

Rural Broadband, LLC

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Overview - Rural Broadband, LLC (“Rural Broadband”) is wholly owned subsidiary of Coastal Asset Management, LLC, a Savannah, Georgia, based company directly responsible for the management of a diverse portfolio of business interests in the telecommunications, real estate, and banking sectors. Rural Broadband also provides outsourced support services associated with the provisioning of broadband, video, and telecommunications services to various entities such as government entities, telephone companies, and electric utility companies engaged in developing new broadband networks and service offerings including: (a) project capitalization, (b) system operations management, (c) content procurement, (d) network project development, (e) vendor selection, (f) acquisition and dispositions, (g) strategic planning, (h) feasibility and business plan development, (i) franchising, and (j) sales and marketing. Rural Broadband supports the development and operation of business opportunities associated with the provisioning of IPTV, cable television services, high-speed data and Internet access, and telecommunications services on behalf of companies in a support capacity and may also maintain an ownership or service provider interest in the projects that it helps to develop.

Since 1982, Rural Broadband and affiliated companies have provided support services to over two hundred (200) entities in the assessment, evaluation and implementation of broadband services provisioning opportunities. For over twenty-five years, Rural Broadband and predecessor affiliated companies have participated in the construction and/or development of broadband systems providing service throughout the U.S. and Caribbean. Rural Broadband and affiliated companies have also held ownership interests in a number of broadband systems it has developed and operated.

Over the past twenty-eight (28) years, Rural Broadband has evaluated and developed broadband network-based opportunities including:

1. Supporting the development of new start-up ventures with corporate entities, electric utilities, and municipalities.
2. The assessment, evaluation, and/or development of broadband services based start-up ventures in over 100 service areas including facility based competitive broadband system deployments and more service areas incorporating a fiber-to-the-premise (“FTTP”) architecture that any other U.S. firm.
3. Assisted in securing over \$1 billion in project capitalization.
4. Successfully closed numerous acquisitions and dispositions.

Support Services – Rural Broadband is available, at the sole direction of a Rural Broadband client’s management team, to assist with the following:

1. Business Case Development or Validation - Rural Broadband will work with management to develop or validate a broadband services business case by providing information derived from existing Rural Broadband supported broadband services projects. Rural Broadband will develop or evaluate all key operating and capital assumptions including but not limited to:
 - a. Proposed service offerings and projected costs
 - b. Residential and commercial market and service area sizing
 - c. Service penetration
 - d. Service pricing strategy and rate schedules
 - e. Marketing and sales expenses
 - f. Operating expenses including all categories of general and administrative, technical, service based operational

expenses, and outsourced functions

- g. Cash flow statement
 - h. Capital expenditures including: (i) schedules of required fixed equipment with current pricing; (ii) schedules of variable equipment costs with current pricing; and (iii) plant construction labor and materials
 - i. Project capitalization plan
2. Service Definition - Rural Broadband will assist in finalizing broadband services offerings, tiers, and rates, including the strategic placement of broadband services designed to:
- a. Position a Rural Broadband client as the premier broadband service provider among all competing broadband services options
 - b. Maximize broadband services revenues per customer through customer satisfaction with client delivered products and services
 - c. Maximize ease of use for customers
 - d. Increase frequency of a la carte options such as video-on-demand, and event buys
 - e. Minimize recurring programming costs and copyright fees
 - f. Maximize launch incentives
3. Regulatory/Franchise Guidance - Rural Broadband provides clients with guidelines and a defined course of action to position our clients to obtain the legal authority to provide broadband services in the most efficient and strategically advantageous manner possible.
4. Investigation (teleconference and/or site visit, meeting(s)/

discussion with staff)/Acquire base information to conduct assessment.

- Review current operations
- Evaluate existing system infrastructure
- Evaluate current service offerings
- Assess local market conditions
- Review the historic financial information, budgets, financial projections and business plan
- Determine/discuss other data/information needs

5. Provide an opinion on the over-all merits (financial and general) of opportunities available.

- Investment in development of the Network
- Video service provisioning opportunities
 1. HDTV
 2. On-Demand Services
 3. PVRs
 4. IPTV
 5. Whole house solutions
- Data and Internet provisioning opportunities
 3. Enhanced service tiers
 4. Expanded customer utilization
 5. Home networking
- Telephone service provisioning opportunities
- Competition, and growing the customer base
- Value to rate payers

6. Infrastructure and Architecture – Rural Broadband will assess and recommend the type of Fiber-to-the-Premise (“FTTP”) broadband infrastructure and architecture to be capitalized in the ten (10) year pro forma financial projections. Rural Broadband will develop and recommend a conceptual design of a FTTP broadband infrastructure with capacity sufficient to potentially allow the provisioning of video services, high-speed data and Internet access, telephony, automated meter reading, electric load management, SCADA, metropolitan area network, and/or other services.

7. Service Area Analysis - Rural Broadband will provide market potential, need, and demand for broadband services including an estimation of total service unit included in the broadband plan. Rural Broadband will also evaluate potential end-user segments including residential customers, utilities, government, education, and businesses, to ascertain broadband needs to enable Rural Broadband to provide recommendations on the type of broadband services that should be offered to existing end-user segments in order to satisfy service requirements while: (a) maximizing economic development opportunities; (b) ensuring return on investment; and (c) maintaining efficiency and effectiveness of broadband network operations. Rural Broadband will also discuss and review the types of potential relationships which might be engage in with service providers to provision services to end-users and the advantages and disadvantages of the different models and options.
8. Industry Review - Rural Broadband will analyze current industry-wide trends and discuss factors that would support or detract from the potential success of the various technologies and business models presented. Rural Broadband will obtain reliable consumer information from existing data and additional research within the market regarding communications needs, the factors that determine the acceptance of various service offerings, willingness to pay, spending limits, etc. Rural Broadband will supply a business analysis of the potential subscriber community and a financial risk analysis, including possible actions which may be taken by competitors.
9. Economic Analysis and Financial Projections - In anticipation of the development of the Network and provisioning of the services, Rural Broadband will develop a phased in pro-forma business model and financial projections including: (i) details provided for the first twenty-four months monthly; (ii) details provided for each year of the first ten (10) years annually; and (iii) a ten (10) year financial summary.

The financial projections provided by Rural Broadband will be based upon verifiable assumptions to allow qualified decisions to

be made based upon a sound and thorough assessment of the feasibility and risk of the proposed project and associated business. The financial projections will set forth service offerings, service penetration, and service rates sufficient to pay operating costs and debt service. Rural Broadband will provide comparable information from similar projects to substantiate these and other categories of assumptions.

The financial projections will include inputs from all critical elements of the Business Plan, including but not limited to the following:

- Residential and commercial market and service area sizing
 - Service penetration
 - Aerial and underground plant miles assumptions
 - Service pricing strategy and rate schedules
 - Marketing and sales expenses
 - Detailed income statements including all categories of general and administrative, technical, service based operational expenses, and outsourced functions
 - Detailed cash flow statement
 - Detailed capital expenditures statement including: (i) schedules of required fixed equipment with current pricing; (ii) schedules of variable equipment costs with current pricing; and (iii) plant construction labor and materials
 - Make ready and right-of-way costs
 - Detailed schedule of all key assumptions and proposed network reference information
 - Financing plan based upon the capitalization of similar projects
10. Regulatory Analysis, Filings, and Permits - The Business Plan will identify pertinent State and Federal regulations and proposed legislation that could impact the project and outline steps for gaining compliance with all regulations.
11. Conclusions/Recommendations - Rural Broadband will provide

conclusions and recommendations intended to guide service providers toward making the proper decision concerning the development of fiber optic broadband networks.

12. Content Acquisition - Through Rural Broadband's extensive and ongoing work associated with acquiring video content for services providers in numerous markets, Rural Broadband assists clients in acquiring content associated with providing:

- a. Off-air broadcast services
- b. Linear SD and HD satellite programming services
- c. IPTV rights management
- d. PPV, VOD, and SVOD programming services

13. Video Content Acquisition Process:

- a. Review of Aggregator and Transport Options – Rural Broadband assists clients in assessing video programming aggregator and transport options. Decisions made by a Rural Broadband client's management team associated with the selection of an aggregator or transport provider will determine the extent of Rural Broadband provided support services required associated with the additional following elements necessary to complete the acquisition of programming services required to be obtained by a Rural Broadband client to complete its video services offering.
- b. Direct Agreement Process Overview – Rural Broadband currently maintains a database of over 300 total channels, 183 networks, and 58 programmers. The Rural Broadband database identifies all programming service, ownership, and contact information. Rural Broadband also maintains active detailed records associated with the programming agreement negotiating process including timelines and comments.

- c. Direct Agreement Procurement Process – Rural Broadband will initially contact the responsible programmer affiliate representative to request a carriage agreement while providing pertinent information to the programmer about the project. The programmer may then request additional information associated with the project or network platform prior to sending out an agreement.
- d. Contract Negotiations – Once the agreement is in hand, Rural Broadband will proceed to negotiate the best carriage rates possible based upon current and past experience in negotiating similar agreements, applicability of regulatory rules, and terms and conditions recently negotiated with the programmers on behalf of other Rural Broadband clients. Coupled with experience from other projects, Rural Broadband can bring added value to a client’s programming procurement process through negotiating the best carriage rates possible utilizing a well established, efficient process developed from over 20 years of experience in negotiating programming carriage agreements.

Terms of Engagement: The terms of the engagement by clients for Rural Broadband’s providing support services follow.

1. Support services provided by members of the Rural Broadband team are defined by a scope of work and an associated not to exceed fee. For on-site work requiring travel, Rural Broadband has a five (5) hour minimum per day billed for consulting services while traveling to or working at client locations or attending meetings on behalf of clients. Rural Broadband will invoice clients for reimbursable expenses associated with travel but does not invoice clients for meals.
2. Regarding any additional service required by clients, Rural Broadband provides the Rural Broadband support services and specific task to which it is assigned at the sole and exclusive direction of authorized representative(s).

3. Rural Broadband invoices on a biweekly basis for services rendered in providing the Rural Broadband support services.
4. Rural Broadband clients and their authorized representative(s) retain the sole and exclusive right to assign tasks to Rural Broadband.
5. Rural Broadband's arrangement with clients do not reflect binding agreements between the parties other than as it may apply to Rural Broadband support services requested solely by clients from time to time and rendered by Rural Broadband and the compensation due from clients to Rural Broadband associated with providing said services and the client's sole and exclusive right to assign said tasks and services.
6. Rural Broadband clients retain the sole and exclusive right to terminate their agreement with Rural Broadband for any and all services provided by Rural Broadband at any time without cause or prior notice.

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Allen Davis is Manager of Rural Broadband, LLC, based in Savannah, Georgia. Allen specializes in business development and is also directly responsible for the management of a diverse portfolio of business interests, primarily in the telecommunications, broadband services, real estate, and banking sectors. Allen provides various business development related support services toward organizing and pursuing new business ventures and opportunities. For nearly thirty years, Allen and affiliated companies have project feasibility study and business plan development, capitalization and financing support, system operations management, project development, acquisition, strategic planning, and network development support services to various entities engaged in developing new fiber optic based broadband networks. Mr. Davis' clients include new start-ups, municipal entities, telecommunications providers, and electric utility companies.

Since 1990, Mr. Davis has provided support services to over one hundred thirty (130) entities in the assessment, evaluation and implementation of potential broadband and value added services opportunities. For over twenty-eight years, Mr. Davis has participated in the construction, ownership and/or development of broadband systems providing service throughout the U.S. and Puerto Rico including one of the first fiber based broadband networks in the U.S. constructed in Culpeper County, Virginia in 1991.

Mr. Davis has evaluated and developed numerous fiber network-based broadband opportunities including:

1. Supporting the development of numerous new start-up ventures with corporate entities and municipalities.

2. The assessment, evaluation, and/or development of numerous broadband services based start-up ventures in 100+ service areas including facility based competitive broadband system deployments.
3. Over 10 years of experience in fiber-to-the-premise (“FTTP”) system development including more service areas than any other U.S. firm. Information associated with the first FTTP development supported in 2000 is attached.
4. Supported the capitalization of over \$1 billion in new fiber optic network development.
5. Successfully closed numerous acquisitions, dispositions, and partnering arrangements.

BROADBAND SECTOR PROJECTS

Scottsboro Electric Power Board, Scottsboro, Alabama – Provided feasibility study, business plan and financial projections, service offerings and rates, selected all vendors and contractors, and assisted in hiring key employees associated with the development of a fiber optic based broadband system. Closed \$8.5 million in financings. Structured and negotiated voice over Internet protocol (“VoIP”) telephone service provisioning agreement with wholly owned subsidiary of Knology, Inc.

Hawaiian Telecom, Honolulu, Hawaii – Provided feasibility study, business plan, financial projections, and content acquisition support for fiber optic based broadband IPTV service offering.

City of Glenwood Springs, Colorado - Developed feasibility study, business plan and financial projections for fiber-to-the-premise (“FTTP”) broadband services initiative.

Concord Telecommunications Co., Charlotte, North Carolina – Provided feasibility study, business plan, financial projections, and content acquisition support for fiber optic based IPTV service offering.

Palm Beach County Communications Co., West Palm Beach, Florida – Negotiated sale of broadband system assets in West Palm Beach, Florida to Comcast Communications, Inc.

Telephone & Data Systems, Inc. (“TDS”), Madison, Wisconsin – Developed feasibility study, business plan and financial projections utilized to obtain corporate approval for project provisioning of video services and FTTP deployments. Developed broadband services offerings, rates, and service provisioning strategy for a FTTP system in Fitchburg, WI and VDSL/FTTH systems in Farragut and Mount Juliet, TN. Was solely responsible for securing all video programming content for TDS which included negotiating IPTV carriage rights in agreements with all satellite programmers and off-air broadcasters in each market.

Fidelity Communications, Inc., Sullivan, Missouri – Provided feasibility study, business plan, financial projections, and content acquisition support for broadband service offering.

Highland Telephone, Sunbright, Tennessee – Developed feasibility study, business plan and financial projections to obtain board approval for FTTP project. Developed broadband service offerings, rates, and service provisioning strategy for a FTTP system in Highland Telephone service area. Responsible for securing all content including negotiating agreements with all programmers and broadcasters.

Gainesville Regional Utilities, Gainesville, Florida – Developed feasibility study, business plan and financial projections for FTTP broadband services initiative.

Chattanooga Electric Power Board, Chattanooga, Tennessee – Developed feasibility study, business plan and financial projections for FTTP broadband services initiative.

UTI Holdings, LLC, Savannah, Georgia – Secured \$30 million equity commitment from Halyard Capital, a division of the Bank of Montreal, for various acquisitions. Managed operations of fiber optic based broadband system in Cobb County and Acworth, Georgia in direct competition with BellSouth and Comcast. Closed \$12 million in project financing. Provided feasibility study, business plan and financial projections utilized in the

capitalization and development of the project. Developed service offerings and rates, selected all vendors and contractors, and assisted in hiring key employees.

Cinergy MetroNet, Inc., Evansville, Indiana – Developed financial projections, feasibility study, and business plan utilized to secure \$106 million from the Rural Utilities Service Broadband Program to construct FTTP networks in 11 cities in Indiana. Completed financial projections and feasibility study, business plan for 57 additional cities with a budget of over \$300 million.

Cable Diversified Installations, Inc., Jacksonville, Florida – Provided feasibility study, business plan and financial projections for broadband network expansion in Bradford County and Columbia County, Florida.

City of Clewiston, Florida – Prepared feasibility study, business plan and financial projections for municipal broadband network deployment.

City of Plainfield, Indiana – Prepared feasibility study, business plan and financial projections for municipal FTTP broadband network deployment.

Columbia Power & Water Systems, Columbia, Tennessee – Provided feasibility study, business plan and financial projections. Developed service offerings and rates, selected all vendors and contractors, and assisted in hiring key employees. Closed \$15 million in financing after public referendum in support of project. System launched in direct competition with BellSouth and Charter Communications. Prepared evaluation and assessment of operations of 5,500 subscriber operating broadband system in Columbia, Tennessee, along with rate increase recommendations.

Muscatine Power & Water Systems, Muscatine, Iowa – Provided strategic plan for 8,700 subscriber broadband system in Muscatine, Iowa. Supported acquisition of Mediacom assets.

Paducah Power System, Paducah, Kentucky – Provided vendor selection and strategic planning support for commercial fiber optic data network deployment in Paducah, Kentucky.

Fibertech, Inc., Rochester, New York - Prepared feasibility study,

business plan and financial projections for municipal FTTP broadband network deployment in Connecticut.

Alcatel, Charlotte, North Carolina – Provided strategic planning and feasibility study, business plan support for FTTP triple play (video, data, and voice) deployments and initiative by Alcatel customers.

Hartselle Utilities, Hartselle, Alabama - Prepared feasibility study, business plan and financial projections for municipal broadband network deployment.

Squire Creek, Monroe, Louisiana – Prepared feasibility study, business plan, financial projections, service offerings, rates, selected vendors, for FTTP system in private development near Monroe, Louisiana.

City of Batavia, Illinois – Prepared feasibility study, business plan and financial projections for FTTP network deployment.

City of Geneva, Illinois – Prepared feasibility study, business plan and financial projections for FTTP network deployment.

City of St. Charles, Illinois – Prepared feasibility study, business plan and financial projections for FTTP network deployment.

City of North Vernon, Indiana - Prepared feasibility study, business plan and financial projections for municipal FTTP broadband network deployment.

City of Greencastle, Indiana - Prepared feasibility study, business plan and financial projections for municipal FTTP broadband network deployment.

City of Malden, Missouri - Prepared feasibility study, business plan and financial projections for municipal FTTP broadband network deployment.

Poplar Bluff Municipal Utilities, Poplar Bluff, Missouri – Prepared feasibility study, business plan and financial projections. Developed service offerings and rates, selected all vendors and contractors, and assisted in hiring key employees. Closed \$9 million in financing and closed acquisition

of incumbent system owned by Charter Communications and \$7.5 million in additional financing.

Daniel Island Media, Charleston, South Carolina – Prepared feasibility study, business plan, financial projections, digital video service offering plan, rates, selected vendors, for FTTP system in private development in Charleston, South Carolina.

City of Greensburg, Indiana – Prepared feasibility study, business plan and financial projections for municipal FTTP broadband network deployment.

City of Healdton, Oklahoma - Prepared feasibility study, business plan and financial projections for municipal broadband network deployment.

Hopkinsville Electric, Hopkinsville, Kentucky – Prepared feasibility study, business plan and financial projections for municipal FTTP broadband network deployment in Hopkinsville, Kentucky.

Jackson Energy Authority, Jackson, Tennessee – Provided feasibility study, business plan and financial projections. Developed service offerings and rates, selected all vendors and contractors in direct competition with BellSouth and Charter Communications. Supported \$62 million in financing for FTTP broadband system passing 30,000 potential customers in Jackson, Tennessee.

Russellville Electric, in Russellville, Kentucky – Prepared feasibility study, business plan and financial projections for municipal broadband network deployment.

Princeton Electric Power Board, Princeton, Kentucky – Prepared feasibility study, business plan and financial projections for municipal broadband network deployment.

Fayetteville Electric System, Fayetteville, Tennessee – Provided strategic planning and service offering restructuring support. Completed business plan and financial projections. Close \$5.57 million in financing, developed service offerings and rates, selected all vendors and contractors, and assisted in hiring key employees in direct competition with BellSouth and

Charter Communications.

City of Cookeville, Tennessee - Prepared feasibility study, business plan and financial projections for municipal broadband network deployment.

City of Tifton, Georgia – Completed business plan and financial projections. Close \$7.9 million in financing, developed service offerings and rates, selected all vendors and contractors, and assisted in hiring key employees in direct competition with BellSouth and Mediacom. Provided strategic planning support in proposed sale to Mediacom.

City of Forsyth, Georgia – Completed feasibility study, business plan and financial projections. Close \$5.4 million in financing in March of 1999. Developed service offerings and rates, selected all vendors and contractors, and assisted in hiring key employees. Closed acquisition of James Cable assets in April of 1999. Provided assessment of operations of 2,500 subscriber broadband system and rate increase recommendations.

City of Albertville, Alabama – Prepared feasibility study, business plan and financial projections for municipal broadband network deployment.

Pulaski Electric, Pulaski, Tennessee – Prepared feasibility study, business plan and financial projections for municipal broadband network deployment.

Springfield Electric, Springfield, Tennessee – Prepared feasibility study, business plan and financial projections for municipal broadband network deployment.

BellSouth Entertainment, Atlanta, Georgia - Coordinated sales campaign and provided strategic planning support in a video services trial developed in Chamblee, Georgia, in direct competition with Comcast.

Knology, Inc., West Point, Georgia - Negotiated and closed the acquisitions of Montgomery Cablevision of Montgomery, Alabama, American Cable of Columbus, Georgia, and Beach Cable of Panama City Beach, Florida. Conducted due diligence of multiple markets in the Southeastern U.S. which facilitated \$400 million in financing and deployments in Charleston, South Carolina, Augusta, Georgia, Panama

City, Florida, and Knoxville, Tennessee. Provided strategic planning support in the development of a broadband system in West Point, Georgia and Lanett, Alabama.

Oglethorpe Power Corporation – Supported value added services initiatives for 38 electric companies in Georgia.

United Telesystems, Inc. (of Virginia), Culpeper, Virginia – In direct competition with 12 other companies, was awarded a cable TV franchise for Culpeper County, Virginia. Constructed one of the first hybrid fiber/coax systems in the U.S. Sold the system to Great Southern Printing/Frederick Cablevision and was retained to manage completion of construction and development of the system.

First Southern Cable Group, Inc., Atlanta, Georgia – Obtained franchises, secured financing, and developed and sold cable TV systems in various rural areas in Georgia and Alabama.

Davis & Associates, Knoxville, Tennessee – Provided sales, marketing, and installation outsourced support services to various entities including cable TV companies such as Prestige Cable and Telephone & Data Systems, Inc. in service areas throughout the Eastern U.S. and Puerto Rico. Assisted BellSouth in strategic planning associated with marketing custom calling services to customers.

Allen Davis
Projects and Clients
Since 1993

Acworth, Georgia	Covington Electric System
Adel, Georgia	Coweta-Fayette EMC
Albertville, Alabama	CTC Communications, Inc.
Andalusia, Alabama	Daleville, Alabama
Barnesville, Georgia	Daniel Island Media Company, LLC
Batavia, Illinois	Davidson Transport
Baxley, Georgia	Dexter, Missouri
Beach Cable, Inc.	Dixie EMC
BellSouth	Elba, Alabama
Better Choice TV, Inc.	Elberton, Georgia
Bloomfield, Missouri	EnerVision
Blue Ridge EMC	Fairburn Utilities
Bolivar Electric Department	Fidelity Communications, Inc.
Bolivar, Tennessee	Fayetteville Electric System
CableAmerica Corp.	Fitzgerald, Georgia
Cable Diversified	Flagler Beach, Florida
Cairo, Georgia	Flint EMC
Camilla, Georgia	Floresville, Alabama
Carroll EMC	Floresville, Texas
Cartersville, Georgia	Forsyth CableNet
Central Georgia EMC	Fort Valley, Georgia
CFW Communications	Gainesville Regional Utilities
Chattanooga Electric Power Board	Geneva, Illinois
Cincinnati Bell Telephone	Georgia EMC
Cinergy MetroNet	Glenwood Springs, Colorado
Citizens Telephone Company, Inc.	Grady EMC
Clay County, Florida	Greencastle, Indiana
Clewiston, Florida	Greensburg, Indiana
CMJ Investments, LLC	GRESKO
Coldwater Board of Public Utilities	GreyStone Power Corporation
Columbia Power & Water Systems	Hart Telephone Company
Commerce, Georgia	Hartford, Alabama
Cookeville, Tennessee	Hartselle Utilities
Covington Cable	Hawaiian Telcom
Covington Electric Cooperative	Healdton, Oklahoma

Allen Davis
 Projects and Clients (Cont.)
 Since 1993

Highland Telephone Cooperative	Powhatan Cable, Inc.
Hopkinsville Electric System	Princeton Electric Plant Board
ITC Globe, Inc.	Pulaski Electric System
Jackson EMC	R&B Communications
Jackson Energy Authority	Ripley Power & Light
Jacksonville, Arkansas	Russellville Electric Plant Board
King George Cable, Inc.	Sam Houston EMC
Knology Holdings, Inc.	Sawnee EMC
Lawrenceburg Power System	Scottsboro Electric Power Board
Little Rock, Arkansas	Sherwood, Arkansas
Malden, Missouri	Slocomb, Alabama
Maumelle, Arkansas	Snapping Shoals EMC
McMinnville, Tennessee	Southern Telecom, Inc.
Metroplan	Springfield Electric Department
Milan Department of Public Utilities	Springfield, Tennessee
Mitchell EMC.	St. Charles, Illinois
Monroe, Georgia	Stevenson Utilities
Montgomery Cablevision	Suburban Cable, Inc.
Monticello, Georgia	Sumter EMC
Moultrie, Georgia	Swainsboro Development Authority
Murfreesboro Electric Department	Sylvester, Georgia
Muscatine Power and Water	Telephone & Data Systems
N. Little Rock, Arkansas	The Landings Association
Nashville Electric Service	The Telecom Group
Newnan Utilities	Thomaston, Georgia
North Georgia EMC	Thomasville, Georgia
North Little Rock, Arkansas	Three Notch EMC
North Vernon, Indiana	Tifton CityNet
Oglethorpe Power Corporation	Tifton, Georgia
Opp Cablevision	Touch 1
Paducah Power System	Troup EMC
Paragould Water & Light	Tullahoma Utilities Board
Paris Utilities	Vanguard Corporation
Plainfield, Indiana	Vidalia, Georgia
Poplar Bluff Municipal Utilities	Walton EMC

Daniel Island

Fiber-To-The-Home Deployment

INTRODUCTION

Daniel Island, located in historic Charleston, S.C., is an evolving island community. Over time, the 4,000-acre development will boast 5,000 single-family homes, apartment complexes, assisted living facilities, a high school, and 2 million-square-feet of office space. The community already features a Tom Fazio-designed golf course, and it is home to the annual Family Circle Cup tennis tournament.

This community is the vision of the Daniel Island Company, the group spearheading the development effort. The island is a first-class establishment, and the Daniel Island Company wanted communication services to reflect this. Cutting-edged cable television (CATV) and telephone services, high-speed Internet access and seamless upgradability for future technology were a must! The development group ran into problems, however, when it looked at the existing communication infrastructure. The architecture wouldn't allow for digital subscriber line (DSL) or broadband connectivity, and CATV services were limited, with no upgrades in site. The existing infrastructure was unable to handle the demands of today's technology, much less take the community into the future.

As a result, the Daniel Island Media Co., an outgrowth of the development group, was tasked with bringing cutting-edged technology to Daniel Island.

GOALS

Daniel Island Media Co. had several network goals:

1. To enhance property value and residents' lives with a state-of-the-art communication infrastructure that would reach the entire community
2. To provide residents and businesses with elite desk services – voice, video, and data – that were second-to-none
3. To prepare the community for future broadband services



Daniel Island community, Charleston, S. C.

FIBER – THE BEST VALUE

Daniel Island Media Co. decided that fiber-to-the-home (FTTH) was the optical network solution for several reasons. Faced with alternative technologies that would leave copper in the ground, the group realized future network upgradability would ultimately be restricted. Copper-based solutions would also limit the ability to offer enhanced community services, which wouldn't increase property value or differentiate Daniel Island from other communities.

The required solution needed to bring residents state-of-the-art telephone service and access to additional broadband services, including analog and digital cable television and ultra high-speed Internet data. An FTTH network would further enhance residents' lives by supporting emerging and futuristic applications. This would position Daniel Island at the forefront of today's technology, but more importantly, a fiber network would lay the groundwork for future applications, including IP-based video on demand, IP multicast, interactive TV, telecommuting and peer-to-peer applications.

Daniel Island

Fiber-To-The-Home Deployment

THE SOLUTION

Daniel Island Media Co. was looking for a turnkey, end-to-end solution for its fiber network, and it wanted a cost-competitive solution. The group selected Corning Cable Systems and Optical Solutions Inc. as the perfect team to engineer and furnish its FTTH networks. The two companies have formed a strategic relationship to accelerate the rate of FTTH adoption and optimize the deployment of optical Access networks.

At Daniel Island, Optical Solutions provided the FTTH equipment with its FiberPath® fiber-to-the-home solution. By combining Optical Solutions' FiberPath equipment with Corning Cable Systems' passive optical network (PON) infrastructure, a complete fiber-optic solution for FTTH deployments was found.

Corning Cable Systems began its work at Daniel Island by providing the network infrastructure design and fiber build, which was a unique challenge. To design the infrastructure, Corning Cable Systems factored in a mix of residential and business areas. Corning Cable Systems was also faced with an aggressive deployment schedule. Daniel Island was set to host the annual Family Circle Tennis Tournament in six weeks, and organizers wanted the tennis complex carrying traffic by that time.

After the design work, Corning Cable Systems provided all of the necessary products – including cable, splice closures, vaults/hand holes and other hardware and equipment – as well as the turnkey installation services. Throughout the project, experts from Corning Cable Systems were available to answer any questions that arose. With

its experience, technical expertise and excellent history of customer support services, Corning Cable Systems was able to ensure a worry-free installation for Daniel Island, as well as provide the training and support necessary for successful FTTH network maintenance and ongoing operations.

CONCLUSION

With phase one of the deployment successfully completed at the tennis complex, the benefits of working with Corning Cable Systems and Optical Solutions were evident. The unique relationship between the two companies ensured that the passive infrastructure and active electronics were designed for trouble-free performance, without the concern of possible integration issues. Daniel Island received an integrated network design with an optimized PON infrastructure and a highly-flexible, yet scalable Access network.

The true success of this deployment was evidenced at the Family Circle Tennis Tournament, which was seen by thousands at the tennis complex and broadcast to millions. With a new communication infrastructure in place and work to wire the entire community ongoing, residents were able to get a glimpse of what was in store for the future. Together, Corning Cable Systems and Optical Solutions are making the vision of Daniel Island a reality.



CUSTOMER PROFILE

Squire Creek

A vision to build a thriving residential community inspired the Davison family to create Squire Creek Country Club & Development. While they may have started their work with a goal to develop a prestigious golf community that would be unique to the area, they ultimately received much more than they imagined.

Build it and They Will Come

Squire Creek Country Club & Development planned to first build a golf course that would be the center point of the residential community and would be available to the entire North Louisiana area. In an effort to build a first class golf course, Squire Creek secured one of America's most respected golf architects, Tom Fazio, to design the course. The championship-caliber golf course was completed in 2002. During the construction of the course it became clear that the entire development—the homes, services and other amenities—needed to match the first-class caliber of the golf course. It became clear that nothing but the highest level of infrastructure available for phone, high-speed data and TV would be acceptable. However, the existing providers could not meet these needs and were either not willing or able to upgrade

their networks for the new development. As a result, Squire Creek Communications, LLC was founded to own, operate and support the total communications network for the upscale golf community.

D.I.Y.

Squire Creek Communications began looking for the right mix of technology and vendors that could offer the best infrastructure for their network, while still being cost-effective for the development. They first evaluated a hybrid coaxial network to deliver voice, video and data, but quickly discovered that the longevity, scalability, bandwidth and cost-value of fiber were far superior. Further cost comparisons showed that the fiber-to-the-user equipment and the end-to-end solution was only a marginally greater financial investment than coax when one considered the costs of delivery of triple-play plus services, networking and outside plant maintenance. In the long run, fiber-to-the-user was the right choice for this cutting edge development.

Squire Creek Communications fully appreciated that they were on the forefront for this green-

Having taken an active interest in contributing to the North Louisiana community for generations, the Davison family set out on a new venture with the turning of the century.



Customer Profile: Squire Creek

www.squirecreek.com

Squire Creek Deployment Timeline

Pre-2004

- > Squire Creek County Club Golf Course opened August 2002
- > Broke ground on housing development late 2002
- > Determined costs for housing infrastructure
- > Decided to pursue FTU
- > Evaluated vendors; selected Alcatel
- > Created Squire Creek Communications, LCC
- > Deployed FTU (Voice, data and video) in Club House and first homes

2004

- > Full service country club operational
- > 40 homes completed and/or in construction
- > Turn-up FTU in all homes

By 2014

- > Complete initial development of over 500 homes

field deployment; but they also wanted to mitigate their risk by choosing standards-based technologies, thus preferring a passive optical network FTU and RF video solution. Because Squire Creek Communications was developing its own network, they sought established partners with a reputation of reliability, product capabilities and resources. After testing several vendors they chose Alcatel's 7340 FTU product line and Scientific Atlanta's video headend and equipment.

The 19th Hole

To date, Squire Creek Communications has successfully deployed voice, video and data to the Squire Creek Golf Clubhouse and to 30 homes that are

completed or are in construction. Within the next 10 years, the development has plans to expand to 500 homes. With country club membership rapidly growing, and community programs adding value to the residences and memberships, Squire Creek Development has already made a positive impact to the area. "The development plan is on track to meeting the business case goals, in addition to increasing the value of the land and salability of the homes," said Jim Davison of Squire Creek Country Club & Development, LLC. "Although the fiber became a necessity because of circumstance, our communications network has really made the development successful and attractive."

Squire Creek Facts

- > Located in Choudrant, Louisiana
- > Squire Creek Country Club is owned and operated by Squire Creek Country Club and Development, LLC
- > Squire Creek is a full-service facility featuring golf, tennis, a fitness center, and swimming pool facilities
- > Tom Fazio designed golf course completed in 2002
- > Par 72, 7105 yards (Championship yardage)
- > Open to the public
- > Individual, Family and Corporate memberships available
- > Squire Creek Communications, LCC is a separate entity that owns, operates and maintains the network infrastructure (telephony, high-speed data and cable television) for the golf community



www.alcatel.com/fttu

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