



## Executive Summary

### Northeast Michigan Rural Broadband Initiative (*NEMI*)

a) With the Broadband Technology Infrastructure Program, Alpena Public School District (APS) as fiduciary and Alpena Regional Fiber Consortium (ARFC) as project manager have a unique opportunity to expand services from the current ARFC partner composition of thirteen (13) Federal, State, local government, and non-profits to seventeen (17) new connections, bringing the service of this WAN to thirty (30) connections. This opportunity has brought together two other effective, savvy telecom non-profits to assist: Merit Network Inc., a University of Michigan-spawned telecom non-profit, facilitator and provider of broadband services; and AllBand Communication Coop, another rural telecom non-profit, whose founding was advanced by Michigan State University to serve northeast Michigan.

Our proposal differs from another northern Michigan collaborative in two very important ways:

Our fiber collaborative infrastructure physically exists, and has functioned successfully for the past three years; and

Our fiber network is not seeking to serve the commercial, private sector in direct competition with private companies, but rather is focused on providing a wide area network (WAN) for government and non-profit agencies.

b) The proposed project is located in northeast, Lower Peninsula of Michigan. The incorporated communities affected by the project include the County of Alpena, City of Alpena, Alpena Township, Maple Ridge Township, Wilson Township, Sanborn Township and the County of Alcona's Haynes Township, Alcona Township, Hawes Township, and Gustin Township. The project area is composed of eleven (11) US Census Tracts, twenty-four (24) Block Groups, and 495 Blocks. Per the Broadband USA Mapping Tool, the area served equates to 25 square miles, which contains a population of 11,959, of which 11,840 of those residents (99%) are designated underserved.

c) There are a total of 5,655 households included in this proposed fiber-based WAN, of which 5,620 households (99.4%) are underserved. The proposed fiber run is approximately 40 miles long and will pass approximately 316 businesses (retail, commercial, governmental, non-profit).

d) A roster of the current Alpena Regional Fiber Consortium (ARFC) partners include:  
Alpena Cancer Center, Alpena Community College, County of Alpena,  
Alpena Oxygen & Equipment, Alpena Public Schools, Alpena Regional Medical Center,  
City of Alpena, Northeast Michigan Cooperative, Northeast Michigan Community  
Mental Health, Northeast Michigan Community Service Agency,  
Northland Library Cooperative, National Oceanic and Atmospheric Administration  
(NOAA) / Thunder Bay National Marine Sanctuary and the  
State of Michigan, Department of Corrections.

e) The purpose of this grant application (*NEMI*) is to assist non-profit organizations by providing reliable, cost effective high-speed fiber optic last mile access that would be unfeasible but for federal assistance. It will allow area non-profits to tap into unlimited internet technology to assist with bringing much needed technology and opportunity to Northeast Michigan non-profit organizations, and it will allow area non-profits to expend their limited revenues on social services to assist the State of Michigan's highest unemployed region.

In order to provide these services, the ARFC is investing in the development of 40 new miles of fiber to coincide with its 110 miles of existing fiber optic network. The ARFC has identified the importance of connecting its fiber along a 3-mile corridor adjacent to Bagley Street within the City of Alpena. This increased network will help to build redundancy within the consortium. This fiber loop has been a strategic goal for over 2 years.

Within the immediate fiber network, the ARFC plans to build 10-miles of fiber to connect the Besser Museum, Child and Family Services, Word of Life Church/Hope House, District Health Department #4, Luther Manor, Alpena Montmorency Alcona Educational Service District (AMA ESD), Pied Piper Opportunity Center, Alpena Alcona Area Credit Unions (AAACU), Alpena Chamber of Commerce, Target Alpena Economic Development Corporation, Alpena County Public Library, City of Alpena Water Treatment Center. This fiber loop will provide reliable and affordable internet service to many non-profit organizations.

Engineered plans call for the extension of a fiber network along M-32. This 6-mile corridor will connect the Alpena County Regional Airport to the ARFC network with future planned connection for Michigan Dept. of Transportation and the Department of Natural Resources. In addition to the airport, a 1-mile fiber build will connect the Alpena Michigan State Police Post with future plans to connect the Alpena County Road Commission. The establishment of the new fiber corridors has raised significant interest from area non-profit organizations and additional engineering work is currently being completed to incorporate additional partners into the ARFC.

The last fiber build will include a 20-mile connection along US-23 South and F-41. This will connect the existing ARFC fiber optic network's south end located at Sanborn Elementary School in Ossineke, MI to Lincoln, MI. This fiber build will provide future connectivity with the Alpena Alcona Area Credit Union (AACU) to additional branches, Alpena Regional Medical Center (ARMC) to other health facilities in Oscoda, MI, Alpena Community College (ACC) to connect with its Huron Shores campus in Oscoda, MI, and Alcona Health Systems to connect to many of its satellite offices located throughout the rural areas of Northeast Michigan, along with Alcona Schools and Alcona Library.

The planned fiber optic network has been designed with assistance from certified engineers at Pro-Tech Cabling Systems, Inc. based out of Clare, Michigan. The successful history of the Alpena Regional Fiber Consortium (ARFC) and its award winning non-profit network has been emulated by many communities around Michigan.

Together with other regional providers including Merit Network Inc., Allband Communications Cooperative, M33 Access and Northeast Michigan Broadband Cooperative, the ARFC has developed a regional network of partnerships, which will increase reliability, redundancy and provide cost effective internet services for the non-profit community.

In addition, ARFC has partnered with our local economic development corporation, Target Alpena Economic Development Corporation (EDC), to accomplish strategic goals identified in the Alpena County Economic Strategic Plan which calls for the development and expansion of a local fiber optic network to both the public and private sector. This partnership between ARFC and Target Alpena EDC will provide long-term economic benefits through the investment in information infrastructure that will foster the development of new and existing job base for Michigan's most economically depressed region.

The fiber expansion will reduce costs for area non-profits and governmental entities which will allow these organizations to efficiently utilize and stabilize their limited social service resources and budgets to assist those in need. The expansion of the fiber will provide a network backbone for the region to serve the non-profit sector and eventually lead to the development of a private sector consortium that will bring much needed technology advancements to support our regional industrial and commercial base. This project will assist in creating 74 jobs in the process of the fiber installation, and it will allow area non-profits to allocate their limited revenues rather on services to assist the State of Michigan's highest unemployed region.

f) Per the Federal Register, —An entirely private closed network would make the interconnection and non-discrimination obligations moot, since the project would not offer access to Internet applications and content. || It is not the intent of the Alpena Regional Fiber Consortium, or any of its partners, to specifically offer internet applications and content. Rather, it is our intent to provide a fiber band that allows either internet access, or (more germane) no access to internet but to the member agencies and their respective resources and information.(Federal Register, Vol. 74, No. 130, Thursday, July 9,2009,Page 33133,(4))

g) The type of broadband system will be 100% fiber optic network, with the outcome of a data-specific solution built for reliability. We will deploy the latest electronics across our network and ensure scalability and sufficient bandwidth to accommodate traffic with fluctuating demands. The ARFC network fully supports all transmissions and accepts hand-off of content in either analog or digital forms, enabled to support demands of a standard of 10 mbps bi-directional to allow real-time bi-directional transmission of simultaneous voice, video and data services: 100% fiber optic network, scalability, and latest generation compression encoding.

•Data rates: 10 Mbps up to 100 Mbps Signal: Always first generation, end-to-end ability to accept hand-off of content in both analog and digital formats. Switching includes 12 Port 10/100/1000 Switch; up to 12 to 72 strand pipe in some runs.

h) Since September of 2006, Alpena Regional Fiber Consortium (ARFC) has implemented and operated a broadband fiber infrastructure and for over 10 years, Alpena Public School District has owned, managed and supported a 110 mile wide area (fiber-optic) network.

i) Our grant request is for \$875,564.00 our overall project cost is: \$998,369.00

j) We currently have 13 members; we will add 17 additional connections, for a total of 30 connections.

k) Based on IMPLAN Economic forecasting software, this project will create a total of 74 jobs, including direct (34), indirect (21) and induced (19) employment.