/2019, 1:15:49 AM

Iowa County Boundaries

Iowa Broadband Information By Block

Targeted Service Area (TSA)

Non-TSA

1:288,895

0 2.5 5 10 mi

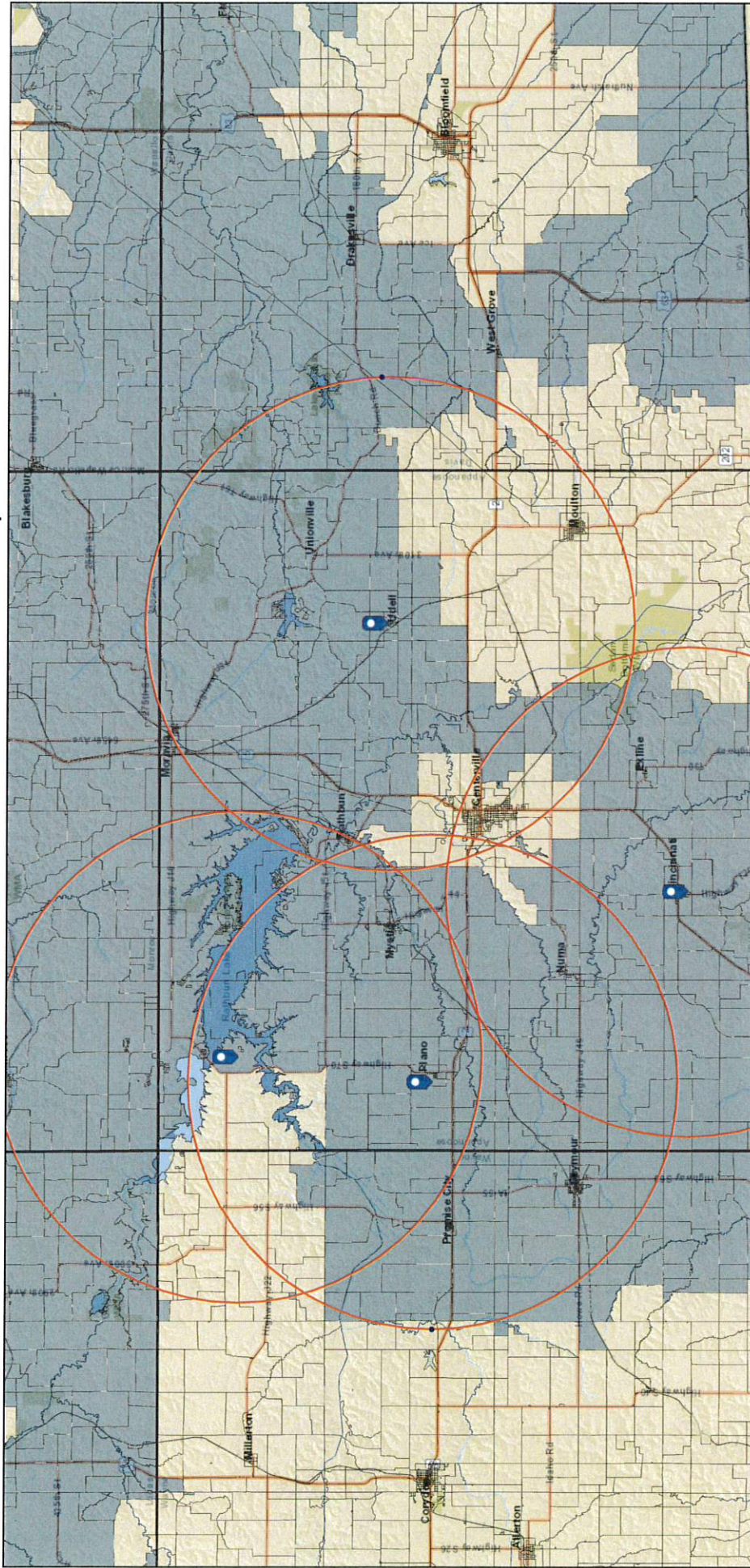
0 4.25 8.5 17 km

Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community

Iowa Legislative Services Agency | Esri, HERE, Garmin, NGA, USGS, NPS | Esri, HERE, NPS | Project Name or Identifier

Control Number: 298223

Lockridge Networks - Towers TSA Scope



3/6/2019, 11:38:52 AM

Iowa County Boundaries

Iowa Broadband Information By Block

Targeted Service Area (TSA)

Non-TSA

1:288,895

0 2.5 5 8.5 10 mi

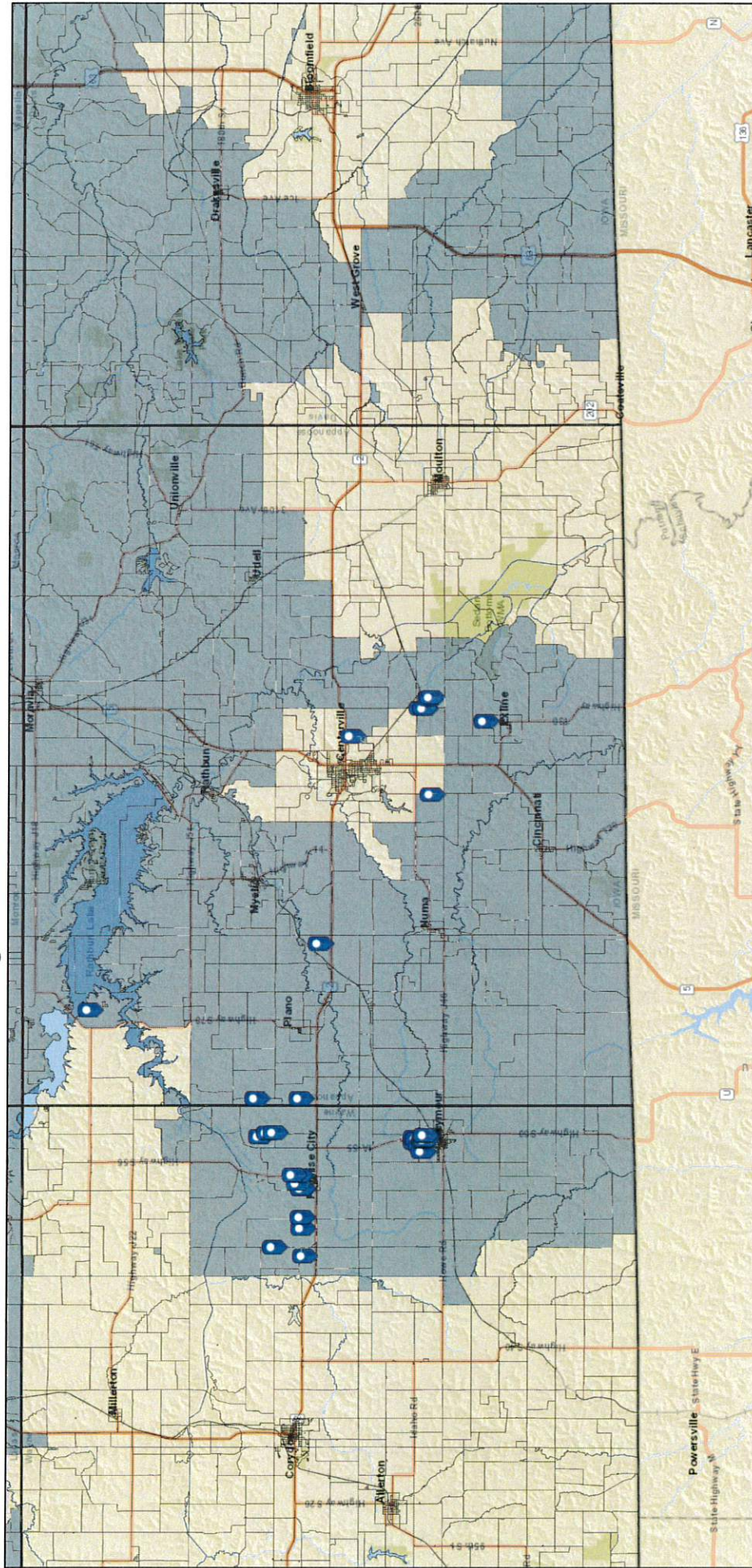
0 4.25 8.5 17 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

Iowa Legislative Services Agency | Iowa DNR, Esri, HERE, Garmin, NGA, USGS, NPS | Project Name or Identifier

Control Number: 298223

Lockridge Networks - Actual Customers



3/6/2019, 12:58:08 AM

Iowa County Boundaries

Iowa Broadband Information By Block

Targeted Service Area (TSA)

Non-TSA

1:288,895

0 2.5 5 10 mi

0 4.25 8.5 17 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

Iowa Legislative Services Agency | Iowa DNR, Esri, HERE, Garmin, NGA, USGS, NPS | Project Name or Identifier

Control Number: 298223

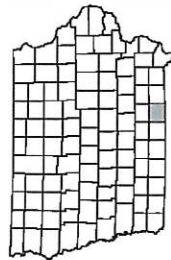
Density of Households Unserviced by a Broadband Provider by Census Block Lacking Advertised Speeds of at Least 25 Mbps Downstream and 3 Mbps Upstream Appanoose County Iowa

Published
June 26, 2015



This map presents a series of broadband service availability data derived from a geographic analysis of provider networks and accommodations for the impact of external factors on service quality. Available broadband services may also be available.

Submit questions or recommended changes to:
map@connectiowa.org



Symbology

Municipal Boundary

Interstate

US Road

Local Road

County Boundary

Water

National Land

Number of Unserved Households per
Square Mile, per Census Block

85.5+

40.50 - 85.49

20.50 - 40.49

8.50 - 20.49

0.06 - 8.49

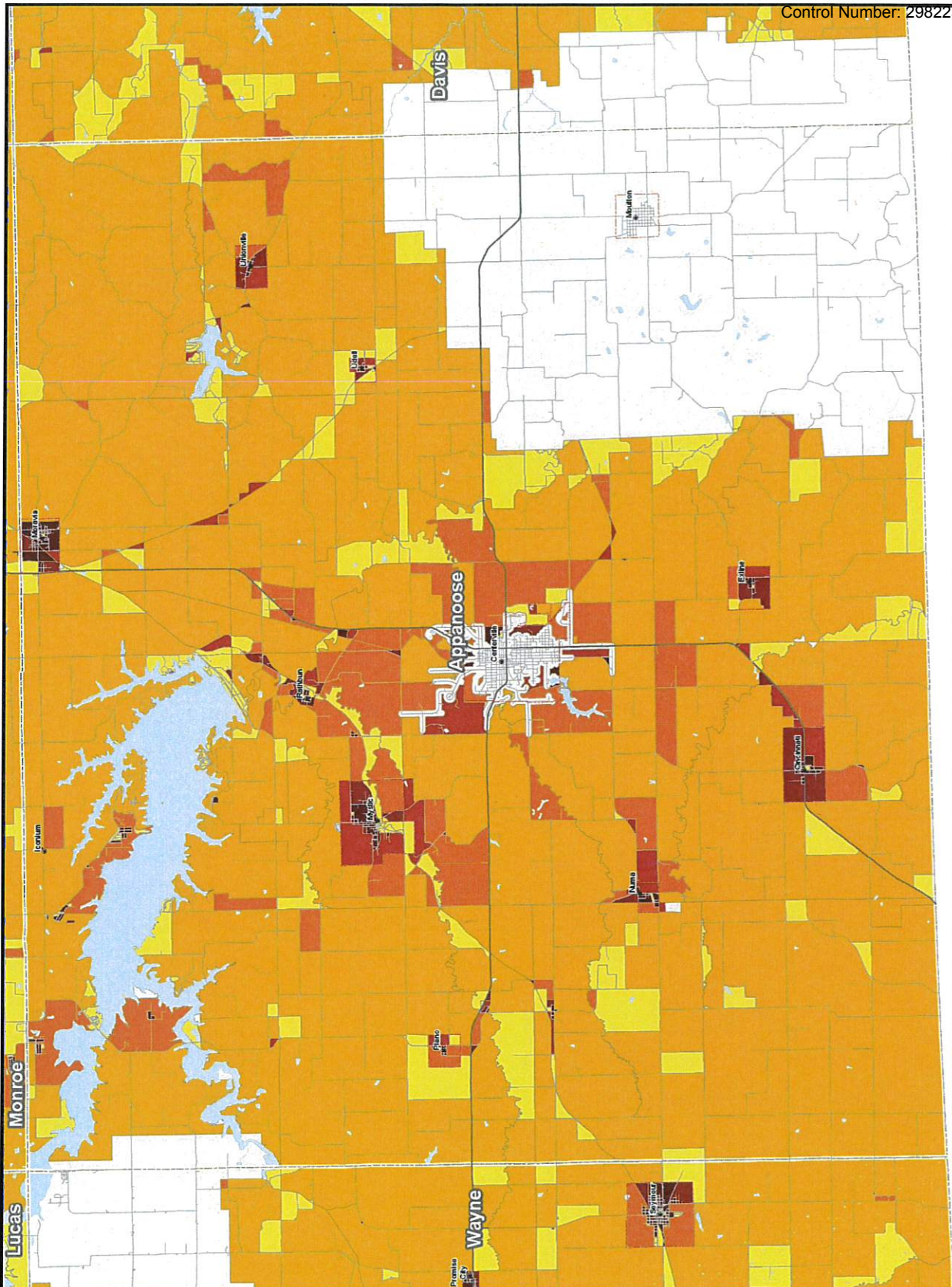
0 - 0.05

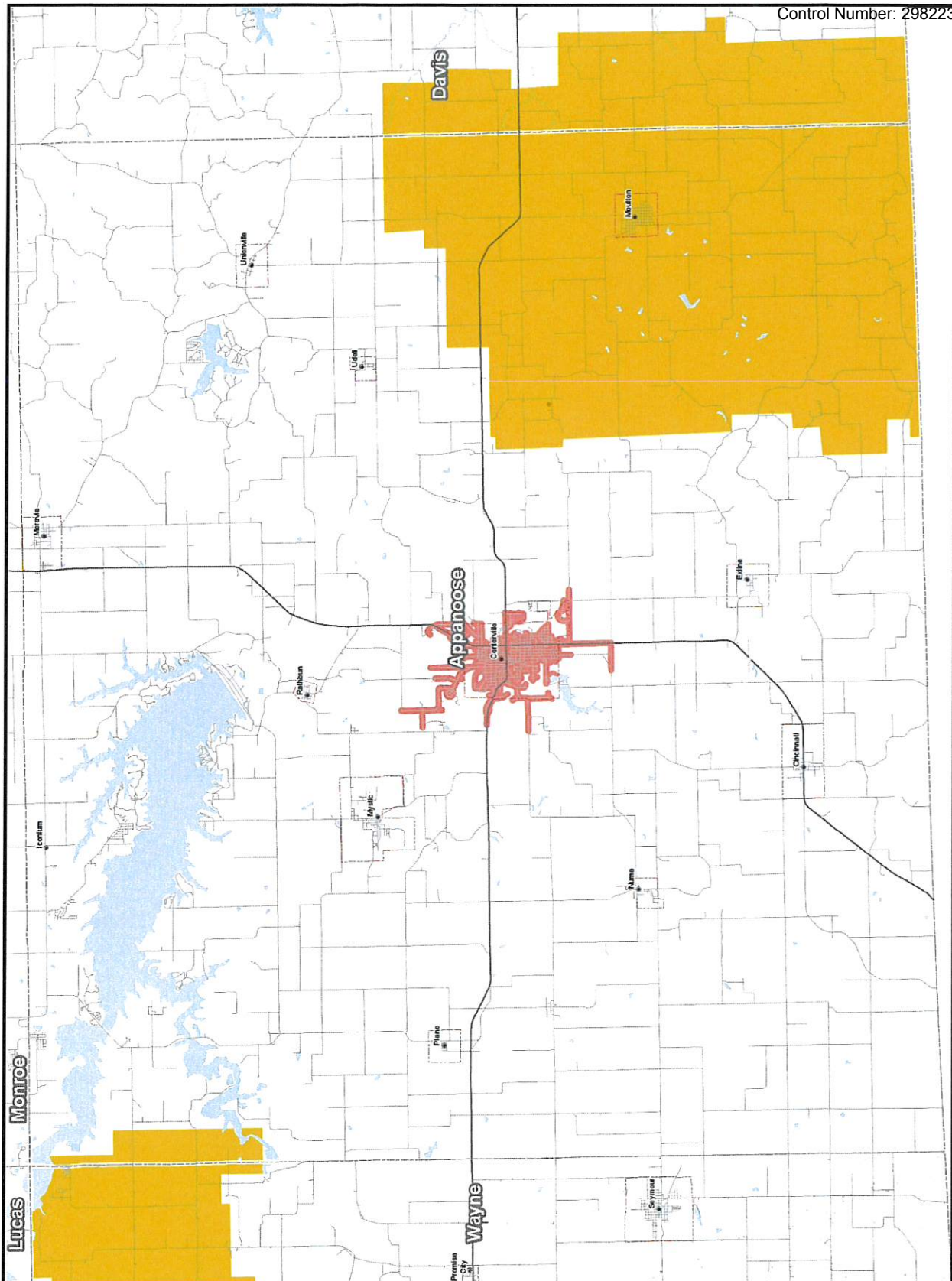
Broadband Available*

*This does not include mobile wireless or satellite
broadband services, which may be available.

0 1 2 4 Miles

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Broadband Service Inventory by Platform

Advertised Speeds of at Least
25 Mbps Downstream
and 3 Mbps Upstream

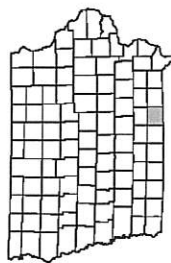
Appanoose County
Iowa

Published
June 26, 2015



This map represents areas of broadband service availability determined by ongoing, in-depth technical analysis of provider networks and accommodations for service. Broadband service availability is not guaranteed. Serviceable broadband services may also be available.

Submit questions or recommended changes to: map@connectiowa.org



Symbology

In areas where multiple broadband providers offer service, this platform composite map stacks coverage display layers in the order presented below.

Municipal Boundary

Interstate

US Road

Local Road

County Boundary

Water

National Land

Fiber Broadband

Cable Broadband

DSL Broadband

0 1 2 Miles

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