



**Broadband Infrastructure Application  
Submission to NTIA – Broadband Technology Opportunities Program**

<b>Submitted Date:</b> 3/26/2010 5:07:15 PM	<b>Easygrants ID:</b> 4831
<b>Funding Opportunity:</b> Broadband Technology Opportunities Program	<b>Applicant Organization:</b> CONTACT NETWORK, INC.
<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Ms. Vickie Lee Edwards

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## A. General Application Information

Applicant Information	
Name and Federal ID for Applicant	
<b>DUNS Number</b>	153873930
<b>CCR # (CAGE)</b>	3H9L5
<b>Legal Business Name</b>	CONTACT NETWORK, INC.
<b>Point of Contact (POC)</b>	TIFFANY GRAHAM 2052788130 Ext. TIFFANY@INLINE.COM
<b>Alternate POC</b>	JON GIFFORD 3348191025 Ext. jgifford@inline.com
<b>Electronic Business POC</b>	TIFFANY GRAHAM 2052788130 Ext. TIFFANY@INLINE.COM
<b>Alternate Electronic Business POC</b>	JON GIFFORD 3348191030 Ext. jgifford@inline.com

Name and Contact Information of Person to be Contacted on Matters Involving this Application:	
<b>Prefix</b>	Ms.
<b>First Name</b>	Vickie
<b>Middle Name</b>	Lee
<b>Last Name</b>	Edwards
<b>Suffix</b>	
<b>Telephone Number</b>	205-278-8106



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<b>Fax Number</b>	
<b>Email</b>	vedwards@inline.com
<b>Title</b>	Grants Specialist

**Additional Contact Information of Person to be Contacted on Matters Involving this Application:**

Project Role	Name	Phone	Email
Secondary Point of Contact	Mr. Martin , Costa	2052788133	martin@inline.com

**Environmental Point of Contact**

Prefix: Ms. Name: Edwards, Vickie Suffix: Telephone Number: 12052788106 Title: Grants Specialist
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**Organization Classification**

<b>Type of Organization</b>	For-profit Entity
<b>Is the organization a small business?</b>	Yes
<b>Does the organization meet the definition of a socially and economically disadvantaged small business concern?</b>	No

**Authorized Organizational Representative**

<b>AOR Name</b>	GRAHAM, TIFFANY
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<b>Result</b>	Applicant Authorized
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**Project Title and Project Description**

**Project Title:** South Central Mississippi Broadband Infrastructure Project

**Project Description:** The proposed project will deploy a network of fiber cabling to provide broadband connectivity K-12 schools, community colleges, hospitals, and other critical community facilities throughout 16 counties in South and Central Mississippi, with major fiber routes along U.S. Highway 51, U.S. Highway 45, U.S. Highway 84, and interconnecting critical facilities on the I-20 corridor.

**CCI Priority Checklist**

**The following items were selected from the CCI Priority Checklist:**

1. This project will deploy Middle Mile broadband infrastructure to community anchor institutions.
2. The project will deploy Middle Mile broadband infrastructure and has incorporated a public-private partnership among government, non-profit and for-profits entities, and other key community stakeholders.
3. This project will deploy Middle Mile broadband infrastructure in economically distressed areas.
4. This project will deploy Middle Mile broadband infrastructure to community colleges.
5. This project will deploy Middle Mile broadband infrastructure to public safety entities.
6. This project will deploy Middle Mile broadband infrastructure and either includes a Last Mile infrastructure component in unserved or underserved areas or has received commitments from one or more Last Mile broadband service providers to utilize the Middle Mile components. Any Last Mile components in rural areas do not exceed 20% of the total eligible costs of the project.

**Comprehensive Community Infrastructure Components**

**The following items were selected from the Comprehensive Community Infrastructure Components:**

Middle Mile



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**BIP Applicants**

Have you also applied to BIP for funding in the sample proposed funded service area?

- No

If Yes, please provide the project title and Easygrants ID number:

Title of Joint BIP Application:

Easygrants ID:

**Other Applications**

Is this application being submitted in coordination with any other application being submitted during this round of funding?

- Yes

<b>Easygrants ID</b>	<b>Project Title</b>
4832	Mississippi Delta Broadband Infrastructure Project

If YES, please explain any synergies and/or dependencies between this project and any other applications.

InLine is presenting two complementary proposals, the Mississippi Delta Broadband Infrastructure Project (MDBIP) and the South Central Mississippi Broadband Infrastructure Project (SCMBIP). Both proposals seek to answer the same statutory purposes and bring the same benefits to the community but for different regions.

We have designed these projects to be synergistic in that a point of connection exists between MDBIP and SCMBIP at the Yazoo / Hinds county border. If both projects are funded, we will be able to interconnect these networks and expand the reach of multi-gigabit connections to both regions. Entities served by the SCMBIP would be able to take advantage of educational and distance learning content created by entities served by the MDBIP, such as DAAIS or Delta State University, and vice versa. In addition, the cost for MDOT would be reduced as a result of the ability to deploy larger projects with a single connection point. Finally, this network would be more attractive to potential state-wide wholesale and last mile partners such as Digital Bridge or



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ITC Deltacom. This would both enhance the sustainability of the networks, and spur additional competitors to enter these markets, ultimately driving down costs and improving service.

In addition, this would allow us to better serve the Mississippi Band of Choctaw Indians in their projects by providing a high speed link between their tribal lands located in the MDBIP to those in the remainder of the state.

For the NTIA and the taxpayer, the combined cost of the two projects would be lowered through the ability to use capital budget items from one project to serve the other. For example, a single core switch could serve both regions. Should we be awarded both projects, we stand ready to adjust the budgets for both in order to take advantage of the overlapping components. InLine does recognize that, despite the fact that Mississippi did not receive any BTOP funding during Round 1, there may not be enough available resources for all the worthy projects submitted to the NTIA. Consequently, either of our projects is fully capable of standing on its own with no dependencies on the other. These projects also have no dependencies on other submitted applications.

**Individual Background Screening**

Is the Applicant exempt from the Department of Commerce requirements regarding individual background screening in connection with any award resulting from this Application?

- No, Applicant is subject to these requirements

If the answer to the above question is "No," please identify each key individual associated with the Applicant who would be required to complete Form CD-346, "Applicant for Funding Assistance," in connection with any award resulting from this Application:

<b>Name</b>	<b>Title</b>	<b>Employer</b>
Martin Costa	President and CEO	Contact Network Inc d/b/a InLine
Bryan Gilliom	Chief Technical Officer	Contact Network Inc d/b/a InLine
Ernie Prichard	Lead Systems Architect	Contact Network Inc d/b/a InLine
Michele Boner	Accounting Manager and CLEC Administrator	Contact Network Inc d/b/a InLine



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## B. Executive Summary, Project Purpose and Benefits

### Essay Question

#### **Executive Summary of the proposed project:**

InLine appreciates the opportunity to present a proposal to deliver fiber based broadband services and infrastructure to dramatically expand the opportunities for educational excellence, public safety, job growth, and economic development in the underserved areas of southern and central Mississippi. We share the FCC's perspective that universal access to broadband Internet is as critical to the future of a community as telephone service, or electric service was to previous generations. InLine believes that due to the severely depressed and historically overlooked nature of this region, containing one of the highest percentages of minorities in the country, it is imperative that investments be made to improve the viability of this region if the cycle of poverty and inequality is to be broken.

InLine's will demonstrate that our proposal comprehensively meets 6 of the 7 CCI priorities for middle mile infrastructure. By designing our network with 157 K-12 schools and community colleges as the anchor sites of our network within the service region and constructing our own new fiber, we provide new facilities and 12+ strands of dark fiber connectivity into those communities. This will dramatically expand the bandwidth available to last mile providers over simply leasing existing fiber or using lit fiber services from incumbent carriers. Perhaps more importantly, tying K-12 schools into this infrastructure can provide significant benefits to tens of thousands of students in a state that consistently ranks 45th or worse on most educational metrics.

This network will serve one of the most economically distressed regions of what the U.S. Census Bureau has characterized as the poorest state in the nation. In an economically challenged area such as Mississippi, long-term investments in infrastructure are critical but the return on those investments can take decades to be realized. To date, this has prevented the private sector from building out the infrastructure this region so desperately needs. The cities and towns InLine has proposed to serve have few incentives to offer new industrial development or to retain existing



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jobs. This infrastructure can breathe new life into the economic development efforts of a region that desperately needs it. At a time when manufacturing is increasingly locating in the Deep South, but only where the required infrastructure is present, broadband access is one of the key factors in creating jobs and economic prosperity.

Through our partnerships with SCMCEED, MDOT, and others, we establish public-private partnerships that enable those entities to deliver services they would otherwise be unable to deliver today. From distance learning that expands educational opportunity to intelligent traffic systems that save lives and make our roads more efficient, this project will dramatically change the region through these cooperative efforts.

InLine's project has the support of several community colleges who have already demonstrated their confidence in InLine with successful past projects. InLine will provide much needed new bandwidth to both these facilities and the communities they serve. This is why our project has letters of support not only from these entities, but also from the South Central Mississippi Consortium for Educational Excellence and Development associated with the University of Southern Mississippi and representing 31 districts.

The proposed network will have a broad public safety impact, from connecting local first responders to the deployment of supporting infrastructure for ITS in support of MDOT. We have committed to providing both special pricing for connectivity for these local government entities as well as special provisions for inter-entity connectivity to support applications such as remote video surveillance and fire monitoring. While not a direct part of this grant, InLine has already begun discussing using this network to bring to the region its proven experience with mobile wireless data for first responders from projects such as ITS America's 2008 "Best of Show in ITS Innovation" award ITS project on the Highway 90 corridor in coastal Mississippi.

InLine's commitment to dark fiber availability, number of POI, and our policies regarding splice points have already gleaned the support of several entities to provide last mile service using the proposed network.

InLine's proposed network is made up of a broad service area extending along the I-20 corridor through Mississippi in Leake, Newton, and Lauderdale counties as the northern border, South along I-55 nearly to the Louisiana state line, and east to Jones and Forrest counties. This will provide 635 miles of new fiber covering 16 counties, with an approximate population of 778,000



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and 56,000 businesses. In addition, our network will provide broadband connectivity to 170 K-12 schools and community colleges, 6 hospitals, and 5 public safety agencies, allowing them to improve the functioning of their mission.

Having examined the options for serving this broad rural area, with its limited existing infrastructure, InLine has determined that the first priority for the region is the development of a core infrastructure of multi-gigabit fiber arteries and laterals interconnecting critical facilities within the communities. This fiber infrastructure will create 228 potential POI, enabling our last-mile partners to provide access to unserved portions of the area and improve access to underserved areas as well. We will initially deploy 4 GBps backbone links but with only changes in the electronics we will be able to scale this to 400 GBps today and even more as technology advances. This validates one of the key values to building our own fiber infrastructure.

InLine will provide multiple service tiers across the network with access speeds ranging from 10 to 1000 MBps. Because of InLine's extensive datacenter and managed services experience, we intend to offer a wide variety of value added services over the network on a single bill and contract period. These services include such items as managed e-mail with anti-spam, web hosting, cloud desktop and server services, managed backup and disaster recovery, and technology management services. InLine has extensive experience deploying video over IP technologies as one of the largest providers of distance learning in Alabama and Mississippi for the last 5 years. We will assist public sector clients to use the network to deliver services such as distance learning, video arraignment, telemedicine, live web streaming and many others.

InLine's network will be designed to provide for interconnection with competitive providers. The proposed network is designed in such a way that additional strands of dark fiber will exist and allow potential competitors to buy access to our infrastructure and provide access to last-mile service providers for improved quality and speed of service throughout the region. InLine's network management practices comply fully with the nondiscrimination and network openness obligations as outlined in the Notice of Funding Availability.

InLine has designed its proposed network with an expected construction cost of \$25,906,278, and we project a total subscriber count within 36 months of rollout of 202 K-12 sites, community colleges, and other key community anchor institutions, including local government, public safety



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agencies, and hospitals. The construction of the proposed network is expected to create 91 direct job-years and 194 indirect or induced job years.

InLine is a licensed CLEC and minority-owned small business based in Birmingham, AL with regional offices in Montgomery, AL and Jackson, MS in the PSA. InLine has a facilities based network. Founded in 1992 as a professional services firm, InLine has a 17 year record of growth as the leading Total Solutions Provider (TSP) in Alabama and Mississippi, offering Internet services, information technology products, and end-to-end solutions to small, medium, and large businesses and government agencies.

InLine maintains a presence in over a dozen Central Offices and Co-Location facilities across both states delivering and supporting thousands of voice and data circuits using a variety of broadband technologies. InLine also manages thousands of local and wide area networks for nearly a thousand customers. InLine also maintains interconnection agreements with CLECs and ILECs that let it provide service across the entire region. InLine has constructed multiple wired and wireless networks, with speeds up to 4000 Mbps, using its own middle and last mile infrastructure that cover over 1200 square miles in AL, MS and TN. We believe this experience clearly demonstrates our readiness to deliver this project in a professional and sustainable fashion.

**Project purpose:**

According to the 2009 U. S. Census, Mississippi is the poorest U.S. state, with a \$36,424 median household income. These depressed economic conditions create a poor business case for the development of vital infrastructure services, including broadband Internet. Although broadband is available in the core areas of many towns, the rural areas that surround these towns have remained largely ignored. Therefore, the majority of areas to be passed by the proposed network area qualify as underserved per the NTIA guidelines.

In addition, according to recent FCC 477 data map the estimated residential broadband subscription rates for the area fall mostly between 200 and 400 households per thousand. The same FCC maps show the majority of ZIP codes in the proposed area have three or less providers, including satellite. Based on this it is clear broadband service is lacking. Anecdotal information received in our survey process ranged from complete inaccessibility to poor service with high cost.



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Fast, reliable broadband access is critical to the delivery of education. Equipment purchased with E-rate funds to enhance educational opportunities fails due to insufficient bandwidth. Schools are unable to take advantage of money-saving technologies, costing them money and downtime because the connections between schools are not fast enough. Letters of support included in this proposal document these types of issues.

InLine's proposed network will immediately provide 100 and 1000 MBps broadband access to core community infrastructure entities such as schools, boards of education, community colleges, hospitals, first responders, government, and other community facilities across the region via a network delivered using primarily new fiber, combined with leased fiber backhaul over existing routes where adequate available fiber exists. This will provide high performance, low latency connectivity and internet to these entities at prices as much as 75% below current prices, providing relief to stretched local budgets.

Because InLine will be running [REDACTED] we will immediately make available sizeable dark fiber for wholesale services. InLine already has support from Digital Bridge Communications committing to utilize InLine's middle mile fiber to enable their 4G based last mile network for "nearly every county" included in our proposed service area. In addition, we have included letters of support from several other last mile partners for specific portions of the network. Based on this we are confident that our network will not only directly benefit the Anchor Institutions we will serve, but the region as a whole.

Health care in the 21st century requires fiber broadband's speed and reliability for things like electronic health records. Rural hospitals have become increasingly dependent on technologies like telemedicine to deliver quality patient care in specialized areas. Because our network will provide the bandwidth they desperately need for these applications, we have the support of 6 regional hospitals.

Public safety increasingly requires reliable high speed broadband. Whether it enables IP-based cameras in schools, intersections by police or telemetry and control for ITS systems by MDOT, the infrastructure doesn't exist today. That is why we have support from 4 public safety organizations in the region. In addition, MDOT has provided their support for our network to enable their planned ITS projects.



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Libraries and community colleges must assist our citizens in learning how to take advantage of the digital world. InLine's network will provide expanded broadband to these entities along with the support and value added services they need to meet this mission. We have already proven our ability to help K-12 use technology to expand educational possibilities for children and we look forward to helping these entities do the same. InLine is uniquely positioned to be able to not only provide the connectivity, but unlike most broadband providers, the expertise and equipment to actually use these new capabilities to their fullest. Because of this we have letters of support from 6 libraries and 4 community colleges within our region for our project.

Beyond the direct creation of jobs from the implementation of this network, new broadband facilities in the region will support economic growth and development. A 2005 Commerce Department study found that areas with broadband availability increased more than 6% in housing rents and property values. In addition this study shows the mere presence of broadband services can lead to a 1.2% increase in business growth rate and a 1.4% increase in job growth. Across a region of this size, this will result in sizeable indirect job growth. Access to broadband also brings new jobs into distressed areas such as our service area. For Example in rural southwest Virginia, an area economically depressed by the loss of tobacco, coal mining, and furniture manufacturing jobs, local and regional officials joined forces to fund and deploy a state-of-the-art infrastructure. Two IT giants, CGI and Northrop Grumman, soon thereafter announced that they would locate major operations in the area, creating 733 high-skill, high-wage IT jobs and investing \$30 million in private funds. CGI reported average annual salaries of \$50,000, while Northrop Grumman estimated \$40,000 for its 433 workers - well over the U.S. average annual salary of \$27,111. In addition to the direct economic benefits, major indirect benefits have been observed, such as large new, unsubsidized housing development.

We are confident that our attached letters of support and additional supplemental material clearly demonstrates that we have developed our project design to directly addresses all five of the BTOP statutory purposes, as well as its supplementary goals regarding education and healthcare.

**Recovery Act and Other Governmental Collaboration:**

The project will be used to enhance US Department of Transportation ARRA funds for the Mississippi Department of Transportation (MDOT)'s efforts to expand upon an existing Intelligent Transportation Systems infrastructure. Beginning in 2007, InLine partnered with MDOT to add an Intelligent Transportation System (ITS) to the reconstruction of U.S. Highway 90 following Hurricane Katrina. This system is designed to help improve the vehicular flow in



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this heavily trafficked area and increase public safety in future events. This system has already proven its worth through saved lives and reduced traffic congestion. The current MDOT project [REDACTED] will provide a fiber network and ITS elements along this network for real-time traffic monitoring and management. These ITS elements include, but are not limited to, cameras, DMS traffic advisory signs, vehicle detection radar sensors, remote signal controllers for adaptive signal automation. The proposed network will enable MDOT to begin expanding that network to the balance of the state.

As discussed elsewhere in this application, MDOT and InLine have formed a public-private partnership to expand its existing infrastructure, which includes extensive deployment of fiber and wireless technologies. The proposed network is designed to include routes of interest too MDOT, which will have the strong potential to increase public safety.

The project is also designed to enhance the efficiency of federal and state dollars already expended. With regard to the 169 schools in the area, which serve as the primary anchors of our fiber network, a number of video conferencing systems exist, but are not currently in use due to a lack of bandwidth. Of the total estimated value of \$3,800,000 for all the video conferencing systems in the SCMCEED service area (which is larger than the proposed service area), approximately 75% of the equipment was paid for with federal funds. One hundred fifty-four video conferencing systems were purchased with E-rate funds, with an estimated \$2,000,000 total value. RUS grant funds were used to help purchase approximately 75 systems with an approximate total value of \$1,000,000.

The project will also provide significant telecommunications cost savings to the community and junior colleges in the service area. Mississippi has allocated nearly \$3.2 Million of its ARRA State Financial Stabilization Funds to its ten community colleges for the purpose of hiring additional faculty and covering the costs of utility payments. In addition to lowering the cost of telecommunications services to these institutions, advanced capabilities for distance learning can be used by these community colleges to reduce instructional costs.

These projects support viability of the solutions proposed in our application. In addition, they support InLine’s ability to successfully architect, deploy and provide the on-going support of the infrastructure.

**Fit with BTOP CCI Priorities:**



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- 1) **Deploy middle mile broadband infrastructure to community anchor institutions**  
Our network design incorporates 133 K-12 schools as its key anchors, as well as 9 hospitals throughout the area. Out of a total of 245 potential anchor institutions and school districts contacted, we have gained the support of 178, or 73%.
  
- 2) **Incorporate a public-private partnership**  
InLine has entered into a public-private partnership agreement with the Mississippi Department of Transportation (MDOT) to provide fiber access and other services related to the development and implementation of Intelligent Transportation Systems (ITS) throughout the PFSA. In addition to our partnership with MDOT, we have a long-standing partnership with SCMCEED, a consortium of school districts throughout the proposed service area and headquartered at the University of Southern Mississippi. SCMCEED provides distance learning, professional development, and other key services to K-12 districts throughout the region, and is a key partner in ensuring that the network is sustainable and will be used to its fullest potential. Documentation supporting these partnerships is provided as an attachment to this proposal.
  
- 3) **Deploy middle mile broadband in economically distressed areas**  
The Southern Mississippi region has experienced significant declines in income and employment rates even before the rest of the nation began to feel the full force of the recession, with the American Community Survey reporting declines in the region's per-capita income in excess of 10% between 2000 and 2005. With unemployment rates in excess of 12% in the majority of counties within the PFSA, we feel confident that our proposed network will not only provide direct benefits through creating jobs for network deployment and maintenance, but will also provide the infrastructure necessary for these counties to re-grow their tax bases and attract new businesses and industry.
  
- 4) **Deploy middle mile broadband to community colleges**  
The proposed network will bring fiber connectivity to four community colleges in the region and their multiple campuses. The availability of fast broadband services at this institution will not only enable distance learning and online education opportunities, but will also allow these schools to share library and research resources with other institutions of higher education both within the proposed service area and nationwide.
  
- 5) **Deploy middle mile broadband to public safety entities**



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In partnership with MDOT, the fiber to be implemented for the proposed network will be used to provide Intelligent Transportation Systems for traffic flow management and study throughout the service area. In addition, we have gained the official support of four county EMAs, sheriff's office, and other public safety office within the PFSA, with numerous others expressing verbal support. The proposed network has the potential to provide real-time streaming of security cameras to public safety agencies, improve communications between and coordinate the sharing of data among state, county, and local level public safety agencies. Additionally, the capabilities of the fiber network can be expanded upon in the future to provide mobile wireless coverage, enabling the tracking of public safety vehicles for better fleet management and improved emergency response times.

6) Last Mile Component

We have gained the support of both Digital Bridge and Absocom as potential last mile partners in this project. We have included support letters from these two last mile providers with our application; additionally, we have received verbal support from other last mile providers and several utility companies. The use of this network for last-mile service provision will greatly enhance the quality of access and opportunities for individuals and small businesses throughout the proposed service area while simultaneously reducing the overall cost of bandwidth to providers and the end-users. These enhanced last-mile broadband services can greatly improve equity of access and information for the vulnerable populations within the proposed service area, as well as provide new opportunities for economic development in the region.

7) 30% or more matching

We plan on providing a 21% match based on the initial NOFA. Because of the great costs involved in constructing this network, we feel that a 21% match is justified, as a 30% match would inflate the pricing required for network sustainability to a point where services would no longer be affordable for our anchor institutions.

**Is the applicant seeking a waiver of the Buy American provision pursuant to section x.Q of the NOFA?**

➤ No

**Is the applicant delinquent on any federal debt?**

➤ No

If Yes, justification for delinquency:



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**Are you seeking a waiver of any requirement set forth in the NOFA that is not mandated by statute or applicable law?**

- No

**Is the applicant a current recipient of a grant or loan from RUS?**

- No

## C. Partners

**Are you partnering with any other key institutions, organizations, or other entities for this project?**

- Yes

If YES, key partners are listed below:

Project Role: Other  
Name: Stokes, Mike  
Phone: 6013591454  
Email: mstokes@mdot.state.ms.us  
Address 1: 2567 North West Street  
Address 2: 3rd Floor  
Address 3:  
City: Jackson  
State: Mississippi  
Zip Code: 39215  
Organization: Mississippi Department of Transportation  
Organization Type: State or State Agency  
Small business: No  
Socially and economically disadvantaged small business concern: No

Project Role: Other  
Name: Blackledge, Dewey  
Phone: 6012666901  
Email: dr.blackledge@usm.edu  
Address 1: University of Southern Mississippi  
Address 2: Regional Service Center  
Address 3: 118 College Drive Box 5156  
City: Hattiesburg  
State: Mississippi  
Zip Code: 39401



**Broadband Infrastructure Application  
Submission to NTIA – Broadband Technology Opportunities Program**

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Organization: South Central Mississippi Consortium for Educational Excellence and Development  
Organization Type: State or State Agency  
Small business: No  
Socially and economically disadvantaged small business concern: No

**Description of the involvement of the partners listed above in the project.**

InLine has developed a partnership with the South Central Mississippi Consortium for Educational Excellence and Development (SCMCEED), housed at the University of Southern Mississippi, in order to improve and expand the reach of distance learning in the region. These programs provide distance learning courses to K-12 schools throughout the state on a daily basis from its studios. SCMCEED currently has 229 videoconferencing with a total value of approximately \$3.8 Million throughout its member school districts, and has purchased an MCU through the E-rate program in order to allow districts to make calls and conduct classes from district to district. However, the member districts do not have adequate bandwidth to do video conferencing along with their other applications, so the equipment many worked so hard to get is underutilized.

SCMCEED has committed to be one of our key partners for this network because they want to expand the reach of their programs, and they know if the schools had 1000Mbps instead of 1Mbps connectivity that more schools would be able to participate, as leveraging these resources is vital in these remote areas. Even though we have been doing business in this community for over five years, it remains difficult for school superintendents to have confidence in providers other than AT&T. This key partner has introduced our project to the school districts throughout the region and has been instrumental in garnering support from these districts. SCMCEED has agreed to remain involved in the project in order to bring its member districts online, and InLine currently holds a blanket contract with the organization that allows its member districts to purchase services from InLine without the need for an RFP.

The schools will end up being our most important partners because they are our largest anchor institution set and because they house a large portion of the population in these communities. The area has one of the highest rates of students receiving free or reduced lunch in the nation, thus most districts are eligible for 90% subsidies through the SLC E-rate program. We received such significant support, because the schools understand they need more broadband to bring in programs like the one SCMCEED has created, and because they understand that they can't



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attract highly educated teachers to teach special needs or gifted children. The schools will also allow us to have numerous points of interconnection and reduce the overall cost of access to other Anchor institutions in the proposed service area. By running the fiber to the schools we can afford to provide fiber access to hospitals, public safety, higher education institutions, libraries, and other critical community facilities. Thus, the K-12 schools represent our most important partnerships.

We also have a strong partnership with the Mississippi Department of Transportation (MDOT) for the development of Intelligent Transportation Systems throughout the proposed service area. MDOT has key needs in order to adequately implement its ITS infrastructure that cannot be served by the existing fiber in the region. Even if dark fiber were available, it would have only served a small portion of MDOT's ITS needs, as ITS requires splice points at every major intersection in order to connect sensors such as radar, cameras, and remote signal controllers. MDOT has engaged in several ITS projects but lacks the funding to complete their mission, and sees an opportunity to gain fiber access at cents on the dollar. We have developed an understanding that they would lease the fiber for 10 years before assuming ownership, but that InLine would continue to maintain the infrastructure. We have developed a plan that has fiber for both entities along the most desired routes.

In addition to these public-private partnerships, we have gained official letters of support from three last Mile providers: Absocom, DSL by Air, and Digital Bridge. Each of these providers understand that they will need affordable reliable fiber to allow their business to grow and services to expand. We have created an attractive wholesale pricing scheme which will reduce the overall cost and improve the quality of last mile in the region, and have received verbal support from a number of other last mile providers.

## **D. Congressional Districts**

### **Applicant Headquarters**

- Alabama

### **Project Service States**

Mississippi



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**Project Service Areas**

Mississippi - 2

Mississippi - 3

Mississippi - 4

**Will any portion of your proposed project serve federally recognized tribal entities?**

- Yes

**Indicate each federally recognized tribal entity your proposed project will serve.**

Mississippi Band of Choctaw Indians

**Have you consulted with each of the federally recognized tribal entities identified above?**

- Yes

## **E. Service Area Details**

**Is the applicant seeking a waiver for providing less than 100% coverage of a service area?**

- No

### **Project Details**

**Service Area Type:** Middle Mile  
**Service Area Name:** Southern Mississippi  
**Rural Classification of the Last Mile Service Area:** Non-Rural  
**Service Status of the Last Mile Service Area:** Underserved



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**If Service Status is "Underserved" please select at least one applicable option from this list.**  
The rate of broadband subscribership for the proposed funded service area is 40% of households or less.

**Total Square Miles in Service Area:** 8,668  
**Total Population in Proposed Service Area:** 777,513  
**Total Number of Households in Service Area:** 284,765  
**Total Number of Businesses in Service Area:** 56,078  
**Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area:** 285  
**Unemployment Rate in the Service Area:** 11  
**Median Income in the Service Area:** 34,642  
**Estimated Percentage of Households with Access to Broadband:** 60  
**Estimated Percentage of Households Subscribing to Broadband:** 35

## F. Community Anchor Summary

Community Anchor Summary	
<b>Schools (k-12)</b>	168
<b>Libraries</b>	6
<b>Medical and Healthcare Providers</b>	6
<b>Public Safety Entities</b>	5
<b>Community Colleges</b>	2
<b>Public Housing</b>	0
<b>Other Institutions of Higher Education</b>	1
<b>Other Community Support Organization</b>	7
<b>Other Government Facilities</b>	7
<b>TOTAL COMMUNITY</b>	<b>202</b>



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<b>ANCHOR INSTITUTIONS</b>	
<b>Historically Black colleges and Universities</b>	0
<b>Tribal Colleges and Universities</b>	0
<b>Alaska Native Serving Institutions</b>	0
<b>Hispanic Serving Institutions</b>	0
<b>Native Hawaiian Serving Institutions</b>	0
<b>TOTAL MINORITY SERVING INSTITUTIONS</b>	<b>0</b>

## G. Project Benefits

### Demographics

<b>Jobs</b>	
<b>How many direct jobs-years will be created from this project?</b>	91
<b>How many indirect jobs will be created from this project?</b>	91
<b>How many jobs will be induced from this project?</b>	103

**Methodology used to estimate jobs:**

All job-years estimates have been calculated using the methodology provided by the NTIA during the Round 1 Due Diligence and Round 2 guidance, as suggested by the Council of Economic Advisors.

**Project Impact:**

**K-12 Schools and Community Colleges:**

Students today deserve the same quality instruction regardless of where they live. The K-12 schools throughout the region need the bandwidth to be able to provide distance learning. Because students in economically depressed areas of the country typically receive instruction from less sophisticated, inexperienced instructors, distance learning is a vital tool that can greatly



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enhance the quality of instruction. The provision of broadband services allows the 130 K-12 schools and 4 community colleges in the proposed service area to bring that educational quality to their communities. Videoconferencing can provide core, advanced level, and elective courses at all levels of learning. Broadband services and videoconferencing will enable students and instructors to visit the Smithsonian, NASA, and other locations across the globe on any day they wish through virtual field trips. Teachers can also receive professional development training from the nation's best instructors without ever leaving their school. Most importantly, teachers will be using content that will appeal to their students, ultimately improving student learning and performance.

Broadband will allow students in this coverage area to have be taught be some of the country's best instructors, be they at the Smithsonian, MIT, or even just a few counties away. The South Central Mississippi Consortium for Educational Excellence and Development (SCMCEED) joined InLine as partners to develop this application. SCMCEED has a strong desire to teach both core and elective courses through distance learning to rural schools throughout Mississippi. Unfortunately, many of these school districts lack the resources to obtain the necessary equipment or bandwidth required for such endeavors.

Community colleges and other institutions of higher education similarly require high-capacity bandwidth services in order to provide online coursework and job skills training. Looking beyond the basic needs for distance learning opportunities, broadband access at community colleges can give students at these institutions access to the same online academic research tools as students at 4-year colleges. Access to academic journal indexing services such as JSTOR and EBSCO can aid faculty in better developing both their own research agendas as well as those of their students. Such bandwidth can also encourage collaboration among faculty and students at universities throughout the state and the nation, providing students an opportunity to engage in scientific research activities no matter where they are located.

**Public Safety, MDOT, and ITS:**

MDOT intends to utilize the network to monitor traffic, increase traffic flow, and to plan for future traffic. Intelligent Transportation Systems consist of cameras, radar, remote light sensors, and other sensors to achieve these goals, but they need broadband to be useful. We have partnered with MDOT to make this network more useful and sustainable. A 2008 report from the U.S. Department of Transportation indicates that ITS has been proven to be effective in reducing congestion and improve travel times along main highways, in reducing the frequency of truck



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rollovers and crashes, improving traffic flow around work zones, and enhancing the efficiency of evacuation and emergency routes. MDOT plans on connecting intersections on the highways in our coverage area so they can conduct evacuations during severe weather events, monitor commercial traffic, redirect traffic following accidents, and help local traffic to become more efficient and minimize the need for lane expansion, which becomes more and more complex as rights of way are exhausted.

The proposed network also has the potential to provide real-time streaming of security cameras to public safety agencies, improve communications between and coordinate the sharing of data among state, county, and local level public safety agencies. Additionally, the capabilities of the fiber network can be expanded upon in the future to provide mobile wireless coverage, enabling the tracking of public safety vehicles for better fleet management and improved emergency response times.

**Hospitals and Healthcare:**

Broadband Internet services can improve the overall health of a region by delivering an extensive library of scientific healthcare-related resources that are easily accessed and understood. Both caregivers and patients report utilizing the Internet for healthcare and fitness information. According to an April 2009 study by the Pew Research Center's Internet and American Life Project, greater than 60% of e-patients say they or someone they know have been helped by following medical advice or health information found online, a significant increase from a similar study conducted in 2006.

We must learn to more efficiently treat our population. Today, the cost of medicine is simply too high. Beyond simply providing information to patients and physicians, this broadband network will enable the coordination of health care services among hospitals and independent health care clinics throughout the region. All too often, patient care suffers due to a lack of communication among health care providers. Layered radiology files consist of huge data, and today our rural hospitals don't have the necessary bandwidth to transfer this data to other hospitals that might have the human assets to save lives. The availability of broadband will facilitate the sharing of large imaging files and other test results. Medical records and efficient billing system both require bandwidth as well, which this project will be able to provide. These needs are well documented in the letters of support received from the hospitals included in our planned anchor institutions. Our project will provide gigabit connectivity to every hospital on our fiber route.



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**Businesses and Residents:**

The proposed network will also provide the infrastructure necessary for these counties to re-grow their tax bases and attract new businesses and industry. Beyond the direct creation of jobs from the implementation of this network, the presence of broadband facilities in the region will assist in its continued economic growth and development. The availability of fiber in the area is expected to greatly increase opportunities for future business development, as evidenced by the research literature. Studies based in Iowa, Florida, and Ontario indicate that regions with access to fiber infrastructure experience significantly improved commercial and industrial development as compared to areas without such an infrastructure.

Beyond the core middle-mile infrastructure, the proposed network will also enhance the capabilities of last mile service providers in the proposed service area. We learned how important fiber access is to last mile providers when we partnered with Demopolis Cable to provide broadband to the residents of Demopolis. Prior to this upgrade, Demopolis Cable was only able to provide 256k access to subscribers; they now are able to offer residential and business clients with speeds of up to 10Mbps. This greatly enhances the quality of access and opportunities for individuals in the area, and we envision similar improvements for residents of the proposed service area.

The availability of higher broadband speeds for small businesses and residents can also make the area more attractive for potential residential growth; a 2005 Department of Commerce study found that areas with broadband availability experienced an increase of more than six percent in housing rents and property values. As broadband availability has become the norm since that time, its absence can be expected to have a significantly negative effect on home values. Through our partnerships with Digital Bridge, the Mississippi Technology Alliance, and Absocom, we believe that the availability of quality high speed services for residents and small businesses can have a significant positive impact on local economies and overall quality of life.

**Public Utilities:**

We have a history of working with a number of public utilities that have used broadband in a variety of applications. The city of Murfreesboro has use the system we designed and installed to monitor water treatment plants to make sure water does not rise and put polluted water into communities' drinking water or streams. Columbus Light and Water is using our fiber that was put in place to connect the schools to deploy smart grid technologies, which will extend the life of their power plants. We all know that we must reduce power consumption, and are beginning



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to understand that understanding how and where power is used is the foundation to extending limited natural resources, as power is extremely difficult to store for future use. Our fiber backbone will provide the utility companies in this area a way to build these systems with less investment.

**Vulnerable Populations:**

According to the 2007 estimates by the U. S. Census Bureau, Mississippi is the poorest of the U.S. states, with a median household income of only \$35,632 – less than  $\frac{3}{4}$  the national rate. The unemployment rate for the targeted area is approximately 11%, with three counties having unemployment in excess of 14%. The proposed service area also has a high concentration of African-Americans, with an estimated 43% of residents in the 16 county region, compared to 36% of the total state population, and 12% of the total national population according to the 2000 Census. This is important to note because African Americans hold the highest rate of poverty, with 34.9 percent of the population in 2000 living in poverty. A lack of access to vital services such as education and creates a distinct disadvantage that reduces overall opportunities for economic development in areas with high concentrations of people of color.

A recent study from the Center for Social Inclusion notes that in Mississippi, communities with the highest concentrations of people of color had the lowest rates of broadband access. Further, the study indicates that areas with the poorest access to broadband services had dramatically fewer businesses and jobs. Geographic maps of broadband availability and racial makeup are provided in the supplemental information attachment.

The region faces a number of significant economic challenges including declining income levels and inequality. Even before the effects of the current recession began to take hold, income in Southern Mississippi has declined; the 2005 American Community Survey indicated a 10% decline in household incomes from 2000 levels. 2008 estimates from the ACS also assign Gini index values to a number of counties in the region; the 10 counties for which this data was available have an average index value of 0.469, indicating greater inequality and disparity in incomes than the United Nation’s estimate of .408 nationwide. The impacts of this inequality and worsening economic conditions are magnified considering that Mississippi already ranked 50th in per capita income among states in the United States at the 2000 census.

This lack of per capita income affects the educational system of these small rural school districts through a reduced local tax base to support schools. In addition, the decline in the number of students in these small rural districts result in less state educational dollars to hire teachers and



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meet the needs of the students. Further, there is a lack of industry and corporate dollars in these communities to provide additional support to these educational systems. This lack of financial resources leaves these rural school districts unable to attract and retain teachers that are certified in specific subject areas. New technology is cost prohibitive to these schools, who are struggling to pay for the basic infrastructure needs of operating a school.

**Level of Need:**

InLine believes that the necessity of spending taxpayer money on building this infrastructure as a unified network is justified because the area is mostly served by copper. We deliberately selected this area because of our experience with K-12 school districts in the area. The fiber that does exist is backbone fiber that simply passes through the communities to serve as long-haul connections between major metropolitan areas for telco providers and cellular companies. Students and citizens in these markets lack the access to broadband services at the speeds required to enable today's applications, much less those emerging in major markets. We selected to design our network around the schools because their employees and students make up over 30% of the population in these population-sparse areas. Once we determine that the schools need Internet services, we bring the community together by connecting the community college to help teach more sophisticated lessons via distance learning, connecting the police stations so they can more effectively serve the community and efficiently monitor schools and other high target areas for vandalism and terrorist attacks. We connect the hospitals to bring telemedicine to the community, because these areas can't attract the talent needed to provide the latest and best medical procedures. We connect the libraries so they can be connected to better research databases and to better connect them to the communities they. We also connect commercial businesses in order to make the community become more economically stable and attract new industry.

We realize that this cannot happen with copper-based technology, such as DSL or T1 lines, with end-user speeds ranging from 256K to 3Mbps. If a schools houses as few as 100 students, then copper-based solution make most of this technology useless. Few individuals have the patience to use internet technologies at speeds of 10Kbps or even 100Kbps, which is what end users would experience if only 10% of students attempt to use a connection at the same time. Thus they simply revert back to paper and pen, which will not advance the community or its educational outcomes.

We selected these communities because of the current state of the broadband. Telepak and Norlight have fiber between several of the cities in our proposed service area, but they don't



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have middle mile connection to Anchor institutions. [REDACTED]

[REDACTED] We are proposing to provide connections at speeds up to 1Gbps to each anchor institution so that this region can catch up to rest of the world in terms of connectivity. We feel strongly if we are going to invest our children's money then we should invest in technologies that will serve our communities for 20 years or more. Fiber can provide that life span, and today it cost about the same to light fiber at 1000Mbp vs. 10Mbps or 100Mbps in networks built from the ground up.

Build the network from ground up provides tremendous advantages, including attracting the largest state agency, the Mississippi Department of Transportation. MDOT builds all of the state's the roads and bridges, and so they clearly understand that paving more lanes is only a short term solution. As such, they have begun to invest heavily into Intelligent Traffic Systems (ITS). ITS allows more traffic through the same lanes, and saves lives by enabling hurricane evacuation systems, detecting spills and accidents, and improving overall highway safety.

We were able to attract this key partner because of the work we have previously done under contract for them building an national award winning network on the coast after Hurricane Katrina. We approached MDOT to form a private/public partnership, and were thrilled when we learned that they had been discussing such a partnership as well as expanding their ITS infrastructure on Highway 49. After some significant discussions, we realized that we could make our project sustainable by adding revenue from a needed ITS project on highways that run north and south for Hurricane evacuation systems, traffic and commerce monitoring from the cities in the south to Jackson. We now had a way to make our project sustainable, as providing high speed access to cities in rural Mississippi is difficult, which is why other carriers have not build fiber infrastructure in the area. MDOT takes the perspective that leasing fiber over a long term is a waste of taxpayer funds, and therefore they eventually want to own the fiber. They had already been turned down by other carriers to provide dark fiber, and we have supplied documentation to that extent our supplement from all three of the major carriers in this area. Even if dark fiber were available, it would have only served a small portion of MDOT's ITS needs, as ITS requires splice points at every major intersection in order to connect sensors such as radar, cameras, and remote signal controllers. MDOT has engaged in several ITS projects but lacks the funding to complete their mission, and see an opportunity to gain fiber access at cents on the dollar. We have developed an understanding that they would lease the fiber for 10 years



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before assuming ownership, but that InLine would continue to maintain the infrastructure. We have developed a plan that has fiber for both entities along the most desired routes.

We also have had a relationship with SCMEED that allowed us to understand the struggles they face in further developing their distance learning programs because schools did not have enough bandwidth, and the pipes in place were already at capacity solely supporting browsing on the Internet. Even though this entity was able to raise money locally and through grant and other federal funds to purchase expensive hardware, and member school districts were desperate to provide advanced coursework in core areas such as science, math, and even foreign language, most of these programs have not grown. Rural America is the place that needs outside influence and perspectives the most, yet they have the least amount of bandwidth to provide access to that influence. Teachers can't really plan a live field trip or have live discussions with Sea Lab Oceanographer in San Diego, because the videoconferencing experience at current bandwidth speeds would simply aggravate everyone involved because the latency on the network would make the event non-productive. SCMCEED wants to expand these programs, but have learned that without the bandwidth to provide adequate services, it is pointless to purchase more equipment, video materials, or hire teachers.

We have also been able to get support from the community colleges in the proposed service area, because they understand if they had high speed access to the K-12 Schools they could create programs similar to those provided by SCMCEED. Such involvement in K-12 programs would not only provide improved instructional opportunities but would also increase student familiarity with those community colleges, potentially increasing enrollment. More student would then remain in their local communities instead of migrating to universities in larger cities or even other states, improving the overall educational levels of these small communities and providing increased potential for long-term economic development.

The public safety agencies in these cities must continue to mature to create a better community. We all want secure communities, but tax revenue is decreasing, so these agencies are forced to do more with resources that become more and more limited. They need technology to leverage their most important human capital assets – public servants in the police and fire agencies. If these officials could be automatically notified in their police car or station if an when an incident at one of the schools or other community facility, with instant access to live video feeds to better inform them of the situation at hand, the outcomes of such situations could be greatly improved. We have done exactly that in City of Decatur; a case study outlining this project has been



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provided in our supplemental information attachment. We have developed special pricing for public safety agencies because these entities have a relatively small presence in most of the communities in our proposed service area, and because they do not have the assistance of programs such as E-rate to offset monthly costs. We created this pricing model that would allow them to have connections to hospitals, schools, commercial buildings, and other key facilities because we understand their specialized needs. This pricing plan allows them to add connectivity to these anchor institutions for only \$50/month, which could be funded partially or in full by those anchors in exchange for the additional security services they would receive.

We selected the proposed service area because we know the schools are underserved, and MDOT has communicate that they are underserved in the area as well. We know this because we have had a blanket contract to serve the community for over 3 years, and have only been able to close one contract because school districts could not afford the setup costs. Unfortunately, our company is not in a position to waive those costs and remain able to provide a reasonable standard of living to the families of our employees who work so diligently to better those communities.

## H. Technology

### Technology Type

**Indicate the technology that will be used to deliver last mile services. The following items were selected:**

Wireline - Fiber-optic Cable

Other:

### Technology Questions

#### Methodology for Area Status:

The state of Mississippi does not collect or provide data on broadband availability or subscription in the area. Data from existing service providers is minimal, however recently released Form 477 data map from the FCC indicates that estimated residential broadband subscription rates for the proposed service area fall mostly between 200 & 400 households per thousand. Also, the same FCC maps indicate the majority of these ZIP codes average three or less providers. Most often this “less than three” designation on Form 477 data indicates that



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broadband access is available only through satellite. These connections feature unacceptable latency for many applications along with aggressive transfer caps that make them very suboptimal for today’s applications. Based on this we are confident our proposed service area qualifies as underserved with less than 40% of residents estimated to subscribe to broadband services of at least 768Kbps downstream supported by the FCC data.

Additionally, according to our competitive research, middle-mile access via fiber is not available across the majority of our proposed service area. Maps of available fiber have been provided in the supplemental attachment to this proposal and indicate that the access is severely lacking. Based on this fiber presently available in the area, facilities are not adequate to provide last-mile services to the populations of these areas. We have included documentation from AT&T, ITC Deltacom, Telepak, and Norlight that these companies do not lease dark fiber, which would be necessary to provide adequate last-mile service to the proposed service area for any new service provider.

In addition, when selecting our proposed service area, we conducted a survey of potential anchor institutions across the state. This survey collected data on each institution’s current bandwidth & pricing, their interest in using the network, along with the locations of all buildings requiring connectivity. After evaluating the data collected, we planned fiber routes that would directly connect as many institutions in need of greater bandwidth or more affordable pricing as possible.

**Description of Network Openness:**

InLine is a unique carrier because it has grown by using the infrastructure and networks of all the major carriers as well as building our own. We currently utilize fiber connections from Southern Company, Level 3, Cogent, AT&T, Frontier, MDOT, ALDOT, CenturyTel, IFN, ITC DeltaCom, and other companies as part of our network. We have good relationships with these vendors and plan on marketing to them and others to provide network interconnections. In addition our business plan calls for providing wholesale services and dark fiber in our network to regional and local service providers to service the residential and small business markets in our service area. We plan on providing 228 potential POIs in our network to allow interconnection with current and future fiber networks.

InLine monitors network utilization throughout our network, as well as traffic to other autonomous networks on the public Internet. We use these metrics to determine if additional network resources are needed to provide our customers with effective Internet access. These



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metrics are not utilized in any way to filter or manipulate network traffic, nor are they used to prioritize services to customers based on type of traffic. During times of extremely high network traffic, application-neutral techniques may be utilized to ensure minimum advertised speeds to all clients.

InLine’s network management practices prevent the manipulation of customer traffic based on source or destination IP address, type of content, or application involved. Exceptions of the policy can be made under certain conditions. These conditions include violations of the network terms of service, causing harm to other networks, legal issues, and customer request. In the event service is disrupted for any reason, customers are notified in accordance to their Service Level Agreement.

InLine’s network complies with IEEE 802.11 and 802.16 standards, and does not require customers to use certain brands or models of customer premise equipment when connecting to the network. We implement open standard based services, so customers have a broad range of choices when using services hosted by InLine.

InLine already offers managed services to customers to help with maintaining their computers and networks, some of which can be utilized to reduce access to and mitigate the effects harmful content on the Internet. Customers that subscribe to managed services benefit from Antivirus software, patch management, and internet content filtering. These solutions are provided on the client side only and are strictly optional.

**System Design:**

InLine has been providing technology agnostic networks utilizing both wireline and wireless technologies for over 15 years. We are very experienced with the deployment and management of carrier grade systems that enable high capacity backhaul and middle-mile connections, as well as last-mile connections for end users. These technologies include, but are not limited to, fiber optics, Metro-E, DS3, E1/T1, DSL, Wireless Broadband, and Mobile Broadband access systems.

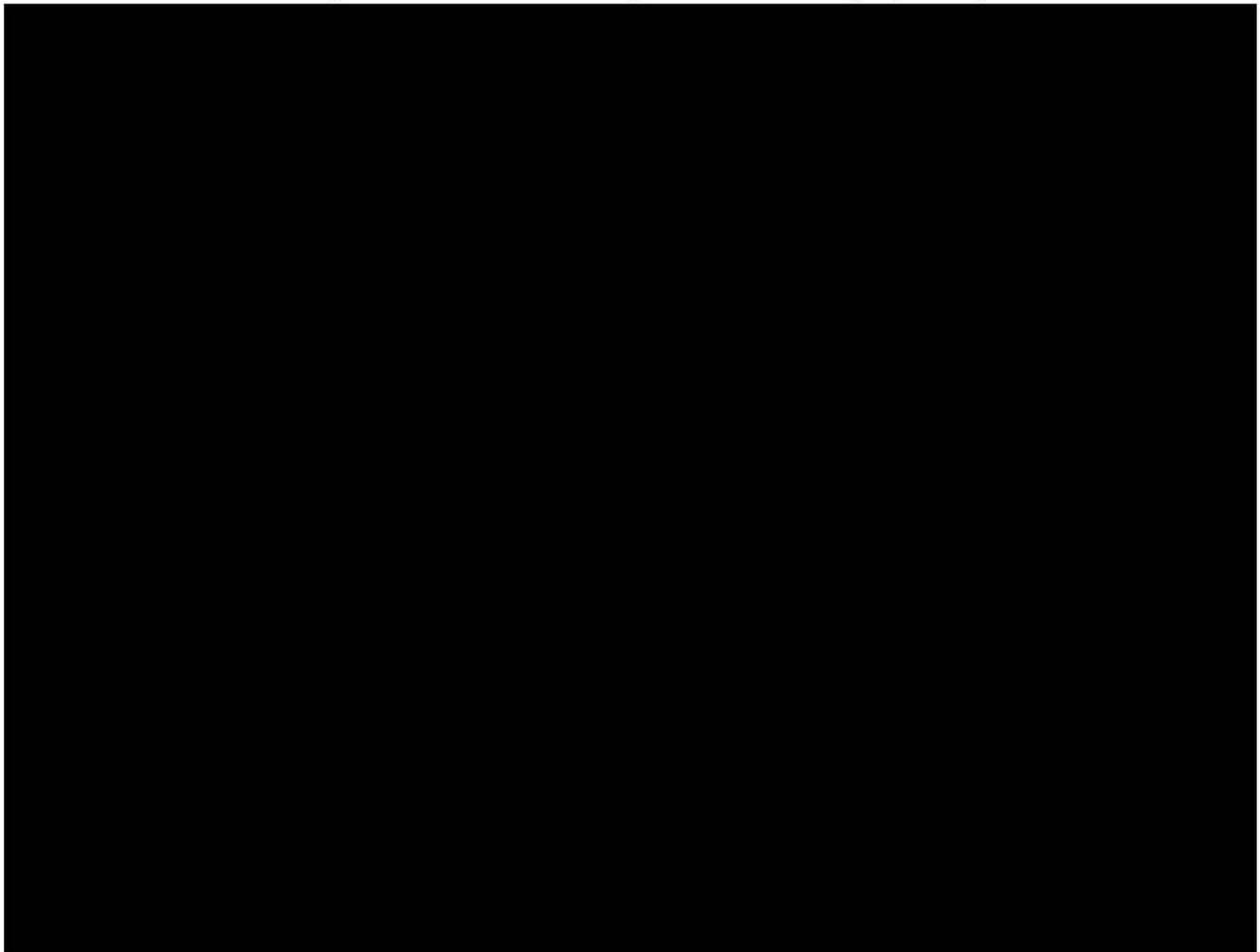
Our design incorporates middle mile fiber optic networks that deliver network connections between 10-10,000 Mbps. Fiber enables us to meet the extremely high bandwidth requirements of institutional users as well as our own demanding backhaul requirements. Fiber also enables us to provide a greater range of wholesale services for other carriers who require last and middle-mile connections within this region at a highly competitive rate.



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Because it is impossible to predict the ideal equipment to use 12-24 months out in the dynamic world of broadband technology we will instead outline the basic types of equipment we propose to use and will decide on specific models and configurations as the deployment phase is reached.



Each county will have at least one POP or Interconnection point placed at a strategic location within the community. The POP will be the core of the network in each county, providing network ingress, egress and fiber plant access, to our customers and other carriers that utilize the



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fiber backbone. Each POP will consist of a hardened concrete building with backup power and power generation capability. The concrete huts give us the ability to provide secure core network services with reduced impact on the environment and community.

The key network component for a project that enables connectivity to the Internet backbone is the infrastructure medium itself. Electronics can be easily upgraded, but the medium itself is very expensive and time consuming to replace. We have selected multi-strand fiber optics due to its 20 to 30 year life, which we think is vital if we are spending taxpayer's money in a wise fashion. The current network is being constructed with quad strand gigabit backbones for 4 GBps total bandwidth and 1 GBps lateral connections. We believe it would be irresponsible to ask for taxpayer money to deliver radically more backhaul than is required today.

Current innovations in fiber transport will ensure the sustainability and investment in the fiber network. Standards based 10Gbps fiber network is currently widely accepted by service providers, and service modules, or 10Gbps CPE is available [REDACTED]. Furthermore technologies such as coarse wavelength-division multiplexing (CWDM) and gigabit passive optical networking (GPON) will allow us to leverage the deployed fiber plant to higher capacity, and into emerging broadband opportunities in business and residential markets. CWDM will allow us to multiplex or overlay several different wavelengths on the same fiber pair, which increases capacity, and gives us the ability to use allocated fiber runs to create additional mesh and redundancy. GPON offers the ability to offer additional subscribers network access with fewer fiber strands and network resources. Simply changing to a wavelength multiplexing based solution could easily expand the backbone links to 160 GBps over the same strands. Verizon has recently announced they have completed testing of 100 GBps equipment in production and are scheduling it for rollout in 2010. Using this type of equipment we could scale to 400 GBps and utilizing extra strands we will have in place could even exceed 1TBps with technology available today. Over the 20-30 year life of the fiber plant we are certain even more speed will become possible.

**Is the applicant seeking a waiver pursuant to section IX.C of the NOFA so as to sell or lease portions of the award-funded broadband facilities during their life?**

No



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## I. Project Budget

Project Budget		
	Federal Grant Request	Match
Last Mile	0	0
Middle Mile	20,725,023	5,560,054
<b>Total</b>	<b>20,725,023</b>	<b>5,560,054</b>

**Project Budget Total:** \$26,285,077

**Match Percent:** 21.2%

**Projects Outside Recommended Funding Range:**



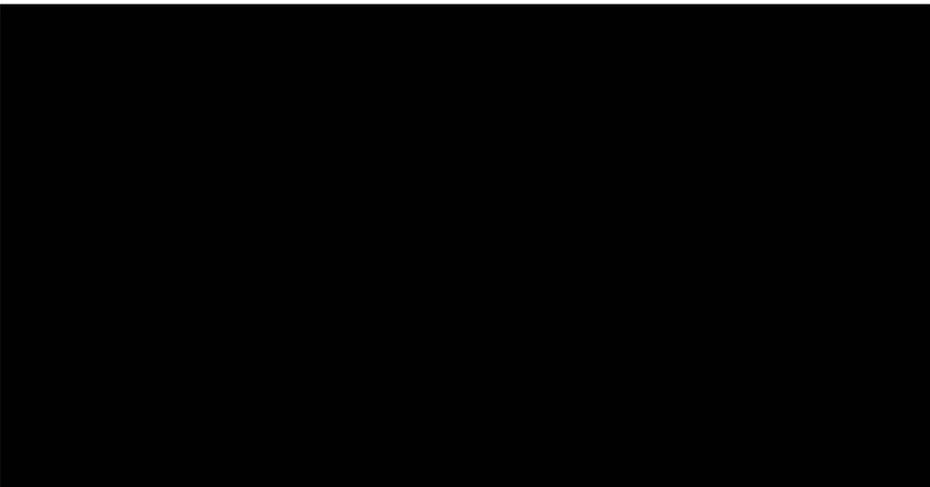
Outside Leverage	
<b>Applicant is providing matching funds of at least 20% towards the total eligible project costs?</b>	Yes
<b>Matching cost detail</b>	<p>Founded in 1993, InLine Connections Inc., is an employee owned corporation with nearly two decades of consistent growth and financial stability. We have taken most of our profits and reinvested them as an engine to grow the corporation and thus build enough momentum to properly position InLine to take advantage of an opportunity such as BTOP.</p> <p>Although we are generally self funded/vendor funded, we have maintained a close business relationship with Regions Bank since the early 1990's and have existing credit lines at our disposal. Regions was recently named one of the top 3 Small Business Lending institutions by the Small Business Association and has Tier 1 Capital of \$6.5 Billion in excess of "well capitalized" minimums. Having</p>



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credit lines with such highly regarded institutions should speak highly of our financial discipline, historical execution and integrity.



As a graduate company of the University of Alabama Business Incubator program in 1993, InLine was among the first in our area to become involved with the early movements of the public internet. We became one of the first internet service providers in our area in 1994 and filed for a CLEC license in 2002. We have achieved a steady growth curve in that particular segment of our financials due to a disciplined approach to seek out a profitable business focused model , while so many of our competitors have bankrupted in the speculation model.

InLine has an established track record of delivering both simple and complex communications networks in the local area, metro area and wide area networking arena. We have been providing innovative technology solutions including fiber based networks for; k-12 education clients, hospitals, public safety, cities, and the State of Mississippi since the mid 1990's. We have developed the systems and financial portfolio necessary to design and build networks of this size and have refined those systems over the past 15 plus years of



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	consistent performance.
<b>Unjust enrichment</b>	InLine is not currently receiving any federal funding for the deployment of networks in the proposed service area.
<b>Disclosure of federal and/or state funding sources</b>	<p>InLine is a CLEC (Competitive Local Exchange Carrier) licensed by the Mississippi Public Service Commission, and was granted that status in 2002. We have also been applying to the E-Rate program under the FCC’s Universal Service Fund for over ten years, and have good standing with the Schools and Libraries Commission. While our project will not directly integrate Universal Service Funds for the purpose of building out the network, we intend to work in conjunction with school districts and libraries in order to provide services through the E-Rate program, helping to ensure the long-term connectivity of these vital anchor institutions on the network.</p> <p>We also anticipate receiving revenues, though not direct build-out funding, through the lease of fiber to the Mississippi Department of Transportation (MDOT). MDOT intends to use the network to expand upon its existing infrastructure and deploy Intelligent Transportation Systems throughout the proposed service area. Part of the funding for these leases will come from both state and federal programs. We also intend to allow MDOT to purchase these assets at the end of a ten-year lease term, further reducing the long-term costs to state and federal agencies.</p> <p>The network will also enable SCMCEED to leverage its existing videoconferencing equipment, which was initially paid for through federal grants and E-rate funds. The proposed network will enable that equipment to be far more useful to educators due to the needed bandwidth this program will provide.</p> <p>We also intend to further leverage current and create new partnerships with other state agencies for the purposes of promoting network utilization. These agencies may choose to utilize funding from Universal Service or other special funds; however, those funding mechanisms are not included in the design of our project or its budget.</p>



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<b>Budget reasonableness</b>	<p>InLine understands how to build networks in a cost effective manner, so we have designed a lean but effective budget to implement this project. InLine is an employee-owned company that uses retained earnings to fund its work. Because of that, we have a long history of coming in under budget, as well as winning bids due to price and experience. We perform much of our work with our own staff. We have long-term relationships with carefully chosen vendors and sub-contractors, where they are required, that ensure through strict purchasing procedures and policies that our costs do not balloon out of control through neglect or sloppiness.</p> <p>InLine has been profitable every year of its existence because we understand the value of a dollar and how to operate efficiently. This is a track record few of our peers in Telecom or Internet can match. InLine’s operating expenses have remained significantly lower than our peers on a consistent basis for many years. This allowed us to stay profitable and grow during the internet bubble of 2002 and has kept us healthy in the most recent economic downturn.</p> <p>The majority of our unit prices are well below industry average due to our knowledge of networking components and our extensive experience [REDACTED]</p> <p>We also will experience significant cost savings through running 80%+ of our fiber aerially. The cost of buried fiber is about 2.5x higher, so underground fiber will only be used where it is most necessary. We have assigned our most experienced construction manager to efficiently manage labor and materials. We have selected to splice our own fiber, providing us the knowledge to repair future outages quickly and at a lower overall cost. [REDACTED]</p>
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	<p>We have designed a system that is simple to deploy and that is built with only the complexity required to deliver cost effective and reliable broadband communications in rural areas. Cable Management, Routing Equipment, Power Protection equipment and other infrastructure elements are all being deployed with remote management and monitoring in place to reduce ongoing maintenance expenses.</p> <p>We also intend to leverage our existing billing and support systems. We will only be adding new user licenses to a very expensive existing setup, leading to savings of up to 90% of the cost of acquiring a new system.</p> <p>It is our belief that these examples, in combination with our strict procurement practices, will ensure budgetary discipline and that expenditures remain at the minimum levels necessary to successfully carry out a project of this scale.</p>
<b>Demonstration of need</b>	<p>InLine, as a privately held company, funds its growth and build-outs through retained earnings. Clearly, in a time when spending on IT infrastructure and communications services is down across all our sectors, our ability to undertake a program of this magnitude at is highly limited without the assistance of outside funding. As demonstrated in the documentation outlining our financial data and projections, while our firm is generally financially healthy, we presently do not have the operational capital to undertake a project of such size.</p> <p>As demonstrated by our financial statements, this project would not be possible without federal assistance. Our “but-for” assessment indicates that in the absence of federal assistance, the project has a Net Present Value of -\$13,183,068. Even with federal funding, the project does not achieve positive NPV at the fifth year following project inception, with a Year 5 NPV of -\$21,021.</p>



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We feel strongly that the best approach to the region’s lack of connectivity is a comprehensive one rather than a piecemeal one, ensuring that the entire region has access to broadband services. No mechanism for the coordination of effort or financing exists between all of the counties and major institutions to be covered by this project. It is also clear that the communities themselves do not have the funding to implement these networks, even with previously existing federal assistance programs. InLine was recently awarded a large scale videoconferencing project through SCMCEED; this project was approved by E-rate, but the adoption of this network has been put on hold due to a lack of adequate access to broadband services at the local level.

The state of Mississippi has not seen widespread or extensive deployment of broadband services, as the private sector has been unable to cost justify development of services. In one of the nation’s poorest regions, vendors are not willing to build out the expensive infrastructure without a guarantee of a strong consumer base. The Internet bubble littered the landscape with failed broadband providers who tried to self-finance the build out of these types of networks. During this time, InLine undertook a conservative, self-financed build out program focused on education with the assistance of the federal E-rate program. This approach has brought the adoption of broadband dependent technologies like Distance Learning and smart classrooms for some of the poorest children in the country. In the same way, we believe this grant will allow us to kick-start the deployment of these kinds of services into a broader base and change the competitive landscape of the region. InLine has built its current stability by not undertaking this type of massive build out on a speculative basis, but we clearly believe that, with the assistance of federal funding, we can demonstrate the same kind of success.

**Funds to States/Territories**



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States	Amount of Federal Grant Request
Mississippi	20,725,023

**Funds to States/Territories Total:** \$20,725,023

## J. Historical Financials

Matching Funds			
	2007	2008	2009
Revenue			
Expenditures			
Net Assets			
Change in Net Assets from Prior Year			
Bond Rating (if applicable)			

## K. Project Readiness

### BTOP Organizational Readiness

InLine already operates a substantial Internet & WAN Provider business. InLine's existing systems have been designed to be scalable to support rapid as well as sustained growth. We have designed, deployed and maintained over \$300 Million worth of technology. We have built, developed and managed networks in Alabama, Mississippi and Tennessee and are ready on day one to address all aspects from planning to build out, from monitoring to technical support and from management to billing.

As one of the first Internet service providers in Alabama, InLine has an 17-year record of excellence in delivering business class network connectivity, along with the skills and systems to ensure superior customer experiences and world class uptime. InLine's billing systems support a modular service model, allowing a mix of services on a single bill. Our billing system already



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supports billing for over 1,000 businesses and K-12 schools, and, with some financial assistance, can easily be scaled to support up to ten times that number with minimal disruption.

InLine has its own multi-tier Network Operations Center (NOC) and Help Desk located in its corporate headquarters. Our expertise earned in years of supporting networks and service delivery, combined with the combined 17 years of experience of its operations management staff, ensure that the highest levels of customer satisfaction, efficiency and time to resolution can be maintained. InLine already performs Service Level Agreement tracking on all service requests, and has the ability to maintain multiple SLA's for different classes of customers or agreements with escalation workflow and monitoring. Our NOC utilizes a multi-layer network monitoring system combining best of breed monitoring tools along with the best of commercial and open-source solutions including not only up/down monitoring but full traffic monitoring

InLine has an experienced management team and structure based on a decentralized business area manager model. Each major area of business has a team leader responsible for the business segment and operations. All these business area managers participate in an executive management team that both advises the C level officers on overall strategy and provides a peer review platform for decision. Business team leaders are selected based on demonstrated business ownership experience in their respective segment. InLine is unique in that nearly 20% of its employees are current or former business owners in the technology arena.

We recognize that this project would require scaling up the company's existing teams. We have identified key personnel who are ready to step into leadership positions as additional implementation staff is brought on board to support the larger network being proposed and to ensure that the quality of implementation is maintained. A list of selected recent major projects and the resumes of these key personnel are provided elsewhere in this application.

**Construction and Vendor Contracts**

InLine normally limits its outsourcing to two areas: installation of physical outdoor fiber and the climbing of towers over 200 feet. It is through this flexibility that we feel we are uniquely positioned to deliver on mid-level sized networks. The conditions of these contracts require standards, insurance, and licenses to meet both industry standards and our stringent internal guidelines. We have included copies of these contracts and guidelines as attachments to this document. Additionally, we have included copies of our existing service agreements with Level3, Microsoft, the Mississippi Power Company, AT&T, the Mississippi Public Service



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Commission, Entergy, Interstate FiberNet, the Alabama Power Company, Colonial Properties Atlanta, Ervin Cable Construction, NetCable, ABMB, and Al Chiesa Architect. These documents can be found in our supplemental information attachment. We are also certified to install products from Cisco, Alvarion, Microsoft, and Siemens. We have done business with each of these contractors for a minimum of five years, and therefore have confidence that we understand their systems and performance criteria.

**Customer Base**

InLine’s current customer base is comprised of 99% non-residential clients that has been described in this application as anchor institutions or service providers. We have built networks for school systems, hospitals, cities, state agencies, water departments, and cable companies. To date, InLine has provided products or services to over 160 clients in the proposed funded service area, ranging from small businesses to large financial and commercial corporations and state government agencies.

We have a dedicated team for the K-12 market which has provided services to 20 districts within the proposed service area, and it is because of that team we have the relationship with SCMCEED. We have sold over \$20 Million in products and services to the Mississippi K-12 market in the past five years. We also have sold products to each of the community colleges in the area, as well as the State Board of Community and Junior Colleges, the Mississippi Department of Education, and the Institute for Higher Learning.

We have built hurricane evacuation systems for MDOT and ALDOT, as well as independent ITS systems for cities and networks that connect fiber stations, such as our project in Montgomery. We have installed storage and other services for five hospitals and health care clinics, which gives us the track record and credibility to gain support from health care organizations. Case studies of our company’s major projects are provided in our supplemental information attachment .

**Licenses, Regulatory Approvals and Agreements**

InLine is a licensed Competitive Local Exchange Carrier (CLEC) in both Alabama and Mississippi. As a public utility, this gives us legal access to the rights of way on all public roads. We have built many networks in both Alabama and Mississippi, and have never experienced issues with obtaining access to these rights of way. Copies of our CLEC licenses are provided in



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the supplemental material for this application. We also have interconnection agreements with AT&T, Level 3, Southern Company, Entergy, Gulf Pine Utilities, IFN, and CenturyTel.

InLine is also a low voltage general contractor in the state of Mississippi, which gives us legal rights to run low voltage fiber and copper inside the buildings for laterals.

We also have a good working relationship with the Mississippi Department of Transportation, and have ongoing projects with them. We also have a letter of support from MDOT for this project in particular, which will expedite the process of obtaining any required highway permits for this project.

We also have a good standing certificate from the State of Mississippi, which we believe will aid in expediting any additional local permitting that may be required.

We have been involved in the Erate program through SLC since 1998, and have processed 402 FRNs worth approximately \$14.5 Million. We have good standing with this program and have attached our good standing certificate in our attachments.

**SPIN Number**

Contact Network d/b/a InLine was issued an FCC Universal Service Fund SPIN in 1998 (SPIN # 143005029). InLine has been involved with the E-Rate, SLC, and other FCC programs for over ten years. In that time, we have processed a total of 402 FRNs, accounting for over \$14.5 Million in revenues.

## **L. Environmental Questionnaire**

**Project Description**

The proposed construction consists of both aerial fiber deployments and buried deployments where appropriate. These deployments will occur only along previously disturbed rights of way. Aerial fiber will be the preferred method of deployment; however, in areas where buried cable exists, InLine may select to bury its cable along these same rights of way.



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A list of construction-related activities for fiber installation includes:

Aerial fiber pole installation, Drill hole for aerial fiber poles, Install aerial fiber pole, Backfill aerial fiber pole, Install anchor for guy wire for aerial fiber poles, Install down guy wire for aerial fiber poles, Remove dirt spoils left at site after drilling hole, Aerial fiber installation, Install messenger strand for aerial fiber, Pull and lash aerial fiber to messenger strand, Underground fiber installation, Directional boring (as needed), Asphalt cutting (as needed), Trenching, Install underground conduit and pull boxes, Install pedestal and fiber splice enclosures, Install ground enclosure-isolation, Install conduit on aerial fiber poles for underground fiber, Install fiber utility marking tape in trench, Backfill underground conduit, Repair asphalt, Pull underground fiber, Fiber Splicing and terminations, Install fiber enclosure in fiber equipment cabinet, Install fiber into fiber enclosure, Splice fiber at splice points, Terminate fiber in fiber enclosures, Test and certify fiber middle mile distribution hub interconnects.

**Property Changes**

The proposed construction will be entirely on previously disturbed rights of way. InLine will clear and fence an approximate 10' x 20' area within these rights of way for the installation of a telecommunications huts. There are no other anticipated property changes associated with this project.

**Buildings**

InLine will clear and fence an approximate 10' x 20' area for the installation of a telecommunications huts, electrical services, emergency power back-up systems, fiber backbone facilities and secure outdoor storage yard. Each site will be enclosed within a security fence with secured gate. Each distribution facility site will have access to public utilities such as water, gas/propane, electricity and telecommunication services. These services will be leveraged to reduce costs associated with operating remote broadband backbone and distribution facilities.

**Wetlands**

Wetland maps were obtained in a Google Earth layer from the Fish and Wildlife Service's website (<http://www.fws.gov/wetlands/Data/GoogleEarth.html>), and were examined for the entirety of the proposed fiber routes. No proposed fiber routes lie directly within designated wetlands.



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**Critical Habitats**

A listing of threatened species and critical habitats by county was obtained from the website of the Fish and Wildlife Service's Ecological Service's Jackson field office (<http://www.fws.gov/mississippiES/pdf/SpeciesbyCounty.pdf>). We do not anticipate that construction will have any affect on any threatened, endangered, or candidate species in the area. With regard to critical habitats, the only species with a critical habitat listing for the area is the Gulf Sturgeon. As our construction plans will not affect rivers or flood plains, we do not anticipate any effects to that species' habitat.

**Floodplain**

We have examined flood plain maps for all construction sites and have not identified any sites that lie within 100- or 500-year flood plains.

**Protected Land**

Using a Google Earth layer provided by the National Park Service (<http://nrhp.focus.nps.gov/natreg/docs/Download.html>), we have identified 72 properties in 14 counties listed on the National Register of Historic Places which lie within a 1-mile radius of properties the proposed fiber routes. While all construction-related activities will be undertaken on existing and previously disturbed rights of way, some of these rights of way lie near properties listed on the National Register of Historic Places. We have contacted the Mississippi State Historic Preservation Office for further information on the impact of the proposed fiber route using the questions provided in the environmental questionnaire guidance, and are currently awaiting a response.

**Coastal Area**

In Mississippi, only the three counties directly bordering the Gulf of Mexico are considered to be within the state's Coastal Zone Management Area. Therefore, no construction activities related to this project will occur within the boundaries of a CZMA.

**Brownfield**

None of the proposed construction is expected to occur within brownfield or hazmat sites.



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<b>Funding Opportunity:</b> Broadband Technology Opportunities Program		<b>Applicant Organization:</b> CONTACT NETWORK, INC.	
<b>Task:</b> Submit Application - BTOP		<b>Applicant Name:</b> Ms. Vickie Lee Edwards	

**Uploads**

The following pages contain the following uploads provided by the applicant:

<b>Upload Name</b>	<b>File Name</b>	<b>Uploaded By</b>	<b>Uploaded Date</b>
Service Offerings and Competitor Data	CCI Service Offerings Competitor Data MS Add On.xlsx	Edwards, Vickie	03/25/2010
Network Diagram	Visio-C1- Network and System Diagrams Version Addon V6.pdf	Edwards, Vickie	03/25/2010
Build Out Timeline	ADDON-combined.pdf	Edwards, Vickie	03/25/2010
List of Community Anchors and Points of Interest	CCI Anchor Detail and POI Add On.xls	Edwards, Vickie	03/26/2010
Management Team Resumes and Organization Chart	Management Team Resumes and Org Chart.pdf	Edwards, Vickie	03/05/2010
Government and Key Partnerships	lettersofsupport_vendorcredit-ADDON.pdf	Edwards, Vickie	03/26/2010
Historical Financial Statements	The Contact Network Inc ISSUED FS 12 31 2008.pdf	Edwards, Vickie	03/25/2010
Budget Narrative	CCI Budget Narrative Attachment MS Add On.doc	Edwards, Vickie	03/26/2010



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Detailed Budget	CCI Detailed Budget - MS Addon.xlsx	Edwards, Vickie	03/25/2010
Pro-forma Forecast	CCI Pro Forma Financial Projections Attachment Add On.xlsx	Edwards, Vickie	03/25/2010
Subscriber Estimates	CCI Subscriber Estimates MS Add On.xlsx	Edwards, Vickie	03/25/2010
Dashboard Metrics	CCI Key Metrics Dashboard Attachment Add On.doc	Edwards, Vickie	03/26/2010
Service Area Data	CCI Service Areas Attachment - Add On.xls	Edwards, Vickie	03/25/2010
Network Maps	Round2-East Fiber Map - REVISED.pdf	Edwards, Vickie	03/26/2010
BTOP Certifications	Authentication and Certification - Signed.pdf	Edwards, Vickie	03/05/2010
SF-424 C and D	424C MS Addon Signed.pdf	Edwards, Vickie	03/25/2010
Supplemental Information	Supplement-SMCEED.pdf	Edwards, Vickie	03/26/2010



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