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Proposal

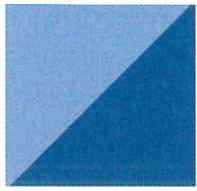
## RFQ Stillwater Utilities Authority Feasibility Study

Prepared For:

The City of Stillwater  
John McClenny  
[jmclenny@stillwater.org](mailto:jmclenny@stillwater.org)  
723 S. Lewis Street  
P.O. Box 1449  
Stillwater, OK 74076

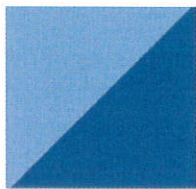
Prepared By:

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## Letter of Transmittal

April 30, 2018

City of Stillwater  
John McClenny  
723 S. Lewis Street  
Stillwater, OK 74076

Dear Mr. McClenny,

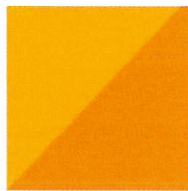
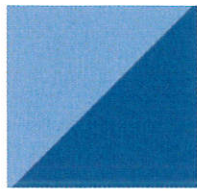
We applaud the Stillwater Utilities Authority (SUA) for their efforts in working to understand and improve the broadband environment within your community. Magellan believes local choice is crucial in determining what broadband services are provided to your community to ensure your citizens, businesses and community organizations receive the best possible services at affordable prices. Our mission at Magellan is to help you understand the range of options that will allow you to achieve this goal with reliable, real-world assessments and strategies that are based on your community's needs. We provide honest, unbiased information to utility and local government organizations that they can use to make informed decisions about whether to invest in broadband or not. We do not represent any vendors or manufacturers and believe that our independence gives you the information you need, and a true understanding of your project's viability from a team of industry experts who have planned, built and managed fiber to the home networks across the US.

Magellan Advisors is the leading public sector broadband consulting firm for electric cooperatives, public power utilities and local governments providing broadband planning and full turnkey implementation services to our clients. We assist utilities and government organizations in leveraging their strengths and existing assets to develop broadband networks and smart public policy, enabling their communities to thrive in the digital economy. We have worked with over 100 electric utilities and cooperatives and over 300 local government organizations to help them assess, plan and implement broadband strategies to support their communities.

Magellan is bringing the most experienced team in the industry to carry out development of the SUA Broadband Feasibility Study. Our team has over 100 years of direct experience working inside utility and municipal broadband providers and another 100 years of direct experience developing and implementing strategies for them.

We believe that broadband consultants are only as good as the results they produce in their clients' communities. Through our work, we've helped cities transform their communities into competitive places to live, work and play. We have extensive experience working with public utility organizations like SUA including our work with:

- **Newport Utilities, TN** – Turnkey planning, design, deployment, sales, marketing, operations, project and construction management for a network covering 7,000 homes in the City and 16,000 homes in Coker County.
- **Holyoke Gas & Electric, MA** – Evaluation of HG&E's current Internet business and its opportunities to expand on its existing business services to serve residents with FTTH broadband and answer the question: "Should HG&E provide fiber to the home?"
- **Middle Tennessee Electric, TN** – Feasibility study to deploy FTTH to 200,000 residential and commercial meters across a 6-county region comprised of urban and rural communities.



- **Johnson City Electric Authority, TN** – Feasibility study and financial planning for a FTTH network covering 75,000 residents and businesses. JCEA has retained us to validate their initial FTTH estimates and develop a comprehensive financial and business plan.
- **Rock Falls Utilities, IL** – Turnkey planning, design and implementation of a FTTH network covering a community of 7,500 homes and businesses.
- **Sequachee Electric, TN** – Study to determine the feasibility of an FTTH network covering 30,000 residential and commercial meters across urban and rural Tennessee
- **Indianola Municipal Utilities, IA** – Fiber to the home business plan covering a community of 5,000 residents and businesses
- **Waverly Utilities, IA** – Fiber to the home feasibility study and implementation plan to deploy FTTH to 4,500 homes and businesses.

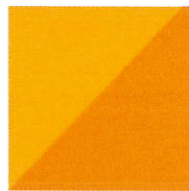
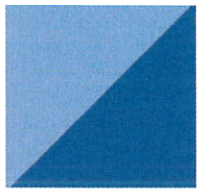
We understand that SUA is at a critical point and needs a clear and detailed understanding of options to expand broadband throughout the Stillwater community. SUA will need to weigh the many cost/benefit scenarios as it relates to broadband deployment and must be armed with the data to decide which path forward is best for SUA to proceed organizationally, financially, and operationally. Magellan is prepared to help SUA through this complex process to evaluate the feasible options for expanding and enhancing a fiber-optic network throughout the SUA footprint.

Magellan will assist SUA in evaluating the most feasible approach. Magellan will help SUA evaluate direct models of providing broadband services versus wholesale models and public-private; public-public partnerships. Our extensive organizational and operational modeling will help SUA understand what it takes to manage and operate a broadband utility. Our Broadband Financial Sustainability Model will help determine financially viable options for SUA and assess key risks to the Authority, its members and stakeholders in the various options.

We will guide SUA through the process of determining which option(s) are most feasible for SUA and provide SUA the decision support tools so SUA can decide on the best path forward for SUA and its members and communities. If you have any questions or we can be of assistance in any way, please feel free to contact me with any questions or comments. You can reach me directly at 386.931.3520 or [Cviolette@magellan-advisors.com](mailto:Cviolette@magellan-advisors.com).

Sincerely,

Courtney Violette, COO, Magellan Advisors, LLC.



# I. Background and Experience

## Overview of Magellan Advisors

Magellan Advisors, LLC is a Colorado-based firm with local offices in Denver, Los Angeles, and Miami. Magellan’s primary address is 999 18<sup>th</sup> Street, Suite 3000 Denver, CO 80202. Magellan Advisors, LLC was founded in January of 2004 and has been in operation as a Limited Liability Company since inception. We are a Small Business Enterprise based out of Denver, Colorado. Magellan’s office number is 888.960.5299.

Magellan provides leading broadband/telecommunications, smart city, information technology and security consulting services to public and private organizations. We are a full spectrum planning and implementation firm that brings together technology, communications and utility consulting to create smart gigabit cities of tomorrow.

Our professionals bring years of experience from the broadband, telecom, information technology and government sectors. We are thought leaders and real-world implementers of broadband and smart city networks that keep communities competitive in the digital world.

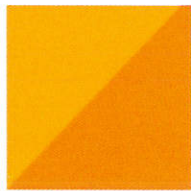
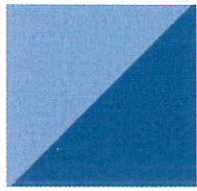
Unlike most consulting firms, we partner with our clients every step of the way, whether they are deploying institutional fiber networks, developing broadband public-private partnerships or deploying smart city networks. We are a “hands-on” firm with strong project management abilities and implementation skills to see our client’s projects through from concept to completion.



### MAGELLAN DEVELOPES UBIQUITOUS FIBER + WIRELESS INFRASTRUCTURE THAT POWERS THE SMART CITY

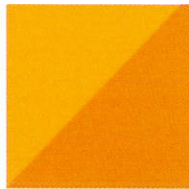
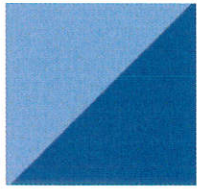
<p><b>BROADBAND</b>  Fiber To The Home  Middle-Mile Networks  High-Speed Wireless  Cellular &amp; DAS</p>	<p><b>UTILITIES</b>  Smart Grid  Smart Home Automation  Grid Security  Energy Efficiency</p>	<p><b>TRANSPORTATION</b>  Intelligent Traffic Systems  Vehicle Detection  Smart Parking  EV Charging</p>	<p><b>HEALTHCARE</b>  Telehealth  Telemedicine  Remote Monitoring  Records Management</p>	<p><b>PUBLIC SAFETY</b>  Video Surveillance  Sensor Networks  Secure Communications  Emergency Operations</p>
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We are only successful when our clients are successful. Our goal is to deliver practical broadband and technology solutions that our clients can implement in their communities. Through our services, over \$1 billion of new fiber investments have been made connecting more than 1,000 schools, hospitals, libraries and governments and passing nearly 1 million homes with fiber.



# Magellan Serves Over 400 Local Government Organizations





### CITY PLANNING

- Broadband & Smart City Feasibility Studies
- Policy Development
- Public-Private Partnerships
- New Market Development
- Business & Economic Models
- Market Assessments

### FINANCIAL PLANNING

- Pro Forma Development
- Economic Modeling
- Private Funding Options
- Public Funding Options
- Due Diligence
- Deal Structuring
- Public-Private Partnerships

### DESIGN & ENGINEERING

- Fiber To The Home
- Metro Networks
- Long-Haul Networks
- Wireless & WiFi
- Distributed Antenna Systems
- GPON, DWDM, Ethernet

### GOVERNMENT IT CONSULTING

- IT Strategic Plans
- IT Governance
- Network, Computing & Storage
- Virtualization
- Security Consulting, PCI Compliance
- SCADA & Utility IT

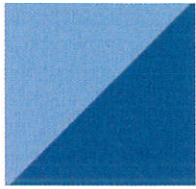
### PROJECT MANAGEMENT

- Standards & Specifications
- Vendor Selection
- EPC Contractor Management
- Construction Management
- Network Integration

### OPERATIONS MANAGEMENT

- BSS/OSS Development
- Integration
- Network Management
- Business Process Optimization
- Expansion Planning

Our combination of unmatched broadband, telecom, business and operational experience creates actionable strategies that communities use to realize their broadband and smart city objectives. We have led the planning, funding, construction and management of over 50 fiber to the premise networks passing over 1 million homes and connecting more than 1,000 schools, hospitals, government offices and community organizations. Our work has resulted in over \$1 billion in new broadband investments nationwide. Magellan has helped more communities successfully plan, implement and manage gigabit broadband networks than any other firm in the market.



## Portfolio of Services

Magellan is the only firm that provides comprehensive broadband planning, implementation and project management services, enabling our clients with a turnkey consulting partner that helps them through every step of the process. Our project teams are comprised of professionals with significant operational experience in the broadband, public utility, local government, smart city and information technology sectors. Unlike many consulting firms, we have deep business and operational expertise planning, building and managing networks, skills that are paramount to helping our clients plan and implement their own broadband networks and smart city initiatives by creating effective internal and external partnerships. Our consultants develop real-world, actionable strategies that organizations can rely on to support the development of their broadband and smart city initiatives. No other firm in the industry has these combined capabilities.

Magellan uses a customized approach in every project based on the needs of our clients and their communities. We develop innovative solutions that allow public and private organizations to best utilize their strengths to expand broadband and develop smart city applications. Magellan is at the forefront of public-private partnership development, working to negotiate and forge these partnerships between public organizations and private broadband providers. Conquering broadband issues often takes the participation of multiple parties that are aligned around common goals. Magellan helps communities recruit innovative providers and form strategic partnerships that benefit providers and the communities they serve. Magellan also provides strategic plans with blueprints for cities to build, expand and operate their municipal fiber networks should they chose to do so.

## Feasibility Studies

Magellan helps public organizations and broadband operators determine reasonable expectations for deploying fiber to the premise networks. We develop comprehensive feasibility studies that assess the current broadband environment and determine the opportunities to deploy advanced broadband networks. Our feasibility studies are real world tested and based on the latest broadband industry trends that provide strategic direction for communities to achieve their broadband and smart city goals.

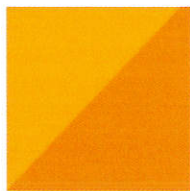
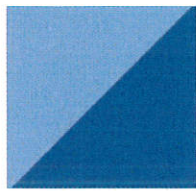
- Community Needs Assessments ✓
- Market Analysis & Current Environment ✓
- Network Analysis & Inventory ✓
- Business Models & Financial Planning ✓
- Design & Engineering ✓
- Opportunity, Risk & Benefit Analysis ✓

## Broadband Engineering

Our broadband design and engineering services provide the latest technical designs for fiber-to-the-premise, backbone, metro and long-haul networks. Our wireless design and engineering services develop effective fixed wireless, microwave and WiFi networks to cover the most challenging terrain. Our services cover all aspects of broadband design and engineering, from outside plant fiber and wireless, to equipment, to services and content, to BSS/OSS and systems integration.

- FTTH, FTTP, Metro & Long-Haul Fiber
- Fixed Wireless, Microwave & WiFi
- GPON, Active Ethernet & WDM
- Routing, Switching & MPLS ✓
- Internet, Voice & Video Integration
- BSS/OSS & Network Management Systems





## Business Models & Partnerships

Magellan is on the forefront of emerging business models and partnership development within the broadband industry. We successfully plan, negotiate and execute partnership agreements between public organizations and private operators, leveraging the strengths of each organization to benefit the community. We have a stellar record of recruiting broadband providers to local communities and helping these organizations make their communities Gigabit Ready.

- Dark Fiber, Open Access, Triple Play
- Feasibility Analysis of Business Models
- Public-Private Partnership Development
- Partner Recruitment & RFQs
- Advocacy & Negotiation in Partnerships
- Opportunity, Risk & Benefit Analysis

## Financing & Grants

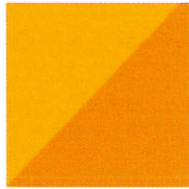
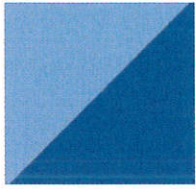
Magellan provides extensive financial planning services for organizations looking to invest in advanced broadband networks. Our extensive financial plans help government organizations and private operators understand the opportunities and risks and the most feasible financial strategies to achieve their goals. Our plans are investment ready and are routinely used to support funding with bond underwriters, banks, private equity firms and grant programs. Magellan also maintains a portfolio of financing partners and grant programs that we bring to communities to help them acquire funding.

- Investment-Ready Financial Plans
- Funding Development
- Partner Recruitment
- Broadband Grant Writing & Management
- FCC, E-Rate, CAF & State Programs
- Economic Development Grant Programs

## Project Management

Magellan helps operators, utilities and government organizations implement next-generation networks and smart city initiatives. We provide turnkey project management services that enable these organizations to maintain resources that cover every aspect of deploying broadband networks, from fiber and wireless network deployment, to equipment and content integration, to marketing and sales, to operations and management. Magellan provides the only turnkey solution that enables these organizations to deploy their networks in a timely manner and launch their networks with the confidence to achieve the best results in their communities.

- Procurement & Contract Negotiation
- Construction Management
- Network Commissioning & Certification
- Content Acquisition & Agreements
- Sales, Marketing & Business Development
- Business & Operations Management



## Policy Development

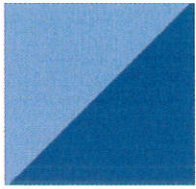
Magellan maintains knowledge of best practice in policy development and organizational structure for implementing and operating broadband networks and smart city initiatives. We help municipalities and utilities organize and refine internal business processes for improved communications, project management, financial management and policy development. We provide our clients a knowledgebase of zoning, right of way management and wireless policies for enabling and facilitating the development of broadband infrastructures and smart city initiatives. Our recommendations generate business processes and workflows that improve internal and external partnerships for streamlining ongoing expansion of broadband and smart city deployments.

- Right of Way Management Ordinance
- Dig Once & Joint Trench Policies
- Wireless Ordinance & Guidelines
- Telecommunications Master Funding
- Fiber Ordinance & Guidelines
- Internal & External Working Groups

## Additional Services

Magellan provides a wide range of supplementary services in information technology and security, smart city planning and networking technology fields. Many of our services complement one another, allowing Magellan to provide a one-stop-shop for our clients' full range of broadband, smart city, IT and security needs. Magellan's experts lead the industry in planning and deploying the latest technology solutions to meet a wide range of business needs. As the Internet of Things transitions from concept to reality, Magellan helps its clients adapt to the rapidly changing world and prepare communities to thrive in the digital domain.

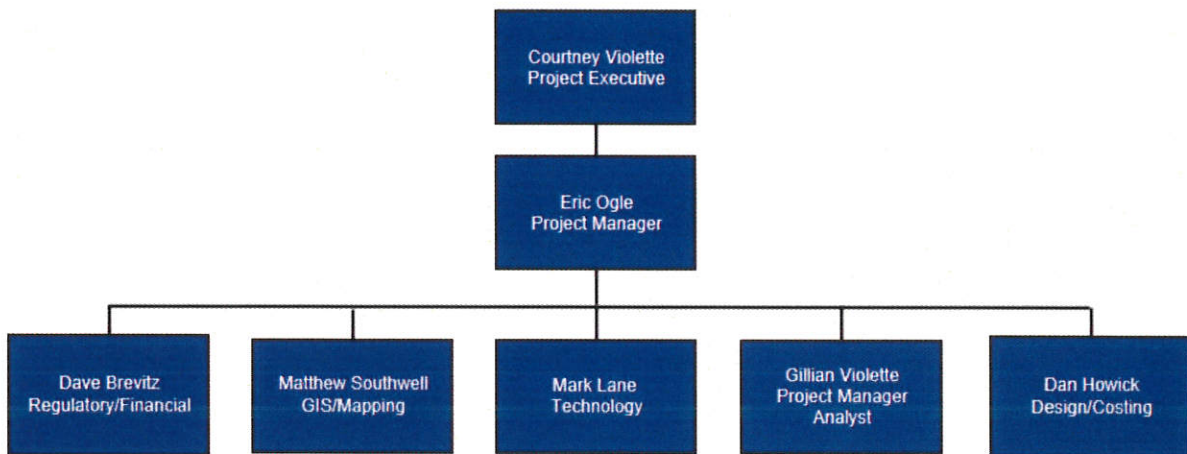
- Information Technology
- Utility Security & SCADA Consulting
- Smart City Consulting
- PCI Compliance & Implementation
- Public Safety CJIS Consulting
- Information Security Consulting



## Staffing and Expertise

Below is Magellan’s proposed team that will be dedicated to The Stillwater Utilities Authority Broadband Feasibility Study and their respective roles/subject matter expertise in the project.

## Organizational Chart

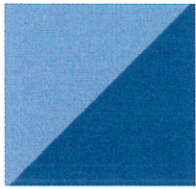


## Staff Bios



### Courtney Violette: Chief Operating Officer

Courtney has led over one hundred municipal broadband planning and implementation projects across the country. He is a Certified Fiber-To-The-Home Professional and holds several technical certifications in broadband, information technology and information security. Prior to joining Magellan, he spent six years as the CIO for the City of Palm Coast. During this time, he planned and built the first true City-owned open-access network in the Southeast. Through his leadership, the network grew to serve government, business, education and healthcare needs across the City, saving these organizations millions of dollars and providing gigabit connectivity to meet the community’s needs. Courtney holds an MA in Information Technology Management and a BS in Computer Science from Webster University.



### **Eric Ogle: Senior Broadband Consultant**

Eric has spent most of his career involved in planning and policy with focus on technology-driven economic development for Appalachian communities. Prior to joining Magellan, Eric spent 13 years as Research Associate with University of Tennessee's Baker Center for Public Policy. Among significant projects, Eric led development of the first two community wireless networks in the Southeast. Eric has project management experience serving as Principal Investigator for corporate and federal sponsors, often engaging stakeholders in participatory processes. Eric holds positions in organizations, including a role as Treasurer of the Rural Telecommunication Congress. Prior to UT, Eric held economic development positions with Newport Utilities, the Tennessee Valley Authority, and Cocke County government. Eric holds an MS in Planning and a BS in Business Administration, Marketing and Logistics, all from the University of Tennessee, Knoxville.



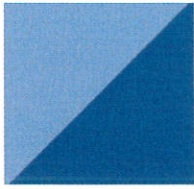
### **David Brevitz: Senior Consultant – Policy & Regulatory**

David has decades of experience in the telecommunications industry from an extensive array of telecommunications engagements in the U.S. and internationally. This experience provides depth and capability in the subjects of broadband trends and planning, market analysis and surveillance, telecommunications stakeholder engagement, wireless and wireless broadband trends and developments, industry financial reporting and analysis, telecommunications company operations, back office systems and business plans, interconnection and unbundled network element pricing, telecommunications service costing and universal service goals and objectives.



### **Matthew Southwell: Telecommunications Analyst**

Matthew has over 10 years in the telecommunications field. Matthew's career began as a U.S Army Sergeant where he worked on emergency operations communication systems, Sat-Com radio systems, and deploying weekly COMSEC key changes OTAR (Over the Air Rekeying) with newly deployed radio systems during two Operation Enduring Freedom deployments. Matthew's private sector work includes work with a Motorola radio distributor and contractor where he supported many Federal, State, and local County entities to include: Department of Homeland Security, Immigration and Customs Enforcement, Drug Enforcement Administration, Florida Highway Patrol, Greater Orlando Airport Authority, Orange County Sheriff's Office, and the Lake County Sheriff's Office. Matthew joined Magellan Advisors in 2016 as a telecommunication analyst. Matthew is a Certified Fiber to the Home Professional (CFHP) and holds a Business Management Degree with High Honors from Keiser University in Orlando, FL.



### Mark Lane: Sr. Technical Consultant

Mark Lane has over 30 years of experience in enterprise IT, carrier network operations, and technology consulting. While serving as CTO for Bristol Virginia Utilities OptiNet, he helped provide the strategic direction and practical implementation responsible for their fiber-to-the-premise (FTTP) network build-out and broadband service deployment for eight counties in Southwest, VA. His vision and leadership contributed to Bristol, VA being selected as an Intelligent Community Forum Top 7 Intelligent City in 2009. Mark received a bachelor's in computer science from the University of Tennessee.



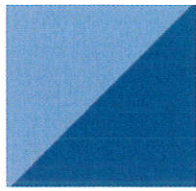
### Gillian Violette: Research Analyst

Gillian has over a decade of experience working in business management and sales in fields of pharmaceuticals, hospitality, insurance, and training and development. She has experience in managing human resource related functions, staffing, and project management. Gillian joined the Magellan team in the capacity of research, publication, and quality assurance in reporting. She holds a doctoral degree in Educational Leadership where her research focus was related to broadband Internet in K-12 schools and the digital divide, an MBA in Business Administration, and a BS in Business with a minor in Human Resources.



### Dan Howick: VP Design and Construction

Dan Howick has over 20 years of experience working in the planning, layout and design of telecommunications networks, specializing in fiber-optics. He works hand-in-hand with some of the nation's largest service providers who rely on his reputation and industry knowledge to help design and install advanced fiber-optic systems throughout the country. Dan's expertise in the telecommunications industry focuses on fiber-optic networks in both the inside and outside plant environments. His responsibilities have included the layout, and design of outside plant networks for carriers, the United States Government, local municipalities, and private networks. Dan excels in the areas of route planning and optimization, as-built recording and development, plant verification and documentation, and AutoCAD layout for both plan and profile views for construction. Dan also has extensive experience in best practices, methods and procedures for design/installation in fiber-optics including terminations, splicing and testing.



## References

### Waverly Utilities, IA

Contact: Mike Litterer  
Title: Assistant General Manager  
Phone: 319-352-6251  
Email: mlitterer@waverlylp.com

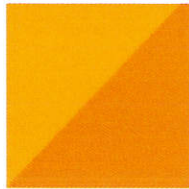
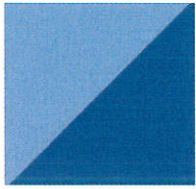
Magellan performed a Fiber to the Premise Feasibility Study for Waverly Light & Power focused on deploying fiber optics to every home, business and community anchor within the City of Waverly and the greater Waverly Light & Power electric service territory. Our consultants developed a conceptual design for the FTTP build out, and performed implementation, operational, and financial analysis for the project. The Waverly City Council and Light & Power board both accepted the FTTP Feasibility Study and commissioned the development of a Waverly Communications Utility Business Plan and a Design/Engineering Study. Waverly launched services in 2016 in partnership with Cedar Falls Utilities and has hit 30% take rates to date – a subscriber uptake well beyond initial projections.

### Newport Utilities, Newport, TN

Contact: Glenn Ray  
Title: General Manager  
Phone: 423-625-2800  
Email: gray@newportutilities.com

Magellan was retained by the City of Newport and Newport Utilities to develop a broadband feasibility study. Magellan worked with Newport leadership to develop a study that researched the current market and engaged a variety of local stakeholders in a needs assessment to analyze the current “state of broadband” throughout the Newport service area. Magellan analyzed a range of business models and implemented Magellan’s broadband financial sustainability model to identify opportunities for Newport to create partnerships to expand fiber-optic broadband throughout Newport, considering state and federal regulatory environment. Newport Utilities accepted Magellan’s deliverables and recommendations. Newport then engaged Magellan to develop Phase II of its study which included an implementation plan for the network build and partnership development.

Magellan developed a comprehensive engineering design for Newport Utilities’ \$70 million fiber to the home deployment covering its entire service area in Northeast Tennessee. Magellan’s design team provided a turnkey design solution to Newport Utilities that gave the utility a complete construction-ready package for its fiber to the home network, covering a mix of urban and rural communities. Magellan’s project executives advised Newport on ways to value engineer the network to increase the speed of deployment and customer uptake to support the utility’s goal of delivering gigabit broadband services to the community as rapidly as possible. This enabled Newport to connect the first customers with gigabit broadband service within six months of the start of the design project. Throughout the project, Magellan is providing its turnkey deployment services, managing every aspect of planning, designing and managing the construction of the Newport fiber to the home network. **\*\*SEE APPENDIX A – PRESS RELEASES FOR RECENT NEWPORT NEWS**



## City of Hudson, OH

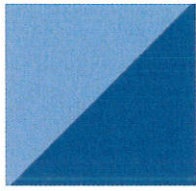
Contact: Will Ersing  
Title: Chief Broadband Officer  
Phone: 330-342-8005  
Email: wersing@hudson.oh.us

Magellan was retained by the City of Hudson, OH to facilitate development of a Broadband Needs Assessment and Broadband Business Plan in 2015. Magellan worked with the City of Hudson and local stakeholders to assess the needs of businesses and residents throughout the City. Magellan analyzed the City's current fiber infrastructure and developed a conceptual design for a future City owned broadband utility to serve local businesses, government, and schools with the ability to scale in the future to provide residential based services. Magellan's Broadband Financial Sustainability model (BFS) was used to analyze business plans for the City and to give the City high-level financials for a proposed network. The City of Hudson accepted Magellan's recommendations in the final report, and had launched Velocity Broadband, a municipal fiber-based Internet services provider. 2 years into operations, Velocity Broadband now serves hundreds of Hudson businesses with high-speed data and enterprise voice services and is currently exploring further expansion into the residential market.

## Utilities Clients

Magellan has an extensive list of utility and municipal utility clients across the US. A list of some of these organizations includes but is not limited to; *for what services?*

- Riverside Public Utilities, CA – Electric/Water/Sewer
- City of Bartow, FL – Electric/Water/Sewer
- Fort Pierce Utility Authority, FL – Electric/Water/Gas
- City of Bristol, VA – Electric/Water/Sewer/Telecomm.
- City of Clermont, FL – Water/Sewer
- City of Cocoa, FL – Water/Sewer
- City of Fort Morgan, CO – Electric/Water/Sewer
- City of Hamilton, OH – Electric/Water/Sewer/Gas
- City of Hudson, OH – Electric/Water/Sewer
- City of Columbia, MO – Electric/Water/Sewer
- City of New Braunfels, TX – Electric/Water/Sewer
- City of Winter Park, FL – Electric/Water
- MTEMC, TN – Electric
- Newport Utilities, TN – Electric/Water /Broadband
- Salt River Project (SRP), AZ - Electric
- Tennessee Valley Authority (TVA), TN - Power
- Johnson City Power Board, TN - Electric
- Duck River Electric Membership Cooperative, TN- Electric
- CLECO, LA – Electric
- Vermont Electric Power Company, VT- Power
- Holyoke Gas and Electric, MA- Electric/Gas
- City of Mont Belveiu, TX- Water/Sewer
- Waverly Utilities, IA- Water/Electric/Gas
- Indianola Municipal Utilities, IA – Electric/Water/Network
- Orlando Utilities Commission, FL- Electric/Water/Sewer
- City of Rancho Cucamonga, CA – Water/Sewer/Gas
- City of Loveland, CO – Water/Power



## II. Scope of Work

### Task 1: Investigate Current Authority, and City of Stillwater Needs, Market & Capabilities to Offer Broadband

#### A: Needs Assessment

We propose to conduct a comprehensive outreach to the Stillwater's anchor institutions, businesses and residents to develop a broadband needs assessment, tailored specifically to SUA's goals of broadband goals. Magellan will use a combination of on-line surveys, focus groups and one-on-one interviews, and discussions as detailed more fully below.

##### A. Online Broadband Surveys

Magellan's online surveys will provide important information to understand perceptions around broadband services, inventory current services, test speeds across the business and residential community, and identify issues. We generally receive strong response rates from respondents in these surveys, which provide valuable information for the planning process.

##### B. Community Anchor Interviews

We propose to hold interviews with key community anchor institutions ("CAIs") to gain an understanding of their current and future broadband and technology needs. The format for these are in group settings. We will work with SUA to identify community anchors across education, healthcare, municipal, public safety, state, regional and other organizations. CAIs are key organizations that often become "anchor tenants" on broadband networks because of their high demand for bandwidth.

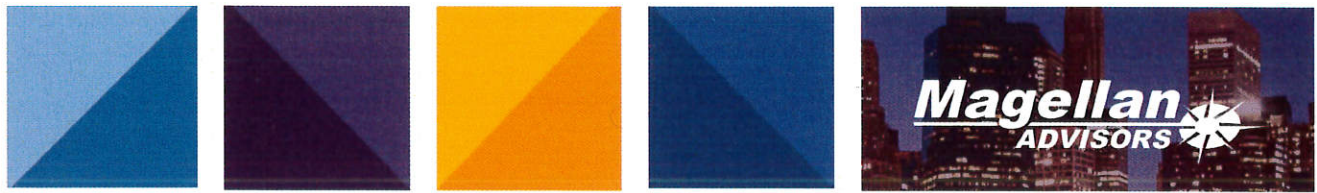
##### C. Enterprise Business Interviews

For large businesses in Stillwater, we propose to hold one-on-one interviews to understand their current and future broadband and technology needs. We find that individual interviews work best for large businesses because they are able to share more information with us one-on-one versus a group setting. Large business interviews are important to identify key business anchors that may utilize the SUA network.

##### D. Business Focus Group Interviews

For small to medium sized businesses in the City, we propose to hold focus group interviews and discussions to understand their current and future broadband and technology needs. We find that these can often be coordinated through local economic development personnel or the local chamber of commerce. Focus groups containing 5-10 businesses each provide valuable information that we will utilize to assess the demand for services in Stillwater. Area business interviews are important to identify key business anchors that may utilize a broadband network.





## B: Surveys

✓ Magellan's online and paper survey tools have been perfected over many years of conducting these types of engagements, and generally gather significant results that assist in analyzing the true needs, gaps and current broadband environment across anchors, businesses and residents. For example, Magellan recently conducted a citywide survey of the City of Loveland, CO. We received 987 valid residential responses (online and paper), which resulted in a 95% confidence interval with a 5% margin of error. For businesses, we supplemented our online surveys with a telephone calling campaign which increased our confidence interval from 86% to 94%. We'll work with your team to identify the right channels for survey distribution, which may include social media, City websites and utility email lists. We will also help you ensure that the questions asked are neutral and do not draw "forgone conclusions" about broadband. Our goal is to give you a true estimate of demand for broadband in your communities.

## C: Competitive Market Analysis

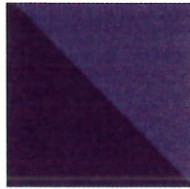
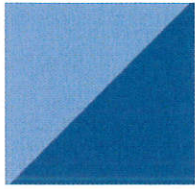
Magellan will provide SUA with a graphical and visual representation of the current market, based on the survey and data collected for the market. This graphical representation will give you unique and valuable data on the actual broadband market in Stillwater that will allow the SAU's broadband leadership to understand the following aspects:

1. Actual speeds that residents, anchors and businesses are receiving
2. Actual pricing that residents, anchors and businesses pay for services
3. Territories for providers operating in each community
4. Customer satisfaction levels with broadband providers
5. Key issues that impact customers across the City
6. Identify Underserved and Unserved areas

Magellan will build an inventory of all community anchor, business, residential, and wholesale costs across the City to help SUA understand how they compare to other peers. It will also enable SUA to understand the costs necessary in a community broadband network.

The following step will be to analyze the current market and its propensity for additional broadband services. This market assessment will include businesses, schools, hospitals, clinics/doctors' offices, and other community organizations determined in the analysis. We will incorporate the current network into the comprehensive broadband map, which will allow us to begin building layers of potential customer locations on top of the current infrastructure. Layers will include businesses, schools, hospitals, clinics, government organizations, community support organizations, and others to be determined.

Based on information collected from the market assessment, we will identify the opportunities for SUA to consider a variety of options for developing a community broadband network. This analysis should build on SUA's current fiber/conduit infrastructure, other potential partners and new infrastructure that would create a network to support the greater Stillwater community. There are many inputs to the overall feasibility and sustainability of community broadband networks and Magellan will work with the Authority team to determine the drivers in the region that would support such a network.



## D: Assess Organizational Capabilities to Offer Broadband Services

Magellan will review and assess SUA's and the City's combined capabilities as it relates to the organizational requirements of being a broadband services provider. We will assess all back office operational functions like billing and customer service, field operations and equipment, and the financial makeup of the Authority to benchmark the requirements and changes required to effectively compete in this space as a provider of next-generation broadband services.

Our vast experience with other Utility customers has given our consultants great insight into approaches that work, and those that are less desirable. We have worked with electric utilities who maintain 3,000 meters, and a select few with over 1,000,000 meters. Our experience has also allowed us to develop and maintain key benchmarking data which we share during our engagements to inform the Authority's decision makers.

## Task 2: Evaluate and Recommend Models

Magellan's project team includes highly experienced staff that have successfully completed over 250 fiber-optic broadband planning projects across the US. Our team is innately familiar with the business models outlined by SUA in this RFQ and has worked with hundreds of utilities and municipalities to assess and implement a variety of models. Each community is unique, and through our proven process we will work with SUA to find the model that is most feasible and presents the best opportunity for the Authority and City of Stillwater to be successful.

### Full Retail

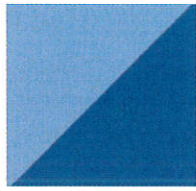
- Publicly (Utility) owned network infrastructure including middle mile, last mile, network equipment, and data center facilities. The Authority would be responsible for lighting the network and delivering all services to the customers, and would be required to provide full billing, collections, and field services associated with maintaining connected subscribers.

***Newport Utilities, NUConnect:** Newport Utilities is actively deploying a full retail publicly owned triple-play fiber-optic network to all premises in the City of Newport, TN. The model will connect anchors, residents and businesses in the City, many of whom lacked access to any high-speed broadband services. Newport is completing the network in early spring of 2018 and is currently in beta testing.*

### Dark Fiber & Conduit

- Community investment in basic infrastructure assets, maintaining long-term ownership, while making assets available in a wholesale, indiscriminate fashion.

***Riverside Public Utilities, Riverside, CA:** Riverside Public Utilities operates a 120-mile fiber-optic network that offers dark fiber leasing to connect businesses, industrial sites, data centers and 5G ready sites throughout the City limits. Dark fiber is available to both wired and wireless internet providers to deliver connectivity to its customers, and for businesses to create their own WAN. Riverside is continuing to add locations and has a goal to make dark fiber connections available for all commercial customers throughout the City of Riverside.*



### Open-Access

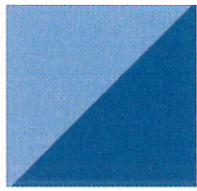
- Proceed with the intent to lease or otherwise make available, fiber infrastructure (conduit, dark or lit fiber, vertical and other assets) to other municipal entities, telecommunications carriers, other service providers or businesses.
- Connect to an Internet peering Point-of-Presence (POP) and offer a choice of Internet Service Providers (ISPs) to partnership entities and end-users on the network through either wholesale, retail, revenue sharing or passive network access.

***Palm Coast, FiberNet:** Florida's first municipal owned open-access network went live with commercial services on May 1, 2010 giving new service providers access to the Palm Coast market. Palm Coast's network spans 50+ miles throughout the City. Through its open-access model the City maintains agreements with local Internet Service Providers (ISPs) who use FiberNet to provide last-mile connectivity to their clients.*

### I-Net

- City/municipal buildings and facilities, evaluating leased-line savings, communications and operational enhancements.
- Community Anchor Institutions (CAIs) such as large businesses, hospitals, learning institutions, etc.
- Business economic development zones or corridors and the broader business community.
- Public WiFi areas, public safety and other smart city services requiring a fiber backbone or otherwise enhanced by high-speed access.
- Eventual possibility of residential communities including multi-dwelling units (MDUs), low-income housing and the broader community at large.
- Leverage the existing network, including adding redundancy and resiliency, building the network to carrier-grade levels, monetizing current assets including leasing infrastructure.

***Seminole County, FL:** Seminole County, Florida began building its fiber-optic network as early as 1983 with the maintenance of over 80 traffic signals. The network was built incrementally from then to now, included 10 gigabit rings around the county, and has presented significant savings from their telecommunication and traffic management budget while maintaining traffic control. The network has been essential to the community and now connects 6 fire stations, 58 county buildings, 44 schools, 4 SCC campuses, 41 city buildings and 17 water treatment plants to the fiber network and maintains and repairs over 375 traffic signals, 148 school flashers at 73 locations, 46 beacons and flashers and 29 VMS (variable message signs).*



## Investigate Partnership Opportunities

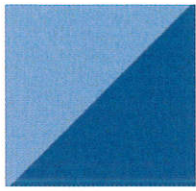
Magellan assists communities to develop public-private partnerships that achieve the community goals. We help local governments and utilities to use their public-sector capabilities and assets to attract broadband partners to deploy gigabit Internet and other leading services to citizens and businesses. Magellan helps communities through the entire process, from developing the “ask” for communities, to managing the procurement process for broadband partners, to negotiating the terms of agreements, to managing the partnerships on behalf of communities. Through our deep industry contacts and experience, we help communities find the right providers to deliver the services they need. Magellan will assist SUA in investigating the opportunities for partnerships including public-private and public-public including the possibility of a mutually profitable partnership with Oklahoma State University, Central Rural Electric Cooperative and other local municipalities or Utilities.

not interested

Some of the key questions that we will address in this section include:

- How will joint investment in broadband infrastructure be accomplished between the Authority and private sector organizations?
- What legal and operational structures should be considered by the Authority and private sector organizations in use of the Authority’s proposed infrastructure?
- How will the Authority balance private sector goals of revenue growth and profitability with public goals of providing affordable and available broadband services across the Authority?
- How will future system expansion be handled between the Authority and private sector providers and what contributions will the parties make to this infrastructure?
- How will the Authority maintain neutrality and open interconnection policies with private sector providers, promoting a competitive environment that benefits the Authority’s broadband user base?
- How will an oversight and management board be structured, who will sit the board and what powers and responsibilities will the board have to the project?

*City of Rancho Cucamonga, CA: Magellan worked with Rancho Cucamonga in development and solicitation of an RFI for Public Private Partnerships and developed a roadmap and action plan that recommended the City/Utility formalize its broadband utility as a division of Rancho Cucamonga Municipal Utilities (RCMU). Magellan was subsequently contracted to perform full Network Design and Engineering services and full turnkey implementation services, including all procurement, governance, network standup and testing, data center design, public policy, marketing and branding, and integration of all ISPs into the network platform. Network construction is slated to begin Q2 of 2018. Adoption of the Fiber Master Plan has led the City to budget \$12 million to execute the plan over a 6-year period.*



### Task 3: Inventory and Evaluate Existing Infrastructure

Magellan will conduct a comprehensive asset inventory of SUA's current network to determine its usefulness for new broadband applications. This assessment will give the Authority a realistic assessment of the network's capabilities and opportunities to use it as a foundation for future broadband programs. We believe that the following components should be analyzed at a minimum:

- Underground conduit, innerduct, empty and available conduit
- Fiber cables, strand counts, splice points, terminations and utilized strands
- Vault and handhole locations
- Available and reserved capacity throughout the network
- Construction and placement method policies
- Current as-builts and documentation
- Terminating locations and city facilities
- City GIS maps including authority/city-owned property, right of way, easements

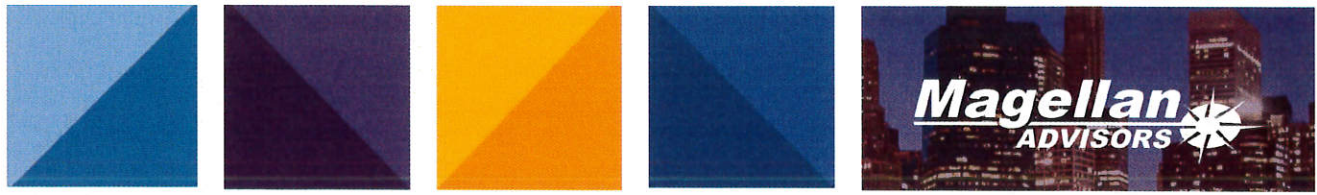
Magellan will provide the Authority with a comprehensive report on the network and accompanying GIS files. This report will provide the inventory of available broadband assets that the Authority should consider formalizing into its broadband program as it develops. Magellan's GIS services will enable SUA to accurately collect, track, analyze and report on key broadband infrastructure assets throughout the City. We propose to first build a geo-correct layer for SUA's conduit and fiber, identifying placed conduit, type, size, status (occupied/vacant) and related information. A second layer will incorporate poles, traffic signal cabinets and other assets to be used for expanding the network, for network operations and for opportunities to generate lease revenue through vertical pole assets from 5G microcell site deployments.

We will work with internal departments in the Authority to assess capital projects that may create opportunities to install conduit and fiber infrastructure, in conjunction with other broadband providers. We propose to review the long-term capital projects schedule and build a map that identifies the projects where broadband infrastructure could be installed over the 10-year period. We'll also plan cost estimates for the Authority year-by-year to determine how much funding should be allocated to these projects, if any.

We will collect vertical pole inventories for leveraging DAS attachments and WiFi deployments for lease revenue opportunities, for support of smart city applications and for lifestyle improvements for workers, visitors and residents.

### Task 4: Recommend Additional Infrastructure and Operational Requirements to Support Recommended Model

Magellan will work with SUA staff to identify infrastructure that is required to meet the needs of the community determined in the needs assessment and stakeholder outreach. Our team will thoroughly review all communications facilities owned by SUA that could be utilized in a new strategy that would be developed as part of this Plan. Our consultants will work with SUA staff to understand the pros and cons of each delivery method and the costs associated with each as



the infrastructure that is chosen can have a major impact on long-term financial sustainability. The overall network design will be based on the needs of the residents, businesses and anchors that will utilize it. This will determine the bandwidths and speeds, performance, redundancy and scalability requirements and solution-specific requirements. Magellan will design a network that meets the specifics outlined by the Authority, and the network should be capable of supporting the following:

- Gigabit-capable with a path to 10-gigabit
- High-performance, dedicated connectivity
- Reliable and redundant
- Flexible to support multiple technologies, such as GPON and Active Ethernet simultaneously
- Scalable to support future growth, density and bandwidth requirements
- Multi-service in design – voice, video, data, with the necessary QOS management
- Administratively lean, fitting well within the electric utility operational environment
- Smart City applications
- Smart Grid technologies

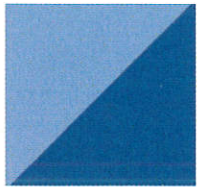
Based on the network design, Magellan will provide estimates to SUA for cost of network construction, including design, construction, equipment, testing and certification as well as ongoing annual costs to operate and maintain the network. In addition, all backhaul options will be reviewed to identify the most optimal routes out of Stillwater, and to identify potential interconnect points to regional Points-of-Presence (PoPs). Our significant work managing broadband construction projects will allow for accurate estimation of the costs the Authority will bear in this process. We will incorporate these cost estimates into our financial planning tools used in the project for business, anchor and residential service.

We'll incorporate all cost estimates for capital into our Broadband Financial Sustainability Model to conduct further financial analysis of the proposed network. Our model provides comprehensive capital and operational costs for buildout in year-by-year schedules that accounts for all revenues and costs borne by SUA's proposed network. Details on how our model works is described in the following sections.

## Task 5: Feasibility Study

Electric utilities have used our financial models to determine financial feasibility of broadband projects in over 100 communities. Our models provide investment grade plans through which over \$1 billion in broadband investments have been made in the US. They are regularly used to support public investment through bonds, bank loans and grant funding programs, including \$250 million in Broadband Stimulus investments under the NTIA BTOP grant program.

Magellan proposes using our Broadband Financial Sustainability Model to evaluate the various broadband options for SUA. We will build a long-term financial plan for the Authority that lays out the financial performance of its broadband initiatives over the long-term, using a phased approach to potential investments. We will model each of the business models to determine which ones are valid for the current environment in Stillwater, based on the current market, competition, needs, organizational capabilities and financial sustainability.



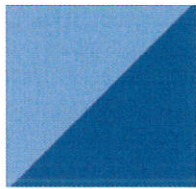
Using our financial tools, we suggest using the following procedure to conduct the business model analysis and make recommendations. We would propose using a minimum 10-year period to analyze the project Magellan will analyze all aspects of feasibility including market analysis, cost comparison to existing providers, community needs assessment and outreach, risk analysis, capital costs, staffing and compensation, and anticipating operating revenue and expenditures.

1. Develop the **cost model** for the network, including one-time and ongoing capital expenditures to build the network.
2. Develop the cost model for operations, including O&M, network operations, field services, staffing, billing, and customer service.
3. Develop the cost model for **staffing and compensation** including projected numbers of full and part time staff to operate and maintain the network.
4. From the **market analysis** and **outreach**, determine the customer segmentation and growth on the network across each type of customer (business, school, hospital, etc.).
5. Determine **customer growth rates** for the network based on benchmarking analysis from other utility and municipal providers.
6. Determine a proposed **competitive rate schedule** for potential services using pricing information from the **market analysis** and benchmarking information.
7. Develop financial statements, pro-formas, depreciation schedules, and **cash flows**.
8. Conduct **risk and comprehensive sensitivity analysis** on the project to determine overall financial sustainability using key metrics such as free cash flow, debt service coverage, **operating margin**, and **net income**.
9. Use scenario analysis to evaluate different business models and determine which are **feasible** for SUA to consider.
10. Recommend the most feasible business model based on overall business and financial sustainability, community benefit, and long-term value to the Stillwater community.

Magellan will prepare a workshop with SUA leadership to identify the financials, risks and any operational and maintenance costs and staffing requirements for each model. Upon completion of the workshop, Magellan will provide leadership with its recommendation of the most feasible business model for SUA.

## Financing and Funding Options:

Magellan's maintains consultants that are experts at grant funding for telecommunication and broadband projects. Our consultants will work with SUA to analyze any grant opportunities that may lessen the financing necessary for a Stillwater broadband deployment. Our grant experts have over 20 years' experience in broadband planning, fundraising, deployment and operational management and through their work we have helped communities raise over \$376 million in public and private funding for advanced broadband infrastructure deployment and service provisioning, including \$105.5 million in 2017 to date for Newport Utilities, a municipal utility serving rural Cocke County, Tennessee, and for Matawa First Nations Management, a nonprofit organization serving five remote First Nations communities in remote northwestern Ontario, Canada. The grant and loan awarded to Newport Utilities are building a fiber-optic Smart Grid communications network for its electric distribution system and a Fiber to the Premise broadband network for Newport Utility customers. The grant award to the Matawa First Nations communities was the largest such award in the history of Ontario and will transform healthcare, education, safety and security, and economic development and entrepreneurial support for the remote communities.



### III. Project Schedule

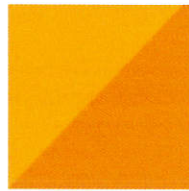
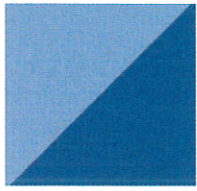
We estimate that over the 6 month duration of the project, up to 10 days onsite will be required for successful completion of the project. During this time, Magellan will meet with SUA staff, hold meetings with stakeholders, review plans, visit regional sites and make presentations to the Authority project teams as well as other activities to be determined between the Authority and Magellan. Schedules will be determined cooperatively between the Authority and Magellan. Magellan will require some resources of SUA staff to gather relevant data, work with local stakeholders to schedule outreach meetings, conduct interviews of Authority staff with Magellan, participate on status calls and onsite meetings, and participate in final presentations.

Task	Description	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
1	Investigate Current Authority of Stillwater Needs, Market & Capabilities to Offer Broadband						
2	Evaluate and Recommend Models						
3	Inventory and Evaluate Existing Infrastructure						
4	Recommend Additional Infrastructure and Operational Needs						
5	Feasibility Study						

### IV. Additional Capabilities

Magellan Advisors provides design engineering, project management, construction management, sales and marketing, and operations management capabilities to our municipal and utility customers. Upon completion of the Phase I feasibility study Magellan Advisors will provide a proposal for phase II network design and turnkey management services to Stillwater Utilities Authority. We pride ourselves in our abilities to work with clients from inception to completion of their broadband projects.





## Appendix A: Municipal Utility Network Stand-up, Implementation and Operations

### Magellan Leads the Nation in New Fiber To The Home Deployments Across Three States-The Fiber to the Home Council

Magellan Advisors is providing turnkey implementation services for three new fiber to the home deployments across the US. In these cities, Magellan provides the complete package of engineering design, project management, construction management, data center design and integration, operations plan, sales, marketing and related services to deploy gigabit fiber to the home networks. Magellan's seasoned industry staff, deep operational experience and hands-on approach provides industry leading "turn-key" solutions to municipalities and utilities deploying fiber to the home networks. "We are excited to provide the only truly comprehensive turnkey broadband deployment solution to municipalities and utilities that want to achieve fiber to the home implementations in their communities. Our clients place great trust in us to execute these projects and we value our clients as partners in developing the most advanced networks in the US."

In Illinois, Magellan is providing its turnkey solution to the City of Rock Falls and managing every step from the design through implementation of the FTTH network that will reach 100% of homes and businesses. "Transforming Rock Falls into a Gigabit City has been made possible by our partnership with Magellan. Magellan's responsiveness and knowledge has made the process a pleasure. I would highly recommend them to any City looking for guidance with their broadband system."

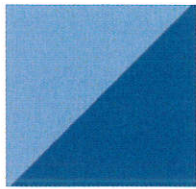
**-Dick Simon, Utility Manager, City of Rock Falls**

In Texas, Magellan is the trusted partner of the City of Mont Belvieu to fulfill all planning, implementation, operational, business process and sales and marketing aspects of developing the City's fiber to the home network. "Without Magellan, our network would have cost more than double the estimated project costs and taken longer to complete. We could not be more pleased with the level of service and professionalism and would highly recommend Magellan to any city looking for fiber solutions for their community."

**-Nathan Watkins, Assistant City Manager, City of Mont Belvieu**

In Tennessee, Magellan provides its turnkey services to Newport Utilities, giving utility leadership a trusted source to manage the design and construction of its fiber to the home network and a team of seasoned industry experts to guide them every step of the way. "We're excited to build this network to serve our community with gigabit fiber! Just wanted to say thank you and we are fortunate to have partnered with Magellan."

**-Glenn Ray General Manager, Newport Utilities**



## Appendix B: Rural Grant Funding

### Magellan Advisors Assists Rural Communities in Securing Nearly \$100 Million in Grant Funding for Next-Generation Fiber Networks

Denver, CO, October 9, 2017 – Magellan Advisors has assisted its clients in securing \$100 million in grant funding for next-generation fiber broadband and smart grid networks in their communities. Magellan Advisors' team of broadband experts provided the engineering, business and financial plans that lead to successful funding of over 1,000 miles of new fiber deployments. Magellan's broadband planning teams also lead the grant writing and due diligence programs to ensure its clients met key statutory requirements, resulting in the approval of nearly \$100 million of broadband funding. Magellan Advisors will continue to support its clients through the implementation of these projects, providing broadband engineering, project and construction management, and grant compliance and oversight. Magellan Advisors is the industry leading consulting firm for communities seeking funding for broadband and smart grid deployments, supporting local economic competitiveness, efficiency, and the quality of life of residents.

#### **Matawa First Nations, Ontario, Canada**

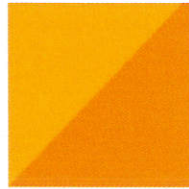
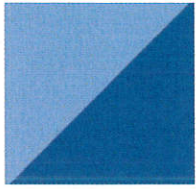
Matawa First Nations Management (MFNM) secured \$67 million in funding to interconnect five remote communities in Northern Ontario through deployment of a nearly 600 mile middle-mile network, based on a comprehensive broadband business plan developed by Magellan in 2016. Each community will be equipped with fiber to the home broadband, providing high-speed Internet and other services to every home, business, and community anchor.

Matawa First Nations engaged Magellan to establish an initial Broadband Feasibility Study in 2014, which yielded an opportunity to deploy services within the First Nations' communities. Magellan Advisors' consulting teams were instrumental in developing all supporting grant documentation, managing the grant application development process, and supporting all due diligence requirements through funding commitment. Magellan Advisors continues its work with MFNM to secure an operating agreement with a local provider, support grant program management, and provide overall project management for the MFNM network.

Total funding commitments include \$37.1 million from the Federal Ministry of Innovation, Science, and Economic Development; \$30 million from the Government of Ontario; and, \$2.14 million from Indigenous and Northern Affairs Canada to conduct an archeological investigation in support of the project. This funding is reportedly "Part of the Largest Infrastructure Investment in Ontario's history."

#### **Newport Utilities and The City of Newport, Tennessee**

Newport Utilities and the City of Newport, Tennessee's \$21 million Smart Grid Loan application was recently approved by the USDA Rural Utilities Service Electric Program. The network will improve control systems and support resilience within the Newport



Utilities electric grid, while providing a platform to improve broadband services throughout the Newport Utilities service area. Construction is underway and will be completed in 2018.

Magellan Advisors conducted a full feasibility study to determine the viability of Newport Utilities deploying a smartgrid and broadband network to support the electric utility's growing needs. A phased roadmap and business plan was developed to construct the network following the development of a comprehensive funding and financial plan by Magellan Advisors.

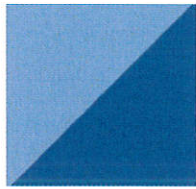
Magellan Advisors was instrumental in assisting Newport Utilities to apply for and secure USDA RUS funding for the buildout. Magellan's experience with USDA RUS and other loan and grant programs gave Newport Utilities a trusted partner to oversee the development of its loan. As a result, Newport Utilities was approved for 35-year funding at rates lower than current municipal and electric bonds. Magellan Advisors has also secured additional local and state grant funding for Newport Utilities in development of additional deployments in its service area.

Today, Newport Utilities has engaged Magellan Advisors for full turnkey broadband engineering, design, project and construction management, implementation and deployment services for the smart grid and broadband network. Magellan Advisors will manage the full implementation of the network, helping Newport Utilities achieve its goals for smart grid and broadband deployment across its service territory.

#### **About Magellan Advisors**

Magellan provides leading broadband, smart city, information technology, and security consulting services to public and private organizations. We are a full spectrum planning and implementation firm that brings together technology, communications, and utility consulting to create smart gigabit cities of tomorrow. We are only successful when our clients are successful. Our goal is to find practical broadband and technology solutions that our clients can implement in their communities. Through our services, over \$1 billion new broadband investments have been made connecting more than 1,000 schools, hospitals, libraries, and governments and passing nearly 1 million homes with fiber.

###



## Appendix C: RUS Smart Grid Loan



### LEVERAGING SMART GRID INVESTMENTS FOR RURAL BROADBAND DEPLOYMENT

#### USDA Rural Utilities Service Electric Program: Smart Grid Funding

Rural electric cooperatives, municipal electric utilities and public power districts are eligible for low fixed rate, long-term loan funding for design and deployment of advanced fiber-optic Smart Grid networks to enable secure, real-time electric system communications and control, and provide for fiber-to-the-Premise broadband Internet access, voice, video and other broadband-enabled applications to electric customers.

RUS Electric Program FY 2017 Budget \$5.5 billion. Over \$4 billion in infrastructure funding obligated for rural electric projects. FY 2018 Budget Request \$5.5 billion.

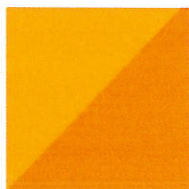
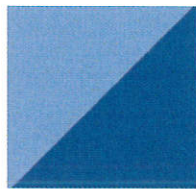
#### Terms and Provisions:

- Serving area must meet RUS requirements for rurality
- No loan funding limits or serving area restrictions based on existing Internet service coverage; Projects will not be funded in areas where existing RUS borrowers offer service.
- Low fixed interest rate tied to the 20-year Constant Maturity Treasury rate (CMT) when loan funds are drawn down. Loan rate was 2.69% at October 25, 2017.
- 30-year loan maturity; 35 years for electric utilities serving low population areas.
- Principal and interest payable quarterly; no-cost deferral of principal repayments for two years.
- Borrowers may further lower the effective interest rate by electing a "Short Option" maturity and interest rate with a no-cost, automatic rollover option.

For example, a borrower may elect a 3-month maturity. The 3-month CMT was 1.09% at October 24, 2017. If the borrower does not elect a long-term maturity and fixed rate at the end of the 3-month period, the loan will automatically roll over at the then current 3-month CMT. The borrower may continue to roll over the loan at a 3-Month CMT for as long as desirable, but may elect to fix the interest rate over a long-term maturity up to 30 years (35 year for low population areas) at the end of any 3-month period.

Additional information on the RUS Smart Grid program can be found at:

[https://www.rd.usda.gov/files/UEP\\_RUSSmartGrid\\_BOC.pdf](https://www.rd.usda.gov/files/UEP_RUSSmartGrid_BOC.pdf)



**CASE STUDY INFORMATION:**

In 2017, Magellan Advisors assisted a municipal rural electric utility in Tennessee with demand assessment, feasibility testing, business planning, financial modeling, design/engineering, loan design, environmental and historic preservation assessments, and application development for a low fixed rate \$37 million Smart Grid loan with a 35-year maturity. The loan was awarded in September 2017.

In addition to the new fiber-optic Smart Grid network connecting the utility's electric system from generation to customer electric meters, the utility will also use the Smart Grid funds to construct a new substation, purchase and install new electric meters and AMI modules, and new electrical equipment.

The Smart Grid network will improve energy management, system communications and control capabilities for the electric distribution network, lowering costs and improving network reliability, and generating an additional broadband revenue stream to offset declining revenues from growing use of smart grid appliances by consumers.

The fiber-optic broadband network will increase economic development in the region, attracting new investment in advanced manufacturing and expanding the reach of the area's established outdoor adventure tourism base. The system will enhance education, health care, safety and security for area residents and allow existing businesses and home-based business to modernize and expand.

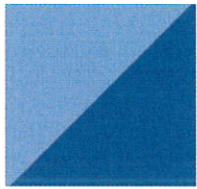
Magellan also assisted the client with grant application development to leverage the \$37 million Smart Grid loan to obtain additional grant support of \$500,000 this year, with an additional \$3 million grant application planned for next year. The grant funding will accelerate broadband service in the most rural, unserved communities of the serving territory.

Magellan is currently assisting the municipal utility with engineering, construction and deployment management, as well as broadband start-up planning and support services. Construction is currently underway and completion is expected in 2018.

To learn more about how Magellan assists utilities plan for, secure and manage RUS loans, please contact:

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## Appendix D: Letters of Reference



INFORMATION SYSTEMS • 115 Executive Parkway, Suite 400 • Hudson, Ohio 44235 • (330) 650-1799

June 29, 2015

To Whom It May Concern:

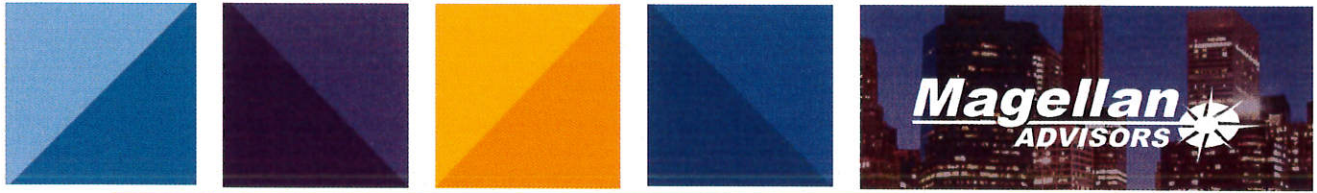
The City of Hudson, Ohio is pleased to recommend Magellan Advisors. The City of Hudson engaged with Magellan Advisors on a Broadband Needs Assessment and Business Plan. The Plan was carried out with professionalism and expertise by the Magellan team, and in accordance with the initial timeline.

The City of Hudson was seeking a broadband consulting and planning firm that could assess the feasibility of a municipal broadband plan, and give us actionable and practical steps towards developing a Gigabit high speed broadband network. Magellan's staff of Senior Consultants are highly qualified and experienced in needs assessments, financial planning, broadband business practices, regulatory issues and conceptual network design. They were always accessible to our team during and after the planning process, and provided us with a report that allowed us to move forward with the next steps in creating a network.

We have been beyond impressed with the knowledge and advice supplied to us by the Magellan staff. Their real world experience in broadband and telecommunications has allowed us to take the next steps in achieving our broadband goals. The City of Hudson highly recommends Magellan Advisors for your community's broadband planning needs.

Sincerely,

Paul Leedham  
GIS Manager/DBA



October 8, 2014

To Whom It May Concern:

We are pleased to provide this letter of reference for Magellan Advisors. Magellan Advisors has been an integral partner for Matawa First Nations in developing a Broadband Connectivity Feasibility Study. Magellan's team has worked cohesively with Matawa to develop the Broadband Connectivity and Feasibility Study with the goal of bringing high-speed telecommunications services to our First Nations communities. Magellan Advisors' team is extremely knowledgeable in all aspects of the Study and has brought their extensive knowledge to the Matawa Broadband Development project.

Magellan Advisors staff is always professional and executes their work in a timely fashion. They have provided Matawa with professional guidance throughout the process of the Feasibility Study. We are pleased with the level of service we have received from Magellan Advisors at all times. Magellan's dedication to successful broadband projects is evident from the way they have guided Matawa throughout the entire project, and the fact that their consultants have real world experience in creating and implementing broadband networks in the public sector and specifically in rural areas.

Matawa First Nation has been incredibly pleased with the high quality of work received from Magellan Advisors. We look forward to the completion of the Feasibility Study and to the opportunity to work with them in the future.

Sincerely,

Jason Paul Rasevych  
Economic Development Advisor

