



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

Submitted Date: 3/26/2010 8:04:29 PM	Easygrants ID: 5710
Funding Opportunity: Broadband Technology Opportunities Program	Applicant Organization: UNIVERSITY OF WISCONSIN SYSTEM
Task: Submit Application - BTOP	Applicant Name: Mrs. Maria Alvarez Stroud

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A. General Application Information

Applicant Information	
Name and Federal ID for Applicant	
DUNS Number	080490584
CCR # (CAGE)	0MS14
Legal Business Name	UNIVERSITY OF WISCONSIN SYSTEM
Point of Contact (POC)	NANCY DAHMEN 6082621798 Ext. nancy.dahmen@uwex.edu
Alternate POC	MARK DORN 6082625975 Ext. mark.dorn@uwex.edu
Electronic Business POC	NANCY DAHMEN 6082621798 Ext. nancy.dahmen@uwex.edu
Alternate Electronic Business POC	SUSAN SCHYMANSKI 6082636470 Ext. sue.schymanski@uwex.edu

Name and Contact Information of Person to be Contacted on Matters Involving this Application:	
Prefix	Mrs.
First Name	Maria
Middle Name	Alvarez
Last Name	Stroud
Suffix	
Telephone Number	608-263-9295



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Fax Number	608-262-6909
Email	maria.alvarez-stroud@uwex.edu
Title	BTOP Projects Director

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

Project Role	Name	Phone	Email
Secondary Point of Contact	Mr. Shaun , Abshere	6082653790	sabshere@wisconsinet.net
Other Contact	Mr. Andrew B, Lewis	6082631432	andy.lewis@uwex.edu

Environmental Point of Contact

Prefix: Mr.
Name: Bernstein, Andrew
Suffix:
Telephone Number: 6082653416
Title: CAN Fiber Manager

Organization Classification

Type of Organization	Other
Is the organization a small business?	No
Does the organization meet the definition of a socially and economically disadvantaged small business concern?	No



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Authorized Organizational Representative	
AOR Name	DORN, MARK
Result	Notify

Project Title and Project Description

Project Title: Building Community Capacity through Broadband

Project Description: The “Building Community Capacity through Broadband” (BCCB) project is based on a replicable solution for community-driven design, governed by local anchor institutions who expressed a demand for improved broadband access. BCCB will use fiber-optic and WiMax infrastructure to serve 4 demonstration communities at 182 facilities run by 74 anchor institutions in Wisconsin, covering 39 municipalities.

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.
7. This project will deploy Middle Mile broadband infrastructure and the applicant has proposed to contribute 30 percent or more in non-federal cost match.

Comprehensive Community Infrastructure Components



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

- Middle Mile
- Last Mile Rural
- Last Mile Non-Rural

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: N.A.

Easygrants ID:

Other Applications

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

- Yes

Easygrants ID	Project Title
5709	Building Community Capacity Through Sustainable Broadband Adoption

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

UW-Extension BCCB-SBA (Easygrants #5709)
For Round 2, UW-Extension (UWEX) submitted a SBA proposal, “Building Community Capacity through Sustainable Broadband Adoption.”

The same BCCB team and community partners designed our SBA and CCI projects, producing two independent but complementary projects that, if funded, will serve the same demonstration



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communities and share a common project manager who will coordinate the two separately-funded implementation teams. (see organization chart.)

This coordination will produce timely decision-making that balances infrastructure deployment and adoption programs; focused marketing and communications that sustains the communities' use of improved broadband facilities; efficient assessment that adjusts operations quickly to deliver the projects' independent and joint benefits.

Our SBA and CCI projects will integrate well with the following:

MUFN (Easygrants #3576)

We will connect our Platteville service area to the University of Wisconsin's funded Round 1 network to reach the public Internet, peering exchange and other directly served anchor institutions in the Madison metropolitan community network.

ARRA State Health Information Exchange (HIE)

To serve our healthcare partners, a BCCB project representative will serve on the committee that governs the statewide HIE; the State Health IT Coordinator will serve on the BCCB oversight committee.

Merit Network Inc. (Easygrants #4658)

For Round 2, Merit proposes a complementary CCI project for Northern Wisconsin that serves anchor institutions and communities in Michigan's Upper Peninsula, Minnesota and Wisconsin, connecting to existing advanced infrastructure in Wisconsin operated by our key partners, WiscNet and CCI Systems, providing diverse paths to these remote regions.

Internet2/NLR UCAN (Easygrants #4589)

Internet2 and NLR, national non-profit providers of research and education networking, propose to build the United States Unified Community Anchor Network. This national-scale network will construct the Middle Mile critical to connecting all of the local and regional community anchor projects funded by BTOP, thus creating a seamless national fabric of high-performance open networks.

WELBIB BTOP Round 1 (Easygrants #174)



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Our comprehensive community area network strategy complements the Round 1 Middle Mile infrastructure grant, “Wisconsin’s Education and Library Broadband Infrastructure Buildout” which will improve existing fiber and install new fiber, extending broadband access to rural libraries and schools in all 72 Wisconsin counties.

Contingency Plan

If funded, UW-Extension will implement our Round 2 CCI proposal even if NTIA does not fund the complementary Round 2 projects listed. For example, if our SBA proposal is not funded, the shared project manager position will drop from 1.0 to 0.5 FTE but remain sufficient to the project need. The CCI implementation team will have sufficient resources for project completion.

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?

- Yes, Applicant is exempt because it is an accredited college or university

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:

Name	Title	Employer
N.A.	N.A.	N.A.

B. Executive Summary, Project Purpose and Benefits

Essay Question

Executive Summary of the proposed project:



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Community Capacity Problems

Wisconsin’s anchor institutions must deal with two key “community capacity” problems posed by comprehensive community broadband infrastructure: (1) Few communities have institutions that act together, and stay together, to get their advanced broadband needs met; (2) Few institutions, even in the best of times, can afford the expertise to sustain a comprehensive community effort on broadband. With community and institutional resources scarce, what actions are needed to design a community-driven infrastructure, governed by anchor institutions and partnered with for-profit providers? We answer below.

BCCB

To address these two problems, the University of Wisconsin-Extension (UWEX) and our key partners propose the Building Community Capacity through Broadband project (BCCB). For 100 years, UWEX has placed university faculty in communities to advise community-driven solutions and to bring to bear the needed federal, university and local resources. This university mission to address community problems is the core of the “Wisconsin Idea.”

BCCB will use our trusted community role and longstanding partnerships with institutions that also carry out the Wisconsin Idea: the University of Wisconsin System and eight UW campuses; the Wisconsin Educational Communications Board; and WiseNet, our state research and education (R&E) network. Our statewide partners include the Wisconsin Department of Transportation and CCI Systems.

Demonstration Communities

We created a statewide process to identify a set of committed, diverse communities in economic distress and whose leading anchor institutions had significant unmet broadband needs. We selected four “demonstration communities” that fit two community-types (Also see addtl. supp. material #1. Proposed Service Area Map):

- Small remote city: Platteville and Superior
- Urbanized area-rural multi-county region: Wausau metro/Central Wisconsin and Eau Claire metro/North West Wisconsin.

Three demonstration communities are located within Community Development Zones. While unemployment averages 7.8% in the four demonstration communities, three have double-digit unemployment rates in their region: Platteville (11.1%), Superior (10.1%), Stevens Point



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(10.8%). Layoffs are prevalent, with many job losses permanent. Wisconsin leads the U.S. in the percentage of employment in manufacturing (~16%). This idled workforce needs re-education enabled by broadband.

Community Area Networks

Through UWEX-facilitated community design meetings, our four demonstration communities agreed on solutions that build on the decade-long success in the Eau Claire-Chippewa Falls region, where a consortium of anchor institutions uses a Community Area Networking (CAN) governance and operations model to collectively decide how to connect facilities, provide broadband services, exchange traffic with providers and manageably add institutions.

The demonstration communities consulted with our statewide partners to decide how to connect their community area networks to the public Internet and create opportunities for Last Mile broadband services. WiscNet agreed to expand its R&E network membership to serve the BCCB CANs, prefiguring the FCC's recent National Broadband Plan recommendation for "Unified Community Anchor Networks" built upon existing regional networks.

UWEX also selected CCI Systems, a for-profit provider, to build BCCB's Middle and Last Mile infrastructure on a community-driven timeline.

Proposed Funded Service Area (PFSA)

The PFSA covers 4,200 square miles and 350,305 persons. To serve four demonstration communities at 182 facilities run by 74 anchor institutions, we will deploy 608 total miles of Middle Mile infrastructure. We also will deploy into eight rural underserved Last Mile service areas in Central Wisconsin that contain 13,674 households, 550 businesses and 72 anchor institutions.

BCCB will serve 156 facilities via 204 miles of fiber-optic laterals. We will distribute or bridge WiMax wireless service via 26 facilities to cover 1305 square miles in the Eau Claire metro area.

BCCB meets all seven CCI priority criteria and will serve all nine facility types: 10 community colleges, 28 healthcare, 29 K12, 2 libraries, 17 community support organizations, 43 government facilities, 10 higher education, 2 public housing, and 41 public safety.



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We will build 405 miles of Middle Mile fiber-optic backbone to connect our four demonstration communities to the public Internet. The backbone will pass within 10 miles of 774,370 people, 116 municipalities, 319,198 households, 20,625 businesses and 1,727 anchor institutional facilities in mainly rural underserved areas. Although we do not include this “service corridor” in our PFSAs, we will build 140 potential points of interconnection at 3-mile intervals for future broadband uses.

Proposed Services

We will deploy One Gigabit per second Ethernet service to all Middle Mile facilities connected by fiber laterals, including WiMax distribution towers, and offer dark fiber strands. We will transport backbone traffic at 10 Gigabits per second and provide long-haul services at 1 or 10 Gigabits per second, with dark fiber also available. Facilities connected via fixed or mobile WiMax will share service of 50 to 70 Mbps, with each typically connected at 10 to 20 Mbps.

Within three years, BCCB will meet the FCC’s National Broadband Plan’s recommendation to equip by 2020 all U.S. anchor institutions with at least One Gigabit per second.

CCI Systems initially will offer these Last Mile services: advanced broadband & fiber access, 25 Mbps residential/business cable modem Internet access, digital telephone services and advanced digital/HD TV.

Our scalable, resilient services will meet the demand for advanced broadband applications expressed by the four demonstration communities’ anchor institutions, including their ability to:

- 1) Improve public safety and health by increasing the interoperability of broadband applications used by regional governments, healthcare and agencies serving vulnerable populations;
- 2) Advance regional economic development through increased resilience, mobility, scalability and extent of broadband services used in schools, libraries, homes and businesses;
- 3) Provide new capabilities to institutions who promote community well-being and cohesion, such as high-definition videoconferencing for telemedicine, education, and maintaining relationships with family members deployed in remote locations.



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4) Provide better service to the greater community through partnership among anchor institutions to fund and share innovations in broadband infrastructure.

Qualifications of Applicant and key partners

UWEX is a time-tested veteran at managing grant-funded projects of similar scope and budget and at making partnerships work. We annually partner with the U.S. Department of Agriculture and 72 counties to fund and manage Wisconsin’s highly-effective cooperative extension program, which represents \$8.8 million of the \$20 million in Federal funds awarded UWEX during its most recent fiscal year. Over the last five years, UWEX consistently received \$6 million annually in Federal funding from other Federal agencies.

UWEX and our key partner the Wisconsin Educational Communications Board jointly operate Wisconsin Public Radio and Television educational broadcasting networks, funded in part by the Corporation for Public Broadcasting and the U.S. Departments of Commerce and Education.

Five institutions in the University of Wisconsin System and the Wisconsin Technical College System will play key roles in helping their demonstration communities operate community area networks and Middle Mile service areas. All employ permanent staffs who manage large-scale advanced broadband networks.

For 20 years, WiscNet has operated our state R&E network and directly serves 450 anchor institutions. WiscNet will provide the BCCB community area networks access to the public Internet, advanced broadband services and technical support.

In BCCB’s Last Mile service areas, CCI Systems will use its 55 years of industry experience to provide residential and business broadband services and access, transport and wholesale services to other service providers.

Obligations Commitment

UWEX and our partners commit to all Nondiscrimination and Interconnection Obligations per BTOP NOFA.

BCCB Cost

BCCB will cost \$42,726,744. The BCCB partners will contribute \$12,841,825, or 30.06%. We request \$29,884,919.



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BCCB Subscribers

Over eight years, 450 institutional facilities will use BCCB Middle Mile infrastructure; 13,854 households and 550 businesses will use Last Mile services. In addition, we predict an additional 40,000 subscribers in the middle mile service areas.

Jobs Created

BCCB will create 464 job years: 297 direct and indirect and 167 induced job years.

Project purpose:

Whether located in the central plains beside the Chippewa or Wisconsin Rivers, the lowlands along Lake Superior or in the southwest uplands above the Mississippi River, the challenges that Wisconsin communities must address are similar:

- 1) Improve public safety and health by increasing the interoperability of broadband applications used by regional governments, healthcare and agencies serving vulnerable populations;
- 2) Advance regional economic development through increased resilience, mobility, scalability and extent of broadband services used in schools, libraries, homes and businesses;
- 3) Provide new capabilities to institutions who promote community well-being and cohesion, such as high-definition videoconferencing for telemedicine, education, and maintaining relationships with family members deployed in remote locations;
- 4) Use community resources efficiently by partnership among anchor institutions to fund and share innovations in broadband infrastructure.

Community Problems

Wisconsin has a successful history of cooperative efforts within communities. Yet, our anchor institutions must deal with two key “community capacity” problems posed by comprehensive community broadband infrastructure:

- (1) Few communities have institutions that act together, and stay together, to get their advanced broadband needs met;



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(2) Few institutions, even in the best of times, can afford the expertise to design and sustain a comprehensive community effort on broadband.

Despite scarce resources, our history tells us that communities can act together to design a community-driven infrastructure, governed by anchor institutions and partnered with for-profit providers.

BCCB

The University of Wisconsin-Extension (UWEX) and our key partners will address these two community problems with the proposed Building Community Capacity through Broadband project (BCCB). UWEX has a long and well respected history of jointly employing community-based faculty to help build organizational capacity and to guide and replicate community-driven solutions to address local needs and opportunities. This integration of federal, university and local resources to help our communities address issues is the core of the “Wisconsin Idea.”

BCCB will use our trusted community role and longstanding partnerships with institutions that also carry out the Wisconsin Idea: the University of Wisconsin System and eight UW campuses; the Wisconsin Educational Communications Board; and WisNet, our state research and education (R&E) network. Our statewide partners include the Wisconsin Department of Transportation and CCI Systems.

Demonstration Communities

We created a statewide process to select four demonstration communities facing economic challenges and whose leading anchor institutions had significant unmet broadband needs. These communities met the selection criteria and were deemed to be broadband ready (See additional supplemental materials #2: criteria for community participation).

While unemployment averages 7.8% in the four demonstration communities, three have double-digit unemployment rates in their region: Platteville (11.1%), Superior (10.1%), Stevens Point (10.8%). This idled workforce needs re-education enabled by broadband.

Community Area Networks

Our four demonstration communities actively engaged in community design meetings to agree on solutions that build on the decade-long success in the Eau Claire-Chippewa Falls Community Area Network (CAN), where a consortium of anchor institutions uses a governance and



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operations model to collectively decide how to connect facilities, provide broadband services, exchange traffic with providers and manage the addition of more institutions.

The demonstration communities consulted with our statewide partners to design connections from their CAN's to the public Internet and create opportunities for Last Mile services.

WiscNet will expand its network membership to serve the BCCB CANs, prefiguring the FCC's recent National Broadband Plan recommendation for "Unified Community Anchor Networks" built upon existing regional R&E networks. Nationally, R&E networks provide high-speed connectivity to 66,000 anchor institutions but only one-third of all anchor institutions can access an R&E network today.

UWEX selected CCI Systems, a for-profit provider, to build BCCB's Middle and Last Mile infrastructure on a community-driven timeline.

Purposes

BCCB will build these community-driven Middle Mile infrastructures and share our experiences to make it easier for other Wisconsin communities to build their own CANs.

BCCB will serve four BTOP purposes:

- 1) Provide access to advanced broadband services, equipment, and support via fiber-optic wireline and WiMax wireless in four demonstration communities to 182 facilities run by 74 anchor institutions, including 29 schools, 1 multi-county library system, 1 library, 28 health care providers, 10 community colleges, 10 institutions of higher learning, and 17 community support organizations.
- 2) Improve access to and use of broadband service in 15 communities to 41 public safety, 2 public housing and 43 other governmental facilities.
- 3) Stimulate the demand for broadband, economic growth, and job creation in 39 municipalities.
- 4) Provide improved access to broadband service to 35,659 consumers residing in nine communities in rural under-served areas.



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BCCB will meet the statutory requirement to enhance service for health care delivery, education, or children. Further, our affiliated Sustainable Broadband Adoption project (Easygrants #5709) will meet the fifth BTOP purpose:

5) Provide broadband education, awareness, training, access, equipment, and support to community anchor institutions and community organizations that provide outreach, access, equipment, and support services to facilitate greater use of broadband services by vulnerable populations, including job-creating facilities

Recovery Act and Other Governmental Collaboration:

An important goal of the Building Community Capacity through Broadband (BCCB) is to collaboratively leverage other Recovery Act investments that collectively enhance the effective deployment and use of broadband throughout Wisconsin. In each collaboration described below, Wisconsin community anchor institutions will benefit.

To this end, we will collaborate with projects falling into three categories:

BTOP Round 1 Funded Projects

Round 2 Applicants

Department of Health and Human Services – Electronic Health Information

BTOP Round 1 Funded Projects

Wisconsin’s Education and Library Broadband Infrastructure Build-Out

Easygrants #174

Awarded \$22M, this Middle Mile project will bring high-speed fiber connectivity to 74 school districts, eight community colleges, and 385 public libraries. Eighty-one percent of these institutions are in underserved rural communities where telecommunication providers are not likely to lay fiber in the near future because of an insufficient market to justify the cost.

The project creates an opportunity for affordable broadband access for residential and business customers as well, and thus complements BCCB’s efforts to increase awareness of and stimulate the demand for broadband. The BCCB planners have a long-standing collaborative relationship and will continue to work with the Wisconsin Department of Public Instruction staff members who assisted in developing the WDA Infrastructure grant.



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Metropolitan Unified Fiber Network - MUFN
Easygrants #3576

This Madison metropolitan community network was awarded \$5.1M to extend fiber to surrounding communities. We will build off of this effort by connecting the Platteville Demonstration Community to this network, enhancing service for anchor institutions.

BTOP Round 2 Applicants

Merit Network Inc.

Easygrant s#4658

Funded in Round 1 and invited to apply in Round 2, Merit proposes a CCI project through Michigan's Upper Peninsula, Minnesota through Northern Wisconsin, to the Superior Demonstration Community. We will collaborate with them to connect existing infrastructure to provide additional paths to these remote regions.

Internet2/NLR UCAN

Easygrants #4589

These two national non-profit network providers propose to build a Unified Community Anchor Network across the United States. If funded, we will connect to it via our partners state and education network (WiscNet) enabling BCCB anchor institutions connection to national high-performance networks.

Department of Health and Human Services – Electronic Health Information

ARRA-funded State Health Information Exchange Effort in Wisconsin has as its objective to create a plan for all medical facilities in Wisconsin to have electronic health capabilities. To coordinate efforts, each will serve on each other's Boards and will regularly communicate to seize all possible collaboration opportunities throughout both projects. (See Addtl. Supp. Materials #3: Health Care Systems in WI.)

Fit with BTOP CCI Priorities:

UW-Extension's (UWEX) BCCB project exceeds the objectives of all seven BTOP CCI Priorities.

To make prudent, comprehensive decisions about broadband needs and service status, we used a statewide selection process to find a set of committed, diverse communities whose leading anchor institutions had significant unmet broadband needs. Through their UWEX-facilitated



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community design meetings, our four demonstration communities (made up of 39 municipalities) converged on solutions that emulate the decade-long success in our Eau Claire-Chippewa Falls region, where a consortium of anchor institutions uses a sustainable Community Area Networking (CAN) governance and operations model to connect multiple facilities, provide advanced Internet services, exchange traffic with multiple providers and manageably grow the number of institutions served. Our demonstration communities also converged on the need to partner with a for-profit company to provide Middle and Last Mile infrastructure on a community-driven timeline. Based on our experience contracting for fiber network construction and fiber network services, UWEX invited CCI Systems.

The BCCB project will deploy Middle Mile broadband infrastructure that:

Priority 1

Directly offers new or substantially upgraded services to 182 facilities run by 74 committed anchor institutions who, by participating in community-driven design in our demonstration communities, expressed a demand for improved broadband access.

Priority 2

Is governed locally in our four demonstration communities by a tested, mature “community area network” partnership among government, non-profit and for profit entities, and other key community stakeholders who all, by participating in community-driven design in our demonstration communities, expressed a demand for improved broadband access.

Priority 3

Supports our four demonstration communities’ plans to use their community area networks to bolster growth; the economic distress in our proposed funded service area service areas causes 7.8% unemployment.

Priority 4

Directly serves 10 facilities operated by six community colleges who, by participating in community-driven design in our demonstration communities, expressed a demand for improved broadband access.

Priority 5



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Uses both fiber-optic wireline and WiMax wireless technologies to directly serve 41 facilities operated by 17 public safety entities who, by participating in community-driven design in our demonstration communities, expressed a demand for improved broadband access (see Supplemental Info.)

Priority 6

Includes a Last Mile infrastructure component in eight communities in four underserved counties, whose additional costs are only 1.2% of total eligible project costs. Further, our partner CCI Systems will commit to develop and offer Last Mile services to additional underserved households and businesses passed by the funded infrastructure.

Priority 7

Is locally funded by contributed non-Federal cost match of 30.06% of the total eligible costs of the project.

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:

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:



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Project Role: Sub-recipient
Name: Lois, David
Phone: 6082656761
Email: davelois@wiscnet.net
Address 1: 740 Regent St., Suite 203
Address 2:
Address 3:
City: Madison
State: Wisconsin
Zip Code: 53715
Organization: WiscNet
Organization Type: Non-profit Corporation
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Sub-recipient
Name: Jamar, John
Phone: 9067762601
Email: john.jamar@ccisystems.com
Address 1: 105 Kent St., PO Box 190
Address 2:
Address 3:
City: Iron Mountain
State: Michigan
Zip Code: 49801
Organization: CCI Systems
Organization Type: For-profit Entity
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Sub-recipient
Name: Reilly, Kevin
Phone: 6082622321
Email: kreilly@uwsa.edu
Address 1: 1720 Van Hise Hall, 1220 Linden Dr.
Address 2:
Address 3:
City: Madison
State: Wisconsin
Zip Code: 53706
Organization: University of Wisconsin System



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Task: Submit Application - BTOP	Applicant Name: Mrs. Maria Alvarez Stroud

Organization Type: Non-profit Corporation
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Third party in-kind contributor
Name: Vieth, David
Phone: 6082678999
Email: david.vieth@dot.wi.gov
Address 1: 4802 Sheboygan Ave.
Address 2:
Address 3:
City: Madison
State: Wisconsin
Zip Code: 53707
Organization: Wisconsin Department of Transportation
Organization Type: State or State Agency
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Other
Name: Wildeck, Steve
Phone: 6082627872
Email: steve.wildeck@uwc.edu
Address 1: 432 N. Lake St
Address 2:
Address 3:
City: Madison
State: Wisconsin
Zip Code: 53706
Organization: University of Wisconsin Extension
Organization Type: Other
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Other
Name: Kraemer, Ronald
Phone: 6082625381
Email: ron.kraemer@cio.wisc.edu
Address 1: 1210 West Dayton St.
Address 2:
Address 3:
City: Madison



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Task: Submit Application - BTOP	Applicant Name: Mrs. Maria Alvarez Stroud

State: Wisconsin
Zip Code: 53706
Organization: DoIT Division of Information Technology UW-Madison
Organization Type: Other
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Third party in-kind contributor
Name: Purcell, Gene
Phone: 6082649666
Email: gene.purcell@ecb.org
Address 1: 3319 West Beltline Hwy.
Address 2:
Address 3:
City: Madison
State: Wisconsin
Zip Code: 53713
Organization: Wisconsin Educational Communications Board
Organization Type: Non-profit Corporation
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Sub-recipient
Name: Wilson, Ross
Phone: 7157202029
Email: wilson@cesa10.k12.wi.us
Address 1: 725 West Park Ave.
Address 2:
Address 3:
City: Chippewa Falls
State: Wisconsin
Zip Code: 54729
Organization: Chippewa Valley Inter Networking Consortium
Organization Type: Other
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Sub-recipient
Name: Bauer, Daren
Phone: 7158365286
Email: bauerdp@uwec.edu
Address 1: UW-Eau Claire, Old Library 1106



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Task: Submit Application - BTOP	Applicant Name: Mrs. Maria Alvarez Stroud

Address 2:
Address 3:
City: Eau Claire
State: Wisconsin
Zip Code: 54702
Organization: Chippewa Valley Inter Networking Consortium
Organization Type: Other
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Sub-recipient
Name: Munden, Todd
Phone: 7158383311
Email: munden.todd@mayo.edu
Address 1: 1221 Whipple St., PO Box 4105
Address 2:
Address 3:
City: Eau Claire
State: Wisconsin
Zip Code: 54702
Organization: Luther Midelfort Hospital/Mayo Health System
Organization Type: Non-profit Corporation
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Sub-recipient
Name: Ronstrom, Stephen
Phone: 2175234747
Email: kkiefer@hshs.org
Address 1: 900 West Clairemont Ave.
Address 2:
Address 3:
City: Eau Claire
State: Wisconsin
Zip Code: 54701
Organization: Hospital Sisters Health System
Organization Type: Non-profit Corporation
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Sub-recipient
Name: Fish, Dave



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Task: Submit Application - BTOP	Applicant Name: Mrs. Maria Alvarez Stroud

Phone: 7157231811
Email: dfish@shcc.hshs.org
Address 1: 2661 County Highway I
Address 2:
Address 3:
City: Chippewa Falls
State: Wisconsin
Zip Code: 54729
Organization: St. Joseph's Hospital
Organization Type: Non-profit Corporation
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Sub-recipient
Name: Huggins, Mike
Phone: 7158394902
Email: cityhall@ci.eau-claire.wi.us
Address 1: 203 S. Farwell St., PO Box 5148
Address 2:
Address 3:
City: Eau Claire
State: Wisconsin
Zip Code: 54702
Organization: City of Eau Claire, Office of the City Manager
Organization Type: City or Township Government
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Sub-recipient
Name: Reynolds, William
Phone: 7157267984
Email: wreynolds@co.chippewa.wi.us
Address 1: 711 N. Bridge St., Room 304
Address 2:
Address 3:
City: Chippewa Falls
State: Wisconsin
Zip Code: 54729
Organization: Chippewa County, Department of Administration
Organization Type: County Government
Small business: No
Socially and economically disadvantaged small business concern: No



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Task: Submit Application - BTOP	Applicant Name: Mrs. Maria Alvarez Stroud

<p>Project Role: Sub-recipient Name: Moore, Gregg Phone: 7158395106 Email: gregg.moore@co.eau-claire.wi.us Address 1: 721 Oxford Ave., Room 2570 Address 2: Address 3: City: Eau Claire State: Wisconsin Zip Code: 54703 Organization: Eau Claire County Board of Supervisors Organization Type: County Government Small business: No Socially and economically disadvantaged small business concern: No</p>
<p>Project Role: Other Name: Will, John Phone: 7158395082 Email: www.tellus@ifls.lib.wi.us Address 1: 1538 Truax Blvd. Address 2: Address 3: City: Eau Claire State: Wisconsin Zip Code: 54703 Organization: Wisconsin Indianhead Technical College Organization Type: Other Small business: No Socially and economically disadvantaged small business concern: No</p>
<p>Project Role: Other Name: Huffcutt, Tom Phone: 7158336464 Email: thuffcutt@cvtc.edu Address 1: 620 West Clairemont Ave. Address 2: Address 3: City: Eau Claire State: Wisconsin Zip Code: 54701 Organization: Chippewa Valley Technical College</p>



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Organization Type: Other
 Small business: No
 Socially and economically disadvantaged small business concern: No

Project Role: Other
 Name: Schafer, Michael
 Phone: 7156352111
 Email: MSchafer@spoonerhealthsystem.com
 Address 1: 819 Ash St.
 Address 2:
 Address 3:
 City: Spooner
 State: Wisconsin
 Zip Code: 54801
 Organization: Spooner Health System
 Organization Type: Non-profit Corporation
 Small business: No
 Socially and economically disadvantaged small business concern: No

Project Role: Other
 Name: Sorensen, Charles
 Phone: 7152322441
 Email: sorensenc@uwstout.edu
 Address 1: 325 Administration Building
 Address 2:
 Address 3:
 City: Menomonie
 State: Wisconsin
 Zip Code: 54751
 Organization: University of Wisconsin-Stout
 Organization Type: Other
 Small business: No
 Socially and economically disadvantaged small business concern: No

Project Role: Sub-recipient
 Name: Eckardt, Chip
 Phone: 7158362381
 Email: eckardpp@uwec.edu
 Address 1: 105 Garfield Ave., PO Box 4004
 Address 2:
 Address 3:
 City: Eau Claire



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Task: Submit Application - BTOP	Applicant Name: Mrs. Maria Alvarez Stroud

State: Wisconsin
 Zip Code: 54702
 Organization: University of Wisconsin-Eau Claire
 Organization Type: Other
 Small business: No
 Socially and economically disadvantaged small business concern: No

Project Role: Other
 Name: Scidmore, Robert
 Phone: 7158523081
 Email: rscidmore@ecasd.k12.wi.us
 Address 1: 500 Main St.
 Address 2:
 Address 3:
 City: Eau Claire
 State: Wisconsin
 Zip Code: 54701
 Organization: Eau Claire Area School District
 Organization Type: Other
 Small business: No
 Socially and economically disadvantaged small business concern: No

Project Role: Other
 Name: Lange, Thomas
 Phone: 7152342181
 Email: langet@ricelake.k12.wi.us
 Address 1: 30 S. Wisconsin Ave.
 Address 2:
 Address 3:
 City: Rice Lake
 State: Wisconsin
 Zip Code: 54868
 Organization: Rice Lake Area School District
 Organization Type: Other
 Small business: No
 Socially and economically disadvantaged small business concern: No

Project Role: Other
 Name: Dahl, Kathy
 Phone: 7158396033
 Email: kdahl@altoona.k12.wi.us
 Address 1: 1903 Bartlett Ave.



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Task: Submit Application - BTOP	Applicant Name: Mrs. Maria Alvarez Stroud

Address 2:
Address 3:
City: Altoona
State: Wisconsin
Zip Code: 54720
Organization: School District of Altoona
Organization Type: Other
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Other
Name: Gullicksrud, Cheryl
Phone: 7159263684
Email: egullicksrud@mondovi.k12.wi.us
Address 1: 337 N. Jackson St.
Address 2:
Address 3:
City: Mondovi
State: Wisconsin
Zip Code: 54755
Organization: School District of Mondovi
Organization Type: Other
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Other
Name: Barton, Jerry
Phone: 7158395175
Email: Jerry.Barton@fammed.wisc.edu
Address 1: 617 W. Clairemont Ave.
Address 2:
Address 3:
City: Eau Claire
State: Wisconsin
Zip Code: 54701
Organization: UW Health, Eau Claire Family Medicine Clinic
Organization Type: Non-profit Corporation
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Other
Name: Rubenzer, Richard



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Task: Submit Application - BTOP	Applicant Name: Mrs. Maria Alvarez Stroud

Phone: 7157262736
Email: rrubenzer@chippewafalls-wi.gov
Address 1: City Hall, 30 West Central St.
Address 2:
Address 3:
City: Chippewa Falls
State: Wisconsin
Zip Code: 54729
Organization: City of Chippewa Falls
Organization Type: City or Township Government
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Other
Name: Cuskey, Gary
Phone: 7156358769
Email: cpp44762@centurytel.net
Address 1: 515 North Summit St.
Address 2:
Address 3:
City: Spooner
State: Wisconsin
Zip Code: 54801
Organization: City of Spooner
Organization Type: City or Township Government
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Other
Name: Wilson, Ross
Phone: 7157230341
Email: wilson@cesa10.k12.wi.us
Address 1: 725 West Park Ave.
Address 2:
Address 3:
City: Chippewa Falls
State: Wisconsin
Zip Code: 54729
Organization: Cooperative Education Services Agency, CESA 10
Organization Type: Other
Small business: No
Socially and economically disadvantaged small business concern: No



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Task: Submit Application - BTOP	Applicant Name: Mrs. Maria Alvarez Stroud

<p>Project Role: Other Name: Haack, Donald Phone: 7156352171 Email: millerh@spooner.k12.wi.us Address 1: 801 County A Address 2: Address 3: City: Spooner State: Wisconsin Zip Code: 54801 Organization: Spooner Area School District Organization Type: Other Small business: No Socially and economically disadvantaged small business concern: No</p>
<p>Project Role: Other Name: Ronnander, Chad Phone: 7157230538 Email: chadronnander@cacs.k12.wi.us Address 1: 1316 Bel Air Blvd. Address 2: Address 3: City: Chippewa Falls State: Wisconsin Zip Code: 54729 Organization: Chippewa Area Catholic Schools Organization Type: Other Small business: No Socially and economically disadvantaged small business concern: No</p>
<p>Project Role: Other Name: Lenbom, Tammy Phone: 7159242226 Email: BryanJohnson@chetek.k12.wi.us Address 1: PO Box 6 Address 2: Address 3: City: Chetek State: Wisconsin Zip Code: 54728 Organization: Chetek-Weyerhaeuser Area School District</p>



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Organization Type: Other
 Small business: No
 Socially and economically disadvantaged small business concern: No

Project Role: Other
 Name: Kowalski, Scott
 Phone: 7157203753
 Email: kowalssj@chipfalls.k12.wi.us
 Address 1: 140 Elm St.
 Address 2:
 Address 3:
 City: Chippewa Falls
 State: Wisconsin
 Zip Code: 54729
 Organization: Chippewa Falls Area Unified School District
 Organization Type: Other
 Small business: No
 Socially and economically disadvantaged small business concern: No

Project Role: Other
 Name: Kukura, Chuck
 Phone: 7158772123
 Email: chuck@fallcreek.k12.wi.us
 Address 1: 336 East Hoover Ave.
 Address 2:
 Address 3:
 City: Fall Creek
 State: Wisconsin
 Zip Code: 54742
 Organization: School District of Fall Creek
 Organization Type: Other
 Small business: No
 Socially and economically disadvantaged small business concern: No

Project Role: Other
 Name: Speich, Charity
 Phone: 7158396241
 Email: cvra@clearwire.net
 Address 1: 3800 Starr Ave.
 Address 2:
 Address 3:
 City: Eau Claire



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Task: Submit Application - BTOP	Applicant Name: Mrs. Maria Alvarez Stroud

State: Wisconsin
Zip Code: 54703
Organization: Chippewa Valley Regional Airport
Organization Type: County Government
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Other
Name: Thompson, John
Phone: 7158395082
Email: tellus@ifls.lib.wi.us
Address 1: 1538 Truax Blvd.
Address 2:
Address 3:
City: Eau Claire
State: Wisconsin
Zip Code: 54703
Organization: Indianhead Federated Library System
Organization Type: Non-profit Corporation
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Third party in-kind contributor
Name: Hafele, Brent
Phone: 7158398477
Email: info@cvfreeclinic.org
Address 1: 421 Graham Ave., PO Box 231
Address 2:
Address 3:
City: Eau Claire
State: Wisconsin
Zip Code: 54702
Organization: Chippewa Valley Free Clinic
Organization Type: Non-profit Corporation
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Sub-recipient
Name: Erlenbach, Julius
Phone: 7153948221
Email: julius.erlenbach@uws.edu
Address 1: Old Main, Room 212



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Task: Submit Application - BTOP	Applicant Name: Mrs. Maria Alvarez Stroud

Address 2: Belknap & Catlin, PO Box 2000
Address 3:
City: Superior
State: Wisconsin
Zip Code: 54880
Organization: University of Wisconsin-Superior
Organization Type: Other
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Sub-recipient
Name: Ford, Duane Merlin
Phone: 6083421261
Email: fford@uwplatt.edu
Address 1: 1 University Plaza
Address 2:
Address 3:
City: Platteville
State: Wisconsin
Zip Code: 53818
Organization: University of Wisconsin-Platteville
Organization Type: Other
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Sub-recipient
Name: Daus, Barbara
Phone: 6083489741
Email: daus@uwplatt.edu
Address 1: 75 North Bonson St., PO Box 780
Address 2:
Address 3:
City: Platteville
State: Wisconsin
Zip Code: 53818
Organization: City of Platteville
Organization Type: City or Township Government
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Third party in-kind contributor
Name: Isaacson, Dean



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Task: Submit Application - BTOP	Applicant Name: Mrs. Maria Alvarez Stroud

Phone: 6083424000
Email: isaacson@platteville.k12.wi.us
Address 1: 780 North Second St.
Address 2:
Address 3:
City: Platteville
State: Wisconsin
Zip Code: 53818
Organization: School District of Platteville
Organization Type: Other
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Sub-recipient
Name: Weyers, Lori
Phone: 7156753331
Email: weyers@ntc.edu
Address 1: 1000 W. Campus Dr.
Address 2:
Address 3:
City: Wausau
State: Wisconsin
Zip Code: 54401
Organization: Northcentral Technical College
Organization Type: Other
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Sub-recipient
Name: Karger, Brad
Phone: 7152611400
Email: administrator@mail.co.marathon.wi.us
Address 1: 500 Forest St.
Address 2:
Address 3:
City: Wausau
State: Wisconsin
Zip Code: 54403
Organization: Marathon County, Office of County Administrator
Organization Type: County Government
Small business: No
Socially and economically disadvantaged small business concern: No



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<p>Project Role: Sub-recipient Name: Halverson, Andrew Phone: 7153461561 Email: jlemke@stevenspoint.com Address 1: 1515 Strongs Ave. Address 2: Address 3: City: Stevens Point State: Wisconsin Zip Code: 54481 Organization: City of Stevens Point Organization Type: City or Township Government Small business: No Socially and economically disadvantaged small business concern: No</p>
<p>Project Role: Sub-recipient Name: Nook, Mark Phone: 7155444097 Email: mnook@uwsp.edu Address 1: 2100 Main St. Address 2: Address 3: City: Stevens Point State: Wisconsin Zip Code: 54481 Organization: University of Wisconsin-Stevens Point Organization Type: Other Small business: No Socially and economically disadvantaged small business concern: No</p>
<p>Project Role: Third party in-kind contributor Name: Tipple, James Phone: 7152616800 Email: gerard.klein@co.marathon.wi.us Address 1: 407 Grant St. Address 2: Address 3: City: Wausau State: Wisconsin Zip Code: 54403 Organization: City of Wausau</p>



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Organization Type: City or Township Government
Small business: No
Socially and economically disadvantaged small business concern: No

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

As an outgrowth of its century-long commitment to partnership at the local level, University of Wisconsin-Extension (UWEX) has identified four demonstration communities who are enthusiastic to address broadband and tackle unmet needs of local anchor institutions. The framework for this endeavor is built upon the emulation of one communities' ten-year success (Chippewa Valley) in creating a local consortium of anchor institutions to collectively address community area needs – called a Community Area Network (“CAN”). Through our Building Community Capacity through Broadband project (BCCB), each of the four demonstration community’s CANs will be transformed into highly functioning entities, capable of designing and sustaining a comprehensive community-driven middle mile service area. Secondly, we will provide last mile services to an additional 9 service areas in Wisconsin.

UWEX is the catalyst for establishing this statewide collaboration and is poised to tackle the issue of broadband accessibility in Wisconsin. UWEX will provide leadership and management of the project, ensuring success and mutually beneficial connections for Wisconsin stakeholders. Additionally, UWEX will chair the Oversight Board, coordinate local efforts to create new pathways for engagement with University resources and focus on innovations and lessons learned for future replication.

Similar to the belief that only through a collective effort by local anchor institutions can communities effectively address broadband; our premise is that only when statewide organizations with varying expertise and resources, both private and public, are working together, can we ensure successful broadband deployment.

Our Statewide Partners Are:

WiscNet - A non-profit, membership association of more than 440 Wisconsin community anchor institutions that provides broadband access to worldwide information and computing resources for education, research, and public service. WiscNet’s roles include project personnel dedicated to working with the demonstration communities and management of long haul build-outs. WiscNet serves on the Oversight Board and will provide cash match.



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CCI Systems - For 55 years, CCI Systems has served the telecommunications industry and the communities where they provide broadband services, developing expertise in design, construction and maintenance of communication systems as well as the rollout of advanced optical, network and broadband services to an ever-expanding client base. CCI Systems brings to the BCCB project an essential set of skills and industry relationships that will meet the challenges of advanced broadband construction and service deployment across Wisconsin. Further, CCI Systems will provide Last Mile service from the funded infrastructure.

Department of Transportation – As the state agency addressing the needs of transportation and highways in Wisconsin, DOT regularly addresses and provides occupancy permits to construct broadband infrastructure along highways. Their role as a partner includes an In-Kind match covering Right-of-Way Occupancy Fees for 20 years in exchange for 12 fiber strands for long haul routes.

University of Wisconsin System - Is one of the largest systems of public higher education in the country, serving more than 178,000 students each year and employing more than 32,000 faculty and staff statewide. They are providing cash match and serves on the Oversight Board.

Wisconsin Educational Communications Board – ECB serves as the state’s public telecommunications agency. As a partner they will be making available its licensed EBS frequencies in the Eau Claire area and will serve on the oversight board.

Demonstration Community Partners:
Chippewa Valley

The Chippewa Valley Internetworking Consortium (CINC) is a very successful Community Area Network formed in 1999 to coordinate regional communication infrastructure projects with anchor institutions. CINC is overseeing the BCCB project in the Chippewa Valley service area to extend its network into underserved and unserved areas and through its members are supporting this project with an in-kind match of over \$1.6M, demonstrating a commitment from 25 Anchor Institutions. The following are representative of CINC’s members:

Cooperative Educational Service Agency (CESA) #10 is one of 12 CESA agencies serving Wisconsin’s school districts with collaborative assistance in instructional technology. CESA #10



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serves as fiscal agent for CINC, will coordinate communications between technology providers and is the sub recipient.

Significant cash and program management is also coming from:

- Luther Midelfort Hospital/Mayo Health systems
- Hospital Sisters Healthy system Division
- City of Eau Claire & City Police Department
- Eau Claire County
- The Indianhead Federated Library System
- Chippewa Valley Technical College

Platteville

University of Wisconsin-Platteville (UWP) is one of 13 comprehensive universities in the UW System. Its current student enrollment is 7,500. They will provide local leadership in planning, cash match and In-Kind as the project's sub-recipient. In addition, the City of Platteville is providing cash match and are active CAN members.

Superior

University of Wisconsin-Superior (UWS), another of Wisconsin's 13 comprehensive universities, is the sub-recipient and will provide leadership to the project and commitment for local CAN development.

Wausau

Northcentral Technical College is one of 16 technical colleges in Wisconsin serving a 10 county service area that is primarily rural. NTC is a key partner for BCCB providing leadership to the Wausau Community Area Network, cash match and a commitment to community interconnectivity. NTC is a sub-recipient.

In addition, University of Wisconsin Colleges-Marathon County (UWMC) is a two-year community college in the UW System. As a partner, they will be actively involved in project planning and have provided cash match.

D. Congressional Districts

Applicant Headquarters



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- Wisconsin

Project Service States

Wisconsin

Project Service Areas

Wisconsin - 7

Wisconsin - 3

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

- No

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

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

- No

E. Service Area Details

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

- Yes

Project Details

Service Area Type:

Middle Mile



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Service Area Name: MM Chippewa Valley Area
Rural Classification of the Last Mile Service Area: Non-Rural
Service Status of the Last Mile Service Area: Served

If Service Status is "Underserved" please select at least one applicable option from this list.

Total Square Miles in Service Area: 3,875
Total Population in Proposed Service Area: 250,959
Total Number of Households in Service Area: 100,394
Total Number of Businesses in Service Area: 6,300
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 421
Unemployment Rate in the Service Area: 7
Median Income in the Service Area: 48,359
Estimated Percentage of Households with Access to Broadband: 90
Estimated Percentage of Households Subscribing to Broadband: 50

Service Area Type: Middle Mile
Service Area Name: MM Marshfield Area
Rural Classification of the Last Mile Service Area: Non-Rural
Service Status of the Last Mile Service Area: Served

If Service Status is "Underserved" please select at least one applicable option from this list.

Total Square Miles in Service Area: 109
Total Population in Proposed Service Area: 9,591
Total Number of Households in Service Area: 4,071
Total Number of Businesses in Service Area: 269
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 13
Unemployment Rate in the Service Area: 8
Median Income in the Service Area: 50,408
Estimated Percentage of Households with Access to Broadband: 90
Estimated Percentage of Households Subscribing to Broadband: 50



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Service Area Type: Middle Mile
Service Area Name: MM Platteville Area
Rural Classification of the Last Mile Service Area: Rural
Service Status of the Last Mile Service Area: Served

If Service Status is "Underserved" please select at least one applicable option from this list.

Total Square Miles in Service Area: 19
Total Population in Proposed Service Area: 10,748
Total Number of Households in Service Area: 3,650
Total Number of Businesses in Service Area: 310
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 25
Unemployment Rate in the Service Area: 11
Median Income in the Service Area: 47,901
Estimated Percentage of Households with Access to Broadband: 90
Estimated Percentage of Households Subscribing to Broadband: 50

Service Area Type: Middle Mile
Service Area Name: MM Stevens Point Area
Rural Classification of the Last Mile Service Area: Non-Rural
Service Status of the Last Mile Service Area: Served

If Service Status is "Underserved" please select at least one applicable option from this list.

Total Square Miles in Service Area: 3
Total Population in Proposed Service Area: 9,911
Total Number of Households in Service Area: 3,134
Total Number of Businesses in Service Area: 320
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 13
Unemployment Rate in the Service Area: 11
Median Income in the Service Area: 40,983
Estimated Percentage of Households with Access to Broadband: 90
Estimated Percentage of Households Subscribing to Broadband: 50



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Service Area Type: Middle Mile
Service Area Name: MM Superior Area
Rural Classification of the Last Mile Service Area: Non-Rural
Service Status of the Last Mile Service Area: Served

If Service Status is "Underserved" please select at least one applicable option from this list.

Total Square Miles in Service Area: 11
Total Population in Proposed Service Area: 9,483
Total Number of Households in Service Area: 3,826
Total Number of Businesses in Service Area: 288
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 15
Unemployment Rate in the Service Area: 10
Median Income in the Service Area: 44,655
Estimated Percentage of Households with Access to Broadband: 90
Estimated Percentage of Households Subscribing to Broadband: 50

Service Area Type: Middle Mile
Service Area Name: MM Wausau Area
Rural Classification of the Last Mile Service Area: Non-Rural
Service Status of the Last Mile Service Area: Served

If Service Status is "Underserved" please select at least one applicable option from this list.

Total Square Miles in Service Area: 165
Total Population in Proposed Service Area: 37,822
Total Number of Households in Service Area: 16,150
Total Number of Businesses in Service Area: 1,449
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 67
Unemployment Rate in the Service Area: 8
Median Income in the Service Area: 55,604
Estimated Percentage of Households with Access to Broadband: 90
Estimated Percentage of Households Subscribing to Broadband: 50



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Service Area Type: Last Mile
Service Area Name: LM Arpin-Auburndale Area
Rural Classification of the Last Mile Service Area: Rural
Service Status of the Last Mile Service Area: Underserved

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: 3
Total Population in Proposed Service Area: 4,647
Total Number of Households in Service Area: 1,733
Total Number of Businesses in Service Area: 83
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 15
Unemployment Rate in the Service Area: 9
Median Income in the Service Area: 52,177
Estimated Percentage of Households with Access to Broadband: 90
Estimated Percentage of Households Subscribing to Broadband: 15

Service Area Type: Last Mile
Service Area Name: LM Augusta Area
Rural Classification of the Last Mile Service Area: Rural
Service Status of the Last Mile Service Area: Underserved

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: 2
Total Population in Proposed Service Area: 5,102
Total Number of Households in Service Area: 1,847
Total Number of Businesses in Service Area: 77
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 10
Unemployment Rate in the Service Area: 10



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Median Income in the Service Area: 35,922
Estimated Percentage of Households with Access to Broadband: 90
Estimated Percentage of Households Subscribing to Broadband: 10

Service Area Type: Last Mile
Service Area Name: LM Fall Creek Area
Rural Classification of the Last Mile Service Area: Rural
Service Status of the Last Mile Service Area: Underserved

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: 2
Total Population in Proposed Service Area: 4,833
Total Number of Households in Service Area: 1,857
Total Number of Businesses in Service Area: 73
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 6
Unemployment Rate in the Service Area: 7
Median Income in the Service Area: 50,970
Estimated Percentage of Households with Access to Broadband: 90
Estimated Percentage of Households Subscribing to Broadband: 12

Service Area Type: Last Mile
Service Area Name: LM Greenwood Area
Rural Classification of the Last Mile Service Area: Rural
Service Status of the Last Mile Service Area: Underserved

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: 2
Total Population in Proposed Service Area: 4,883



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Total Number of Households in Service Area: 1,857
Total Number of Businesses in Service Area: 73
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 6
Unemployment Rate in the Service Area: 7
Median Income in the Service Area: 50,970
Estimated Percentage of Households with Access to Broadband: 90
Estimated Percentage of Households Subscribing to Broadband: 12

Service Area Type: Last Mile
Service Area Name: LM Hewitt Area
Rural Classification of the Last Mile Service Area: Rural
Service Status of the Last Mile Service Area: Served

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: 1
Total Population in Proposed Service Area: 5,057
Total Number of Households in Service Area: 2,115
Total Number of Businesses in Service Area: 58
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 4
Unemployment Rate in the Service Area: 8
Median Income in the Service Area: 56,061
Estimated Percentage of Households with Access to Broadband: 90
Estimated Percentage of Households Subscribing to Broadband: 60

Service Area Type: Last Mile
Service Area Name: LM Junction City Area
Rural Classification of the Last Mile Service Area: Rural
Service Status of the Last Mile Service Area: Unserved

If Service Status is "Underserved" please select at least one applicable option from this list.



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No more than 50% of the households in the proposed funded service area have access to facilities-based, terrestrial broadband service at greater than the minimum broadband transmission speed;
No fixed or mobile broadband service provider advertises broadband transmission speeds of at least 3 mbps downstream in the proposed funded service area;
The rate of broadband subscribership for the proposed funded service area is 40% of households or less.

Total Square Miles in Service Area: 1
Total Population in Proposed Service Area: 4,695
Total Number of Households in Service Area: 1,839
Total Number of Businesses in Service Area: 77
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 7
Unemployment Rate in the Service Area: 8
Median Income in the Service Area: 55,702
Estimated Percentage of Households with Access to Broadband:
Estimated Percentage of Households Subscribing to Broadband:

Service Area Type: Last Mile
Service Area Name: LM Pittsville Area
Rural Classification of the Last Mile Service Area: Rural
Service Status of the Last Mile Service Area: Underserved

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: 2
Total Population in Proposed Service Area: 3,191
Total Number of Households in Service Area: 1,259
Total Number of Businesses in Service Area: 65
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 11
Unemployment Rate in the Service Area: 11
Median Income in the Service Area: 50,864
Estimated Percentage of Households with Access to Broadband: 90



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Estimated Percentage of Households Subscribing to Broadband: 20

Service Area Type: Last Mile
Service Area Name: LM Vesper Area
Rural Classification of the Last Mile Service Area: Rural
Service Status of the Last Mile Service Area: Underserved

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: 1
Total Population in Proposed Service Area: 4,201
Total Number of Households in Service Area: 1,647
Total Number of Businesses in Service Area: 65
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 7
Unemployment Rate in the Service Area: 9
Median Income in the Service Area: 53,822
Estimated Percentage of Households with Access to Broadband: 90
Estimated Percentage of Households Subscribing to Broadband: 20

F. Community Anchor Summary

Community Anchor Summary	
Schools (k-12)	29
Libraries	2
Medical and Healthcare Providers	28
Public Safety Entities	41
Community Colleges	10



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Public Housing	2
Other Institutions of Higher Education	10
Other Community Support Organization	17
Other Government Facilities	43
TOTAL COMMUNITY ANCHOR INSTITUTIONS	182
Historically Black colleges and Universities	0
Tribal Colleges and Universities	0
Alaska Native Serving Institutions	0
Hispanic Serving Institutions	0
Native Hawaiian Serving Institutions	0
TOTAL MINORITY SERVING INSTITUTIONS	0

G. Project Benefits

Demographics

Jobs	
How many direct jobs-years will be created from this project?	149
How many indirect jobs will be created from this project?	148
How many jobs will be induced from this project?	167



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Methodology used to estimate jobs:

The Council of Economic Advisers has determined that \$92,000 of government spending creates one job for one year. Direct and indirect effects comprise 64% of those job-years, while induced effects represent the remaining 36% of job-years. The budget proposed for the Building Community Capacity through Broadband project consists of \$29,884,919 requested from NTIA in economic stimulus funds, plus an additional \$12,841,825 offered as local applicant match, for a total expenditure of \$42,726,744. Dividing this figure by \$92,000, UW-Extension arrives at the estimate of creating 464 job years, 297 of which are direct and indirect, while 167 are induced.

Employment impact of increased broadband penetration: Beyond the employment impact created by infusion of BCCB funding, an additional estimated 16,896 jobs will be created over the next eight years through the employment impact of expanded broadband subscribership as stimulated through the proposed project.

Based on the Brookings Institution study titled The Effects of Broadband Deployment on Output and Employment, a 1% increase in broadband penetration increases employment by 0.2 to 0.3% annually. UWEX estimates that the project will increase broadband penetration by about 39% over eight years, which would yield approximately 16,896 jobs for the 5 middle mile service areas and 8 last mile service areas (See: "BCCB Proposed funded Service Area" map in supplemental materials).

Project Impact:

In our four demonstration communities and in communities where later we will replicate BCCB, UW-Extension wants to build the human and technical capacity by which anchor institutions and their community counterparts comprehensively meet their broadband needs. We intend to have near, middle and long-term impacts via this capacity-building.

Expressed Community Needs.

The letters sent by 74 anchor institutions to support BCCB attest to a variety of unmet needs for improved broadband; their prevalent themes include:

1) Improve Inter-institutional Infrastructure in Our Community.

Anchor institutions and public safety entities want to improve interoperability and collaboratively decide on how to mesh community-wide wireline and wireless connectivity. Multi-agency interoperability is central to needs like automatic emergency vehicle location and narrowband packet radio for emergency first responders. Public safety, healthcare and



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community support agencies who serve remote vulnerable populations want to deploy regional mobile wireless broadband and integrate their critical broadband applications.

2) Provide Much More Broadband Service at Lower Cost.

All anchor institutions face unrelenting pressure to increase broadband capacity while lowering overall cost, particularly felt by institutions that serve vulnerable or remote populations. Many institutions want to work together to deal with an ongoing market failure to supply their demands for advanced, affordable infrastructure.

3) Update Broadband Infrastructure for Community-wide Economic Development.

Obsolete infrastructure prevents many institutions from providing broadband-based services for education and community development that require resilience, mobility, scalability, affordability, and community-wide coverage. Increasingly economic development has become regional requiring connectivity between communities and global markets.

4) Support Innovative Broadband Applications that Promote Well-Being and Cohesion.

Government and public access institutions face a burgeoning demand to provide advanced broadband for public safety sensor networks (e.g., closed-circuit surveillance cameras; supervisory control and data acquisition systems for public utilities) and dispersed wireless access points. Healthcare institutions want very-secure very-high-bandwidth connectivity among widespread facilities to provide virtual integration of isolated community health services with regional medical expertise. And institutions charged with promoting community well-being and cohesion want new capabilities, such as high-definition videoconferencing for telemedicine, education, and maintaining relationships with family members deployed in remote or foreign locations.

BCCB will provide the infrastructure and community capacity-building to increasingly meet these needs.

Near-Term Project Impacts: Anchor Institutions.

In the near-term on BCCB's timeline, our Proposed Funded Service Area ("PFSA") will cover 4,200 square miles where 350,305 persons reside. We propose to deploy Middle Mile broadband infrastructure to directly serve 182 facilities run by 74 anchor institutions in our demonstration communities: the small remote cities of Platteville and Superior and the urbanized metro-rural



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multi-county regions of Wausau metro-Central Wisconsin and Eau Claire metro-North West Wisconsin.

BCCB will serve all nine CCI facility types: 10 community colleges, 28 healthcare, 29 K12, 2 libraries, 17 community support organizations, 43 government facilities, 10 higher education institutions, 2 public housing, and 41 public safety.

The project will directly serve 156 facilities via fiber-optic wireline technology deployed by 204 miles of laterals. 26 facilities will distribute or bridge WiMax wireless service to 1305 square miles in the Eau Claire metro area, primarily for public safety applications but also to serve dispersed community support organizations.

The PFSA contains 504 additional facilities run by community anchor institutions, of which 50 so far expressed interest in participating in a BCCB-affiliated community area network. We project that during the next eight years 423 institutional facilities will come to use the funded infrastructure.

Near-Term Project Impacts: Last Mile.

In each demonstration community, we will provide at least one point of interconnection to serve broadband providers who request connection for the exchange of traffic with the CAN. CCI Systems will also offer points of interconnection to requesting businesses and third party broadband providers in the demonstration communities to provide access to the public Internet, transport, exchange of traffic and wholesale services.

We will deploy infrastructure into eight rural underserved Last Mile service areas in Central Wisconsin that contain 13,674 households, 550 businesses and 72 anchor institutions. CCI Systems will offer advanced broadband access to potential subscribers: 3,965 households; 10,904 residents; 494 businesses; and 72 anchor institutions. Based on experience in similar service areas, CCI Systems projects this subscriber demand over the next eight years:

- 1) Cable modem Internet (25 Mbps) : 400 households; 247 businesses; 36 anchor institutions
- 2) Digital telephone: 1,983 households; 36 anchor institutions
- 3) Advanced digital/HD TV: 1,586 households

Middle-Term Impact: Service Corridor.



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We will build 405 miles of Middle Mile fiber-optic backbone through mainly rural underserved areas to connect our four demonstration communities to the public Internet. Per U.S. and Wisconsin data used to detail our service areas, this backbone will pass within 10 miles of the following potential end-users: 774,370 people, 116 municipalities, 319,198 households, 20,625 businesses and 1,727 anchor institutional facilities.

Although we do not include this “service corridor” in our PFSA, we will build 140 potential points of interconnection at 3-mile intervals for broadband market use by interested providers. Given community interest, we plan to replicate BCCB in this corridor upon completion of defined PFSA.

Long-Term Impacts.

While BCCB will improve broadband access and stimulate economic recovery in the near-term, we believe that by implementing three capacity-building concepts, we will make a long-term impact on our communities’ broadband needs:

- 1) Community area network consortium model (CAN),
- 2) CAN service roadmap,
- 3) Early adoption of very-high-capacity wireline and wireless infrastructure.

1) Long-Term Impact: CAN.

Community anchor institutions collectively govern and fund their CAN. By participating in an ongoing design forum that builds on institutional and existing network resources, they can express their changing demands for broadband access and set the timeline to provide it. We selected demonstration communities where CAN development likely will take different paths and make different impacts. The Eau Claire metro area is our pioneer CAN – established, trusted by its institutional members, ready to build a larger mixed infrastructure and seed new CANs in the Chippewa Valley region and help our other demonstration communities establish their CANs. Wausau metro resembles the Eau Claire of 1999, with a strong, diverse group of like-minded institutions ready to collaborate. Platteville and Superior are classic Wisconsin rural towns, where a small number of core anchor institutions increasingly find common purpose and savings through collaboration. For both, this grant will act as a catalyst for others to join in the future.

2) Long-Term Impact: Service Roadmap.



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Creating a CAN is daunting work, sustaining it quite another. Our experience with existing CANs provides a picture of progressive development. By analyzing the ten years the Eau Claire-metro community has evolved into a sustainable CAN, its leaders identified this “service roadmap” as a guide:

Early:

- Connectivity to benefit the individual institution
- Connecting multiple sites, same institution
- Improved Internet access
- Collapse applications within institution

Maturing:

- Connectivity to benefit multiple like institutions
- Educational institutions and libraries share applications
- Government and public safety entities share applications
- Health care providers share applications

Mature:

- Connectivity to benefit multiple unlike institutions
- Public safety entities share with health care providers
- Government and education share common information

3) Long-Term Impact: Set the Bar High.

Our third long-term impact is that we want to set the bar high for comprehensive community broadband infrastructure: we will directly serve each BCCB community anchor facility with Gigabit Ethernet (or faster) fiber-optic service or with WiMax-standard wireless service. What the FCC wants by 2020 for all anchor institutions, we will provide within three years to our demonstration communities.

Vulnerable Populations:

Asian: Because of an infusion of Hmong, the Asian population of two of our demonstration communities is their fastest growing minority group. Asian residents represent 12% of the population in the Wausau middle mile service area and are projected to increase by 22% over the next five years. This same population represents 2.1% of the population in the Chippewa Valley middle mile serve area and is projected to grow by 24% over the next five years. With 10,000



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Hmong in the demonstration communities, the project will concentrate on this vulnerable population by collaborating with local Hmong Mutual Assistance Associations.

Hispanic: Mexican and Spanish-speaking persons represent Wisconsin's fastest-growing minority population. Over the next five years our middle miles service areas are projected to experience a 22% increase in Hispanic residents (total of 5,298 residents).

English as second language: Native speakers of Hmong and Spanish languages will receive special attention from BCCB trainers, with instruction and materials provided in their vernacular. The mobile computer labs will facilitate workshops and events targeted to the ESL population.

Low income: More than a third of the households in the Proposed funded service area earn less than \$35,000 a year

Unemployed: While the unemployment rate for the combined six middle mile service areas is about 8%, three of the six middle mile service areas currently have double digit unemployment rates: Platteville (11.1%), Superior (10.1%), Stevens Point (10.8%). Layoffs are prevalent in Wisconsin, with many job losses deemed permanent because of factory shut-downs or outsourcing. Wisconsin leads the nation in the percentage of employment in manufacturing (~16%). This idled Wisconsin workforce needs retooling and reeducation opportunities enabled by broadband are part of the solution. Three demonstration communities are located within Community Development Zones.

Senior citizens: Although many older Wisconsin residents do not perceive Internet connectivity as important, or even as desirable, seniors represent a prime population for expansion of broadband. About 14% of the population in the six middle mile service areas is over the age of 65 (compared to 12.6% for the U.S.).

Level of Need:

Listening to Our Communities.

During the last 15 months, UW-Extension and our partners traveled Wisconsin to 15 communities to host forums that brought together community anchor institutions to discuss their broadband needs and assess local capacity to meet them. We returned two and three times to these communities and the message we heard is expressed well by Chancellor Mark Nook of UW-Stevens Point:



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"By moving network access for our public institutions from a private service to a public good, we will promote community collaboration, improved public health, better access to education and information, more efficient management of public resources and improved emergency services. This partnership will not only reduce the community area network's costs but promote competition for providers to better serve business, industry and residential customers in each community as well as under-provisioned towns and rural areas on the new fiber paths coming to the community."

Community-Driven Design.

The BCCB project will directly offer new or substantially upgraded services to 182 facilities run by 74 community anchor institutions who, by participating in a community-driven design process in our four demonstration communities, expressed an unmet demand for improved broadband access. The participating institutions converged on the deployment of a locally-governed "community area network" infrastructure (CAN) connected to an advanced statewide optical network as the sustainable means to meet their demands.

Add Value by Adding Institutions.

Our design discussions also made evident that to provide a comprehensive and inclusive community broadband infrastructure, some anchor institutions must contribute not only their own fair share but also contribute significantly more to add value to their community area network by meeting the needs of their counterpart anchor institutions.

In letters submitted in the "Government and Key Partners" upload for this CCI application, 36 of these generous institutions will contribute over \$5.5 Million in non-Federal match to fund direct service to 130 facilities that they operate in the 6 BCCB Middle Mile service areas. Their contributions, plus more than \$6.6 Million in non-Federal match contributed by our statewide and other community partners, will permit direct service to another 52 facilities run by 38 anchor institutions who could not contribute match. This disparity in institutional resources reflects in part current economic conditions: the average unemployment rate in the Proposed Funded Service Area is 7.8%, ranging from 7.3% to 11.1% across the six Middle Mile service areas.

Market Failure.

Many of these same letters attest that current market conditions significantly inhibit the ability of community anchor institutions to obtain broadband services at reasonable prices that are



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comparable in speed, scalability, manageability, resilience and mobility to the services defined by the BCCB community-driven design process (see Service Offerings upload).

Of particular relevance is the decade-long response by community anchor institutions in the Eau Claire metro area to their local market's failure to meet their evolving demand for advanced broadband services: they formed the Chippewa Valley Inter-Networking Consortium (CINC) and set about growing a community area network of sufficient capacity, speed and buying power to not only meet their own needs but also spur local broadband providers to seek interconnection and offer new services. And even with this impetus, CINC's institutions still find that they must lead their region into new broadband territory: witness the BCCB's proposed mesh of fiber, WiMax and Wi-Fi services for public safety in the Chippewa Valley Service Area, built on the existing community area network operated by CINC institutions.

Competitive Landscape.

The six Middle Mile service areas share a common competitive landscape. Many anchor institutions may lease broadband transport service via a State of Wisconsin contract (Badgernet Converged Network) held by a statewide consortium of incumbent telecommunications providers. Several other incumbent providers (e.g., Charter Business, CenturyTel) also are present in these areas (see Competitor Data upload) and offer similar services at similar prices. While high capacity services up to 1 Gigabit per second are available, most anchor institutions find the pricing prohibitive. Incumbent providers do not offer dark fiber services or long term leases despite requests from interested institutions in the Middle Mile service areas.

To meet their needs in this landscape, a steadily increasing number of Wisconsin's anchor institutions have pursued building and owning their own infrastructure, with many opting to collaborate with other institutions.

BCCB Proposed Middle Mile Services and Operations.

To meet the needs of these collectively-governed anchor institution networks, we principally will deploy 1 Gigabit per second Ethernet service to facilities connected by fiber laterals, including WiMax distribution towers, and offer other institution- and provider-focused services when requested. We will transport aggregated broadband traffic via the funded CAN and long haul Middle Mile backbone infrastructure initially at 10 Gigabits per second, with options to scale up service or provide dedicated backbone services.



Broadband Infrastructure Application
Submission to NTIA – Broadband Technology Opportunities Program

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We also will deploy in the Eau Claire metro region a 1305-square-mile wireless broadband service area where facilities connected via fixed or mobile WiMax will divide a shared service of 50 to 70 Megabits per second, with each WiMax endpoint typically connected at 10 to 20 Megabits per second and frequently supporting a local Wi-Fi wireless service area.

BCCB Payback Period Assumptions.

Middle Mile infrastructure capital costs used in the following "payback analyses" principally include fiber construction and network equipment costs for BCCB community anchor institutions, community area networks and long haul inter-community backbone. Because BCCB initially will provide a 1 Gigabit per second point-to-point fiber transport service, we compute the cost-savings comparison using an equivalent service from an incumbent provider active in the Middle Mile service area. We do not provide a payback analysis for our WiMax components: there is no comparable service available in our service areas.

Platteville Demonstration Community

MM Platteville Service Area : 11.1% unemployed

Count of directly served facilities: 24

Incumbent provider (CenturyTel Business) service charge: \$48,000/year

BCCB depreciation recovery charge per facility: \$10,119/year

BCCB Cost-savings/facility: \$37,881/year

Capital expense/facility: \$139,234

BCCB payback period: 3.7 years

Eau Claire Metro - North West WI Demonstration Community

MM Chippewa Valley Service Area : 7.3% unemployed

Count of directly served facilities: 117

Incumbent provider (Charter Business) service charge: \$48,000/year

BCCB depreciation recovery charge per facility: \$11,546/year

BCCB Cost-savings/facility: \$36,454/year

Capital expense/facility: \$196,289

BCCB payback period: 5.4 years

Superior Demonstration Community

MM Superior Service Area : 10.1% unemployed

Count of directly served facilities: 6



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Incumbent provider (Charter Business) service charge: \$48,000/year
BCCB depreciation recovery charge per facility: \$11,060/year
BCCB Cost-savings/facility: \$36,940/year
Capital expense/facility: \$176,871
BCCB payback period: 4.8 years

Wausau Metro - Central WI Demonstration Community

MM Marshfield Service Area: 7.7% unemployed

MM Stevens Point Service Area: 10.8%

MM Wausau Service Area: 8.0%

Count of directly served facilities: 23

Incumbent provider (Charter Business) service charge: \$48,000/year

BCCB depreciation recovery charge per facility: \$11,269/year

BCCB Cost-savings/facility: \$36,731/year

Capital expense/facility: \$185,198

BCCB payback period: 5.0 years

For a widely-deployed 1 Gigabit per second fiber-based service, then, BCCB's capital investment payback periods range from 3.7 to 5.4 years in the four demonstration communities.

Last Mile service area.

The BCCB Last Mile service areas include the following towns and villages in Central Wisconsin: Arpin, Auburndale, Augusta, Fall Creek, Greenwood, Hewitt, Junction City, Pittsville, and Vesper. Incumbent telecommunications providers offer access in these communities, excepting Junction City. Due to bandwidth limitations on these copper telephone lines, however, the incumbent's advertised speeds have restrictions based on distance from the provider's central office facilities.

CCI Systems proposes to upgrade its existing infrastructure in these communities to a Hybrid Fiber-Coax (HFC) system, allowing access speeds over 10 Megabits per second to endpoints much farther from the CCIS central office. The RF signal amplified across the coaxial plant can handle a larger volume of data traffic than conventional twisted pair. By upgrading or reusing this HFC existing infrastructure, CCI Systems can efficiently deliver high speed broadband connections to Last Mile residents in the BCCB service areas. And Junction City will enjoy, at last, high speed broadband access.



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CCI Systems will reinvest proceeds from the funded infrastructure in these systems to bring fiber and coax farther into rural underserved portions of the BCCB service areas. We also are investigating the use of nearby towers to deploy wireless solutions to serve areas that are too expensive to build a cabled solution to. Our open network policy will allow market rate access to other providers who may deliver broadband opportunities to the outlying areas and promote further economic development.

Responding to Our Communities.

The need for this proposed BCCB network is great and pervasive in Wisconsin's communities. Dave Ross, the Mayor of the City of Superior, expressed clearly the need that BCCB will address in his community,

"In Superior, we have had challenges acquiring and affording the bandwidth necessary to carry out our missions. In addition to the economic challenges caused by decades of decline in industry and the economic catastrophe of the last few years, Superior is the most geographically distant community from the population centers of the State and thus from the greatest broadband opportunities."

But equally great in our communities is their enthusiasm to build and renew their capacity through broadband. We look forward to helping them.

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

Wireless - Terrestrial Fixed

Wireless - Terrestrial Mobile

Other:

Technology Questions



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Methodology for Area Status:

Data collected by the FCC would indicate that the growth of high speed lines in Wisconsin was 25% less than the national average over the previous five years. In addition, the percentage of business lines used for business purposes is 43% lower than the national average. While Wisconsin lacks good local broadband data on availability and subscription levels, the data that is available would suggest that all of our demonstration communities lag behind the rest of the nation. The December, 2009 Pew Internet survey suggests that 60% of adults have access to broadband at home. The more recent Digital Nation report released by NTIA reports the same finding that 40% of households do not have access to broadband. While the proposed funded service area has some factors identified in these studies as influencing lower adoption rates, we are assuming that the middle mile service areas would not meet the definition of “underserved” or “unserved”. Rather, we estimate broadband subscription rates in the middle mile service areas to be approximately 50%. This estimate is supported by a 2009 independent survey in Marathon County (Wausau) that indicated that 45% of residents were underserved. Marathon County is the wealthiest of the four demonstration communities and we anticipate subscribership levels for the other demonstration communities to be lower but above the 40% subscribership threshold. The broadband mapping project in Wisconsin has just begun, and we may soon have data that indicates something other than a “served” designation. Clearly, parts of each middle-mile service area would meet this criteria as service is not uniform throughout the regions.

For the last mile service areas, we are estimating that six of the eight areas (Arpin/Auburndale, Augusta, Greenwood, Fall Creek, Pittsville, and Vesper) meet the “underserved” definition and one could be defined as “unserved” (Junction City). In each case, our private-sector partner CCI Systems has provided subscribership numbers for their customers along with a list of competitors. In each of the six underserved last-mile service areas there is only one competitor. Competitors were assumed to have half the market and thus the CCI subscriber numbers were doubled. None of the six communities are estimated to have subscription levels greater than 22% which is well under the 40% threshold established for this definition. In Junction City, CCI has identified no competitors and thus we presume that this area is “unserved”.

Description of Network Openness:

The University of Wisconsin-Extension (UWEX) as Applicant will delegate network operations responsibility to key community area network partners in Middle Mile service areas: University



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of Wisconsin-Platteville (Platteville); University of Wisconsin-Eau Claire (Chippewa Valley); University of Wisconsin-Superior (Superior); Northcentral Technical College (Wausau); University of Wisconsin-Stevens Point (Stevens Point and Marshfield). All employ professional staffs who manage advanced broadband networks.

For the segment of the funded inter-community Middle Mile backbone network that will connect directly served community anchor institutions, UWEX will delegate network operations responsibility to our key state partner, WiscNet, who will provide connectivity to the public Internet and advanced broadband services. WiscNet has operated the state research and education network for 20 years. WiscNet will provide 24/7 on-call network operations assistance to our key community partners as it does to its 450 current anchor institution members.

For the segment of the funded inter-community backbone network that will connect the Last Mile service areas, provide residential and business broadband services and provide access, transport and wholesale services to other broadband service providers, UWEX will delegate network operations responsibility to our key for-profit provider partner, CCI Systems, who has 55 years of industry experience.

Obligations and Policies

UWEX and our delegated network operators will commit to the Nondiscrimination and Interconnection Obligations per the BTOP NOFA (January 22, 2010) and will prominently publish network management policies or notices of policy changes.

In brief, we will conform to the FCC's Internet Policy Statement issued September 23, 2005. We will follow standard best effort Internet delivery policy to ensure that any entity connected to the funded infrastructure may exercise choice in lawful Internet content, web-based applications and use of our or competitor service, including any device which is not harmful to the network, and subject to the needs of law enforcement. We will not favor any lawful Internet applications or content over others and commit to enabling competition among providers.

We will review proposed changes to the network infrastructure to ensure continued network availability and adherence to standards and policy. Emergency network change requests and network maintenance proposals will undergo a strict network design review to ensure network integrity and neutrality.



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We will offer interconnection wherever technically feasible on reasonable rates and terms to be reached upon negotiation in good faith with requesting parties. We will encourage open settlement-free peering with providers and operators. Our network management policies will prohibit the discrimination of legitimate or legal use of network capacity bandwidth by application, source or use of the network.

System Design:

Overview

UWEX has put together a multifaceted design to enable the network and broadband infrastructure to be flexible and scale almost unlimitedly as demand increases well into the future. At the physical layer, UWEX will contract for the installation of 96 strands of armored single-mode (ITU G.652 compliant) fiber to be split evenly between public and private use. In urban areas or water crossings, this fiber will be placed in one 1 ¼" HDPE conduit. However in rural areas, due to the decreased chances of fiber cuts, the ease of access for repairs, and to be more cost effective, the design calls for direct bury of the fiber (without conduit) and relies on the inherent capability of the armored fiber for protection. In some of the Community Area Networks (CANs,) due to greater institutional demand, up to 144 strands will be installed.

UWEX will delegate network operations responsibility to our key state partner, WiscNet, who will provide connectivity to the public Internet and advanced broadband services. WiscNet has operated the state research and education network for 20 years. WiscNet currently operates a Dense Wave Division Multiplexing (DWDM) fiber optic core consisting of multiple 10 Gigabit (Gb) light waves (lambdas). One of the benefits of DWDM technology is the relatively quick implementation and low cost of large incremental bandwidth. As additional research and educational bandwidth is required by anchor institutions, WiscNet will be able to add additional lambdas to meet the demand.

For the new optical transport hardware, WiscNet will use an assortment of Juniper EX4200s, Cisco 15454s, and Infinera DTCs depending on the traffic requirements of the link. WiscNet will also use its recently upgraded Juniper MX960 core routers for routing functions required by the network. WiscNet currently has core routing nodes in Madison, WI and in Milwaukee, WI, and typically maps optical channels back to both locations for redundancy purposes.

WiscNet currently has two primary public and research peering and paid internet transit locations: one in Chicago, Illinois and one in Kansas City, Missouri. From Wisconsin to these



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locations, WiscNet has over 100 Gb of transport capacity. The additional fiber and hardware installation called for in the grant will enhance and complement WiscNet’s existing network to accommodate the expected demand increase from the communities.

Wisconsin law restricts public sector entities from providing telecommunications to private sector businesses or residents. Our Public/Private partnership makes it possible to provide both dark fiber and lit services to residents, businesses and third party providers.

Demonstration Communities

Inside the Community Area Networks (CANs), various network hardware designs will be utilized to light the fiber. Some CAN designs call for routed Ethernet technology, while some CANs are choosing to use Multiprotocol Label Switching (MPLS) technology. We will also use Passive Wave Division Multiplexing (PWDM,) and Coarse Wave Division Multiplexing (CWDM) technologies. As demand grows in the CANs, DWDM technology can also be used.

For upstream connectivity, each demonstration community will connect to a facility run by the BCCB identified network operator (e.g. UWS in Superior.) The public Interconnect point is located here for access to ISPs. This is also where the WiscNet POP is located, providing commodity Internet and high speed access to advanced R&E networks.

Community Wireless

Wireless access in the Chippewa Valley demonstration community is provided by 2.5 WiMAX and 2.4 WiFi with fiber backhaul. WiMAX supports mobile, fixed, and tower-to-tower applications. Public safety vehicles and educational users will be the primary users of the wireless canopy along with a few facilities that cannot feasibly be reached with fiber. Vehicles and fixed locations utilize Cisco 888 router (or equiv.) supporting 802.11b,g,n and WiMAX. WiMAX covers up to 7 miles from towers, and can share up to 70Mb per channel. Users are expected to see 5-10Mb average throughput. Distributed WiFi hotspots offload traffic from mobile users whenever possible to preserve valuable WiMAX capacity. The system will provide nearly 100% coverage of the Eau Claire metro area. Area topology is uneven, limiting the reach of some antennas. WiMAX access will utilize GSA licensed EBS spectrum (WHR648, channels 1,2,3,4). The spectrum is currently being obtained from the WI Educational Communications Board and the final tower heights and power levels permitted by the FCC are being determined. All tower facilities are available to third party providers.



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Last Mile and Commercial Services

Designated sites along the new fiber path will be equipped with Cisco 15454s. At each site, a Cisco 7600 router will provide IP services for local system needs, residential and business customers, and other service providers. The 7600 routers will be connected together over the DWDM system and back to the headend to provide end-to-end MPLS services. Cisco SONET systems will also be installed at each site to provide end-to-end legacy TDM services including: DS-1, DS-3, OC-3, and OC-12 services. There already exists a varying amount of equipment; including, receivers, routers, lasers and cable modem termination systems at these sites. The proposed system with its increased bandwidth, will allow these sites to be streamlined, improved, and upgraded to DOCSIS 3.0. Video content can then be transported to these sites using IP multicast.

This new integrated system will allow for much faster Internet access, enhanced digital TV (including HD content) and DVR functionality, as well as consistent and reliable voice services.

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?

Yes

I. Project Budget

Project Budget		
	Federal Grant Request	Match
Last Mile	464,988	53,603
Middle Mile	29,419,931	12,788,222
Total	29,884,919	12,841,825

Project Budget Total: \$42,726,744

Match Percent: 30.1%

Projects Outside Recommended Funding Range:

- The University of Wisconsin-Extension’s proposed project is not outside of the recommended funding range.



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Outside Leverage	
Applicant is providing matching funds of at least 20% towards the total eligible project costs?	Yes
Matching cost detail	<p>There are (40) partners contributing cash and/or in-kind match to the UWEX Building Community Capacity through Broadband (BCCB) project. Thirty-seven (37) of the partners are contributing cash, fifteen (15) partners are contributing in-kind match, and twelve (12) partners are contributing cash and in-kind. The full details of match for each partner are in the Additional Supplemental Materials #5 – Required Match Detail by Partner. Due to the number of partners, the details will not fit in the space provided. Below is a quick overview of matches provided by our multiple partners:</p> <p>Cash Match Thirty-seven partners are providing cash match to our project. Of these partners, three are statewide organizations and thirty-four are local organizations within demonstration community service areas. Each of the statewide organizations will provide cash matches exceeding one million each and locally organizations will provide individual cash matches ranging from \$4,000 to \$600,000. The average cash match is \$250,000, representing an average percent of total budget of 0.58%.</p> <p>In-Kind Match In-Kind Match is being provided by both statewide partners and local organizations within demonstration community service areas. Fifteen (15) partners are providing an average in-kind match of \$240,000 each, representing an average percent of total budget of 0.56%.</p> <p>Nine (9) of the partners providing In-Kind match are sub-recipients of this application. In the remaining six (6) will be benefitting from the project in a variety of ways. Some are getting fiber strands in return for their match. Some will be able to have a redundant network path</p>



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	<p>and/or upgraded capacity to facilities that are currently connected via an existing fiber network. A few of the partners are also supporting the project because they recognize the community-wide benefits to a high-speed network between anchor institutions. While their institutions may not directly benefit from the project, they will have an increased ability to collaborate with community and metropolitan partners.</p> <p>Again, please see the Additional Supplemental Materials #5 – Required Match Detail by Partner for more details.</p>
Unjust enrichment	<p>University of Wisconsin – Extension (UWEX) and its sub-recipients of the Building Community Capacity through Broadband (BCCB) project have received only one Federal award for non-recurring costs in one area that a BTOP CCI award is being sought.</p> <p>The Federal award was made to the Platteville Demonstration Community for fiber running from the University of Wisconsin – Platteville (UWP) campus to the UWP farm - a learning and research facility. This was built in 2003 mostly with federal dollars from a larger farm project.</p> <p>They were funds spent out of a congressional appropriation for the Wisconsin Agriculture Stewardship Initiative (WASI). Spent out of 144-5-214414-2400, listed as "WASI support", the total amount was \$127,282.38</p> <p>This fiber will connect to the Community Area Network (CAN) but was not listed as in-kind or as part of the mileage or network, as it was federal money and was not an allowable in-kind match</p> <p>No awards are being applied for or have been applied for to provide Federal support for non-recurring costs in the area that a BTOP CCI award is being sought. This includes UWEX, WiscNet, CCI Systems, University of Wisconsin System and all sub-recipients in the demonstration communities.</p>
Disclosure of federal and/or state funding	<p>University of Wisconsin – Extension (UWEX) and its sub-recipients of the Building Community Capacity through Broadband (BCCB)</p>



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sources	<p>project have received the following Federal funding for activities to which this applications relates:</p> <p>In the Chippewa Valley Demonstration Community, members of the Community Area Network (CAN) received two federal grants related to the CAN infrastructure. Both grant amounts were deducted from the total in-kind gross of the Chippewa Valley’s CAN for the BCCB project:</p> <p>a. A FCC Rural Health Care Pilot Program Grant administered by the Universal Service Administrative Company (USAC) of \$655,200 was awarded in 2009 and all remaining invoices are in process. Disbursements so far include:</p> <p>October 2009 \$311,645.45 November 2009 \$75,043.61 December 2009 \$9,330.44 2009 Total: \$396,019.50</p> <p>b. A Chippewa Valley CAN Galloway/Mt. Tom Project grant of \$199,000 was funded in 2007 by the State of Wisconsin Public Service Commission (PSC) Wireless E911 Program. This total project was \$235,000 and included a match from the City and County of Eau Claire in the amount of \$35,000. This grant upgraded equipment and infrastructure to improve wireless 911 service to citizens.</p> <p>UWEX and no other sub-recipients have received funding from the Schools and Libraries Program, Rural Health Care Program, or the High Cost Program.</p>
Budget reasonableness	<p>In the BCCB Demonstration Communities, we have relied on our community anchor institutions to work with local fiber contractors and equipment vendors to get the best cost estimates. Local contractors have intimate knowledge of local geology, and the impact it may have on cost. They are also able to provide advice on which routes are the best for installing fiber at minimum cost.</p>



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Private Partner Involvement

Construction estimates for the Inter-Community Middle Mile Backbone Network are based on CCI Systems' fifty-five years of historical data for the construction of utilities in and around these corridors. A majority of these corridors are utilizing previously disturbed right-of-way provided by the Wisconsin Department of Transportation (DOT). Collaboration with DOT has allowed us to utilize limited access corridors that provide economical and direct routes. The project assumes that all fiber will be buried within these corridors. We also take into account that portions of each path may require a directional bore through rock. This is included in the per-mile fiber costs. CCI Systems has researched subsurface and environmental conditions. The restricted access to these corridors minimizes impact on maintenance and the possibility of fiber cuts due to construction of other utilities and general development.

Last Mile costs have been minimized by upgrading technologies on existing networks. Hybrid Fiber-Coax (HFC) infrastructure is a proven delivery mechanism throughout the communications industry. This technology economically delivers high capacity bandwidth to end users.

Proven Success

The Demonstration Communities have used the CINC Community Area Network (Chippewa Valley) as a proven model for what type of equipment works. The CINC model will be replicated in the other three Demonstration Communities' CANs, with some modifications to account for local preferences. Valuable lessons learned by CINC throughout their history as they have optimized their community networking methodology can now be shared throughout the state.

WiscNet provided the network design for the long haul backbone in



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	<p>this BCCB proposal. WiscNet currently operates a multi-state Regional Optical Network and has extensive experience building and supporting such networks. Their network design takes into account maximum optical signal loss between amplifier or add/drop nodes creating an efficient optical design that ensures reliable communications with a minimum of equipment and operating expense. UWEX’s partner - WiscNet has proven methods for cost-efficiently providing large capacity networks.</p> <p>Competitive Procurement</p> <p>Most of our partners are governed by State of Wisconsin procurement rules. All anticipated purchases made in support of this project are covered by State of Wisconsin purchasing contracts. Although these contracts dictate a minimum discount off of list price, we will bid these purchases out to get the best price possible.</p>
<p>Demonstration of need</p>	<p>Despite the CINC Community Area Network having been around for 10 years, Wisconsin has failed to launch any other wide-scale Community Area Networks. U.W. Extension and its partners are well positioned to respond to this opportunity to build this same type of organizational capacity in a time of extraordinary need. Until recently, there has been a lack of awareness and recognition of the importance of broadband in communities. The National Broadband Plan, National Broadband Initiative, and state-wide mapping project has drawn attention to the many broadband challenges facing the State of Wisconsin. This increased visibility and Broadband Technology Opportunities Program has eased the challenge of engaging community partners to collaborate in a once-in-a-lifetime opportunity.</p> <p>Until now, there has been a lack of large-scale funding sources needed to implement network infrastructure of a meaningful size. The capital buy-in required for fiber networks is larger than most grants available that would allow the build out of the kinds of networks needed to meet today's broadband services in our small communities.</p>



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	<p>During these economic times, public institutions have extremely limited funds to build out high-speed network infrastructure. Several communities currently install conduit as road construction is performed. This reduces future cost of installing fiber. However, they rarely have the money to install fiber at the same time as the conduit. This has forced community partners to work together collaboratively for the first time. As an example, many of our grass roots partners are contributing \$50,000 or less. This amount of money is not sufficient to build infrastructure on their own.</p> <p>The difference between the NPV for the Pro-Forma without BTOP funds and with BTOP funds is \$33,137,394. We calculated Net Present Value using the Terminal Value and Discount Rate provided in the Application Guidance. This exceeds our Federal Grant request by \$40,298,124. We, and our partners, have struggled to find matching dollars to exceed the 30% match suggestion. A couple of our partners have stepped up and provided matching funds so those with less resources can benefit from this opportunity.</p> <p>In the Demonstration Communities, there are not traditional broadband services offered by the network operators. The CAN services represented in the pro-forma recover the ongoing costs for each site. Equipment replacement costs will be the responsibility of each institution, but they will share network management and operations costs.</p> <p>For the Inter-Community Middle Mile Backbone Network, our WiscNet partner is offering 1GB and 10GB lambdas to CAIs as well as a dark fiber service. The rates for these services only recover operating costs and equipment refreshment costs.</p> <p>The Proposed Funded Last Mile Service Areas has a population so small that the rate of return on the investment would not justify the needed capital to provide service to these communities</p>
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Funds to States/Territories

States	Amount of Federal Grant Request
Wisconsin	29,884,919

Funds to States/Territories Total: \$29,884,919

J. Historical Financials

Matching Funds			
	2007	2008	2009
Revenue	111,971,238	108,340,018	124,282,806
Expenditures	110,115,105	116,458,373	114,743,403
Net Assets	51,650,689	43,590,390	53,129,791
Change in Net Assets from Prior Year	3,396,569	-8,118,353	9,539,398
Bond Rating (if applicable)	NA	NA	NA

K. Project Readiness

BTOP Organizational Readiness

University of Wisconsin – Extension (UWEX) in collaboration with our key partners is prepared to implement, manage and sustain the proposed Building Community Capacity through Broadband (BCCB) project.

As a statewide institution of higher education, UWEX has carried out our educational outreach mission with distinction and excellence, working with local agencies in all 72 counties to extend resources and knowledge of the University to advise community development. Today UWEX fields the nation’s most extensive network of community educators and campus-based specialists focused on community and economic development. As evident in the BCCB staffing plan,



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UWEX gives high priority to community broadband deployment, particularly for vulnerable populations. We are veterans in managing multi-million dollar grants and have had fiduciary responsibility for many grant funded projects over the decades.

For the BCCB project, UWEX has added to our management structure a Project Oversight Board of our key partners that includes representatives with advance network management expertise from both the private and public sectors. Project staff is a blend of highly qualified individuals who have expertise in project management, community development, fiscal compliance, and reporting, fiber management and long haul infrastructure construction.

Our key partners enhance our project by bringing further expertise and experience to the effort. WiscNet - Wisconsin's Research, Education and Public Service Network will dedicate staffing, leadership, in-kind and cash match to ensure success. WiscNet has critical expertise in advance optical networking and many relationships already established with contractors, vendors and community anchor institutions. They too, have been instrumental in helping develop Community Area Networks in each of the demonstration communities as well as seeding additional CANS throughout Wisconsin. WiscNet will also has operational and billing support systems in place to ensure project success.

CCI Systems, another key partner is an advanced communication and technology provider currently serving anchor institutions, businesses, residents, organizations and over 25,000 homes passed in Michigan's Upper Peninsula and Wisconsin. The company has also been serving customers both nationally and internationally for over 50 years with a full offering of 21st Century broadband technology solutions, products and services. CCI is one of the only firms to offer an integrated end-to-end service solution. CCI Systems and WiscNet have successfully partnered on previous projects. CCI Systems also has served an integral role in the decade-long development of the CAN in Eau Claire – Chippewa Valley.

In addition, our local community partners within the demonstration communities bring to the BCCB project a local commitment, technical expertise and relationships that will not only ensure success but allow growth and expansion beyond this grant.

Construction and Vendor Contracts

The University of Wisconsin-Extension performed a Request for Bid in preparation for opportunities such as this grant. This bid provides procurement authority for fiber we may build



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or lease. The bid puts in place ceiling rates the contractors and vendors may charge us. We expect that quotes for actual builds will come in lower than these rates. Agreements have been signed with three vendors. Negotiations are near final with an additional five vendors. We anticipate those agreements will be signed by the end of April 2010. Our private partner, CCI Systems, Inc., is one of the contractors who have signed, or will sign, an agreement. This contract is available for all of our public partners' use.

During our procurement process, we notified each of the construction vendors that we may have work that will be funded with BTOP dollars. They were given a list of the information we will require from them on a monthly basis, as well as any terms and conditions to which they may need to adhere.

The State of Wisconsin has competitively-bid contracts in place for several network equipment manufacturers. These contracts will be used for the procurement of network equipment for this project.

Our private partner has agreements in place with multiple "preferred partners" for the construction of fiber optic infrastructure. They have committed to following federal procurement rules for the purchase of network equipment and any other necessary commodities.

Customer Base

The Proposed Funded Service Area (PFSA) is currently served by three UW-Extension partners: CCI Systems, WiscNet, and the Chippewa Inter-networking Consortium (CINC). Our nonprofit partner organization (WiscNet) serves 34 community anchor institution members within the Middle Mile service areas of the PFSA. Our community area network partner (CINC) currently serves 12 community anchor institutions within the Chippewa Valley Middle Mile service area. Our for-profit broadband service partner (CCI Systems) currently serves 195 residential customers in six of the eight Last Mile service areas (Augusta, Arpin/Auburndale, Hewitt, Junction City, Fall Creek, Pittsville, and Vesper). The Last Mile service areas of Junction City and Greenwood are not currently served by CCI Systems. CCI Systems does not currently have third party provider customers in the PFSA.

Licenses, Regulatory Approvals and Agreements

Permits - not applied for. CCI Systems will install most fiber and will get needed permits. UWEX prepared for this project by contracting with multiple fiber constructors via a competitive procurement; responsibility for securing required permits is included in the contracted services.



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Rights of way, Land, Building, and Tower leases – approved. Our key partners in each demonstration community - city, county, and WISDOT – control the required facilities and rights of way and have authorized the project. WISDOT contributed state highway rights of way as in-kind match.

Wireless spectrum – approved. The Wisconsin Educational Communications Board approved EBS frequency use for WiMAX use in the Chippewa Valley demonstration community, with a letter of agreement due upon grant award.

CCI Systems holds the following cable or video franchise authorities:
State-Issued Certificate of Franchise Authority (SICFA) to provide cable or video service in the State of Wisconsin (issued 5/29/2008):
Augusta – SICFA modified 10-15-09
Fall Creek – SICFA modified 10-15-09
Greenwood – SICFA modified 11-12-08
Hewitt – SICFA modified 11-12-08

Town of Arpin, Wood County (expires 6/11/2021): Arpin
Town of Auburndale, Wood County (9/14/2017): Auburndale
Village of Auburndale, Wood County (9/7/2017): Auburndale
Village of Junction City, Portage County (5/8/2014): Junction City
City of Pittsville, Wood County (7/14/2012): Pittsville
Village of Vesper, Wood County (4/5/2018): Vesper

SPIN Number

WISNET 143004351
CCI 143008419

L. Environmental Questionnaire

Project Description



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University of Wisconsin-Extension in cooperation with CCI systems is proposing to install approximately 580 miles of broadband utility cable as part of the National Telecommunications and Information Administration Broadband Technology Opportunities Program. The installation project also will include placement of 4 small buildings and 15 new tower and dish arrays. The project corridors extend from Madison to Platteville and Superior to Summit Lake (via Eau Claire and Wausau) as shown in Supplementary Information: Environmental Maps: Overview and Corridor maps.

Property Changes

The proposed route that has been selected for this broadband utility corridor is located entirely within previously disturbed State of Wisconsin highway or other road rights of way. The only Federal land identified along this route is at the St. Croix National Scenic Riverway along State Highway 53. The proposed construction methods will minimize the amount of soil disturbance created by this project. Approximately 95% of the installation will be completed using the vibratory plow method. Directional boring will be employed to cross existing features (e.g. roads, rivers, and streams, and large wetlands), and limited trenching will be used to connect the directional bore areas to the vibratory plow areas. Routing within existing rights of way will allow for minimal vegetative clearing, with a limited amount of brushing anticipated to be necessary.

Buildings

The proposed route that has been selected for this broadband utility corridor is located entirely within the limits of previously disturbed State of Wisconsin highway or other road rights of way. In addition to the proposed route, four new buildings are proposed to house mechanical equipment. These will be factory built, pre-assembled, all steel, noncombustible buildings with a footprint of 9 by 13 feet and a height of 9 ft 6 in. The proposed locations of these buildings are shown in Supplementary Information: Environmental Maps: Corridor Review Maps, Sheets 4, 27, 44 and 53.

Wetlands

The presence of wetlands along the proposed project corridor was determined by consulting the U.S. Fish & Wildlife Services National Wetland Inventory (NWI) database. The locations of the mapped NWI wetlands were overlain on the project route, as shown in Supplementary Information: Environmental Maps: Corridor Review Maps. Please note that an NWI mapping



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layer was not available for all of the counties traversed by the proposed route. The proposed route is located entirely within previously disturbed right-of-way areas for State of Wisconsin highways or other roads. Portions of these right-of-ways include wetland areas that will need to be crossed. Use of routes along existing right-of-ways represents a strategy that will result in minimization of disruption to ROW wetland areas and also protect natural wetlands outside these ROWs. Permitting will also be greatly simplified. Access for construction vehicles and equipment to within 50 feet of the proposed locations can be secured using the highways, resulting in greatly reduced impacts to wetlands in other areas where wetland would be disturbed not only for insertion of the communications line but also for accessing the areas.

Critical Habitats

The presence of threatened, endangered or candidate species, or critical habitats in the vicinity of the site was determined by consulting the U.S. Fish & Wildlife Services database for the 15 counties traversed by the proposed project route. The species, their status (threatened, endangered, candidate, etc.), and the counties for which they are listed are summarized below. It is likely that some of these species will not be a concern along the proposed project route due to their transient nature (gray wolf, Canada lynx, whooping crane) or requirement of a freshwater habitat (spectaclecase, Higgins eye pearly mussel, sheepnose). Please note species are listed for counties as a whole, and in each instance, it is uncertain whether the limited area to be disrupted for this project is coincident with specific areas of critical habitat associated with each species.

Gray wolf (*Canis Lupus*), Endangered

- Barron
- Chippewa
- Clark
- Douglas
- Eau Claire
- Langlade
- Marathon
- Portage
- Shawano
- Washburn
- Wood

Karner blue butterfly (*Lycaeides melissa samuelis*), Endangered



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Barron
Chippewa
Clark
Eau Claire
Portage
Shawano
Wood

Spectaclecase (*Cumberlandia monodonta*), Candidate
Chippewa
Grant

Whooping crane (*Grus americanus*), **Non-essential experimental population
Clark
Dane
Grant
Iowa
Lafayette
Marathon
Shawano
Wood

Higgins eye pearly mussel (*Lampsilis higginsii*), Endangered
Dane
Grant
Iowa

Eastern prairie fringed orchid (*Platanthera leucophaea*), Threatened
Dane

Mead's milkweed (*Asclepias meadii*), Threatened
Dane
Grant
Iowa



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Prairie bush-clover (*Lespedeza leptostachya*), Threatened

Dane

Grant

Iowa

Lafayette

Canada lynx (*Lynx canadensis*), Threatened

Douglas

Washburn

Kirtland's warbler (*Dendroica kirtlandii*), Endangered

Douglas

Washburn

Piping plover (*Charadrius melodus*), Endangered

Douglas

Piping plover (*Charadrius melodus*), Critical Habitat Designated

Douglas

Fassett's locoweed (*Oxytropis campestris* var. *chartacea*), Threatened

Douglas

Portage

Sheepnose (*Plethobasus cyphus*), Candidate

Eau Claire

Grant

Iowa

Hine's emerald dragonfly (*Somatochlora hineana*), Endangered

Grant

Iowa

Northern monkshood (*Aconitum noveboracense*), Threatened

Grant



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Eastern massasauga (*Sistrurus catenatus catenatus*), Candidate Wood

Floodplain

Federal Emergency Management Agency (FEMA) National Floodplain Maps were reviewed to determine if the proposed route is located within and 100 or 500 year floodplains. These maps were obtained from the FEMA web site and overlain on the route map to make this determination. However, due to the length of the project and the scale required to view the FEMA data, it was not practical to present that information on the Supplementary Environmental maps with this submittal. In addition, due to the number of floodplain areas involved, it was not practical to prepare FIRMette maps for all of the locations involved. Review of the FEMA maps indicate the proposed route passes through several floodplains. However, none of the four proposed pre-fab buildings are located within floodplains, and because the remainder of the project will be entirely below grade, there will be no change to the flood capacity within the floodplains.

Protected Land

The presence of wetlands along the proposed project corridor was determined by consulting the U.S. Fish & Wildlife Services National Wetland Inventory (NWI) database. The locations of the mapped NWI wetlands were overlain on the project route, as shown in Supplementary Information: Environmental Maps: Corridor Review Maps. Please note that an NWI mapping layer was not available for all of the counties traversed by the proposed route. The proposed route is located entirely within previously disturbed right-of-way areas for State of Wisconsin highways or other roads. Portions of these right-of-ways include wetland areas that will need to be crossed. Use of routes along existing right-of-ways represents a strategy that will result in minimization of disruption to ROW wetland areas and also protect natural wetlands outside these ROWs. Permitting will also be greatly simplified. Access for construction vehicles and equipment to within 50 feet of the proposed locations can be secured using the highways, resulting in greatly reduced impacts to wetlands in other areas where wetland would be disturbed not only for insertion of the communications line but also for accessing the areas.

Coastal Area



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The National Oceanic and Atmospheric Administration, Office of Ocean and Coastal Resources web site was consulted to identify whether the project route is located within any coastal zone management areas (CZMAs). There are no CZMAs identified in the vicinity of the proposed project route.

Brownfield

The EPA web site was consulted to identify any brownfield sites in the vicinity of the proposed project route. The locations of these sites were mapped and are shown in Supplementary Information: Environmental Maps: Corridor Review Maps. While a few brownfield sites are located in the vicinity of the proposed project route, the route does not directly intersect any brownfield sites. Should areas of previously documented or undocumented contamination be encountered at locations within the route, the location within the right-of-way will provide many advantages over other types of sites in completing the installations without delays. There should be minimal direct contact or vapor exposure issues, and contamination sources are likely to be on adjacent properties rather than within the right-of-way proper, minimizing the likelihood of soil management issues.



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Uploads

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

Upload Name	File Name	Uploaded By	Uploaded Date
Service Offerings and Competitor Data	CCI 18 01 Service Offerings Competitor Data (2).xls	Stroud, Maria	03/26/2010
Network Diagram	network_diagrams_final.pdf	Stroud, Maria	03/26/2010
Build Out Timeline	build_out_timeline.pdf	Stroud, Maria	03/26/2010
List of Community Anchors and Points of Interest	CCI 18.04 Anchor Detail and POI Attachment.xls	Stroud, Maria	03/25/2010
Management Team Resumes and Organization Chart	Management Team Resumes and Org chart.pdf	Stroud, Maria	03/20/2010
Historical Financial Statements	Upload Historical Financial Statements.pdf	Stroud, Maria	03/23/2010
Budget Narrative	upload+template CCI Budget+NarrativeFINAL.doc	Stroud, Maria	03/26/2010
Detailed Budget	Copy of CCI Detailed Budget 031910.xlsx	Stroud, Maria	03/26/2010



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Pro-forma Forecast	proforma_final.xls	Stroud, Maria	03/26/2010
Subscriber Estimates	Subscriber Estimates_template5.xlsx	Stroud, Maria	03/26/2010
Dashboard Metrics	CCI Key Metrics Dashboard Upload.doc	Stroud, Maria	03/26/2010
Service Area Data	service_area_data.xls	Stroud, Maria	03/23/2010
Waivers	CCI 18 14 Waiver_sectionVD3_NOFA.doc	Stroud, Maria	03/25/2010
Network Maps	18.15 Network Map Overview.pdf	Stroud, Maria	03/24/2010
Network Maps	18.15 Network Map Superior.pdf	Stroud, Maria	03/24/2010
Network Maps	18.15 Network Map Eau Claire Overview.pdf	Stroud, Maria	03/24/2010
Network Maps	18.15 Network Map Eau Claire Section 1.pdf	Stroud, Maria	03/24/2010
Network Maps	18.15 Network Map Eau Claire Section 2.pdf	Stroud, Maria	03/24/2010
Network Maps	18.15 Network Map Eau Claire Section 3.pdf	Stroud, Maria	03/24/2010
Network Maps	18.15 Network Map Platteville.pdf	Stroud, Maria	03/24/2010
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Network Maps	18.15 Network Map Wausau Stevens Point.pdf	Stroud, Maria	03/24/2010
Network Maps	18.15 Network Map Wausau Marshfield.pdf	Stroud, Maria	03/24/2010
BTOP Certifications	CCI Certifications pdf.pdf	Stroud, Maria	03/25/2010
SF-424 C and D	CCI SF424 C upload.pdf	Stroud, Maria	03/25/2010
Supplemental Information	environmental_maps_2.pdf	Stroud, Maria	03/26/2010
Supplemental Information	environmental_maps_1.pdf	Stroud, Maria	03/26/2010
Supplemental Information	additional_supplemental_information_final.pdf	Stroud, Maria	03/26/2010
Supplemental Information	Dave_Obey_additional_letter_of_support.pdf	Stroud, Maria	03/26/2010
Supplemental Information	CCI Table of Contents- Key Partners.pdf	Stroud, Maria	03/23/2010
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Supplemental Information	Statewide partner2- CCI Systems, John Jamar.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Statewide partner3- UW System, Kevin Reilly.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Statewide partner4, WI DOT, David Vieth.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Statewide partner5- UW Extension, Steve Wildeck.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Statewide partner6- UW DoIT, Ronald Kraemer.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Statewide partner7- ECB, Gene Purcell.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner1- CINC, Ross Wilson.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner2- Luther Midelfort, Todd Munden.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner3- St. Joseph-Sacred Heart Hospitals, Ronstrom-Fish.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner4- City of Eau Claire City Manager, Mike Huggins.pdf	Stroud, Maria	03/23/2010



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Supplemental Information	Chippewa partner5- Chippewa County, William Reynolds.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner6- Eau Claire County Board, Gregg Moore.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner7- WITC, John Will.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner8- Chippewa Valley Tech College, Tom Huffcutt.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner9- Spooner Health System, Michael Schafer.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner10- UW Stout, Charles Sorensen.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner11- UW-Eau Claire, Chip Eckardt.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner12- Eau Claire School District, Robert Scidmore.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner13- Rice Lake School District, Thomas Lange.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner14- Altoona School District, Kathy Dahl.pdf	Stroud, Maria	03/23/2010



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Supplemental Information	Chippewa partner15- School District of Mondovi, Cheryll Gullicksrud.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner16- UW Health Eau Claire, Jerry Barton.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner17- City of Chippewa Falls, Richard Rubenzer.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner18- City of Spooner, Gary Cuskey.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner19- CESA 10, Ross Wilson.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner20- Spooner Area School District, Donald Haack.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner21- Chippewa Area Catholic Schools, Chad Ronnander.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner22- Chetek-Weyerhaeuser School District, Tammy Lenbom.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner23- Chippewa Falls Unified School District, Scott Kowalski.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner24- Fall Creek School District, Chuck Kukura.pdf	Stroud, Maria	03/23/2010



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Supplemental Information	Chippewa partner25- Chippewa Valley Regional Airport, Charity Speich.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner26- Indianhead Library, John Thompson.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Chippewa partner27- Chippewa Valley Free Clinic, Brent Hafele.pdf	Stroud, Maria	03/23/2010
Supplemental Information	Superior partner1- UW Superior, Julius Erlenbach.pdf	Stroud, Maria	03/23/2010
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Supplemental Information	Wausau partner1- Northcentral College, Lori Weyers.pdf	Stroud, Maria	03/25/2010
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Supplemental Information	Wausau partner4- UW Stevens Point, Mark Nook.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Wausau partner5- City of Wausau Mayor, James Tipple.pdf	Stroud, Maria	03/25/2010
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Supplemental Information	Statewide support14- WI Dept of Agriculture, Rod Nilsestuen.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Statewide support15- WI Legislature, Holperin-Mursau.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Statewide support16- UW Extension, Richard Klemme.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Statewide support17- North State Utility, Jason Boxrucker.pdf	Stroud, Maria	03/25/2010



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Submitted Date: 3/26/2010 8:04:29 PM		Easygrants ID: 5710	
Funding Opportunity: Broadband Technology Opportunities Program		Applicant Organization: UNIVERSITY OF WISCONSIN SYSTEM	
Task: Submit Application - BTOP		Applicant Name: Mrs. Maria Alvarez Stroud	

Supplemental Information	Statewide support18- Push Inc., Jack Lapcinski.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support1- WI Legislature, Pat Kreitlow (11 signatures).pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support2- Hmong Mutual Assistance, SiaCha Lor.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support3- RWHC, Tim Size.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support4- CCEDC, Tim Swiggum.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support5- Boys & Girls Club, Craig Olsen.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support6- Clark County Clerk, Christina Jensen.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support7- Eau Claire Housing Authority, Keith Johnathan.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support8- River Country RC&D, Richard Purdy.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support9- Abbotsford Chamber, Jennifer Lopez.pdf	Stroud, Maria	03/25/2010



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Supplemental Information	Chippewa support10- Chippewa Valley Hospital, Douglas Peterson.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support11- OakLeaf Surgical Hospital, Michael McLain.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support12- Baldwin Medical Center, Alison Page.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support13- Hudson Hospital, Marian Furlong.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support14- Memorial Medical Center, Scott Polenz.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support15- Amery Regional Medical, Michael Karuschak.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support16- Dove Healthcare, Jim Deignan.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support17- School District of Abbotsford. Reed Welsh.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support18- Our Lady of Victory Hospital, Cindy Eichman.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support19- Open Door Clinic, Deb Beiging.pdf	Stroud, Maria	03/25/2010



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Supplemental Information	Chippewa support20- Eau Claire Police Dept, Jerry Matysik.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support21- Eau Claire Fire and Rescue, Ed Kassing.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support22- Chippewa Valley Museum, Susan McLeod.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Chippewa support23- LE Phillips Senior Center, Mary Pica-Anderson.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Superior support1- School District of Superior, Janna Stevens.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Superior support2- Douglas County Administration, Steven Koszarek.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Superior support3- Douglas County Board, Douglas Finn.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Superior support4- City of Superior Mayor, Dave Ross.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Superior support5- UW Extension-Douglas County, Fariba Pendleton.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Platteville support1- WI State Senator, Dale Schultz.pdf	Stroud, Maria	03/25/2010



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Supplemental Information	Platteville support2- Public Library, Rose Frost.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Platteville support3- City Senior Center, Connie Steinhoff.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Platteville support4- Saint Mary School, Jean Lange.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Wausau support1- WDB, Sally Cutler.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Wausau support2- Hmong Mutual Association, Peter Yang.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Wausau support3- Wausau-Marathon Diversity Affairs, Thomas Lee.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Wausau support4- UW Extension, Mary Kluz.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Wausau support5- The Neighbors Place, Tom Rau.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Wausau support6- Marathon Public Library, Phyllis Christensen.pdf	Stroud, Maria	03/25/2010
Supplemental Information	Wausau support7- UW Marathon County, Sandra Smith.pdf	Stroud, Maria	03/25/2010



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Supplemental Information	Wausau support8- WI Legislature, Russ Decker-Donna Seidel.pdf	Stroud, Maria	03/25/2010
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